

**PROVINCIALY SIGNIFICANT
MASKINONGE RIVER WETLAND COMPLEX
SUMMARY**

April 2004
**Ontario Ministry of Natural Resources
Aurora District**

Ontario Base Maps : 10 17 6200 48900, 48950, 49000; 6250 48850, 48900, 48950, 49000

National Topographic Series Maps : 31D/3, 31D/6

UTM Reference : 10 17 625000 4895000

Latitude : 44° 12' 00" **Longitude** : 79° 26' 00"

Aerial Photographs : 1:5000, 2002 ortho-rectified; 1:10,000, 1997 MNR infrared stereo, Roll & Frame No.: 47: 2356-2359, 2522-2526, 2595-2597; 49: 3291-3294, 3466-3470; 50: 3738-3744, 3927-3933; 51: 4116-4118, 4306, 4307

Municipality, Lots & Concessions : Regional Municipality of York, Town of East Gwillimbury, East Gwillimbury Geographic Twp.: Lots 16-32, Conc. 3; Lots 18, 19, 23, 31-35, Conc. 4; Lots 34, 35 Conc. 5; Town of Georgina, North Gwillimbury Geographic Twp.: Lots 8, 9, Conc. 3, Lots 1-15, Conc. 4; Lots 1-5, 10-12, Conc. 5; Lots 12-15, Conc. 6

Ownership : 99% private, Town of Georgina 1%

Conservation Authority : Lake Simcoe Region (LSRCA)

Wetland Status : Provincially significant

Number of Wetlands & Area : 53 wetlands, 373.9 ha.

Wetland Type : Swamp 63%, Marsh 37%

Wetland Substrate : sand:45%, organic:40%, clay:12%, silt:3%

Wetland Site Type : Riverine 13.0%, Palustrine 86.5%, Lacustrine 0.5%

Wetland Score : Biological Component 175, Social Component 180, Hydrological Component 210, Special Features 250, Total 815

Dates Investigated : 1987: Aug. 28; 1988: June 16, July 7; 2003: July 23, Aug. 28, Sept. 11, 16, 17, 18, Oct. 13, Dec. 29, 30; 2004: April 19, 29.

Estimated Field Time : 135 person hours

Investigators : MNR 1987: Dave Green, John Prideaux, Nicole Fisher, Ron Huizer; MNR 1988: Glen Hooper, Johanne Lebeuf; MNR 2003: Steve Varga, Stefan Romberg, Emma Followes, Albert Garofalo, Pat Mohr & Jennifer Jung

Compilers : Steve Varga, Stefan Romberg & Albert Garofalo

Introduction

The provincially significant Maskinonge River Wetland Complex covers most of the Maskinonge River watershed which flows into Cook's Bay, Lake Simcoe. It is located in the Towns of Georgina and East Gwillimbury. North of Ravenshoe Road, the wetlands are bounded by Old Homestead Road to the north, Ravenshoe Road, Mt. Pleasant Trail and McCowan Road to the east, and Woodbine Avenue to the west. The wetlands then continue west along the Maskinonge River through the Town of Keswick to Cook's Bay. South of Ravenshoe Road the wetlands are bounded by Doane Road to the south, Leslie Street to the west and Woodbine Avenue and Catering Road to the east.

The Maskinonge River Wetland Complex combines two wetland complexes from earlier evaluations (OMNR 1987, 1988) with additional wetlands. The previous wetland complexes were locally significant.

All the inventoried wetlands are situated in the Maskinonge River watershed. Each individual wetland is located within 750 metres of its nearest neighbouring wetland. The wetlands are linked by riparian corridors, adjacent forested uplands or by agricultural lands and hedgerows.

Fifteen wetlands under 0.5 ha in size were included in the complex. Each wetland was included for one or more of the following reasons :

- Support wetland types not well represented elsewhere in the wetland complex.
- Sustain significant species/communities (i.e. conservation priority bird species, or rare or uncommon species/communities in the Regional Municipality of York, site region).
- Are part of larger wetlands fragmented by roads, trails or ditches.
- Are amphibian breeding areas.
- Are headwater sources or contribute base flows.
- Are hydrologically connected to larger wetlands.
- Provide intervening wetland habitat between larger wetlands.
- Occur along corridors.

This inventory is part of an ongoing effort to document all wetlands in the Greater Toronto Area. It is estimated that 70% of the wetlands in the GTA have been evaluated (MNR 2001).

Biological Component

The Maskinonge River Wetland Complex receives a score of 175 for its biological component. It consists of 53 wetlands covering a total of 373.9 hectares, with the largest wetland at 123 ha and the smallest 0.04 ha.

The wetlands are situated on a variety of poorly drained substrates. Forty-five percent of the wetlands have sandy soils varying from silty very fine sands, to fine sands. Another 12% of the wetlands have clay/loam soils ranging from silty clays to silty loam. Silts cover an additional 3% of the wetlands. These mineral soils have indicators of poor drainage including the presence of gleys and mottling, generally within the top 50 cm. The remaining 40% of wetlands have organic substrates largely of mesic peats.

About 86.5% of the wetlands are palustrine, being situated on the upper tributaries of the Maskinonge River watershed. Another 13% are riverine wetlands on the lower reaches of the watershed where there are well defined valleys with bottomlands and river meanders. Only 0.5% of the wetlands are lacustrine. The wetlands are typically flooded in the spring and dry out by the summer. There are areas of permanent open water in the river's lower 5 kms and in a few scattered ponds.

The Maskinonge Wetlands sustain a diversity of 70 vegetation communities, with 63% of the communities grouped into swamp types and 37% into marsh types. These wetlands have a moderate level of complexity or interspersion.

Deciduous swamps cover 26.3% of the wetland complex. Common trees are Trembling Aspen, Swamp Maple (*Acer X fremanii*), Black Ash, Green Ash, Balsam Poplar and, occasionally, Yellow Birch, Reddish Willow (*Salix X rubens*) and White Elm. In the understorey there are shrubs of Red-osier Dogwood (*Cornus stolonifera*) and Speckled Alder (*Alnus incana*), such grasses and sedges as Fowl Manna Grass (*Glyceria striata*), Reed Canary Grass (*Phalaris arundinacea*), Wool-grass (*Scirpus cyperinus*), Creeping Bent Grass (*Agrostis stolonifera*) and such herbs as Spotted Jewelweed (*Impatiens capensis*), Sensitive Fern (*Onoclea sensibilis*), Wood Nettle (*Laportea canadensis*), Tall White Aster (*Aster lanceolatus*), Ostrich Fern (*Matteuccia struthiopteris*) and False Nettle (*Boehmeria cylindrica*). Saplings of White Cedar are common, suggesting that many of the deciduous swamps are succeeding into mixed swamps.

Another 25.4% of wetlands are thicket swamps. The most common shrubs are Speckled Alder, Red-osier Dogwood, Pussy Willow (*Salix discolor*), Heartleaf Willow (*Salix eriocephala*),

Bebb's Willow (*Salix bebbiana*), Sandbar Willow (*Salix exigua*) and Slender Willow (*Salix petiolaris*). Common in the understorey are a variety of grasses, sedges and herbs. Most frequent are Reed Canary Grass, Canada Blue-joint (*Calamagrostis canadensis*), Fowl Manna Grass, Red-top (*Agrostis gigantea*), Tall Scouring-rush (*Equisetum hyemale*), Common Cattail (*Typha latifolia*), Tall White Aster, Bitter Nightshade (*Solanum dulcamara*), Common Duckweed (*Lemna minor*), Purple-stemmed Aster (*Aster puniceus*) and Spotted Joe-pye-weed (*Eupatorium maculatum*).

Mixed and coniferous swamps occur in 11.3% of wetlands. They have a mixture of coniferous trees dominated by White Cedar in association with deciduous trees such as Swamp Maple, Trembling Aspen, Black Ash, Green Ash, Yellow Birch, White Birch and White Elm. Common in the understorey are Sensitive Fern, Spotted Jewelweed and, occasionally, Bulblet Fern (*Cystopteris bulbifera*) and Dwarf Raspberry (*Rubus pubescens*). Several seepage examples have Mountain Maple (*Acer spicatum*) as a common shrub layer.

Marshes of Common Cattail (*Typha latifolia*), Narrow-leaved Cattail (*Typha angustifolia*) and Hybrid Cattail (*Typha X glauca*) cover 12.6% of the wetland complex.

Graminoid marshes are found in 15.1% of wetlands. They are dominated by Reed Canary Grass and, occasionally, by Large Bur-reed (*Sparganium eurycarpum*), Sweetflag (*Acorus americanus*), Rice Cut Grass (*Leersia oryzoides*), Lake Sedge (*Carex lacustris*) and Tussock Sedge (*Carex stricta*).

Herbaceous marshes occur in 4.9% of the wetlands and are variously dominated by Tall White Aster, Spotted Joe-pye-weed, Spotted Jewelweed, Purple-stemmed Aster, Water-pepper (*Polygonum hydropiper*) and Sensitive Fern.

Open water aquatic communities (4.4% of wetlands) are found in several open ponds, at the Maskinonge rivermouth and up to 2 kms upstream. There are floating beds of Common Duckweed, Columbia Water-meal (*Wolffia columbiana*), Northern Water-meal (*Wolffia borealis*) Bullhead Pond Lily (*Nuphar variegatum*) and Fragrant Water-lily (*Nymphaea odorata*), and submergent beds of Common Coontail (*Ceratophyllum demersum*), Canada

Waterweed (*Elodea canadensis*), Common Bladderwort (*Utricularia vulgaris*), Slender Najas (*Najas flexilis*), Starwort (*Chara* sp.), Tape-grass (*Vallisneria americana*) and Eurasian Water-milfoil (*Myriophyllum spicatum*).

The Maskinonge Wetlands sustain a diversity of surrounding upland habitats including coniferous, mixed and deciduous forests, regenerating meadows, agricultural lands including sod farms and hedgerows. The forest types include Sugar Maple deciduous forests, mixed forests of Eastern Hemlock and Sugar Maple, and younger successional forests of White Cedar, Trembling Aspen and White Birch.

The diversity of wetlands and adjacent uplands at Maskinonge explains its diversity of plants and animals. There are 405 vascular plant species and incidental wildlife observations on mammals such as White-tailed Deer, Eastern Cottontail, Eastern Chipmunk, Coyote, Beaver, Muskrat, Raccoon, Red Fox and Mink and reptiles and amphibians such as Snapping Turtle, Midland Painted Turtle, Gray Treefrog, Spring Peeper, Wood Frog, Chorus Frog, Leopard Frog, American Toad, Bullfrog and Green Frog. Twenty-six fish species are found in the Maskinonge River.

Adjacent uplands are important for many wetland species in the Maskinonge Wetlands and are critical for the maintenance of wetland functions. The population of woodland amphibians such as Gray Treefrog, Spring Peeper and Wood Frog rely on spring-flooded wetlands for breeding but forage and hibernate in surrounding upland forests and swamps. Chorus Frogs and American Toads also rely on spring-flooded wetlands for breeding but forage and hibernate in surrounding upland meadows and farm fields, with the toad also in forests. Resident Snapping and Painted Turtles need uplands for nesting, preferring tilled soils in agricultural lands. The populations of Green Frog and Leopard Frog resident in open water wetlands also forage in the surrounding regenerating uplands.

Social Component

The Maskinonge River Wetland Complex receives a score of 180 for its social component. The wetlands receive moderate scores for economically valuable products and recreational activities. Waterfowl hunting, deer hunting and trapping occur in the wetlands and fishing is common in the lower reaches of the river. Landowners have developed trails through and

around the wetlands for nature appreciation and hiking. Most of the wetlands are in private ownership, with the exception of some rivermouth wetlands in Keswick owned by the Town Of Georgina. The lower reaches of the Maskinonge Wetlands go through the Town of Keswick, west of Woodbine Avenue.

The Maskinonge River Wetland Complex is a remnant of what was once a much larger wetland system. The remaining wetlands are in relatively good condition. Agricultural drains have contributed to some drying out of wetlands. A closed Georgina Landfill site and former smelter abuts the southeast side of the largest wetland in the complex (Wetland No. 19). Leachate is being monitored by the Town of Georgina. During a 2001 survey (Gartner Lee Ltd 2003), no signs of stress or adverse impacts were noted on wetland vegetation around the landfill. Monitoring suggests that the smelter site may be influencing water quality on the wetland with elevated chloride and sulphate levels (Gartner Lee Ltd 2003). On the southwest side of this same wetland, peat has been extracted and, on the south side, several new ditches have been constructed. In Wetland No. 21, some meadow marshes have been converted to gardens.

The Maskinonge Wetland Complex may experience several major impacts in the near future. A proposed extension of Highway 404 and a proposed Bradford bypass between Highway 400 and 404 would go through portions of the wetland complex. The southernmost tributary of the Maskinonge is in an urban designated area around the Town of Queensville.

Hydrological Component

The Maskinonge River Wetland Complex receives a high score of 210 for its hydrological component. Its 374 ha of wetlands represent 97% of all the water detention or storage areas in the entire Maskinonge River watershed. The Maskinonge Wetlands thus serve a critical role in water storage and in short term water quality improvement for the watershed.

The Maskinonge Wetlands with their sandy soils contribute to groundwater recharge. Groundwater seepage zones were noted in Wetlands No. 9 and 14.

Special Features

The Maskinonge River Wetland Complex receives the maximum score of 250 for its special features.

It is situated on the Simcoe Lowlands in site district 6E6. The Simcoe Lowlands encircle Lake Simcoe and encompass the former bed of glacial Lake Algonquin, which includes today's Lake Huron, Lake Simcoe and intervening lowlands. Site district 6E6 also includes the Simcoe Uplands, the former islands in glacial Lake Algonquin. Wetlands are given a moderate score of 40 points for rarity on the landscape in site district 6E6. This score reflects the historic loss of wetlands in the site district and the remaining amount of wetlands. In site district 6E6, wetlands cover about 10% of its surface area (OMNR 1993-2002). Wetlands on the Simcoe Lowlands tend to be large wetlands in broad shallow valleys such as the Holland and Black Rivers and along the shores of Lake Simcoe.

Most of the Maskinonge River watershed occurs on the Queensville Flats. This portion of the Simcoe Lowlands consists of soils that are largely silty, highly calcareous, poorly drained and deficient in phosphorous (Chapman & Putnam 1984). The Queensville Flats have largely been cleared for agriculture. Upland forests cover only 9%, swamps 4% and marshes another 2% of the Maskinonge River watershed. The 15% of natural area cover in the Maskinonge watershed is one of the lowest percentages in site district 6E6.

The Maskinonge Wetlands have 22 significant species (see Table 1). There are 4 regionally rare and 19 locally rare plant species that occur in a variety of wetlands. Eight of the species, Northern Water-meal, Columbia Water-meal, Ribbonleaf Pondweed, Richardson's Pondweed, Large-leaved Pondweed, Nuttall's Waterweed, Pale Water-milfoil and Tape Grass, are restricted to the open water aquatic communities in the first two kms of the Maskinonge River. Fringing marshes in this area also support seven more significant species: Marsh Hedge-nettle, Sweetflag, Small Beggar-tick's, Water Sedge, Silky Dogwood, Swamp Rose and Fragrant Umbrella Sedge. The other significant species occur elsewhere in the wetland complex. Cardinal-flower, Ontario Aster and Stout Wood Grass are found in deciduous swamps and thicket swamps, while Slender-leaved Agalinis, Fringed Gentian and Nodding Ladies-tresses are confined to meadow marshes on moist sands. Southern Wild-rice was found in the deeper waters of a graminoid marsh in the southern part of the wetland complex.

Table 1. Significant Species

Regionally Significant Plant Species (rare in MNR's former Central Region)

Source: Steve Varga, Emma Followes & Stefan Romberg field observations and collections 2003

Status: Rare in OMNR's former Central Region that encompassed the central part of site region 6 and the eastern part of site region 7, based on Riley 1989

1. *Agalinis tenuifolia* (Slender-leaved Agalinis)
2. *Aster ontarionis* (Ontario Aster)
3. *Elodea nuttallii* (Nuttall's Waterweed)
4. *Gentianopsis crinita* (Fringed Gentian)

Locally Significant Plant Species (Rare in the Regional Municipality of York)

Source: Steve Varga, Emma Followes & Stefan Romberg field observations and collections 2003.

Status: rare in the Regional Municipality of York being known from 10 or less locations, with a location defined as a 2X2 km square, based on Varga S. et al. 2001.

1. *Aconis americanus* (Sweetflag)
 2. *Bidens discoides* (Small Beggar-tick's)
 3. *Carex aquatilis* (Water Sedge)
 4. *Cinna arundinacea* (Stout Wood Grass)
 5. *Cornus amomum* (Silky Dogwood)
 6. *Cyperus odoratus* (Fragrant Umbrella Sedge)
 7. *Gentiana andrewsii* (Closed Gentian)
 8. *Lobelia cardinalis* (Cardinal-flower)
 9. *Myriophyllum exalbescens* (Pale Water-milfoil)
 10. *Potamogeton amplifolius* (Large-leaved Pondweed)
 11. *Potamogeton epihydrus* (Ribbonleaf Pondweed)
 12. *Potamogeton richardsonii* (Richardson's Pondweed)
 13. *Rosa palustris* (Swamp Rose)
 14. *Spiranthes cernua* (Nodding Ladies-tresses)
 15. *Stachys palustris* (Marsh Hedge-nettle)
 16. *Vallisneria americana* (Tape-grass)
 17. *Wolffia borealis* (Northern Water-meal)
 18. *Wolffia columbiana* (Columbia Water-meal)
 19. *Zizania aquatica* (Southern Wild-rice)
-

The Maskinonge Wetlands are important for wildlife. Its 42.3 hectares of mixed and coniferous White Cedar swamps and deciduous swamps with White Cedar in the understorey are locally significant for wintering White-tailed Deer. The swamps and associated upland forests support sensitive breeding forest bird species such as the Ruffed Grouse. Waterfowl such as Wood Duck, Canada Goose, Mallard, Blue-winged Teal and Green-winged Teal were observed staging in the lower reaches and mid-reaches of the Maskinonge River. The first three of these species also nest in the wetlands.

The Maskinonge Wetlands are noteworthy for supporting a Great Blue Heron rookery. It is one of less than 20 such colonies known from the Greater Toronto Area. This colony consists of at

least 21 nesting pairs, with the nests located on dead trees in one of the wetlands. The colony was observed in 1995 (LSRCA 1998), 2001 (Gartner Lee Ltd 2003) and during the 2003 wetland survey. Great Blue Heron colonies are highly sensitive to disturbance (Argo and Naylor 1994).

The wetlands support a locally significant fish community. The lower reaches and mouth of the Maskinonge River sustain warmwater fish such as Northern Pike, White Sucker, Yellow Perch, Rock Bass, Black Crappie, Emerald Shiner, Golden Shiner, Spottail Shiner, Spottail Shiner, Pumpkinseed, Largemouth Bass, Rainbow Smelt, Trout-Perch, Bluegill, Walleye, Common Carp, Brown Bullhead, Bowfin and Bluntnose Minnow (LSRCA 1998). The rivermouth marshes and open water aquatic communities are considered significant spawning and nursery habitat for Northern Pike. A warmwater and coolwater fish community also occurs in the headwaters and mid-reaches of the Maskinonge River. On the south tributary, there is Central Mudminnow, Brook Stickleback, Pumpkinseed, Northern Pike, White Sucker, Fathead Minnow, Creek Chub, Johnny Darter, Blacknose Dace and the coolwater Mottled Sculpin (LSRCA 1998). No surveys have been carried out on the north tributary and only a limited survey on the east tributary with records for Creek Chub and Emerald Shiner (LSRCA 1998).

Conclusion

The Maskinonge River Wetland Complex is provincially significant with a total score of 815 points. A wetland that scores 600 or more points or has 200 or more points in either the biological or special features component is provincially significant.

Its 53 wetlands comprise a large and diverse wetland complex, noteworthy for its marshes and swamps, its significant species and its heronry.

Recommendations

Major wetland functions to be maintained at the Maskinonge River Wetland Complex include; its wetlands; its native species and community types; its streams; its significant species, its amphibian breeding areas, its good quality association of wetlands and uplands and its wildlife corridors.

To ensure that Maskinonge wetland functions are maintained, it is important to maintain water

quality, quantity and duration to the wetlands. Alterations to water regimes, even minor ones, could have dramatic impacts on wetland communities and their resident species.

A long-term water budget should be considered for the Maskinonge Wetlands. If possible, the phasing out of at least some ditches in the vicinity of the wetlands would be an important step in improving its water regime.

The high diversity of wetland species at the Maskinonge Wetlands is the result of its large number and variety of wetlands that are connected to each other and to adjacent upland habitats. To maintain species diversity, the network of wetlands and uplands needs to be maintained and strengthened.

Critical adjacent uplands for the Maskinonge wetland species include the surrounding forests as well as regenerating meadows, agricultural lands and pastures.

The population of woodland frogs are dependent on forests for hibernating and foraging, and they can travel a considerable distance to get to them. It is critical for woodland frog survival that broad travel corridors be maintained between their forests and wetland breeding areas. Green Frogs stay close to their wetlands but require adjacent regenerating meadows and farmland for foraging. Leopard Frogs will forage a considerable distance from their wetlands. Chorus Frogs and American Toads also need open habitats for foraging.

The presence of forest bird species necessitates maintaining its swamps and associated forests. A number of forest birds require larger blocks of woodlands for their survival and experience declines following urban development (Friesen et al. 1995).

The Great Blue Heron nesting colony needs to be protected from disturbance. No development should be considered within at least 120 metres of its nesting habitat (Argo and Naylor 1994). Visitors should also be discouraged from entering the area during the nesting season, which extends from April to August.

Wildlife corridors in and around the Maskinonge River Wetland Complex need to be strengthened. Studies have shown the importance of wildlife corridors in maintaining diversity and resiliency in an ecosystem (Riley and Mohr 1994, OMNR

2000). In addition to the smaller-scale travel corridors between the wetlands and their adjacent upland forests and meadows there are also larger-scale wildlife corridors. There are riparian corridors along the streams in the Maskinonge watershed which connect all the wetlands in the complex together. There are overland connections to the adjacent watersheds of the Holland and Black Rivers. There are three connections to the east and south that link the Maskinonge watershed to the large forested valley of the Black River watershed, noted for its numerous wetlands. The Black River valley is an important north-south forested corridor that links Lake Simcoe to the Oak Ridges Moraine. It also has good connections to the east with another major north-south valley and wetland system, the Pefferlaw Brook watershed. The three connections from the Maskinonge to the Black River are found at the northeast, east-central and southern corners of the wetland complex. One connection is at Wetland No. 48 which flows both into the Maskinonge River and Black River watersheds. The second connection is from a woodlot at Ravenshoe Road that contains Wetlands No. 31, 32 & 33, south to wetlands in a tributary valley of the Black River. At the southern end of the Maskinonge there is a connection south of Doane Road to the White Cedar swamps of Harrison Creek, a tributary valley that flows northeast into the Black River. The best connection to the Holland River is at the southern end of the Maskinonge across Leslie Street and Doane Road to a tributary of the Holland that flows into the provincially significant Holland Marsh Wetland Complex.

Encouragement should be given to increasing forest cover on and around the Maskinonge Wetlands and along stream corridors. The Maskinonge River Remedial Strategy (LSRCA 1998) recommends a worthwhile goal of increasing forest cover in the watershed from the present 13% to 25% cover.

References

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WETLAND DATA AND SCORING RECORD

- i) **WETLAND NAME:** Maskinonge River Wetland Complex
- ii) **MNR ADMINISTRATIVE REGION:** Southern **DISTRICT:** Aurora
AREA OFFICE (if different from District): _____
- iii) **CONSERVATION AUTHORITY JURISDICTION:** Lake Simcoe Region Conservation Auth.
 (If not within a designated CA, check here: _____)
- iv) **COUNTY OR REGIONAL MUNICIPALITY:** Regional Municipality of York
- v) **TOWNSHIP:** Town of East Gwillimbury, Town of Georgina
- vi) **LOTS & CONCESSIONS:** North Gwillimbury Twp. Lots 8, 9 Con 3; Lots 1-15 Con 4;
 (attach separate sheet if necessary) Lots 1-5, 10-12 Con 5; Lots 12-15 Con 6;
East Gwillimbury Twp. Lots 16-32 Con 3;
- vii) **MAP AND AIR PHOTO REFERENCES** Lots 18,19,23,31-35 Con 4; Lots 34,35 Con 5
- a) Latitude: 44.12' 0" Longitude: 79. 26' 0"
- b) UTM grid reference: Zone: 17T Block: PU, PV
 Grid:E 2 5 0 N 9 5 0
- c) National Topographic Series:
 map name(s) Newmarket & Beaverton
 map number(s) 31 D/3 & 31 D/6 edition 4 & 5
 scale 1:50 000
- d) Aerial photographs: Date photo taken: 1997 infrared Scale: 1: 10 000
 Flight & plate numbers: Roll No. 47: 2356-2359, 2522-2526, 2595-2597
Roll No. 49: 3291-3294, 3466-3470; Roll No. 50: 3738-3744, 3927-3933
Roll No. 51: 4116-4118, 4306, 4307 & 2002 ortho-rect. digital photography 1:5000
 (attach separate sheet if necessary)
- e) Ontario Base Map numbers & scale 10 17 6200 49000, 48950, 48900, 48850
10 17 6250 49000, 48950, 48900, 48850 1:10 000
 (attach separate sheets if necessary)

viii) WETLAND SIZE AND BOUNDARIES

- a) Single contiguous wetland area: 373.91 hectares
- b) Wetland complex comprised of 53 individual wetlands:

Wetland Unit Number (for reference)	Size of each wetland unit				
	Isolated	Palustrine	Riverine	Lacustrine	
Wetland Unit No. <u>1</u>	_____	<u>2.51</u>	_____	_____	ha
Wetland Unit No. <u>2</u>	_____	<u>0.51</u>	_____	_____	ha
Wetland Unit No. <u>3</u>	_____	<u>1.42</u>	_____	_____	ha
Wetland Unit No. <u>4</u>	_____	<u>0.27</u>	_____	_____	ha
Wetland Unit No. <u>5</u>	_____	<u>0.31</u>	_____	_____	ha
Wetland Unit No. <u>6</u>	_____	<u>2.54</u>	_____	_____	ha
Wetland Unit No. <u>7</u>	_____	<u>2.80</u>	_____	_____	ha
Wetland Unit No. <u>8</u>	_____	<u>2.23</u>	_____	_____	ha
Wetland Unit No. <u>9</u>	_____	<u>12.23</u>	_____	_____	ha
Wetland Unit No. <u>10</u>	_____	<u>0.68</u>	_____	_____	ha
Wetland Unit No. <u>11</u>	_____	<u>1.00</u>	_____	_____	ha
Wetland Unit No. <u>12</u>	_____	<u>1.50</u>	_____	_____	ha
Wetland Unit No. <u>13</u>	_____	<u>3.28</u>	_____	_____	ha
Wetland Unit No. <u>14</u>	_____	<u>7.30</u>	_____	_____	ha
Wetland Unit No. <u>15</u>	_____	<u>0.72</u>	_____	_____	ha
Wetland Unit No. <u>16</u>	_____	<u>8.86</u>	_____	_____	ha
Wetland Unit No. <u>17</u>	_____	<u>1.28</u>	_____	_____	ha
Wetland Unit No. <u>18</u>	_____	<u>41.94</u>	_____	_____	ha
Wetland Unit No. <u>19</u>	_____	<u>122.95</u>	_____	_____	ha
Wetland Unit No. <u>20</u>	_____	<u>4.12</u>	_____	_____	ha
Wetland Unit No. <u>21</u>	_____	<u>7.92</u>	_____	_____	ha
Wetland Unit No. <u>22</u>	_____	<u>0.36</u>	_____	_____	ha
Wetland Unit No. <u>23</u>	_____	<u>7.20</u>	_____	_____	ha
Wetland Unit No. <u>24</u>	_____	<u>0.21</u>	_____	_____	ha
Wetland Unit No. <u>25</u>	_____	<u>0.38</u>	_____	_____	ha
Wetland Unit No. <u>26</u>	_____	<u>0.17</u>	_____	_____	ha
Wetland Unit No. <u>27</u>	_____	<u>3.26</u>	_____	_____	ha
Wetland Unit No. <u>28</u>	_____	<u>1.52</u>	_____	_____	ha
Wetland Unit No. <u>29</u>	_____	<u>0.08</u>	_____	_____	ha
Wetland Unit No. <u>30</u>	_____	<u>0.05</u>	_____	_____	ha
Wetland Unit No. <u>31</u>	_____	<u>0.33</u>	_____	_____	ha
Wetland Unit No. <u>32</u>	_____	<u>0.23</u>	_____	_____	ha
Wetland Unit No. <u>33</u>	_____	<u>2.76</u>	_____	_____	ha
Wetland Unit No. <u>34</u>	_____	<u>15.41</u>	_____	_____	ha
Wetland Unit No. <u>35</u>	_____	_____	<u>1.38</u>	_____	ha

MASKINONGE RIVER WETLAND COMPLEX

Seventeen wetlands under 0.5 ha in size were included in the wetland complex. Each wetland was included for one or more of the following reasons:

- 1) Support wetland types not well represented elsewhere in the wetland complex.
- 2) Sustain significant species/communities (i.e. conservation priority bird species, or rare or uncommon species/communities in the Regional Municipality of York or site region).
- 3) Are part of larger wetlands fragmented by roads, trails or ditches.
- 4) Are amphibian breeding areas.
- 5) Are headwater sources or contribute base flows.
- 6) Are hydrologically connected to larger wetlands.
- 7) Provide intervening wetland habitat between larger wetlands.
- 8) Occur along corridors.

1.0 BIOLOGICAL COMPONENT

1.1 PRODUCTIVITY

1.1.1 GROWING DEGREE-DAYS/SOILS

GROWING DEGREE DAYS

(check one)

- 1) _____ <2800
- 2) _____ 2800 -3200
- 3) x 3200 -3600
- 4) _____ 3600 -4000
- 5) _____ >4000

SOILS

Estimated Fractional Area

0.12	clay/loam
0.03	silt/marl
	limestone
0.45	sand
0.40	humic/mesic
	fibric
	granite

SCORING:

Growing Degree-Days	Clay-Loam	Silt-Marl	Lime-stone	Sand	Humic-Mesic	Fibric	Granite
<2800	15	13	11	9	8	7	5
2800-3200	18	15	13	11	9	8	7
3200-3600	22	18	15	13	11	9	7
3600-4000	26	21	18	15	13	10	8
>4000	30	25	20	18	15	12	8

(maximum score 30; if wetland contains more than one soil type, evaluate based on the fractional area)

Steps required for evaluation: _____ (maximum score 30 points)

1. Select GDD line in evaluation table applicable to your wetland;
2. Determine fractional area of the wetland for each soil type;
3. Multiply fractional area of each soil type by score;
4. Sum individual soil type scores (round to nearest whole number).

In wetland complexes the evaluator should aim at determining the percentage of area occupied by the categories for the complex as a whole.

Score		
22	clay/loam	2.64
18	silt/marl	0.54
	limestone	0.00
13	sand	5.85
11	humic/mesic	4.40
	fibric	0.00
	granite	0.00

Final Score Growing Degree-Days/Soils (maximum 30 points)

13

1.1.2 WETLAND TYPE (Fractional Area = area of wetland type/total wetland area)

	Fractional Area		Score
Bog		x 3	0.0
Fen		x 6	0.0
Swamp	0.63	x 8	5.0
Marsh	0.37	x 15	5.6

Wetland type score (maximum 15 points) 11

1.1.3 SITE TYPE (Fractional Area = area of site type/total wetland area)

	Fractional Area		Score
Isolated	0.000	x 1 =	0.000
Palustrine (permanent or intermittent flow)	0.866	x 2 =	1.733
Riverine	0.129	x 4 =	0.515
Riverine (at rivermouth)		x 5 =	0.000
Lacustrine (at rivermouth)		x 5 =	0.000
Lacustrine (on enclosed bay, with barrier beach)		x 3 =	0.000
Lacustrine (exposed to lake)	0.005	x 2 =	0.010
		Sub Total:	2.257

Site Type Score (maximum 5 points) 2

1.2 BIODIVERSITY

1.2.1 NUMBER OF WETLAND TYPES

(Check only one)	Score
1) <input type="checkbox"/> one	9 points
2) <input checked="" type="checkbox"/> 13 two	13
3) <input type="checkbox"/> three	20
4) <input type="checkbox"/> four	30

Number of Wetland Types Score (maximum 30 points) 13

1.2.2 VEGETATION COMMUNITIES

Attach a separate sheet listing community (map) codes, vegetation forms and dominant species. Use the form on the following page to record percent area by dominant vegetation form. This information will be used in other parts of the evaluation.

Communities should be grouped by number of forms. For example, 2 form communities might appear as follows:

2 forms

<u>Code</u>	<u>Forms</u>	<u>Dominant Species</u>
M6	re, ff	re, <i>Typha latifolia</i> ; ff, <i>Lemna minor</i> , <i>Wolffia</i>
S1	ts, gc	ts, <i>Salix discolor</i> ; gc, <i>Impatiens capensis</i> , <i>Thelypteris palustris</i>

Note that the dominant species for each form are separated by a semicolon. The dominant species (maximum of 2) within a form are separated by commas.

Scoring:

Total # of communities with 1-3 forms	Total # of communities with 4 -5 forms	Total # of communities with 6 or more forms
1 = 1.5 points	1 = 2 points	1 = 3 points
2 = 2.5	2 = 3.5	2 = 5
3 = 3.5	3 = 5	3 = 7
4 = 4.5	4 = 6.5	4 = 9
5 = 5	5 = 7.5	5 = 10.5
6 = 5.5	6 = 8.5	6 = 12
7 = 6	7 = 9.5	7 = 13.5
8 = 6.5	8 = 10.5	8 = 15
9 = 7	9 = 11.5	9 = 16.5
10 = 7.5	10 = 12.5	10 = 18
11 = 8	11 = 13	11 = 19
+ .5 each additional community = <u>25.5</u>	+ .5 each additional community = <u>19.0</u>	+ 1 each additional community = <u>3.0</u>

e.g., a wetland with 3 one form communities 4 two form communities 12 four form communities and 8 six form communities would score:

$$6 + 13.5 + 15 = 34.5 = 35 \text{ points}$$

Vegetation Communities Score (maximum 45 points) 45

Maskinonge River Wetland Complex – Wetland Types

Wet-Field Map land No.	Vegetation Code	Forms	Dominant Species (size in hectares, wetland site type: Pi – palustrine with inflow, P- palustrine with no inflow, R- Riverine, L - lacustrine, soil type, g - depth to mottling in cm, G - depth to gley in cm, O - depth of organics in cm, sw- % standing water and depth in cm, presence of seepage, presence of iron precipitates)	
1	200G	neM1-A	ne	ne: Phalaris arundinacea (1.13ha, P, organic, g-26-20%, G-26, O-46, sw-12-30%, wt-2)
	201G	cS1	c*,h,ts,m	c: Thuja occidentalis; h: Populus tremuloides; ts: Thuja occidentalis; m: mosses (0.56ha, P, silt, g-0-20%, G-0, O-15, sw-2-3%, wt-8)
	202G	tsS2-A	h,ts*, ne	h: Populus tremuloides; ts: Cornus stolonifera, Salix eriocephala; ne: Phalaris arundinacea (0.21ha, P, silt, g-0-20%, G-0, O-15, sw-30-40%, wt-8)
	203G	tsS3	h,ts*,gc	h: Populus tremuloides, ts: Thuja occidentalis, Cornus stolonifera; gc: Onoclea sensibilis (0.47ha, P, silt, g-0-20%, G-0, O-15, sw-20-5%, wt-8)
	204G	tsS2-B	h,ts*,ne	h: Acer X free manii; ts: Thuja occidentalis, Cornus stolonifera; ne: Phalaris arundinacea (0.14ha, P, silt, g-0-20%, G-0, O-15, sw-30-40%, wt-8)
2	1R	neM1-A	ne	ne: Phalaris arundinacea (0.51ha, Pi, clay, g-0, O-1, sw-0%)
3	2R	neM2-A	ne*, re	ne: Phalaris arundinacea; re: Typha latifolia (1.42ha, Pi, clay, g-10, O-5, sw-0%)
4	2R	neM2-A	ne*, re	ne: Phalaris arundinacea; re: Typha latifolia (0.27ha, Pi, clay, g-10, O-5, sw-0%)
5	1R	neM1-A	ne	ne: Phalaris arundinacea (0.31ha, Pi, clay, g-0, O-1, sw-0%)
6	1R	neM1-A reM3-A suW4-A	ne re su	ne: Phalaris arundinacea (2.27ha, Pi, clay, g-0, O-1, sw-0%) re: Typha sp. (0.12ha, Pi, clay, g-0, O-1, sw-0%) su: submergents (0.15ha, Pi, clay, sw-100%)
7	4R	gcM5-A	gc*, ne, re	gc: Aster lanceolatus; ne: Carex vulpinoidea; re: Typha latifolia (0.79ha, Pi, clay, g-0, O-5, sw-0%)
	5R	gcM5-B	gc*, ne, re	gc: Aster lanceolatus; ne: grass sp; re: Typha latifolia (0.76ha, Pi, clay, g-0, O-1, sw-0%)
	6R	reM6	ls, ne, re*	ls: Cornus stolonifera; ne: Phalaris arundinacea; re: Typha latifolia (0.84ha, Pi, clay, g-0, O-5, sw-0%)
	7R	cS4	c*, gc, m	c: Thuja occidentalis; gc: Impatiens capensis; m: mosses (0.41ha, Pi, fine sand, g-5, O-10, sw-0%)
8	3R	reM3-A suW4-A	re su	re: Typha sp. (2.15ha, Pi, clay, g-0, O-2, sw-0%) su: submergents (0.08ha, Pi, clay, sw-100%)
9	8R	neM7-A	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea & grasses (2.54ha, Pi, fine sand, g-5, O-10, sw-0%)
	9R	neM2-A	ne*, re	ne: Phalaris arundinacea; re: Typha latifolia (2.30ha, Pi, organic, O-40+, sw-0%)
	10R	cS5-A	c*, gc	c: Thuja occidentalis; gc: Onoclea sensibilis, Impatiens capensis (0.91ha, Pi, fine sand, g-0, O-10, seeps on slope, sw-0%)

11R	hS6-A	h*, gc, m	h: Fraxinus pennsylvanica; gc: Onoclea sensibilis; m: mosses (0.66ha, Pi, fine sand, g-5, O-15, sw-0%)
12R	neM1-B	ne	ne: Phalaris arundinacea, Carex vulpinoidea & grasses (5.82ha, Pi, fine sand, g-2, O-5, sw-0%)
10	12R	neM1-B ne	ne: Phalaris arundinacea, Carex vulpinoidea & grasses (0.68ha, Pi, fine sand, g-2, O-5, sw-0%)
11	12R	neM1-B ne	ne: Phalaris arundinacea, Carex vulpinoidea & grasses (1.00ha, Pi, fine sand, g-2, O-5, sw-0%)
12	13R	neM7-B gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (1.37ha, Pi, fine sand, g-0, O-15, sw-0%)
14R	cS5-B	c*, gc	c: Thuja occidentalis; gc: Cystopteris bulbifera (0.13ha, Pi, fine sand, g-35, O-15, sw-0%)
13	13R	neM7-B gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (1.70ha, Pi, fine sand, g-0, O-15, sw-0%)
15R	hS7-A	h*, gc	h: Betula allegheniensis; gc: Onoclea sensibilis (1.09ha, Pi, clay, g-0, O-20, sw-0%)
16R	cS8	c	c: Thuja occidentalis (0.49ha, Pi, clay, g-0, O-20, sw-0%)
14	17R	hS7-B h*,gc	h: Betula alleghaniensis, Fraxinus nigra; gc: Onoclea sensibilis (0.42ha, Pi, clay, g-0, O-10, sw-0%)
18R	cS5-C	c*, gc	c: Thuja occidentalis; gc: Onoclea sensibilis, (0.37ha, Pi, fine sand, g-0, O-10, seepage present, sw-0%)
19R	hS9-A	h*, ts, gc	h: Fraxinus pennsylvanica; ts: Alnus rugosa; gc: Onoclea sensibilis (0.34ha, Pi, organic, O-40+, sw-0%)
20R	hS6-B	h*,gc, m	h: Fraxinus pennsylvanica; gc: Onoclea sensibilis, Impatiens capensis; m: mosses (0.31ha, Pi, clay, g-0, O-15, sw-0%)
21R	hS7-C	h*, gc	h: Fraxinus nigra; gc: Matteuccia struthiopteris (0.60ha, Pi, organic, O-40+, sw-0%)
22R	neM7-B	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (4.77ha, Pi, organic, O-40+, sw-0%)
23R	gcM8-A	gc	gc: Aster lanceolatus(0.49ha, Pi, organic, O-40+, sw-0%)
15	24R	gcM5-A gc*, ne, re	gc: Aster lanceolatus; ne: Carex vulpinoidea; re: Typha latifolia (0.72ha, Pi, organic, O-40+, sw-0%)
16	25R	neM7-C gc, ne*	gc: Aster lanceolatus, Eupatorium maculatum ; ne: Phalaris arundinacea (4.03ha, Pi, organic, O-40+, sw-0%)
26R	gcM9-A	gc*, ne	gc: Aster lanceolatus; ne: Calamagrostis canadensis (0.37ha, Pi, fine sand, g-0, O-5, sw-0%)
27R	hS10-A	h*,c, ts, gc	h: Acer X free manii, Fraxinus pennsylvanica; c: Thuja occidentalis; ts: Alnus rugosa; gc: Onoclea sensibilis (1.65ha, Pi, fine sand, g-5, O-15, sw-15%)
28R	cS11-A	h,c*,ts, gc	h: Acer X free manii; c: Thuja occidentalis; ts: Alnus rugosa; gc: Onoclea sensibilis (0.92ha, Pi, fine sand, g-5, O-15, sw-15%)
29R	reM3-B	re	re: Typha latifolia (1.35ha, Pi, organic, O-40+, sw-0%)
30R	reM10	ls, ne, re*, m	ls: Cornus stolonifera; ne: grasses; re: Typha latifolia; m: mosses (0.54ha, Pi, fine sand, g-0, O-20, sw-0%)
17	31R	neM1-A ne suW4-A su	ne: Phalaris arundinacea (1.11ha, Pi, clay, sw-0%) su: submergents (0.17ha, Pi, clay, sw-100%)

18 32R	neS12	ts,ne*,gc,rc	ts: Sambucus canadensis; ne: Phalaris arundinacea; gc: Aster lanceolatus, Impatiens capensis, Eupatorium perfoliatum; re: Typha latifolia (5.80ha, Pi, organic, O-40, g-0-10%, sw-18-5%)
33R	gcS13	h,ts,ne,gc*	h: Fraxinus pennsylvanica; ts: Fraxinus pennsylvanica; ne: Carex sp.; gc: Solidago altissima, Onoclea sensibilis, Aster lanceolatus (7.18ha, Pi, organic, g-0-10%, G-0, O-40 then clay, sw-0%, wt-60)
34R	hS9-B	h*,ts,gc	h: Acer X freemanii; ts: Acer X freemanii; gc: Matteuccia struthiopteris,
35R	gcS14	ts,gc*,ne	Impatiens capensis (10.50ha, Pi, clay, g-5-5%, G-5, O-15, sw-0%) ts: Salix bebbiana; gc: Aster lanceolatus; ne: Phalaris arundinacea (8.74ha, Pi, clay, g-5-15%, G-5, O-20, sw-0%)
36R	hS15-A	h*,gc,ne	h: Fraxinus nigra; gc: Impatiens capensis, Laportea canadensis; ne: Scirpus cyperinus, Carex lupulina (4.71ha, Pi, fine sand, G-0, g-15-5%, O-15, sw-0%)
37R	reM11-A	re*,gc	re: Typha angustifolia; gc: Impatiens capensis (3.24ha, Pi, organic, G-0, g-0-15%, O-50 then clay, sw-20-5%)
38R	gcM5-C	gc*,ne,rc	gc: Eupatorium maculatum, Impatiens capensis; ne: Phalaris arundinacea; re: Typha latifolia (1.77ha, Pi, organic, g-0-15%, G-0, O-50 then clay, sw-0%)
19 M3	reM12	re*,ne,gc	re: Typha latifolia; ne: grasses; gc: Epilobium hirsutum (10.87ha, Pi, organic)
M4	reS16	dc,ts,rc*	dc: dead Thuja occidentalis; ts: Thuja occidentalis; re: Typha latifolia (1.38ha, Pi, organic)
M6	neS17	h,gc,ne*,rc	h: Fraxinus nigra; gc: Impatiens capensis; ne: grasses & sedges; re: Typha latifolia (4.05ha, Pi, organic)
M9	neS18	ts,gc,ne*,ff	ts: Salix sp.; gc: Polygonum sp.; ne: sedges & grasses; ff: Lemna minor (1.23ha, Pi, organic)
S1	tsS19-A	ts*,ne	ts: Alnus rugosa; ne: grasses (3.46ha, Pi, organic)
S2	hS15-B	h*,gc,ne	h: Fraxinus nigra, Salix sp.; gc: Impatiens capensis; ne: sedges & grasses (0.87ha, Pi, organic)
S5	tsS20-A	ts*,gc,ne,rc	ts: Salix sp.; gc: Epilobium hirsutum; ne: grasses & sedges; re: Typha latifolia (18.84ha, Pi, organic)
S6	hS21-A	h*,ts,gc,ne	h: Salix sp.; ts: Salix sp.; gc: Impatiens capensis; ne: sedges & grasses (2.20ha, Pi, organic)
S7	tsS20-B	ts*,gc,ne,rc	ts: Salix sp.; gc: Impatiens capensis; ne: grasses; re: Typha latifolia (1.96ha, Pi, organic)
S8	hS22	h*,ts,gc,ff	h: Fraxinus nigra; ts: Fraxinus nigra; gc: Solanum dulcamara; ff: Lemna minor (13.49ha, Pi, organic)
S9	tsS23	ts*,ds,gc,ne	ts: Salix sp.; ds: Salix sp.; gc: Solanum dulcamara; ne: sedges (0.42ha, Pi, organic)
S11	tsS24	h,ts*,gc,ne,ff	h: Populus tremuloides; ts: Salix sp.; gc: Polygonum sp.; ne: grasses; ff: Lemna minor (3.91ha, Pi, fine sand)
1	reM11-B	re*gc	re: Typha latifolia, Typha angustifolia; gc: Aster lanceolatus (17.19ha, Pi, sand, sw-0%)
2	gcM8-A	gc	gc: Aster lanceolatus (3.88ha, Pi, sand, sw-0%)
135	neM7-D	ne*,gc	ne: Sparganium eurycarpum, Phalaris arundinacea; gc: Polygonum persicaria (1.46ha, Pi, organic, O-85+, sw-0%)
135B	ffW13	ff*,su	ff: Wolffia columbiana, Wolffia borealis; su: Ceratophyllum demersum, Elodea canadensis (0.55ha, Pi, organic, O-80+, sw-100%)
137	hS21-B	h*,ts,gc,ne	h: Fraxinus pennsylvanica; ts: Fraxinus pennsylvanica; gc: Aster lanceolatus, Onoclea sensibilis, Boehmeria cylindrica (0.39ha, Pi, fine sand, g-0, O-20, sw-0%)
138	tsS19-B	ts*,ne	ts: Salix petiolaris; ne: Phalaris arundinacea (10.46ha, Pi, organic, O-80+, sw-0%)

139	hS9-C	h*,ts,gc	h: Populus tremuloides, Populus balsamifera; ts: Cornus stolonifera, Populus balsamifera, Ulmus americana, Fraxinus pennsylvanica; gc: Pubus pubescens, Thalictrum pubescens, Solidago gigantea, Parthenocissus inserta, Clematis virginiana (2.29ha, Pi, fine sand, sw-0%)
140	hS25-A	h*,ts	h: Populus balsamifera; ts: Cornus stolonifera (0.28ha, Pi, fine sand, sw-0%)
141	reM3-B	re	re: Typha latifolia (0.92ha, Pi, organic, O-40+, sw-0%)
142	suW4-B	su	su: Utricularia vulgaris; Ceratophyllum demersum (5.00ha, Pi, silty clay, sw-30-100%)
143	tsS20-C	ts*,gc,ne	ts: Salix sp.; gc: Impatiens capensis, Pilea pumila; re: Typha sp.; ne: Carex utriculata (0.54ha, Pi, organic, O-80+, sw-05)
144	neM14	ne*,gc,be	ne: Leersia oryzoides; gc: Bidens cernuus, Verbena hastata, Epilobium ciliatum, Sium suave; be: Alisma plantago-aquatica (7.82ha, Pi, silt, g-0-5%, G-0, sw-0%)
145	tsS26-A	ts*,ne,gc	ts: Salix petiolaris; ne: Calamagrostis canadensis; gc: Aster lanceolatus, Boehmeria cylindrica, Impatiens capensis (4.66ha, Pi, organic, O-60+, sw-0%)
146	hS15-C	h*ne,gc	h: Populus tremuloides; ne: Carex sp.; gc: Verbena hastata, Eupatorium perfoliatum (0.32ha, Pi, fine sand, g-0-5%, O-15, sw-0%)
147	neM7-E	ne*,gc	ne: Carex stricta, Carex lacustris, Phalaris arundinacea; gc: Verbena hastata, Eupatorium perfoliatum, Asclepias incarnata, Aster puniceus (1.53ha, Pi, fine sand, g-0-5%, O-15, sw-0%)
148	hS21-C	h*,ts,ne,gc	h: Populus tremuloides; ts: Cornus stolonifera; ne: Carex stricata; gc: Rubus pubescens, Anemone canadensis (0.52ha, Pi, fine sand, g-0-10%, O-10, sw-0%)
149	reM15-A	re*,ne	re: Typha sp.; ne: Phalaris arundinacea (2.32ha, Pi, organic, O-40+, sw-100%)
150	hS15-D	h*,ne,gc	h: Populus balsamifera; ne: Agrostis stolonifera; gc: Onoclea sensibilis (0.14ha, Pi, fine sand O-15, sw-0%)
20	2	gcM8-A	gc: Aster lanceolatus (0.55ha, Pi, fine sand, sw-0%)
	M6	neS17	h,gc,ne*,re
	S2	hS15-B	h*,gc,ne
			h: Fraxinus nigra; gc: Impatiens capensis; ne: grasses & sedges; re: Typha latifolia (1.11ha, Pi, organic)
			h: Fraxinus nigra, Salix sp.; gc: Impatiens capensis; ne sedges & grasses (2.46ha, Pi, organic)
21	130	cS11-B	c*,h,ts,gc
			c: Thuja occidentalis; h: Betula papyrifera, Populus tremuloides; ts: Thuja occidentalis; gc: Onoclea sensibilis (2.81ha, Pi, very fine sand, g-0-5%, O-20, sw-0%)
	131	tsS26-B	ts*,gc,ne
			ts: Alnus rugosa; gc: Impatiens capensis, Onoclea sensibilis; ne: Glyceria striata (2.62ha, Pi, organic, O-40, sw-0%)
	133	gcS27	ts,gc*
			ts: Alnus rugosa; gc: Impatiens capensis, Eupatorium maculatum, Aster puniceus, Aster lanceolatus (0.26ha, Pi, organic, O-40, sw-0%)
	134	gcM8-B	gc
			gc: Eupatorium maculatum, Aster lanceolatus (0.65ha, Pi, fine sand, g-0-5%, O-15, sw-0%)
	136	gcM9-B	gc*,ne
			gc: Impatiens capensis; ne: Glyceria striata (0.25ha, Pi, organic, O-40, sw-0%)
	178	tsS28-A	ts*,gc
	151	hS21-D	h*,ts,ne,gc
			ts: Alnus rugosa; gc: Onoclea sensibilis (0.27ha, Pi, fine sand, sw-0%)
			h: Populus tremuloides; ts: Fraxinus pennsylvanica; ne: Agrostis stolonifera, Carex retrorsa; gc: Onoclea sensibilis (1.06ha, Pi, sw-0%)
22	179	hS21-E	h*,ts,gc,ne
			h: Fraxinus pennsylvanica; ts: Fraxinus nigra; gc: Onoclea sensibilis; ne: Glyceria striata, Scirpus cyperinus (0.36ha, Pi, fine sand, sw-0%)

23	164	hS9-D	h*,ts,gc	h: Populus tremuloides; ts: Fraxinus pennsylvanica; gc: Onoclea sensibilis (0.56ha, Pi, fine sand, g-0-5%, O-2, sw-0%)
	166	cS29	c*h,ts,gc,m	c: Thuja occidentalis; h: Ulmus americana, Fraxinus pennsylvanica; ts: Thuja occidentalis; gc: Onoclea sensibilis (0.35ha, Pi, fine sand, sw-0%)
	167	gcM9-B	gc*,ne	gc: Impatiens capensis; ne: Glyceria striata (0.38ha, Pi, fine sand, sw-0%)
	168	cS11-C	c*,h,ts,gc	c: Thuja occidentalis; h: Fraxinus pennsylvanica; ts: Thuja occidentalis; gc: Onoclea sensibilis (0.77ha, Pi, fine sand, g-10-50%, O-10, sw-0%)
	169	cS30-A	c*,ts,gc	c: Thuja occidentalis; ts: Thuja occidentalis; gc: Onoclea sensibilis (1.04ha, Pi, fine sand, g-10-50%, O-10, sw-0%)
	170	tsS31-A	ts*,ls,gc,ne	ts: Salix discolor, Salix eriocephala, Salix bebbiana; ls: Cornus stolonifera; gc: Aster lanceolatus; ne: Agrostis gigantea (0.23ha, Pi, fine sand, sw-0%)
	171	hS32	h*ts,ls,ne	h: Populus tremuloides; ts: Ulmus americana, Salix bebbiana; ls: Cornus stolonifera; ne: Agrostis stolonifera (0.22ha, Pi, fine sand, sw-0%)
	172	hS10-B	h*,c,ts,gc	h: Populus tremuloides; c: Thuja occidentalis; ts: Thuja occidentalis; gc: Onoclea sensibilis (0.21ha, Pi, fine sand, sw-0%)
	173	neM7-B	ne*,gc	ne: Phalaris arundinacea; gc: Aster lanceolatus (0.16ha, Pi, fine sand, sw-0%)
	177	hS21-F	h*,ts,gc,ne	h: Fraxinus nigra, Fraxinus pennsylvanica; ts: Alnus rugosa, Fraxinus nigra, Sambucus canadensis; gc: Impatiens capensis; ne: Glyceria striata (2.84ha, Pi, organic, O-40+, sw-0%)
	177B	hS9-D	h*,ts,gc	h: Populus tremuloides; ts: Fraxinus pennsylvanica; gc: Onoclea sensibilis (0.44ha, Pi, fine sand, sw-0%)
24		neS32	h,ts,ne*	h: Salix X rubens; Cornus stolonifera; ne: Phalaris arundinacea (0.21ha, Pi, fine sand, sw-0%)
25		neM2-B	ne*,re	ne: Phalaris arundinacea; re: Typha sp. (0.38ha, Pi, fine sand, sw-0%)
26	182	neS33-A	ts,ne*,gc	ts: Thuja occidentalis; ne: Glyceria striata; gc: Eupatorium perfoliatum, Aster puniceus (0.17ha, Pi, organic, O-40+, sw-0%)
27	181	suW4-C	su	su: Chara sp. (0.09ha, Pi, fine sand, sw-100%)
	182	neS33-A	ts,ne*,gc	ts: Thuja occidentalis; ne: Glyceria striata; gc: Eupatorium perfoliatum, Aster puniceus (0.12ha, Pi, organic, O-40+, sw-0%)
	183	cS34	c*,ts	c: Thuja occidentalis; ts: Thuja occidentalis (1.16ha, Pi, organic, O-40+, sw-0%)
	182B	neS33-A	ts,ne*,gc	ts: Thuja occidentalis; ne: Glyceria striata, Agrostis stolonifera; gc: Eupatorium perfoliatum (0.70ha, Pi, organic, O-40+, sw-0%)
	185	neS33-B	ts,ne*,gc	ts: Salix petiolaris; ne: Glyceria striata, Agrostis stolonifera, Carex lupulina; gc: Eupatorium perfoliatum, Aster puniceus, Solidago rugosa (0.12ha, Pi, organic, O-40+, sw-0%)
	186	reM11-A	re*,gc	re: Typha angustifolia; gc: Impatiens capensis (0.07ha, Pi, organic, O-40+, sw-0%)
	187	hS21-G	h*,ts,gc,ne	h: Fraxinus nigra; ts: Fraxinus nigra; gc: Impatiens capensis; Onoclea sensibilis; ne: Glyceria striata (1.00ha, Pi, fine sand, sw-0%)
28	317	hS25-B	h*,ts	h: Acer X free manii; ts: Acer X free manii (1.42ha, Pi, fine sand, O-15, sw-0%)
	318	hS15-E	h*,gc,ne	h: Populus balsamifera; gc: Solanum dulcamara; ne: Agrostis stolonifera (0.10ha, Pi, fine sand, O-15, sw-0%)
29	303	neM1-A	ne	ne: Phalaris arundinacea (0.08ha, Pi, silty very fine sand, g-0-10%, O-15, sw-0%)

30 303	neM1-A	ne	ne: Phalaris arundinacea (0.05ha, Pi, silty very fine sand, g -0-10%, O-15, sw-0%)
31 305	hS9-E	h*,ts,gc	h: Fraxinus nigra; ts: Thuja occidentalis, Fraxinus nigra, Betula allegheniensis; gc: Onoclea sensibilis (0.33ha, Pi, fine sand, g-0-5%, O-15, sw-0%)
32 305	hS9-E	h*,ts,gc	h: Fraxinus nigra; ts: Thuja occidentalis, Fraxinus nigra, Betula allegheniensis; gc: Onoclea sensibilis (0.10ha, P, fine sand, g-0-5%, O-15, sw-0%)
313	cS11-D	c*,h,ts,gc	c: Thuja occidentalis; h: Betula allegheniensis; ts: Thuja occidentalis; gc: Onoclea sensibilis (0.13ha, P, fine sand, g-0-5%, O-15, sw-0%)
33 306	cS30	c*,ts,gc	c: Thuja occidentalis; ts: Thuja occidentalis; gc: Onoclea sensibilis (1.75ha, P, fine sand, g -0-5%, O-25, sw-0%)
307	gcM9-C	gc*,ne	gc: Onoclea sensibilis, Boehmeria cylindrica; ne: Leersia oryzoides (0.06ha, P, organic, O-60+, sw-0%)
309	gcM9-D	gc*,ne	gc: Eupatorium maculatum, Aster puniceus, Aster lanceolatus; ne: Phalaris arundinacea (0.43ha, P, fine sand, sw-0%)
310	neM7-C	ne*,gc	ne: Phalaris arundinacea; gc: Aster lanceolatus, Eupatorium maculatum (0.46ha, P, fine sand, sw-0%)
312	tsS26-C	ts*,ne,gc	ts: Salix discolor, Salix eriocephala; ne: Phalaris arundinacea, Agrostis gigantea; gc: Aster lanceolatus, Eupatorium maculatum (0.06ha, P, fine sand, sw-0%)
34 131B	tsS28-B	ts*,gc	ts: Alnus rugosa; gc: Impatiens capensis (0.38ha, P, organic, O-60+, sw-0%)
131C	tsS31-B	ts*,ls,gc,ne	ts: Alnus rugosa; ls: Cornus stolonifera; ne: Glyceria striata, Agrostis stolonifera; Impatiens capensis, Onoclea sensibilis (0.45ha, P, fine sand, g-0-5%, G-0, O-10, sw-0%)
152	cS30-A	c*,ts,gc	c: Thuja occidentalis; ts: Thuja occidentalis; gc: Onoclea sensibilis (0.80ha, P, fine sand, g -0-5%, O-20, sw-0%)
153	cS11-E	c*,h,ts,gc	c: Thuja occidentalis; h: Populus tremuloides; ts: Thuja occidentalis; gc: Onoclea sensibilis (4.09ha, P, fine sand, g-0, sw-0%)
153B	cS35	c*,h,ts,gc,ne,m	c: Thuja occidentalis; h: Populus tremuloides; ts: Thuja occidentalis; gc: Rubus pubescens, Onoclea sensibilis; ne: Equisetum scirpoides; m: mosses (1.30ha, P, fine sand, g-0, sw-0%)
155	hS9-F	h*,ts,gc	h: Populus tremuloides; ts: Thuja occidentalis; gc: Onoclea sensibilis (3.13ha, P, fine sand, g -5-5%, sw-0%)
155B	tsS36	c,ts*	c: Thuja occidentalis; ts: Thuja occidentalis, Alnus rugosa (0.56ha, P, fine sand, g-5-5%, sw-0%)
155C	hS37-A	h*,ts,ls,ne	h: Populus tremuloides; ts: Salix petiolaris, Salix eriocephala, Populus tremuloides; ls: Cornus stolonifera; ne: Agrostis stolonifera, Agrostis gigantea (1.41ha, P, fine sand, g -5-5%, sw-0%)
156	reM15-B	re*,ne	re: Typha latifolia; ne: Carex lasiocarpa (0.02ha, P, fine sand; sw-0%)
156B	tsS19-C	ts*,ne	ts: Salix petiolaris; ne: Carex aquatilis, Carex lasiocarpa (0.45ha, P, fine sand, g-5-5%, sw-0%)
158	tsS38-A	ts*,ls,ne	ts: Thuja occidentalis, Populus tremuloides, Salix discolor, Salix bebbiana; ls: Cornus stolonifera; ne: Agrostis gigantea, Agrostis stolonifera (1.5 lha, P, fine sand, sw-0%)
158B	tsS39	ts*,ls,ne,m	ts: Salix eriocephala; ls: Cornus stolonifera; ne: Agrostis gigantea; m: mosses (0.43ha, P, silty very fine sand, g-0-5%, G-30, O-1, sw-0%)
159	neM7-F	ne*,gc	ne: Leersia oryzoides, Phalaris arundinacea; gc: Eupatorium maculatum, Solanum dulcamara (0.21ha, P, silty very fine sand, g-0-5%, G-30, O-1, sw-0%)

160	tsS28-C	ts*,gc	ts: <i>Alnus rugosa</i> ; gc: <i>Solidago rugosa</i> , <i>Onoclea sensibilis</i> (0.13ha, P, silty very fine sand, g-0-5%, G-30, O-1, sw-0%)
161	hS40-A	h*ts,ls,gc,ne	h: <i>Fraxinus pennsylvanica</i> ; ts: <i>Fraxinus pennsylvanica</i> ; ls: <i>Cornus stolonifera</i> ; gc: <i>Boehmeria cylindrica</i> ; ne: <i>Phalaris arundinacea</i> (0.20ha, P, silty very fine sand, sw-0%)
162	neS41	h,ts,ne*,gc	h: <i>Populus tremuloides</i> ; ts: <i>Cornus stolonifera</i> ; ne: <i>Glyceria striata</i> , <i>Leersia oryzoides</i> , <i>Agrostis gigantea</i> ; gc: <i>Impatiens capensis</i> (0.22ha, P, fine sand, g-0-5%, G-0, O-10, sw-0%)
163	tsS26-D	ts*,ne,gc	ts: <i>Alnus rugosa</i> ; ne: <i>Glyceria striata</i> , gc: <i>Rubus pubes cens</i> (0.12ha, P, fine sand, g-0-5%, G-0, O-10, sw-0%)
35 113	gcM9-E	gc*,ne	gc: <i>Impatiens capensis</i> , <i>Eupatorium maculatum</i> ; ne: <i>Phalaris arundinacea</i> (1.30ha, R, silty very fine sand, g-0-20%, O-40, sw-0%)
114	cS11-F	c*,h,ts,gc	c: <i>Thuja occidentalis</i> ; h: <i>Fraxinus pensylvannica</i> ; ts: <i>Fraxinus pennsylvanica</i> , <i>Thuja occidentalis</i> ; gc: <i>Impatiens capensis</i> , <i>Onoclea sensibilis</i> , <i>Matteuccia struthiopteris</i> , <i>Boehmeria cylindrica</i> (0.08ha, R, silty very fine sand, g-0-30%, O-15, sw-0%)
36 39R	reM10	ls, ne, re*, m	ls: <i>Cornus stolonifera</i> ; ne: grasses; re: <i>Typha latifolia</i> ; m: mosses (0.31ha, P, fine sand, g-0, O-20, sw-0%)
40R	cS8	c	c: <i>Thuja occidentalis</i> (0.32ha, R, fine sand, g-0, O-30, sw-0%)
41R	neM7-C	gc, ne*	gc: <i>Aster lanceolatus</i> , <i>Eupatorium maculatum</i> ; ne: <i>Phalaris arundinacea</i> (1.35ha, R, organic, O-40+, sw-0%)
100	reM11-C	re*,gc	re: <i>Typha latifolia</i> ; gc: <i>Thelypteris palustris</i> , <i>Lythrum salicaria</i> , <i>Cicuta bulbifera</i> , <i>Solanum dulcamara</i> , <i>Scutellaria galericulata</i> (1.28ha, R, organic, sw-15-20%)
100B	reM11-D	re*gc	re: <i>Typha X glauca</i> ; gc: <i>Impatiens capensis</i> , <i>Onoclea sensibilis</i> , <i>Lythrum salicaria</i> (3.21ha, R, organic, sw-0%)
100C	gcM5-D	gc*,re,ne	gc: <i>Onoclea sensibilis</i> , <i>Impatiens capensis</i> , <i>Lythrum salicaria</i> ; re: <i>Typha latifolia</i> ; ne: <i>Sparganium eurycarpum</i> (0.30ha, R, organic, sw-0%)
107	neM7-G	ne*,gc	ne: <i>Acorus americanus</i> , <i>Calamagrostis canadensis</i> , <i>Carex lacustris</i> , <i>Leersia oryzoides</i> ; gc: <i>Solanum dulcamara</i> (0.17ha, R, organic, sw-0%)
124, 113	gcM9-E	gc*,ne	gc: <i>Impatiens capensis</i> , <i>Eupatorium maculatum</i> ; ne: <i>Phalaris arundinacea</i> (2.17ha, R, silty very fine sand, g-0-20%, O-40, sw-0%)
101B	suW19-A	su*,ff	su: <i>Myriophyllum spicatum</i> , <i>Elodea canadensis</i> , <i>Najas flexilis</i> ; ff: <i>Lemna minor</i> , <i>Wolffia</i> sp. (5.99ha, R, silty very fine sand, O-20, sw-40-100%)
101E	suW19-B	su*,ff	su: <i>Ceratophyllum demersum</i> ; ff: <i>Lemna minor</i> , <i>Wolffia</i> sp. (1.27ha, R, silty very fine sand, sw-40-100%)
108	ffW20	ff	ff: <i>Lemna minor</i> , <i>Wolffia</i> sp. (1.95ha, R, silty very fine sand, sw-40-100%)
103	hS10-C	h*,c,ts,gc	h: <i>Fraxinus nigra</i> ; c: <i>Thuja occidentalis</i> ; ts: <i>Alnus rugosa</i> ; gc: <i>Onoclea sensibilis</i> , <i>Impatiens capensis</i> , <i>Boehmeria cylindrica</i> (0.40ha, R, organic, sw-0%)
109	hS10-D	h*c,ts,gc	h: <i>Fraxinus pennsylvanica</i> ; c: <i>Thuja occidentalis</i> ; ts: <i>Thuja occidentalis</i> ; gc: <i>Onoclea sensibilis</i> , <i>Impatiens capensis</i> , <i>Boehmeria cylindrica</i> (1.60ha, R, organic, sw-0%)
109D	hS10-E	h*,c,ts,gc	h: <i>Fraxinus pennsylvanica</i> , <i>Fraxinus nigra</i> ; c: <i>Thuja occidentalis</i> ; ts: <i>Alnus rugosa</i> , <i>Fraxinus pennsylvanica</i> ; gc: <i>Onoclea sensibilis</i> , <i>Boehmeria cylindrica</i> (0.62ha, R, organic, sw-0%)
109B	cS11-G	c*,h,ts,gc	c: <i>Thuja occidentalis</i> ; h: <i>Fraxinus nigra</i> , <i>Fraxinus pennsylvanica</i> ; ts: <i>Thuja occidentalis</i> , <i>Alnus rugosa</i> ; gc: <i>Onoclea sensibilis</i> (4.00ha, R, organic, sw-0%)
106	hS9-G	h*,ts,gc	h: <i>Fraxinus nigra</i> ; ts: <i>Fraxinus nigra</i> ; gc: <i>Thelypteris palustris</i> , <i>Boehmeria cylindrica</i> , <i>Onoclea sensibilis</i> (0.18ha, R, organic, sw-0%)

109C	hS9-H	h*,ts,gc	h: Fraxinus nigra, Fraxinus pennsylvanica; ts: Fraxinus pennsylvanica; gc: Matteuccia struthiopteris, Onoclea sensibilis, Impatiens capensis (3.39ha, R, organic, sw-0%)
115	cS30-B	c*,ts,gc	c: Thuja occidentalis; ts: Thuja occidentalis; gc: Matteuccia struthiopteris, Cystopteris bulbifera, Onoclea sensibilis (0.21ha, R, organic, sw-0%)
116	cS30-C	c*,ts,gc	c: Thuja occidentalis; ts: Thuja occidentalis, Acer spicatum; gc: Matteuccia struthiopteris, Cystopteris bulbifera, Onoclea sensibilis (2.30ha, R, organic, sw-20%, see page present)
123	tsS28-B	ts*,gc	ts: Alnus rugosa, gc: Impatiens capensis (0.17ha, R, organic, sw-0%)
37 42R	gcM9-F	gc*, ne	gc: Aster lanceolatus, Eupatorium maculatum; ne: Phalaris arundinacea (2.18ha, R, clay, g-0, O-30, sw-0%)
43R	hS42	h*,c,ts,gc,m	h: Fraxinus nigra; c: Thuja occidentalis; ts: Alnus rugosa; gc: Onoclea sensibilis; m: mosses (0.91ha, R, organic, O-40+, sw-0%)
44R	cS11-H	c*,h,ts,gc	c: Thuja occidentalis; h: Betula allegheniensis, Betula papyrifera; ts: Fraxinus pennsylvanica; gc: Cystopteris bulbifera, Impatiens capensis (0.68ha, R, organic, O-40+, sw-0%)
45R	neM7-A	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea, grasses (2.60ha, R, clay, g-0, O-20, sw-0%)
46R	hS43	h*,c,m	h: Populus tremuloides, Fraxinus pennsylvanica; c: Thuja occidentalis; m: mosses (0.44ha, R, fine sand, g-5, O-10, sw-0%)
47R	gcM16	ls,gc*,ne	ls: Cornus stolonifera; gc: Aster lanceolatus; ne: Phalaris arundinacea (1.03ha, R, clay, g-0, O-30, sw-0%)
48R	reM17	ls,gc, re*	ls: Cornus stolonifera; gc: Aster lanceolatus; re: Typha spp. (0.90ha, R, clay, g-0, O-30, sw-0%)
50R	neM7-B	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (1.23ha, R, clay, g-0, O-15, sw-0%)
51R	reM15-C	ne, re*	ne: Phalaris arundinacea, grasses; re: Typha spp. (0.27ha, R, clay, g-5 O-2, sw-0%)
38 52R	neM7-B	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (0.08ha, R, clay, g-0, O-5, sw-0%)
39 52R	neM7-B	gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea (0.17ha, R, clay, g-0, O-5, sw-0%)
40	51R reM15-C	ne, re*	ne: Phalaris arundinacea, grasses; re: Typha sp. (0.04ha, R, clay, g-5, O-2, sw-0%)
41	100B reM11-D	re*gc	re: Typha X glauca; gc: Impatiens capensis, Onoclea sensibilis, Lythrum salicaria (0.33ha, R, organic, sw-0%)
42	100B reM11-D	re*gc	re: Typha X glauca; gc: Impatiens capensis, Onoclea sensibilis, Lythrum salicaria (0.34ha, L, organic, sw-0%)
	101C suW4-D	su	su: Vallisneria spiralis (1.20ha, L, fine sand, sw-100%)
	100D reS44	h, re*, gc	h: Salix X rubens; re: Typha X glauca; gc: Impatiens capensis (0.31ha, L, fine sand, sw-0%)
43	206G hS45	h*,ts,m	h: Populus tremuloides; ts: Cornus stolonifera, Thuja occidentalis; ne: Phalaris arundinacea (0.96ha, Pi, silty fine sand, g-0-5%, G-0, O-32, sw-3-20%, wt-10)
	207G neM2-A	ne*, re	ne: Phalaris arundinacea; re: Typha latifolia (0.93ha, Pi, silt, G-0, O-36, sw-0%, wt-5)
	208G cS46	c*,h,ts	c: Thuja occidentalis; h: Betula allegheniensis; ts: Thuja occidentalis (1.35ha, Pi, organic, G-0, O-82, sw-2-2%, wt-15, see page present)

209GhS47	h*,ts,ne	h: Populus balsamifera; ts: Cornus stolonifera; ne: grasses & sedges (0.14ha, Pi, organic, G-0, O-66, sw-5-10%, wt-10, seepage present)
44	1F hS25-C h*,ts	h: Fraxinus pennsylvannica; ts: Cornus foemina (0.26ha, R, silty very fine sand, g-0-20%, sw-0%)
45	2F neM1-A ne	ne: Phalaris arundinacea (1.42ha, R, very fine sandy silt, g-30-10%, sw-0%)
46	1F hS25-C h*,ts	h: Fraxinus pennsylvannica; ts: Cornus stolonifera (1.66ha, R, silty very fine sand, g-0-20%, sw-0%)
	2F neM1-A ne	ne: Phalaris arundinacea (1.12ha, R, silty very fine sand, g-30-10%, sw-0%)
	3F gcM8-C gc	gc: Polygonum hydropiper (0.25ha, R, organic, O-65, sw-0%)
47	303 neM1-A ne	ne: Phalaris arundinacea (0.09ha, Pi, silty very fine sand, sw-0%)
48	300 tsS26-E ts*,ne,gc	ts: Salix eriocephala, Cornus stolonifera; ne: Phalaris arundinacea, Equisetum hyemale, Agrostis gigantea; gc: Aster lanceolatus, Solidago altissima (3.91ha, P, silty very fine sand, g-0-10%, O-15, sw-0%)
	301 neM18 ls,ne*,gc,m	ls: Salix exigua; ne: Equisetum hyemale; gc: Aster lanceolatus;
	302 neM2-A ne*,re	m: mosses (0.25ha, P, silty very fine sand, g-0-10%, O-15, sw-0%) ne: Phalaris arundinacea; re: Typha latifolia (0.34ha, P, fine silty very fine sand, g-0-10%, O-15, sw-0%)
	M1 neM2-C ne*,re	ne: grasses & sedges; re: Typha sp. (0.75ha, P, silty very fine sand)
	S5 hS40-B h*,ts,ls,gc,ne	h: Populus tremuloides, Populus balsamifera; ts: Cornus stolonifera, Ulmus americana; ls: Cornus stolonifera; gc: Onoclea sensibilis, Impatiens capensis, Eupatorium maculatum; ne: grasses & sedges (23.78ha, P, silty very fine sand)
	S2 tsS38-B ts*,ls,ne	ts: Ulmus americana, Salix sp.; ls: Cornus stolonifera; ne: grasses & sedges (2.96ha, P, silty very fine sand)
	S3 tsS31-C ts*,ls,gc,ne	ts: Salix sp.; ls: Salix sp.; gc: Eupatorium perfoliatum; ne: grasses & sedges (16.78ha, P, silty very fine sand)
49	S1 tsS48 ts*,re,ne	ts: Salix sp.; ne: sedges; re: Typha sp. (1.33ha, P, silty very fine sand)
	212G hS37-B h*,ts,ls,ne	h: Populus tremuloides, Fraxinus pennsylvannica; ts: Populus tremuloides; Fraxinus pennsylvannica; ls: Cornus stolonifera; ne: Carex sp. (4.65ha, P, silty fine sand, g-14-40%, O-14, wt-14, sw-20-45%)
50	4F reM15-A re*,ne	re: Typha sp; ne: Phalaris arundinacea (0.65ha, P, fine sand, sw-0%)
	5F suW4-A su	su: submergents (0.18ha, P, fine sand, sw-100%)
	S4 tsS49 ts*,re,ne,m	Salix sp., Cornus stolonifera; re: Typha latifolia; ne: grasses (3.17ha, P, fine sand, sw-0%)
51	210GneS50 ts,ls, ne*,gc	ts: Salix eriocephala; ls: Cornus stolonifera; ne: Equisetum hyemale; gc: Solidago sp. (0.55ha, P, silty very fine sand, g-18-55%, G-32, O-2, sw-1%, wt -5)
52	205G hS25-D h*,ts	h: Ulmus americana; ts: Cornus stolonifera (0.24ha, P, silty very fine sand, g-29-15%, O-3, sw-10-30%, wt-20)
53	8R neM7-A gc, ne*	gc: Aster lanceolatus; ne: Phalaris arundinacea & grasses (2.58ha, Pi, fine sand, g-5, O-10, sw-0%)

Wetland Name: Maskinonge River Wetland Complex

Wetland Size (ha): 373.91

<u>Vegetation Form</u>	<u>% area in which form is dominant</u>
h	<u>25.63</u>
c	<u>7.20</u>
dh	<u> </u>
dc	<u> </u>
ts	<u>21.56</u>
ls	<u> </u>
ds	<u> </u>
gc	<u>9.23</u>
m	<u> </u>
ne	<u>18.92</u>
be	<u> </u>
re	<u>13.01</u>
ff	<u>0.67</u>
f	<u> </u>
su	<u>3.78</u>
u (unvegetated)	<u> </u>
Total = 100%	<u>100.00</u>

1.2.3 DIVERSITY OF SURROUNDING HABITAT

(Check all appropriate items(1))

<input checked="" type="checkbox"/>	row crop
<input checked="" type="checkbox"/>	pasture
<input checked="" type="checkbox"/>	abandoned agricultural land
<input checked="" type="checkbox"/>	deciduous forest
<input checked="" type="checkbox"/>	coniferous forest
<input checked="" type="checkbox"/>	mixed forest (at least 25% conifer and 75% deciduous or vice versa)
<input type="checkbox"/>	abandoned pits and quarries
<input checked="" type="checkbox"/>	open lake or deep river
<input checked="" type="checkbox"/>	fence rows with cover, or shelterbelts
<input checked="" type="checkbox"/>	terrain appreciably undulating,hilly,or with ravines
<input checked="" type="checkbox"/>	creek flood plain

Diversity of Surrounding Habitat Score (1 for each, maximum 7 points)

7

1.2.4 PROXIMITY TO OTHER WETLANDS

(Check first appropriate category only)

Scoring

1)	<input checked="" type="checkbox"/> 8	Hydrologically connected by surface water to other wetlands (different dominant wetland type) or to open lake or deep river within 1.5 km	8 points
2)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) within 0.5 km	8
3)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (different dominant wetland type),or to open lake or deep river from 1.5 to 4 km away	5
4)	<input type="checkbox"/>	Hydrologically connected by surface water to other wetlands (same dominant wetland type) from 0.5 to 1.5 km away	5
5)	<input type="checkbox"/>	Within 0.75 km of other wetlands (different dominant wetland type) or open water body, but not hydrologically connected by surface water	5
6)	<input type="checkbox"/>	Within 1 km of other wetlands, but not hydrologically connected by surface water	2
7)	<input type="checkbox"/>	No wetland within 1 km	0

Proximity to other Wetlands Score (Choose one only, maximum 8 points)

8

1.2.5 INTERSPERSION

Number of Intersections (Check one)		Score
1)	26 or less	3
2)	27 to 40	6
3)	41 to 60	9
4)	61 to 80	12
5)	81 to 100	15
6)	101 to 125	18
7)	126 to 150	21
8)	151 to 175	24
9)	176 to 200	27
10)	>200	30

Interspersion Score (Choose one only maximum 30 points)

18

1.2.6 OPEN WATER TYPES

Permanently flooded: (Check one)		Score
1)	8 type 1	8
2)	type 2	8
3)	type 3	14
4)	type 4	20
5)	type 5	30
6)	type 6	8
7)	type 7	14
8)	type 8	3
9)	no open water	0

Open Water Type Score (Choose one only maximum 30 points)

8

1.3 SIZE

373.9

hectares

99

Subtotal for Biodiversity

Size Score (Biological Component) (maximum 50 points)

50

Evaluation Table Size Score (Biological component)

Wetland size (ha)	Total Score for Biodiversity Subcomponent									
	<37	37-48	49-60	61-72	73-84	85-96	97-108	109-120	121-132	>132
<21 ha	1	5	7	8	9	17	25	34	43	50
21-40	5	7	8	9	10	19	28	37	46	50
41-60	6	8	9	10	11	21	31	40	49	50
61-80	7	9	10	11	13	23	34	43	50	50
81-100	8	10	11	13	15	25	37	46	50	50
101-120	9	11	13	15	18	28	40	49	50	50
121-140	10	13	15	17	21	31	43	50	50	50
141-160	11	15	17	19	23	34	46	50	50	50
161-180	13	17	19	21	25	37	49	50	50	50
181-200	15	19	21	23	28	40	50	50	50	50
201-400	17	21	23	25	31	43	50	50	50	50
401-600	19	23	25	28	34	46	50	50	50	50
601-800	21	25	28	31	37	49	50	50	50	50
801-1000	23	28	31	34	40	50	50	50	50	50
1001-1200	25	31	34	37	43	50	50	50	50	50
1201-1400	28	34	37	40	46	50	50	50	50	50
1401-1600	31	37	40	43	49	50	50	50	50	50
1601-1800	34	40	43	46	50	50	50	50	50	50
1801-2000	37	43	47	49	50	50	50	50	50	50
>2000	40	46	50	50	50	50	50	50	50	50

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 WOOD PRODUCTS

Area of wetland forested (ha), i.e. dominant form is h or c. Note that this is not wetland size. (Check one only)

		Score
1)	<5 ha	0
2)	5 -25 ha	3
3)	26 -50 ha	6
4)	51- 100 ha	9
5)	101 -200 ha	12
6)	>200 ha	18

Source of information: field observations

Wood Products Score (Score one only, maximum 18 points) 12

2.1.2 WILD RICE

(Check one)		Score (Choose one)
Present (minimum size 0.5 ha)	1) <u>6</u>	6 points
Absent	2) <u> </u>	0

Source of information: Steve Varga - MNR, Aurora

Wild Rice Score (maximum 6 points) 6

2.1.3 COMMERCIAL FISH (BAIT FISH AND/OR COARSE FISH)

(Check one)		Score (Choose one)
Present	1) <u>12</u>	12 points
Habitat not suitable for fish	2) <u> </u>	0

Source of information: Stefan Romberg - MNR, Aurora

Commercial Fish Score (maximum 12 points) 12

2.1.4 BULLFROGS

(Check one)		Score (Choose one)
Present	1) <u>1</u>	1 points
Absent	2) <u> </u>	0

Source of information: Jim Fry - MNR, Maple

Bullfrog Score (maximum 1 point) 1

2.3 LANDSCAPE AESTHETICS

2.3.1 DISTINCTNESS

(Check one)		Score (Choose one)
Clearly distinct	1) <input type="text" value="3"/>	3 points
Indistinct	2) <input type="text"/>	0

Landscape Distinctness Score (maximum 3 points)

3

2.3.2 ABSENCE OF HUMAN DISTURBANCE

(Check one)		Score (Choose one)
Human disturbances absent or nearly so	1) <input type="text"/>	7 points
One or several localized disturbances	2) <input type="text" value="4"/>	4
Moderate disturbance; localized water pollution	3) <input type="text"/>	2
Wetland intact but impairment of ecosystem quality intense in some areas	4) <input type="text"/>	1
Extreme ecological degradation, or water pollution severe and widespread	5) <input type="text"/>	0

Source of information: field observations

Absence of Human Disturbance Score (maximum 7 points)

4

2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 EDUCATIONAL USES

(Check one)		Score (Choose one)
Frequent	1) <input type="text"/>	20 points
Infrequent	2) <input type="text"/>	12
No visits	3) <input type="text" value="x"/>	0

Source of information: _____

Educational Uses Score (maximum 20 points)

0

2.4.2 FACILITIES AND PROGRAMS

(check one)		Score (Choose one)
Staffed interpretation centre	1) <input type="text"/>	8 points
No interpretation centre or staff but a system of self-guiding trails or brochures available	2) <input type="text"/>	4
Facilities such as maintained paths (e.g., woodchips) boardwalks, boat launches or observation towers but no brochures or other interpretation	3) <input type="text"/>	2
No facilities or programs	4) <input type="text" value="0"/>	0

Source of information: field observations

Facilities and Programs Score (maximum 8 points)

0

2.4.3. RESEARCH AND STUDIES

Environmental Applications Group Limited. Feb. 1991. Maskinonge River Aquatic Plant Survey. Town of Georgina.

Gartner Lee Limited. Feb. 2003. Georgina Landfill, 2001. Annual Monitoring Report. Corporation of the Town of Georgina.

Lake Simcoe Region Conservatrion Authority. 1998. Maskinonge River Remedial Strategy, Final Report. Town of Georgina.

2.7 SIZE

373.9 hectares

144 Subtotal for Social

Evaluation Table for Size Score (Social Component)

Wetland Size (ha)	Total for Size Dependent Score									
	<31	31-45	46-60	61-75	76-90	91-105	106-109	121-135	136-150	>150
<2 ha	1	2	4	8	10	12	14	14	14	15
2 - 4ha	1	2	4	8	12	13	14	14	15	16
5 - 8ha	2	2	5	9	13	14	15	15	16	16
9 - 12ha	3	3	6	10	14	15	15	16	17	17
13-17	3	4	7	10	14	15	16	16	17	17
18-28	4	5	8	11	15	16	16	17	17	18
29-37	5	7	10	13	16	17	18	18	19	19
38-49	5	7	10	13	16	17	18	18	19	20
50-62	5	8	11	14	17	17	18	19	20	20
63-81	5	8	11	15	17	18	19	20	20	20
82-105	6	9	11	15	18	18	19	20	20	20
106-137	6	9	12	16	18	19	20	20	20	20
138-178	6	9	13	16	18	19	20	20	20	20
179-233	6	9	13	16	18	20	20	20	20	20
234-302	7	9	13	16	18	20	20	20	20	20
303-393	7	9	14	17	18	20	20	20	20	20
394-511	7	10	14	17	18	20	20	20	20	20
512-665	7	10	14	17	18	20	20	20	20	20
666-863	7	10	14	17	19	20	20	20	20	20
864-1123	8	12	15	17	19	20	20	20	20	20
1124-1460	8	12	15	17	19	20	20	20	20	20
1461-1898	8	13	15	18	19	20	20	20	20	20
1899-2467	8	14	16	18	20	20	20	20	20	20
>2467	8	14	16	18	20	20	20	20	20	20

Total Size Score (Social Component)

20

2.8 ABORIGINAL AND CULTURAL HERITAGE VALUES

Either or both Aboriginal or Cultural Values may be scored. However, the maximum score permitted for 2.8 is 30 points. Attach documentation.

2.8.1 ABORIGINAL VALUES

Full documentation of sources must be attached to the data record.

1) Significant		=	30 points
2) Not Significant		=	0
3) Unknown	x	=	0
Total:	0		

2.8.2 CULTURAL HERITAGE

1) Significant		=	30 points
2) Not Significant		=	0
3) Unknown	x	=	0
Total:	0		

Aboriginal Values/Cultural Heritage Score (maximum 30 points)

0

3.0 HYDROLOGICAL COMPONENT

3.1 FLOOD ATTENUATION

If the wetland is a complex including isolated wetlands, apportion the 100 points according to area. For example if 10 ha of a 100 ha complex is isolated, the isolated portion receives the maximum proportional score of 10. The remainder of the wetland is then evaluated out of 90.

Step 1:

Determination of Maximum Score

	Wetland is located on one of the defined 5 large lakes or 5 major rivers (Go to Step 4)	
	Wetland is entirely isolated (i.e. not part of a complex) (Go to Step 4)	
x	All other wetland types (Go through Steps 2,3 and 4B)	

Step 2:

Determination of Upstream Detention Factor (DF)

(a)	Wetland area (ha)	373.91
(b)	Total area (ha) of upstream detention areas (include the wetland itself)	379.41
(c)	Ratio of (a):(b)	0.99
(d)	Upstream detention factor: (c) x 2 = (maximum allowable factor = 1)	1.97 1.00

Step 3:

Determination of Wetland Attenuation Factor (AF)

(a)	Wetland area (ha)	373.91
(b)	Size of catchment basin (ha) upstream of wetland (include wetland itself in catchment area)	6000.00
(c)	Ratio of (a):(b)	0.06
(d)	Wetland attenuation factor: (c) x 10 = (maximum allowable factor = 1)	0.62

Step 4:

Calculation of final score

(a)	Wetlands on large lakes or major rivers	0
(b)	Wetland entirely isolated	100
(b)	All other wetlands --calculate as follows:	
(c)	* Complex Formula - Isolated portion	100.00
	Initial Score	1
	Upstream detention factor (DF) (Step 2)	100 *
	Wetland attenuation factor (AF) (Step 3)	1.00
	Wetland attenuation factor (AF) (Step 3)	0.62
	Final score: [(DF + AF)/2] x Initial score =	81.00
(c)	* Final score:=	81
	*Unless wetland is a complex with isolated portions (see above).	

Flood Attenuation Score (maximum 100 points)

81

3.2 WATER QUALITY IMPROVEMENT

3.2.1 SHORT TERM WATER QUALITY IMPROVEMENT

Step 1: Determination of maximum initial score

Wetland on one of the 5 defined large lakes or 5 major rivers (Go to Step 5a)

 x All other wetlands (Go through Steps 2, 3, 4, and 5b)

Step 2: Determination of watershed improvement factor (WIF)

Calculation of WIF is based on the fractional area (FA) of each site type that makes up the total area of the wetland.

(FA= area of site type/total area of wetland)

Fractional Area

FA of isolated wetland	<u>0.000</u>	x	0.5	=	<u>0.000</u>
FA of riverine wetland	<u>0.129</u>	x	1	=	<u>0.129</u>
FA of palustrine wetland with no inflow	<u>0.215</u>	x	0.7	=	<u>0.151</u>
FA of palustrine wetland with inflows	<u>0.651</u>	x	1	=	<u>0.651</u>
FA of lacustrine on lake shoreline	<u>0.005</u>	x	0.2	=	<u>0.001</u>
FA of lacustrine at lake inflow or outflow	<u> </u>	x	1	=	<u>0.000</u>
			Sub Total:		<u>0.931</u>

Sum (WIF cannot exceed 1.0) 0.930

Step 3: Determination of catchment land use factor (LUF)

(Choose the first category that fits upstream landuse in the catchment.)

- 1) 1.0 Over 50% agricultural and/or urban 1.0
- 2) Between 30 and 50% agricultural and/or urban 0.8
- 3) Over 50% forested or other natural vegetation 0.6

LUF (maximum 1.0) 1.000

Step 4: Determination of pollutant uptake factor (PUT)

Calculation of PUT is based on the fractional area (FA) of each vegetation type that makes up the total area of the wetland. Base assessment on the dominant vegetation form for each community except where dead trees or shrubs dominate. In that case base assessment on the dominant live vegetation. (FA = area of vegetation type/total area of wetland)

FA of wetland with live trees, shrubs, herbs or mosses (c,h,ts,ls,gc,m)	<u>0.64</u>	x	0.75	=	<u>0.48</u>
FA of wetland with emergent, submergent or floating vegetation (re,be,ne,su,f,ff)	<u>0.36</u>	x	1	=	<u>0.36</u>
FA of wetland with little or no vegetation (u)	<u> </u>	x	0.5	=	<u>0.00</u>

Sum (PUT cannot exceed 1.0) 0.840

Step 5: Calculation of final score

(a)	Wetland on large lakes or major rivers	0
(b)	All other wetlands -calculate as follows	
	Initial score	60
	Water quality improvement factor (WQF)	0.930
	Land use factor (LUF)	1.000
	Pollutant uptake factor (PUT)	0.840
	Final score: 60 x WQF x LUF x PUT =	46.872

Short Term Water Quality Improvement Score (maximum 60 points) 47

3.2.2 LONG TERM NUTRIENT TRAP

Step 1:

- Wetland on large lakes or 5 major rivers 0 points
- All other wetlands (proceed to Step 2)

Step 2:

Choose only one of the following settings that best describes the wetland being evaluated

- 1) Wetland located in a river mouth 10 points
- 2) Wetland is a bog, fen or swamp with more than 50% of the wetland being covered with organic soil 10
- 3) Wetland is a bog, fen or swamp with less than 50% of the wetland being covered with organic soil 3
- 4) Wetland is a marsh with more than 50% of the wetland covered with organic soil 3
- 5) None of the above 0

Long Term Nutrient Trap Score (maximum 10 points) 3

3.2.3 GROUNDWATER DISCHARGE

(Circle the characteristics that best describe the wetland being evaluated and then sum the scores. If the sum exceeds 30 points assign the maximum score of 30.)

Wetland Characteristics	Potential for Discharge					
	None to Little		Some		High	
Wetland type	1) Bog = 0	0	2) Swamp/Marsh = 2	2	3) Fen = 5	
Topography	1) Flat/rolling = 0	0	2) Hilly = 2	0	3) Steep = 5	
Wetland Area: Upslope Catchment Area	Large (>50%) = 0	0	Moderate (5-50%) = 2	0	Small "5%" = 5	
Lagg Development	1) None found = 0	0	2) Minor = 2	0	3) Extensive = 5	
Seeps	1) None = 0	0	2) = or < 3 seeps = 2	0	3) > 3 seeps = 5	5
Surface marl deposits	1) None = 0	0	2) = or < 3 sites = 2	0	3) > 3 sites = 5	
Iron precipitates	1) None = 0	0	2) = or < 3 sites = 2	0	3) > 3 sites = 5	
Located within 1 km of a major aquifer	N/A = 0	0	N/A = 0	0	Yes = 10	
Totals		0		4		5

(Scores are cumulative maximum score 30 points)

Groundwater Discharge Score (maximum 30 points)

9

3.3 CARBON SINK

Choose only one of the following

- 1) Bog, fen or swamp with more than 50% coverage by organic soil 5 points
- 2) Bog, fen or swamp with between 10 to 49% coverage by organic soil 2
- 3) Marsh with more than 50% coverage by organic soil 3
- 4) Wetlands not in one of the above categories 0

Carbon Sink Score (maximum 5 points)

2

Southern Ontario Wetland Evaluation

3.4 SHORELINE EROSION CONTROL

Step 1:

Score

		Wetland entirely isolated or palustrine	0
	x	Any part of the Wetland riverine or lacustrine (proceed to Step 2)	

Step 2:

Choose the one characteristic that best describes the shoreline vegetation (see text for a definition of shoreline)

Score

1)	15	Trees and shrubs		15
2)		Emergent vegetation		8
3)		Submergent vegetation		6
4)		Other shoreline vegetation		3
5)		No vegetation		0

Shoreline Erosion Control Score (maximum 15 points)

15

3.5 GROUND WATER RECHARGE

3.5.1 WETLAND SITE TYPE

Score

(a)	Wetland > 50% lacustrine (by area) or located on one of the five major rivers	0	
(b)	Wetland not as above. Calculate final score as follows: (FA= area of site type/total area of wetland)		

Fractional
Area

FA of isolated or palustrine wetland	0.866	x	50	=	43.32
FA of riverine wetland	0.129	x	20	=	2.57
FA of lacustrine wetland (wetland <50% lacustrine)	0.005	x	0	=	0.00

Ground Water Recharge Wetland Site Type Component Score (maximum 50 points)

46

3.5.2 WETLAND SOIL RECHARGE POTENTIAL

(Circle only one choice that best describes the hydrologic soil class of the area surrounding the wetland being evaluated.)

Dominant Wetland Type	1) Sand, loam, gravel, till	2) Clay or bedrock	
1) Lacustrine or on a major river	0	0	
2) Isolated	10	5	
3) Palustrine	7	4	
4) Riverine (not a major river)	5	2	
Totals			0

Ground Water Recharge Wetland Soil Recharge Potential Score (maximum 10 points)

7

4.0 SPECIAL FEATURES COMPONENT

4.1 RARITY

4.1.1 WETLANDS

Site District 6E-6
 Presence of wetland type (check one or more)
 Bog
 Fen
 Swamp
 Marsh

Score for rarity within the landscape and rarity of the wetland type. Score for rarity of wetland type is cumulative (maximum 80 points) based on presence or absence.

Site District	Score for Rarity within the Landscape	Score for Rarity of Wetland Type			
		Marsh	Swamp	Fen	Bog
6-1	60	40	0	80	80
6-2	60	40	0	80	80
6-3	40	10	0	40	80
6-4	60	40	0	80	80
6-5	20	40	0	80	80
6-6	40	20	0	80	80
6-7	60	10	0	80	80
6-8	20	20	0	80	80
6-9	0	20	0	80	80
6-10	20	0	20	80	80
6-11	0	30	0	80	80
6-12	0	30	0	60	80
6-13	60	10	0	80	80
6-14	40	20	0	40	80
6-15	40	0	0	80	80
7-1	60	0	60	80	80
7-2	60	0	0	80	80
7-3	60	0	0	80	80
7-4	80	0	0	80	80
7-5	80	30	0	80	80

Rarity within the Landscape Score (maximum 80 points)

40

Rarity of Wetland Type Score (maximum 80 points)

20

4.1.2.3 PROVINCIALY SIGNIFICANT ANIMAL SPECIES

Name of species	Source of information
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
10) _____	_____
11) _____	_____
12) _____	_____
13) _____	_____
14) _____	_____
15) _____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant animal species in the wetland:

1 species = 50 points	14 species = 154
2 species = 80	15 species = 156
3 species = 95	16 species = 158
4 species = 105	17 species = 160
5 species = 115	18 species = 162
6 species = 125	19 species = 164
7 species = 130	20 species = 166
8 species = 135	21 species = 168
9 species = 140	22 species = 170
10 species = 143	23 species = 172
11 species = 146	24 species = 174
12 species = 149	25 species = 176
13 species = 152	

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

(no maximum score)

Provincially Significant Animal Species Score (no maximum)

4.1.2.4 PROVINCIALY SIGNIFICANT PLANT SPECIES

(Scientific names must be recorded)

	Common Name	Scientific Name	Source of information
1)	_____	_____	_____
2)	_____	_____	_____
3)	_____	_____	_____
4)	_____	_____	_____
5)	_____	_____	_____
6)	_____	_____	_____
7)	_____	_____	_____
8)	_____	_____	_____
9)	_____	_____	_____
10)	_____	_____	_____
11)	_____	_____	_____
12)	_____	_____	_____
13)	_____	_____	_____
14)	_____	_____	_____
15)	_____	_____	_____

Attach separate list if necessary; Attach documentation

Scoring:

Number of provincially significant plant species in the wetland:

1 species	= 50 points	14 species	= 154
2 species	= 80	15 species	= 156
3 species	= 95	16 species	= 158
4 species	= 105	17 species	= 160
5 species	= 115	18 species	= 162
6 species	= 125	19 species	= 164
7 species	= 130	20 species	= 166
8 species	= 135	21 species	= 168
9 species	= 140	22 species	= 170
10 species	= 143	23 species	= 172
11 species	= 146	24 species	= 174
12 species	= 149	25 species	= 176
13 species	= 152		

Add one point for every species past 25 (for example, 26 species = 177 points, 27 species = 178 points etc.)

Provincially Significant Plant Species Score (no maximum)



4.1.2.5 REGIONALLY SIGNIFICANT SPECIES (SITE REGION)

Scientific names must be recorded for plant species. **Lists of significant species must be approved by MNR.**

SIGNIFICANT IN SITE REGION:

	Common Name	Scientific Name	Source of information
1)	see attached sheet		
2)			
3)			
4)			
5)			
6)			
7)			
8)			
9)			
10)			
11)			
12)			
13)			
14)			
15)			

Attach separate list if necessary .Attach documentation.

Scoring:

No. of species significant in Site Region

1 species	=	20	6 species	=	55
2 species	=	30	7 species	=	58
3 species	=	40	8 species	=	61
4 species	=	45	9 species	=	64
5 species	=	50	10 species	=	67

Add one point for every species past 10. (no maximum score)

Regionally Significant Species Score (Site Region)(no maximum)

45

Maskinonge River Wetland Complex – Significant Species

Regionally Significant Plant Species (rare in MNR's former Central Region)

Source: Steve Varga field observations 2003

Status: based on Riley 1989 Distribution and Status of the Vascular Plants of Central Region, Ontario
Ministry of Natural Resources

1. *Agalinis tenuifolia* (Slender-leaved Agalinis)
2. *Aster ontarionis* (Ontario Aster)
3. *Elodea nuttallii* (Nuttall's Waterweed)
4. *Gentianopsis crinita* (Fringed Gentian)

Locally Significant Plant Species (Rare in the Regional Municipality of York)

Source: Steve Varga & Stefan Romberg field observations and collections 2003

Status: based on Varga S. et al. 2000. Distribution and Status of the Vascular Plants of the Greater Toronto Area, Ontario Ministry of Natural Resources, Aurora District.

1. *Acorus americanus* (Sweet-flag)
2. *Bidens discoideus* (Small Beggar-tick's)
3. *Carex aquatilis* (Water Sedge)
4. *Cinna arundinacea* (Stout Wood Grass)
5. *Cornus amomum* (Silky Dogwood)
6. *Cyperus odoratus* (Fragrant Umbrella Sedge)
7. *Gentiana andrewsii* (Closed Gentian)
8. *Lobelia cardinalis* (Cardinal-flower)
9. *Myriophyllum exalbescens* (Pale Water-milfoil)
10. *Potamogeton amplifolius* (Large-leaved Pondweed)
11. *Potamogeton epihydrus* (Ribbonleaf Pondweed)
12. *Potamogeton richardsonii* (Richardson's Pondweed)
13. *Rosa palustris* (Swamp Rose)
14. *Spiranthes cernua* (Nodding Ladies-tresses)
15. *Stachys palustris* (Marsh Hedge-nettle)
16. *Vallisneria americana* (Tape-grass)
17. *Wolffia borealis* (Northern Water-meal)
18. *Wolffia columbiana* (Columbian Water-meal)
19. *Zizania aquatica* (Southern Wild-rice)

4.2 SIGNIFICANT FEATURES AND/OR FISH & WILDLIFE HABITAT

4.2.1 NESTING OF COLONIAL WATERBIRDS

Status	Name of species	Source of Information	Score
1) Currently nesting	Great Blue Heron	field observations	50 points
2) Known to have nested within past 5 years			25
3) Active feeding area (Do not include feeding by great blue herons)			15
4) None known			0

Attach documentation (nest locations etc., if known)

Score highest applicable category only; maximum score 50 points.

Score for Nesting Colonial Waterbirds (maximum 50 points)

50

4.2.2. WINTER COVER FOR WILDLIFE

(Check only highest level of significance)

Score

(one only)

- | | | | |
|----|-------------------------------------|-------------------------------------|-----|
| 1) | <input type="checkbox"/> | Provincially significant | 100 |
| 2) | <input type="checkbox"/> | Significant in Site Region | 50 |
| 3) | <input type="checkbox"/> | Significant in Site District | 25 |
| 3) | <input checked="" type="checkbox"/> | Locally significant | 10 |
| 4) | <input type="checkbox"/> | Little or poor winter cover present | 0 |

Source of information:

Stefan Romberg - numerous deer tracks, 42.3 ha of mixed & coniferous White Cedar swamps

Winter Cover for Wildlife Score (maximum 100 points)

10

4.2.3 WATERFOWL STAGING AND/OR MOULTING

(Check only highest level of significance for both staging and moulting; score is cumulative across columns, maximum score 150)

	Staging	Score (one only)	Moulting	Score (one only)
1) Nationally significant		150		150
2) Provincially significant		100		100
3) Regionally significant		50		50
4) Known to occur	10	10		10
5) Not possible		0		0
6) Unknown		0		0
Total:	10		0	

Wood Ducks, Mallards, Blue-winged Teal
& Green-winged Teal staging in river

Source of information:

Waterfowl Moulting and Staging Score (maximum 150 points)

10

4.2.4 WATERFOWL BREEDING

(Check only highest level of significance) Score

1)		Provincially significant	100
2)		Regionally significant	50
3)	10	Habitat suitable	10
4)		Habitat not suitable	0

Source of information:

field observations

Waterfowl Breeding Score (maximum 100 points)

10

4.2.5 MIGRATOR PASSERINE, SHOREBIRD OR RAPTOR STOPOVER AREA

(check highest applicable category)

1)		Provincially significant	100
2)		Significant in Site Region	50
3)		Significant in Site District	10
4)	0	Not significant	0

Source of information:

Angus Norman

Passerine, Shorebird or Raptor Stopover Score (maximum 100 points)

0

MASKINONGE RIVER WETLAND COMPLEX – FISH SPECIES

Source: Lake Simcoe Region Conservation Authority, 1998.

Species

Northern Pike
White Sucker
Jonny Darter
Yellow Perch
Rock Bass
Black Crappie
Emerald Shiner
Spotfin Shiner
Spottail Shiner
Pumpkinseed
Rainbow Smelt
Trout-Perch
Common Carp
Brown Bullhead
Bowfin
Largemouth Bass
Golden Shiner
Bluntnose Minnow
Central Mudminnow
Brook Stickleback
Fathead Minnow
Creek Chub
Blacknose Dace
Mottled Sculpin
Walleye
Bluegill

Step 4: Proceed to Steps 4 to 7 only if Step 3 was not answered.

(**Low Marsh:** marsh area from the existing water line out to the outer boundary of the wetland)

_____ Low marsh not present (Continue to Step 5)

_____ Low marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each Low Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16 Table 16-2) for each Low Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	0.0
2	Shortgrass-Sedge				11	0.0
3	Cattail-Bulrush-Burreed				5	0.0
4	Arrowhead-Pickerelweed				5	0.0
5	Duckweed				2	0.0
6	Smartweed-Waterwillow				6	0.0
7	Waterlily-Lotus				11	0.0
8	Waterweed-Watercress				9	0.0
9	Ribbongrass				10	0.0
10	Coontail-Naiad-Watermilfoil				13	0.0
11	Narrowleaf Pondweed				5	0.0
12	Broadleaf Pondweed				8	0.0
Sub Total Score (maximum 75 points)						0.0
Total Score (maximum 75 points)						

Step 5: (High Marsh: area from the water line to the inland boundary of marsh wetland type. This is essentially what is commonly referred to as a wet meadow, in that there is insufficient standing water to provide fisheries habitat except during flood or high water conditions.)

_____ High marsh not present (Continue to Step 6)

_____ High marsh present (Score as follows)

Scoring for Presence of Key Vegetation Groups

Scoring is based on the one most clearly dominant plant species of the dominant form in each High 1 Marsh vegetation community. Check the appropriate Vegetation Group (see Appendix 16 Table 16-2) for each High Marsh community. Sum the areas of the communities assigned to each Vegetation Group and multiply by the appropriate size factor from Table 5.

Vegetation Group Number	Vegetation Group Name	Present as a Dominant Form (check)	Total Area (ha)	Area Factor (see Table 5)	Score	Final Score (area factor x score)
1	Tallgrass				6 pts	
2	Shortgrass-Sedge				11	
3	Cattail-Bulrush-Burreed				5	
4	Arrowhead-Pickerelweed				5	
Sub Total Score (maximum 25 points)						
Total Score (maximum 25 points)						

Step 6: (Swamp: Swamp communities containing fish habitat, either seasonally or permanently. Determine the total area of seasonally flooded swamps and permanently flooded swamps containing fish habitat.)

_____ Swamp containing fish habitat not present (Continue to Step 7)
 _____ Swamp containing fish habitat present (Score as follows)

Swamp containing fish Habitat	Present (check)	Total area (ha)	Area Factor (see Table 5)	Score	TOTAL SCORE (factor x score)
Seasonally flooded				10	
Permanently flooded				10	
Sub SCORE (maximum 20 points)					
SCORE (maximum 20 points)					

Step 7: Calculation of final score

Score for Spawning and Nursery Habitat (Low Marsh) (maximum 75) =

Score for Spawning and Nursery Habitat (High Marsh) (maximum 25) =

Score for Swamp Containing Fish Habitat (maximum 20) =

Sum (maximum score 100 points) =

4.2.6.2 Migration and Staging Habitat

Step 1:

- 1) Staging or Migration Habitat is not present in the wetland (Score = 0)
- 2) Staging or Migration Habitat is present in the wetland significance of the habitat is known (Go to Step 2)
- 3) Staging or Migration Habitat is present in the wetland significance of the habitat is not known (Go to Step 3)

NOTE: Only one of Step 2 or Step 3 is to be scored.

Step 2: Select the highest appropriate category below, attach documentation:

	Score
1) <input type="checkbox"/> Significant in Site Region	25 points
2) <input type="checkbox"/> Significant in Site District	15
3) <input checked="" type="checkbox"/> 10 Locally Significant	10
4) <input type="checkbox"/> Fish staging and/or migration habitat present, but not as above	5

Score for Fish Migration and Staging Habitat (maximum score 25 points)

10

Step 3: Select the highest appropriate category below based on presence of the designated site type (does not have to be dominant). See Section 1.1.3. Note name of river for 2) and 3).

	Score
1) <input type="checkbox"/> Wetland is riverine at rivermouth or lacustrine at rivermouth	25 points
2) <input type="checkbox"/> Wetland is riverine, within 0.75 km of rivermouth	15
3) <input type="checkbox"/> Wetland is lacustrine, within 0.75 km of rivermouth	10
4) <input type="checkbox"/> Fish staging and/or migration habitat present, but not as above	5

Score for Staging and Migration Habitat (maximum score 25 points)

4.3 ECOSYSTEM AGE

(Fractional Area = area of wetland/total wetland area)

	Fractional Area			Scoring
Bog	0.00	x	25 =	0.0
Fen, treed to open on deep soils floating mats or marl	0.00	x	20 =	0.0
Fen, on limestone rock	0.00	x	5 =	0.0
Swamp	0.63	x	3 =	1.9
Marsh	0.37	x	0 =	0.0
		Sub Total:		1.9

Ecosystem Age Score (maximum 25 points)

2

4.4 GREAT LAKES COASTAL WETLANDS

Score for coastal (see text for definition) wetlands only

Choose one only

wetland < 10 ha	=	0 points
wetland 10- 50 ha	=	25
wetland 51 -100 ha	=	50
wetland > 100 ha	=	75

Great Lakes Coastal Wetlands Score (maximum 75 points)

0

5.0 EXTRA INFORMATION

5.1 PURPLE LOOSESTRIFE

 Absent/Not seen

 x Present

(a) One location in wetland
 Two to many locations x

Abundance code

(b) (1 < 20 stems
 (2 20-99 stems
 (3 100-999 stems
 (4 >1000 stems x

5.2 SEASONALLY FLOODED AREAS

Check one or more

Ephemeral	(less than 2 weeks)	<u> x </u>
Temporal	(2 weeks to 1 month)	<u> x </u>
Seasonal	(1 to 3 months)	<u> x </u>
Semi-permanent	(>3 months)	<u> x </u>
No seasonal flooding		<u> </u>

5.3 SPECIES OF SPECIAL SIGNIFICANCE

5.3.1 Osprey

Present and nesting
 Known to have nested in last 5 yr
 Feeding area for osprey
 Not as above x

5.3.2 Common Loon

Nesting in wetland
 Feeding at edge of wetland
 Observed or heard on lake or
 river adjoining the wetland
 Not as above x

INVESTIGATORS**AFFILIATION**

Steve Varga, Stefan Romberg, Emma Followes,

MNR, Aurora District

Pat Mohr, Jenifer Jung, Albert Garofalo

Glen Hooper, Joanne Lebeuf

MNR, Maple District

Dave Green, John Prideaux, Nicole Fisher, Ron Huizer

MNR, Maple District

DATES WETLAND VISITED

July 23, Aug. 28, Sept. 11, 16, 17, 18, Oct. 13, Dec. 29, 30, 2003, April 19, 29, 2004

June 16, July 7, 1988

Aug. 28, 1987

DATE THIS EVALUATION COMPLETED: 12-Mar-04**ESTIMATED TIME DEVOTED TO COMPLETING THE FIELD SURVEY IN "PERSON HOURS"**

135 person hours

WEATHER CONDITIONS

variable

i) at time of field work

(Continue in the space below if necessary)

average

ii) summer conditions in general

OTHER POTENTIALLY USEFUL INFORMATION:**CHECKLIST OF PLANT AND ANIMAL SPECIES RECORDED IN THE WETLAND:**

Attach a list of all flora and fauna observed in the wetland.

*Indicate if voucher specimens or photos have been obtained, where located, etc.

VASCULAR PLANT CHECKLIST - SITE DISTRICTS 6E6 & 6E8
 LAKE SIMCOE LOWLANDS/UPLANDS, PETERBOROUGH DRUMLIN FIELD, SCHOMBERG CLAY PLAINS
 PHYSIOGRAPHIC REGIONS

JULY 23, 2003

AUG. 28, 2003

SEPT. 11, 16, 17, 18, 2003

OCT. 2, 13, 2003

Site: MASKINONGE WETLAND COMPLEX Observers: STEVE VARGA, STEFAN ROMBERG, PAT MOHR, ALBERT GAROFALO Date: SEPT. 11, 16, 17, 18, 2003 OCT. 2, 13, 2003

PTERIDOPHYTES	ARACEAE	<input type="checkbox"/> E. obtusa	<input type="checkbox"/> Muhlenbergia gomerata DEC. 30 2003
EQUISETACEAE	<input checked="" type="checkbox"/> Arisaema triphyllum	<input checked="" type="checkbox"/> E. smallii	<input checked="" type="checkbox"/> M. mexicana
<input checked="" type="checkbox"/> Equisetum arvense	<input checked="" type="checkbox"/> Calla palustris	<input type="checkbox"/> Eriophorum virginicum	<input type="checkbox"/> Oryzopsis asperifolia
<input checked="" type="checkbox"/> E. fluviatile	CYPERACEAE	<input type="checkbox"/> Scirpus acutus	<input type="checkbox"/> O. racemosa
<input checked="" type="checkbox"/> E. hyemale	<input type="checkbox"/> Carex alopecoidea	<input checked="" type="checkbox"/> S. atrovirens	<input checked="" type="checkbox"/> Panicum acuminatum
<input type="checkbox"/> E. pratense	<input type="checkbox"/> C. albursina	<input checked="" type="checkbox"/> S. cyperinus	<input checked="" type="checkbox"/> P. capillare
<input checked="" type="checkbox"/> E. scirpoides	<input checked="" type="checkbox"/> C. aquatilis	<input type="checkbox"/> S. microcarpus	<input checked="" type="checkbox"/> Phalaris arundinacea
<input type="checkbox"/> E. sylvaticum	<input checked="" type="checkbox"/> C. arctata	<input checked="" type="checkbox"/> S. pendulus	<input checked="" type="checkbox"/> Phleum pratense
<input checked="" type="checkbox"/> E. variegatum	<input type="checkbox"/> C. aurea	<input checked="" type="checkbox"/> S. validus	<input type="checkbox"/> Poa alsodes
FERN FAMILIES	<input checked="" type="checkbox"/> C. bebbii	HYDROCHARITACEAE	<input checked="" type="checkbox"/> P. annua
<input checked="" type="checkbox"/> Adiantum pedatum	<input type="checkbox"/> C. blanda	<input checked="" type="checkbox"/> Elodea canadensis	<input checked="" type="checkbox"/> P. compressa
<input checked="" type="checkbox"/> Athyrium filix-femina	<input type="checkbox"/> C. canescens	<input checked="" type="checkbox"/> Vallisneria americana	<input checked="" type="checkbox"/> P. palustris
<input type="checkbox"/> Botrychium virginianum	<input checked="" type="checkbox"/> C. communis	IRIDACEAE	<input checked="" type="checkbox"/> P. pratensis
<input checked="" type="checkbox"/> Cystopteris bulbifera	<input type="checkbox"/> C. comosa	<input checked="" type="checkbox"/> Iris versicolor	<input type="checkbox"/> Schizachne purpurascens
<input checked="" type="checkbox"/> C. tenuis	<input type="checkbox"/> C. crinita	<input type="checkbox"/> Sisyrinchium montanum	<input checked="" type="checkbox"/> Setaria viridis
<input type="checkbox"/> Diparia acrostichoides	<input checked="" type="checkbox"/> C. cristatella	JUNCACEAE	<input type="checkbox"/> Sphenopholis intermedia
<input checked="" type="checkbox"/> Dryopteris carthusiana	<input checked="" type="checkbox"/> C. deweyana	<input type="checkbox"/> Juncus articulatus	SMILACEAE
<input checked="" type="checkbox"/> D. clintoniana	<input type="checkbox"/> C. diandra	<input checked="" type="checkbox"/> J. dudleyi	<input type="checkbox"/> Smilax herbacea
<input checked="" type="checkbox"/> D. cristata	<input type="checkbox"/> C. disperma	<input checked="" type="checkbox"/> J. effusus	<input type="checkbox"/> S. hispida
<input checked="" type="checkbox"/> D. intermedia	<input type="checkbox"/> C. eburnea	<input type="checkbox"/> J. nodosus	SPARGANACEAE
<input checked="" type="checkbox"/> D. marginalis	<input type="checkbox"/> C. flava	<input checked="" type="checkbox"/> J. tenuis	<input checked="" type="checkbox"/> Sparganium eurycarpum
<input type="checkbox"/> D. Xtriploidea	<input checked="" type="checkbox"/> C. gracillima	LEMNACEAE	<input checked="" type="checkbox"/> S. chlorocarpum
<input checked="" type="checkbox"/> Gymnocarpium dryopteris	<input checked="" type="checkbox"/> C. granularis	<input type="checkbox"/> Lemna minor	TYPHACEAE
<input checked="" type="checkbox"/> Matteuccia struthiopteris	<input checked="" type="checkbox"/> C. hitchcockiana	<input checked="" type="checkbox"/> L. trisulca	<input checked="" type="checkbox"/> Typha angustifolia
<input checked="" type="checkbox"/> Onoclea sensibilis	<input type="checkbox"/> C. hystericina	<input checked="" type="checkbox"/> Spirodela polyrhiza	<input checked="" type="checkbox"/> T. latifolia
<input checked="" type="checkbox"/> Osmunda cinnamomea	<input type="checkbox"/> C. interior	<input checked="" type="checkbox"/> Wolffia columbiana	<input checked="" type="checkbox"/> T. Xglauca
<input type="checkbox"/> O. claytoniana	<input checked="" type="checkbox"/> C. intumescens	NAJADACEAE	ZOSTERACEAE
<input checked="" type="checkbox"/> O. regalis	<input checked="" type="checkbox"/> C. lacustris	<input checked="" type="checkbox"/> Najas flexilis	<input checked="" type="checkbox"/> Potamogeton amplifolius
<input type="checkbox"/> Phegopteris connectilis	<input checked="" type="checkbox"/> C. lasiocarpa	ORCHIDACEAE	<input checked="" type="checkbox"/> P. crispus
<input type="checkbox"/> Polypodium virginianum	<input type="checkbox"/> C. laxiflora	<input checked="" type="checkbox"/> Cypripedium calceolus	<input type="checkbox"/> P. foliosus
<input type="checkbox"/> Polystichum acrostichoides	<input type="checkbox"/> C. leptalea	<input type="checkbox"/> C. reginae	<input type="checkbox"/> P. gramineus
<input checked="" type="checkbox"/> Pteridium aquilinum	<input checked="" type="checkbox"/> C. leptonervia	<input checked="" type="checkbox"/> Epipactis helleborine	<input checked="" type="checkbox"/> P. natans
<input type="checkbox"/> Thelypteris noveboracensis	<input type="checkbox"/> C. limosa	<input type="checkbox"/> Liparis loeselii	<input checked="" type="checkbox"/> P. pectinatus
<input checked="" type="checkbox"/> T. palustris	<input checked="" type="checkbox"/> C. lupulina	<input type="checkbox"/> Malaxis monophyllos	<input checked="" type="checkbox"/> P. richardsonii
LYCOPODIACEAE	<input type="checkbox"/> C. magellanica	<input type="checkbox"/> Platanthera hyperborea	<input checked="" type="checkbox"/> P. zosteriformis
<input type="checkbox"/> Diphasiastrum digitatum	<input type="checkbox"/> C. molesta	<input checked="" type="checkbox"/> Spiranthes cernua	
<input type="checkbox"/> Hupezia lucidula	<input checked="" type="checkbox"/> C. peckii	POACEAE	DICOTS
<input type="checkbox"/> Lycopodium annotinum	<input checked="" type="checkbox"/> C. pedunculata	<input checked="" type="checkbox"/> Agrostis gigantea	ACERACEAE
<input type="checkbox"/> L. clavatum	<input type="checkbox"/> C. pellita	<input type="checkbox"/> A. scabra	<input checked="" type="checkbox"/> Acer negundo
<input type="checkbox"/> L. dendroideum	<input checked="" type="checkbox"/> C. pensylvanica	<input checked="" type="checkbox"/> A. stolonifera	<input checked="" type="checkbox"/> A. rubrum
<input type="checkbox"/> L. hickeyi	<input checked="" type="checkbox"/> C. plantaginea	<input type="checkbox"/> Alopecurus aequalis	<input checked="" type="checkbox"/> A. saccharinum
	<input checked="" type="checkbox"/> C. projecta	<input type="checkbox"/> Brachyelytrum erectum	<input checked="" type="checkbox"/> A. saccharum
GYMNOSPERMS	<input type="checkbox"/> C. prairea	<input checked="" type="checkbox"/> Bromus ciliatus	<input checked="" type="checkbox"/> A. spicatum
CUPRESSACEAE	<input checked="" type="checkbox"/> C. pseudo-cyperus	<input checked="" type="checkbox"/> B. inermis	<input checked="" type="checkbox"/> A. Xfreemanii
<input checked="" type="checkbox"/> Thuja occidentalis	<input checked="" type="checkbox"/> C. radiata	<input checked="" type="checkbox"/> Calamagrostis canadensis	ANACARDIACEAE
PINACEAE	<input checked="" type="checkbox"/> C. retrorsa	<input type="checkbox"/> Cinna latifolia	<input checked="" type="checkbox"/> R. radicans s. rydbergii
<input checked="" type="checkbox"/> Abies balsamea	<input checked="" type="checkbox"/> C. rosea	<input checked="" type="checkbox"/> Dactylis glomerata	<input checked="" type="checkbox"/> R. typhina
<input checked="" type="checkbox"/> Larix laricina	<input type="checkbox"/> C. scabrata	<input type="checkbox"/> Danthonia spicata	APIACEAE
<input checked="" type="checkbox"/> Picea glauca	<input type="checkbox"/> C. sparganioides	<input checked="" type="checkbox"/> Echinochloa crasgalli	<input type="checkbox"/> Angelica atropurpurea
<input type="checkbox"/> P. mariana	<input type="checkbox"/> C. scoparia	<input type="checkbox"/> Elymus hystrix	<input checked="" type="checkbox"/> Cicuta bulbifera
<input checked="" type="checkbox"/> Pinus resinosa	<input checked="" type="checkbox"/> C. stipata	<input checked="" type="checkbox"/> E. repens	<input checked="" type="checkbox"/> C. maculata
<input checked="" type="checkbox"/> P. strobus	<input checked="" type="checkbox"/> C. stricta	<input checked="" type="checkbox"/> E. virginicus	<input type="checkbox"/> Cryptotaenia canadensis
<input checked="" type="checkbox"/> P. sylvestris	<input type="checkbox"/> C. tenera	<input checked="" type="checkbox"/> Festuca arundinacea	<input checked="" type="checkbox"/> Daucus carota
<input checked="" type="checkbox"/> Tsuga canadensis	<input type="checkbox"/> C. trisperma	<input type="checkbox"/> F. obtusa	<input type="checkbox"/> Heracleum lanatum
TAXACEAE	<input type="checkbox"/> C. tuckermanii	<input checked="" type="checkbox"/> F. pratensis	<input type="checkbox"/> Osmorhiza claytoni
<input checked="" type="checkbox"/> Taxus canadensis	<input checked="" type="checkbox"/> C. utriculata	<input type="checkbox"/> Glyceria borealis	<input type="checkbox"/> Sanicula marilandica
	<input checked="" type="checkbox"/> C. vulpinoidea	<input checked="" type="checkbox"/> G. grandis	<input checked="" type="checkbox"/> Sium suave
MONOCOTS	<input type="checkbox"/> C. woodii	<input type="checkbox"/> G. septentrionalis	APOCYNACEAE
ALISMATAACEAE	<input type="checkbox"/> Dulichium arundinaceum	<input checked="" type="checkbox"/> G. striata	<input checked="" type="checkbox"/> Apocynum androsaemifolium
<input checked="" type="checkbox"/> Alisma plantago-aquatica	<input type="checkbox"/> Eleocharis acicularis	<input checked="" type="checkbox"/> Leersia oryzoides	<input checked="" type="checkbox"/> A. cannabinum
<input checked="" type="checkbox"/> Sagittaria latifolia	<input checked="" type="checkbox"/> E. erythropoda	<input type="checkbox"/> Milium effusum	

Site:

Observers:

Date:

AQUIFOLIACEAE

- ✓ *Ilex verticillata*
 ___ *Nemopanthus mucronatus*

ARALIACEAE

- ✓ *Aralia nudicaulis*
 ✓ *A. racemosa*

ARISTOLOCHIACEAE

- ✓ *Asarum canadense*

ASCLEPIADACEAE

- ✓ *Asclepias incarnata*
 ✓ *A. syriaca*

- ✓ *Cynanchum rossicum*

ASTERACEAE

- ✓ *Achillea millefolium*
 ✓ *Ambrosia artemisiifolia*

- ___ *Anaphalis margaritacea*

- ✓ *Antennaria neglecta*

- ✓ *Arctium minus*

- ___ *Aster ciliolatus*

- ___ *A. cordifolius*

- ___ *A. ericoides*

- ✓ *A. lanceolatus*

- ✓ *A. lateriflorus*

- ✓ *A. macrophyllum*

- ✓ *A. novae-angliae*

- ✓ *A. puniceus*

- ___ *A. umbellatus*

- ✓ *Bidens cernuus*

- ✓ *B. frondosus*

- ✓ *B. tripartitus*

- ✓ *B. vulgatus*

- ___ *Carduus*

- ___ *Centaurea maculosa*

- ✓ *Chrysanthemum leucan.*

- ✓ *Cichorium intybus*

- ✓ *Cirsium arvense*

- ✓ *C. vulgare*

- ✓ *Conyza canadensis*

- ✓ *Erigeron annuus*

- ✓ *E. philadelphicus*

- ✓ *Eupatorium maculatum*

- ✓ *E. perfoliatum*

- ✓ *E. rugosum*

- ✓ *Euthamia graminifolia*

- ___ *Hieracium aurantiacum*

- ✓ *H. caespitosum*

- ✓ *H. pilosella*

- ___ *H. piloselloides*

- ✓ *Inula helenium*

- ✓ *Lactuca biennis*

- ✓ *L. canadensis*

- ___ *Prenanthes alba*

- ✓ *P. altissima*

- ✓ *Rudbeckia hirta*

- ✓ *Solidago altissima*

- ___ *S. caesia*

- ___ *S. canadensis*

- ___ *S. flexicaulis*

- ✓ *S. gigantea*

- ✓ *S. nemoralis*

- ✓ *S. rugosa*

- ___ *S. uliginosa*

- ✓ *Sonchus arvensis*

- ✓ *Taraxacum officinale*

- ___ *T. erythrospermum*

- ___ *Tragopogon pratensis*

- ___ *T. dubius*

- ✓ *Tussilago farfara*

BALSAMINACEAE

- ✓ *Impatiens capensis*

BERBERIDACEAE

- ✓ *Berberis thunbergii*

- ✓ *Caulophyllum thalictroides.*

- ___ *Podophyllum peltatum*

BETULACEAE

- ✓ *Alnus incana*

- ✓ *Betula alleghaniensis*

- ✓ *B. papyrifera*

- ___ *B. pumila*

- ___ *Carpinus caroliniana*

- ___ *Corylus cornuta*

- ✓ *Ostrya virginiana*

BORAGINACEAE

- ___ *Cynoglossum officinale*

- ✓ *Echium vulgare*

- ✓ *Hackelia virginiana*

- ___ *Myosotis laxa*

- ✓ *M. scorpioides*

BRASSICACEAE

- ✓ *Alliaria petiolata*

- ___ *Barbarea vulgaris*

- ✓ *Capsella bursa-pastoris*

- ___ *Cardamine concatenata*

- ___ *C. diphylla*

- ___ *C. pennsylvanica*

- ___ *Erysimum cheiranthoides*

- ___ *Hesperis matronalis*

- ___ *Lepidium campestre*

- ___ *Nasturtium microphyllum*

- ✓ *Rorippa palustris*

CAMPANULACEAE

- ✓ *Campanula aparinoides*

CAPRIFOLIACEAE

- ✓ *Diervilla lonicera*

- ___ *Linnaea borealis*

- ✓ *Lonicera canadensis*

- ✓ *L. dioica*

- ___ *L. hirsuta*

- ___ *L. tatarica*

- ✓ *L. Xbella*

- ✓ *Sambucus canadensis*

- ✓ *S. pubens*

- ___ *Symphoricarpos albus*

- ___ *Viburnum acerifolium*

- ___ *V. cassinoides*

- ✓ *V. lentago*

- ✓ *V. opulus*

CARYOPHYLLACEAE

- ___ *Arenaria serpyllifolia*

- ✓ *Cerastium fontanum*

- ✓ *Dianthus armeria*

- ✓ *Saponaria officinalis*

- ___ *Silene vulgaris*

CELASTRACEAE

- ✓ *Celastrus scandens*

CERATOPHYLLACEAE

- ✓ *Ceratophyllum demersum*

CHENOPODIACEAE

- ✓ *Atriplex patula*

- ✓ *Chenopodium album*

CONVOLVULACEAE

- ___ *Calystegia sepium*

- ✓ *Cuscuta gronovii*

CORNACEAE

- ✓ *Cornus alternifolia*

- ✓ *C. amomum*

- ___ *C. canadensis*

- ___ *C. foemina*

- ✓ *C. rugosa*

- ✓ *C. stolonifera*

CRASSICULACEAE

- ___ *Sedum acre*

- ___ *V. trilobum*

CUCURBITACEAE

- ✓ *Echinocystis lobata*

DIPSACACEAE

- ✓ *Dipsacus fullonum*

DROSERACEAE

- ___ *Drosera rotundifolia*

ERICACEAE

- ___ *Andromeda polifolia*

- ___ *Chamaedaphne calyculata*

- ___ *Gaultheria procumbens*

- ___ *G. hispidula*

- ___ *Kalmia polifolia*

- ___ *Ledum groenlandicum*

- ___ *Vaccinium macrocarpon*

- ___ *V. myrtilloides*

- ___ *V. oxycoccos*

EUPHORBIACEAE

- ___ *Euphorbia*

FABACEAE

- ✓ *Amphicarpa bracteata*

- ___ *Apios americana*

- ✓ *Desmodium canadense*

- ___ *D. glutinosum*

- ✓ *Lotus corniculatus*

- ✓ *Medicago lupulina*

- ✓ *Melilotus alba*

- ✓ *M. officinalis*

- ✓ *Robinia pseudo-acacia*

- ___ *Trifolium hybridum*

- ✓ *T. pratense*

- ✓ *T. repens*

- ✓ *Vicia cracca*

FAGACEAE

- ✓ *Fagus grandifolia*

- ✓ *Quercus rubra*

FUMARIACEAE

- ___ *Dicentra canadensis*

- ___ *D. cucullaria*

GERANIACEAE

- ___ *Geranium maculatum*

- ✓ *G. robertianum*

GROSSULARIACEAE

- ✓ *Ribes americanum*

- ✓ *R. cynosbati*

- ___ *R. glandulosum*

- ___ *R. hirtellum*

- ___ *R. lacustre*

- ✓ *R. rubrum*

HALORAGACEAE

- ✓ *Myriophyllum spicatum*

HYDROPHYLLACEAE

- ✓ *Hydrophyllum virginian.*

HYPERICACEAE

- ✓ *Hypericum perforatum*

- ___ *Triadenum fraseri*

JUGLANDACEAE

- ✓ *Juglans cinerea*

- ___ *Carya cordiformis*

LAMIACEAE

- ___ *Clinopodium vulgare*

- ✓ *Glechoma hederacea*

- ✓ *Leonurus cardiaca*

- ✓ *Lycopus americanus*

- ✓ *L. uniflorus*

- ✓ *Mentha arvensis*

- ✓ *Nepeta cataria*

- ✓ *Prunella vulgaris*

- ✓ *Scutellaria galericulata*

- ✓ *S. lateriflora*

LENTIBULARIACEAE

- ✓ *Utricularia vulgaris*

LILIACEAE

- ___ *Allium tricoccum*

- ___ *Asparagus officinale*

- ___ *Clintonia borealis*

- ___ *Erythronium americanum*

- ✓ *Maianthemum canadense*

- ✓ *M. racemosum*

- ___ *M. stellatum*

- ___ *M. trifolium*

- ___ *Medeola virginiana*

- ___ *Polygonatum pubescens*

- ___ *Streptopus roseus*

- ✓ *Trillium erectum*

- ✓ *T. grandiflorum*

- ___ *Uvularia grandiflora*

LOBELIACEAE

- ✓ *Lobelia inflata*

- ✓ *L. siphilitica*

LYTHRACEAE

- ___ *Decodon verticillatus*

- ✓ *Lythrum salicaria*

MENYANTHACEAE

- ___ *Menyanthes trifoliata*

MYRIACEAE

- ___ *Myrica gale*

NYMPHACEAE

- ✓ *Nuphar variegatum*

- ✓ *Nymphaea odorata*

OLEACEAE

- ✓ *Fraxinus americana*

- ✓ *F. pensylvanica*

- ✓ *F. nigra*

- ___ *Syringa vulgaris*

ONAGRACEAE

- ___ *Circaea alpina*

- ✓ *C. lutetiana*

- ___ *Epilobium angustifolium*

- ✓ *E. ciliatum*

- ✓ *E. leptophyllum*

- ___ *E. coloratum*

- ✓ *E. hirsutum*

- ✓ *E. parviflorum*

- ___ *E. strictum*

- ___ *Ludwigia palustris*

- ✓ *Oenothera biennis*

OROBANCHACEAE

- ✓ *Epifagus virginiana*

OXALIDACEAE

Site: Observers: Date:

POLEMONIACEAE	<input type="checkbox"/> Coptis trifolia	<input type="checkbox"/> R. odoratus	<input checked="" type="checkbox"/> Mimulus ringens
<input type="checkbox"/> Phlox divaricata	<input checked="" type="checkbox"/> Ranunculus abortivus	<input checked="" type="checkbox"/> R. pubescens	<input checked="" type="checkbox"/> Verbascum thapsus
POLYGONACEAE	<input checked="" type="checkbox"/> R. acris	<input checked="" type="checkbox"/> Sorbus aucuparia	<input checked="" type="checkbox"/> Veronica americana
<input type="checkbox"/> Polygonum achoreum	<input checked="" type="checkbox"/> R. hispidus v. cariceterom	<input checked="" type="checkbox"/> Spiraea alba	<input type="checkbox"/> V. anagallis-aquatica
<input checked="" type="checkbox"/> P. amphibium	<input type="checkbox"/> R. longirostris	<input type="checkbox"/> Waldsteinia	<input checked="" type="checkbox"/> V. officinalis
<input checked="" type="checkbox"/> P. aviculare	<input type="checkbox"/> R. pensylvanicus	RUBIACEAE	<input type="checkbox"/> V. scutellata
<input checked="" type="checkbox"/> P. hydropiper	<input checked="" type="checkbox"/> R. recurvatus	<input type="checkbox"/> Galium aparine	<input checked="" type="checkbox"/> V. serpyllifolia
<input checked="" type="checkbox"/> P. persicaria	<input checked="" type="checkbox"/> R. sceleratus	<input checked="" type="checkbox"/> G. asperellum	SOLANACEAE
<input checked="" type="checkbox"/> Rumex acetosella	<input type="checkbox"/> Thalictrum dioicum	<input type="checkbox"/> G. labradoricum	<input checked="" type="checkbox"/> Solanum dulcamara
<input checked="" type="checkbox"/> R. crispus	<input type="checkbox"/> T. pubescens	<input checked="" type="checkbox"/> G. palustre	THYMELEACEAE
<input checked="" type="checkbox"/> R. orbiculatus	RHAMNACEAE	<input type="checkbox"/> G. tinctorium	<input checked="" type="checkbox"/> Dirca palustris
<input checked="" type="checkbox"/> R. obtusifolius	<input checked="" type="checkbox"/> Rhamnus alnifolia	<input checked="" type="checkbox"/> G. trifidum	TILIACEAE
PHRYMACEAE	<input checked="" type="checkbox"/> R. cathartica	<input checked="" type="checkbox"/> G. triflorum	<input checked="" type="checkbox"/> Tilia americana
<input checked="" type="checkbox"/> Phryma leptostachya	ROSACEAE	<input checked="" type="checkbox"/> G. verum	ULMACEAE
PLANTAGINACEAE	<input checked="" type="checkbox"/> Agrimonia gryposepala	<input checked="" type="checkbox"/> Mitchella repens	<input checked="" type="checkbox"/> Ulmus americana
<input checked="" type="checkbox"/> Plantago lanceolata	<input checked="" type="checkbox"/> Amelanchier arborea	SALIACEAE	<input type="checkbox"/> U. rubra
<input checked="" type="checkbox"/> P. major	<input type="checkbox"/> A. laevis	<input checked="" type="checkbox"/> Populus balsamifera	UTRICACEAE
<input checked="" type="checkbox"/> P. rugelii	<input type="checkbox"/> A. sanguinea	<input checked="" type="checkbox"/> P. grandidentata	<input checked="" type="checkbox"/> Boehmeria cylindrica
POLYGALACEAE	<input type="checkbox"/> A. spicata	<input checked="" type="checkbox"/> P. tremuloides	<input checked="" type="checkbox"/> Laportea canadensis
<input type="checkbox"/> Polygala paucifolia	<input type="checkbox"/> Aronia melanocarpa	<input checked="" type="checkbox"/> Salix amygdaloides	<input checked="" type="checkbox"/> Pilea fontana
PRIMULACEAE	<input checked="" type="checkbox"/> Crataegus macracantha	<input checked="" type="checkbox"/> S. bebbiana	<input checked="" type="checkbox"/> P. pumila
<input checked="" type="checkbox"/> Lysimachia ciliata	<input type="checkbox"/> C. monogyna	<input type="checkbox"/> S. candida	<input checked="" type="checkbox"/> Utricia dioica
<input checked="" type="checkbox"/> L. thysiflora	<input type="checkbox"/> C. punctata	<input checked="" type="checkbox"/> S. discolor	VERBENACEAE
<input type="checkbox"/> L. terrestris	<input type="checkbox"/> Fragaria vesca	<input checked="" type="checkbox"/> S. eriocephala	<input checked="" type="checkbox"/> Verbena hastata
<input type="checkbox"/> Trientalis borealis	<input checked="" type="checkbox"/> F. virginiana	<input checked="" type="checkbox"/> S. exigua	<input checked="" type="checkbox"/> V. urticifolia
PYROLACEAE	<input checked="" type="checkbox"/> Geum aleppicum	<input type="checkbox"/> S. lucida	VIOLACEAE
<input type="checkbox"/> Moneses uniflora	<input checked="" type="checkbox"/> G. canadense	<input type="checkbox"/> S. pedicellaris	<input checked="" type="checkbox"/> Viola affinis
<input type="checkbox"/> Monotropa uniflora	<input type="checkbox"/> G. rivale	<input checked="" type="checkbox"/> S. petiolaris	<input type="checkbox"/> V. blanda
<input checked="" type="checkbox"/> Pyrola asarifolia	<input checked="" type="checkbox"/> Malus domestica	<input checked="" type="checkbox"/> S. serrisima	<input type="checkbox"/> V. canadensis
<input checked="" type="checkbox"/> P. elliptica	<input checked="" type="checkbox"/> Potentilla norvegica	<input checked="" type="checkbox"/> S. Xrubens	<input checked="" type="checkbox"/> V. conspersa
<input type="checkbox"/> Orthilia secunda	<input type="checkbox"/> P. palustris	SARRACENIACEAE	<input type="checkbox"/> V. cucullata
RANUNCULACEAE	<input checked="" type="checkbox"/> P. recta	<input type="checkbox"/> Sarracenia purpurea	<input type="checkbox"/> V. macloskeyi
<input checked="" type="checkbox"/> Actaea pachypoda	<input type="checkbox"/> Prunus nigra	SAXIFRAGACEAE	<input checked="" type="checkbox"/> V. pubescens
<input checked="" type="checkbox"/> A. rubra	<input checked="" type="checkbox"/> P. pensylvanica	<input type="checkbox"/> Chrysosplenium americanum	<input type="checkbox"/> V. renifolia
<input checked="" type="checkbox"/> Anemone acutiloba	<input checked="" type="checkbox"/> P. serotina	<input type="checkbox"/> Mitella diphylla	<input type="checkbox"/> V. rostrata
<input type="checkbox"/> A. americana	<input checked="" type="checkbox"/> P. virginiana	<input type="checkbox"/> M. nuda	<input type="checkbox"/> V. selkirkii
<input checked="" type="checkbox"/> A. canadensis	<input checked="" type="checkbox"/> Rosa blanda	<input checked="" type="checkbox"/> Penthorum sedoides	<input checked="" type="checkbox"/> V. sororia
<input checked="" type="checkbox"/> A. cylindrica	<input type="checkbox"/> R. multiflora	<input checked="" type="checkbox"/> Tiarella cordifolia	VITACEAE
<input checked="" type="checkbox"/> A. virginica	<input checked="" type="checkbox"/> R. palustris	<input type="checkbox"/> R. triste	<input checked="" type="checkbox"/> Parthenocissus inserta
<input checked="" type="checkbox"/> Aquilegia canadensis	<input checked="" type="checkbox"/> Rubus allegheniensis	SCROPHULARIACEAE	<input checked="" type="checkbox"/> Vitis riparia
<input checked="" type="checkbox"/> Caltha palustris	<input checked="" type="checkbox"/> R. idaeus	<input checked="" type="checkbox"/> Chelone glabra	
<input checked="" type="checkbox"/> Clematis virginiana	<input checked="" type="checkbox"/> R. occidentalis	<input checked="" type="checkbox"/> Linaria vulgaris	

ADDITIONAL SPECIES:

- | | | | |
|---------------------|-------------------------|--------------------------|-------------------------|
| Lobelia cardinalis | Acorus calamus | Acalypha rhomboidea | Aster urophyllus |
| Viburnum trilobum | Iris pseudocorus | Solanum ptychanthum | Campanula rapunculoides |
| Cinna arundinacea | Rhamnus frangula | Myriophyllum exalbescens | Gentianella crinita |
| Lepidum densiflorum | Stachys palustris | Potamogeton epiphydrus | Juniperus virginiana |
| Hemerocallis fulva | Convallaria majalis | Amaranthus albus | Juncus torreyi |
| Sonchus oleraceus | Senecio vulgaris | Amaranthus blitoides | Amaranthus powellii |
| Populus canadensis | Stellaria media | Chaenorrhinum minus | |
| Chenopodium rubrum | Portulaca | Cyperus odoratus | |
| Puccinellia distans | Amaranthus powellii | Zizania aquatica | |
| Bidens discoides | Juglans nigra (planted) | Gentiana andrewsii | |
| Solidago juncea | Wolffia borealis | Phragmites australis | |
| Viburnum lantana | Vinca minor | Agalinis tenuifolia | |
| Galium mollugo | Sorbaria sorbifolia | Aster ontarionis | |
| | Carex spicata | Artemesia biennis | |

GREATER TORONTO AREA INVENTORY - FAUNAL CHECKLIST

Site: MASKINONGE RIVER WETLAND COMPLEX Date: AUG. 28, 2003 SEPT. 17, 18, 2003 Observer: PP SR, JJ, PM, ACS Weather: EF
 DEC. 29, 2003

BREEDING BIRDS

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Common Loon | <input type="checkbox"/> Spotted Sandpiper | <input checked="" type="checkbox"/> Blue Jay | <input type="checkbox"/> American Redstart |
| <input type="checkbox"/> Red-necked Grebe | <input type="checkbox"/> Upland Sandpiper | <input type="checkbox"/> American Crow | <input type="checkbox"/> Prothonotary Warbler |
| <input type="checkbox"/> Pied-billed Grebe | <input type="checkbox"/> Common Snipe | <input type="checkbox"/> Common Raven | <input type="checkbox"/> Ovenbird |
| <input type="checkbox"/> D.-c. Cormorant | <input type="checkbox"/> American Woodcock | <input checked="" type="checkbox"/> Black-cap. Chickadee | <input type="checkbox"/> Northern Waterthrush |
| <input type="checkbox"/> American Bittern | <input type="checkbox"/> Wilson's Phalarope | <input type="checkbox"/> Tufted Titmouse | <input type="checkbox"/> Louisiana Waterthrush |
| <input type="checkbox"/> Least Bittern | <input type="checkbox"/> Ring-billed Gull | <input type="checkbox"/> Red-breast. Nuthatch | <input type="checkbox"/> Mourning Warbler |
| <input checked="" type="checkbox"/> Great Blue Heron | <input type="checkbox"/> Herring Gull | <input type="checkbox"/> White-breast. Nuthatch | <input type="checkbox"/> Common Yellowthroat |
| <input type="checkbox"/> Great Egret | <input type="checkbox"/> Great Black-b. Gull | <input type="checkbox"/> Brown Creeper | <input type="checkbox"/> Hooded Warbler |
| <input type="checkbox"/> Green-back. Heron | <input type="checkbox"/> Caspian Tern | <input type="checkbox"/> Carolina Wren | <input type="checkbox"/> Canada Warbler |
| <input type="checkbox"/> Bl.-cr. Night-Heron | <input type="checkbox"/> Common Tern | <input type="checkbox"/> House Wren | <input type="checkbox"/> Yellow-breasted Chat |
| <input type="checkbox"/> Mute Swan | <input type="checkbox"/> Black Tern | <input type="checkbox"/> Winter Wren | <input type="checkbox"/> Summer Tanager |
| <input type="checkbox"/> Canada Goose | <input type="checkbox"/> Rock Dove | <input type="checkbox"/> Sedge Wren | <input type="checkbox"/> Scarlet Tanager |
| <input checked="" type="checkbox"/> Wood Duck | <input type="checkbox"/> Mourning Dove | <input type="checkbox"/> Marsh Wren | <input type="checkbox"/> Northern Cardinal |
| <input checked="" type="checkbox"/> Green-winged Teal | <input type="checkbox"/> Black-billed Cuckoo | <input type="checkbox"/> Golden-crown. Kinglet | <input type="checkbox"/> Rose-breast. Grosbeak |
| <input type="checkbox"/> Am. Black Duck | <input type="checkbox"/> Yellow-billed Cuckoo | <input type="checkbox"/> Blue-gray Gnatcatcher | <input type="checkbox"/> Indigo Bunting |
| <input checked="" type="checkbox"/> Mallard | <input type="checkbox"/> Common Barn-Owl | <input type="checkbox"/> Eastern Bluebird | <input type="checkbox"/> Dickcissel |
| <input type="checkbox"/> Northern Pintail | <input type="checkbox"/> E. Screech-Owl | <input type="checkbox"/> Veery | <input type="checkbox"/> Rufous-sided Towhee |
| <input checked="" type="checkbox"/> Blue-winged Teal | <input type="checkbox"/> Great Horned Owl | <input type="checkbox"/> Swainson's Thrush | <input type="checkbox"/> Chipping Sparrow |
| <input type="checkbox"/> Northern Shoveler | <input type="checkbox"/> Barred Owl | <input type="checkbox"/> Hermit Thrush | <input type="checkbox"/> Clay-colour Sparrow |
| <input type="checkbox"/> Gadwall | <input type="checkbox"/> Long-eared Owl | <input type="checkbox"/> Wood Thrush | <input type="checkbox"/> Field Sparrow |
| <input type="checkbox"/> American Wigeon | <input type="checkbox"/> Short-eared Owl | <input type="checkbox"/> American Robin | <input type="checkbox"/> Vesper Sparrow |
| <input type="checkbox"/> Redhead | <input type="checkbox"/> N. Saw-whet Owl | <input type="checkbox"/> Gray Catbird | <input type="checkbox"/> Savannah Sparrow |
| <input type="checkbox"/> Ring-necked Duck | <input type="checkbox"/> Common Nighthawk | <input type="checkbox"/> Northern Mockingbird | <input type="checkbox"/> Grasshopper Sparrow |
| <input type="checkbox"/> Lesser Scaup | <input type="checkbox"/> Whip-poor-will | <input type="checkbox"/> Brown Thrasher | <input type="checkbox"/> Henslow's Sparrow |
| <input type="checkbox"/> Hooded Merganser | <input type="checkbox"/> Chimney Swift | <input checked="" type="checkbox"/> Cedar Waxwing | <input type="checkbox"/> Song Sparrow |
| <input type="checkbox"/> Common Merganser | <input type="checkbox"/> Ruby-th. Hummingbird | <input type="checkbox"/> Loggerhead Shrike | <input type="checkbox"/> Swamp Sparrow |
| <input type="checkbox"/> Red-b. Merganser | <input checked="" type="checkbox"/> Belted Kingfisher | <input type="checkbox"/> European Starling | <input type="checkbox"/> White-throat Sparrow |
| <input type="checkbox"/> Ruddy Duck | <input type="checkbox"/> Red-head. Woodpecker | <input type="checkbox"/> White-eyed Vireo | <input type="checkbox"/> Dark-eyed Junco |
| <input type="checkbox"/> Turkey Vulture | <input type="checkbox"/> Red-bell. Woodpecker | <input type="checkbox"/> Solitary Vireo | <input type="checkbox"/> Bobolink |
| <input type="checkbox"/> Osprey | <input type="checkbox"/> Yellow-b. Woodpecker | <input type="checkbox"/> Yellow-throat. Vireo | <input checked="" type="checkbox"/> Red-winged Blackbird |
| <input type="checkbox"/> Bald-Eagle | <input type="checkbox"/> Downy Woodpecker | <input type="checkbox"/> Warbling Vireo | <input type="checkbox"/> Eastern Meadowlark |
| <input type="checkbox"/> Northern Harrier | <input type="checkbox"/> Hairy Woodpecker | <input type="checkbox"/> Philadelphia Vireo | <input type="checkbox"/> Western Meadowlark |
| <input type="checkbox"/> Sharp-shinned Hawk | <input type="checkbox"/> Bl.- b. Woodpecker | <input type="checkbox"/> Red-eyed Vireo | <input type="checkbox"/> Rusty Blackbird |
| <input type="checkbox"/> Cooper's Hawk | <input type="checkbox"/> Northern Flicker | <input type="checkbox"/> Blue-winged Warbler | <input type="checkbox"/> Brewer's Blackbird |
| <input type="checkbox"/> Northern Goshawk | <input type="checkbox"/> Pileated Woodpecker | <input type="checkbox"/> Gold.-winged Warbler | <input type="checkbox"/> Common Grackle |
| <input type="checkbox"/> Red-should. Hawk | <input type="checkbox"/> Olive-sid. Flycatcher | <input type="checkbox"/> "Brewster's Warbler" | <input type="checkbox"/> Brown-headed Cowbird |
| <input type="checkbox"/> Broad-wing Hawk | <input checked="" type="checkbox"/> Eastern Wood-Pewee | <input type="checkbox"/> "Lawrence's Warbler" | <input type="checkbox"/> Orchard Oriole |
| <input checked="" type="checkbox"/> Red-tailed Hawk | <input type="checkbox"/> Yel.-bel. Flycatcher | <input type="checkbox"/> Tennessee Warbler | <input type="checkbox"/> Northern Oriole |
| <input type="checkbox"/> American Kestrel | <input type="checkbox"/> Acadian Flycatcher | <input type="checkbox"/> Nashville Warbler | <input type="checkbox"/> Purple Finch |
| <input type="checkbox"/> Merlin | <input type="checkbox"/> Alder Flycatcher | <input type="checkbox"/> Northern Parula | <input type="checkbox"/> House Finch |
| <input type="checkbox"/> Gray Partridge | <input type="checkbox"/> Willow Flycatcher | <input type="checkbox"/> Yellow Warbler | <input type="checkbox"/> Red Crossbill |
| <input type="checkbox"/> Ring-neck. Pheasant | <input type="checkbox"/> Least Flycatcher | <input type="checkbox"/> Chestnut-sided Warbler | <input type="checkbox"/> Pine Siskin |
| <input type="checkbox"/> Ruffed Grouse | <input type="checkbox"/> Eastern Phoebe | <input type="checkbox"/> Magnolia Warbler | <input type="checkbox"/> American Goldfinch |
| <input checked="" type="checkbox"/> Wild Turkey | <input type="checkbox"/> Great Cr. Flycatcher | <input type="checkbox"/> Cape May Warbler | <input type="checkbox"/> Evening Grosbeak |
| <input type="checkbox"/> Northern Bobwhite | <input type="checkbox"/> Eastern Kingbird | <input type="checkbox"/> Black-thr. Blue Warbler | <input type="checkbox"/> House Sparrow |
| <input type="checkbox"/> King Rail | <input type="checkbox"/> Horned Lark | <input type="checkbox"/> Yellow-rump. Warbler | |
| <input type="checkbox"/> Virginia Rail | <input type="checkbox"/> Purple Martin | <input type="checkbox"/> Bla.-thr. Green Warbler | |
| <input type="checkbox"/> Sora | <input type="checkbox"/> Tree Swallow | <input type="checkbox"/> Blackburnian Warbler | |
| <input type="checkbox"/> Common Moorhen | <input type="checkbox"/> N. Rough-w. Swallow | <input type="checkbox"/> Pine Warbler | |
| <input type="checkbox"/> American Coot | <input type="checkbox"/> Bank Swallow | <input type="checkbox"/> Kirtland's Warbler | |
| <input type="checkbox"/> Sandhill Crane | <input type="checkbox"/> Cliff Swallow | <input type="checkbox"/> Cerulean Warbler | |
| <input type="checkbox"/> Killdeer | <input type="checkbox"/> Barn Swallow | <input type="checkbox"/> Bla. & Whi. Warbler | |

GREATER TORONTO AREA INVENTORY - FAUNAL CHECKSHEET

Site: MASKINONGE RIVER WETLANDS COMPLEX Date: Observer: AUG. 28, 2003 SEPT. 18, 2003 Weather: PP, SR, JJ, PM, AG SV, EF

MAMMALS

- Opossum
- Masked Shrew
- Water Shrew
- Smoky Shrew
- Pigmy Shrew
- N. Short-tailed Shrew
- Hairy-tailed Mole
- Star-nosed Mole
- Little Brown Bat
- Keen's Bat
- Small-footed Bat
- Silver-haired Bat
- Eastern Pipistrelle
- Big Brown Bat
- Red Bat
- Hoary Bat
- Eastern Cottontail
- Snowshoe Hare
- European Hare
- Eastern Chipmunk
- Woodchuck
- Gray Squirrel - Gray
- Black
- Red Squirrel
- Southern Flying Squirrel
- Northern Flying Squirrel
- Beaver LDG6E OBSERVED DEC. 29
- Deer Mouse
- White-footed Mouse
- S. Red-backed Vole
- Meadow Vole
- Muskrat
- S. Bog Lemming
- Norway Rat
- House Mouse
- Meadow Jumping Mouse
- Woodland Jumping Mouse
- Porcupine
- Coyote
- Red Fox
- Gray Fox
- Black Bear
- Raccoon
- Ermine
- Long-tailed Weasel
- Mink
- Badger
- Striped Skunk
- River Otter
- Bobcat
- White-tailed Deer

HERPETOFAUNA

- Mudpuppy
- Eastern Newt
- Jefferson Salamander
- Blue-spotted Salamander
- Jefferson complex hybrid
- Jefferson complex (undet.)
- Yellow-spotted Salamander
- Dusky Salamander
- Four-toed Salamander
- East. Redback Salamander
- Grey phase
- American Toad
- Spring Peeper
- Tetraploid Gray Treefrog
- Midland Chorus Frog
- Wood Frog
- Northern Leopard Frog
- Pickerel Frog
- Green Frog
- Mink Frog
- Bullfrog
- Common Snapping Turtle
- Stinkpot
- Midland Painted Turtle
- Red-eared Slider
- Map Turtle
- Blanding's Turtle
- Wood Turtle
- Spotted Turtle
- Box Turtle
- Eastern Spiny Softshell
- Eastern Garter Snake
- Northern Ribbon Snake
- Northern Water Snake
- Redbelly Snake
- Brown Snake
- East. Smooth Green Snake
- Northern Ringneck Snake
- Black Rat Snake
- Eastern Fox Snake
- Eastern Milk Snake
- Eastern Massasauga

APRIL 19, 2004
APRIL 29, 2004

AG
AG

CODES

Breeding Status (Birds)

- C - Confirmed
- P - Probable
- o - Possible
- x - Observed during breeding season
- v - Observed outside of breeding season
- m - migrant

Relative Abundance

- A - Abundant (8 or more individuals observed per 5 hours at site)
- C - Common (3 - 7 individuals observed per 5 hours at site)
- U - Uncommon or secretive (1 or 2 individuals observed per 5 hours at site)

Additional Species:

WETLAND EVALUATION SCORING RECORD

WETLAND NAME AND/OR NUMBER		Maskinonge River Wetland Complex	
<u>1.0 BIOLOGICAL COMPONENT</u>			
1.1	<u>PRODUCTIVITY</u>		
1.1.1	Growing Degree-Days/Soils	13	
1.1.2	Wetland Type	11	
1.1.3	Site Type	2	
	Total for Productivity		26
1.2	<u>BIODIVERSITY</u>		
1.2.1	Number of Wetland Types	13	
1.2.2	Vegetation Communities (maximum 45)	45	
1.2.3	Diversity of Surrounding Habitat (maximum 7)	7	
1.2.4	Proximinty to Other Wetlands	8	
1.2.5	Interspersion	18	
1.2.6	Open Water Type	8	
	Total for Biodiversity		99
	Sub Total for Biodiversity	99	
1.3	<u>SIZE</u> (Biological Component)		50
<u>TOTAL FOR BIOLOGICAL COMPONENT (not to exceed 250)</u>			175

2.0 SOCIAL COMPONENT

2.1 ECONOMICALLY VALUABLE PRODUCTS

2.1.1 Wood Products	12
2.1.2 Wild Rice	6
2.1.3 Commercial Fish	12
2.1.4 Bullfrogs	1
2.1.5 Snapping Turtles	1
2.1.6 Furbearers	12

Total for Economically Valuable Products	44
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<u>2.2 RECREATIONAL ACTIVITIES (maximum 80)</u>	60
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2.3 LANDSCAPE AESTHETICS

2.3.1 Distinctness	3
2.3.2 Absence of Human Disturbance	4

Total for Landscape Aesthetics	7
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2.4 EDUCATION AND PUBLIC AWARENESS

2.4.1 Educational Uses	0
2.4.2 Facilities and Programs	0
2.4.3 Research and Studies	5

Total for Education and Public Awareness	5
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<u>2.5 PROXIMITY TO AREAS OF HUMAN SETTLEMENT</u>	40
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<u>2.6 OWNERSHIP</u>	4
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Subtotal for Social Component	144
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<u>2.7 SIZE (Social Component)</u>	20
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<u>2.8 ABORIGINAL AND CULTURAL VALUES</u>	0
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<u><u>TOTAL FOR SOCIAL COMPONENT (not to exceed 250)</u></u>	<u>180</u>
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3.0 HYDROLOGICAL COMPONENT

3.1 <u>FLOOD ATTENUATION</u>		81
3.2 <u>WATER QUALITY IMPROVEMENT</u>		
3.2.1 Short Term Improvement	47	
3.2.2 Long Term Improvement	3	
3.2.3 Groundwater Discharge (maximum 30)	9	
	Total for Water Quality Improvement	59
3.3 <u>CARBON SINK</u>		2
3.4 <u>SHORELINE EROSION CONTROL</u>		15
3.5 <u>GROUNDWATER RECHARGE</u>		
3.5.1 Site Type	46	
3.5.2 Soils	7	
	Total for Groundwater Recharge	53
<u>TOTAL FOR HYDROLOGICAL COMPONENT (not to exceed 250)</u>		<u>210</u>

4.0 SPECIAL FEATURES

4.1 RARITY

4.1.1 Wetlands

4.1.1.1 Rariry within the Landscape	40
4.1.1.2 Rariry of Wetland Type (maximum 80)	20

Total for Wetland Rarity 60

4.1.2 Species

4.1.2.1 Endangered or Threatened Species Breeding	0
4.1.2.2 Traditional Use by Endangered or Threatened Species	0
4.1.2.3 Provincially Significant Animals	0
4.1.2.4 Provincially Significant Plants	0
4.1.2.5 Regionally Significant Species	45
4.1.2.6 Locally Significant Species	58

Total for Species Rarity 103

4.2 SIGNIFICANT FEATURES OR HABITAT

4.2.1 Colonial Waterbirds	50
4.2.2 Winter Cover for Wildlife	10
4.2.3 Waterfowl Staging and Moulting	10
4.2.4 Waterfowl Breeding	10
4.2.5 Migratory Passerine, Shorebird or Raptor Stopover	0
4.2.6 Fish Habitat	35

Total for Significant Features and Habitat 115

4.3 ECOSYSTEM AGE 2

4.4 GREAT LAKES COASTAL WETLANDS 0

TOTAL FOR SPECIAL FEATURES (maximum 250) 250

SUMMARY OF EVALUATION RESULT

Wetland	Maskinonge River Wetland Complex	
TOTAL FOR 1.0 BIOLOGICAL COMPONENT	175	
TOTAL FOR 2.0 SOCIAL COMPONENT	180	
TOTAL FOR 3.0 HYDROLOGICAL COMPONENT	210	
TOTAL FOR 4.0 SPECIAL FEATURES COMPONENT	250	
	<u>WETLAND TOTAL</u>	<u>815</u>

INVESTIGATORS

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Dave Green, John Prideaux, Nicole Fisher, Ron Huizer

AFFILIATION

MNR, Aurora District
0
0
MNR, Maple District
MNR, Maple District

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