

# Rogers Reservoir Conservation Area Management Plan



**Lake Simcoe Region**  
conservation authority

**2013**

---

## Table of Contents

Executive Summary.....	1
Background .....	1
Community input .....	1
Management issues .....	2
Trail development and use. ....	2
Restoration of the reservoir.....	2
Expansion of the conservation area. ....	2
Growth and development in East Gwillimbury. ....	3
Management goals and objectives .....	3
Management plan direction .....	3
Business plan direction .....	3
Authority Resolution .....	5
Section 1: Background Report .....	6
Introduction .....	6
Site location and brief description.....	7
Geology and Soils .....	7
Hydrology .....	12
Climate .....	12
History .....	12
Ecosystems.....	16
Wildlife .....	19
Development and infrastructure .....	20
Public use .....	20
Landscape influences .....	23
Section 2: Management Plan Review .....	25
Introduction .....	25
Public Workshop, October 2011.....	25
Important Values Held by Workshop Participants .....	25
Issues Workshop Participants Wish Addressed.....	26
Public Workshop, November 2012 .....	27
Parking Lot Relocation .....	27
Trail Upgrades.....	28
Wetland Enhancement .....	28
Other Issues .....	28
Steering committee .....	28
Future evaluation and review of management plans.....	29
Section 3: Management Plan.....	31
Introduction .....	31
Conservation Area goals and objectives.....	31
Permitted uses .....	31
Boundary management .....	33
Infrastructure management .....	34

---

Trails .....	34
Bridges .....	38
Signs and Other Infrastructure .....	38
Parking Lots.....	39
Vegetation and wildlife management .....	40
Forest Habitat .....	40
Grassland Habitat.....	40
Wetland Habitat.....	43
Aquatic Habitats.....	43
Invasive Species Management.....	44
Marketing and promotion .....	45
Section 4: Business Plan.....	46
Introduction .....	46
Scenario A – Existing situation .....	47
Scenario B – YDSS and northern trail.....	49
One-Time Expenses:.....	49
Scenario C – Second Concession upgrades.....	51
One-Time Expenses:.....	51
Scenario D – Wetland enhancement .....	53
One-Time Expenses:.....	53
Scenario E – Land acquisition.....	55
One-Time Expenses:.....	55
Annual Expenses: .....	55
Potential revenue sources .....	57
Municipal Operations Levy .....	57
Municipal Capital Levy .....	57
Development Charges.....	57
Landowner Environmental Assistance Program.....	57
Pedestrian and Cycling Municipal Partnership Program .....	57
Ducks Unlimited Canada- East Gwillimbury Chapter.....	58
Great Lake Guardian Community Fund .....	58
Lake Simcoe / South-Eastern Georgian Bay Clean-Up Fund.....	58
Other Federal Funding.....	58
Other Sources of Funding .....	58
References .....	59
Appendix. Detailed expenses to achieve management plan objectives .....	61

## Executive Summary

The Rogers Reservoir Conservation Area Management Plan provides direction for the future management of Rogers Reservoir Conservation Area.

The Management Plan has been written in four sections: a **Background Report** which summarizes and synthesizes information on the natural and cultural heritage of the property and its current levels of development and public use; a **Management Plan Review** section which describes the public consultation process and input received during plan review, as well as outlining the process and timeline for future plan review; a **Management Plan** which identifies long and short term goals for the management of the property, and priorities for implementation; and a **Business Plan** which provides a description and schedule of implementation priorities, coupled with projections of costs to implement.

## Background

Rogers Reservoir Conservation Area is a 68 hectare (168 acre) conservation area in the Town of East Gwillimbury, York Region. The conservation area is situated along the banks of the East Holland River and consists of a mix of deciduous forest, pine plantation, wetland and meadow habitats. The most significant built feature of the conservation area is a two kilometre section of the Nokiidaa Trail, which connects the Towns of Aurora, Newmarket and East Gwillimbury along the East Holland River. Based on a user survey conducted in the summer of 2012, it is estimated that over 30,000 people make use of Rogers Reservoir Conservation Area on an annual basis for biking, running, dog walking, nature appreciation, and other activities.

Rogers Reservoir Conservation Area consists of two distinct parts – an east half and a west half, separated by the Second Concession, and by properties owned by York Region and the Town of East Gwillimbury. Despite this matrix of land ownership, recreational trails and land cover within the publicly owned portions of this riparian corridor remains unfragmented by property boundaries, creating an ecologically and recreationally contiguous corridor.

Rogers Reservoir Conservation Area was acquired by LSRCA in a piecemeal fashion in 1966, 1967, 1968, and 1975. Its first management plan, developed in 1979, established a vision for a well-managed reservoir and wildlife area that provides a high-quality user experience. That management plan gave LSRCA staff direction on projects related to habitat stewardship, trail upgrades, interpretive signs, and the acquisition of extensive areas of wetland along the East Holland River.

In 2011, the process to update the management plan for the property was initiated. Plan review included an inventory and assessment of natural heritage values, built infrastructure, and public use of the property, as well as broad based consultation with LSRCA staff, staff of partner agencies, and with the conservation area's neighbours and users.

## Community input

Consultation has played an extremely important role in the review of the management plan. Consultation allows users an opportunity to reflect on their values and use of the property,

changes they have seen in the conservation area and their community over the years, and their visions for the property in the future.

Formal public consultation throughout the process has included a user survey in the summer of 2012, and workshops with the conservation area's users and neighbours in the fall of 2011 and 2012. In 2011, the Rogers Reservoir Conservation Area Management Plan Steering Committee was struck to provide review and comment on the input received from the public, and to provide guidance in the development of the management plan. The steering committee consisted of:

- Town of East Gwillimbury, Mayor and Lake Simcoe Region Conservation Authority, Chair (2011- 2012), Board Member (2013) – Virginia Hackson;
- Lake Simcoe Region Conservation Authority, General Manager of Conservation Lands – Brian Kemp;
- Town of East Gwillimbury, Director of Parks & Leisure Services – Gary Shropshire;
- Township of East Gwillimbury Trails Committee – Sylvia Bowman;
- Nokiidaa Trails Committee, Chair – Cathy Morton;
- Ducks Unlimited Canada, East Gwillimbury Chapter – Ralph Lavender;
- Ducks Unlimited Canada, Head of Conservation Planning (Ontario) – Owen Steele;
- York Region, Engineering and Transportation Services – Mark Nykoluk.

The committee was supported by the following LSRCA staff:

- Conservation Lands Planner – Bill Thompson;
- Conservation Lands Senior Administrative Assistant – Wanda Black.

## Management issues

A few issues appeared to be top of mind for many of the users of Rogers Reservoir Conservation Area, including:

### Trail development and use.

Many people expressed an appreciation for the upgrades to the Nokiidaa trail, led by the Town of East Gwillimbury, that were completed during this planning period, and felt that the first priority should be to extend those upgrades further along the trail system. People also felt strongly that LSRCA should do more to restrict access to the property by motorized vehicles.

### Restoration of the reservoir.

Public sentiment about the reservoir is still strong, and much discussion was held about its future. Requests were received to both restore the large area of open water that was in existence from 1968 to 1989, or to maintain it in its current condition as wildlife habitat. Ultimately, consensus was reached in discussions with the public that the marsh should be managed to promote wildlife habitat and environmental benefit, but that habitat values could be improved through enhancements to the marsh.

### Expansion of the conservation area.

Many of the users of Rogers Reservoir Conservation Area and the Nokiidaa Trail are very aware of the small size of the conservation area, and its increasing importance as East Gwillimbury's population grows.

### Growth and development in East Gwillimbury.

Rogers Reservoir Conservation Area is in the middle of a relatively rapidly growing part of the Lake Simcoe watershed, and in the near future will be influenced by planned upgrades to the Second Concession, the extension of the York Durham Sewer System, and residential development in Sharon and the Green Lane South Secondary Planning Area.

### Management goals and objectives

Rogers Reservoir Conservation Area will be managed to provide an ecological and recreational corridor along the East Holland River in the centre of a rapidly urbanizing area.

More specifically, LSRCA aims to:

- Contribute to local and regional trail networks that connect the conservation area to communities and other natural areas in the Lake Simcoe watershed, and beyond;
- Enhance the environmental corridor associated with the East Holland River by increasing the amount of forest habitat in the conservation area;
- Rehabilitate the wetland to improve habitat values for waterfowl and other wetland-dependent wildlife;
- Enhance the educational and interpretive values of the conservation area;
- Be proactive about managing the opportunities and threats to the conservation area associated with development proposed in its vicinity.

### Management plan direction

The Management Plan has identified the following specific projects to further the goals and objectives described above:

- LSRCA will work with York Region and the Town of East Gwillimbury to continue to upgrade and rationalize the trail network in Rogers Reservoir Conservation Area;
- LSRCA will work with York Region to decommission and relocate the parking lot on Second Concession that will become inaccessible as Second Concession gets upgraded;
- LSRCA will work with York Region and Ducks Unlimited Canada to pursue opportunities to increase the amount and quality of wetland habitat within the conservation area, including the potential construction of a boardwalk and/or viewing platform;
- LSRCA will undertake a series of community planting days to increase the amount of forest cover along the East Holland River;
- LSRCA will pursue opportunities to expand the size of the conservation area, on a willing-buyer, willing-seller basis with adjacent landowners;
- LSRCA will erect a series of interpretive panels celebrating the natural and cultural heritage of the property along the trail network.

### Business plan direction

The Business Plan identifies short term priorities for achieving the goals of the management plan, and a schedule for their implementation. As the proposed development adjacent to the conservation area will have a significant impact on the opportunities and constraints for

management and enhancement of the conservation area, the schedule for implementing priority projects has been developed as a series of 'scenarios' linked to various stages in the proposed development.

Preliminary projections of the cost to implement these projects and programs total approximately

\$800,000 as well as additional staff time (approximately 0.5 of a full time equivalent).

Significant fundraising and partnerships will be necessary to offset these expenses. A number of potential funding sources, including York Region project funding directed to trail development and acquisition of green lands, the Great Lakes Guardian Community Fund, the Lake Simcoe South-eastern Georgian Bay Clean Up Fund, and East Gwillimbury's Community Infrastructure Partnership Program have been identified as potential funding sources. Many of these funding opportunities themselves will require, or be enhanced by, partnerships with York Region, East Gwillimbury, the East Gwillimbury chapter of Ducks Unlimited Canada, the East Gwillimbury Trails Committee, and other local clubs and service organizations.

## **Authority Resolution**

### **Rogers Reservoir Conservation Area Management Plan**

At meeting No. BOD-04-13 of the Lake Simcoe Region Conservation Authority held on

April 26, 2013 the following was adopted by the Board of Directors by Resolution BOD-068-13:

THAT Staff Report 24-13-BOD regarding the Rogers Reservoir Conservation Area be received for information; and

FURTHER THAT the Management Plan and associated Business Plan be approved; and

FURTHER THAT Conservation Authority staff continue to pursue funding and in-kind support to implement the recommendations of the Management Plan



## Section 1: Background Report

### Introduction

Since 1951, Lake Simcoe Region Conservation Authority (LSRCA) has provided a leadership role in the protection and restoration of the environmental health of the Lake Simcoe watershed. LSRCA is mandated under the provincial *Conservation Authorities Act* to “establish and undertake, in the area over which it has jurisdiction, a program designed to further the conservation, restoration, development and management of natural resources other than gas, oil, coal and minerals.”

In order to meet this mandate, the Conservation Authority works with government, non-profit and community partners to support a number of programs including watershed-level analysis, modelling and planning; forestry and private land stewardship programs; and a system of conservation areas.

Conservation areas have represented a significant resource for residents in the watershed and beyond, and have enhanced the open space and outdoor recreation opportunities offered by local municipalities. The protection of these lands, as well as the access for public use, is seen as one of the most important contributions the Authority makes to the communities it serves. As the watershed continues to urbanize, the role of conservation areas and other natural areas in the landscape will become even more critical.

To date Lake Simcoe Region Conservation Authority has acquired over 1400 hectares (3500 acres) of conservation lands with the financial support of Regional and local municipalities, the province, and private and non-governmental donations. These lands include significant natural areas such as valleys, forests, and wetlands. There are twenty-six conservation areas in total, which provide a range of recreational opportunities to the public, ranging from strict natural heritage protection, to more intensive recreational and educational facilities.

Rogers Reservoir Conservation Area is a 68 hectare conservation area along the banks of the East Holland River in the Town of East Gwillimbury. This property consists of two discrete parcels, separated by the Second Concession as well as property owned by both York Region and the Town of East Gwillimbury. A management plan for Rogers Reservoir Conservation Area was developed in 1979, shortly after the western half was acquired. Over the years however, changes in staffing levels, infrastructure and recreational features as well as increasing population, changing demographics, and shifts in public expectations have led to new challenges and opportunities in managing this conservation area.

The purpose of a conservation area management plan is to establish long and short term goals, and to develop strategies by which the goals can be achieved. They should be flexible enough to address unforeseen issues which may arise in the future and should be integrated with the overall goals and objectives of the Conservation Authority as well as the landscape within which it is situated.

Successful management planning requires a full understanding and appreciation of the site’s natural history features, usage levels and patterns, and the constraints influencing the use of

the area. This background report provides a summary of the history and evolution in management and associated human and wildlife use of Rogers Reservoir Conservation Area. This reference document will act as a baseline of information for future Conservation Area management, and can be used in subsequent stages of the management plan review.

### Site location and brief description

The 68 hectare (168 acre) Rogers Reservoir Conservation Area is situated in parts of Lots 104, 105 and 106 Concession I East of Yonge Street, and Lots 6, 7, 8, and 9 Concession II, Town of East Gwillimbury, Regional Municipality of York (Figures 1, 2). The conservation area is situated between the communities of Newmarket and Holland Landing, and connects the two via a recreational trail. Main entrances to the conservation area are from Green Lane Road and the Second Concession, both of which have parking lots; and secondary entrances, without parking lots, from Thomas Shepperd Drive and Holland River Boulevard. The railway line between Toronto and Barrie runs along the southern and eastern boundary of the conservation area (Figure 2).

Rogers Reservoir Conservation Area consists of two distinct parts – an east half and a west half, separated by the Second Concession, and by properties owned by York Region and the Town of East Gwillimbury. Despite this matrix of land ownership, recreational trails and land cover within the publicly owned portions of this riparian corridor remains unfragmented by property boundaries, creating an ecologically and recreationally contiguous corridor.

### Geology and Soils<sup>1</sup>

Rogers Reservoir Conservation Area is located on the lacustrine deposits of the Schomberg Clay Plain. These deposits are remnants of the glacial ‘Schomberg Ponds’ formed by the retreat of the Wisconsin Ice Sheet approximately 14,000 years ago. Since the rolling relief of the underlying till plain has not entirely been eliminated, these areas are not as flat as many lake plains. The average depth of the clay deposit seems to be about 4.6m, although depths of over 15m have been exposed near Holland Landing.

The Schomberg sediments are typically varved, consisting of alternate layers of silt and clay, with an annual thickness of up to ten or more centimetres. Both summer and winter varves are calcareous and small fossil shells are sometimes found in them. Chemical composition of the clay indicates approximately 50% calcium and magnesium.

Soil within Rogers Reservoir Conservation Area is a mix of bottomland soils through the floodplain, and Schomberg clay loam and Schomberg silt loam on higher points of land (Figure 3).

Bottomland soils are immature soils consisting of alluvial deposits, which show little horizontal differentiation. Their profile is generally deep, dark-coloured surface material, underlain by greyish deposits. The drainage varies but is usually poor. In Rogers Reservoir Conservation Area, erosion of the soil along the river banks only occurs in localized areas because of the slow

---

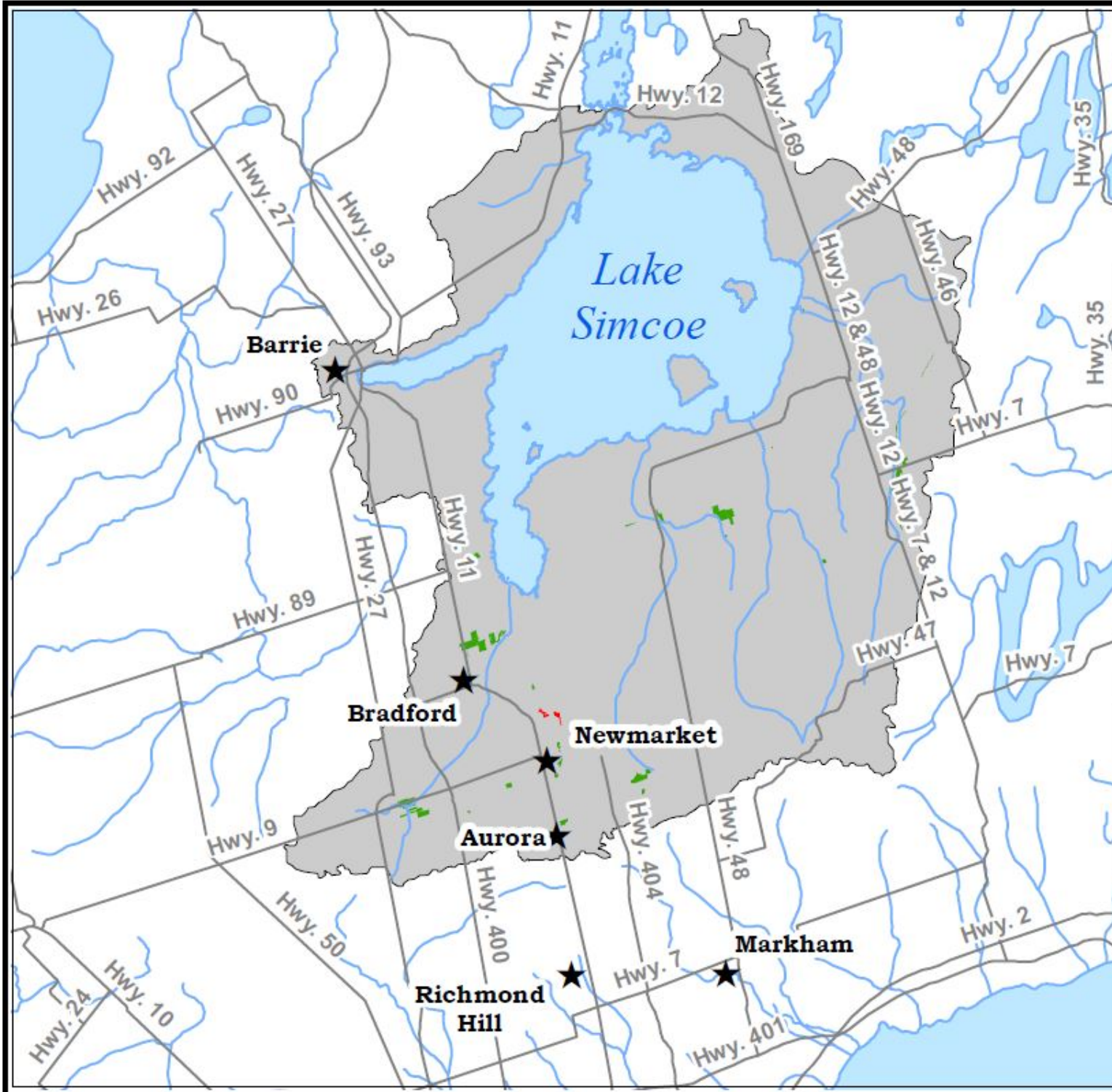
<sup>1</sup> Based on Hoffman and Richards (1955) and Chapman and Putnam (1966)

velocity of the water.

The Schomberg silt and clay loams are well-drained members of the Schomberg catena, differing primarily in the dominant texture of their surface horizons. These slightly alkaline soils are stone-free and have a well-developed horizontal profile. The combination of moderately sloping to steep topography, slow internal drainage, and high external drainage makes these soils susceptible to sheet erosion.

Although not noted on the county soil map, small inclusions of coarser material have been found in Rogers Reservoir Conservation Area, particularly on the west side of the property. These areas acted as borrow pits to help construct the rail line and internal access roads. These borrow pits are no longer in use.

# Figure 1 Regional Setting



- Legend**
- Conservation Areas
  - Rogers Reservoir Conservation Area
  - Watercourse
  - Road



Scale  
1 : 2,500

5 2.5 0 5 Kilometers

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

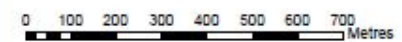
While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

# Figure 2. Rogers Reservoir Conservation Area



- Legend**
- Roads
  - + Railway
  - ▭ Conservation Area

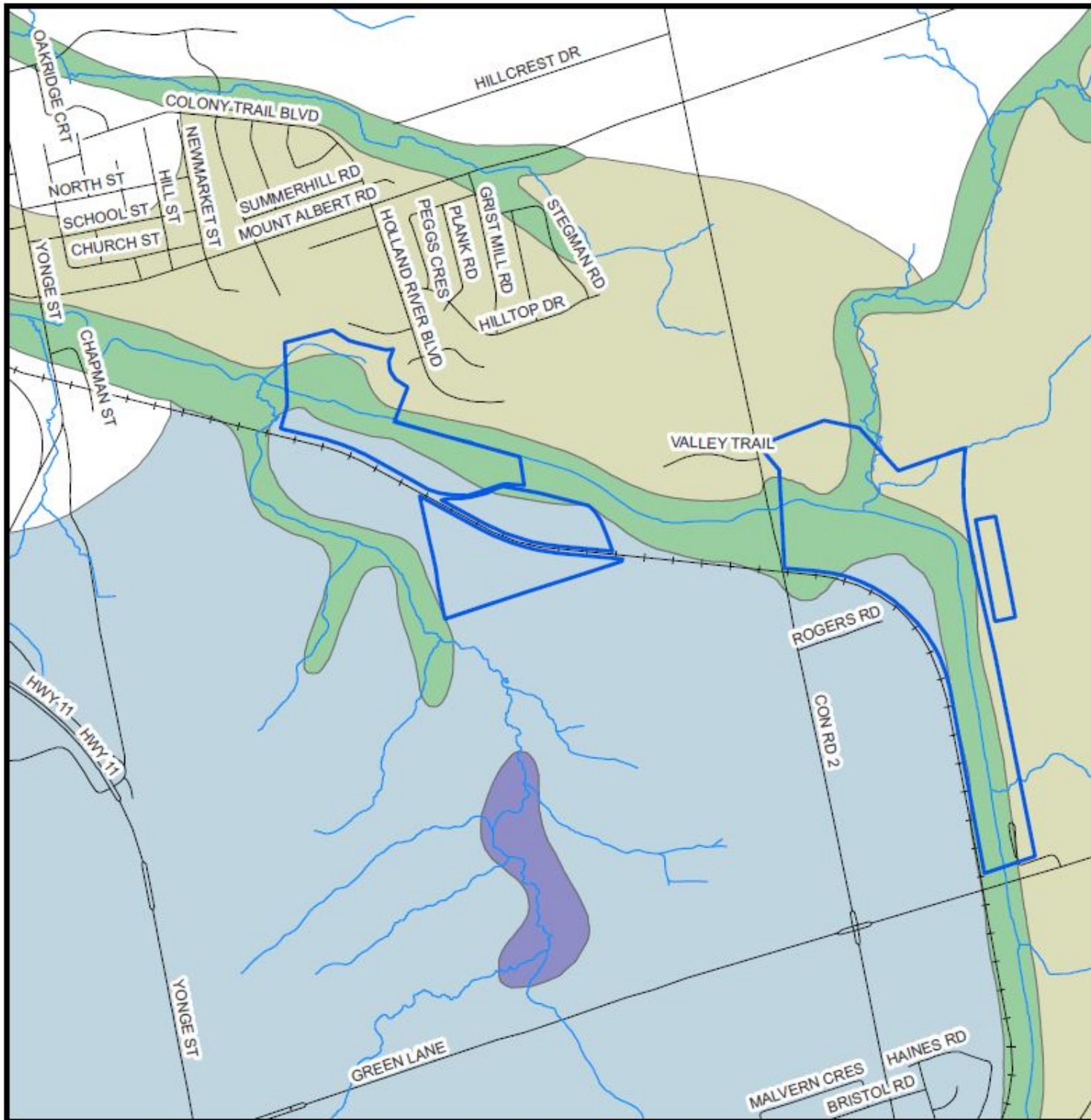


This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

# Figure 3. Soil type



### Legend

- Conservation Area
- Watercourse
- Roads
- Railway

### Soil type

- Bottomland
- Organic
- Schomberg clay loam
- Schomberg silt loam



Lake Simcoe  
Region  
Conservation  
Authority



0 100 200 300 400 500 600 700 Metres

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

## Hydrology

The East Holland River and its floodplain is a central focus of the Rogers Reservoir Conservation Area. Flowing through both east and west halves of the Conservation Area, the river itself constitutes approximately 10% of the total area of the Conservation Area, while the river and its floodplain constitute nearly 90% of the Conservation Area.

The East Holland River flowing through Rogers Reservoir Conservation Area has been channelized as part of the historic Newmarket Canal. The river here ranges from 12 - 24m wide and is approximately 1m deep. The river on the west side of the property (downstream of a historic dam) is slightly less deep than the east half of the property, and has a number of riffles, improving aquatic habitat somewhat.

The East Holland River forms in the Oak Ridges Moraine south of the Town of Aurora. By the time water reaches Rogers Reservoir Conservation Area, it has flowed through both Aurora and Newmarket. The relatively high level of development and impervious surface in these communities tends to cause sediment and nutrients to accumulate in the river. As a result, water in this river tends to cause rapid changes in level and velocity in the river after rain or snowmelt events, and causes the water to be turbid, high in phosphorus concentrations, and with relatively limited diversity in aquatic communities, including both fish and aquatic invertebrates<sup>2</sup>.

## Climate

Rogers Reservoir Conservation Area is in the Simcoe and Kawartha Lakes climatic region<sup>3</sup>. Over the past twenty years, precipitation at the Bradford Muck Research Station (the closest long-term Environment Canada weather station) has averaged 794 mm per year, of which an average of 674 mm has been rainfall. Average annual temperature over this period has been 6.8 °C, with average minimums of -13.3 °C (typically in February) and average maximums of 26.5 °C in July and August<sup>4</sup>.

Climate change projections suggest that over the next twenty to thirty years this region may experience an increase in precipitation in the spring and fall (by as much as 5-10%), but a decrease of approximately the same amount in the summer. Average annual temperatures are also expected to increase in this time period, potentially by as much as 1 °C<sup>5</sup>.

## History

Little is known about the pre-settlement history of the Rogers Reservoir Conservation Area, but given its proximity to the eastern branch of the Toronto Carrying Place Trail, and the Holland Landing, presumably First Nations used this area as a travel corridor between settlements near

---

<sup>2</sup> Lake Simcoe Region Conservation Authority (2008)

<sup>3</sup> Brown et al. (1981)

<sup>4</sup> Based on Environment Canada's Canadian Climate Normals database

<sup>5</sup> Colombo et al. (2007)

present-day Aurora and the meeting place at the Holland Landing, and to places further north. According to surveyor notes, before the time of settlement this area was largely a soft maple – white cedar riparian forest type ecosystem<sup>6</sup>.

Private ownership over the current Rogers Reservoir Conservation Area was first granted in 1805, with settlement and clearing for agriculture beginning shortly thereafter. These properties were farmed until 1905, when they were purchased by the Federal government for the construction of the Newmarket Canal.

The Newmarket Canal was initially proposed in 1904 by Sir William Mulock, then Liberal Federal Member of Parliament. The proposal was to convert the East Holland River into a shipping canal to provide an alternate transportation route from Aurora to Lake Simcoe and the Trent-Severn Waterway, avoiding the more expensive harbours in Toronto. This canal required the construction of four locks to overcome the difference in elevation between Holland Landing and Newmarket. Work began on the canal in 1908, despite warnings from government engineers that it was not feasible. The engineers were eventually proven right, as the relatively shallow and slow moving East Holland River did not provide enough hydraulic capacity to operate the locks. In 1911 the newly elected Conservative government suspended the project, although not until after the river had been substantially channelized between Newmarket and East Gwillimbury and two lock and dam structures were built, including one at the Second Concession crossing<sup>7</sup>. In 1947 the Crown resold the land along the Newmarket Canal. The present day east half was sold to Jean Rogers, and the west half to Beatrice Greig.

In the mid 1960s, staff of the then Holland Valley Conservation Authority recognized the potential that the historic dam had to establish a ‘community pond’ to provide flood control, recreational facilities, and water for emergency fire fighting. This concept was outlined in the 1966 Holland Valley Conservation Report<sup>8</sup>, and turned into reality with the purchase of the east half of the conservation area piecemeal from the Rogers family in 1966, the Graves family in 1967, and the Federal government in 1968. An Agreement was signed with the Town of East Gwillimbury (at that time, the owner of the dam) in 1968, allowing the Conservation Authority to upgrade it, and operate it to maintain an approximately 16 hectare open water reservoir (from which the conservation area received its name) (Figure 4b). A further purchase from Flamingo Construction (through the Town of East Gwillimbury) west of the Second Concession in 1975 formed the extent of the current Rogers Reservoir Conservation Area.

In 1977 the Conservation Authority entered into a second partnership, this time with Ducks Unlimited Canada, to establish a smaller offline marsh in the conservation area, south of the river, to serve primarily as waterfowl habitat. This area was naturally low-lying and fed by a nearby artesian well, so wetland construction was highly successful and ultimately provided habitat for a range of regionally and Provincially rare wetland species<sup>9</sup> (Figure 4c), and a viewing tower to observe them.

---

<sup>6</sup> Puric-Mladenovic (2003)

<sup>7</sup> Angus (2000)

<sup>8</sup> Ontario Department of Energy and Resources Management (1966)

<sup>9</sup> South Lake Simcoe Conservation Authority (1979)





Figure 4a: Rogers Reservoir Conservation Area ca. 1954.



Figure 4b: Rogers Reservoir Conservation Area ca. 1969.



Figure 4c: Rogers Reservoir Conservation Area ca. 1978.



Figure 4d: Rogers Reservoir Conservation Area ca. 1995.

By 1989 however, the refurbished dam was beginning to fail, and concern was raised about its structural integrity, and the very real possibility that the pressure from the sixteen hectare reservoir would cause a catastrophic failure to the dam and result in downstream flooding. As the Second Concession bridge had been constructed directly on top of the dam, the risk to public safety was heightened. As a result of those concerns, the Town of East Gwillimbury (as the owner of the dam) and the Lake Simcoe Region Conservation Authority (as the operator of the dam), agreed that due to the lack of funds to effect the significant repairs necessary, this risk should be reduced by removing some of the stop logs and allowing the reservoir to draw down. As a result of this draw down however, the public lost a well-loved recreational facility, and the small habitat wetland to the south of the reservoir drained as well, perhaps as a result of the loss of hydraulic head (Figure 4d).

## Ecosystems<sup>10</sup>

Ecosystems at Rogers Reservoir Conservation Area exist largely as a result of historic uses of this property (Figure 5).

As the reservoir has dried up, it and the nearby habitat wetland have been replaced by emergent marsh communities, primarily reed canary grass meadow marshes, but with cattail marshes occurring in slightly deeper and wetter areas. Reed canary grass is almost mono-dominant where it occurs, but can also include patches of Kentucky bluegrass, timothy, Canada anemone, angelica, creeping thistle, and vetch in slightly higher and drier areas, as well as scattered clumps of Manitoba maple, silver maple, trembling aspen, red osier dogwood, European buckthorn, pussy willow, heart-leaved willow, and crack willow. A deeper area south of the Holland River has become a dense stand of cattails, with scattered purple loosestrife, marsh yellow cress, and crack willow.

The upland portions of Rogers Reservoir Conservation Area were farmland before its acquisition by the Conservation Authority. Some of this land has been actively reforested, with the assistance of the Boy Scouts, some has been allowed to regenerate naturally, and some has remained largely unchanged.

Those areas which have not been reforested support early successional old-field type ecosystems, dominated by Kentucky bluegrass, smooth brome, yarrow, milkweed, Queen Anne's lace, leafy spurge, Canada goldenrod, tufted vetch, and wild grape, with scattered white cedar, white pine, Scotch pine, Manitoba maple, trembling aspen, European buckthorn, and hawthorn.

The two areas which were disturbed to create borrow pits have since sprouted up with early successional forests dominated by trembling aspen and balsam poplar, with scattered occurrences of white cedar, and an understorey dominated by yarrow, Canada anemone, smooth brome, oxeye daisy, dog-strangling vine, rough horsetail, narrow-leaved sundrops, Kentucky bluegrass, sulphur cinquefoil, mullein, and Canada goldenrod.

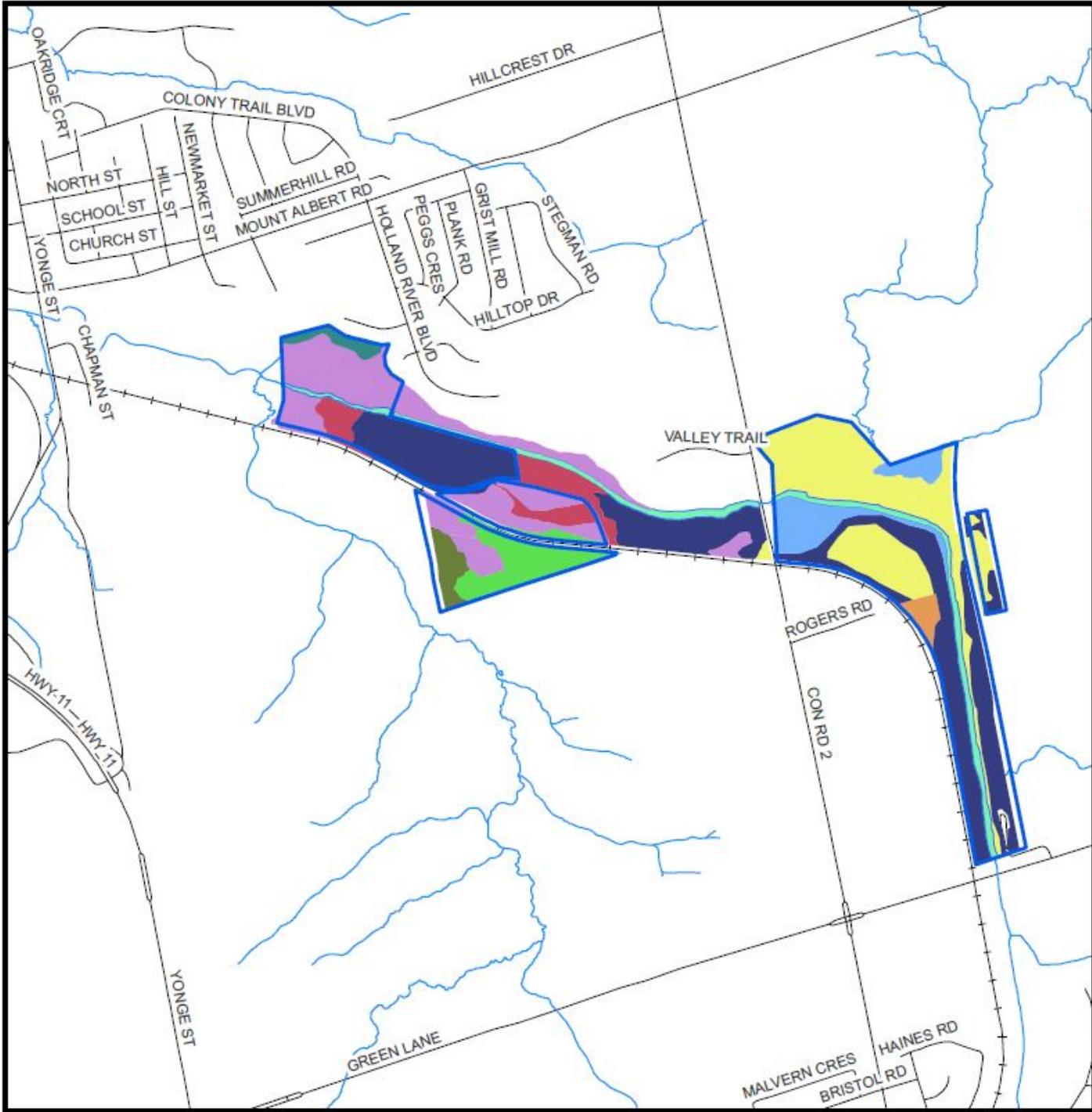
Areas along the Holland River itself are, for the most part, lowland riparian forest dominated by

---

<sup>10</sup> Based on Lake Simcoe Region Conservation Authority (2010)

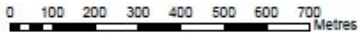
non- native species such as Manitoba maple and crack willow, and with a subdominant component of white cedar, black willow, green ash and American elm. The understorey in these forests are also dominated by non-natives, including garlic mustard, burdock, enchanter's nightshade, dog-strangling vine, orchard grass, dame's rocket, Himalayan balsam, Kentucky bluegrass, tall buttercup, and European buckthorn, but can also include Canada anemone, Virginia waterleaf, spotted touch me not, Virginia creeper, angelica, and Canada goldenrod.

# Figure 5. Ecological communities



**Legend**

- Conservation Area
- Old field
- Red pine plantation
- White pine plantation
- White cedar forest
- Poplar forest
- Sugar maple - hardwood forest
- Willow lowland forest
- Reed canary grass marsh
- Cattail marsh
- Open water
- Watercourse
- Railway



This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Panel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

Roughly 6 hectares of Rogers Reservoir Conservation Area was reforested by Boy Scouts approximately 20 years ago. These plantations are primarily red and white pine, but there has been some colonization by red oak, sugar maple, Manitoba maple, Herb Robert, field horsetail, garlic mustard, dog-strangling vine, and tall goldenrod.

A small and relatively steep area in the extreme southwest corner of the conservation area appears to have been spared the deforestation the rest of the property suffered. This area continues to support a native hardwood forest, more or less representative of pre-settlement conditions, dominated by sugar maple, with a subdominant component of eastern hemlock, white ash, American beech, ironwood, and a fern- and forb-rich understorey, including species such as jack in the pulpit, two-leaf toothwort, blue cohosh, Virginia waterleaf, may apple, bloodroot, New York fern, ostrich fern, sensitive fern, and a range of sedges; all species typical of mesic deciduous forests.

Unfortunately, non-native invasive plant species are quite common at Rogers Reservoir Conservation Area, in some cases dominating the local flora. Some of the most invasive plants found in the Lake Simcoe watershed are already well established at the conservation area. Many of these species are associated with the disturbed lowland willow riparian forest and old field communities. Sources of the invasives no doubt include a combination of post-disturbance colonization, and colonization related to the presence and use of trails.

Despite this prevalence of non-native species however, a number of watershed rare species can be found here as well. Angelica and Houghton's sedge are both relatively wide spread through the reed canary grass meadow marsh. Angelica can also be found along the edge of the river, regardless of the habitat type. Black walnut is relatively common in the conservation area, naturally occurring both in the lowland willow forest along the river, as well as in the regenerating old field communities. Wild coffee was found in an upland poplar forest adjacent to an unofficial trail. One occurrence of butternut (an Endangered species) was noted in the lowland willow forest in town-owned property immediately in between the east and west halves of the conservation area, and may occur in small numbers in the LSRCA-owned property as well.

## Wildlife<sup>11</sup>

The mix of wetland, grassland, and forest ecosystems at Rogers Reservoir Conservation Area provides habitat for a diverse wildlife community. Forest stands provide habitat for species such as great horned owl, pileated woodpecker, eastern wood-pewee, red-eyed vireo, American redstart, gray treefrog, western chorus frog, and wood frog.

Species such as field sparrow, savannah sparrow, and American toad can be found in grasslands, while the shrubbier old field ecosystems can also provide habitat for alder flycatcher, willow flycatcher, brown thrasher, and indigo bunting.

The meadow marsh along the Holland River on the east side of the property provides breeding and foraging habitat for great blue heron, yellow warbler, common yellowthroat, and northern

---

<sup>11</sup> Based on Lake Simcoe Region Conservation Authority (2010)

leopard frog. The river itself provides habitat for snapping turtle (a species of Special Concern), red-eared slider, bullfrog, green frog, white sucker, with creek chub, common shiner, pumpkinseed, fathead minnow, and goldfish. Red-side dace, an Endangered species, has been found in Sharon Creek, a tributary to the East Holland River which flows through Rogers Reservoir Conservation Area.

Bridges over the river at Green Lane and the Second Concession provide nesting substrate for barn swallow, tree swallow, and northern rough-winged swallow and insects dwelling in the river and adjacent marsh provide food for these species.

## Development and infrastructure

Visitor use infrastructure at Rogers Reservoir is limited to that supporting passive day-use recreation. The most heavily used and popular infrastructure in this conservation area are its trails; there are approximately 6.5 km of official (created by LSRCA) and unofficial (created by the public) trails in Rogers Reservoir, and linking both halves of the property through the intermediary Town owned lands (Figure 6). These trails form part of a larger trail network, including linking into the Nokiidaa / Tom Taylor trail at the south end, under Green Lane, which connects to Newmarket and Aurora. The Nokiidaa/ Holland River trail then continues north from the conservation area, linking into community trails along Holland River Boulevard and Thomas Shepperd Drive. Unofficial trespass trails also continue to the west of Rogers Reservoir Conservation Area, through breaks in the page wire fence and across adjacent privately owned property to Yonge Street.

Parking lots servicing this trail network are provided at Green Lane and the Second Concession, providing parking for approximately 40 and 15 vehicles respectively.

Immediately east of the conservation area, an abandoned rail line forms part of the Town's Radial Rail Line trail, which can be accessed from the Conservation Authority's parking lot on Green Lane.

## Public use

A recent user survey at Rogers Reservoir Conservation Area<sup>12</sup> suggests that this conservation area receives approximately 30,000 recreational visits annually. Rogers Reservoir's user group are typically long-term, dedicated, and frequent users of the property, who make use of the conservation area's trails for running, biking, or walking. Reasons for use of the Rogers Reservoir trails that people reported include nature appreciation, exercise, and a chance to go somewhere with a feeling of quiet peacefulness.

Interestingly, over 80% of the users surveyed at Rogers Reservoir were from outside East Gwillimbury, yet 60% of them accessed the conservation area along the Nokiidaa Trail, rather than driving to the conservation area and parking in one of its parking lots.

Seven geocaches have been placed in Rogers Reservoir Conservation Area by members of the

---

<sup>12</sup> Lake Simcoe Region Conservation Authority (2012)

public. In 2011, these caches received between 15 and 40 recorded visits each<sup>13</sup>.

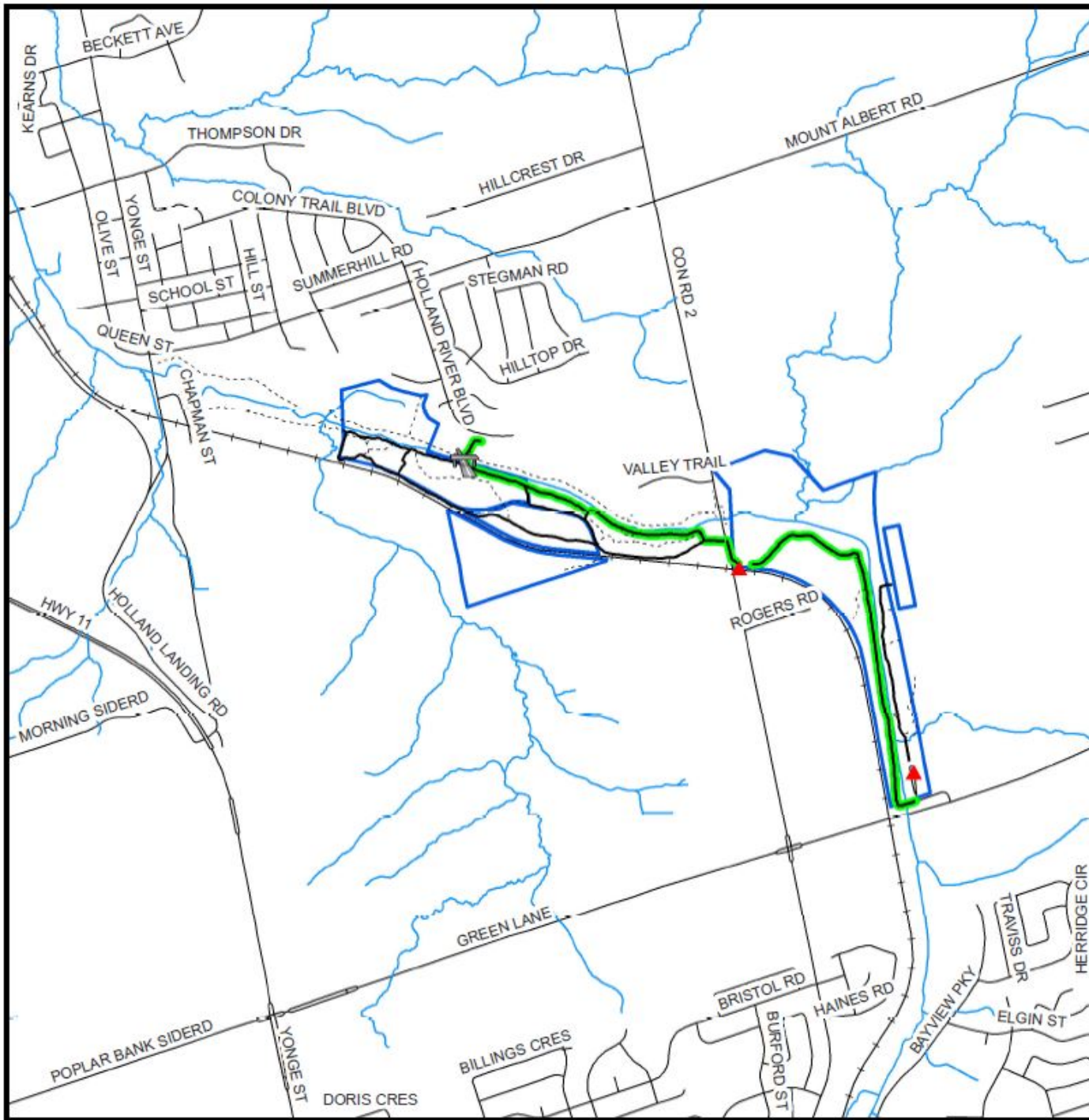
In addition to these users, Rogers Reservoir Conservation Area is also unfortunately home to a fair amount of illegal activity, and periodically to small encampments of homeless people.

---

<sup>13</sup> For more detail, see [www.geocaching.com](http://www.geocaching.com)



# Figure 6. Infrastructure

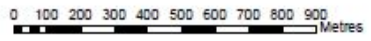


**Legend**

-  footbridge
-  Parking lots
- Recreational trails**
- unofficial
- official
-  Noklidaa Trail
-  Conservation Area
-  Watercourse
-  Roads
-  Railway




Lake Simcoe  
Region  
Conservation  
Authority

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

## Landscape influences

No protected area can effectively be managed without an understanding of the influences of the property on the surrounding landscape and vice-versa.

Rogers Reservoir Conservation Area is located in a part of the Lake Simcoe watershed which will be experiencing significant growth in the coming years. The Town of East Gwillimbury's Official Plan<sup>14</sup> projects that the population in the Town will increase nearly fourfold by the year 2031, perhaps as much as tenfold by 2051. Much of this growth is slated to be contained within four designated Urban Areas, three of which are contiguous with the conservation area (Figure 7), and all four of which are proposed to be linked to the conservation area through a network of recreational trails<sup>15</sup>. The increase in medium density residential and office space / commercial development adjacent to the conservation area will almost certainly lead to an increase in users to the conservation area, as well as possibly altering use patterns.

Further, the East Gwillimbury Official Plan also proposes the development of two major collector roads to support this development (Figure 7), one of which is proposed to cross the conservation area. The development of these roads could have both indirect and direct impacts on the conservation area, through an increase in awareness and accessibility by the public, and through loss or disturbance to the land base of the conservation area itself.

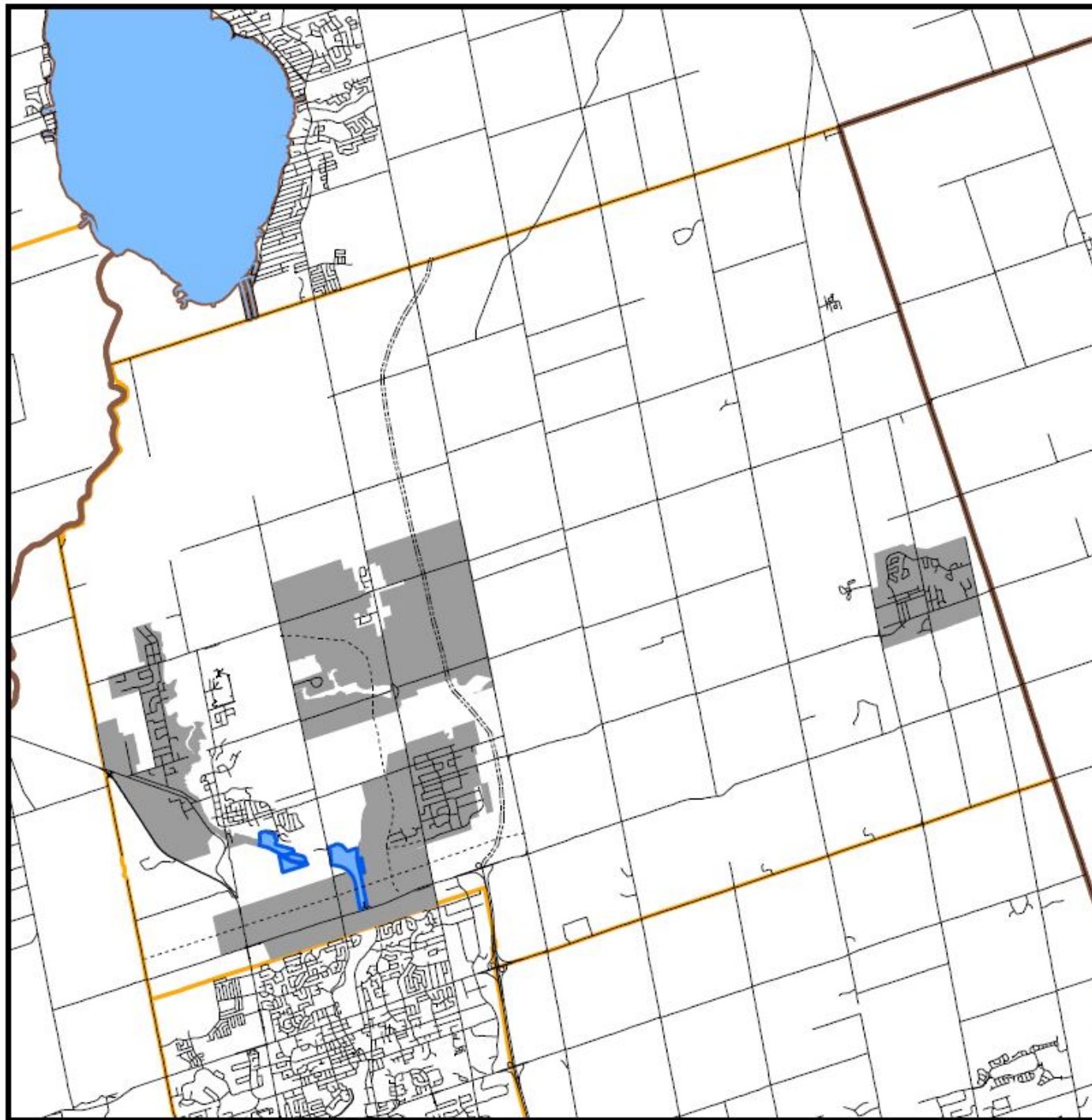
In the more immediate future, Rogers Reservoir Conservation Area will be influenced by new municipal infrastructure being installed to support this development, including the proposed York Durham Sewage System extension and the proposed widening and grade change of the Second Concession.

---

<sup>14</sup> Town of East Gwillimbury (2010)

<sup>15</sup> Town of East Gwillimbury (2012)

# Figure 7. Landscape influences



### Legend

- Existing roads
- Proposed roads
  - - - - collector
  - === highway
- Conservation Area
- Settlement area
- Lower Tier Municipality
- Upper Tier Municipality



This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

## Section 2: Management Plan Review

### Introduction

Development of this management plan has involved both broad based and focused public consultation. Public consultation events include a trail user survey in the summer of 2012, and open house workshops in 2011 and 2012. The establishment of the Rogers Reservoir Conservation Area Management Plan Steering Committee, with representatives of York Region, the Town of East Gwillimbury, the East Gwillimbury Trails Committee, the Nokiidaa Trail Committee, Ducks Unlimited Canada, and LSRCA provided additional resources to assist in the completion of this project.

Consultation with conservation area users has been an important part of the management plan review. Consultation allows users an opportunity to reflect on their values and use of the property, changes they have seen in the conservation area and their community over the years, and their visions for the property in the future. This consultation, as well as focused consultation with LSRCA technical and field services staff, has provided much of the direction in the current proposed management plan.

### Public Workshop, October 2011

On October 15, 2011 a public workshop was held at the Holland Landing Public School to engage the public in developing a vision for Rogers Reservoir Conservation Area. After sending a news release to local papers, posters to local schools, churches, community centers, and libraries, and sending written invitations to neighbouring landowners and other interested stakeholders, approximately 13 people attended the workshop.

#### Important Values Held by Workshop Participants

Workshop participants identified a broad range of values in the conservation area, related to preservation and appreciation of nature, recreational opportunities, and benefits to the local community:

Natural values:

- An open and natural greenspace
- The diversity of habitat in a small place
- A natural, semi-wild, untouched aesthetic
- Habitat for wetland species
- The role the wetland plays in filtering the water in the river
- The role the trees play in improving air quality
- The diversity of wildlife – birds, mammals, reptiles
- An opportunity to observe birds and other animals in their habitats

Historic values:

- Its an important historic site, it has a story to tell
- The historic river channels west of the 2nd Concession
- The historic use of the property by natives as a travel thoroughfare

- The historic canal and lock system
- The historic mills and millponds

Recreational values:

- Natural area for quiet walking
- Not a dull flat park, there is lots to engage kids
- The trees along the Nokiidaa trail
- Providing areas to walk and experience the wildlife etc, without disturbing them
- The rustic character of the trails
- The quiet and peaceful environment
- The trail is set up for both leisure walking and commuting
- The trails are accessible to everyone (except motorized vehicles)
- The proximity to the school, and opportunities for outdoor education
- Trail connections to Fairy Lake and the south end of Aurora
- The old pond for skating in the winter, enjoyment of birds and animals in the summer
- The scout camp is a great place for kids to run around

Conservation values:

- A buffer to development
- Preserving greenspace as population and development increases
- Maintaining habitat
- Preservation of wetland areas
- Seeing it in its natural state of living and decay (trees left as they would be in nature)

Issues Workshop Participants Wish Addressed

Attendees at the workshop were asked to identify issues which, if addressed, could improve the Rogers Reservoir Conservation Area, and potential actions to resolve those issues. Attendees were given stickers numbered 1 to 5, and asked to identify which should be the highest priorities to be addressed in management planning (5 being highest, others decreasing in priority). Note that the ranks are cumulative in nature, not a percentage.

Issue	Score
Don't widen 2nd Concession	42
Restrict ATVs and other motorized vehicles	37
Provide a mix of open water and wetland habitat in the reservoir	24
Rebuild the dam and recreate the pond	19
Remove invasive species	17
Expand the size of the conservation area	16
Reduce the amount of garbage and vandalism in the conservation area	11
Reflood the area near Yonge St and Mount Albert sideroad	10
Close some of the small side trails	7
Too many agencies involved. Clarify jurisdiction	5
Add resting areas along the trails	3
Keep the cattails as a natural filter for the water	2

ATVs accessing areas that have no barriers	1
Provide picnic areas	1

Other issues which came up during the discussion, or were written on the submitted worksheets, but were not ranked as a priority by the attendees were:

- Clean up the underbrush
- Remove trees that have fallen on trails, and in the river
- Keep trails trimmed
- Improve maintenance
- Control graffiti
- Improve and maintain radial line
- Clean up the dirt bike area where there is erosion and kids partying and leaving garbage
- Keep at least some of the trails as natural surface
- Worried I'm going to be hit by a car walking to the conservation area
- Make sure Region is engaging LSRCA in future planning for expanding 2nd Concession
- Prevent the YDSS from going through it
- Signs that identify trees and plants
- More consideration to historical markers
- Views of lock system and other historic items preserved, enhanced, and interpretation provided
- Portray the history of the area at various storyboards at parking lots and entrances
- Rebuild the observation tower
- No fire place sites
- Not establishing future motor bike or snowmobile trails
- No exclusive use is ever granted again to the conservation area to an organized group
- More parking for visitors
- Continue to maintain this as a natural conservation area

### Public Workshop, November 2012

A second public workshop was held on November 24, 2012 at the Holland Landing Community Centre to provide the public an opportunity to review the draft plan and provide feedback to the steering committee. After sending a news release to the Era Banner, posting announcements on the LSRCA and Town of East Gwillimbury webpages, and sending written invitations to the 209 groups and individuals on the Rogers Reservoir mailing list, 19 people attended the workshop.

After a summary presentation about the conservation area and the draft management plan, participants were asked to provide their feedback and constructive criticism on the draft plan. Responses from the group included the following:

#### Parking Lot Relocation

- There was a general consensus that the best option for replacing the parking lot that will be lost as Second Concession is upgraded is the option we presented as the preferred alternative (i.e. at the corner of Yonge St and Mount Albert Sideroad)
- This, despite the fact that most of the open house participants live in the vicinity of Second Concession, so the proposed alternative will be less convenient for them

- Some, who live on the west side of Second Concession, expressed concern about how they could safely walk from their homes to the conservation area, as 2nd Con gets widened to four lanes
- Some participants noted that relocating the parking lot to Yonge Street would require people to take longer walks, particularly if they are interested in seeing the wetland. As such, they've requested we add more benches along the trail network

### Trail Upgrades

- People were supportive of the proposed trail upgrades, and felt that they would be important to them and their families / neighbours
- Several people made the point that use of the Nokiidaa Trail has increased as a result of the upgrades completed last summer, and suggested that further trail upgrades should be our highest priority, in order to continue to increase trail use
- People were also happy that we are proposing to maintain some trails as more 'rustic' natural surface trails, and will be maintaining the narrower more winding trails through the forest
- Participants wanted clarification (and reassurance) that our proposal for a 30m wide forested buffer along the river wouldn't preclude having trails near the river. I assured them that trails would be incorporated in the planting plans

### Wetland Enhancement

- Most people felt that the proposed enhancement to the wetland feature was very important, although one participant preferred the status quo (i.e. that we preserve the wetland in its current state)
- Most had fond memories of the area when there was more open water, yet felt that preserving and improving the wetland feature was more important than re-creating a reservoir
- One focus group noted that the recreational value of this area has shifted from being an area for skating, to becoming one of nature appreciation and wildlife viewing
- There was some discussion about how we could best enhance the wetland to provide wildlife habitat, and to allow it to filter the water in the river. Options raised included excavating parts of the wetland, raising the water level slightly, or creating a new meandering side channel through the marsh

### Other Issues

- The need to enforce our regulations prohibiting motorized vehicles
- Providing more things for kids to do, including keeping the area that they use for BMX riding
- Erecting signs to provide information about the natural and cultural features on the property
- Ensure that the proposed trail and wetland work doesn't become a source of invasive species

### Steering committee

Since July 2011, the Rogers Reservoir Conservation Area Management Plan Steering Committee

has directed the development of the Rogers Reservoir Conservation Area Management Plan. This committee has met periodically to review input received from the public and from LSRCA staff, to examine the costs and benefits associated with potential management directions, and to provide recommendations on the final management plan. This plan will then be forwarded to the LSRCA Board of Directors for formal approval.

The steering committee consisted of:

- Town of East Gwillimbury, Mayor and Lake Simcoe Region Conservation Authority, Chair (2011- 2012) , Board Member (2013) – Virginia Hackson
- Lake Simcoe Region Conservation Authority, General Manager of Conservation Lands – Brian Kemp
- Town of East Gwillimbury, Director of Parks & Leisure Services – Gary Shropshire
- Township of East Gwillimbury Trails Committee – Sylvia Bowman
- Nokiidaa Trails Committee, Chair – Cathy Morton
- Ducks Unlimited Canada, East Gwillimbury Chapter – Ralph Lavender
- Ducks Unlimited Canada, Head of Conservation Planning (Ontario) – Owen Steele
- York Region, Senior Project Manager, Transportation Services – Mark Nykoluk.

The committee was supported by the following LSRCA staff:

- Conservation Lands Planner – Bill Thompson
- Conservation Lands Senior Administrative Assistant – Wanda Black

### **Future evaluation and review of management plans**

This management plan consists of two parts: a Management Plan which provides long and short term goals for the management of the conservation area, and a Business Plan which provides a description and schedule of implementation priorities, coupled with projections of revenues and expenses over a five year period. At the end of each five year operational period, both the Management Plan and the Business Plan will be evaluated to determine their continued relevance to conservation area operations. If it is determined that either of these plans is outdated, they will be reviewed and updated. LSRCA may also opt to update the management plan and/or business plan outside the five-year review period if necessary. Plan evaluation will include an assessment of the conservation area’s ecological integrity, management effectiveness, financial situation, as well as a review of the relevance of stated goals and objectives.

LSRCA will continue to collect monitoring data on biodiversity within Rogers Reservoir Conservation Area. This will include invasive species inventories, breeding bird and other wildlife inventories. This will be supplemented by data on changes in infrastructure and user levels to determine how management of the conservation area and development in the local landscape has impacted the ecological integrity of the conservation area.

Management effectiveness of the conservation area will be evaluated by assessing to what extent the objectives of the conservation area have been met, the adequacy of staffing resources and infrastructure, and to what extent expected outcomes (e.g. increases in visitor use, advancement of LSRCA mandate) were achieved. This assessment will include surveys of the users of Rogers Reservoir Conservation Area, as well as interviews with core staff.



The Business Plan evaluation will include an assessment of real revenues and expenses over the five-year operational period, and a comparison to projected revenues and expenses. This evaluation will be used to refine the Business Plan for the succeeding five-year period.

The results of these evaluations will be provided to a steering committee made up of either the major partners contributing to the management of the conservation area, or a sub-committee of the LSRCA Board, to determine plan review needs. If the committee determines that the goals, objectives, challenges or infrastructure needs have changed substantially, one or both parts of the plan will be reviewed. Major revisions to the management plan, including those that address complex issues, would further restrict public use of the property, or would require substantial investments in infrastructure, will include broad based public consultation and approval of the plan by the LSRCA Board. Amendments to resolve less complicated issues may be made without broad-based public consultation but would be subject to Board approval. Updates to the Business Plan to identify, prioritize, and resource implementation needs for the successive five-year operational period will not require public consultation.

## Section 3: Management Plan

### Introduction

This Management Plan provides the basis and long-term direction for the management of Rogers Reservoir Conservation Area. It is based on an identification of the constraints and capabilities provided by the property (as outlined in the Background Report), and extensive public consultation (as described in the Management Plan Review section).

### Conservation area goals and objectives

Rogers Reservoir Conservation Area will be managed to provide an ecological and recreational corridor along the East Holland River in the centre of a rapidly urbanizing area

More specifically, LSRCA aims to:

- Contribute to local and regional trail networks that connect the conservation area to communities and other natural areas in the Lake Simcoe watershed, and beyond
- Enhance the environmental corridor associated with the East Holland River by increasing the amount of forest habitat in the conservation area
- Rehabilitate the wetland to improve habitat values for waterfowl and other wetland dependent wildlife
- Enhance the educational and interpretive values of the conservation area
- Be proactive about managing the opportunities and threats to the conservation area associated with development proposed in its vicinity

### Permitted uses

Rogers Reservoir Conservation Area will be managed to provide the public with an enjoyable experience in a natural setting. To ensure such an experience, some potential uses of the property have been prohibited by a Provincial Regulation under the *Conservation Authorities Act* (O Reg. 90/112)<sup>16</sup>.

Trails in Rogers Reservoir Conservation Area (Figure 8) will be multi-use trails permitting walking, cycling, and skiing. Dog walking will also be permitted, however dogs must remain on a leash and under control at all times. Motorized use of trails at Rogers Reservoir Conservation Area, with the exception of maintenance and emergency response vehicles, is prohibited.

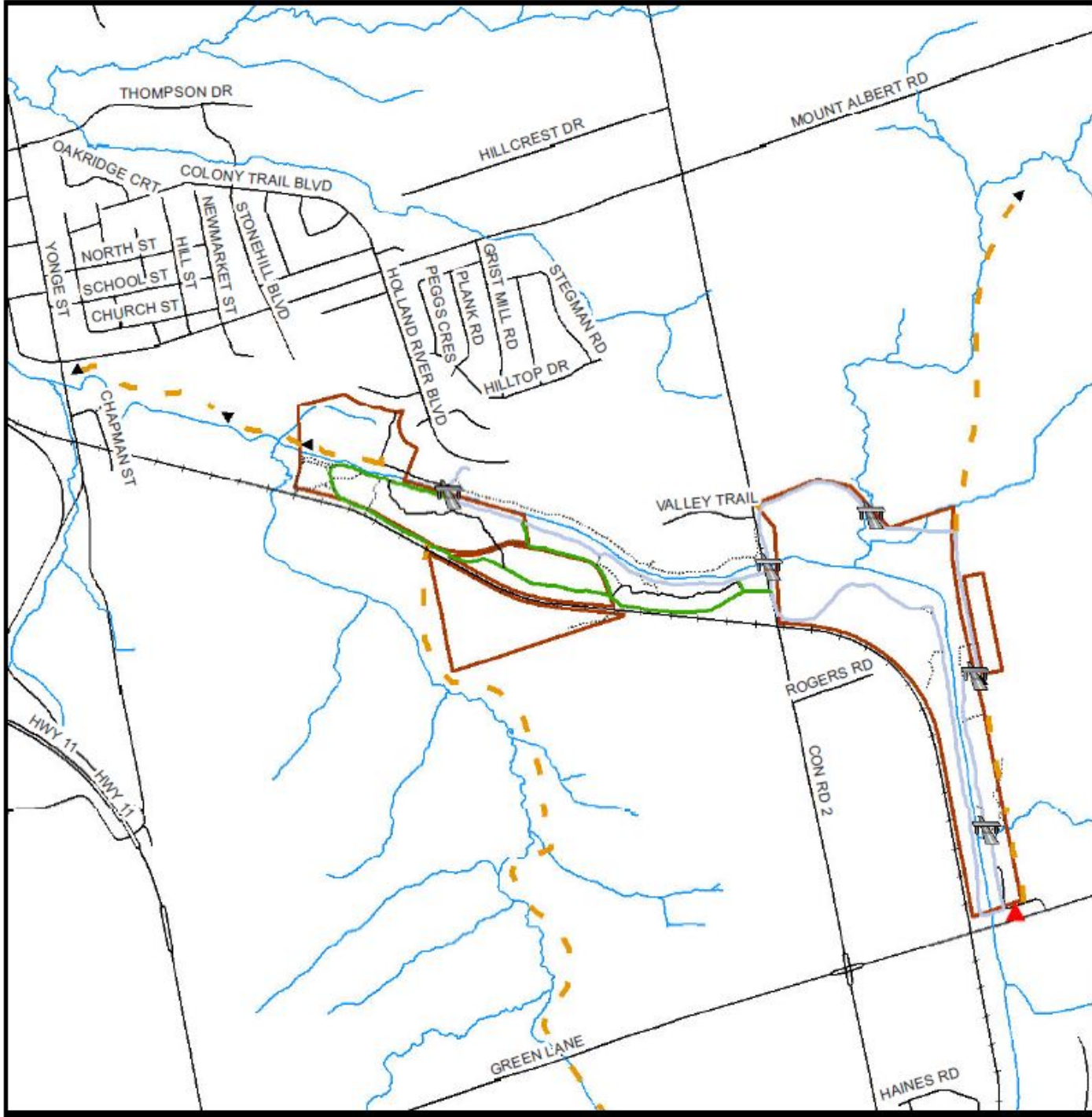
Hunting, camping, littering, removing soil, cutting trees or other vegetation, or lighting fires is expressly prohibited in this conservation area, unless undertaken by LSRCA, or their contractors or volunteers, to meet the management objectives for this property.

Lake Simcoe Region Conservation Authority will clearly mark the main entrances to the Conservation Area with permitted uses (Figure 8). Enforcement of these regulations will be undertaken with the assistance of York Regional Police.

---

<sup>16</sup> For more detail see [www.e-laws.gov.on.ca](http://www.e-laws.gov.on.ca)

# Figure 8. Proposed trail network



**Legend**

- parking
- footbridge
- Railway
- proposed trail network - accessible
- proposed trail network - easy
- proposed trail network - intermediate
- to be closed
- desired trail connection



Lake Simcoe  
Region  
Conservation  
Authority



This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcels, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.

## Boundary management

LSRCA will retain a survey of the boundary of the conservation area on file, and will ensure that the boundaries are clearly marked. LSRCA will inspect boundaries annually for encroachments. As necessary, LSRCA will implement a program to resolve and remediate impacts from boundary encroachments in partnership with the conservation area's neighbours. This program may include community education, site visits, letters, encroachment agreements, and community clean up days where necessary. Any encroachments which pose a risk to the environment or the health and safety of conservation area users, are associated with illegal activities, or could lead to claims of adverse possession will be removed.

LSRCA will improve efforts to restrict access to the property by non-sanctioned motorized vehicles. This will include maintaining barriers where trails enter the conservation area, repairing boundary fences where necessary, and undertaking directed outreach to neighbouring landowners who may be accessing the property to ensure that they are aware of the regulations and rationale pertaining to motorized vehicle restrictions.

The population of the Town of East Gwillimbury is expected to nearly quadruple in size in the next 20 years<sup>17</sup>. Planned development to support this increased population includes an increase in residential housing in the Green Lane Corridor Secondary Plan area, which stretches from Leslie Street to Yonge Street, including on lands immediately adjacent to the conservation area<sup>18</sup> (Figure 7). As this land becomes developed, LSRCA will work with the Town to ensure that adequate fencing exists along the property boundary to prevent uncontrolled access to the conservation area. Specific access points will be identified and provided to allow non-motorized access from this new community to the conservation area.

LSRCA will also promote constructive relations with conservation area neighbours. This may include involving them in relevant aspects of conservation area planning and management or providing opportunities for guided trail hikes or other events.

LSRCA will request that the Town of East Gwillimbury use their parkland dedication process to maintain or enhance natural forest cover adjacent to Rogers Reservoir Conservation Area as development proceeds, to act as a buffer to protect the wildlife and natural features of the conservation area from some of the influences of residential development. LSRCA will also request that the Town of East Gwillimbury consider opportunities to protect or establish environmental corridors through the Green Lane Corridor Secondary Plan area to help support biodiversity and the movement of wildlife to and from the conservation area, during the secondary planning process.

As development proceeds in the land surrounding Rogers Reservoir Conservation Area, additional municipal infrastructure may be proposed in or adjacent to the conservation area. Although land cannot be expropriated from conservation authorities, there may be situations where the sale or provision of easements to Regional or local governments may be necessary, subject to LSRCA Board approval. In such cases, LSRCA staff will ensure that the proposed

---

<sup>17</sup> Town of East Gwillimbury (2010)

<sup>18</sup> Ibid

development meets the requirements of the *Environmental Assessment Act*, regulations under the *Conservation Authorities Act*, the Lake Simcoe Protection Plan, and other relevant legislation, and that appropriate mitigation and restoration measures would be provided to mitigate the predicted impacts associated with the construction and operation of the project on the values of the conservation area. LSRCA will also assess ways in which such proposed infrastructure could contribute to meeting the objectives of this management plan.

Lake Simcoe Region Conservation Authority will pursue opportunities to increase the size of Rogers Reservoir Conservation Area through securement of additional land via purchase, donation, or other methods. All securement initiatives will be on a willing buyer - willing seller basis, and conditional upon available funding, with value to be determined by fair market appraisal. All securement initiatives will also include the creation and registration of a plan of survey. As additional property is acquired, LSRCA will conduct an inventory documenting the wildlife and habitats the property supports, the existence of trails or other infrastructure, public use, disturbance or trespasses. LSRCA will also assess the extent to which the newly secured land contributes to meeting the objectives of this management plan.

### Infrastructure management

LSRCA will maintain existing, and may develop additional, infrastructure at Rogers Reservoir Conservation Area to support the goals and objectives described in this management plan. Any developments would be subject to the requirements of the *Environmental Assessment Act*, regulations under the *Conservation Authorities Act*, Regional and local Official Plans, and other relevant legislation, and would be subject to a site assessment to mitigate detrimental impacts on the values of the conservation area. All new development will be designed and constructed to meet the standards of the *Accessibility for Ontarians with Disabilities Act* as they become available (with the exception of designated trails, as noted below). The design of any new infrastructure at Rogers Reservoir Conservation Area will also incorporate the principles of Crime Prevention through Environmental Design (CPTED) as a measure to reduce the incidence of crime or illicit activity in the conservation area.

#### Trails




Lake Simcoe Region Conservation Authority will manage the trails at Rogers Reservoir Conservation Area to ensure that they contribute to the municipal trail network, while minimizing impacts on native flora and fauna, and to ensure that they meet the guidelines of sustainable and universally accessible trails. Universally accessible trails are not necessarily 'barrier free' or 'handicapped accessible'; rather they represent a trail system that meets the range of abilities and interests of the widest possible range of users<sup>19</sup>. LSRCA will endeavour to provide this range of challenges and opportunities by providing a variety of trails – ranging from accessible, to moderately challenging (Figure 8).

Trails at Rogers Reservoir Conservation Area will be classified as being one of three categories: accessible, easy, or intermediate (Table 1).

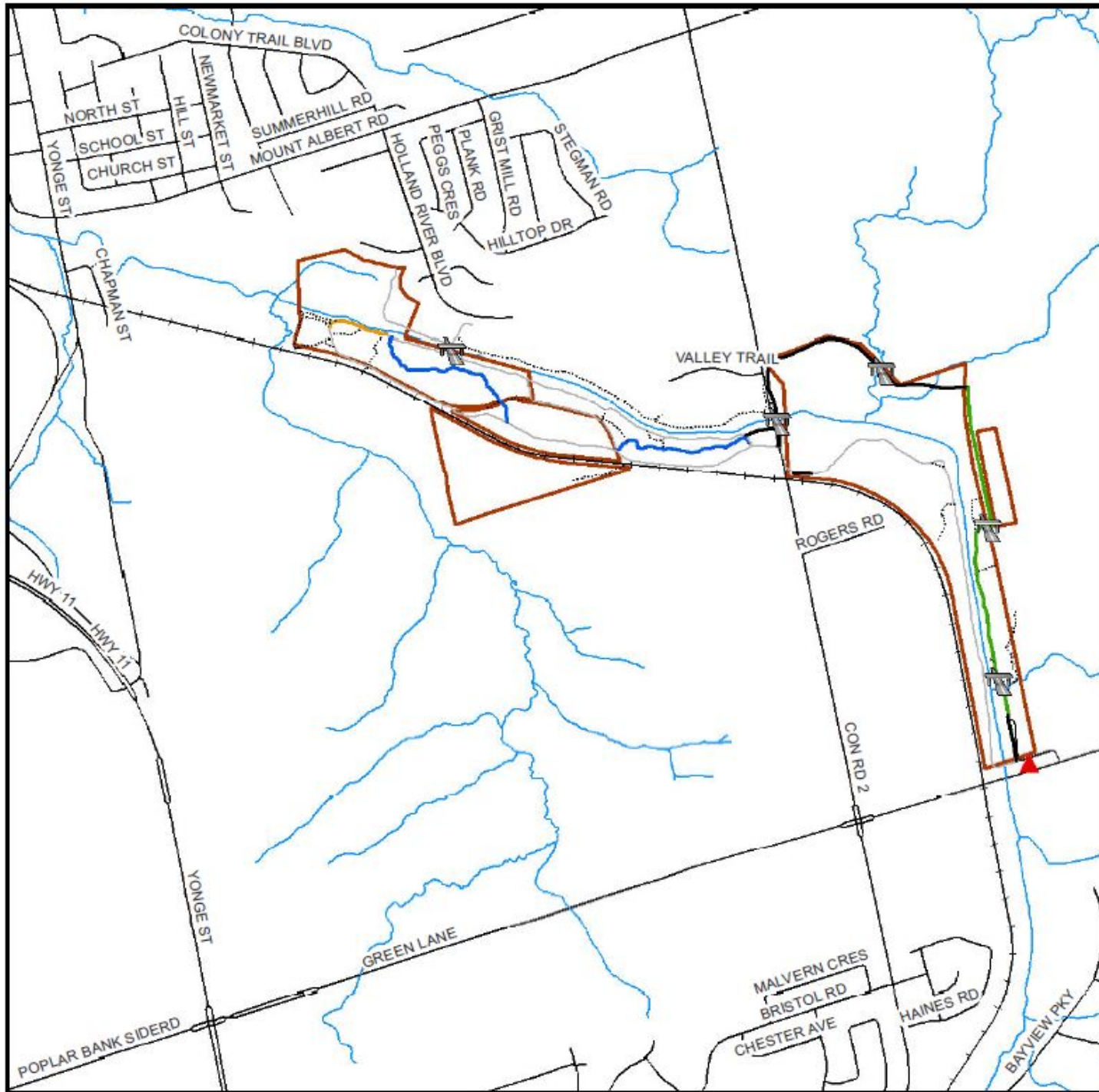
---

<sup>19</sup> As defined by Trails for all Ontarians (2006)

Table 1: Trail classification and design guidelines

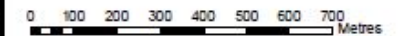
Classification	Accessible	Easy	Intermediate
<b>Symbols</b>			
<b>Intended user experience</b>	<p>Suitable for visitors with limited mobility, or those looking for a barrier-free trail experience</p> <p>Designed to meet the standards under the Accessibility for Ontarians with Disabilities Act. (Note that these standards are currently in draft form only. Their completion may require modifications to these design guidelines.)</p>	<p>For visitors looking for a relaxing or social trail experience.</p> <p>Wide, firm, relatively flat trails, with good sight lines.</p> <p>Because of their length, some Easy trails may be physically challenging for some users</p>	<p>Narrow winding trails, for visitors looking for a trail experience that is more intimate with the natural environment.</p> <p>Occasional steep areas and the length of some Intermediate trails may make them physically challenging for some users.</p>
<b>Tread surface condition</b>	Firm and stable aggregate surface	Firm and stable surface, built up with aggregate where necessary	Natural surface, built up with aggregate or woodchips where necessary
<b>Natural obstacles and technical features</b>	None	None	May include exposed roots and rocks, rough or loose sections of soil, fallen logs or branches
<b>Trail corridor width</b>	Typically, 3m, but may be reduced to 1.5m when site conditions dictate	Minimum 2m	Minimum 1.5m
<b>Tread width</b>	Typically, 3m, but may be reduced to 1.5m when site conditions dictate	Minimum 2m	As determined by use
<b>Clearance height</b>	Minimum 3.5m	Minimum 3m	Minimum 2.5m
<b>Average trail grade</b>	Less than 5%	Less than 5%	Less than 10%
<b>Maximum trail grade</b>	Less than 10%	Less than 10%	Less than 15%

# Figure 9. Trail work needed



### Legend

- |  |            |                               |
|--|------------|-------------------------------|
|  | parking    | <b>Proposed trail work</b>    |
|  | footbridge | — none needed                 |
|  | Railway    | - - - to be closed            |
|  |            | — trail re-route              |
|  |            | — hazard tree removal         |
|  |            | — to be built                 |
|  |            | — to be widened and flattened |



This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Sames Limited.

A loop of trails designated as '**Accessible**' will be provided in the east half of Rogers Reservoir Conservation Area (Figure 8). These trails will meet the requirements of the *Accessibility for Ontarians with Disabilities Act*, as standards are finalized. Currently, only the Nokiidaa Trail section meets these standards, the rest of this trail loop will need to be either constructed or upgraded (Figure 9). The construction of this trail loop will require the establishment of an accessible trail along the northern boundary of the property, and a bridge over the East Holland River, projects that will be coordinated as part of proposed upgrades to the York-Durham Sewer System and Second Concession, respectively. Existing trails to the east of the river will be widened to improve sight lines, and resurfaced with aggregate. Although accessible trails will have barriers at their entrances to prevent access by motorized vehicles, barriers will meet the standards of the *Accessibility for Ontarians with Disabilities Act*, to ensure that they do not present a barrier to desired trail users.

A loop of trails designated as '**Easy**' are provided on the west half of the property, which includes the historic farm access roads (Figure 8). These trails are relatively wide, and have clear sight lines, but may have short steep sections, or rougher surface than the accessible trails. These trails will continue to provide a relatively non-challenging, low intensity recreational trail network for the public, as well as providing access for maintenance and emergency vehicles. This loop does not require any construction or upgrading to meet the standards for 'easy' trails (Figure 9), however there are small sections in the western end of the property which will be re-routed to avoid erosion of the sandy soil and deposition in the East Holland River (Figure 9). In addition, as opportunities arise through the proposed reconstruction of Second Concession, this loop will include a connection to the loop on the east side of the conservation area, under the proposed Second Concession bridge. During the design phase of this connection, it will be determined if it is possible to provide a connection that would enable the entire length of the Nokiidaa Trail through Rogers Reservoir to meet the standards of an accessible trail.

'**Intermediate**' trails are intended to provide a more challenging trail system for hikers and mountain bikers, while providing a more intimate interaction with the forest habitat and minimizing impacts on native species and ecosystems (Figure 8). Intermediate trails are narrower and more winding than accessible or easy trails and have more frequent steep sections. These trails need only minor maintenance (including brushing) to meet the standards of intermediate trails, however minor re-routes may be introduced to increase safety, or make better use of interpretive opportunities along the trail.

Some trails within Rogers Reservoir Conservation Area which are redundant, determined by LSRCA as being particularly unsafe, or particularly disturbing to the environment will be closed (Figure 8). In some cases, unsafe trails will be re-routed instead of closed to improve safety yet maintain connectivity and flow through the trail system. In cases where an alternate trail is to be created to offset the proposed trail closure, the new trail will be built prior to trail closure. Trail closures will include blocking trail entrances, scarifying the trail bed, covering all visible sections with leaf litter and woody debris, and allowing or assisting native vegetation to become re-established. In cases where the trail proposed for closure is in an open grassy area, trail closures will be incorporated into reforestation projects, where possible (Figure 10). In cases where the trail is too well defined or too well known to be effectively disguised, it will be fenced and signed by LSRCA to allow trail users to know the reason for closure, and that trail



closure is intentional rather than the result of a lack of maintenance. Signs and fencing will be removed when natural processes and trail use patterns have effectively hidden these trails. LSRCA will continue to monitor the property to ensure additional non-sanctioned trails are not created. If new non-sanctioned trails appear, they will be closed as described above.

In the event that a trail is closed temporarily for the removal of hazard trees, or to address other issues, LSRCA shall erect temporary barriers and post signage identifying the purpose for the closure. Wherever possible, closures will occur at intersections or other points where users can adjust their intended route, creating a loop, without having to retrace their steps.

As development occurs in the Green Lane Corridor Secondary Plan area, LSRCA will work with the Town of East Gwillimbury, York Region, and developers to identify opportunities to create formal trail linkages between the conservation area and the new community. If this requires the construction of new trails, any construction would be preceded by a site assessment to mitigate any detrimental impacts to the values of the conservation area.

As directed by LSRCA's Hazard Tree Management Strategy, all accessible, easy, and intermediate trails identified on Figure 8 will be inspected annually for hazard trees.

### Bridges

In order to establish the trail network shown in Figure 8, LSRCA will need to install footbridges in Rogers Reservoir Conservation Area. Bridges established on 'accessible' trails will meet the standards for accessibility under the *Accessibility for Ontarians with Disabilities Act*, as they get finalized. Bridges established on 'easy' or 'intermediate' trails will be constructed to meet the trail corridor width and maximum grade standards for those trail classifications (Table 1), and will be primarily of wood construction.

### Signs and Other Infrastructure

All primary and secondary trail access points will be marked with signs identifying the property as Rogers Reservoir Conservation Area, as well as providing information on permitted uses, and contact information for LSRCA and York Regional Police. All primary access points (i.e. those with parking lots) will also have information on invasive species, as well as boot scrubbers, for people to remove any seeds of invasive species which may be stuck to the bottom of their boots, thus reducing the spread of invasives from Rogers Reservoir to elsewhere in the watershed.

LSRCA and its partners will add interpretive signs along the 'accessible' and 'easy' recreational trails to provide additional opportunities for trail users to engage with and celebrate the cultural and natural heritage features in the conservation area. Features which may be interpreted in this way include both cultural heritage features (e.g. the canal, dam and lock, historic mills, historic farmland) and natural heritage features (e.g. the wetland, reforestation projects, and the historic channels of the East Holland River). Interpretive panels will not be placed on 'intermediate' trails, in order to maintain the more intimate nature experience provided by those trails. Information about features of interest along those trails may be provided at trailhead kiosks.

LSRCA and its partners will also install additional rest areas along the 'easy' and 'accessible'

trails, as necessary. Rest areas will be designed to meet accessibility standards when on accessible trails, and to be consistent with the rustic and natural surroundings.

Annual maintenance will be undertaken to ensure the upkeep of these signs, and their visibility to conservation area users.

### Parking Lots

There are currently two parking lots at Rogers Reservoir Conservation Area (Figure 6), both of which are scheduled for modification and/or closure.

The parking lot at the south end of the conservation area, accessed from Green Lane is somewhat secluded, and has been the site of some illegal and illicit uses. That parking lot will be closed and rehabilitated using native trees, with enough of a corridor remaining to permit an accessible trail, with a set of gates or bollards at the current entrance to the parking lot (Figures 8, 10).

Prior to the closure and rehabilitation of that parking lot, the existing informal parking area along the Green Lane Road allowance will be upgraded with a firm and stable surface, built up with aggregates as necessary, to provide as many (or more) parking spaces as are currently provided in the parking lot slated for closure. This parking area will also include designated spots for those with accessibility challenges, maintained to a standard consistent with accessible trails.

As the proposed upgrades to Second Concession are implemented, the parking lot on Second Concession will become inaccessible. That parking lot will be closed and rehabilitated using native trees, or as a wetland habitat, with enough of a corridor remaining to permit an accessible trail. As opportunities permit, this trail will be connected to existing trails on the west half of the property using an underpass under the proposed new bridge on Second Concession.

LSRCA will make the provision of an appropriate replacement for this parking lot a requirement for compensation for the loss of property associated with proposed Second Concession upgrades. An appropriate alternative will be one which provides as many (or more) parking spaces as the current lot, has safe access from the road, and is connected (or can be connected) to the recreational trail network in Rogers Reservoir Conservation Area.

The Town of East Gwillimbury's Active Transportation and Trails Master Plan<sup>20</sup> identifies the trails in Rogers Reservoir Conservation Area as being part of a network of recreational trails that connect the communities of Sharon, Holland Landing, and the corridor north of Green Lane. As development proceeds in the Sharon Community Plan area and Green Lane Corridor Secondary Plan area, LSRCA will recommend to the Town of East Gwillimbury that they consider the inclusion of municipal trail edge parks which can act as hubs for accessing this larger trail network.

As per the LSRCA Hazard Tree Management Strategy, all parking lots and access roads will be assessed twice annually for the presence of hazard trees.

---

<sup>20</sup> Town of East Gwillimbury (2012)

## Vegetation and wildlife management

Lake Simcoe Region Conservation Authority will manage the vegetation at Rogers Reservoir Conservation Area to promote native biodiversity and enhance ecological values on the property.

Rogers Reservoir Conservation Area has been identified as a Primary Environmental Corridor in the East Gwillimbury Official Plan and, as such, is a priority area for forest restoration<sup>21</sup>. LSRCA will manage the conservation area to support that municipal goal. However, grassland-dependent Species at Risk have been identified as inhabiting nearby property, so the maintenance and enhancement of existing grassland habitat in the conservation area will also be a priority.

### Forest Habitat

Lake Simcoe Region Conservation Authority will increase the overall forest cover in Rogers Reservoir Conservation Area through the planting of native trees and shrubs. Wherever possible, plantings will be conducted with community volunteers, to capitalize on the opportunities such projects provide to engage the public in positive environmental actions.

Priorities for reforestation in Rogers Reservoir Conservation Area will be the establishment of native trees and shrubs in a corridor at least 30 metres wide on either side of the East Holland River, with the exception of the footprint of the historic reservoir itself (Figure 10). These riparian corridors will not preclude the existence of recreational trails within 30m of the river.

Secondary priorities for reforestation include relatively large block plantings that would fill in gaps in existing forest cover in areas that do not provide relatively high quality grassland or wetland habitat currently (Figure 10). If these blocks are too large to be feasibly planted with the participation of community volunteers, they may be planted by LSRCA staff.

### Grassland Habitat

Any existing grasslands that have the potential to provide habitat for grassland dependent Species at Risk (Figure 10) will be maintained as grassland habitat.

There have been no documented sightings of bobolink, eastern meadowlark, or any grassland-dependent Species at Risk at Rogers Reservoir Conservation Area between 2010 and 2012. This may be because both bobolink and eastern meadowlark prefer to nest in grasslands which experience periodic mowing, grazing, or fire, which act to reduce the amount of woody vegetation and leaf litter<sup>22</sup>. As such, LSRCA will mow the relatively large block of grassland habitat on the northwest corner of the property every two to three years until 2017. Mowing will only occur between August and March to avoid the breeding season. If after these five years of habitat management, bobolink and eastern meadowlark still do not inhabit Rogers Reservoir Conservation Area, LSRCA may consider stopping these habitat management efforts. If those species do not occur on nearby properties for over five years, LSRCA may consider reforesting this block of land, to contribute to the municipal Primary Environmental Corridor.

---

<sup>21</sup> Town of East Gwillimbury (2010)

<sup>22</sup> Dechant et al (2001) and Hull (2002)

Depending on the design of the wetland enhancement, additional grassland areas around the margin of the wetland may be maintained in order to promote habitat for species requiring grassland habitat or the combination of grassland and wetland habitat.

The meadow habitat in the west half of the property, near the historic Boy Scout camp, will be allowed to remain as such, to provide some habitat diversity on the property, and to preserve the visual diversity provided to trail users by the fall wildflowers in this area.

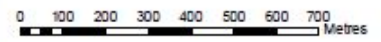
# Figure 10. Vegetation management

## Legend

- Vegetation management**
- Tree planting (priority)
  - Tree planting
  - Wetland restoration potential
  - Grassland management
  - Invasive management



Lake Simcoe  
Region  
Conservation  
Authority



This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources.

While every effort has been made to accurately depict the information, data/mapping errors may exist. This map has been produced for illustrative purposes only.

© LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2012. All Rights Reserved. The following data sets of Assessment Parcel, Roads, Upper & Lower Tier Municipalities are © Queens Printer for Ontario, 2012. Reproduced with Permission. Orthophotography 2011 © J.D. Barnes Limited.



## Wetland Habitat

The proposed widening of Second Concession is anticipated to lead to a small loss of wetland habitat in Rogers Reservoir Conservation Area. Any such impacts would need to be mitigated with the creation of new wetland habitat at a proposed 3:1 ratio.

In addition to any wetland habitat projects required as mitigation measures, LSRCA will examine opportunities to enhance habitat values in the footprint of the historic reservoir and/or the nearby degraded offline wetland, with assistance from Ducks Unlimited Canada and members of the East Gwillimbury chapter of Ducks Unlimited. Currently, these wetlands are composed primarily of cattails, reed canary grass, and purple loosestrife, with no areas of standing water<sup>23</sup>. Opportunities may exist to increase the amount of open water habitat, thus increasing the productivity of these marshes for wildlife, and their aesthetic appeal to conservation area users. Opportunities may also exist to re-establish a wildlife viewing tower near the wetland, or to construct a boardwalk in or adjacent to the wetland. Detailed design of any such habitat enhancement projects would be undertaken after the plans to mitigate impacts associated with Second Concession are completed, to allow Ducks Unlimited and LSRCA to best complement any trail re-routes or habitat enhancements resulting from those plans.

Any plans to modify habitat in an existing wetland would be subject to a permit under the *Conservation Authorities Act*, and would require a demonstration that the project would lead to a net benefit to the ecological function of the wetland and no loss of flood storage.

LSRCA will not permit the use of existing wetland features in Rogers Reservoir Conservation Area as storm water management facilities to support proposed development. Notwithstanding that, LSRCA may engage developers in discussing opportunities to use water exported from stormwater ponds to contribute to the flow to the wetlands in the conservation area which are currently fed by overland flow from those properties, if it can be demonstrated that the exported water will not lead to a net increase in exported phosphorous, sediment, or contaminants to the wetlands.

## Aquatic Habitats

Lake Simcoe Region Conservation Authority will manage Rogers Reservoir Conservation Area to protect and enhance the aquatic habitat values in the East Holland River. This will include the establishment of a riparian buffer of native trees and shrubs 30 meters wide on either side of the River, as a demonstration of the direction for shoreline management provided by the Lake Simcoe Protection Plan.

LSRCA will also reduce the amount of erosion along the streambank, by re-routing a short section of trail that is currently badly eroded (Figure 9), and establishing shrubs such as willows and dogwoods to bind the soil along the shore.

LSRCA will remove the remains of the car from the East Holland River, downstream of the dam.

Over the long term, LSRCA will pursue opportunities to restore a natural river channel through Rogers Reservoir Conservation Area, including re-establishing meanders, grade, pool-riffle

---

<sup>23</sup> Lake Simcoe Region Conservation Authority (2010)

sequences, and micro-habitat variability similar to that which would have existed before the river was channelized to create the Newmarket Canal. Any such channel realignment would capitalize on opportunities to interpret and celebrate the natural and cultural heritage values associated with works along this river. Where possible, this restoration will also include an assessment of ways to improve interspersion of cattail and open water habitats in the wetland.

As the dam under Second Concession does not belong to LSRCA, the Conservation Authority is not proposing its repair. Should York Region pursue its repair, LSRCA would review their plans, to ensure that they conform with the *Conservation Authorities Act*, the *Fisheries Act*, the *Lake Simcoe Protection Act*, and would contribute to the overall management objectives of Rogers Reservoir Conservation Area.

### Invasive Species Management

LSRCA will also manage the property to control the spread of non-native invasive species. Unfortunately, many of the most invasive species in the Lake Simcoe watershed are already well established at Rogers Reservoir Conservation Area<sup>24</sup>. As suggested by Ontario's Invasive Species Strategic Plan<sup>25</sup>, the management and control of invasive species at Rogers Reservoir Conservation Area will take a multi-faceted approach, including monitoring, public education, and prioritizing efforts on protecting areas of existing high quality native vegetation.

LSRCA will focus its efforts on the control of invasive species in areas that have the greatest diversity of native species, and the smallest extent or density of highly aggressive invasive species. If efforts in the high quality, high priority areas successfully contain or reduce the spread or dominance of non-native invasive species, the same approaches may then be expanded to areas with a lower density of native species and higher density of invasives, in an attempt to increase the overall habitat quality in Rogers Reservoir Conservation Area.

Priority areas for invasive species management will be the area along the recreational trails on the east side of the property (Figure 10). This area represents a part of the property with relatively high-quality forest cover, but where highly invasive non-native species such as dog-strangling vine, dame's rocket, Himalayan balsam, and European buckthorn are beginning to become established. This area is also a priority for management as a result of the risk that the trails themselves represent for the spread of seeds of these invasives elsewhere in the conservation area, or beyond. Opportunities to control invasives outside of the high priority areas may occur as the infrastructure upgrades and reforestation and wetland enhancement projects are undertaken (Figure 10).

Invasive species will be managed following recommendations based on the best available science. Where appropriate, LSRCA will coordinate volunteer workdays to manage aggressive invasive plant species.

LSRCA may partner with academic or government researchers or consultants in studying methods of invasive species control.

---

<sup>24</sup> Lake Simcoe Region Conservation Authority (2010)

<sup>25</sup> Ontario Ministry of Natural Resources (2012)

## Marketing and promotion

Raising public awareness and pride in the cultural and natural heritage values of Rogers Reservoir Conservation Area is an important component of resolving non-permitted uses, increasing sanctioned public use of the property, and engaging local support for the conservation area.

A user survey conducted in several of LSRCA's conservation areas in the summer of 2012<sup>26</sup> indicates that most current users have become aware of the conservation areas through word of mouth, from road signs, and from the internet. As such, marketing of Rogers Reservoir Conservation Area will be primarily through signs identifying the conservation area at its main entrance points, clearly visible from the Regional Roads nearby, and through an upgrade and expansion of information about the natural, cultural, and recreational values of the conservation area available on the LSRCA webpage.

However, as word of mouth is the predominant method that users become aware of LSRCA's conservation areas, the best marketing that LSRCA can do will be in ensuring that Rogers Reservoir Conservation Area provides a safe and enjoyable user experience in a biodiverse and well maintained area.

LSRCA will also participate in local tourism-based marketing initiatives, including supporting Regional and local trail networks as opportunities arise, and will provide occasional public events which complement National, Provincial or Regional trails, nature, or outdoor events or festivals.



## Section 4: Business Plan

### Introduction

The Rogers Reservoir Conservation Area Management Plan has identified the following goal for managing Rogers Reservoir Conservation Area:

*Rogers Reservoir Conservation Area will be managed to provide an ecological and recreational corridor along the East Holland River in the centre of a rapidly urbanizing area.*

More specifically, LSRCA aims to:

- Contribute to local and regional trail networks that connect the conservation area to communities and other natural areas in the Lake Simcoe watershed, and beyond
- Enhance the environmental corridor associated with the East Holland River by increasing the amount of forest habitat in the conservation area
- Rehabilitate the wetland to improve habitat values for waterfowl and other wetland dependent wildlife
- Enhance the educational and interpretive values of the conservation area
- Be proactive about managing the opportunities and threats to the conservation area associated with development proposed in its vicinity

Lake Simcoe Region Conservation Authority will need the cooperation of partner agencies, volunteer groups, and other interested groups and individuals to achieve the goals and objectives of this management plan. The conservation authority should continue to work with partners, such as the Town of East Gwillimbury, York Region, the East Gwillimbury chapter of Ducks Unlimited Canada, and the Nokiidaa Trail Committee, in order to ensure coordinated approaches to fundraising and project implementation.

As the future built infrastructure and public use of the conservation area will be strongly influenced by proposed population growth and municipal infrastructure development adjacent to the conservation area, this Business Plan is presented in the context of a number of possible future management scenarios, reflecting these changes, which are outside the control of LSRCA, and whose timing can only be estimated.

- Scenario A – Existing Situation
- Scenario B – YDSS and the Northern Trail
- Scenario C – Second Concession upgrades
- Scenario D – Wetland Enhancement
- Scenario E – Additional Land Acquisition

## Scenario A – Existing situation

This scenario represents Rogers Reservoir Conservation Area in its current condition. Tasks or projects identified under this scenario are those which LSRCA should implement to either properly manage their property or are proactive actions that LSRCA should take to meet the objectives of the management plan.

Priorities under this scenario include ongoing trail maintenance and upgrades, as well as ongoing habitat stewardship projects (Table 2).

Table 2: Projected annual and ongoing expenses for Scenario A Existing Situation

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario A (Existing situation)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,000	0.30		
Grassland management		0.01		
Upgrade website				0.04
Trail upgrades			\$1,500	0.08
Remove bike jumps				0.02
Riparian buffer projects			\$95,000	
Reforestation projects			\$2,500	0.02
Plan evaluation and review			\$5,000	0.25
<b>Total Scenario A</b>	<b>\$1,400</b>	<b>0.31</b>	<b>\$104,000</b>	<b>0.41</b>

### One-Time Expenses:

#### Upgrade website

- Improve marketing of the Rogers Reservoir Conservation Area, by improving the information available on the LSRCA webpage
- Conservation Lands Planner will be responsible for achieving this objective, with the assistance of staff of the LSRCA Communications department

#### Trail upgrades

- Install the footbridge donated by the East Gwillimbury Trails Committee on the trail north of the Green Lane parking lot
- Rationalize redundant intermediate trails (Figure 9)
- Re-route trail around highly eroded shoreline (Figure 9)
- Brush and remove hazards from remaining intermediate trails (Figure 9)
- Remove unauthorized bike jumps from the western half of the property
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Reforestation projects

- Establish a 30m wide riparian buffer, composed of native trees and shrubs, along the east side of the East Holland River (approximately 400m long) and along the north and south banks of the East Holland River, in the west half of the conservation area

(approximately 150m on the south side, 450m on the north) (Figure 10)

- Install shoreline bioengineering to reduce erosion on south bank of East Holland River
- Reforest remaining gaps in otherwise contiguous forest cover, as shown on Figure 10
- The Manager, Watershed Stewardship will be responsible for achieving this objective

#### Annual Expenses:

##### Property taxes

- Continue to pay municipal property taxes. Annual cost estimated based on MPAC appraisal and municipal tax rates from 2008 to 2012
- General Manager of Conservation Lands will be responsible to ensure taxes are paid

##### Grounds and trails maintenance

- Annual workload to maintain property including garbage removal and hazard tree management
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

##### Grassland management

- Mow the grassland in the western end of the conservation area, to improve habitat values for grassland birds (Figure 10). Note that although recurring, this task should only be completed every 2-3 years.
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

## Scenario B – YDSS and northern trail

This scenario represents the installation of the York – Durham sewer main along the northern boundary of the conservation area (proposed to be completed by 2015). This scenario presents some opportunities for trail improvement, but also some ongoing responsibilities for long-term management of the trail, and of public access to a currently inaccessible part of the conservation area (Table 3).

Table 3: Projected annual and ongoing expenses for Scenario B- YDSS and northern trail scenario

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario B (YDSS and northern trail)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,200	0.40		
Grassland management		0.01		
Upgrade website				0.02
Trail upgrades			\$7,050	0.08
Bridges			\$59,600	0.04
Parking lot			\$20,000	0.04
<b>Total Scenario B</b>	<b>\$1,600</b>	<b>0.41</b>	<b>\$86,650</b>	<b>0.18</b>

### One-Time Expenses:

#### Trail upgrades

- Establish an accessible recreational trail above the newly installed sewer main along the northern property boundary (Figure 8)
- York Region is responsible for this deliverable, as a requirement to mitigate (in part) the impacts associated with the proposed sewer main
- Upgrade the trail linking the Green Lane entrance to the Hydro corridor on the east side of the property, to meet the standards for accessible trails (Figure 9)
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Bridges

- Install a footbridge on the trail linking the Green Lane entrance to the Hydro corridor on the east side of the property (Figure 8)
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Parking lot

- Decommission the existing parking lot at south end of property. Install gates and plant trees to convert it to a trail head
- Formalize informal parking area along Green Lane road allowance, including grading and gravelling
- Install boot scrubbers and signs with information on invasive species
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for

achieving this objective

Upgrade website

- Update the LSRCA webpage to reflect the new changes in the Conservation Area
- Conservation Lands Planner will be responsible for achieving this objective, with the assistance of staff of the LSRCA Communications department

Annual Expenses:

Property taxes

- Continue to pay municipal property taxes. Annual cost estimated based on MPAC appraisal and municipal tax rates from 2008 to 2012
- General Manager of Conservation Lands will be responsible to ensure taxes paid

Grounds and trails maintenance

- Annual workload to maintain property including garbage removal and hazard tree management
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

Grassland management

- Mow the grassland in the western end of the conservation area, to improve habitat values for grassland birds (Figure 10). Note that although recurring, this task should only be completed every 2-3 years.
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

## Scenario C – Second Concession upgrades

This scenario represents the proposed widening of Second Concession, and grade separation at the East Holland River, which would raise Second Concession approximately 12 m above its current level. This scenario provides opportunities for wetland enhancement and to provide a trail underpass under the new road. This scenario also provides some challenges related to parking lot and trail access, and ongoing maintenance of existing trails (Table 4). LSRCA will work with the Town of East Gwillimbury and York Region to ensure access to the trails for maintenance and emergency vehicles is maintained. York Region proposes to complete the Second Concession upgrades by 2016.

Table 4: Projected annual and ongoing expenses for Scenario C- Second Concession upgrades

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario C (Second Concession upgrades)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,300	0.45		
Grassland management		0.01		
Upgrade website				0.02
Trail upgrades			\$4,700	0.04
Interpretive signs			\$14,280	0.09
<b>Total Scenario C</b>	<b>\$1,700</b>	<b>0.46</b>	<b>\$18,980</b>	<b>0.15</b>

### One-Time Expenses:

#### Trail upgrades

- Establish an underpass under the Second Concession bridge, to allow trail users to access both the east and west halves of the conservation area, without having to cross the road
- This underpass is part of the conceptual design of the Second Concession widening
- Establish an accessible recreational trail linking the new accessible trail along the property's northern boundary with the new underpass under Second Concession (Figure 8)
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Bridges

- Install footbridge over the East Holland River on the new trail linking the YDSS trail to the underpass, and connecting to the pier on the historic lock structure (Figure 8)
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Parking lot

- Decommission existing parking lot on Second Concession and plant trees to convert it to a trail
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Interpretive signs

- Install interpretive signs along trail network, highlighting features of natural and cultural interest
- These signs are to be developed by the Conservation Lands Planner, with support from Corporate

Communications, and installed by the Coordinator of Conservation Areas, Facilities and Assets

#### Upgrade website

- Update the LSRCA webpage to reflect the new changes in the Conservation Area
- Conservation Lands Planner will be responsible for achieving this objective, with the assistance of staff of the LSRCA Communications department

#### Annual Expenses:

##### Property taxes

- Continue to pay municipal property taxes. Annual cost estimated based on MPAC appraisal and municipal tax rates from 2008 to 2012
- General Manager of Conservation Lands will be responsible to ensure taxes paid

##### Grounds and trails maintenance

- Annual workload to maintain property including garbage removal and hazard tree management
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

##### Grassland management

- Mow the grassland in the western end of the conservation area, to improve habitat values for grassland birds (Figure 10). Note that although recurring, this task should only be completed every 2-3 years.
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

## Scenario D – Wetland enhancement

This scenario represents a potential wetland enhancement project, made possible by works completed under Scenario C. This wetland enhancement project would be undertaken in partnership with other organizations with experience and enthusiasm related to wetland management, such as the East Gwillimbury chapter of Ducks Unlimited Canada.

The details for work undertaken under this scenario will be determined, in part, based on a detailed design of wetland enhancement work proposed, but may include increasing the amount of open water habitat in the footprint of the historic reservoir, and installing a boardwalk and viewing tower (Table 5).

Table 5: Projected annual and ongoing expenses for Scenario D: Wetland Enhancement

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario D (Wetland enhancement)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,400	0.45		
Grassland management		0.01		
Upgrade website				0.02
Wetland project design			\$30,000	
Wetland enhancement			\$150,000	
Boardwalk			\$25,000	0.02
Viewing platform			\$10,000	0.04
Interpretive signs			\$3,570	0.03
<b>Total Scenario D</b>	<b>\$1,800</b>	<b>0.46</b>	<b>\$218,570</b>	<b>0.11</b>

### One-Time Expenses:

#### Wetland enhancement

- Establish areas of open water in the cattail marsh in the reservoir footprint
- This will involve excavating irregularly shaped areas, ranging from 0.6 to 1.5m deep, and removing excavated material from the regulated floodplain
- This project would be contingent upon permitting approvals under the Conservation Authorities Act
- General Manager, Conservation Lands will be responsible for achieving this objective

#### Boardwalk and viewing platform

- Erect viewing tower beside area of open water, or on the historic dam structure, as permitted by design
- Install boardwalk in or beside areas of open water, as permitted by design
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Interpretive signs

- Install interpretive signs near the wetland pockets, as permitted by design, highlighting ecological and management features of interest
- These signs are to be developed by the Conservation Lands Planner, with support from Corporate



Communications, and installed by the Coordinator of Conservation Areas, Facilities and Assets

**Annual Expenses:**

**Property taxes**

- Continue to pay municipal property taxes. Annual cost estimated based on MPAC appraisal and municipal tax rates from 2008 to 2012
- General Manager of Conservation Lands will be responsible to ensure taxes paid

**Grounds and trails maintenance**

- Annual workload to maintain property including garbage removal and hazard tree management
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

**Grassland management**

- Mow the grassland in the western end of the conservation area, to improve habitat values for grassland birds (Figure 10). Note that although recurring, this task should only be completed every 2-3 years.
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

## Scenario E – Land acquisition

This scenario represents a potential acquisition of land adjacent to Rogers Reservoir Conservation Area. Such an acquisition represents an opportunity for additional trail development and habitat enhancement, as well as ongoing obligations related to long-term management of the trail, and of public use of this additional property, as well as additional tax obligations (Table 6).

Table 6: Projected annual and ongoing expenses for Scenario D: Land Acquisition

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario E (additional land acquisition)</b>				
Property taxes	\$1,400			
Grounds and trail maintenance	\$1,500	0.50		
Grassland management		0.03		
Upgrade website				0.02
Land securement			\$350,000	
Parking lot			\$20,000	0.04
Trail upgrades			\$15,275	0.16
<b>Total Scenario E</b>	<b>\$2,900</b>	<b>0.53</b>	<b>\$385,275</b>	<b>0.22</b>

### One-Time Expenses:

#### Land securement

- Acquire additional land, as opportunity permits, to extend public ownership along the East Holland River, and contribute to a contiguous environmental and recreational corridor
- Land Securement Officer will be responsible for achieving this objective

#### Trail upgrades

- Establish an 'easy' trail through the new property, along the East Holland River (Figure 8)
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Parking lot

- Establish parking lot at corner of Yonge St and Mount Albert Sideroad, including grading, gravelling, and installation of trail head and main entrance signs
- Install boot scrubbers and signs with information on invasive species
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

#### Upgrade website

- Update the LSRCA webpage to reflect the new changes in the Conservation Area
- Conservation Lands Planner will be responsible for achieving this objective, with the assistance of staff of the LSRCA Communications department

### Annual Expenses:

Property taxes

- Continue to pay municipal property taxes. Annual cost estimated based on MPAC appraisal and municipal tax rates from 2008 to 2012. Plus an estimate for the proposed acquisition, based on estimated appraised value, and 2012 municipal tax rates.
- General Manager of Conservation Lands will be responsible to ensure taxes paid

Grounds and trails maintenance

- Annual workload to maintain property including garbage removal and hazard tree management
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

Grassland management

- Mow the grassland in the western end of the conservation area, as well as newly acquired land, to improve habitat values for grassland birds. Note that although recurring, this task should only be completed every 2-3 years. Depending on the extent of grassland acquired, mowing may be able to be done on a rotational cycle, permitting the inclusion of multiple-aged grasslands within the conservation area
- Coordinator of Conservation Areas, Facilities and Assets will be responsible for achieving this objective

---

## Potential revenue sources

In order to achieve the implementation priorities of the Rogers Reservoir Conservation Area management plan, regardless of the scenario, LSRCA will need to attract new sources of funding, partnerships, and in-kind support. Funding may include municipal special capital, government and non-government funding programs, private sector sponsorships and volunteer time and donations from the public. Many of these funding opportunities themselves will require, or be enhanced by, partnerships with York Region, East Gwillimbury, the East Gwillimbury chapter of Ducks Unlimited Canada, and other local clubs and service organizations.

### Municipal Operations Levy

On an annual basis, through the *Conservation Authorities Act*, the Lake Simcoe Region Conservation Authority levies its member municipalities for funding to support the Authority's operations. The levy is proportionately shared among the member municipalities based on current value assessment figures authorized by the Ministry of Natural Resources and prepared by MPAC. The operation levy represents the one consistent source of revenue available to the Conservation Authority.

### Municipal Capital Levy

Additionally, on an annual basis, through the *Conservation Authorities Act*, the Lake Simcoe Region Conservation Authority levies its member municipalities for funding to support the Authority's programs and projects. The levy is based on the programs and projects each individual municipality selects to participate in. The programs and projects may be specifically related to the individual municipality, such as subwatershed plans, or may relate to the entire watershed, such as the basin-wide initiative program.

### Development Charges

Funding for development of trails or other infrastructure may become available from the Town of East Gwillimbury, through development charges associated with the implementation of the Active Transportation and Trails Master Plan. In addition, East Gwillimbury's Community Infrastructure Partnership Program provides opportunities for East Gwillimbury based not for profit groups to apply for funding to contribute to the development of infrastructure that contributes to municipal objectives.

### Landowner Environmental Assistance Program

The Landowner Environmental Assistance Program (LEAP) is a funding program administered by LSRCA to provide funding and technical assistance to landowners undertaking projects to improve water quality in Lake Simcoe. Projects related to water quality improvement, such as riparian buffers and shoreline bioengineering may be eligible to receive up to 50% funding (to a maximum for each project) from LEAP.

### Pedestrian and Cycling Municipal Partnership Program

The Pedestrian and Cycling Municipal Partnership Program is a funding program provided by York Region to accelerate the implementation of pedestrian and cycling infrastructure in York

Region. Upgrades to trails that contribute to the Regional Trail network, including trail re-surfacing, bridges, and signs may be eligible to receive up to 50% funding from the Pedestrian and Cycling Municipal Partnership Program

#### Ducks Unlimited Canada- East Gwillimbury Chapter

The East Gwillimbury chapter of Ducks Unlimited Canada have been actively fundraising for a number of years, with the intention of establishing a project in memoriam of one of their past members in East Gwillimbury. The proposed wetland enhancement at Rogers Reservoir Conservation Area may be a suitable memorial.

#### Great Lake Guardian Community Fund

The Great Lakes Guardian Community Fund is a new funding program provided by the Ontario Ministry of Environment, to support community projects that help protect and restore the ecological health of the Great Lakes. Projects which improve wetlands, protect habitat, protect water, or empower local residents could be eligible for 100% funding from the Great Lakes Guardian Community Fund.

#### Lake Simcoe / South-Eastern Georgian Bay Clean-Up Fund

The Lake Simcoe / South – eastern Georgian Bay Clean-Up Fund (LSGBCUF) is a Federal funding program designed to provide financial assistance for projects that would improve water quality and fish habitat in Lake Simcoe or South-eastern Georgian Bay. Projects at Rogers Reservoir Conservation Area that could be eligible for LSGBCUF funding include establishing riparian buffers or enhancing wetland and aquatic habitats. LSGBCUF can fund up to two thirds of the total cost of these projects, including salaries, operating expenses, and professional services.

#### Other Federal Funding

In past years, the Federal Government has had a number of other funding programs which could have supported projects identified in the Rogers Reservoir Conservation Area Management Plan, including the Enabling Accessibility Fund (EAF), the National Trails Coalition funding and the Community Infrastructure Improvement Fund (CIIF). Although none of these programs are currently accepting applications for funding, future calls for proposals may make funding from these, or other similar, sources available.

#### Other Sources of Funding

Other smaller funds such as the TD Trust Friends of the Environment, Shell Environment Fund, the Evergreen Foundation, the Community Fish and Wildlife Improvement Program, or Wildlife Habitat Canada may also contribute to projects in Rogers Reservoir Conservation Area. In addition, the Lake Simcoe Conservation Foundation may be able to achieve additional fundraising from the private sector.

---

## References

- Angus, J.T. 2000. A work unfinished: the making of the Trent-Severn Waterway. Severn Publications Ltd, Orillia ON.
- Brown, D.M., G.A. McKay and L.J. Chapman. 1981. The climate of southern Ontario. Environment Canada, Atmospheric Environment Service. Climatological Studies number 5. Ottawa, ON.
- Chapman, L.J. and Putnam, D.F. 1966. The physiology of southern Ontario (2nd ed). University of Toronto Press. Toronto, ON.
- Colombo, S.J., D.W. McKenney, K.M. Lawrence and P.A. Gray. 2007. Climate change projections for Ontario: practical information for policymakers and planners. Ontario Ministry of Natural Resources, Applied Research and Development Branch. Climate Change Research Report CCRR-05. Sault Ste. Marie, ON.
- Dechant, J. A., M. L. Sondreal, D. H. Johnson, L. D. Igl, C. M. Goldade, A. L. Zimmerman, and B. R. Euliss. 2001. Effects of management practices on grassland birds: Bobolink. Northern Prairie Wildlife Research Center, Jamestown, ND. 24 pages.
- Hoffman, D.W and Richards. N.R. 1955. Soil survey of York County. Ontario Soil Survey Report No. 19. Canada Department of Agriculture and the Ontario Agricultural College.
- Hull, S. D. 2002. Effects of management practices on grassland birds: Eastern Meadowlark. Northern Prairie Wildlife Research Center, Jamestown, ND. 35 pages
- Lake Simcoe Region Conservation Authority. 2008. Watershed report card 2008: a report on the health of the Lake Simcoe watershed.
- Lake Simcoe Region Conservation Authority. 2010. Rogers Reservoir Conservation Area natural heritage inventory.
- Lake Simcoe Region Conservation Authority. 2012. Conservation Area/Durham Regional Forest Trail User Survey Report.
- Ontario Department of Energy and Resources Management, Conservation Authorities Branch. 1966. Holland Valley Conservation Report: water.
- Ontario Ministry of Natural Resources. 2012. Ontario Invasive Species Strategic Plan. Toronto: Queen's Printer for Ontario. 58 pp.
- Puric-Mladenovic, D. 2003. Predictive vegetation modeling for forest conservation and management in settled landscapes. PhD dissertation, Faculty of Forestry, University of Toronto.
- South Lake Simcoe Conservation Authority. 1979. Rogers Reservoir Conservation Area Master Plan. Town of East Gwillimbury. 2010. Consolidated Official Plan 2031.
- Town of East Gwillimbury. 2012. East Gwillimbury Active Transportation and Trails Master Plan. Draft report.
- Trails for all Ontarians. 2006. Ontario's best trails: Guidelines and best practices for the design,

construction and maintenance of sustainable trails for all Ontarians. Available online at [www.abilitiescentre.org](http://www.abilitiescentre.org)

## Appendix. Detailed expenses to achieve management plan objectives

	Annual costs		One time costs	
	\$	FTE	\$	FTE
<b>Scenario A (Existing situation)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,000	0.30		
Grassland management		0.01		
Upgrade website				0.04
Trail upgrades			\$1,500	0.08
Remove bike jumps				0.02
Riparian buffer projects			\$95,000	
Reforestation projects			\$2,500	0.02
Plan evaluation and review			\$5,000	0.25
<b>Total Scenario A</b>	<b>\$1,400</b>	<b>0.31</b>	<b>\$104,000</b>	<b>0.41</b>
<b>Scenario B (YDSS and northern trail)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,200	0.40		
Grassland management		0.01		
Upgrade website				0.02
Trail upgrades			\$7,050	0.08
Bridges			\$59,800	0.04
Parking lot			\$20,000	0.04
<b>Total Scenario B</b>	<b>\$1,600</b>	<b>0.41</b>	<b>\$86,650</b>	<b>0.18</b>
<b>Scenario C (Second Concession upgrades)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,300	0.45		
Grassland management		0.01		
Upgrade website				0.02
Trail upgrades			\$4,700	0.04
Interpretive signs			\$14,280	0.09
<b>Total Scenario C</b>	<b>\$1,700</b>	<b>0.46</b>	<b>\$18,980</b>	<b>0.15</b>
<b>Scenario D (Wetland enhancement)</b>				
Property taxes	\$400			
Grounds and trail maintenance	\$1,400	0.45		
Grassland management		0.01		
Upgrade website				0.02
Wetland project design			\$30,000	
Wetland enhancement			\$150,000	
Boardwalk			\$25,000	0.02
Viewing platform			\$10,000	0.04
Interpretive signs			\$3,570	0.03
<b>Total Scenario D</b>	<b>\$1,800</b>	<b>0.46</b>	<b>\$218,570</b>	<b>0.11</b>
<b>Scenario E (additional land acquisition)</b>				
Property taxes	\$1,400			
Grounds and trail maintenance	\$1,500	0.50		
Grassland management		0.03		
Upgrade website				0.02
Land securement			\$350,000	
Parking lot			\$20,000	0.04
Trail upgrades			\$15,275	0.16
<b>Total Scenario E</b>	<b>\$2,900</b>	<b>0.53</b>	<b>\$385,275</b>	<b>0.22</b>
<b>Total</b>			<b>\$813,475</b>	<b>1.07</b>