



**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE
REPORT**

File: 160960235

Date: January, 2010

Prepared for:

Hydro One Networks Inc.
483 Bay Street
North Tower, 12th Floor
Toronto, ON M5G 2P5

Prepared by:

Stantec Consulting Ltd.
Suite 1 – 70 Southgate Drive
Guelph, ON N1G 4P5

Table of Contents

ACRONYMS AND MEASUREMENT UNITS	iv
GLOSSARY	ix

1.0 INTRODUCTION	1.1
1.1 PROJECT DESCRIPTION.....	1.1
1.2 DESCRIPTION OF THE STUDY AREAS.....	1.2
1.3 STUDY APPROACH.....	1.3

2.0 ENVIRONMENTAL AND SOCIO-ECONOMIC BASELINE	2.1
2.1 ATMOSPHERIC ENVIRONMENT	2.1
2.1.1 Climate.....	2.1
2.1.2 Air Quality	2.2
2.1.3 Environmental Noise.....	2.3
2.2 GEOLOGY	2.3
2.3 PHYSIOGRAPHY	2.5
2.3 SURFICIAL SOILS.....	2.7
2.4 SURFACE AND GROUNDWATER HYDROLOGY	2.7
2.5 VEGETATION.....	2.9
2.6 ENVIRONMENTALLY SIGNIFICANT AREAS.....	2.14
2.7 WILDLIFE	2.16
2.7.1 Mammals	2.16
2.7.2 Avifauna.....	2.17
2.7.3 Herpetofauna	2.18
2.7.4 Insects.....	2.18
2.7.5 Significant Wildlife Species.....	2.19
2.8 FISHERIES RESOURCES	2.20
2.9 LAND USE	2.20
2.10 ARCHAEOLOGY AND HERITAGE RESOURCES	2.22
2.11 SOCIO-ECONOMIC CHARACTERISTICS	2.22
2.11.1 City of Toronto	2.22
2.11.2 First Nations.....	2.25

3.0 REFERENCES	3.1
-----------------------------	------------

Table of Contents

List of Appendices

Appendix A: Figures
Appendix B: Tables

List of Figures

Appendix A

Figure 1.1: Local Study Area and Alternative Routes
Figure 2.1: Don River Watershed
Figure 2.2: Don River Tributaries in the Local Study Area
Figure 2.3: Vegetation Communities Mapped by TRCA
Figure 2.4: Crothers' Woods Vegetation Communities
Figure 2.5: Additional Vegetation Communities along Alternative Routes
Figure 2.6: Location of ANSI, ESAs, Municipal Parkland and Trails
Figure 2.7: Natural Heritage Features, Don River Watershed, City of Toronto
Figure 2.8: Land Use

List Of Tables

Appendix B

Table 2.1: Climatic Data for the Lake Ontario Shore Climatic Region¹
Table 2.2: Mean Temperature and Precipitation Data^{1,2}
Table 2.3: Frost Data¹
Table 2.4: Wind Data for the Toronto Island Airport and Lester B. Pearson International Airport (Toronto Airport) Meteorological Station, 1971 to 2000¹
Table 2.5: Toronto Downtown Ambient Air Quality Statistics, 2004-2007^{1,2}
Table 2.6: Characteristics of Soils in the Local Study Area¹
Table 2.7: Don River Monthly Discharge Data (m³/s)¹
Table 2.8: List of the Native Vascular Plants Recorded by the TRCA within the Local Study Area¹
Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes
Table 2.10: Mammal Species Recorded in the Toronto Region¹
Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Table of Contents

Table 2.12: Breeding Bird Species Recorded within a 10-km by 10-km Square Grid Overlapping the Local Study Area¹

Table 2.13: Amphibian and Reptile Species Recorded in the Toronto Region¹

Table 2.14: Fish Species Recorded in the Don River¹

Table 2.15: Traffic Statistics¹

Table 2.16: Neighbourhood Population and Household Data (2006)¹

Table 2.17: Business Profiles for the Yonge Street, St. Clair Avenue, Davenport Road, Bloor Street East and Avenue Road Mixed Use Areas¹

Table 2.18 Major Employers in the Local Study Area

Acronyms and Measurement Units

Acronyms

AAQC	Ambient Air Quality Criteria
ACNBC	Associate Committee on the National Building Code
AES	Atmospheric Environment Service
am	Ante meridiem (before noon)
ANSI	Area of Natural and Scientific Interest
BP	Before present
CCME	Canadian Council of Ministers of the Environment
CLI	Canada Land Inventory
CO	Carbon monoxide
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
CPR	Canadian Pacific Railway
CUM	Cultural Meadow
CUP	Cultural Plantation
CUS	Cultural Savannah
CUT	Cultural Thicket
CUW	Cultural Woodland
CWS	Canada-Wide Standard
DWRC	Don Watershed Regeneration Council
DWTF	Don Watershed Task Force
E	East
Ed.	Editor
e.g.	For example (exempli gratia)
ELC	Ecological Land Classification
EMS	Emergency Medical Services
<i>ESA</i>	<i>Endangered Species Act</i>
ESA	Environmentally Sensitive Area
<i>et al.</i>	And others (et alii)
FN	First Nation
FOD	Deciduous Forest
FOM	Mixed Forest
GDP	Gross Domestic Product
GTA	Greater Toronto Area
Hydro One	Hydro One Networks Inc.

Acronyms and Measurement Units

i.e.	That is (id est)
Inc.	Incorporated
INS	Insufficient data to calculate a valid annual mean
IR	Indian Reserve
Jct	Junction
L5	Able to withstand high levels of disturbance; generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas
L4	Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix
L3	Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern.
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
L1	Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally
L+	Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic.
L+?	Origin uncertain or disputed, i.e., may or may not be native
MAM	Meadow Marsh
MAS	Shallow Marsh
MMAH	Ontario Ministry of Municipal Affairs and Housing
MNR	Ontario Ministry of Natural Resources
MOE	Ontario Ministry of the Environment
MTRCA (now TRCA)	Metropolitan Toronto and Region Conservation Authority (now Toronto and Region Conservation Authority)
N	North
NHIC	Natural Heritage Information Centre
NHS	Natural heritage system
#	Number
No.	Number
NO	Nitric oxide
NO ₂	Nitrogen dioxide

Acronyms and Measurement Units

NO _x	Nitrogen oxides
NW	Northwest
O ₃	Ozone
OGS	Ontario Geological Survey
OP	Official Plan
pers. comm.	Personal communication
pm	Post meridiem (after noon)
PM	Particulate matter
PM ₁₀	Particulate matter of 10 µ diameter and smaller
PM _{2.5}	Particulate matter of 2.5 µ diameter and smaller
PSW	Provincially Significant Wetland
RCFTW	Royal Commission on the Future of the Toronto Waterfront
ROW	Right-of-way
RT	Rapid transit
S	South
S2	Imperiled – imperiled in the 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 Province
S2S3	Vulnerable to imperiled
S3	Vulnerable – vulnerable in the Province due to a restricted range, relatively few populations (often 80 or fewer), steep declines, or other factors making it vulnerable to extirpation
S3?	Possibly vulnerable
S3S4	Vulnerable to apparently secure
S4	Apparently secure - uncommon but not rare with some cause for long-term concern due to declines or other factors
S4?	Possibly apparently secure
S4S5	Apparently secure to secure
S5	Secure – common, widespread and abundant in the Province
SAF	Floating-leaved Shallow Aquatic
SAR	Species at risk
SARA	<i>Species at Risk Act</i>
SARO	Species at risk in Ontario
SE	Exotic – not believed to be a native component of Ontario’s flora or fauna

Acronyms and Measurement Units

SNA	Not applicable – a conservation status rank is not applicable because the species is not a suitable target for conservation activities
SO ₂	Sulphur dioxide
sp.	One species
SPM	Suspended particulate matter
spp.	Two or more species
ssp.	Subspecies
STP	Sewage treatment plant
SU	Unrankable – currently unrankable due to lack of information or due to substantially conflicting information about status or trends
SW	Southwest
SWD	Deciduous Swamp
SWT	Thicket Swamp
TEDCT	Toronto Economic Development, Culture & Tourism
Toronto Hydro	Toronto Hydro-Electric System Limited
TRCA	Toronto and Region Conservation Authority
TS	Transformer station
TSP	Total suspended particulates
TTC	Toronto Transit Commission
U.S.	United States
var.	Varietal
VOCs	Volatile organic compounds
W	West
WRT	Waterfront Regeneration Trust
WSC	Water Survey of Canada

Acronyms and Measurement Units

Measurement Units

cm	centimetre
°C	degree Celcius
°F	degree Farenheit
h	hour
ha	hectare
km	kilometre
km ²	square kilometer
km/h	kilometre per hour
kV	kilovolt
L	litre
L/s	litre per second
m	metre
mm	millimetre
m ³ /s	cubic metre per second
ppm	parts per million
ppb	parts per billion
%	percent
μ	micron (micrometre)
μg/m ³	microgram per cubic metre

GLOSSARY

Alluvium	Material laid down by rivers.
Anthropogenic	Human-caused; due to human activities.
Anticyclone	Rotary outward flow of air from atmospheric area of high pressure.
Aquifer	The underground layer of water-bearing rock, gravel, sand, silt or clay below the groundwater table.
Archaeological Site	Any property that contains an artefact or any other physical evidence of past human use or activity that is of cultural heritage value or interest.
Avifauna	Birds.
Calcareous	Composed of or pertaining to calcium carbonate.
Cambrian Period	The oldest period of the Paleozoic Era; it began about 600 million years ago and lasted perhaps 100 million years.
Cenozoic Era	The most recent geologic era, which began with the end of the Cambrian Period, about 70 million years ago.
Cretaceous Period	The last period of the Mesozoic Era; it began approximately 135 million years ago, lasted for about 70 million years and was characterized by widespread submergence.
Crystalline	Of crystal: a regular form bounded by smooth plane surfaces that are the external expression of an ordered internal atomic arrangement.
Cyclone	System of winds rotating round a centre of minimum barometric pressure.
Deciduous Forest	In the Northern Hemisphere, this forest type occurs to the south of the coniferous forest and is dominated by broadleaved deciduous hardwood trees typically with a five- to six-month growing period.
Dolomite	A mineral, calcium magnesium carbonate.
Dolostone	A sedimentary rock formed from calcium magnesium carbonate.
Drift	See Overburden.
Drumlin	A smooth, elongated, streamlined hill formed by glacial ice and composed essentially of till.
Ecoprovince	An area of the earth's surface characterized by major structural or surface forms, faunal realms, vegetation, hydrological, soil and climatic zones.
Ecoregion	A part of an ecoprovince characterized by distinctive ecological responses to climate as expressed by vegetation, soils, water and fauna.
Ecosystem	The interacting system of a biological community and its nonliving surroundings.
Endangered	A species facing imminent extirpation (no longer existing in the wild in Canada, but occurring elsewhere) or extinction (no longer exists).

GLOSSARY

Escarpment	A transition zone between different physiographic provinces that involves an elevation differential, often involving high cliffs.
Eustatic	Change in water levels due to changes in the volume of glacial ice.
Exotic	Non-native.
Family	A category used in the classification of organisms that consists of one or several similar or closely related genera.
Genus	A group of animals and plants having common structural characteristics distinct from those of all other groups and usually containing several species.
Glaciofluvial	Of glacial watercourses.
Glaciolacustrine	Of glacial lakes.
Herpetofauna / Herptiles	Amphibians and reptiles.
Holocene Epoch	The last (recent; postglacial) epoch of the Quaternary Period; it began at the end of the Pleistocene Epoch, about 10 million years ago and continues to the present.
Interlobate Moraine	Formed when two or more lobes of a continental ice sheet unite with the debris carried by each lobe intermingling.
Kame	An irregular mound generally composed of coarse glaciofluvial gravel; kames are formed when the sediments deposited in the depressions on stagnant glaciers or against their margins are let down onto the ground when ice melts.
Lacustrine	Of lakes.
Limestone	Sedimentary rock composed of carbonate materials, particularly calcium carbonate.
Lithification	Process by which sediments are consolidated into sedimentary rock.
Loam	A non-coherent soil mixture of sand and clay, containing organic matter.
Moraine	A landform generally composed of till and created by glacial action.
Ordovician Period	The second oldest period of the Paleozoic Era, which started about 500 million years ago and lasted for about 75 million years.
Organic	Soils that have developed from accumulations of organic materials such as grasses, reeds, rushes, sedges, mosses and ferns.
Orogenic	Process of mountain formation.
Overburden	The soil, rock and other material which lie on top of the underlying mineral or other deposit, e.g., bedrock.

GLOSSARY

Paleozoic Era	The era of geologic time from the end of the Precambrian, 600 million years ago, to the beginning of the Mesozoic Era, about 225 million years ago; the beginning of Paleozoic time, which marks the start of the first accurate records in geologic history.
Peat	Partly decomposed plant material; refers to soils containing >30% organic matter by weight.
Pleistocene Epoch	The earliest epoch of the Quaternary Period; it began 2 to 3 million years ago and lasted until the Holocene Epoch, approximately 10,000 years ago and was a time of widespread continental glaciation.
Podzolic	Well and imperfectly drained soils that have developed under coniferous and mixed-forest vegetation and usually found in cold to temperate climates on acid parent materials.
Precambrian	Encompasses the time between the origin of the earth and the appearance of complex forms of life about 600 million years ago, and is believed to be equivalent to as much as 90% of the earth's 405-billion-year history.
Proglacial Lake	Formed either by the damming action of a moraine or ice dam during the retreat of a melting glacier, or one formed by meltwater trapped against an ice sheet due to isostatic depression of the crust around the ice.
Quaternary Period	The second and youngest period of the most recent Cenozoic Era (also called the "Age of Mammals"); the Quaternary Period began 2 to 3 million years ago and consists of two epochs, the Pleistocene and the Holocene (known also as Recent).
Riparian	Of or on a watercourse bank.
Ruderal	Plant species first to colonize disturbed land.
Sandstone	A type of sedimentary rock that contains a large quantity of weathered quartz grains.
Sedimentary	Rock formed by the deposition, alteration and/or compression and lithification of weathered rock debris, chemical precipitates, or organic sediments.
Shale	Fine-grained sedimentary rock composed of lithified clay particles.
Silurian Period	The third oldest period in the Paleozoic Era; it began about 430 years ago and lasted some 30 million years.
Special Concern	A species of special concern because of characteristics that make it particularly sensitive to human activities or natural events.
Species	A group of closely related individuals which can and normally do interbreed to produce fertile offspring.
Stratigraphy	Description of overburden based on sequence.

GLOSSARY

Tectonic	Formation of larger structural features of the earth's surface caused by deformation.
Threatened	A species likely to become endangered if limiting factors are not reversed.
Till	Material derived from bedrock and overlying unconsolidated material and deposited directly by glacial ice with its characteristics dependent upon the source rock.
Transformer	A device that changes electric voltage. In Ontario, electricity typically leaves the generator at 20,000 volts or less, is stepped up to 115,000, 230,000 or 500,000 volts to be transmitted long distances and then stepped down to lower voltages to be distributed to customers. Each change in voltage is accomplished by a transformer.

1.0 Introduction

1.1 PROJECT DESCRIPTION

Due to transmission overloading and an aging existing transmission cable between the Leaside Transformer Station (TS) and Bridgman Junction (Jct), Hydro One Networks Inc. (Hydro One) and Toronto Hydro-Electric System Limited (Toronto Hydro) have jointly identified a need to refurbish the existing 115-kV transmission infrastructure which serves the midtown Toronto area. The need for the "Midtown Project" was also confirmed by the Independent Electricity System Operator. In order to ensure that Toronto Hydro customers continue to receive an adequate and reliable supply of electricity, the following must be undertaken:

1. Replace an aging underground cable located between Bayview Jct and Birch Jct installed in 1956 which is nearing its end of life;
2. Install an additional 115 kV circuit between Leaside TS and Birch Jct to relieve loading on the existing circuits which are currently operating above their capacity;
3. Refurbish the overhead double-circuit (L14W/idle) transmission line by restringing both circuits between Birch Jct and Bridgman Jct; and,
4. Install new equipment at Leaside TS, Bayview Jct, Birch Jct and Bridgman Jct.

Electricity demand in the midtown area has been growing at a faster pace than the rest of Toronto and is largely the result of redevelopment and land use intensification. These transmission infrastructure refurbishments will reduce the risk of power outages and improve reliability for midtown Toronto customers. Subject to the necessary approvals, construction could begin in 2010 with the new facilities in-service by spring 2012.

Four alternative routes were considered between Leaside TS and Birch Jct (Figure 1.1, see Appendix A). The preferred option for the Midtown Project transmission reinforcement is to:

- Replace the existing 11 two-circuit transmission towers with new three-circuit towers between Leaside TS and Bayview Jct within the existing right-of-way (ROW). The route would cross Don River ravine lands and parallel the Canadian Pacific Railway (CPR) railway corridor (approximately 1.7 km);
- Install two new underground circuits between Bayview Jct and Birch Jct by tunneling within bedrock along the CPR corridor, as well as under City of Toronto property, Hydro One property and municipal road allowance (approximately 2.2 km); and,
- Restring the L14W and idle circuits on the existing transmission towers between Birch Jct and Bridgman Jct (approximately 1.4 km).

1.2 DESCRIPTION OF THE STUDY AREAS

In this environmental and socio-economic baseline description, reference will be made to regional, local and route-specific study areas. These study areas are defined as follows.

Regional Study Area

The regional setting is generally defined by the municipal boundaries of the City of Toronto to provide for baseline description of geology, physiography and socio-economics.

Local Study Area

The local study area generally extends from Laird Drive-Millwood Road-Moore Avenue-St. Clair Avenue (east to west) in the north to Bloor Street-Davenport Road in the south and from Avenue Road in the west to just west of the Don River and West Don River to the east (Figure 1.1). The local study area was determined by the following:

- Midtown Project end-points of Leaside TS and Bridgman Jct;
- Technical alternative route siting constraints associated with existing transmission infrastructure;
- Reasonable road allowance routing;
- Mt. Pleasant Cemetery to the north; and,
- Don River to the east.

The local study area provides for the environmental baseline description of soils, vegetation, environmentally significant areas, wildlife, fisheries and land use.

Route-specific Study Corridor

The route-specific study corridor encompasses the preferred option along the existing ROW traversing the Don River ravine lands and paralleling the CPR corridor from Leaside TS to Bridgman Jct, providing for a route-specific environmental baseline description.

1.3 STUDY APPROACH

This environmental and socio-economic baseline report was prepared based on literature reviews, personal contacts and field surveys. Environmental baseline conditions have been documented in a number of publications and reports. This information was augmented and updated by data requested from the Ontario Ministry of the Environment (MOE), Ontario Ministry of Natural Resources (MNR) Natural Heritage Information Centre (NHIC), Water Survey of Canada (WSC), Toronto and Region Conservation Authority (TRCA) and the City of Toronto. Vegetation community surveys of the alternative routes involving aboveground and/or trenching options traversing natural and cultural communities were also undertaken. Finally, a Stage 1 Archaeological Assessment was also completed (ASI, 2009).

This page left blank intentionally.

2.0 Environmental and Socio-Economic Baseline

2.1 ATMOSPHERIC ENVIRONMENT

2.1.1 Climate

The climate of southern Ontario is modified continental, moderated by the proximity of the Great Lakes, but differing appreciably from one location to another and from year to year (Brown *et al.*, 1974). The variability in southern Ontario climate is due to local differences in topography, distance from the Great Lakes, and direction of prevailing winds. The local study area lies in the Lake Ontario Shore Climatic Region, as defined by Brown *et al.* (1974). This Climatic Region is greatly influenced by proximity to Lake Ontario and Lake Erie, which moderates temperatures and provides moisture-laden air to adjacent lands. Air masses affecting this Climatic Region include flows of cold dry air from the Arctic, moist warm air from the Gulf of Mexico, and dry prevailing winds (westerlies) from the Pacific.

Southern Ontario is located within one of the major storm tracks of North America. The passage of cyclones and anticyclones over the area produces wide variations in day-to-day weather, especially in winter. Changes in air masses can be expected to occur every two to five days throughout the year. Usually periods of severe cold or excessively warm weather are not prolonged.

Winter severity varies from year to year, depending on the duration and number of episodes of domination of the region by Arctic air masses. During the summer, the Bermuda High often becomes the controlling weather feature, extending its influence over most of southern Ontario. The potential for stagnant air masses is greatest during mid- to late-summer. The intensity of migrating storms usually peaks in late fall (November) and early spring (March). A summary of pertinent climatic and related plant growth data for the Lake Ontario Shore Climatic Region is provided in Table 2.1 (see Appendix B). Based on data collected from 1931 to 1960 (Brown *et al.*, 1974), the mean length of the growing season for this Climatic Region is 205 days.

Based on the ecoclimatic classification system developed by Environment Canada (Ecoregions Working Group, 1989), the local study area lies in the Humid High Moderate Temperate Ecoclimatic Region of the Moderate Temperate Ecoclimatic Province. Summers tend to be humid and warm to hot. Winters are relatively mild and snowy. Average temperatures above freezing occur for eight to nine months (April through November). Precipitation is distributed fairly evenly throughout the year.

Mean daily temperature and precipitation data for the Toronto Island Airport and Toronto Lester B. Pearson International Airport (Pearson Airport) meteorological stations are presented in Table 2.2. The mean annual temperatures at the two stations are 8.2°C and 7.5°C, respectively. Mean monthly precipitation varies between lows of 48.5 and 42.6 mm in February and highs of 83.4 and 79.6 mm in September and August, respectively, with no pronounced wet

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

or dry season. Summer thunderstorm activity is relatively frequent. Total annual precipitation at the Toronto Island Airport station is approximately 814 mm with about 705 mm falling as rain and 113 mm falling as snow. For the Pearson Airport station, total annual precipitation is approximately 793 mm with 685 mm and 115 mm as rain and snow, respectively.

Frost data for the two meteorological stations are summarized in Table 2.3. The average length of the frost-free period ranges from 149 to 191 days. Frozen ground conditions usually occur between late December and early March; however, year-to-year variation is considerable, depending on weather and local differences in vegetation, soil types, proximity to waterbodies and topography.

The prevailing winds in the region are usually from a northwesterly direction, although at the Toronto Island Airport the most frequent wind direction is easterly (Table 2.4). The annual maximum hourly wind speeds with 1:10, 1:30 and 1:100 probabilities of exceedance in Toronto are 90, 97 and 108 km/h, respectively (ACNBC, 1980).

2.1.2 Air Quality

In southern Ontario, poor air quality is most often the result of high levels of ground-level ozone (O_3) and airborne particulate matter (PM). Ground-level O_3 is the primary component of smog with a contribution by fine PM. O_3 results from chemical reactions between volatile organic compounds (VOCs) and nitrogen oxides (NO_x) in the presence of heat and sunlight.

The air pollutant life cycle is largely influenced by large-scale weather systems (MOE, 1999). Ground-level O_3 , its precursors, and fine PM can travel via these weather systems thousands of kilometres from their source. It is because of the long-range transport of airborne pollutants that transboundary flow from the U.S. plays a significant role in air quality considerations throughout southern Ontario.

Air quality is influenced by local and long-range (cross-border) contaminants generated in upwind urban and industrial areas. Air quality in southern Ontario is affected in part by emissions from the U.S., which contribute approximately 55% of smog (MOE, 2005a). The remaining portion is largely due to fossil fuel combustion in Canada (including vehicle emissions). Typically, these emissions consist of NO_x , nitrogen dioxide (NO_2), sulphur dioxide (SO_2), carbon monoxide (CO) and suspended particulate matter (SPM), which is equivalent to total suspended particulates (TSP). Particles are also reported as PM smaller than 10 μ (PM_{10}) and PM smaller than 2.5 μ ($PM_{2.5}$).

Table 2.5 presents the 2004, 2005, 2006 and 2007 ambient air statistics for the Toronto Downtown MOE monitoring station (Bay/Wellesley St.), along with the provincial Ambient Air Quality Criteria (AAQC). In 2004, 2005, 2006 and 2007, there were no exceedances of their respective AAQCs by NO_2 , CO and SO_2 (MOE, 2006a, b, 2007, 2008). The 1-h O_3 AAQC was exceeded 36 times in 2005 and 41 times in 2007, with only two exceedances in 2004 and 15 in 2006.

In 2000, the Canadian Council of Ministers of the Environment (CCME, 2000) developed a Canada-Wide Standard (CWS) for PM_{2.5} as a result of the pollutant's adverse effects on human health and the environment. The CWS for PM_{2.5} of 30 µg/m³ over a 24-h averaging time was exceeded eight times in 2004, 14 times in 2005, four times in 2006, and six times in 2007 at the Toronto Downtown MOE monitoring station location.

Overall, ambient air quality in the Toronto Downtown area can be considered to be intermediate relative to other locations in southern Ontario (MOE, 2006a, b, 2007, 2008).

2.1.3 Environmental Noise

Environmental noise levels vary according to a number of factors including the local noise source, receptor locations and surrounding environment. Specific factors influencing noise levels within the study area include noise intensity, number of sources, sound properties, source proximity, line voltage, surrounding topography, buildings, vegetative barriers and atmospheric conditions. A variety of activities in the local study area also contribute to environmental noise levels, including road and rail traffic, and construction activities.

Background noise levels were not measured along the existing ROW. Field measurements are not normally carried out as part of environmental assessments of overhead transmission lines because levels are variable from location to location, with time and weather conditions. Noise is not audible from underground conductors.

The existing overhead transmission lines do have the potential to produce noise during wet weather conditions (e.g., rain, snow, fog) due to the corona discharge (electric discharge from the conductor to the surrounding air). Noise levels decline rapidly from the source. In typical fair weather conditions, the existing transmission lines are inaudible at the edge of the ROW and cannot be distinguished from ambient noise.

2.2 GEOLOGY

Regionally, southern Ontario is underlain by relatively flat-lying, undeformed sedimentary bedrock of Paleozoic age which overlies older crystalline Precambrian bedrock. The Precambrian/Paleozoic unconformity lies to the east (extending from Port Severn on Georgian Bay south to the Lake Ontario outlet to the St. Lawrence River), whereas the Niagara Escarpment is located to the west. The bedrock forms part of the Western St. Lawrence Platform, an extension of the stable interior North American Platform. Within this platform, orogenic and tectonic activity during the Cambrian Period created a series of basins and arches, including the Michigan Basin (centred along the Michigan Peninsula), the Appalachian Basin (extending from the Great Lakes to Alabama) and the Algonquin Arch, a structural high which separates the two basins. From this arch, the bedrock dips gently 6 to 9 m per km towards the Michigan Basin to the west and the Appalachian Basin to the south. Although an overall stable region, the geology is a result of repeated sequences of subsidence, sedimentation and erosion

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

controlled by tectonic forces and eustatic sea level fluctuations operating from the Middle Precambrian to the Early Cretaceous Period (Williams *et al.*, 1992).

The bedrock is composed of carbonates of the Michigan Basin deposited under shallow epicontinental marine conditions in the Middle to Upper (Late) Ordovician Period. During the Cambrian marine transgression, sandstones were gradually succeeded by dolostones that progressively onlapped and overlapped the Algonquin Arch (Johnson *et al.*, 1992). The basal sediments were eventually eroded and Middle to Upper Ordovician carbonates and shales that compose the region were unconformably deposited over them. Outcrops of basement Precambrian rock are rare in the region.

The bedrock which underlies the regional study area consists of several southeast-to-northwest trending formations which increase in age toward the east (Hewitt, 1972). Upper Ordovician shales and shales with interbedded limestone underlie the area below, and to the east of, the Niagara Escarpment, whereas the Escarpment itself consists primarily of Middle and Lower Silurian sandstone, shale and dolomite. Further east, Upper and Middle Ordovician limestone bedrock is present.

The bedrock underlying the local study area consists of the Upper Ordovician (470 to 438 million years old) Georgian Bay Formation (Freeman, 1978; OGS, 1991). In the Toronto area, this formation consists of blue and grey shale with some fine-crystalline limestone interbeds (Hewitt, 1972). This formation is approximately 180 m thick in the Toronto area (Liberty, 1969). The Georgian Bay Formation gradationally overlies the Upper Ordovician Queenston Formation (shale) to the west and is underlain by the Upper Ordovician Blue Mountain (formerly Whitby) Formation (shale) to the east.

Georgian Bay Formation bedrock is naturally exposed on the west bank of the Don River near the CN North America railway bridge over Beachwood Drive just outside the local study area.

There are no major faults in this area. White *et al.* (1973) mapped and described the locations of four small folds and two thrust faults within the Georgian Bay and Queenston Formations. The nearest fault to the Study Area was observed in the bank of the Humber River at Claireville, about 18 km to the west of the local study area boundary. This feature was attributed to residual stress relief as a result of the removal of rock overburden (now eroded) and glacial ice loading.

The local study area lies in a zone of mild potential (Zone 1) for seismic activity (ACNBC, 1980). Unlike the traditional earthquake-prone zones along plate margins, (e.g., those known in the western Rocky Mountains), seismic activity in the study area is related to slippage along ancient fault lines located within the North American continental plate. Earthquake prediction in the study area is difficult, as few ancient faults have been identified.

2.3 PHYSIOGRAPHY

The local study area lies within the West St. Lawrence Lowland Physiographic Unit of the St. Lawrence Lowlands Physiographic Region (Bostock, 1970). The Niagara Escarpment breaks the West St. Lawrence Lowland into two parts. The land west of the Escarpment slopes gradually to the southwest towards Lake Erie. East of the Escarpment, the land rises gently northward from Lake Ontario to Georgian Bay.

During the Quaternary Period, the Laurentide Ice Sheet dominated much of Canada, including southern Ontario. A series of glacial advances and retreats was initiated approximately 190,000 years BP (before present) and lasted to the beginning of the Holocene Epoch at 10,000 years BP. The two main stages of glaciation, Illinoian and Wisconsinan, were divided by the Sangamonian Interglacial stage between 115,000 to 135,000 years BP. The Labrador Sector of the Laurentide Ice Sheet, with the main direction of ice flow from the northeast, mainly affected the present-day study area (Barnett, 1992).

The Don Valley Brickyards quarry north slope provides an excellent representation of the Illinoian, Sangamonian and Wisconsinan drift deposits. Pre-Wisconsinan deposits are considered very rare in Ontario (Chapman and Putnam, 1984). As a result, the landform is considered regionally, provincially and nationally significant (MTRCA, 1982).

Deglaciation of the area was initiated approximately 13,000 years BP (Sly and Lewis, 1972). Glacial Lake Iroquois formed as the ice retreated from the area and lasted from between 12,600 and 12,000 years BP. This lake was followed by a series of short-lived proglacial lakes which occupied successively lower levels. The Don Valley is a glacial spillway that was carved into the pre-existing interbedded tills of the Wisconsinan, the inter-glacial Sangamonian deposits and the Illinoian tills. Early Lake Ontario became established about 11,000 years BP.

Chapman and Putnam (1984) have delineated four physiographic regions within the Greater Toronto Area (GTA). The Iroquois Plain consists of a band of lacustrine sands and shoreline deposits paralleling the Lake Ontario shore, grading northward into the weakly drumlinized till plain of the South Slope, the bevelled tills of the Peel Plain and finally the Oak Ridges Interlobate Moraine.

This area is dominated by a sequence of glacial tills representing the most recent Wisconsinan and the earlier Illinoian Pleistocene glaciations (Karrow, 1967). These tills are best exposed in the Scarborough Bluffs overlooking Lake Ontario. The tills which form the surface of the South Slope and Peel Plain are primarily the silty sand Leaside Till in the east and the silty Halton Till in the west. The tills are modified in the south by glaciolacustrine sands and shorelines of glacial Lake Iroquois (Iroquois Plain). The Davenport Road hill is well known as the Lake Iroquois shorecliff while the McLennan hill is the same bluff east of Yonge Street. To the north, the till plains are replaced by the highlands of the Oak Ridges Interlobate Moraine. The moraine

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

consists of a complex mixture of glaciofluvial sands and gravels (kame moraine) as well as poorly-sorted till and is characterized by rolling hills with elevations reaching 300 m.

The thickness of the glacial deposits varies substantially within the region. These deposits are thickest in the vicinity of the Scarborough Bluffs where they are up to 120 m thick (Karrow, 1967). On the South Slope and Peel Plain, thicknesses range from less than 1 m to over 60 m. Drift thickness in the eastern portion of the Oak Ridges Interlobate Moraine is as much as 100 m (Liberty, 1969).

Based on a single MOE well record for the local study area (Well ID 6909224), located near the intersection of Rowanwood Avenue and Cluny Drive (east of Yonge Street and south of the CPR tracks), subsurface stratigraphy consists of the following:

- 0 to 6.1 m – grey silty clay with medium sand;
- 6.1 to 16.8 m – brown silty medium sand with gravel;
- 16.8 to 28.3 m – grey silty clay;
- 28.3 to 36 m – grey silty medium sand with gravel; and
- >36 m – grey shale bedrock.

The northwestern portion of the local study area occurs within the South Slope physiographic region, a drumlinized till plain (Chapman and Putnam, 1984). This large area of gently sloping ground occurs between the highlands of the Oak Ridges Interlobate Moraine to the north and the lowland Iroquois Plain bordering Lake Ontario to the south. The South Slope physiographic region is underlain by a dense and competent glacial till material. As such, this landform and its materials have very little sensitivity relating to anthropogenic activities (Gartner Lee, 1978).

The remainder of the local study area occurs within the Iroquois Plain, a lowland bordering Lake Ontario and composed of former glacial Lake Iroquois deposits, predominantly sand and gravel. The clay deposits in the Don Valley are for the most part of pre-Iroquoian age.

Other surficial deposits, which are more local in scale, are post-glacial Holocene sediments, mainly alluvium deposited by rivers. Other minor recent sediments include those created by wind deposition, as well as organic and peat deposits in wetlands (Chapman and Putnam, 1984).

2.3 SURFICIAL SOILS

Due to its highly urbanized nature, soil mapping is available only for those lands to the east of the Don River and north of Highway 401 (Hoffman and Richards, 1955). Typical soils on these lands are Grey-Brown Podzolics, with a lluvial soils associated with watercourse bottomlands also present.

The soil types in the lands to the east and north of the local study area and their characteristics are presented in Table 2.6.

Similarly, due to Toronto's urbanization, the Canada Land Inventory (CLI, 1968) has categorized the soils in only part of the local study area. Areas that have been classified have soils that are Class 1, with no significant limitations in use for crops, or 80% Class 1 and 20% Class 3, with moderately severe limitations due to adverse topography that restricts the range of crops, or requires special conservation practices.

2.4 SURFACE AND GROUNDWATER HYDROLOGY

The local study area is within the Northern Lake Ontario drainage basin (Chapman and Putnam, 1984), with all watercourses draining to Lake Ontario. The watercourses arise either within the Oak Ridges Interlobate Moraine or on the till plains to the south, resulting in watercourses with relatively small drainage basins and limited base flows. Drainage is generally from north to south, but the dendritic pattern of headwater tributaries and in-stream meanders result in many local exceptions to the general pattern of north-south flow.

The Don River, which drains the local study area originates in the till plains north of the Iroquois Plain (see Figure 2.1). The upper reaches drain predominantly rural lands, whereas the middle and lower reaches drain through the heavily developed Toronto area. The Don River discharges via the Keating Channel into the Toronto Inner Harbour. The Don River drains a watershed of 36,042 ha, with 76% of the watershed urbanized and the remainder designated as agricultural/rural/open space (WRT and TRCA, 1999).

The Don River watershed consists of four major tributaries: the West Don River originates northwest of the community of Maple; the East (Little) Branch of the Don River originates in the Richmond Hill area; German Mills Creek originates west of Richmond Hill; and Taylor Massey Creek originates at the edge of the Peel Plain draining the easternmost portion of the watershed. German Mills Creek and the East Branch converge at Steeles Avenue, whereas the confluence of the West Branch, East Branch and Taylor Massey Creek is near Don Mills Road and the Don Valley Parkway (Environment Canada *et al.*, 1988).

In the 1980s the Don River had 1,185 storm sewers, 30 combined sewer overflows, several industrial coolant discharges and treated effluent from the North Toronto Sewage Treatment Plant (STP) (RCFTW, 1990). Water quality data for the 1980s indicate that the Don River was often turbid and eutrophic (high nutrient concentrations), with high bacterial counts and high

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

temperatures in the summer (BEAK and PTA, 1991a). Although dissolved oxygen concentrations were adequate for the protection of aquatic biota, a number of metals and organic contaminants frequently exceeded the Provincial Water Quality Objectives (BEAK and PTA, 1991 a, b). Strategies have been developed for the regeneration of the Don River watershed (e.g., PTA and BEAK, 1989; DWTF, 1994) and are currently being implemented (DWRC and MTRCA, 1997; DWRC, 2000, 2003, 2006).

Historical hydrological data are available for the two WSC streamflow gauge locations on the Don River (see Table 2.7). These data indicate that the greatest streamflows occur during the spring freshet in March and April, with lowest flows occurring during the summer into October.

The Don River and West Don River are proximate to the eastern boundary of the local study area. Four minor tributaries drain the local study area (from south to north): Castle Frank Brook, Yellow Creek (also known as Rosedale Brook), Mud Creek (also known as Mount Pleasant Brook), and Cudmore Creek (Figure 2.2). Most portions of these tributaries have been buried within the municipal storm sewer system. Mud Creek, which once flowed through the Don Valley Brick Works property and was used in the manufacturing of bricks, has been re-routed from its storm sewer and brought back (“day-lighted”) in the quarry lands through a series of created interconnected ponds and wetlands which drain into the Don River.

Average data for pond and river freeze-up and break-up in the local study area vary from year to year. Freeze-up generally occurs by late December and break-up usually occurs by mid- to late March. Lake Ontario generally remains open throughout the year, although some buildup of on- or nearshore ice occurs through the course of the winter. The freeze-up and break-up dates are approximate and vary according to ambient temperatures, the size of the waterbody, its orientation and its flow rate (MNR, 1984).

Aquifer recharge occurs through the unconsolidated tills and gravels of the Oak Ridges Interlobate Moraine and adjacent ground moraines. The Oak Ridges Interlobate Moraine is a regionally significant recharge area (Kassenaar and Wexler, 2006). Groundwater yields from bedrock in this portion of Ontario are typically less than 1 L/s, which is generally suitable for domestic purposes (MNR, 1984). The yields from overburden are also typically less than 1 L/s.

Based on the single MOE water well record for the local study area, water was encountered in the two silty sand lenses at 6.1 m (perched water table) and 28.3 m below the surface (see Section 2.3). The static groundwater level was 9.7 m and the pump rate was 2.5 L/s. The groundwater was reported to be “fresh”.

Local groundwater flow would be expected to be toward the Don River, whereas regional groundwater flow is generally to the south.

2.5 VEGETATION

The local study area is located within the Niagara Section of the Deciduous Forest Region (commonly referred to as the 'Carolinian Zone') and the Erie Ecoregion of Ontario (Rowe, 1972; Wickware and Rubec, 1989). The Deciduous Forest Region is located in southwestern Ontario and forms a narrow band along the northern shore of Lake Ontario extending to about the Presqu'île Peninsula to the east. Its southern location allows for the presence of some tree species typical of more southerly portions of the United States. The region serves as a transitional area, with representatives from many species common to both the southern Carolinian forest and the Great Lakes-St. Lawrence Forest Region to the north and northwest.

The forest communities of the Niagara Forest Section are dominated by broad-leaved trees, such as sugar maple (*Acer saccharum saccharum*) and American beech (*Fagus grandifolia*), with lesser representation by such species as American basswood (*Tilia americana*), red maple (*A. rubrum*), red oak (*Quercus rubra*), white oak (*Q. alba*) and bur oak (*Q. macrocarpa*). This forest section also includes the main distribution in Canada for such Carolinian forest species as black walnut (*Juglans nigra*), sycamore (*Platanus occidentalis*), swamp white oak (*Q. bicolor*) and shagbark hickory (*Carya ovata*). Other more widely distributed species include bitternut hickory (*C. cordiformis*), rock elm (*Ulmus thomasii*), silver maple (*A. saccharinum*) and blue-beech (*Carpinus caroliniana*).

Based on the ecoregions of Ontario, the local study area is located in the Erie Ecoregion (Wickware and Rubec, 1989). Sugar maple, American beech, white oak, red oak and shagbark hickory occur on fresh, well-drained sites. Imperfectly drained sites are characterized by white elm (*Ulmus americana*), cottonwood (*Populus deltoides*), balsam poplar (*P. balsamifera*), red ash (*Fraxinus pennsylvanica*), black ash (*F. nigra*) and silver maple. Carolinian species such as tulip tree (*Liriodendron tulipifera*), sycamore, bitternut hickory and dwarf chinquapin oak (*Quercus prinoides*) are also present in this ecoregion.

Intensive agriculture and urbanization have fragmented the Niagara Forest Section, leaving smaller woodlots representative of the original communities.

Due to urbanization, most of the lands in Toronto have not been mapped by the CLI (1971a) for land capability for forestry. Lands to the north of the local study area are categorized as approximately 40% Class 1 with no important limitations to the growth of commercial forests and 60% Class 2 having slight limitations due primarily to physical restriction to rooting by dense or unconsolidated layers.

General biological surveys were undertaken in the 1970s in Moore Park Ravine (Wainio *et al.*, 1973; Kaiser *et al.*, 1977) and Park Drive Ravine (Taylor and Scrivener, 1976; Kaiser *et al.*, 1977). These historical studies provide lists of plant species present more than 30 years ago. More recently, TRCA has mapped vegetation communities using the Ecological Lands Classification (ELC) system (Lee *et al.*, 1998) and undertaken a plant species inventory for

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Moore Park Ravine, Park Drive Ravine and Rosedale Valley Ravine. Similarly, The Planning Partnership *et al.* (2007) has completed ELC mapping of Crothers' Woods located in the northeastern portion of the local study area. Section 2.6 provides additional information on the three ravine systems and Crothers' Woods.

Field surveys were undertaken on November 17, 2006, November 3 and 4, 2008 and September 15, 2009 along the alternative routes (Figure 1.1) traversing natural and cultural vegetation communities to identify the communities and inventory the flora. The field surveys confirmed the natural and cultural communities mapped by the TRCA and The Planning Partnership *et al.* (2007) (see Figures 2.3 and 2.4, respectively). A list of native plant species documented within the local study area by the TRCA is provided in Table 2.8, with their provincial S-Rankings and TRCA L-Rankings. A number of communities along the alternative routes not mapped by the TRCA and The Planning Partnership *et al.* (2007) are presented on Figure 2.5.

Table 2.9 provides a list of the 180 plant species recorded within the natural and cultural vegetation communities traversed by the proposed alternative routes. Three plants could only be identified to the genus level. Of these 180 species, 83 are ranked by the NHIC (2008a) as S5, i.e., secure – common, widespread and abundant in the Province; three are S4, i.e., apparently secure – uncommon but not rare with some cause for long-term concern due to declines or other factors; one is S4S5, i.e., apparently secure to secure; three are S4?, i.e., apparently secure, rank uncertain; one is S3?, i.e., vulnerable, rank uncertain, in the 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; and one is designated as SU, i.e., unrankable – currently unrankable due to lack of information or due to substantially conflicting information about status or trends. The remaining 87 species are designated as SNA, i.e., not applicable – a conservation status rank is not applicable because the species is not a suitable target for conservation activities. The TRCA L-Rankings are also provided in Table 2.9.

Of the 180 plant species, 85 are exotic. The high proportion of exotic species (~47%), well above the general proportion of non-native plants in the Province (approximately 28%) (e.g., Kaiser, 1983), reflects the highly anthropogenic nature of the lands. Most of the native plants are located in the woody valley systems and forests on the tableland and its slopes.

Generally, natural vegetation cover is still present within the ravine system and slopes along the eastern portion of the preferred transmission line route, i.e., Option 1 (Figure 1.1). Here, the main forest type is deciduous, primarily a sugar maple and oak community, less frequently a sugar maple and white ash (*Fraxinus americana*) community, and on the slopes with seeps, a Manitoba maple (*Acer negundo*) community. Along the CPR corridor which is permanently maintained open through herbicide application, an open field meadow is the typical vegetation cover.

Brief descriptions of the vegetation communities present on the surveyed lands are provided below.

Fresh-Moist Manitoba Maple Deciduous Forest (FOD2-5)

This vegetation community type is not listed in the Southwestern Ontario ELC (Lee *et al.*, 1998). It consists of a somewhat disturbed and open forest on valley slopes, where seepage provides abundant moisture. Beneath the discontinuous canopy of Manitoba maple, the shrub and herb layers are well developed, although comprised of many exotic species.

Dry-Fresh Sugar Maple-Oak Deciduous Forest (FOD5-3)

This vegetation community, found on ravine and tableland slopes, is dominated by varying proportions of sugar maple and red oak, with a number of other minor species, including white ash, hop hornbeam (*Ostrya virginiana*), black cherry (*Prunus serotina*) and some eastern white pine (*Pinus strobus*). Zig-zag goldenrod (*Solidago flexicaulis*) is one of the major herbs on the forest floor.

Dry-Fresh Sugar Maple-White Ash Deciduous Forest (FOD5-8)

This community type covers the slopes of the Mud Creek ravine. In addition to the two dominant species, red maple, white elm and white birch (*Betula papyrifera*) are also present with Manitoba maple on the lower slope locations. The herbs are represented by zig-zag goldenrod and the exotic garlic mustard (*Alliaria petiolata*).

Moist Manitoba Maple-Willow-Cottonwood Deciduous Forest (FOD8-3)

This vegetation community type is also not listed in the southwestern Ontario ELC (Lee *et al.*, 1998). This semi-open type covers the moist slopes north of the North Toronto STP. Seepage provides sufficient moisture for Manitoba maple, willows (*Salix* spp.) and cottonwood (*Populus deltoides monolifera*) to flourish.

Deciduous Forest-Deciduous Cultural Woodland Complex (FOD/CUW)

This vegetation community type combination consists of a mosaic of deciduous forest patches, including Manitoba maple, bur oak, sugar maple, white elm and American beech, and open patches containing many of the same species. The areas between the trees are covered by shrubs, e.g., staghorn sumac (*Rhus typhina*) and common buckthorn (*Rhamnus cathartica*), and herbs, e.g., garlic mustard.

Manitoba Maple-Willow Mineral Deciduous Swamp (SWD3-5)

This vegetation community type occurs on the Mud Creek floodplain, where flooding is common. Manitoba maple and crack willow (*Salix fragilis*) are the main tree species. The herb ground cover is well developed.

Dry-Moist Old Field Meadow (CUM1-1)

This diverse open herbaceous community type is typical along the CPR tracks and disturbed sites on the tablelands. It is composed of numerous species of forbs and grasses, most of which are exotic.

As indicated in Table 2.9, 135 plant species were recorded along the preferred route, i.e., Option 1 (see Figure 1.1). Of these species, 60 are ranked by the NHIC (2008a) as S5 (secure); one is S4S5 (secure to apparently secure); two are S4 (apparently secure); one is S4? (apparently secure, rank uncertain); and one is designated as SU (unrankable). Of the 133 plant species, 67 are exotic, with the proportion (~50%) again well above the approximately 28% proportion of non-native plants in the Province (Kaiser, 1983).

2.6.1 Significant Plant Species

Undisturbed areas of native vegetation within the local study area have the potential to support plant species which are at risk, i.e., species which are designated with significant status under federal and/or provincial legislation. Federally, species at risk (SAR) are recognized by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC, 2008a) and are protected under the *Species at Risk Act (SARA)*. Provincially these are recognized by the Committee on the Status of Species at Risk in Ontario (COSSARO) under the Ontario *Endangered Species Act (ESA)*, in conjunction with the Species at Risk in Ontario (SARO) List (MNR, 2009). Species listed as provincially endangered or threatened and their habitat are afforded protection under the *ESA*.

An updated *ESA* came into effect on June 30, 2008, providing broader protection to SAR and their habitat and a stronger commitment to recovery and effective enforcement. Once a species is designated to be at risk, it is included on the SARO List. All species that are considered endangered or threatened and their critical habitat are now legally protected.

A search of the NHIC (2008a) database indicated no plant SAR have been recorded recently (post-1989) in the local study area.

However, butternut (*Juglans cinerea*) has been documented in the local study area in Crothers' Woods (The Planning Partnership *et al.*, 2007). This species is ranked by the NHIC (2008a) as S3? (vulnerable, rank uncertain). The butternut is federally and provincially designated as endangered because it has declined significantly due to the presence of a fungus called butternut canker (*Sirococcus clavigignenti-juglandacearum*) that has been introduced to North America. The fungus is spread aggressively by rain and insects. It may infect any part of the tree where there is a wound, but the most common point of entry is leaf scars, especially at the tops of trees. The disease then spreads down the tree every time it rains. The ultimate cause of death is cankers that eventually girdle the tree.

According to the *ESA*, prohibition against killing "a butternut tree that occurred naturally does not apply if, in the opinion of a person or a member of a class of persons designated by the

Minister, the butternut tree is affected by butternut canker to such a degree that it is not necessary to retain the tree in its current location to support the protection and recovery of butternut". If the butternut is retainable, its removal would have to be done under the permitting sections of the *ESA*.

All but nine of the native species in the survey areas are ranked by the NHIC (2008a) as S5, i.e., secure (Table 2.9). Snowberry (*Symphoricarpos albus*) is ranked S4S5 (secure to apparently secure); black walnut (*Juglans nigra*), American beech (*Fagus grandifolia*) and thimbleweed (*Anemone cylindrica*) are ranked S4 (apparently secure); and black maple (*Acer nigrum*), spotted Joe pye weed (*Eupatorium maculatum* ssp. *maculatum*) and Virginia creeper (*Parthenocissus inserta*) are S4? (apparently secure, rank uncertain). As indicated above, butternut is ranked as S3? (vulnerable, rank uncertain) and is designated federally and provincially as an endangered species. The ninth species, cottonwood (*Populus deltoides* spp. *deltoides*), is designated as SU (unrankable).

Snowberry occurred singly in thickets on the north side of the CPR tracks, east of Mt. Pleasant Road and west of the pedestrian overpass. Black walnut was scattered in the woods along the central section of Park Drive Ravine (see Figure 2.5) and the Moore Park Ravine/Chorley Park study area. American beech was common in the sugar maple-oak forest on slopes south of the Loblaws Superstore, along Park Drive Ravine and on the slopes of the Moore Park Ravine/Chorley Park survey area. Thimbleweed was occasional in dry, disturbed old field meadows just west of the Loblaws Superstore at the northeast end of the study area. Black maple was occasional on the Yellow Creek floodplain and lower slopes (Park Drive Ravine). Spotted Joe pye weed was present at the base of the slope in a small section of the Moore Park Ravine/Heath Road survey area. Virginia creeper was found throughout the understorey of the slopes of the Moore Park Ravine/Heath Road survey area. Four young butternut were found within Moore Park Ravine, just south of the well-used uphill path to Chorley Park. Canker was evident on all four individuals.

A number of locally (includes the limits of the City of Toronto and the TRCA watershed) rare or uncommon plants (Varga, 2000; TRCA, 2008) were observed:

- Thimbleweed and snowberry (see above);
- White spruce, found along the CPR tracks and route option 2;
- Red pine (*Pinus resinosa*) planted in hedgerows and in landscaping;
- Dark-purple Alexanders (*Angelica atropurpurea*), abundant in the Manitoba maple-willow swamp on the floodplain of the Yellow Creek ravine;
- Shagbark hickory (*Carya ovata* var. *ovata*), common in the sugar maple-oak forest on slopes south of Loblaws Superstore;
- Eastern ninebark (*Physocarpus opulifolius*), rare in the sugar maple-oak forest on slopes south of Loblaws Superstore;

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

- Highbush cranberry (*Viburnum trilobum*) scattered in woods in the central section of Park Drive Reservation;
- White oak (*Quercus alba*), occasional to rare in the canopy of deciduous forested slopes of both Moore Park Ravine survey areas.

A number of species ranked L5 by the TRCA (able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas) and L4 (able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix) were also found along the assessed routes, but these were not determined to be rare or uncommon in the GTA (Varga, 2000):

- Common elderberry (*Sambucus Canadensis*) (L5), occasional in open woods on the north side of the CPR tracks, east of Mt. Pleasant Road and west of the pedestrian overpass;
- Common evening-primrose (*Oenothera biennis*) (L5), occasional in ruderal vegetation along the length of the CP tracks;
- Giant goldenrod (*Solidago gigantea*) (L5), occasional in old field meadows in both Moore Park Ravine survey areas; and,
- Pin cherry (*Prunus pensylvanica*) (L4), occasional to rare in the understory of the slopes in the Moore Park Ravine/Heath Road survey area.

2.6 ENVIRONMENTALLY SIGNIFICANT AREAS

Wetlands and other environmentally significant areas provide important habitat for a variety of wildlife and plant species. Furthermore, wetlands provide water storage and control functions which reduce erosion and flooding, and improve water quality. Wetlands also increasingly provide areas for a range of recreational pursuits, including nature appreciation.

The Ontario Government (1992) issued a Wetlands Policy Statement, recently incorporated into the Provincial Policy Statement (MMAH, 2005), which is intended to ensure that there will be no net loss of wetland functions of Provincially Significant Wetlands (PSWs). A PSW is a wetland that the MNR has classified as Provincially Significant through an evaluation of biological, social, hydrological and special features of the area.

Areas of Natural and Scientific Interest (ANSIs) and Environmentally Sensitive Areas (also designated as Environmentally Significant Areas in some inventories) (ESAs) have been identified by the MNR and Conservation Authorities and/or municipalities, respectively, where it has been determined that the natural landscape and/or its features are in need of protection for heritage appreciation, scientific study or conservation education purposes. Life Science ANSIs are natural areas selected to protect outstanding landscapes, environments and biotic communities. Earth Science ANSIs are geological sites selected to protect outstanding examples of rock types, fossil localities, landform associations and areas containing significant

groundwater resources. ESAs are land and water areas with natural features or ecological functions of such significance as to require protection or preservation. Other natural areas of local and possibly regional significance have also been identified.

The ESAs and ANSI present in the study area are listed below along with a description of their significant features (MTRCA, 1982; MNR, 1983; Hanna, 1984; Geomatics, 1992; Metro Planning, 1995; NHIC, 2008b; The Planning Partnership *et al.*, 2007):

- Vale of Avoca (ESA-OS34): a steep-sided ravine associated with the upper reaches of Yellow Creek largely covered by deciduous forest which exhibits a relatively high (greater than 75%) native plant and animal species richness;
- Moore Park Ravine (ESA-OS32): a natural ravine associated with Mud Creek with a complete canopy for most of its length which exhibits a relatively high native plant and animal species richness, as well as unique earth science processes, i.e., excellent example of relatively recent (postglacial) watercourse erosion and dissection of the glacial Lake Iroquois shoreline;
- Crothers' Woods (ESA No. 133): a remnant beech-maple-oak climax Carolinian forest located in a steep hillside, characterized by a significant diversity of tree species within a relatively small woodland including butternut designated as endangered by COSSARO (MNR, 2009) and COSEWIC (2008a), and regionally rare understory plant species such as larger straw sedge (*Carex normalis*), thin-leaved sunflower (*Helianthus decapetalus*) and pale-leaved sunflower (*H. strumosus*);
- Iroquois Shoreline (ESA-OS31): the glacial Lake Iroquois shoreline, expressed as either a raised sandy beach line or a bluff cut into the glacial till;
- Don Valley, West Side (ESA-OS28): consisting of two separate woodland communities, the Binscarth Ravine associated with the lower reaches of Mud Creek extending to the Don Valley Brickyard and the Castle Frank slope at the southeasternmost portion of the study area, both with relatively high native plant and animal diversity; and,
- Toronto Brickyard, formerly Don Valley Brickyard (ESA No. 61; ESA-EO61; provincially significant earth science ANSI): exhibits Late Ordovician Georgian Bay Formation, Illinoian Glacial York Till, Sangamonian Interglacial Don Formation and Wisconsinan Glacial Scarborough delta.

Figure 2.6 presents the locations of the ESAs and ANSI in the local study area.

A number of regeneration projects have been implemented in the local study area as part of the "Bring Back the Don" initiative. As indicated in Section 2.4, a portion of Mud Creek was daylighted within the Don Valley Brick Works Park through a series of created interconnected ponds and wetlands that drain into the Don River. Other regeneration projects within the park include the Weston wildflower meadow, a Carolinian woodland community and lowland woodland

associated with the northwest slope. A series of boardwalks and paths were constructed through the wetland and terrestrial environments.

Binscarth Ravine wetland, a hardwood swamp, was created by retaining water from Yellow Creek in a small pond at the southern end of the Belt Line Trail (see Figure 2.5). A meadow to the north of the wetland has also been restored.

Restoration of Belt Line Pond, located just south of Moore Avenue in Moore Park Ravine, is ongoing, together with the conversion of a grass covered area to the north of the pond to forest edge habitat.

In 2000, the TRCA was commissioned by the City of Toronto to undertake a study of natural heritage features and their status within the newly amalgamated city (City of Toronto and TRCA, 2001). The natural heritage system (NHS) is defined by terrestrial natural habitat, known watercourses and hydrological features, major landforms and physical features, riparian zones, valley and stream corridors, waterfront zone, provincially significant features, vegetation communities and species of concern, and significant aquatic features. The NHS in the local study area is shown on Figure 2.7.

2.7 WILDLIFE

The local study area provides urban, parkland and riparian habitat for wildlife. In this area, most wildlife species are fully habituated to human activities and are concentrated in specialized habitats.

2.7.1 Mammals

White-tailed deer is the principal large wildlife species in the Toronto area. Due to urbanization, white-tailed deer capability mapping is not available for Toronto (CLI, 1971b). However, north of the city, the lands in the Little Don River watershed have been categorized as Class 1 with no significant limitations to white-tailed deer. The lands in the East Don River watershed are categorized as Class 2 with very slight limitations due to low soil fertility resulting in suboptimal plant growth and restriction of the rooting zone by consolidated or other impervious layers.

Table 2.10 provides a list of mammal species present in the Toronto Region. Of the 37 native species listed, 28 are ranked by the NHIC (2008a) as S5 (secure) and seven are S4 (apparently secure). Of the two remaining species, the northern long-eared bat (*Myotis septentrionalis*) is ranked as S3? (vulnerable, rank uncertain). The least weasel (*Mustela rivalis*) is currently designated as SU (unrankable).

Of the 37 native species documented in the Toronto Region, 19 have been recorded in the Don River watershed, including 18 ranked by NHIC (2008a) as S5 (secure) and one as S4 (apparently secure) (Table 2.10). The TRCA L-Rankings are also provided in Table 2.10.

2.7.2 Avifauna

The urban and parkland habitat in Toronto Region is supportive of a variety of bird species. However, much of the habitat needed to support a greater diversity of birds has been removed. As a result, the large populations of starling, pigeon and sparrow that are present have adapted to the urban environment. The study area is also used for nesting and feeding by migratory bird species during the spring and fall. Metro Planning (1995) lists 260 bird species as documented in the Toronto Region (Table 2.11).

Waterfowl have a limited occurrence in the local study area, since there are few lakes or expanses of sluggish backwater on the watercourses of the area. Waterfowl in the area include Canada Goose (*Branta canadensis*), Wood Duck (*Aix sponsa*), Mallard (*Anas platyrhynchos*), American Black Duck (*A. rubripes*) and Hooded Merganser (*Lophodytes cucullatus*). Due to Toronto's urbanization, waterfowl capability mapping is not available (CLI, 1971c). The Don River north of the city is categorized as Class 5 with moderately severe limitations due to adverse topography. The tablelands within the local study area would be categorized as Class 7 with such severe limitations due to adverse topography that almost no waterfowl are produced.

Table 2.12 provides a list of bird species recorded in the Ontario Breeding Bird Atlas as breeding or likely breeding within a 10-km by 10-km square grid (17PJ33) encompassing the local study area (Bird Studies Canada, 2006; Cadman *et al.*, 2007). The 10-km by 10-km grid has been shifted northward to exclude the Lake Ontario shoreline to reflect the terrestrial nature of the local study area. Of the 88 species likely or confirmed to be breeding within the 10-km by 10-km square grid, 44 are ranked by the NHIC (2008a) as S5 (secure); 38 are ranked S4 (apparently secure); and five are designated as SNA (SE), i.e., conservation status not applicable (exotic). The Peregrine Falcon (*Falco peregrinus*) ranked by the NHIC (2008a) as S3 (vulnerable), is designated as a species of special concern by COSSARO (MNR, 2009), but not considered to be at risk by COSEWIC (2008a).

Of the 88 species likely or confirmed to be breeding within the 10-km by 10-km square grid, 31 species have been documented in the local study area, including 18 species ranked by the NHIC (2008a) as S5 (secure); ten species ranked as S4 (apparently secure); and three species designated as SNA (SE) (conservation status not applicable, exotic) (see Table 2.12). The TRCA L-Rankings are also provided in Table 2.12.

Four bird species have been identified as breeding within 120m of the route-specific corridor (D. Macleod, TRCA, 2009, pers.comm.): Cedar Waxwing, Red-winged Blackbird and American Goldfinch, ranked by the NHIC (2008a) as S-5 (secure) and Brown-headed Cowbird, ranked as S-4 (apparently secure).

2.7.3 Herpetofauna

Grouped together, amphibians and reptiles are called herpetiles. In the study area, they are generally dependent on wetland habitats associated with mature forests.

Table 2.13 provides a list of amphibian and reptile species present in the Toronto Region. Of the 24 species listed in Table 2.13, 13 are ranked by the NHIC (2008a) as S5 (secure); five are S4 (apparently secure); five are S3 (vulnerable); and one is S2, i.e., imperiled in the Province 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 Province. The TRCA L-Rankings are also provided in Table 2.13.

Wood turtle (*Glyptemys insculpta*) with a ranking of S2 is designated as an endangered species by COSSARO (MNR, 2009) and as a threatened species by COSEWIC (2008a).

Of the five species ranked as S3, stinkpot (*Sternotherus odoratus*) and Blanding's turtle (*Emydoidea blandingi*) are designated as threatened species by COSEWIC (2008a) and COSSARO (MNR, 2009); northern map turtle (*Graptemys geographica*) and milksnake (*Lampropeltis triangulum*) are designated federally and provincially as species of special concern; and snapping turtle (*Chelydra serpentina*) has been recommended by COSEWIC (2008c) in November 2008 to be designated as a species of special concern.

Western chorus frog (*Pseudacris triseriata*) is currently ranked as S4 (apparently secure) provincially, but the Great Lakes/St. Lawrence-Canadian Shield population was recommended by COSEWIC (2008b) in April 2008 to be designated as threatened.

The absence of extensive wetland habitat in the local study area precludes the presence of most herpetofauna. American toad (*Bufo americanus*), eastern red-backed salamander (*Plethodon cinereus*), green frog (*Rana clamitans*) and midland painted turtle (*Chrysemys picta*) have been observed in the local study area (A. Bowler, TRCA, 2006, pers. comm.). All four species are ranked by the NHIC (2008a) as S5, i.e., secure.

2.7.4 Insects

Taylor and Scrivener (1976) recorded the following butterfly species in Park Drive Ravine:

- Monarch (*Danaus plexippus*), designated as a species of special concern by COSEWIC (2008a) and COSSARO (MNR, 2009), but provincially ranked by NHIC (2008a) as S4 (apparently secure);
- Orange sulphur (*Colias eurytheme*), great spangled fritillary (*Speyeria cybele*), mourning cloak (*Nymphalis antiopa*) and thistle (painted lady) (*Vanessa cardui*) ranked by the NHIC (2008a) as S5 (secure);
- Cabbage white (*Pieris rapae*) designated as SNA (SE) (conservation status not applicable, exotic); and,

- goldbanded skipper (*Autochton cellus*), not listed in the NHIC (2008a) database.

Yellow Creek Butterfly Meadow was created in Park Drive Ravine as part of an ongoing project to help restore the Don River watershed. The meadow has been planted with native wildflowers, sedges and shrubs in an effort to enhance butterfly habitat.

2.7.5 Significant Wildlife Species

Based on the SARA Schedule 1 SAR Web Mapping Application (Environment Canada, 2006/2009), one mammal, eight bird, four reptile and one arthropod species have ranges overlapping the local study area:

- Grey fox (*Urocyon cinereoargenteus*) and Hooded Warbler (*Wilsonia citrine*), designated as threatened federally and provincially; Barn Owl (*Tyto alba*) and Acadian Flycatcher (*Empidonax vireescens*), designated as endangered federally and provincially; and Yellow Rail (*Coturnicops noveboracensis*), designated as a species of special concern federally and provincially; but have not been recorded in Toronto Region (see Tables 2.10 and 2.11);
- Least Bittern (*Ixobrychus exilis*), designated as threatened federally and provincially; and Cerulean Warbler (*Dendroica cerulean*) and Yellow-breasted Chat (*Icteria virens*), designated as species of special concern federally and provincially, have been recorded in Toronto Region (see Table 2.10), but not breeding within the 10-km by 10-km square grid overlapping the local study area (see Table 2.11);
- Peregrine Falcon (*Falco peregrinus*), designated as a species of special concern provincially, has been recorded as breeding within the 10-km by 10-km square grid overlapping the local study area (see Table 2.11);
- Blanding's turtle (*Emydoidea blandingii*), designated as threatened federally and provincially; and northern map turtle (*Graptemis geographica*) and milksnake (*Lampropeltis triangulum*), designated as species of special concern federally and provincially; have been recorded in the Don River watershed (see Table 2.13);
- Eastern ribbonsnake (*Thamnophis sauritus*), designated as a species of special concern federally and provincially, but has not been recorded in Toronto Region (see Table 2.13); and,
- Monarch (*Danaus plexippus*), designated as a species of special concern federally and provincially, has been recorded in the local study area (see Section 2.7.4).

As indicated in Table 2.13, stinkpot (*Sternotherus odoratus*) and wood turtle (*Glyptemys insculpta*), designated as threatened species federally and provincially, as well as western chorus frog (*Pseudacris crucifer*) and snapping turtle (*Chelydra serpentina*) recommended to be designated as a threatened species and a species of special concern, respectively (COSEWIC, 2008b,c), have been recorded in the Don River watershed.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

A search of the NHIC (2008a) database indicated no mammal, avifauna or amphibian SAR have been recorded recently (post-1989) in the local study area. There have been a number of records of milksnake, designated as a species of special concern by COSEWIC (2008a) and COSSARO (MNR, 2009), within the local study area, with the most recent being in 1994 (NHIC, 2008a). As indicated above, monarch has been recorded in the local study area and is likely found annually during the summer months in open habitats.

2.8 FISHERIES RESOURCES

The local study area lies within the Northern Lake Ontario drainage basin (Chapman and Putnam, 1984), drained by the Don River. The Don River primarily supports a warmwater, pollution-tolerant fish community. However, with the removal of in-stream fish barriers and improvement in water quality, chinook salmon (*Oncorhynchus tshawytscha*) from Lake Ontario have been reported as far upstream as Rutherford Road in Vaughn (Goodwin, 2008). Chinook salmon are stocked annually just below York Mills Road in the East Don River. Walleye (*Sander vitreus*) in spawning condition were collected in the Lower Don River in 2005 (DWRC, 2006). Redside dace (*Clinostomus elongatus*), designated as endangered by COSSARO (MNR, 2009) and COSEWIC (2008a), is present in a few isolated headwater locations upstream of the local study area.

Table 2.14 lists the fish species recorded in the Don River watershed and proximate to the local study area. Bluntnose minnow (*Pimephales notatus*), fathead minnow (*P. promelas*), blacknose dace (*Rhinichthys atratulus*) and creek chub (*Semotilus atromaculatus*) have been recorded in Yellow Creek. No fish have been captured in Cudmore Creek.

2.9 LAND USE

Figure 2.8 presents land uses in the local study area based on the Toronto Official Plan (OP) (Toronto City Planning, 2006). Residential is the predominant land use with interspersed natural areas (generally associated with the Don River and tributary ravines) and municipal parkland (Figure 2.6).

A formal and informal network of trails has been created through the Don River Valley. The Belt Line, Park Drive Reservation Trail and Milkmen's Rd. Trail (Figure 2.6) are part of the City of Toronto's formal Discovery Walks trail network. These trails are used for pedestrian and dog walking, jogging, cycling and nature appreciation. The trails in Crothers' Park are managed for cross-country mountain biking, dirt jumping and freeriding (The Planning Partnership *et al.*, 2007).

Apartment neighbourhoods occur along Davenport Road, as well as set back from Yonge Street and St. Clair Avenue. Mixed use areas occur primarily along Yonge Street, St. Clair Avenue and Davenport Road. The southernmost nodes of the Don Valley Parkway Corridor Employment District are located in the northeasternmost corner of the local study area.

A number of Hydro One overhead and underground transmission lines traverse the local study area extending from the Leaside TS to Bridgman TS or to Charles TS to the south.

The CPR North Toronto Subdivision mainline bisects the local study area from northeast to southwest (Figure 2.7). This line is fully double-tracked and aside from some industry in the Leaside area, there is no local originating or terminating traffic (Romoff, 2000). It is possibly the most heavily used railway line in Canada. Given the changing land use patterns in the area, the local traffic is expected to dwindle and likely disappear in the future. At this point, the line would be entirely a through trunk route (an ideal high-density operational situation). CPR has no plans to alter its facilities and operations in Toronto.

The operation of the Don Valley Brick Works quarry (clay and shale) and associated major Canadian brick manufacturing business ceased in 1989. The property was subsequently expropriated by the TRCA to protect its unique geological, historical and environmental features. The property has two distinct areas; Brick Works Park and Industrial Pad. Evergreen (2006), a national charity with a mandate to bring nature back to cities, is currently directing the redevelopment of the Industrial Pad into a mixed-use centre for experiencing the relationship between nature, culture and community.

Other notable facilities in the local study area are Leaside Memorial Arena, North Toronto STP and a Loblaws Super Centre. The locations of fire and ambulance stations, schools and churches are also provided in Figure 2.8.

Two closed waste disposal sites have been documented by the MOE (1991) in the local study area: north of Bayview Avenue between the CPR corridor and the Don River (closed on December 19, 1974); and west of Bayview Avenue and south of Moore Avenue (no closure information available).

A number of major municipal roadways are present within the local study area, e.g., Bayview Avenue, Mt. Pleasant Road, Yonge Street and Avenue Road extending north-south, and Bloor Street East, Davenport Road and St. Clair Avenue extending east-west. Traffic statistics are provided in Table 2.15.

As indicated in the Toronto OP (Toronto City Planning, 2006), development is generally not permitted in the NHS (Figure 2.6). Where the underlying land use designation provides for development in or near the NHS, development should recognize natural heritage values and potential impacts on the natural ecosystem as much as is reasonable in the context of other objectives for the area, and minimize adverse impacts. Moreover, protection, enhancement or restoration of the NHS within utility corridors will be pursued wherever possible.

The Toronto OP also designates floodplains as Special Policy Areas. Underground utilities may be located within, or cross a floodplain. Aboveground utilities may be permitted only to cross the floodplain if there is no reasonable alternative.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

It should be noted that under subsection 62(1) of the *Planning Act*, transmission and distribution projects that are approved under the Ontario *Environmental Assessment Act* are exempt from *Planning Act* requirements. However, as a measure of good public consultation, Hydro One voluntarily complies with municipal requirements.

As indicated in Figure 2.6, there are a number of ravines in the local study area including Moore Park Ravine, Vale of Avoca, Park Drive Ravine and Rosedale Valley Ravine. A Ravine Protection By-law was passed by City Council on October 3, 2002 to protect features (trees, landforms) and function (ecology, hydrology) of the ravine system in Toronto by encouraging environmentally responsible management. Under this by-law, a permit is required for any work that may injure or destroy a tree, or involves placing or dumping fill or refuse, or altering the grade of land. Under the *City of Toronto Act*, this by-law does not apply to “a transmitter or distributor, as those terms are defined in section 2 of the *Electricity Act*, for the purpose of constructing or maintaining a transmission system or a distribution system, as those terms are defined in that section”.

2.10 ARCHAEOLOGY AND HERITAGE RESOURCES

Based on a Stage 1 archaeological assessment, ASI (2009) determined that the proposed tower replacement and access road locations between Leaside TS and Bayview Jct have been subject to extensive and deep land alterations, or are on land that contains excessive slope. These locations do not exhibit archaeological site potential and no further archaeological assessment if required. For circuit installation by tunneling between Bayview Jct and Birch Jct, a Stage 2 archaeological study will be required at the main shaft location and the intermediate shaft location between the main shaft and Birch Jct, as well as the construction sites for the shafts at Bayview Jct and the intermediate shaft between the main shaft and Bayview Jct depending upon their locations.

2.11 SOCIO-ECONOMIC CHARACTERISTICS

2.11.1 City of Toronto

Ontario's capital city, Toronto, is located on the north shore of Lake Ontario. With an area of 641 km² and a population of 2,503,281 in 2006, the City of Toronto is Canada's largest city centre, known for its thriving commercial, financial, industrial and cultural life. The City of Toronto is also at the centre of one of Canada's most flourishing urban regions, the Greater Toronto Area (GTA), which encompasses the regions of Durham, York, Peel and Halton (<http://www.toronto.ca>).

After the amalgamation of seven municipal governments in January of 1998, the Toronto government became single-tiered. The responsibilities of single-tier governments are to provide its citizens with all local services. With approximately 45,000 employees, Toronto has the sixth largest government in Canada.

Residents of Toronto have access to 17 hospitals across the city. The Hospital for Sick Children, Samuel Lunefeld Research Institute of Mount Sinai Hospital, and the Princess Margaret Hospital are all highly regarded for excellence in specialized areas of treatment and research, and all are located within Toronto's downtown. The University Health Network is at the forefront of patient care, research and education. This world-leading network combines the expertise and experience of three hospitals: Princess Margaret Hospital, Toronto General Hospital and Toronto Western Hospital.

The Toronto Emergency Medical Services (EMS), Toronto Police Services and Toronto Fire Services provide emergency services for the City of Toronto. Toronto EMS is one of the largest of its kind in the world, being staffed by 1,145 people. The fleet is operated out of 45 stations across the city and includes 123 ambulances, 23 emergency response units, 27 supervisor units and seven emergency support units. One EMS station is located within the local study area on Davenport Road (see Figure 2.8).

The divisional policing command of the Toronto Police Services is separated into two areas of patrol: central field and area field. Central field encompasses the city's core, and is comprised of nine police divisions while area field divisions are spread out across the outer regions of the City of Toronto and consists of seven police divisions. Toronto Police Services has 5,028 uniformed officers, including the chief. They patrol the city with 1,228 cars, 138 motorcycles, 19 boats and 25 horses. The local study area is located within Toronto Police Services Central Field 53 Division, with its station located near the intersection of Yonge Street and Eglinton Avenue West.

Toronto Fire Services are divided into four regions: north, east, south and west. Each region is then divided into districts. A total of 82 fire stations provide services to the community. Services offered to the public include fire prevention, public education and emergency response services. There are three Toronto Fire Services stations located within or adjacent to the local study area: Stations #311, #312 and #313 on Balmoral Avenue, Yorkville Avenue and Bloor Street East (east of Sherbourne Street), respectively (Figure 2.8). Station #321 on McRae Drive is located north of the northeasternmost portion of the study area.

Educational facilities include a complete range of public and separate elementary and secondary schools, operated by the Toronto District School Board, the Toronto Catholic District School Board and the Bloorview MacMillan School Authority. French language schools are operated by the Conseil scolaire de district catholique Centre-Sud and the Conseil scolaire de district du Centre Sud-Ouest. Post secondary education is provided by three universities: University of Toronto, York University and Ryerson University, as well as five colleges: Centennial, George Brown, Humber, Seneca and Sheridan, all within the City of Toronto. The Toronto Public Library, with 99 branches, is the largest public library system in Canada. The locations of the 18 schools and three libraries (including the Toronto Reference Library) within the local study area are presented in Figure 2.8.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

The City of Toronto is serviced by two airports: Lester B. Pearson International Airport and Toronto City Centre Airport (also known as the Toronto Island Airport). Travellers can also access Toronto through several major highways, including Highways 401, 403 and 407, the Queen Elizabeth Way, and Highway 400 connecting to Highway 401 from the north. Toronto also provides out-of-town bus services from the downtown bus terminal. Toronto's Union Station provides VIA Rail services which facilitate passenger railway services throughout Canada. Visitors to Toronto may also arrive by water, as Toronto provides many docking services to boaters.

The Toronto Transit Commission (TTC) provides passengers with travelling services within Toronto. These services include subway/RT which are linked to buses and street cars to allow users to travel one-way under the same fare. Toronto also has an extensive system of interregional travel services. The GO Transit service provides travellers with trains and buses that link Toronto with other regions in the GTA.

Toronto Water operates four water treatment plants, with a total consumption in 2008 of approximately 481 billion L of Lake Ontario water, and four wastewater treatment plants (including the North Toronto STP), with 438 billion L of wastewater treated each year.

Toronto Parks and Recreation division provides for recreational programs and the maintenance and preservation of Toronto's parks, ravines and forests. Parks and Recreation provides 54,000 recreational programs to 1.2 million participants across Toronto. These include arts and crafts, camps, fitness, dance, older adult activities, pre-school activities and many sports. The facilities maintained by Parks and Recreation include 281 indoor and outdoor pools, 136 community centres, two alpine ski centres, five golf courses, 121 indoor and outdoor arenas, 833 playgrounds, 1,500 parks covering a total of 8,000 ha, 70 snack bars, 642 sports fields and 756 tennis courts. Parkland and indoor arenas within the local study area is depicted on Figures 2.6 and 2.8, respectively.

As indicated in Section 2.9, residential is the predominant land use in the local study area. The study area overlies portions of seven Toronto neighbourhoods. More than half of the study area encompasses most of the Rosedale-Moore Park neighbourhood which extends from Yonge Street in the west to Moore Park Ravine (Mud Creek) in the east and from Moore Avenue in the north to Bloor Street East in the south. West of the Rosedale-Moore Park neighbourhood, the study area overlaps portions of three neighbourhoods: Annex to the south and Yonge-St. Clair and Casa Loma to the north of the CPR corridor. Most of the study area northeast of the Rosedale-Moore Park neighbourhood encompasses a portion of the Leaside-Bennington neighbourhood. The remaining small portions of the study area northeast of Millwood Road/Laird Drive and southeast of Bloor Street East overlap the Thorncliffe Park and Cabbagetown-South St. Jamestown neighbourhoods.

Population and household data for the seven neighbourhoods are provided in Table 2.16. The highest percentage of households consisting of houses occurred in the Leaside-Bennington

neighbourhood (68%) followed by the Rosedale-Moore Park neighbourhood (32%). These two neighbourhoods occupied most of the study area.

With a workforce of 1.4 million people, 11% of Canada's total GDP originates from Toronto. In 2005, Toronto's GDP reached \$127 billion. The five main industry groups that make up part of Toronto's diverse economy include; manufacturing; professional, scientific and technical services; retail trade; health care/social assistance; and finance and insurance. Toronto is known as the economic capital of Canada. Its economy is comparable to large U.S. cities such as New York, Boston and Chicago. Toronto is the home of Canada's most active stock exchange, the Toronto Stock Exchange, as well as five of the six largest bank headquarters, nine of the 10 leading law practices, nine of the 10 top accounting firms, and all top 10 human resource and benefits firms in Canada.

The southernmost portion of the Don Valley Parkway Corridor Employment District is located in the northeasternmost corner of the local study area (Toronto City Planning, 2009). This employment district consists of six nodes to the north and east of the study area. The Office sector is the dominant employment sector within this district, making up 71.1% of the total of 73,400 jobs. The two largest sub-sectors within the Office sector are Finance, Insurance and Real Estate with 11,500 employees and Business Services with 11,400 employees. Employment in the Manufacturing sector has been gradually declining year over year, with 10,400 employees or 14.2% of District employment.

Mixed Use areas occur primarily along Yonge Street, St. Clair Avenue and Davenport Road. As indicated in Table 2.17, the majority of businesses employ less than 25 employees and are in the commercial services, retail trade, finance, insurance and real estate, and institutional services sectors. Major employers within the study area are listed in Table 2.18.

2.11.2 First Nations

The nearest First Nation (FN) reserve is the Mississaugas of Scugog Island FN (IR 34) located approximately 60 km northeast of the proposed Midtown Project.

No specific claim has been submitted by FNs in the vicinity of the local study area (M-L. Daigle, M-A. Millaire, Indian and Northern Affairs Canada, 2008, pers. comm.; P. Wheaton, Ontario Ministry of Aboriginal Affairs, 2008, pers. comm.). However, the local study area occurs within lands for which there are FN interests with respect to traditional land use, including the Six Nations of the Grand River, Mississaugas of the New Credit FN and the Huron-Wendat.

The Six Nations of the Grand River are represented by both an elected band council, and the traditional Confederacy Council (the Haudenosaunee), composed of the Mohawk, Oneida, Onondaga, Cayuga, Seneca and Tuscarora Nations. The main reserve is located approximately 25 km southwest of Hamilton, between Brantford, Caledonia and Hagersville. The Mississaugas of the New Credit FN are members of the Mississauga Ojibway and have their primary reserve

Stantec

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

situated adjacent to the south of the Six Nations FN reserve near Hagersville. The Huron-Wendat are located in the community of Wendake located near Quebec City, and have an interest in ancestral burial areas and archaeological sites in Ontario.

STANTEC CONSULTING LTD.

A handwritten signature in black ink that reads "Shawna Peddle". The signature is written in a cursive style with a large initial 'S'.

Shawna Peddle
Senior Project Manager

3.0 References

- Archaeological Services Inc. (ASI). 2009. Stage 1 Archaeological Assessment (Background Research and Property Inspection), Midtown Toronto Electricity Infrastructure Renewal Project, City of Toronto, Ontario. Report to Hydro One Networks Inc. 23 p.
- Associate Committee on the National Building Code (ACNBC). 1980. The Supplement to the National Building Code of Canada. National Research Council of Canada. NRCC No. 17724: 293 p.
- Atmospheric Environment Service (AES). 1982. Canadian Climate Normals. Volume 6. Frost 1951 1980. Environment Canada. 276 p.
- Barnett, P.J. 1992. Quaternary geology of Ontario, pp. 1011-1088. In: Geology of Ontario. Ontario Geological Survey, Special Volume 4, Part 2.
- Beak Consultants Limited (BEAK) and Paul Theil Associates Ltd. (PTA). 1991a. Problem Definition: Present State of Water Quality in the Don River – Supporting Document #4: Strategy for Improvement of Don River Water Quality. Report to Toronto Area Watershed Management Study Steering Committee. Ontario Ministry of the Environment.
- Beak Consultants Limited (BEAK) and Paul Theil Associates Ltd. (PTA). 1991b. Analysis of Water Quality Data for the Don River – Supporting Document #5: Strategy for Improvement of Don River Water Quality. Report to Toronto Area Watershed Management Study Steering Committee. Ontario Ministry of the Environment.
- Bird Studies Canada. 2006. Ontario Breeding Bird Atlas.
www.birdsontario.org/atlas/atlasmain.html
- Bostock, H.S. 1970. Physiographic subdivisions of Canada, pp. 10-30. In: Geology and Economic Minerals of Canada. R.J.W. Douglas [Ed.]. Geological Survey of Canada, Economic Geology Report No. 1.
- Brown, D.M., G.A. McKay and L.J. Chapman. 1974. The Climate of Southern Ontario. Environment Canada, Climatological Studies No. 5: 50 p.
- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage and A.R. Couturier [Eds.]. 2007. Atlas of the Breeding Birds of Ontario, 2001-2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources and Ontario Nature. 706 p.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

- Canada Council of Ministers of the Environment (CCME). 2000. Canada-Wide Standards for Particulate Matter (PM) and Ozone. 10 p.
- Canada Land Inventory (CLI). 1968. Soil Capability for Agriculture, Toronto-30M. Canada Department of Agriculture, Agricultural and Rural Development Act (ARDA).
- Canada Land Inventory (CLI). 1971a. Land Capability for Forestry, Toronto 30 M. Canada Department of Regional Economic Expansion.
- Canada Land Inventory (CLI). 1971b. Land Capability for Wildlife-Ungulates. Toronto 30 M. Canada Department of Regional Economic Expansion.
- Canada Land Inventory (CLI). 1971c. Land Capability for Wildlife-Waterfowl, Toronto 30 M. Canada Department of Regional Economic Expansion.
- Chapman, L.J. and D.F. Putnam. 1984. Physiography of Southern Ontario. Ontario Geological Survey, Special Volume 2: 270 p.
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2008a. Canadian Wildlife Species at Risk, December 2008. Ottawa, Ontario. 87 p.
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2008b. Species Profile. Western Chorus Frog Great Lakes/St. Lawrence Shield Population. www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=1019
- Committee on the Status of Endangered Wildlife in Canada (COSEWIC). 2008c. COSEWIC Wildlife Species Assessments (short version), November 2008. www.cosewic.gc.ca/rpts/Short_Species_Assessments_e.htm
- Don Watershed Regeneration Council (DWRC) and Metropolitan Toronto and Region Conservation Authority (MTRCA). 1997. Turning the Corner, the Don Watershed Report Card. 34 p.
- Don Watershed Regeneration Council (DWRC). 2000. A Time For Bold Steps: The Don Watershed Report Card 2000. Toronto and Region Conservation. 56 p.
- Don Watershed Regeneration Council (DWRC). 2003. Breathing New Life into the Don.
- Don Watershed Regeneration Council (DWRC). 2006. Forging a New Deal for the Don.
- Don Watershed Task Force (DWTF). 1994. Forty Steps to a New Don.
- Ecoregions Working Group. 1989. Ecoclimatic Regions of Canada, First Approximation. Ecoregion Working Group of the Canada Committee on Ecological Land Classification. Environment Canada, Ecological Land Classification Series No. 23:119 p.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

January, 2010

Environment Canada, Ontario Ministry of the Environment, Ontario Ministry of Natural Resources and Metropolitan Toronto and Region Conservation Authority. 1988. Metro Toronto Remedial Action Plan Environmental Conditions and Problem Definition. 196 p.

Evergreen. 2006. Evergreen at the Brick Works. Final Master Plan. 49 p.

Freeman, E.B. [Ed.]. 1978. Geological Highway Map, Southern Ontario. Ontario Geological Survey, Map 2418.

Gartner Lee Associates Limited (Gartner Lee). 1978. Environmental Sensitivity Mapping Project. Report to the Central Lake Ontario Conservation Authority. 93 p.

Geomatics International Inc. (Geomatics). 1992. Natural Areas and Environmentally Significant Areas in the City of Toronto. Report to the City of Toronto. 258 p.

Goodwin, P. 2008. Another 'fish story'? History of Pacific salmon in the Don. On the Don, Toronto and Region Conservation Authority newsletter. Fall 2008.

Hanna, R. 1984. Life Science Areas of Natural and Scientific Interest in Site District 7-4. Ontario Ministry of Natural Resources. 69 p.

Hewitt, D.F. 1972. Paleozoic Geology of Southern Ontario. Ontario Division of Mines, Geological Report 105 and Map 2254.

Hoffman, D.W. and N.R. Richards. 1955. Soil Survey of York County. Ontario Soil Survey Report No. 19: 104 p.

Johnson, M.D., D.K. Armstrong, B.V. Sanford, P.G. Telford and M.A. Rutka. 1992. Paleozoic and Mesozoic geology of Ontario, pp. 907-1008. In: Geology of Ontario. Ontario Geological Survey, Special Volume 4, Part 2.

Kaiser, J. 1983. Native and exotic plant species in Ontario: A numerical synopsis. The Plant Press 1: 25-26.

Kaiser, J., R. King, B. Wilson, A. Gotfryd, A. Petrie and G. Renfrey. 1977. A Quantitative Ecological Study of Toronto Ravines, 1977: Rosedale Valley, Park Drive Ravine, Moore Park Ravine, Burke Brook Ravine. University of Toronto. 216 p.

Kalff, S., G. MacPherson and G. Miller. 1991. Environmental Audit of the East Bayfront/Port Industrial Area. Phase II. Natural Heritage. The Royal Commission on the Future of the Toronto Waterfront, Technical Paper No. 10: 125 p.

Karrow, P.R. 1967. Pleistocene Geology of the Scarborough Area. Ontario Department of Mines, Geological Report 46:108 p.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

- Kassenaar, J.D.C. and E.J. Wexler. 2006. Groundwater Modelling of the Oak Ridges Moraine Area. Conservation Authorities Moraine Coalition (CAMC) - York Peel Durham Toronto (YPDT) Groundwater Management Study. CAMC – YPDT Technical Report #01-06: 276 p.
- Lee, H.T., W.D. Bakowsky, J. Riley, J. Bowles, M. Puddister, P. Uhlig and S. McMurray. 1998. Ecological Land Classification for Southwestern Ontario: First Approximation and its Application. Ontario Ministry of Natural Resources,
- Southcentral Science Section, Science Development and Transfer Branch, SCSS Field Guide FG-02: 225 p.
- Liberty, B.A. 1969. Paleozoic Geology of the Lake Simcoe Area, Ontario. Geological Survey of Canada Memoir 355: 201 p.
- Metro Planning. 1995. State of the Environment Report: Metropolitan Toronto. The Municipality of Metropolitan Toronto. 153 p.
- Metropolitan Toronto and Region Conservation Authority (MTRCA). 1982. Environmentally Significant Areas Study.
- Natural Heritage Information Centre (NHIC). 2008a. Species Information.
<http://nhic.mnr.gov.on.ca/MNR/nhic/species.cfm>
- Natural Heritage Information Centre (NHIC). 2008b. Natural Areas Information.
http://nhic.mnr.gov.on.ca/MNR/nhic/areas_rep.cfm
- Newmaster, S.G., A. Lehela, P.W.C. Uhlig, S. McMurray and M.J. Oldham. 1998. Ontario Plant List. Ontario Ministry of Natural Resources, Ontario Forest Research Institute, Sault Ste. Marie, Ontario, Forest Research Information Paper No. 123: 550 p.
- Ontario Geological Survey (OGS). 1991. Bedrock Geology of Ontario, Southern Sheet. Map 2544.
- Ontario Government. 1992. Wetlands Policy Statement. A Statement of Ontario Government Policy Issued Under the Authority of Section 3 of the Planning Act 1983. 15 p.
- Ontario Ministry of the Environment (MOE). 1991. Waste Disposal Site Inventory. 196 p.
- Ontario Ministry of the Environment (MOE). 1999. Air Quality in Ontario 1997. 49 p.
- Ontario Ministry of the Environment (MOE). 2005a. Transboundary Air Pollution in Ontario. 114 p.
- Ontario Ministry of the Environment (MOE). 2005b. Summary of O. Reg. 419/05 Standards and Point of Impingement Guidelines & Ambient Air Quality Criteria (AAQCs). 16 p.

Ontario Ministry of the Environment (MOE). 2006a. Air Quality in Ontario 2004 Report. 63 p.

Ontario Ministry of the Environment (MOE). 2006b. Air Quality in Ontario 2005 Report. 61 p.

Ontario Ministry of the Environment (MOE). 2007. Air Quality in Ontario 2006 Report. 47 p.

Ontario Ministry of the Environment (MOE). 2008. Air Quality in Ontario 2007 Report. 55 p.

Ontario Ministry of Municipal Affairs and Housing (OMMAH). 2005. 2005 Provincial Policy Statement. 37 p.

Ontario Ministry of Natural Resources (MNR). 1983. A Summary Report of Earth Science Areas of Natural and Scientific Interest in Maple District. 114 p.

Ontario Ministry of Natural Resources (MNR). 1984. Water Quantity Resources of Ontario. OMNR Publication 5932: 72 p.

Ontario Ministry of Natural Resources (MNR). 2009. Species at Risk in Ontario (SARO) List. 10 p. www.mnr.gov.on.ca/en/Business/Species/2ColumnSubPage/246809.html

Paragon Engineering Limited (Paragon) and Ecologistics Limited (Ecologistics). 1992. Don River Watershed State of the Environment. Report to the Metropolitan Toronto and Region Conservation Authority. 164 p.

Paul Theil Associates Ltd. (PTA) and Beak Consultants Limited (BEAK). 1989. Strategy for Improvement of Don River Water Quality. Summary Report. Report to Toronto Area Watershed Management Study Steering Committee. Ontario Ministry of the Environment. 35 p.

Romoff, H.M. 2000. Railway Corridor Use in the City of Toronto. Toronto Urban Development Services. 14 p.

Rowe, J.S. 1972. Forest Regions of Canada. Canadian Forestry Service Publication No. 1300: 172 p.

Royal Commission on the Future of the Toronto Waterfront (RCFTW). 1990. Watershed. Interim Report. 207 p.

Sly, P.G. and C.F.M. Lewis. 1972. The Great Lakes of Canada – Quaternary Geology and Limnology. Guidebook for Excursion A43, 24th Internat. Geol. Congress, Montreal, Quebec.

Steedman, R.J. 1987. Comparative Analysis of Stream Degradation and Rehabilitation in the Toronto Area. University of Toronto, Ph.D. Thesis. 172 p.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Taylor, D. and P. Scrivener. 1976. The Park Drive Ravine, Rosedale. Toronto Field Naturalists' Ravine Survey Study No. 5: 32 p.

The Planning Partnership, Bird & Hale and International Mountain Bicycling Association. 2007. Crothers' Woods Trail Management Strategy. 90 p.

Toronto and Region Conservation Authority (TRCA). 2008. TRCA Flora List. 47 p.

Toronto, City of (Toronto) and Toronto and Region Conservation Authority (TRCA). 2001. City of Toronto Natural Heritage Study – Final Report. 104 p.

Toronto City Planning. 2006. Toronto Official Plan.

Toronto City Planning. 2009. Profile Toronto. Toronto Employment Survey Report 2008. 12 p.

Toronto Economic Development, Culture & Tourism (TEDCT). 2008. Toronto Business Directory 2008. CD-ROM.

Varga, S. [Ed.]. 2000. Distribution and Status of the Vascular Plants of the Greater Toronto Area. Ontario Ministry of Natural Resources, Aurora District. 103 p.

Wainio, A., G. Price, K. Jew, W. Hamiwka, L. Wilson and P. West. 1973. General Biological Survey of Three Ravines within the City of Toronto: Moore Park Ravine, Vale of Avoca, Glen Stewart Ravine. Ontario Ministry of Natural Resources. 115 p.

Waterfront Regeneration Trust (WRT) and Toronto and Region Conservation Authority (TRCA). 1999. Clear Waters, Clear Choices. Toronto & Region Remedial Action Plan. 1998 Progress Report. 47 p.

Waterfront Regeneration Trust (WRT) and Toronto and Region Conservation Authority (TRCA). 2000. Clean Waters, Clear Choices 1999 Progress Report. 30 p.

White, O.L., P.F. Karrow and J.R. Macdonald. 1973. Residual stress relief phenomena in southern Ontario, pp. 323-348. In: Proc. 9th Can. Rock Mechanics Symp., Energy, Mines and Resources Canada.

Wickware, G.M. and C.D.A. Rubec. 1989. Ecoregions of Ontario. Environment Canada, Ecological Land Classification Series, No. 26: 37 p.

Williams, H.R., G.M. Stott, P.C. Thurston, R.H. Sutcliffe, G. Bennett, R.M. Easton and D.K. Armstrong. 1992. Tectonic evolution of Ontario: Summary and synthesis, pp. 1255-1332. In: P.C. Thurston, H.R. Williams, R.H. Sutcliffe and G.M. Stott [Eds.]. Geology of Ontario. Ontario Geological Survey, Special Volume 4, Part 2.

Stantec

HYDRO ONE

MIDTOWN PROJECT

ENVIRONMENTAL BASELINE REPORT

January, 2010

This page left blank intentionally.

Stantec

HYDRO ONE

MIDTOWN PROJECT

ENVIRONMENTAL BASELINE REPORT

Appendix A

Figures

Stantec

HYDRO ONE

MIDTOWN PROJECT

ENVIRONMENTAL BASELINE REPORT

Appendix B

Tables

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010**Table 2.1: Climatic Data for the Lake Ontario Shore Climatic Region (1931-1960)¹**

CLIMATIC PARAMETER	LAKE ONTARIO SHORE CLIMATIC REGION	
Mean Annual Temperature - °C (°F)	7.2 (45)	
Mean Daily Temperature - °C (°F)	Minimum	Maximum
January	-10.6 (13)	-1.7 (29)
April	1.1 (34)	10.6 (51)
July	15.0 (59)	26.1 (79)
October	4.4 (40)	14.4 (58)
Mean Date of Last Spring Frost	12 May	
Mean Date of First Fall Frost	08 October	
Mean Annual Frost-free Days	150	
Mean Start of Growing Season	12 April	
Mean End of Growing Season	03 November	
Mean Annual Length of Growing Season (days)	205	
Mean Annual Growing Degree Days	3,500	
Mean Annual Precipitation - mm (inch)	864 (34)	
Mean Annual Snowfall - mm (inch)	1,651 (65)	

¹Source: Brown *et al.* (1974).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.2: Mean Temperature and Precipitation Data (1971-2000)^{1, 2}

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Toronto Island Airport³													
Daily Temperature (°C)	-4.5	-3.9	0.4	6.4	12.3	17.3	20.7	20.4	16.2	9.7	4.6	-1.3	8.2
Rainfall (mm)	23.3	24.1	45.5	63.2	71.6	67.5	67.2	80.1	83.4	64.6	69.3	45.1	705.0
Snowfall (cm)	29.5	26.0	18.4	6.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	27.6	112.8
Total Precipitation (mm)	50.5	48.5	64.4	69.0	71.6	67.5	67.2	80.1	83.4	64.6	74.6	72.4	813.8
Days with Precipitation ⁴	14.3	11.8	12.5	12.0	11.5	11.3	9.8	10.3	10.8	11.9	12.7	14.3	143.1
Toronto Lester B. Pearson International Airport⁵													
Daily Temperature (°C)	-6.3	-5.4	-0.4	6.3	12.9	17.8	20.8	19.9	15.3	8.9	3.2	-2.9	7.5
Rainfall (mm)	24.9	22.3	36.7	62.4	72.4	74.2	74.4	79.6	77.5	63.4	62.0	34.7	684.6
Snowfall (cm)	31.1	22.1	19.2	5.7	0.1	0.0	0.0	0.0	0.0	0.5	7.6	29.2	115.4
Total Precipitation (mm)	52.2	42.6	57.1	68.4	72.5	74.2	74.4	79.6	77.5	64.1	69.3	60.9	792.7
Days with Precipitation ⁴	14.9	11.6	13.1	12.1	11.9	11.0	10.1	10.8	10.7	11.5	13.2	14.6	145.5

1 Source: Environment Canada website: www.climate.weatheroffice.ec.gc.ca

2 Years of record: 1971 to 2000.

3 Latitude: 43°37.8'N; Longitude: 79°24.0'W; Elevation: 76.5 m.

4 Greater than or equal to 0.2 mm.

5 Latitude: 43°40.8'N; Longitude: 79°37.8'W; Elevation: 173.4 m.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010**Table 2.3: Frost Data¹**

Parameter	Toronto Island Airport²	Pearson Airport³
Mean Frost-Free Period (Days)	191	149
Average Last Frost (Spring)	21 April	08 May
Average First Frost (Fall)	30 October	05 October
Earliest Last Frost (Spring)	03 April	09 April ⁴
Latest Last Frost (Spring)	10 May	28 May ⁴
Earliest First Frost (Fall)	03 October	15 September ⁴
Latest First Frost (Fall)	24 November	03 November ⁴
Longest Frost-Free Period (Days)	218	195 ⁴
Shortest Frost-Free Period (Days)	166	117 ⁴

¹ Source: AES (1982).² Based on 24 years of record.³ Based on 30 years of record.⁴ Based on 43 years of record.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.4: Wind Data for the Toronto Island Airport and Lester B. Pearson International Airport (Pearson Airport) Meteorological Station, 1971 to 2000¹

Parameter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Toronto Island Airport													
Mean Wind Speed (km/h)	22.9	20.4	19.7	18.5	15.0	13.3	12.2	12.3	13.8	16.2	20.0	21.4	17.2
Most Frequent Direction	W	W	E	E	E	E	E	E	E	E	W	W	E
Maximum Hourly Speed (km/h)	96	74	121	78	95	65	71	50	56	69	80	74	
Maximum Gust Speed (km/h)	126	101	108	107	93	106	111	97	107	97	98	111	
Direction	SW	SW	W	W	SW	W	W	W	W	NW	SW	W	
Toronto Lester B. Pearson International Airport													
Direction	17.8	16.5	17.1	17.1	14.1	12.9	12.3	11.2	12.2	13.3	15.6	16.0	14.7
Most Frequent Direction	SW	N	NW	NW	NW	NW	NW	NW	NW	NW	SW	SW	NW
Maximum Hourly Speed (km/h)	77	77	97	81	71	63	61	71	77	92	80	70	
Direction	SW	W	SW	W	SW	NW	W	W	S	SW	SW	SW	
Maximum Gust Speed (km/h)	115	105	124	111	109	107	135	93	92	104	122	109	
Direction	E	W	SW	W	SW	W	NW	SW	SW	NW	SW	S	

¹ Source: Environment Canada website: www.climate.weatheroffice.ec.gc.ca

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.5: Toronto Downtown Ambient Air Quality Statistics, 2004-2007^{1,2}

Parameter	Percentiles							Maximum		AAQC ³		No. of Times Above AAQC	
	10%	30%	50%	70%	90%	99%	Mean	1h	24h	1h	24h	1h	24h
2007													
NO (ppb)	1	2	3	5	12	54	5.9	260	44	-	-	-	-
NO ₂ (ppb)	7	11	16	22	33	50	18.2	75	46	200	100	0	0
NO _x (ppb)	9	14	19	27	45	96	24.2	334	81	-	-	-	-
O ₃	7	17	24	32	45	72	25.7	97	62	80	-	41	-
CO (ppm)	0.04	0.12	0.19	0.25	0.36	0.63	0.20	1.70	1.08 ⁴	30	13 ⁴	0	0
SO ₂ (ppb)	0	1	1	2	5	12	1.9	39	13	250	100	0	0
PM _{2.5} (µg/m ³)	1	3	5	8	17	38	7.3	51	41	-	30 ⁵	-	6
2006													
NO (ppb)	1	2	3	5	16	63	6.9	170	55	-	-	-	-
NO ₂ (ppb)	8	12	17	23	33	51	19.1	75	45	200	100	0	0
NO _x (ppb)	10	15	21	28	49	106	26.1	239	91	-	-	-	-
O ₃	4	13	21	29	42	68	22.6	92	66	80	-	15	-
CO (ppm)	0.16	0.24	0.30	0.39	0.51	0.79	0.33	1.46	1.02 ⁴	30	13 ⁴	0	0
SO ₂ (ppb)	0	1	1	2	5	11	1.9	38	13	250	100	0	0
PM _{2.5} (µg/m ³)	1	3	5	8	16	35	7.3	52	35	-	30 ⁵	-	4
2005													
NO (ppb)	1	1	3	5	16	77	7.2	222	100	-	-	-	-
NO ₂ (ppb)	8	13	18	25	37	55	20.6	75	60	200	100	0	0
NO _x (ppb)	10	16	22	30	52	127	28.2	293	161	-	-	-	-
O ₃	5	14	22	31	46	72	24.5	100	62	80	-	36	-
CO (ppm)	0.09	0.19	0.31	0.41	0.55	0.88	0.32	1.59	1.15 ⁴	30	13 ⁴	0	0
SO ₂ (ppb)	1	1	2	3	6	12	2.8	48	11	250	100	0	0
PM _{2.5} (µg/m ³)	1	3	5	9	21	45	8.5	65	43	-	30 ⁵	-	14
2004													

Table 2.5: Toronto Downtown Ambient Air Quality Statistics, 2004-2007^{1,2}

Parameter	Percentiles							Maximum		AAQC ³		No. of Times Above AAQC	
	10%	30%	50%	70%	90%	99%	Mean	1h	24h	1h	24h	1h	24h
NO (ppb)	1	1	3	6	19	72	7.6	214	67	-	-	-	-
NO ₂ (ppb)	8	13	18	24	36	53	20.1	79	51	200	100	0	0
NO _x (ppb)	10	15	21	30	55	114	28.1	281	101	-	-	-	-
O ₃	4	14	21	30	42	65	22.8	82	55	80	-	2	-
CO (ppm)	0.18	0.25	0.32	0.39	0.53	0.85	INS ⁵	1.9	1.25 ⁴	30	13 ⁴	0	0
SO ₂ (ppb)	0	1	1	2	6	16	2.2	55	17	250	100	0	0
PM _{2.5} (µg/m ³)	0	2	4	8	17	38	7.1	56	37	-	30 ⁵	-	8

¹ Source: MOE (2006a,b, 2007, 2008).

² Station 31103: Bay/Wellesley St.

³ AAQC = Ambient Air Quality Criteria (MOE, 2005b).

⁴ Maximum and AAQC based on 8h.

⁵ Canada-wide Standard (CCME, 2000).

Table 2.6: Characteristics of Soils in the Local Study Area¹

Soil Type	Great Group	Parent Material	Drainage	Topography	Stoniness
Fox sandy loam	Grey-Brown Podzolic	Well-sorted calcareous grey sand	Good	Smooth, very gently sloping	Stonefree
Oneida clay loam	Grey-Brown Podzolic	Dark yellowish brown shaly calcareous clay till	Good	Smooth, moderately sloping	Few stones
Chinguacousy clay loam	Grey-Brown Podzolic	Dark yellowish brown shaly calcareous clay till	Imperfect	Smooth, gently sloping	Few stones
Bottomland	Alluvial	Recent alluvial deposits	Variable	Level	Variable

¹ Source: Hoffman and Richards (1955).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT
January, 2010**

Table 2.7: Don River Monthly Discharge Data (m³/s)¹

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
At York Mills²													
Mean	0.702	1.04	1.90	1.45	0.774	0.497	0.506	0.550	0.580	0.598	0.718	0.676	0.842
Minimum	0.190	0.141	0.440	0.217	0.191	0.142	0.046	0.028	0.075	0.145	0.133	0.164	-
Maximum	2.40	4.57	3.82	4.14	2.25	1.40	1.75	2.64	3.51	3.11	2.51	2.02	-
At Todmorden³													
Mean	3.43	4.36	6.33	5.40	4.01	3.31	3.17	3.39	3.50	3.20	4.03	3.72	3.99
Minimum	1.37	1.30	2.22	2.68	1.96	1.44	1.46	1.58	1.48	1.23	1.80	1.51	-
Maximum	9.04	10.8	11.9	11.8	8.34	8.08	6.09	10.2	13.0	6.87	9.81	7.72	-

¹ Source: http://www.wsc.ec.gc.ca/hydat/H2O/WEBfrmMeanReport_e.cfm

² Station 02HD005; Latitude: 43°44'24"N, Longitude: 79°24'11"W; Drainage area: 88.10 km²; Period of record: 1945-2005.

³ Station 02HC024; Latitude: 43°41'09"N, Longitude: 79°21'41"W; Drainage area: 316.0 km²; Period of record: 1962-2006.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.8: List of the Native Vascular Plants Recorded by the TRCA within the Local Study Area¹

Scientific Name	Common Name	Provincial Status ²	TRCA Status ³
PTERIDOPHYTES	FERNS		
Dennstaedtiaceae	Bracken Fern Family		
<i>Pteridium aquilinum</i>	Bracken Fern	S5	L4
Dryopteridaceae	Wood Fern Family		
<i>Athyrium filix-femina</i> var. <i>angustum</i>	Lady fern	S5	L5
<i>Dryopteris carthusiana</i>	Spinulose shield fern	S5	L5
<i>Onoclea sensibilis</i>	Sensitive fern	S5	L5
GYMNOSPERMS	CONIFERS		
Pinaceae	Pine Family	S5	L4
<i>Pinus strobus</i>	Eastern white pine	S5	L4
<i>Tsuga canadensis</i>	Eastern hemlock		
DICTYLEDONS	DICOTS		
Aceraceae	Maple Family		
<i>Acer rubrum</i>	Red maple	S5	L4
<i>A. saccharinum</i>	Silver maple	S5	L4
<i>A. nigrum</i>	Black maple	S4?	L4
<i>A. spicatum</i>	Mountain maple	S5	L4
Apocynaceae	Dogbane Family		
<i>Apocynum androsaemifolium</i>	Spreading dogbane	S5	L4
Araliaceae	Ginseng Family		
<i>Aralia nudicaulis</i>	Wild sarsaparilla	S5	L5
Asteraceae	Composite or Aster Family		
<i>Eurybia macrophylla</i> (<i>Aster macrophylla</i>)	Large-leaf wood-aster	S5	L4
<i>Eupatorium purpureum</i>	Purple-jointed Joe pye weed	S4	L2
<i>Helianthus decapetalus</i>	Thin-leaved sunflower	S5	L3
<i>H. divaricatus</i>	Woodland sunflower	S5	L3
<i>H. strumosus</i>	Pale-leaf sunflower	S5	L4
<i>Symphotrichum puniceum</i>	Swamp aster		
Berberidaceae	Barberry Family		
<i>Podophyllum peltatum</i>	May apple	S5	L5
Betulaceae	Birch Family		
<i>Betula alleghaniensis</i>	Yellow birch	S5	L4
<i>Corylus cornuta</i>	Beaked hazelnut	S5	L4
Campanulaceae	Bellflower Family		
<i>Lobelia siphilitica</i>	Great blue lobelia	S5	L3
Caprifoliaceae	Honeysuckle Family		
<i>Diervilla lonicera</i>	Northern bush honeysuckle	S5	L4
<i>Lonicera dioica</i>	Mountain honeysuckle	S5	L3
<i>Symphoricarpos albus</i> var. <i>albus</i>	Snowberry	S4S5	L3
<i>Viburnum acerifolium</i>	Maple-leaf viburnum	S5	L3
Cornaceae	Dogwood Family	S5	L5

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.8: List of the Native Vascular Plants Recorded by the TRCA within the Local Study Area¹

Scientific Name	Common Name	Provincial Status ²	TRCA Status ³
<i>Cornus foemina ssp. racemosa</i>	Stiff dogwood		
<i>C. rugosa</i>	Round leaf dogwood	S5	L4
Fabaceae	Pea Family		
<i>Desmodium glutinosum</i>	Large tick-trefoil	S4	L3
Fagaceae	Beech Family		
<i>Quercus alba</i>	White oak	S5	L2
<i>Q. rubra</i>	Northern red oak	S5	L4
<i>Q. velutina</i>	Black oak	S4	L2
Grossulariaceae	Currant Family		
<i>Ribes americanum</i>	Wild black currant	S5	L5
Hamamelidaceae	Witch-hazel Family		
<i>Hamamelis virginiana</i>	American witch-hazel	S5	L3
Juglandaceae	Walnut Family		
<i>Carya cordiformis</i>	Bitternut hickory	S5	L4
<i>C. ovata</i>	Shagbark hickory	S5	L3
<i>Juglans cinerea</i>	Butternut	S3?	L3
Papaveraceae	Poppy Family		
<i>Sanguinaria canadensis</i>	Bloodroot	S5	L5
Ranunculaceae	Buttercup Family		
<i>Actaea rubra</i>	Red baneberry	S5	L5
Rosaceae	Rose Family		
<i>Amelanchier sanguinea var. sanguinea</i>	Round-leaved serviceberry	S5?	L4
<i>Crataegus macracantha</i>	A hawthorn	S5	L4
<i>Rosa blanda</i>	Smooth rose	S5	L4
<i>Rubus flagellaris</i>	Northern dewberry	S4	L3
Rubiaceae	Madder Family		
<i>Cephalanthus occidentalis</i>	Common buttonbush	S5	L3
Salicaceae	Willow Family		
<i>Salix bebbiana</i>	Bebb's willow	S5	L4
<i>S. discolor</i>	Pussy willow	S5	L4
Santalaceae	Sandalwood Family		
<i>Comandra umbellata</i>	Umbellate bastard toad-flax	S5	L2
Thymelaeaceae	Mezereum Family		
<i>Dirca palustris</i>	Eastern leatherwood	S4?	L3
MONOCOTYLEDONS	MONOCOTS		
Araceae	Arum Family		
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	S5	L5
Cyperaceae	Sedge Family		
<i>Carex alopecoidea</i>	Foxtail sedge	S5	L3
<i>C. cephaloidea</i>	Thin leaf sedge	S5	L3

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.8: List of the Native Vascular Plants Recorded by the TRCA within the Local Study Area¹

Scientific Name	Common Name	Provincial Status ²	TRCA Status ³
<i>C. laevivaginata</i>	Smooth-sheath sedge	S4	L3
<i>C. laxiflora</i>	Loose-flowered sedge	S5	L4
<i>C. normalis</i>	A sedge	S4	L3
<i>C. pennsylvanica</i>	Pennsylvania sedge	S5	L4
<i>C. scabrata</i>	Rough sedge	S5	L4
Liliaceae	Lily Family		
<i>Maianthemum canadense</i>	Wild lily-of-the-valley	S5	L4
<i>Polygonatum pubescens</i>	Downy Solomon's seal	S5	L4
<i>Trillium grandiflorum</i>	White trillium	S5	L4
Poaceae	Grass Family		
<i>Bromus ciliatus</i>	Fringed brome	S5	L3
<i>Calamagrostis canadensis</i>	Canada blue-joint	S5	L4
<i>Leersia virginica</i>	White cutgrass	S4	L4
<i>Panicum virgatum</i>	Old switch panic grass	S4	L3

¹ A. Bowler, TRCA, 2006, pers. comm.

² NHIC (2008a): S5 = secure; S5? = possibly secure; S4S5 = apparently secure to secure; S4 = apparently secure; S4? = apparently secure, rank uncertain; S3? = vulnerable, rank uncertain.

³ TRCA Ranking: L5 = Able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. 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

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
GYMNOSPERMS	CONIFERS						
Cupressaceae	Cedar Family						
<i>Thuja occidentalis</i>	Eastern white cedar		X			S5	L4
Pinaceae	Pine Family						
<i>Picea abies</i>	Norway spruce		X			SNA (SE)	L+
<i>P. glauca</i>	White spruce	X	X			S5	L3
<i>Pinus resinosa</i>	Red pine	X	X			S5	L2
<i>P. strobus</i>	Eastern white pine	X	X			S5	L4
<i>P. sylvestris</i>	Scotch pine		X			SNA (SE)	L+
<i>Tsuga canadensis</i>	Eastern hemlock	X	X			S5	L4
DICTYLEDONS	DICOTS						
Aceraceae	Maple Family						
<i>Acer negundo</i>	Manitoba maple (Box elder)	X	X	X	X	S5	L+?
<i>A. nigrum</i>	Black maple	X				S4?	L4
<i>A. platanoides</i>	Norway maple	X	X	X	X	SNA (SE)	L+
<i>A. pseudoplatanus</i>	Sycamore maple	X				SNA (SE)	L+
<i>A. saccharinum</i>	Silver maple	X				S5	L4
<i>A. saccharum</i> ssp. <i>saccharum</i>	Sugar maple	X	X	X	X	S5	L5
<i>A. spicatum</i>	Mountain maple	X				S5	L4
Amaranthaceae	Amaranth Family						
<i>Amaranthus powellii</i>	Powell's (Green) amaranth	X				SNA (SE)	L+
Anacardiaceae	Sumac or Cashew Family						
<i>Rhus (Toxicodendron) rydbergii</i>	Poison ivy	X	X	X		S5	L5
<i>R. typhina</i>	Staghorn sumac	X	X	X	X	S5	L5
Apiaceae	Carrot or Parsley Family						
<i>Angelica atropurpurea</i>	Dark-purple Alexanders (Great Angelica)	X				S5	L3
<i>Aegopodium podagraria</i>	Goutweed		X			SNA (SE)	L+
<i>Daucus carota</i>	Wild carrot	X	X	X	X	SNA (SE)	L+
<i>Torilis japonica</i>	Japan (Erect) hedge-parsley	X	X			SNA (SE)	L+
Apocynaceae	Dogbane Family						
<i>Apocynum cannabinum</i>	Clasping-leaf dogbane (Indian hemp)			X		S5	L4
<i>Vinca minor</i>	Periwinkle	X				SNA (SE)	L+
Asclepiadaceae	Milkweed Family						
<i>Asclepias syriaca</i>	Common (Kansas) milkweed	X	X			S5	L5
<i>Cynanchum rossicum</i>	European swallow-wort	X	X			SNA (SE)	L+
Asteraceae	Composite or Aster Family						
<i>Achillea millefolium</i> ssp.	Common yarrow	X				SNA (SE)	L+

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>millefolium</i>							
<i>Ambrosia artemisiifolia</i>	Common (Annual) ragweed	X	X	X	X	S5	L5
<i>A. trifida</i>	Giant (Great) ragweed		X			S5	L5
<i>Arctium lappa</i>	Greater burdock	X	X	X		SNA (SE)	L+
<i>A. minus</i> ssp. <i>minus</i>	Common burdock	X	X	X	X	SNA (SE)	L+
<i>Artemisia biennis</i>	Biennial wormwood		X			SNA (SE)	L+
<i>Aster cordifolius</i> (<i>Symphotricum cordifolium</i>)	Heart-leaf aster			X	X	S5	L5
<i>A. (S.) ericoides</i> ssp. <i>Ericoides</i>	White heath aster	X	X	X		S5	L5
<i>A. (S.) lanceolatus</i> ssp. <i>lanceolatus</i>	Tall white (Panicked) aster	X	X			S5	L5
<i>A. (S.) lateriflorus</i> var. <i>lateriflorus</i>	Calico (Small white) aster	X	X	X	X	S5	L5
<i>A. (S.) novae-angliae</i>	New England aster	X	X	X	X	S5	L5
<i>Bidens frondosa</i>	Devil's beggar-ticks	X	X		X	S5	L5
<i>Centaurea jacea</i>	Brown knapweed (Star thistle)		X			SNA (SE)	L+
<i>C. maculosa</i> (<i>biebersteinii</i>)	Spotted knapweed	X				SNA (SE)	L+
<i>Chrysanthemum leucanthemum</i> (<i>Leucanthemum vulgare</i>)	Ox-eye daisy		X			SNA (SE)	L+
<i>Cichorium intybus</i>	Chicory	X	X	X	X	SNA (SE)	L+
<i>Cirsium arvense</i>	Canada thistle	X	X	X		SNA (SE)	L+
<i>C. vulgare</i>	Bull thistle	X				SNA (SE)	L+
<i>Conyza canadensis</i>	Horseweed (Fleabane)	X				S5	L5
<i>Eupatorium maculatum</i> ssp. <i>maculatum</i>	Spotted Joe pye weed				X	S4?	L5
<i>Erigeron annuus</i>	White-top fleabane		X			S5	L5
<i>E. strigosus</i>	Daisy fleabane	X	X			S5	L5
<i>Euthamia graminifolia</i>	Flat-topped bushy (fragrant) goldenrod	X	X			S5	L5
<i>Mycelis muralis</i>	Wall lettuce	X				SNA (SE)	L+
<i>Senecio vulgaris</i>	Common groundsel (Old-man-in-the-spring)	X				SNA (SE)	L+
<i>Solidago altissima</i> var. <i>altissima</i>	Tall goldenrod	X	X			S5	L5
<i>S. caesia</i>	Bluestem goldenrod	X	X			S5	L5
<i>S. canadensis</i>	Canada goldenrod	X		X	X	S5	L5
<i>S. flexicaulis</i>	Zig-zag (Broad-leaved) goldenrod	X	X	X		S5	L5
<i>S. gigantea</i>	Giant (Smooth) goldenrod			X	X	S5	L5
<i>Sonchus arvensis</i> ssp. <i>arvensis</i>	Field sow-thistle		X			SNA (SE)	L+

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>Sonchus oleraceus</i>	Common sowthistle	X				SNA (SE)	L+
<i>Tanacetum vulgare</i>	Common tansy	X	X			SNA (SE)	L+
<i>Taraxacum officinale</i>	Common (Brown-seed) dandelion	X	X		X	SNA (SE)	L+
Balsaminaceae	Touch-me-not Family						
<i>Impatiens capensis</i>	Spotted touch-me-not (jewel-weed)				X	S5	L5
Berberidaceae	Barberry Family						
<i>Berberis thunbergii</i>	Japanese barberry	X	X			SNA (SE)	L+
Betulaceae	Birch Family						
<i>Betula papyrifera</i>	White (Paper) birch	X	X			S5	L4
<i>Ostrya virginiana</i>	Eastern hop-hornbeam	X	X			S5	L5
Boraginaceae	Borage Family						
<i>Echium vulgare</i>	Blueweed (Common viper's-bugloss)	X				SNA (SE)	L+
Brassicaceae	Mustard Family						
<i>Alliaria petiolata</i>	Garlic mustard	X	X	X		SNA (SE)	L+
<i>Hesperis matronalis</i>	Dame's rocket	X				SNA (SE)	L+
<i>Lepidium densiflorum</i>	Common (Dense-flower) pepper-grass	X	X			SNA (SE)	L+?
Caprifoliaceae	Honeysuckle Family						
<i>Lonicera tatarica</i>	Tartarian honeysuckle	X	X			SNA (SE)	L+
<i>Sambucus (nigra ssp.) canadensis</i>	Common elderberry	X	X			S5	L5
<i>Symphoricarpos albus</i>	Snowberry	X				S4S5	L3
<i>Viburnum lentago</i>	Nannyberry		X			S5	L5
<i>V. opulus</i>	Guelder rose	X				SNA (SE)	L+
<i>V. trilobum (opulus var. americanum)</i>	Highbush cranberry		X			S5	L2
Caryophyllaceae	Pink Family						
<i>Saponaria officinalis</i>	Bouncing-bet	X				SNA (SE)	L+
Celastraceae	Staff-tree Family						
<i>Euonymus alatus</i>	Winged spindle tree		X			SNA (SE)	L+
<i>E. europaeus</i>	European spindle tree	X				SNA (SE)	L+
<i>E. fortunei</i>	Euonymus (Winter creeper)	X				SNA (SE)	L+
Chenopodiaceae	Goosefoot Family						
<i>Chenopodium album var. album</i>	Lamb's quarters	X	X			SNA (SE)	L+
<i>Salsola kali</i>	Russian thistle	X				SNA (SE)	L+
Cornaceae	Dogwood Family						

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>Cornus alternifolia</i>	Alternate-leaf dogwood				X	S5	L5
<i>C. foemina</i> ssp. <i>racemosa</i>	Red panicle (Stiff) dogwood		X			S5	L5
<i>C. stolonifera</i> (<i>sericea</i>)	Red-osier dogwood	X	X			S5	L5
Cucurbitaceae	Gourd Family						
<i>Echinocystis lobata</i>	Prickly (Wild mock-) cucumber		X	X	X	S5	L5
Dipsacaceae	Teasel Family						
<i>Dipsacus fullonum</i> ssp. <i>sylvestris</i>	Wild (Fuller's) teasel		X			SNA (SE)	L+
Elaeagnaceae	Oleaster Family						
<i>Elaeagnus angustifolia</i>	Russian olive	X	X			SNA (SE)	L+
Fabaceae	Pea Family						
<i>Coronilla varia</i>	Variable crown-vetch		X			SNA (SE)	L+
<i>Lotus corniculatus</i>	Bird's-foot trefoil	X				SNA (SE)	L+
<i>Melilotus albus</i>	White sweet-clover	X	X			SNA (SE)	L+
<i>Robinia pseudoacacia</i>	Black locust	X	X	X		SNA (SE)	L+
<i>Trifolium pratense</i>	Red clover	X	X			SNA (SE)	L+
Fagaceae	Beech Family						
<i>Fagus grandifolia</i>	American beech	X	X	X		S4	L4
<i>Quercus alba</i>	White oak	X	X	X	X	S5	L2
<i>Q. macrocarpa</i>	Bur (Mossy-cup) oak	X	X			S5	L4
<i>Q. rubra</i>	Northern red oak	X	X		X	S5	L4
Geraniaceae	Geranium Family						
<i>Geranium robertianum</i>	Herb-robert	X	X			SNA (SE)	L+?
Grossulariaceae	Currant Family						
<i>Ribes americanum</i>	Wild black currant	X				S5	L5
Guttiferae	St. John's-wort Family						
<i>Hypericum perforatum</i>	Common St. John's-wort	X	X			SNA (SE)	L+
Hippocastanaceae	Buckeye Family						
<i>Aesculus hippocastanum</i>	Horse chestnut		X			SNA (SE)	L+
Hydrophyllaceae	Water-leaf Family						
<i>Hydrophyllum virginianum</i>	Virginia water-leaf (John's cabbage)	X				S5	L5
Juglandaceae	Walnut Family						
<i>Carya cordiformis</i>	Bitternut hickory	X		X		S5	L4
<i>C. ovata</i> var. <i>ovata</i>	Shagbark hickory	X				S5	L3
<i>Juglans cinerea</i>	Butternut			X		S3?	L3
<i>J. nigra</i>	Black walnut		X	X		S4	L5
Lamiaceae	Mint Family						
<i>Glechoma hederacea</i>	Ground ivy	X				SNA (SE)	L+
<i>Leonurus cardiaca</i> ssp. <i>cardiaca</i>	Common motherwort	X	X			SNA (SE)	L+

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
Appendix B - Tables
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>Nepeta cataria</i>	Catnip		X			SNA (SE)	L+
Lythraceae	Loosestrife Family						
<i>Lythrum salicaria</i>	Purple loosestrife		X			SNA (SE)	L+
Moraceae	Mulberry Family						
<i>Morus alba</i>	White mulberry	X				SNA (SE)	L+
Oleaceae	Olive Family						
<i>Fraxinus americana</i>	White ash	X	X	X	X	S5	L5
<i>F. pennsylvanica</i>	Red (Green) ash	X	X			S5	L5
<i>Ligustrum vulgare</i>	Common (European) privet	X				SNA (SE)	L+
Onagraceae	Evening-primrose Family						
<i>Circaea lutetiana</i> ssp. <i>canadensis</i>	Yellowish enchanter's nightshade	X				S5	L5
<i>Epilobium hirsutum</i>	Great-hairy willow-herb			X		SNA (SE)	L+
<i>Oenothera biennis</i>	Common evening-primrose	X	X			S5	L5
Papaveraceae	Poppy Family						
<i>Chelidonium majus</i>	Greater celandine	X				SNA (SE)	L+
Plantaginaceae	Plantain Family						
<i>Plantago lanceolata</i>	Ribgrass (English plantain)	X	X			SNA (SE)	L+
<i>P. major</i>	Common (Nipple-seed) plantain	X	X	X	X	SNA (SE)	L+
<i>P. rugelii</i>	Rugel's (Black-seed) plantain	X				S5	L5
Polygonaceae	Smartweed Family						
<i>Polygonum cuspidatum</i>	Japanese knotweed	X	X			SNA (SE)	L+
<i>P. persicaria</i>	Lady's-thumb				X	SNA (SE)	L+
<i>Rumex crispus</i>	Curly-leaf dock	X	X			SNA (SE)	L+
Ranunculaceae	Buttercup Family						
<i>Anemone canadensis</i>	Canada anemone	X				S5	L5
<i>A. cylindrica</i>	Thimbleweed (Long-fruited anemone)	X				S4	L3
<i>A. virginiana</i> var. <i>virginiana</i>	Virginia anemone		X			S5	L5
<i>Ranunculus acris</i>	Tall buttercup	X		X		SNA (SE)	L+
<i>Thalictrum dioicum</i>	Early meadowrue		X			S5	L5
Rhamnaceae	Buckthorn Family						
<i>Rhamnus cathartica</i>	Common buckthorn	X	X			SNA (SE)	L+
Rosaceae	Rose Family						
<i>Crataegus</i> sp.	Hawthorn species		X	X		_8	_8
<i>Geum aleppicum</i>	Yellow avens	X	X			S5	L5
<i>G. canadense</i>	White avens	X	X			S5	L5
<i>Malus pumila</i>	Common crabapple (apple)			X		SAN (SE)	L+

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>Physocarpus opulifolius</i>	Eastern ninebark	X	X			S5	L3
<i>Potentilla argentea</i>	Silvery cinquefoil	X				SAN (SE)	L+
<i>P. recta</i>	Rough-fruited (Sulphur) cinquefoil	X	X			SAN (SE)	L+
<i>Prunus serotina</i>	Wild black cherry	X	X			S5	L5
<i>P. pennsylvanica</i>	Pin cherry				X	S5	L4
<i>P. virginiana</i> ssp. <i>virginiana</i>	Choke cherry	X	X	X	X	S5	L5
<i>Rosa multiflora</i>	Multiflora rose	X	X	X		SAN (SE)	L+
<i>Rubus idaeus</i> ssp. <i>melanolasius</i> (<i>strigosus</i>)	Wild red raspberry	X	X			S5	L5
<i>R. occidentalis</i>	Thimble-berry (Black raspberry)			X		S5	L5
<i>R. odoratus</i>	Purple flowering raspberry		X	X		S5	L5
Salicaceae	Willow Family						
<i>Populus alba</i>	Silver (White) poplar		X			SAN (SE)	L+
<i>P. deltoides</i> ssp. <i>deltoides</i>	Cottonwood	X	X			SU	L5
<i>P. grandidentata</i>	Large-tooth aspen		X			S5	L4
<i>P. tremuloides</i>	Trembling aspen			X		S5	L5
<i>Salix</i> sp.	Willow species	X	X	X		_ ⁸	_ ⁸
<i>S. amygdaloides</i>	Peach-leaved willow		X			S5	L4
<i>S. exigua</i>	Sandbar willow		X			S5	L5
<i>S. fragilis</i>	Crack willow	X	X	X		SNA (SE)	L+
Scrophulariaceae	Figwort Family						
<i>Linaria vulgaris</i>	Butter-and-eggs	X	X			SNA (SE)	L+
<i>Verbascum thapsus</i>	Common mullein	X	X			SNA (SE)	L+
Simaroubaceae	Ailanthus Family						
<i>Ailanthus altissima</i>	Tree-of-heaven	X	X			SNA (SE)	L+
Solanaceae	Nightshade Family						
<i>Solanum dulcamara</i>	Bitter (Climbing) nightshade	X	X		X	SNA (SE)	L+
<i>S. nigrum</i>	Black nightshade	X				SNA (SE)	L+
Tiliaceae	Linden Family						
<i>Tilia americana</i>	American basswood	X	X		X	S5	L5
Ulmaceae	Elm Family						
<i>Ulmus americana</i>	White (American) elm	X	X	X	X	S5	L5
<i>U. pumila</i>	Siberian elm	X	X			SNA (SE)	L+
Urticaceae	Nettle Family						
<i>Urtica dioica</i> ssp. <i>dioica</i>	European stinging nettle	X	X	X		SNA (SE)	L+
<i>U. dioica</i> ssp. <i>gracilis</i>	American stinging nettle	X				S5	L5
Vitaceae	Grape Family						

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		
<i>Parthenocissus inserta</i> (<i>quinquefolia</i>)	Virginia creeper				X	S4?	L5/L4
<i>Vitis riparia</i>	Riverbank grape	X	X	X	X	S5	L5
MONOCOTYLEDONS	MONOCOTS						
Cyperaceae	Sedge Family						
<i>Carex</i> sp.	Sedge species	X				_8	_8
<i>C. pedunculata</i>	Longstalk sedge	X				S5	L4
<i>Juncus tenuis</i>	Path rush	X	X			S5	L5
Poaceae	Grass Family						
<i>Agrostis gigantea</i>	Red-top (Black bent-grass)	X	X			SNA (SE)	L+
<i>A. stolonifera</i>	Redtop (Spreading bent-grass)	X				S5	L+?
<i>Bromus inermis</i> ssp. <i>inermis</i>	Awnless brome	X	X			SNA (SE)	L+
<i>Dactylis glomerata</i>	Orchard grass	X		X	X	SNA (SE)	L+
<i>Elymus repens</i>	Quack grass (Creeping wild-rye)		X			SNA (SE)	L+
<i>Eragrostis pectinacea</i> var. <i>pectinacea</i>	Tufted (Western) love grass	X				S5	L+?
<i>Festuca rubra</i> ssp. <i>rubra</i>	Red fescue		X			S5	L+
<i>Miscanthus sacchariflorus</i>	Amur (Japanese) silver grass		X			SNA (SE)	L+
<i>Panicum capillare</i>	Old witch panic grass	X				S5	L5
<i>Phalaris arundinacea</i>	Reed canary grass	X	X		X	S5	L+?
<i>Phleum (Lolium) pratense</i>	Meadow timothy	X		X	X	SNA (SE)	L+
<i>Phragmites australis</i>	Common reed		X			S5	L+?
<i>Poa annua</i>	Annual bluegrass	X				SNA (SE)	L+
<i>P. compressa</i>	Canada bluegrass	X	X			SNA	L+
<i>P. nemoralis</i>	Woodland spear grass (Woods bluegrass)	X	X			SNA (SE)	L+
<i>P. pratensis</i> ssp. <i>pratensis</i>	Kentucky bluegrass	X	X	X		S5	L+
<i>Setaria pumila</i>	Yellow (White) foxtail	X	X			SNA (SE)	L+
Typhaceae	Cattail Family						
<i>Typha angustifolia</i>	Narrow-leaved cattail	X	X			SNA (SE)	L+
<i>T. latifolia</i>	Broad-leaved cattail		X		X	S5	L4

¹ Scientific and common nomenclature after Newmaster *et al.* (1998); bracketed nomenclature after NHIC (2008a).

² Field survey of CP corridor (Option 1) undertaken on November 17, 2006.

³ Field survey of Route Option 2 undertaken on November 3 and 4, 2008.

⁴ Field survey of Moore Park Ravine/Chorley Park (Option 3) undertaken on September 15, 2009.

⁵ Field survey of Moore Park Ravine/Heath Drive (Option 4) undertaken on September 15, 2009.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.9: List of the Vascular Plants Recorded within Natural and Cultural Vegetation Communities Traversed by the Proposed Alternative Routes

Scientific Name ¹	Common Name ¹	Route Option				Provincial Status ⁶	TRCA Status ⁷
		1 ²	2 ³	3 ⁴	4 ⁵		

⁶ NHIC (2008a): S5 = secure; S4S5 = apparently secure to secure; S4 = apparently secure; S4? = apparently secure, rank uncertain; S3? = vulnerable, rank uncertain; SNA = conservation ranking not applicable; SNA (SE) = conservation ranking not applicable (exotic); SU = unrankable.
⁷ TRCA Rankings: L5 = Able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. 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. L1 = Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally. L+ = Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic. L+? = Origin uncertain or disputed, i.e., may or may not be native
⁸ Status uncertain as taxonomy only at genus level.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.10: Mammal Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Don River Watershed Record ²	Toronto Region Status	Provincial Status ³	TRCA Status ⁴
Virginia opossum	<i>Didephis virginiana</i>		Rare	S4	L4
Masked shrew	<i>Sorex cinereus</i>		Common	S5	L4
Pygmy shrew	<i>S. hoyi</i>		Uncommon	S4	-
Short-tailed shrew	<i>Blarina brevicauda</i>	X	Common	S5	L4
Hairy-tailed mole	<i>Parascalops breweri</i>	X	Uncommon	S4	L3
Star-nosed mole	<i>Condylura cristata</i>		Common	S5	L3
Little brown bat	<i>Myotis lucifugus</i>	X	Common	S5	L4
Northern long-eared bat	<i>M. septentrionalis</i>		Uncommon	S3?	L4
Big brown bat	<i>Eptesicus fuscus</i>	X	Common	S5	L4
Red bat ⁵	<i>Lasiurus borealis</i>		Uncommon	S4	L4
Hoary bat	<i>L. cinereus</i>		Uncommon	S4	L4
Eastern cottontail	<i>Sylvilagus floridanus</i>	X	Uncommon	S5	L4
Snowshoe hare	<i>Lepus americanus</i>		Common	S5	L3
European hare	<i>L. europaeus</i>	X	Uncommon	SNA (SE)	L+
Eastern chipmunk	<i>Tamias striatus</i>	X	Common	S5	L4
Groundhog (woodchuck)	<i>Marmota monax</i>	X	Common	S5	L4
Eastern gray squirrel	<i>Sciurus carolinensis</i>	X	Common	S5	L5
Red squirrel	<i>Tamiasciurus hudsonicus</i>	X	Common	S5	L4
Southern flying squirrel	<i>Glaucomys volans</i>		Common	S4	L2
Northern flying squirrel	<i>G. sabrinus</i>		Common	S5	L2
Beaver	<i>Castor canadensis</i>	X	Uncommon	S5	L4
White-footed mouse	<i>Peromyscus leucopus</i>	X	Common	S5	L5
Deer mouse	<i>P. maniculatus</i>	X	Common	S5	L5
Muskrat	<i>Ondatra zibethicus</i>	X	Common	S5	L4
Meadow vole	<i>Microtus pennsylvanicus</i>	X	Common	S5	L4
Norway rat	<i>Rattus norvegicus</i>	X	Common	SNA (SE)	L+
House mouse	<i>Mus musculus</i>	X	Common	SNA (SE)	L+
Meadow jumping mouse	<i>Zapus hudsonius</i>		Uncommon	S5	L3
Woodland jumping mouse	<i>Napaeozapus insignis</i>		Uncommon	S5	L2
Porcupine	<i>Erethizon dorsatum</i>		Uncommon	S5	L2
Coyote	<i>Canis latrans</i>		Uncommon	S5	L5
Red fox	<i>Vulpes vulpes</i>	X	Common	S5	L4
Northern raccoon	<i>Procyon lotor</i>	X	Common	S5	L5
Ermine	<i>Mustela erminea</i>		Uncertain	S5	L3
Long-tailed weasel	<i>M. frenata</i>		Common	S4	L3
Least weasel	<i>M. nivalis</i>		Uncertain	SU	-
American mink	<i>M. vison</i>	X	Common	S5	L4
Striped skunk	<i>Mephitis mephitis</i>	X	Common	S5	L5
River otter	<i>Lontra canadensis</i>		Uncommon	S5	L1
White-tailed deer	<i>Odocoileus virginianus</i>	X	Uncommon	S5	L4

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
Appendix B - Tables
January, 2010

Table 2.10: Mammal Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Don River Watershed Record ²	Toronto Region Status	Provincial Status ³	TRCA Status ⁴
-------------	-----------------	---	-----------------------	--------------------------------	--------------------------

¹ Source: Metro Planning (1995).

² Source: Wainio *et al.* (1973); Taylor and Scrivener (1976); Kaiser *et al.* (1977); Paragon/Ecologistics (1992).

³ NHIC (2008a): S5 = secure; S4 = apparently secure; S3? = vulnerable, rank uncertain; S3 = vulnerable; SNA (SE) = conservation ranking not applicable (exotic); SU = unrankable..

⁴ TRCA Rankings: L5 = Able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. 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. L1 = Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally. L+ = Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic. L+? = Origin uncertain or disputed, i.e., may or may not be native

⁵ Kalff *et al.* (1991).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
Red-throated Loon	<i>Gavia stellata</i>	Rare in all seasons
Common Loon	<i>G. immer</i>	Common migrant; rare in winter; scarce non-breeder in summer
Pred-billed Grebe	<i>Podilymbus podiceps</i>	Uncommon migrant; scarce breeder
Horned Grebe	<i>Podiceps auritus</i>	Uncommon migrant; rare in summer and winter
Red-necked Grebe	<i>P. grisegena</i>	Uncommon migrant; scarce summer resident
Eared Grebe	<i>P. nigricollis</i>	Rare fall migrant; vagrant in other seasons
Northern Gannet	<i>Sula bassanus</i>	No data
Great Cormorant	<i>Phalacrocorax carbo</i>	No data
Double-crested Cormorant	<i>P. auritus</i>	Increasingly common migrant; uncommon summer resident
American Bittern	<i>Botaurus lentiginosus</i>	Scarce migrant; rare breeder in marshes outside urban areas; vagrant in winter
Least Bittern ²	<i>Ixobrychus exilis</i>	Scarce migrant; rare breeder
Great Blue Heron	<i>Ardea herodias</i>	Common migrant; localized breeder; scarce in winter
Great Egret	<i>Casmerodias albus</i>	Rare spring, summer and fall visitor
Snowy Egret	<i>Egretta thula</i>	Vagrant, with most records occurring in spring
Green Heron	<i>Butorides virescens</i>	Uncommon migrant; scarce breeder
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	Common migrant and breeder
Yellow-crowned Night-heron	<i>N. violaccus</i>	Recorded
Glossy Ibis	<i>Plegadis falcinellus</i>	No data
Whistling (Tundra) Swan	<i>Cygnus columbianus</i>	Uncommon migrant
Trumpeter Swan	<i>C. buccinator</i>	Rare local resident throughout the year
Mute Swan	<i>C. olor</i>	Uncommon introduced resident that is slowly increasing in population
Snow Goose	<i>Anser caerulescens</i>	Rare migrant; regular winter resident in small numbers, often at the mouths of major rivers
Brant Goose	<i>Branta bernicla</i>	Rare spring and scarce fall migrant
Canada Goose	<i>B. canadensis</i>	Common resident and migrant
Wood Duck	<i>Aix sponsa</i>	Uncommon to scarce, but regular migrant; scarce breeder; rare in winter
Green-winged Teal	<i>Anas crecca</i>	Scarce in fall migration, rare in spring and winter; very rare breeder
American Black Duck	<i>A. rubripes</i>	Common in winter and on migration; rare breeder
Mallard	<i>A. platyrhynchos</i>	Abundant in winter and on migration; common breeder
Northern Pintail	<i>A. acuta</i>	Rare in winter; uncommon on migration; an erratic breeder
Blue-winged Teal	<i>A. discors</i>	Uncommon to scarce in migration; scarce during the breeding season
Northern Shoveler	<i>A. clypeata</i>	Scarce in spring and uncommon in fall migration; uncommon in winter; rare breeder
Gadwall	<i>A. strepera</i>	Common in winter and on migration (especially in fall); scarce during the breeding season
Eurasian Wigeon	<i>A. penelope</i>	No data

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
American Wigeon (Baldpate)	<i>A. americana</i>	Scarce in winter; uncommon in migration
Canvasback	<i>Aythya valisineria</i>	Scarce spring and fall migrant; rare in winter
Redhead	<i>A. americana</i>	Common winter resident; uncommon migrant; very rare breeder
Ring-necked Duck	<i>A. collaris</i>	Uncommon to scarce migrant; rare in winter
Greater Scaup	<i>A. marila</i>	Common migrant and wintering species
Lesser Scaup	<i>A. affinis</i>	Common spring and uncommon fall migrant; scarce to rare in winter
King Eider	<i>Somateria spectabilis</i>	No data
Harlequin Duck	<i>Histrionicus histrionicus</i>	Rare, but one or two found wintering almost every year
Oldsquaw	<i>Clangula hyemalis</i>	Abundant migrant and winter resident; rare in summer
Black Scoter	<i>Melanitta nigra</i>	Scarce fall migrant; rare in winter
Surf Scoter	<i>M. perspicillata</i>	Scarce fall migrant; rare in other seasons
White-winged Scoter	<i>M. fusca</i>	Uncommon spring and fall migrant; scarce winter resident; rare in summer
Common Goldeneye	<i>Bucephala clangula</i>	Common migrant and wintering species; rare in summer
Barrow's Goldeneye	<i>B. islandica</i>	No data
Bufflehead	<i>B. albeola</i>	Common migrant and winter resident; rare in summer
Hooded Merganser	<i>Lophodytes culcullatus</i>	Uncommon or scarce migrant; scarce to rare in winter
Common Merganser	<i>Mergus merganser</i>	Common in winter and migration
Red-breasted Merganser	<i>M. serrator</i>	Uncommon wintering species; common migrant; rare in summer
Ruddy Duck	<i>Oxyura jamaicensis</i>	Uncommon to scarce migrant; rare in summer; very rare in winter
Turkey Vulture	<i>Cathartes aura</i>	Uncommon migrant and breeder; can be common in fall migration
Osprey	<i>Pandion haliaetus</i>	Uncommon migrant; more common in fall
Bald Eagle ³	<i>Haliaeetus leucocephalus</i>	Very rare throughout the year
Northern Harrier	<i>Circus cyaneus</i>	Common migrant; very uncommon in winter; rare breeder
Sharp-shinned Hawk	<i>Accipiter striatus</i>	Common migrant; uncommon to rare in winter and as a breeder
Cooper's Hawk	<i>A. cooperii</i>	Uncommon migrant and winter resident; rare breeder
Northern Goshawk	<i>A. gentilis</i>	Uncommon to rare migrant; rare in winter; very rare breeder
Red-shouldered Hawk	<i>Buteo lineatus</i>	Uncommon migrant; rare in winter
Broad-winged Hawk	<i>B. platypterus</i>	Common to abundant migrant in September; uncommon spring migrant; rare breeder
Red-tailed Hawk	<i>B. jamaicensis</i>	Common resident with numbers increasing during fall migration
Rough-legged Hawk	<i>B. lagopus</i>	Usually uncommon migrant and winter resident
Golden Eagle ³	<i>Aquila chrysaetos</i>	Very rare throughout the year; less rare during fall migration
American Kestrel	<i>Falco sparverius</i>	Common resident with numbers increasing during fall

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
		migration
Merlin	<i>F. columbarius</i>	Rare in winter and on spring migration; uncommon fall migrant
Peregrine Falcon ⁴	<i>F. peregrinus</i>	Rare throughout the year; uncommon during fall migration
Gyrfalcon	<i>F. rusticolus</i>	No data
Ring-necked Pheasant	<i>Phasianus colchicus</i>	Uncommon permanent resident that has recently declined in numbers
Northern Bobwhite ⁵	<i>Colinus virginianus</i>	No data
Virginia Rail	<i>Rallus limicola</i>	Uncommon migrant; scarce breeder
Sora	<i>Porzana carolina</i>	Uncommon migrant that is largely undetected due to its elusive nature; scarce breeder; rarely lingers into the winter
Common Moorhen	<i>Gallinula chloropus</i>	No data
American Coot	<i>Fulica americana</i>	Uncommon migrant; rare in winter; very local breeder
Black-bellied Plover	<i>Pluvialis squatarola</i>	Uncommon spring migrant; common fall migrant
Lesser Golden-plover	<i>P. dominica</i>	Uncommon to scarce spring migrant; uncommon fall migrant
Semipalmated Plover	<i>Charadrius semipalmatus</i>	Common spring and fall migrant
Piping Plover ⁵	<i>C. melodus</i>	No data
Killdeer	<i>C. vociferus</i>	Abundant migrant and breeder; rarely lingers into the winter
American Avocet	<i>Recurvirostra americana</i>	No data
Greater Yellowlegs	<i>Tringa melanoleuca</i>	Uncommon migrant
Lesser Yellowlegs	<i>T. flavipes</i>	Common migrant
Solitary Sandpiper	<i>T. solitaria</i>	Scarce spring and uncommon fall migrant
Willet	<i>Catoptrophorus semipalmatus</i>	No data
Spotted Sandpiper	<i>Actitis macularia</i>	Common migrant and breeder
Upland Sandpiper	<i>Barramia longicauda</i>	Scarce migrant; rare breeder; decline is apparent in the area
Whimbrel	<i>Numenius phaeopus</i>	Common spring migrant, mostly occurring for a couple of days in May; rare during southern migration
Hudsonian Godwit	<i>Limosa haemastica</i>	No data
Marbled Godwit	<i>L. fedoa</i>	No data
Ruddy Turnstone	<i>Arenaria interpres</i>	Common migrant
Red Knot	<i>Calidria canutus</i>	Uncommon to scarce migrant
Sanderling	<i>C. alba</i>	Uncommon to scarce spring and common fall migrant
Semipalmated Sandpiper	<i>C. pusilla</i>	Common spring and fall migrant
Western Sandpiper	<i>C. mauri</i>	Very rare spring and rare fall migrant
Least Sandpiper	<i>C. minutilla</i>	Common spring and fall migrant
White-rumped Sandpiper	<i>C. fuscicollis</i>	Scarce spring and uncommon to scarce fall migrant
Baird's Sandpiper	<i>C. bairdii</i>	Scarce fall migrant
Pectoral Sandpiper	<i>C. melanotos</i>	Uncommon spring and common fall migrant; very rarely

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
		lingers into the winter
Purple Sandpiper	<i>C. maritime</i>	Rare late fall migrant, appearing in November and December
Dunlin	<i>C. alpina</i>	Common spring and fall migrant
Stilt Sandpiper	<i>C. himantopus</i>	Uncommon fall migrant
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>	Rare fall migrant
Short-billed Dowitcher	<i>Limnodromus griseus</i>	Uncommon to common spring and common fall migrant
Common Snipe	<i>Gallinago delicata</i>	Common migrant; uncommon breeder
American Woodcock	<i>Scolopax minor</i>	Common migrant; uncommon breeder; rarely lingers into the winter
Wilson's Phalarope	<i>Phalaropus tricolor</i>	Rare spring and scarce to rare fall migrant; has bred sporadically
Red-necked Phalarope	<i>P. lobatus</i>	Rare fall migrant
Red Phalarope	<i>P. fulicaria</i>	No data
Parasitic Jaeger	<i>Stercorarius parasiticus</i>	Rare fall migrant
Franklin's Gull	<i>Larus pipixcan</i>	No data
Little Gull	<i>L. minutus</i>	No data
Common Black-headed Gull	<i>L. ridibundus</i>	No data
Bonaparte's Gull	<i>L. philadelphia</i>	Common migrant
Ring-billed Gull	<i>L. delawarensis</i>	"Super" – abundant breeder; increasingly common wintering species
California Gull	<i>L. californicus</i>	No data
Herring Gull	<i>L. argentatus</i>	Common resident; abundant at the lakefront and at garbage dumps in the winter
Iceland Gull	<i>L. glaucoides</i>	Rare migrant and wintering species
Thayer's Gull	<i>L. glaucoides thayeri</i>	Scarce migrant and wintering species
Lesser Black-backed Gull	<i>L. fuscus</i>	Rare fall and winter visitor
Glaucous Gull	<i>L. hyperboreus</i>	Scarce wintering species
Great Black-backed Gull	<i>L. marinus</i>	Uncommon wintering species
Caspian Tern	<i>Sterna caspia</i>	Common migrant and breeder
Common Tern	<i>S. hirundo</i>	Common migrant
Forster's Tern	<i>S. forsteri</i>	Uncommon to rare migrant
Black Tern ⁶	<i>Chlidonias niger</i>	No data
Rock Dove	<i>Columba livia</i>	Abundant resident
Mourning Dove	<i>Zenaida macroura</i>	Abundant resident
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	Rare to uncommon migrant and summer resident
Yellow-billed Cuckoo	<i>C. americanus</i>	Uncommon summer resident and migrant
Eastern Screech-owl	<i>Megascops asio</i>	Uncommon to common resident
Great Horned Owl	<i>Bubo virginianus</i>	Common resident
Snowy Owl	<i>Nyctea scandiaca</i>	Rare to common winter resident
Long-eared Owl	<i>Asio otus</i>	Uncommon migrant and winter visitor; rare breeder
Short-eared Owl ⁷	<i>A. flammeus</i>	Uncommon winter visitor; rare breeder

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
Northern Saw-whet Owl	<i>Aegolius acadicus</i>	Species not previously reported
Common Nighthawk ⁸	<i>Chordeiles minor</i>	Common migrant; locally common breeder
Whip-poor-will	<i>Caprimulgus vociferus</i>	Uncommon migrant; uncommon to rare breeder
Chimney Swift ⁸	<i>Chaetura pelagica</i>	Common migrant and breeder
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	Common migrant; uncommon breeder
Belted Kingfisher	<i>Ceryle alcyon</i>	Uncommon in winter; common in other seasons
Red-headed Woodpecker ⁹	<i>Melanerpes erythrocephalus</i>	Uncommon migrant; scarce breeder; rare in winter
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	Common migrant; rare in winter and summer
Downy Woodpecker	<i>Picoides pubescens</i>	Common permanent resident
Hairy Woodpecker	<i>P. villosus</i>	Uncommon to scarce summer resident; common at other seasons
Northern Flicker	<i>Colaptes auratus</i>	Scarce in winter; common at other seasons
Pileated Woodpecker	<i>Oryzocopus pileatus</i>	Uncommon resident
Olive-sided Flycatcher ⁸	<i>Contopus borealis</i>	Scarce to uncommon migrant
Eastern Wood-pewee	<i>C. sordidulus</i>	Common migrant and breeder
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	Scarce to uncommon migrant
Alder Flycatcher	<i>E. alnorum</i>	Scarce migrant; very local breeder
Willow Flycatcher	<i>E. traillii</i>	Common migrant and breeder
Least Flycatcher	<i>E. minimus</i>	Common migrant and local breeder
Eastern Phoebe	<i>Sayornis phoebe</i>	Common migrant; uncommon breeder; very rare in winter
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	Common migrant and breeder
Eastern Kingbird	<i>Tyrannus tyrannus</i>	Common migrant and breeder
Horned Lark	<i>Eremophila alpestris</i>	Common migrant and breeder; uncommon to common in winter
Purple Martin	<i>Progne subis</i>	Common migrant; locally common breeder
Tree Swallow	<i>Tachycineta bicolor</i>	Common migrant; locally common breeder
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	Common migrant; locally common breeder
Bank Swallow	<i>Riparia riparia</i>	Common migrant; locally common breeder
Cliff Swallow	<i>Hirundo pyrrhonota</i>	Uncommon migrant; local breeder
Barn Swallow	<i>H. rustica</i>	Common migrant and breeder
Blue Jay	<i>Cyanocitta cristata</i>	Common resident; abundant migrant
Black-billed Magpie	<i>Pica pica</i>	No data
American Crow	<i>Corvus brachyrhynchos</i>	Common resident and migrant
Common Raven	<i>C. corax</i>	Rare visitor
Black-capped Chickadee	<i>Parus atricapillus</i>	Common resident; more common in winter
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Common migrant and winter resident; uncommon breeder
White-breasted Nuthatch	<i>S. carolinensis</i>	Common migrant and wintering species
Brown Creeper	<i>Certhia americana</i>	Common migrant; scarce in winter
Carolina Wren	<i>Thryothorus ludovicianus</i>	Rare in winter, spring and summer; scarce in fall

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
House Wren	<i>Troglodytes aedon</i>	Abundant in spring, summer and fall; very rare in winter
Winter Wren	<i>T. troglodytes</i>	Rare in winter and as a summer breeder; common to uncommon in spring and fall migration
Sedge Wren	<i>Cistothorus platensis</i>	No data
Marsh Wren	<i>C. palustris</i>	Rare migrant; uncommon to scarce local breeder in suitable habitat
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Common and sometimes abundant migrant; rare and local in summer; rare but regular winter resident
Ruby-crowned Kinglet	<i>R. calendula</i>	Common migrant; rare in summer and winter
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>	Scarce migrant; rare breeder; absent in winter
Eastern Bluebird	<i>Sialia sialis</i>	Uncommon to rare spring migrant; scarce in fall and rare in winter
Veery	<i>Catharus fuscescens</i>	Uncommon spring migrant; scarce breeder; uncommon fall migrant; absent in winter
Gray-cheeked Thrush	<i>C. minimus</i>	Rare spring and scarce fall migrant; absent in winter and summer
Swainson's Thrush	<i>C. ustulatus</i>	Uncommon spring and fall migrant; absent in winter
Hermit Thrush	<i>C. guttatus</i>	Rare winter resident; uncommon to common spring and fall migrant
Wood Thrush	<i>Hylocichla mustelina</i>	Uncommon spring and fall migrant and breeder; absent in winter
American Robin	<i>Turdus migratorius</i>	Locally common in winter; abundant in all other seasons
Gray Catbird	<i>Dumetella carolinensis</i>	Common migrant; uncommon breeder; absent in winter
Northern Mockingbird	<i>Mimus polyglottos</i>	Scarce in summer and wanders during other seasons
Brown Thrasher	<i>Toxostoma rufum</i>	Uncommon spring and fall migrant and breeder; rare in winter
American Pipit	<i>Anthus spinoletta</i>	Rare spring migrant; common in fall
Cedar Waxwing	<i>Bombycilla cedrorum</i>	Common in winter, spring and fall; uncommon late summer breeder
Northern Shrike	<i>Lanius excubitor</i>	Scarce in winter and fall
Loggerhead Shrike ⁵	<i>L. ludovicianus</i>	Rare migrant
European Starling	<i>Sturnus vulgaris</i>	Abundant resident
Blue-headed (Solitary) Vireo	<i>Vireo solitarius</i>	No data
Yellow-throated Vireo	<i>V. flavifrons</i>	Uncommon to rare migrant; rare breeder
Warbling Vireo	<i>V. gilvus</i>	Common migrant and breeder
Philadelphia Vireo	<i>V. philadelphicus</i>	Uncommon migrant
Red-eyed Vireo	<i>V. olivaceus</i>	Common migrant and breeder
Blue-winged Warbler	<i>Vermivora pinus</i>	Uncommon migrant; rare localized breeder
Golden-winged Warbler ⁹	<i>V. chrysoptera</i>	Uncommon migrant; rare breeder
Tennessee Warbler	<i>V. peregrina</i>	Common migrant
Orange-crowned Warbler	<i>V. celata</i>	Rare spring migrant; uncommon fall migrant
Nashville Warbler	<i>V. ruficapilla</i>	Common migrant; uncommon to rare breeder
Northern Parula	<i>Parula americana</i>	Uncommon migrant

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
Yellow Warbler	<i>Dendroica petechia</i>	Common migrant and breeder
Chestnut-sided Warbler	<i>D. pensylvanica</i>	Common migrant; uncommon breeder
Magnolia Warbler	<i>D. magnolia</i>	Common migrant
Cape May Warbler	<i>D. tigrina</i>	Common migrant
Black-throated Blue Warbler	<i>D. caerulescens</i>	Common migrant
Yellow-rumped Warbler	<i>D. coronata</i>	Common to abundant; occasionally lingers into the winter
Black-throated Green Warbler	<i>D. virens</i>	Common migrant; very uncommon breeder
Blackburnian Warbler	<i>D. fusca</i>	Common migrant
Pine Warbler	<i>D. pinus</i>	Uncommon migrant; local breeder
Prairie Warbler	<i>D. discolor</i>	Very rare migrant
Palm Warbler	<i>D. palmarum</i>	Uncommon to common migrant; very rare in winter
Bay-breasted Warbler	<i>D. castanea</i>	Common migrant
Blackpoll Warbler	<i>D. striata</i>	Uncommon to common migrant
Cerulean Warbler ⁷	<i>D. cerulea</i>	Rare spring migrant; very rare in fall
Black-and-white Warbler	<i>Mniotilta varia</i>	Common spring and fall migrant
American Redstart	<i>Setophaga ruticilla</i>	Common spring and fall migrant; uncommon breeder
Worm-eating Warbler	<i>Helmitheros vermivorus</i>	Very rare spring overshoot
Ovenbird	<i>Seiurus aurocapillus</i>	Common migrant; locally common breeder
Northern Waterthrush	<i>S. noveboracensis</i>	Common migrant; locally uncommon breeder
Louisiana Waterthrush ⁷	<i>S. motacilla</i>	Rare migrant and spring overshoot
Kentucky Warbler	<i>Oporornis formosus</i>	Very rare spring overshoot
Connecticut Warbler	<i>O. agilis</i>	Uncommon spring and fall migrant
Mourning Warbler	<i>O. philadelphia</i>	Uncommon spring and fall migrant; uncommon to locally common breeder
Common Yellowthroat	<i>Geothlypis trichas</i>	Common migrant and breeder; very rare in winter
Wilson's Warbler	<i>Wilsonia pusilla</i>	Common migrant
Canada Warbler ⁸	<i>W. canadensis</i>	Common spring and fall migrant
Yellow-breasted Chat ⁷	<i>Icteria virens</i>	Occasional visitor, mainly in spring
Scarlet Tanager	<i>Piranga olivacea</i>	Common migrant
Northern Cardinal	<i>Cardinalis cardinalis</i>	Common resident
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	Common migrant; uncommon to common breeder
Indigo Bunting	<i>Passerina cyanea</i>	Uncommon to common migrant and breeder
Dickcissel	<i>Spiza americana</i>	No data
Rufous-sided Towhee	<i>Pipilo erythrophthalmus</i>	Common migrant and breeder; rare in winter
American Tree Sparrow	<i>Spizella arborea</i>	Common late fall migrant; winter resident and early spring migrant
Chipping Sparrow	<i>S. passerina</i>	Common migrant and breeder
Clay-colored Sparrow	<i>S. pallida</i>	Rare migrant
Field Sparrow	<i>S. pusilla</i>	Scarce migrant and breeder; rare in winter
Vesper Sparrow	<i>Poocetes gramineus</i>	Uncommon migrant and breeder

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Common spring migrant and breeder; uncommon fall migrant
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	No data
Le Conte's Sparrow	<i>A. leunteii</i>	No data
Sharp-tailed Sparrow	<i>A. caudacutus</i>	No data
Fox Sparrow	<i>Passerella iliaca</i>	Rare in winter; uncommon spring migrant; scarce fall migrant
Song Sparrow	<i>Melospiza melodia</i>	Common migrant and breeder; less common but regular winter resident
Lincoln's Sparrow	<i>M. lincolnii</i>	Common spring and fall migrant
Swamp Sparrow	<i>M. georgiana</i>	Common spring and fall migrant; common breeder in suitable habitat; rare winter resident
White-throated Sparrow	<i>Zonotrichia albicollis</i>	Common to abundant migrant; rare breeder and scarce winter resident
White-crowned Sparrow	<i>Z. leucophrys</i>	Common spring and fall migrant; rare winter resident
Dark-eyed Junco	<i>Junco hyemalis</i>	Common spring and fall migrant; winter resident
Lapland Longspur	<i>Calcarius lapponicus</i>	Rare spring and fall migrant
Snow Bunting	<i>Plectrophenax nivalis</i>	Common late fall migrant and winter resident; rare spring migrant
Bobolink	<i>Dolichonyx oryzivorus</i>	No data
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Abundant migrant and common breeder; scarce in winter
Eastern Meadowlark	<i>Sturnella magna</i>	Common migrant and breeder; scarce in winter
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	No data
Rusty Blackbird	<i>Euphagus carolinus</i>	Uncommon spring and common fall migrant; very uncommon to rare in winter
Common Grackle	<i>Quiscalus quiscula</i>	Common migrant and breeder; scarce in winter
Brown-headed Cowbird	<i>Molothrus ater</i>	Common migrant and breeder; scarce in winter
Orchard Oriole	<i>Icterus spurius</i>	Rare migrant and breeder
Northern Oriole	<i>I. galbula</i>	Common migrant and breeder; extremely rare in winter
Purple Finch	<i>Carpodacus purpureus</i>	Common migrant; uncommon in winter; rare breeder
House Finch	<i>C. mexicanus</i>	Common year-round resident
White-winged Crossbill	<i>Loxia leucoptera</i>	Irruptive winter visitor
Common Redpoll	<i>Carduelis flammea</i>	No data
Hoary Redpoll	<i>C. harnemanni</i>	No data
Pine Siskin	<i>C. pinus</i>	Irruptive winter resident; very rare breeder
Lesser Goldfinch	<i>C. psaltria</i>	No data
American Goldfinch	<i>C. tristis</i>	Common year-round resident; irruptive during the winter
Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Irruptive winter visitor
House Sparrow	<i>Passer domesticus</i>	Abundant year-round resident

¹ Source: Metro Planning (1995).² Designated as a threatened species by COSEWIC (2008a) and COSSARO (MNR, 2009).³ Designated as an endangered species by COSSARO (MNR, 2009), but is considered to be not at risk by COSEWIC (2008a).⁴ Designated as a species of special concern by COSEWIC (2008a) and as a threatened species by COSSARO (MNR, 2009).

Table 2.11: Avifauna Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Status
--------------------	------------------------	---------------

⁵ Designated as an endangered species by COSEWIC (2008a) and COSSARO (MNR, 2009).

⁶ Designated as a species of special concern by COSSARO (MNR, 2009), but is considered to be not at risk by COSEWIC (2008a).

⁷ Designated as a species of special concern by COSEWIC (2008a) and COSSARO (MNR, 2009).

⁸ Designated as a threatened species by COSEWIC (2008a).

⁹ Designated as a threatened species by COSEWIC (2008a) and as a species of special concern by COSSARO (MNR, 2009).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.12: Breeding Bird Species Recorded within a 10-km by 10-km Square Grid Overlapping the Local Study Area¹

Common Name	Scientific Name	Local Study Area Record ²	Provincial Status ³	TRCA Status ⁴
Green Heron	<i>Butorides virescens</i>		S4	L4
Canada Goose	<i>Branta canadensis</i>		S5	L5
Wood Duck	<i>Aix sponsa</i>		S5	L3
Mallard	<i>Anas platyrhynchos</i>		S5	L5
American Black Duck	<i>A. rubripes</i>		S4	L3
Hooded Merganser	<i>Lophodytes cucullatus</i>		S5	L3
Turkey Vulture	<i>Cathartes aura</i>		S5	L4
Northern Harrier	<i>Circus cyaneus</i>		S4	L3
Cooper's Hawk	<i>Accipiter cooperii</i>		S4	L4
Sharp-shinned Hawk	<i>A. striatus</i>		S5	L3
Red-tailed Hawk	<i>Buteo jamaicensis</i>		S5	L5
American Kestrel	<i>Falco sparverius</i>		S5	L4
Peregrine Falcon ⁵	<i>F. peregrinus</i>		S3	L4
Ring-necked Pheasant	<i>Phasianus colchicus</i>		SNA (SE)	L+
Virginia Rail	<i>Rallus limicola</i>		S5	L3
Sora	<i>Porzana carolina</i>		S4	L3
Killdeer	<i>Charadrius vociferus</i>		S5	L5
Spotted Sandpiper	<i>Actitis macularia</i>	X	S5	L4
American Woodcock	<i>Scolopax minor</i>		S4	L3
Rock Dove	<i>Columba livia</i>		SNA (SE)	L+
Mourning Dove	<i>Zenaida macroura</i>	X	S5	L5
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>		S4	L3
Black-billed Cuckoo	<i>C. erythrophthalmus</i>		S5	L3
Eastern Screech-owl	<i>Megascops asio</i>		S5	L4
Great Horned Owl	<i>Bubo virginianus</i>		S5	L4
Common Nighthawk ⁶	<i>Chordeilus minor</i>		S4	L3
Chimney Swift ⁶	<i>Chaetura pelagica</i>		S4	L4
Ruby-throated Hummingbird	<i>Archilochus colubris</i>		S5	L4
Belted Kingfisher	<i>Ceryle alcyon</i>	X	S4	L4
Downy Woodpecker	<i>Picoides pubescens</i>	X	S5	L5
Hairy Woodpecker	<i>P. villosus</i>		S5	L4
Northern Flicker	<i>Colaptes auratus</i>	X	S4	L4
Pileated Woodpecker	<i>Dryocopus pileatus</i>	X	S5	L3
Eastern Wood-pewee	<i>Contopus virens</i>	X	S4	L4
Least Flycatcher	<i>Empidonax minimus</i>		S4	L4
Willow Flycatcher	<i>E. traillii</i>		S5	L4
Eastern Phoebe	<i>Sayornis phoebe</i>		S5	L5
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	X	S4	L4

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.12: Breeding Bird Species Recorded within a 10-km by 10-km Square Grid Overlapping the Local Study Area¹

Common Name	Scientific Name	Local Study Area Record ²	Provincial Status ³	TRCA Status ⁴
Eastern Kingbird	<i>Tyrannus tyrannus</i>	X	S4	L4
Horned Lark	<i>Eremophila alpestris</i>		S5	L4
Purple Martin	<i>Progne subis</i>		S4	L4
Tree Swallow	<i>Tachycineta bicolor</i>	X	S4	L4
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>		S4	L4
Bank Swallow	<i>Riparia riparia</i>		S4	L4
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>		S4	L4
Barn Swallow	<i>Hirundo rustica</i>		S4	L4
Blue Jay	<i>Cyanocitta cristata</i>	X	S5	L5
American Crow	<i>Corvus brachyrhynchos</i>	X	S5	L5
Black-capped Chickadee	<i>Poecile atricapillus</i>	X	S5	L5
Red-breasted Nuthatch	<i>Sitta canadensis</i>		S5	L4
White-breasted Nuthatch	<i>S. carolinensis</i>	X	S5	L4
Carolina Wren	<i>Thryothorus ludovicianus</i>		S4	L4
House Wren	<i>Troglodytes aedon</i>	X	S5	L5
Blue-grey Gnatcatcher	<i>Poliopitila caerulea</i>		S4	L4
Veery	<i>Catharus fuscescens</i>		S4	L3
American Robin	<i>Turdus migratorius</i>	X	S5	L5
Gray Catbird	<i>Dumetella carolinensis</i>	X	S4	L4
Northern Mockingbird	<i>Mimus polyglottos</i>		S4	L5
Brown Thrasher	<i>Toxostoma rufum</i>		S4	L3
Cedar Waxwing	<i>Bombycilla cedrorum</i>	X	S5	L5
European Starling	<i>Sturnus vulgaris</i>	X	SNA (SE)	L+
Warbling Vireo	<i>Vireo gilvus</i>	X	S5	L5
Red-eyed Vireo	<i>V. olivaceus</i>	X	S5	L4
Chestnut-sided Warbler	<i>Dendroica pennsylvanica</i>		S5	L3
Yellow Warbler	<i>D. petechia</i>		S5	L5
Pine Warbler	<i>D. pinus</i>		S5	L3
American Redstart	<i>Setophaga ruticilla</i>		S5	L3
Ovenbird	<i>Seiurus aurocapilla</i>		S4	L3
Mourning Warbler	<i>Oporornis philadelphia</i>		S4	L3
Common Yellowthroat	<i>Geothlypis trichas</i>		S5	L4
Scarlet Tanager	<i>Piranga olivacea</i>		S4	L3
Northern Cardinal	<i>Cardinalis cardinalis</i>	X	S5	L5
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>		S4	L4
Indigo Bunting	<i>Passerina cyanea</i>	X	S4	L4
Chipping Sparrow	<i>Spizella passerina</i>		S5	L5
Savannah Sparrow	<i>Passerculus sandwichensis</i>		S4	L4

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
Appendix B - Tables
January, 2010

Table 2.12: Breeding Bird Species Recorded within a 10-km by 10-km Square Grid Overlapping the Local Study Area¹

Common Name	Scientific Name	Local Study Area Record ²	Provincial Status ³	TRCA Status ⁴
Swamp Sparrow	<i>Melospiza georgiana</i>		S5	L4
Song Sparrow	<i>M. melodia</i>	X	S5	L5
Bobolink	<i>Dolichonyx oryzivorus</i>		S4	L3
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	X	S5	L5
Eastern Meadowlark	<i>Sturnella magna</i>		S4	L4
Common Grackle	<i>Quiscalus quiscula</i>	X	S5	L5
Brown-headed Cowbird	<i>Molothrus ater</i>	X	S4	L5
Northern Oriole	<i>Icterus galbula</i>	X	S4	L5
Orchard oriole	<i>I. spurius</i>		S4	L5
House Finch	<i>Carpodacus mexicanus</i>	X	SNA (SE)	L+
American Goldfinch	<i>Carduelis tristis</i>	X	S5	L5
House Sparrow	<i>Passer domesticus</i>	X	SNA (SE)	L+

¹ Source: Bird Studies Canada (2006); likely and confirmed breeding birds only.

² A. Bowler, TRCA, 2006, pers. comm.

³ NHIC (2008a): S5 = secure; S4 = apparently secure; S3 = vulnerable; SNA (SE) = conservation ranking not applicable (exotic).

⁴ TRCA Rankings: L5 = Able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. 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. L1 = Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally. L+ = Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic. L+? = Origin uncertain or disputed, i.e., may or may not be native

⁵ Designated as a species of special concern by COSEWIC (2008a) and as a threatened species by COSSARO (MNR, 2009).

⁶ Designated as a threatened species by COSEWIC (2008a).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.13: Amphibian and Reptile Species Recorded in the Toronto Region¹

Common Name	Scientific Name	Don River Watershed Record ²	Provincial Status ³	TRCA Status ⁴
AMPHIBIANS				
Mudpuppy	<i>Necturus maculosus</i>	X	S4	L2
Red-spotted newt	<i>Notophthalmus viridescens</i>	X	S5	L2
Blue-spotted salamander	<i>Ambystoma laterale</i>		S4	L1
Spotted salamander	<i>A. maculatum</i>	X	S4	L1
Eastern red-backed salamander	<i>Plethodon cinereus</i>	X	S5	L3
American toad	<i>Bufo americanus</i>	X	S5	L4
Gray treefrog	<i>Hyla versicolor</i>	X	S5	L2
Spring peeper ⁵	<i>Pseudacris crucifer</i>	X	S5	L2
Western chorus frog ⁶	<i>P. triseriata</i>	X	S4	L2
Green frog	<i>Rana clamitans</i>	X	S5	L4
Northern leopard frog	<i>R. pipiens</i>	X	S5	L3
Wood frog	<i>R. sylvatica</i>	X	S5	L2
REPTILES				
Snapping turtle ⁷	<i>Chelydra serpentina</i>	X	S3	L2
Stinkpot ⁸	<i>Sternotherus odoratus</i>	X	S3	L2
Midland painted turtle	<i>Chrysemys picta</i>	X	S5	L3
Northern map turtle ⁹	<i>Graptemys geographica</i>	X	S3	L2
Blanding's turtle ⁸	<i>Emydoidea blandingii</i>	X	S3	L1
Wood turtle ^{5,10}	<i>Glyptemys insculpta</i>	X	S2	-
Dekay's brownsnake	<i>Storeria dekayi</i>	X	S5	L4
Northern red-bellied snake	<i>S. occipitamaculata</i>	X	S5	L3
Northern watersnake	<i>Nerodia sipedon</i>	X	S5	L2
Eastern gartersnake	<i>Thamnophis sirtalis</i>	X	S5	L4
Smooth greensnake	<i>Opheodrys vernalis</i>	X	S4	L2
Milksnake ⁹	<i>Lampropeltis triangulum</i>	X	S3	L3

¹ Source: Metro Planning (1995).

² Source: Kaiser *et al.* (1977); Paragon and Ecologistics (1992) with coverage only of the Metropolitan Toronto portion of the watershed.

³ NHC (2008a): S5 = secure; S4 = apparently secure; S3 = vulnerable; S2 = imperiled.

⁴ TRCA Rankings: L5 = Able to withstand high levels of disturbance and generally secure throughout the jurisdiction, including the urban matrix. May be of very localized concern in highly degraded areas. L4 = Able to withstand some disturbance; generally secure in rural matrix; of concern in urban matrix. L3 = Able to withstand minor disturbance; generally secure in natural matrix; considered to be of regional concern. 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. L1 = Unable to withstand disturbance; many criteria are limiting factors; generally occur in high-quality natural areas in natural matrix; almost certainly rare in the TRCA jurisdiction; of concern regionally. L+ = Exotic. Not native to TRCA jurisdiction. Includes hybrids between a native species and an exotic. L+? = Origin uncertain or disputed, i.e., may or may not be native

⁵ Not listed in Metro Planning (1995).

⁶ Great Lakes/St. Lawrence – Canadian Shield population recommended by COSEWIC (2008b) to be designated as threatened.

⁷ Recommended by COSEWIC (2008c) to be designated as a species of special concern.

⁸ Designated as a threatened species by COSEWIC (2008a) and COSSARO (MNR, 2009).

⁹ Designated as a species of special concern by COSEWIC (2008a) and COSSARO (MNR, 2009).

¹⁰ Designated as a threatened species by COSEWIC (2008a) and an endangered species by COSSARO (MNR, 2009).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables
January, 2010

Table 2.14: Fish Species Recorded in the Don River¹

Common Name	Scientific Name	Recorded Proximate to Local Study Area ²	Status in Toronto Region ³
Alewife	<i>Alosa pseudoharengus</i>	X	Abundant
Gizzard shad	<i>Dorosoma cepedianum</i>		Common
Goldfish	<i>Carassius auratus</i>	X	Common
Redside dace ⁴	<i>Clinostomus elongatus</i>		Rare
Carp	<i>Cyprinus carpio</i>	X	Abundant
Brassy minnow	<i>Hybognathus hankinsoni</i>	X	Rare
Common shiner	<i>Luxilus cornutus</i>	X	Abundant
Emerald shiner	<i>Notropis atherinoides</i>	X	Uncommon
Spottail shiner	<i>N. hudsonius</i>	X	Abundant
Northern redbelly dace	<i>Phoxinus eos</i>	X	Rare
Bluntnose minnow	<i>Pimephales notatus</i>	X ⁵	Abundant
Fathead minnow	<i>P. promelas</i>	X ⁵	Common
Blacknose dace	<i>Rhinichthys atratulus</i>	X ⁵	Abundant
Longnose dace	<i>R. cataractae</i>	X	Abundant
Creek chub	<i>Semotilus atromaculatus</i>	X ⁵	Abundant
White sucker	<i>Catostomus commersoni</i>	X	Abundant
Chinook salmon	<i>Oncorhynchus tshawytscha</i>		Uncommon
Brook stickleback	<i>Culaea inconstans</i>		Common
Threespine stickleback	<i>Gasterosteus aculeatus</i>	X	Rare
Mottled sculpin	<i>Cottus bairdi</i>		Common
Rock bass	<i>Ambloplites rupestris</i>		Common
Pumpkinseed	<i>Lepomis gibbosus</i>	X	Common
Largemouth bass	<i>Micropterus salmoides</i>		Common
Rainbow darter	<i>Etheostoma caeruleum</i>		Uncommon
Johnny darter	<i>E. nigrum</i>	X	Common
Yellow perch	<i>Perca flavescens</i>		Common
Walleye	<i>Sander vitreus</i>		Rare

¹ Source: Steedman (1987); Environment Canada *et al.* (1989); WRT and TRCA (2000); DWRC (2006).

² T. Parker, TRCA, 2006, pers. comm.

³ Metro Planning (1994).

⁴ Designated as an endangered species by COSEWIC (2008a) and COSSARO (MNR, 2009).

⁵ Also documented in Yellow Creek.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.15: Traffic Statistics¹

Municipal Roadway	Section/Location	Year Data Collected	Direction	Average Cars/h				Average Cars/24h
				Average am Peak	Average pm Peak	Off-h Peak	Off-h Average	
Yonge Street	Rosehill Ave.-Shaftesbury Ave.	2003	Northbound	830	1,356	1,114	-	15,421
	Rosehill Ave.-Alcorn Ave.	2003	Southbound	1,391	1,070	1,105	-	17,063
	At Alcorn Ave. ²	2003	Northbound	702	1,073	-	772	-
		2003	Southbound	1,246	814	-	752	-
	At Rosehill Ave. ²	2003	Northbound	679	1,214	-	730	-
		2003	Southbound	1,332	892	-	825	-
	At Birch Ave. ²	2003	Northbound	666	1,264	-	880	-
		2003	Southbound	1,371	1,126	-	958	-
Bayview Avenue	Nesbitt Dr.-Rosedale Valley Rd.	2004	Northbound	661	1,797	1,097	-	14,429
		2004	Southbound	1,806	963	997	-	14,612
	At Rosedale Valley Rd. ²	2005	Northbound	1,099	2,505	-	886	-
		2005	Southbound	1,938	1,142	-	884	-
Rosedale Valley Road	At Bayview Ave. ²	2005	Eastbound	894	1,871	-	623	-
		2005	Westbound	1,045	339	-	489	-
	At Park Rd. ²	2003	Eastbound	623	921	-	618	-
		2003	Westbound	451	430	-	339	-
Aylmer Avenue	East of Yonge St.	2004	Eastbound	429	555	499	-	7,326
		2004	Westbound	481	448	534	-	5,779
Birch Avenue	Yonge St. ²	2001	Eastbound	59	30	39	34	373
		2001	Westbound	45	29	57	43	383
Laird Drive	Wicksteed Rd.-Millwood Rd.	2004	Northbound	1,270	1,106	968	-	14,009
	McRae Dr.-Millwood Rd.	2004	Southbound	912	1,181	935	-	13,383
	At Southvale Dr. ²	2004	Northbound	938	642	-	648	-
		2004	Southbound	668	1,201	-	615	-
Southvale Drive	Rutherglen Rd.-Millwood Rd.	2004	Eastbound	642	963	649	-	9,374

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.15: Traffic Statistics¹

Municipal Roadway	Section/Location	Year Data Collected	Direction	Average Cars/h				Average Cars/24h
				Average am Peak	Average pm Peak	Off-h Peak	Off-h Average	
Moore Avenue	West of Rutherglen Rd.	2004	Westbound	554	459	421	-	6,073
	At Laird Dr. ²	2004	Eastbound	587	639	-	457	-
	At Lumley Ave. ²	2004	Westbound	667	554	-	432	-
		2003	Eastbound	651	686	-	501	-
	At Mt. Pleasant Rd. ²	2003	Westbound	522	690	-	515	-
		2004	Eastbound	232	498	-	211	-
Bloor Street East	Castle Frank Rd.-Sherbourne St.	2004	Westbound	50	126	-	32	-
		2006	Eastbound	1,125	1,724	1,368	-	23,659
Mt. Pleasant Road	South of Moore Ave.	2006	Westbound	1,985	1,329	1,310	-	22,263
		2007	Northbound	1,258	1,795	1,355	-	20,134
	North of St. Clair Ave.	2007	Southbound	1,726	1,345	1,461	-	19,957
	At Moore Ave. ²	2007	Northbound	1,157	1,574	-	963	-
St. Clair Avenue	Mt. Pleasant Rd.-Avoca Ave.	2007	Southbound	1,912	1,242	-	1,103	-
		2006	Eastbound	708	724	664	-	9,571
	At Avoca Ave. ²	2006	Westbound	872	898	776	-	11,479
		2006	Eastbound	599	1,030	-	771	-
Avoca Avenue	At St. Clair Ave. ²	2006	Westbound	599	677	-	490	-
		2003	Northbound	235	380	-	262	-
Rosehill Avenue	At Yonge St. ²	2003	Southbound	318	333	-	268	-
		2003	Eastbound	216	188	-	169	-
Avenue Road	South of Balmoral Ave.	2003	Westbound	288	318	-	251	-
		2007	Northbound	1022	1887	1672	1648	22971
	South of Cottingham St.	2007	Southbound	1804	1196	1472	1434	19930
		2007	Northbound	1017	2064	1706	1690	24207
		2007	Southbound	1856	1221	1514	1445	19896

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
Appendix B - Tables
January, 2010

Table 2.15: Traffic Statistics¹

Municipal Roadway	Section/Location	Year Data Collected	Direction	Average Cars/h				Average Cars/24h
				Average am Peak	Average pm Peak	Off-h Peak	Off-h Average	
	Davenport Rd.	2007	Northbound	908	1803	1549	1515	22417
		2007	Southbound	1815	991	1519	1427	18051
	Dupont St.	2007	Northbound	1091	2174	1821	1815	25040
		2007	Southbound	2325	1476	1861	1781	23958
	Edmund Ave.	2007	Northbound	981	1941	1681	1600	22297
		2007	Southbound	1773	1184	1502	1436	19601
	St. Clair	2007	Northbound	1174	1948	1856	1697	22872
		2007	Southbound	1788	1225	1458	1424	19370

¹ Source: B. Lagden, City of Toronto, 2007, 2009, pers. comm.

² Based on turning movement counts.

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.16: Neighbourhood Population and Household Data (2006)¹

Parameter	Annex	Casa Loma	Yonge-St. Clair	Rosedale-Moore Park	Leaside-Bennington	Cabbagetown-South St. Jamestown	Thorncliffe Park
Population	27,480	9,810	11,230	20,605	15,980	11,120	17,945
Number of households	14,715	4,945	6,535	9,950	6,485	6,060	6,410
Single detached house	630	875	540	2,450	3,555	150	0
Semi-detached house	1,120	230	390	445	790	425	0
Row house	620	195	210	245	60	610	325
Apartment, detached duplex	240	170	145	330	40	40	0
Apartment building, ≥5 stories	7,135	2,230	3,785	4,790	595	3,150	6,070
Apartment building, <5 stories	4,955	1,240	1,465	1,445	1,445	1,685	15
Other	15	5	0	5	0	0	0

¹ Source: www.toronto.ca/demographics/cns_profiles

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.17: Business Profiles for the Yonge Street, St. Clair Avenue, Davenport Road, Bloor Street East and Avenue Road Mixed Use Areas¹

Industry	No. of Employees	No. of Businesses				
		Yonge St.	St. Clair Ave.	Davenport Rd.	Bloor St. East	Avenue Rd.
Agriculture, Forestry, Fishing and Hunting	1-4	1	-	-	-	1
	5-9	-	-	-	-	1
	Total	1	-	-	-	2
Mining, Quarrying, and Oil and Gas Extraction	1-4	-	2	-	-	-
	5-9	-	1	-	-	-
	Total	-	3	-	-	-
Utilities	100-299	-	1	-	-	-
	Total	-	1	-	-	-
Construction	1-4	-	3	1	-	1
	5-9	-	1	-	-	-
	10-24	1	1	1	-	-
	Total	1	5	2	-	1
Wholesale Trade	1-4	3	2	-	1	-
	5-9	1	1	-	2	1
	10-24	1	-	-	1	-
	50-74	-	1	-	-	-
	Total	5	4	-	4	1
Information and Culture	1-4	3	7	-	3	3
	5-9	2	2	-	1	-
	10-24	2	3	-	1	-
	25-49	-	3	-	-	-
	50-74	-	-	-	1	-
	100-299	-	1	-	-	-
	300-499	-	1	-	1	-
	500-999	-	1	-	1	-
	1000+	2	1	-	1	-
Total	9	19	-	9	3	

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**

Appendix B - Tables

January, 2010

Table 2.17: Business Profiles for the Yonge Street, St. Clair Avenue, Davenport Road, Bloor Street East and Avenue Road Mixed Use Areas¹

Industry	No. of Employees	No. of Businesses				
		Yonge St.	St. Clair Ave.	Davenport Rd.	Bloor St. East	Avenue Rd.
Finance and Insurance	1-4	3	7	1	6	1
	5-9	4	12	1	2	3
	10-24	3	8	-	2	-
	25-49	1	1	-	1	-
	50-74	-	2	-	-	-
	100-299	1	1	-	1	-
	300-499	-	-	-	-	-
	500-999	-	1	-	-	-
	1000+	-	-	-	1	-
	Not Reported	-	1	-	-	-
	Total	12	33	2	13	4
Real Estate, Rental and Leasing	1-4	7	9	-	1	6
	5-9	5	3	-	3	1
	10-24	1	5	-	1	1
	25-49	-	1	-	-	-
	50-74	1	-	-	-	1
	100-299	-	1	-	3	-
	1000+	1	-	-	-	-
		Total	15	19	-	8
Professional, Scientific and Technical Services	1-4	30	82	5	18	13
	5-9	11	26	1	9	-
	10-24	6	17	-	9	7
	25-49	3	8	2	6	-
	50-74	2	2	-	-	-
	75-99	-	2	-	-	-
	100-299	-	2	-	6	-

Table 2.17: Business Profiles for the Yonge Street, St. Clair Avenue, Davenport Road, Bloor Street East and Avenue Road Mixed Use Areas¹

Industry	No. of Employees	No. of Businesses				
		Yonge St.	St. Clair Ave.	Davenport Rd.	Bloor St. East	Avenue Rd.
	300-499	-	-	-	1	-
	Total	52	139	8	49	20
Accommodation and Food Service	1-4	7	9	-	3	1
	5-9	7	1	-	3	1
	10-24	10	-	-	2	1
	25-49	3	1	-	3	-
	50-74	1	1	-	-	-
	Total	28	12	-	11	3
Other Services (except Public Administration)	1-4	24	27	1	8	7
	5-9	10	11	-	1	1
	10-24	14	1	2	4	1
	25-49	3	-	-	1	-
	50-74	2	3	-	-	-
	75-99	-	-	-	2	-
	100-299	1	1	1	-	-
	Not Reported	-	-	-	1	-
Total	54	43	4	17	9	
Public Administration	1-4	2	7	-	1	1
	5-9	-	4	-	1	-
	10-24	-	1	-	5	1
	25-49	-	-	-	-	-
	50-74	-	1	-	1	-
	1000+	-	2	-	-	-
Total	2	15	-	8	2	
Manufacturing	1-4	4	10	2	1	1
	5-9	4	4	-	1	1

Table 2.17: Business Profiles for the Yonge Street, St. Clair Avenue, Davenport Road, Bloor Street East and Avenue Road Mixed Use Areas¹

Industry	No. of Employees	No. of Businesses				
		Yonge St.	St. Clair Ave.	Davenport Rd.	Bloor St. East	Avenue Rd.
	10-24	1	1	-	1	3
	25-49	-	1	-	-	-
	1000+	1	1	-	1	-
	Total	10	17	2	4	5
Retail Trade	1-4	52	18	3	13	12
	5-9	11	5	4	1	2
	10-24	8	-	-	1	1
	25-49	2	2	-	-	-
	75-99	-	1	-	-	-
	100-299	-	1	-	-	1
	Total	73	27	7	15	16
Transportation and Warehousing	1-4	2	-	-	-	-
	5-9	1	-	-	-	-
	10-24	-	2	-	1	-
	50-74	1	-	-	-	-
	Total	4	2	-	1	-
Management of Companies and Enterprises	1-4	5	18	2	1	4
	5-9	-	4	1	-	1
	10-24	-	6	-	-	-
	100-299	1	-	-	-	-
	Not Reported	-	1	-	-	-
	Total	6	29	3	1	5

¹ Source: TEDCT (2008).

**HYDRO ONE
MIDTOWN PROJECT
ENVIRONMENTAL BASELINE REPORT**
January, 2010

Table 2.18 Major Employers in the Local Study Area

Employer	No. of Employees
CFRB Radio	1000+
CHUM Limited	1000+
City of Toronto: Public Library Board	1000+
FedEx/Kinko's	1000+
Government of Canada	1000+
Government of Ontario	1000+
Manufacturer's Life Insurance Company (Manulife)	1000+
Roger's	1000+
Sherritt International Corporation	1000+
Toronto Community Housing Corporation	1000+
Unilever Canada	1000+
Alliance Atlantis Communications	500-999
Desjardins Financial Security	500-999
Sitel Corporation	500-999
Towers Perrin Inc.	500-999

¹Source: TEDCT (2008)
