

APPENDIX I

Natural Environment Data

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NATURAL ENVIRONMENTAL DATA

Selected climatic parameters for the Study Area are as follows:

Mean daily temperature for January	-4.4°C
Mean daily minimum temperature for January	-8°C
Mean daily temperature for July	21°C
Mean daily maximum temperature for July	28°C
Mean annual "frost-free" period	150 days
Mean annual "heat units" for corn	3,000
Mean annual precipitation	80 cm
Mean annual snowfall	120 cm

The following provides species lists of wildlife observed and a discussion of the consultant's impressions regarding the wildlife habitats encountered in the waterfowl nesting area north of Chippewa Road:

Great Blue Heron	Wood Thrush
Green-backed Heron	American Robin
Canada Goose	Gray Catbird
Blue-winged Teal	Brown Thrasher
American Black Duck	European Starling
Mallard	Solitary Vireo
Turkey Vulture	Warbling Vireo
Red-tailed Hawk	Red-eyed Vireo
American Kestrel	Yellow Warbler
Ring-billed Gull	Chestnut-sided Warbler
Rock Dove	Black-and-White Warbler
Mourning Dove	American Redstart
Great Horned Owl	Overbird
Ruby-throated Hummingbird	Common Yellowthroat
Hairy Woodpecker	Scarlet Tanager
Northern Flicker	Northern Cardinal
Pileated Woodpecker	Rose-breasted Grosbeak
Eastern Wood pewee	Indigo Bunting
Least Flycatcher	Chipping Sparrow
Great Crested Flycatcher	Field Sparrow
Eastern Kingbird	Savannah Sparrow
Tree Swallow	Song Sparrow
Barn Swallow	Bobolink
Blue Jay	Red-winged Blackbird
American Crow	Eastern Meadowlark
Black-capped Chickadee	Common Grackle

White-breasted Nuthatch
Brown Creeper
Veery
Gray-checked Thrush
Swainson's Thrush

Brown-headed Cowbird
Northern Oriole
American Goldfinch
House Sparrow

Mammals

Cottontail
E. Gray Squirrel
Woodchuck
E. Chimpunk

Red Fox
Raccoon
White-tailed Deer

Herptiles

Red-backed Salamander
N. Spring Peeper
Green Frog
E. Gartner Snake

American Toad
E. Gray Treefrog
N. Leopard Frog
E. Milk Snake

The woodlot adjacent to the west was interesting and warrants some discussion. It contains a wide variety of communities and habitats making it desirable for wildlife. A majority of the wildlife listed previously were observed in this woodlot. However, the diversity of habitat available, including mature forest, wet meadow, immature scrub and lowland forest, offers some potential as wildlife habitat.

The Canada Land Inventory ratings of capability to produce common field crops are provided. The ratings are based on a scale from the best, Class 1, to the worst, Class 7. In addition, the most common limitations or problems associated with each soil type are indicated.

Designated Environmentally Sensitive Areas

There are four designated environmentally significant areas in the Hamilton-Wentworth Official Plan. There are shown on Exhibit 4.2 and are as follows:

- Hamilton Golf and Country Club north of Highway 403;
- Tiffany Falls, in the vicinity of the Mohawk/Highway 403 interchange;
- Hamilton Mountain (Radial Line) in the vicinity of the Mohawk/Highway 403 interchange;
- The headwaters of the Ancaster Creek North of Highway 53, west of Upper Horning Drive.

**PROVINCIAL WATER QUALITY OBJECTIVES
FOR SELECTED PARAMETERS**

<u>Parameter</u>	<u>Provincial Objectives</u>
total coliform	- should not exceed 1000 per 100 mL
fecal coliform	- should not exceed 100 per 100 mL
water temperature	- required that the natural thermal regime of any body of water shall not be altered so as to impair the quality of the natural environment
dissolved oxygen	- to maintain cold-water biota, D.O. should not be less than 8 mg/L at 0°C, 6 mg/L at 15°C, and 5 mg/L at 25°C - to maintain warm-water biota, D.O. should not be less than 7 mg/L at 0°C, 5 mg/L at 15°C and 4 mg/L at 25°C
phosphorus	- should not exceed 0.03 mg/L in order to prevent excessive plant and algae growth
kjeldahl nitrogen	- should not exceed 0.5 mg/L
chlorides	- should not exceed 250 mg/L

Soil Groupings	CLI Agricultural Ratings	Limitations or Problems
A. Soils developed on calcareous brown silty clay loam till (a) Well drained 1. Ancaster silt loam	1 to 5 _t ^d	- steep slopes - erosion
B. Soils developed on calcareous gray clay till overlain by lacustrine deposits (a) Moderately well drained 1. Smithville silt loam (b) Imperfectly drained 1. Binbrook silt loam	1 to 4 _t ^d	- hard subsoils
C. Soils developed on lacustrine fine sandy loam and silt loam (a) Well drained 1. Brant silt loam (b) Imperfectly drained 1. Tuscola silt loam (c) Poorly drained 1. Colwood silt loam	1 to 4 _t ^e	- erosion
D. Soils developed on lacustrine silty clay loam and silty clay (a) Well drained 1. Brantford silt loam (b) Imperfectly drained 1. Beverly silt loam (c) Poorly drained 1. Toledo silty clay loam 2. Toledo silt loam	1 to 4 _t ^e	- erosion
E. Soils developed on medium and fine outwash sand (a) Well Drained 1. Grimsby sandy loam	2 _m ^f to 4 _t ^s	- moisture deficiency - lower natural fertility
F. Soils developed on sand overlying coarse, reddish gravel (a) Well drained 1. Springvale sandy loam	2 _m ^f to 3 _t ^s	- moisture deficiency - lower natural fertility
G. Soils developed on organic deposits 1. Muck	Not rated	- poor drainage
H. Soils developed on recent alluvial silt clay loam and silty clay loam (a) Variable drainage 1. Alberton silt loam 2. Alberton silty clay loam	Variable and dependent on adjacent soils	- periodic flooding - periodic flooding
I. Ravines	7 _t ^e	- extreme slopes - erosion

**PHYSICAL CHARACTERISTICS OF THE
WATERCOURSES IN THE STUDY AREA**

	<u>Welland River</u>	<u>Twenty Mile Creek</u>	<u>Three Mile Creek</u>	<u>Small Unnamed Creeks</u>
CURRENT	slow	moderate	moderate	slow
DEPTH (m)	0.5 to 1	0.2 to 0.4	0.1 to 0.2	0.1 to 0.2
WIDTH (m)	2 to 4	2 to 4	1 to 3	1 to 2
WATER QUALITY	moderate, suspended sediment, some stag- nant pools	poor, heavy algae growth	moderate	poor, heavy algae growth
BANK SLOPE	flat	flat	flat	flat
FISH HABITAT	moderate where water depth is sufficient	poor, intermittent stream	poor, intermittent stream	poor, intermittent stream
BOTTOM SUBSTRATE	silt, sand	silt, sand	sand, gravel	silt, sand