Beaver River Wetland Conservation Area Management Plan

Lake Simcoe Region Conservation Authority

2010
This Management Plan was made possible with the financial support of the Ontario Heritage Trust.
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Executive summary

The Beaver River Wetland Conservation Area Management Plan provides direction for the future management of the Beaver River Wetland Conservation Area.

The Management Plan has been written in four sections: a Background Report which summarizes and synthesizes information on the natural heritage of the property and its current levels of development and public use; a Development of the Revised Plan 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 a Business Plan which provides a description and schedule of implementation priorities, coupled with projections of revenues and expenses over a five year period.

Background

Beaver River Wetland Conservation Area is a 393 ha (971 ac) conservation area situated along the Beaver River in Brock and Scugog Townships in the Regional Municipality of Durham. LSRCA has been acquiring this conservation area since 1994, with the support of the Nature Conservancy of Canada, Ontario Heritage Trust, the Regional Municipality of Durham, the Ministry of Natural Resources, Ducks Unlimited Canada, and a number of private donations.

Functionally, Beaver River Wetland Conservation Area consists of two parts, an abandoned CN rail line which provides a recreational trail running along the western side of the conservation area, and an extensive portion of the Provincially Significant Beaver River wetland complex.

In 2009, the process to develop a management plan for the property was initiated. Plan review included 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 2008, and workshops at the conservation area in the fall of 2009 and spring of 2010.

In 2009, the Beaver River Wetland 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:

- Durham Region, Regional Councillor and Lake Simcoe Region Conservation Authority, Board representative – John Grant;
- Lake Simcoe Region Conservation Authority, Chief Administrative Officer – Gayle Wood;
- Township of Brock, Chief Administrative Officer and Municipal Clerk - Thom Gettinby;
- Durham Region, Senior Planner - Lori Riviere-Doersam;
- Trans Canada Trail Ontario, General Manager – Dan Andrews;
- Heart of Ontario Snowmobile Club, President – Doug Baker
The committee was supported by the following LSRCA staff:

- General Manager of Conservation Lands – Brian Kemp;
- Land Securement Officer – Kevin Kennedy;
- Conservation Lands Planner – Bill Thompson;
- Conservation Lands Administrative Assistant – Wanda Black

Management issues
A few issues appeared to be top of mind for many of the users of Beaver River Wetland Conservation Area, including:

**Illegal activities on the trail.** Illegal activities including the use of motorized vehicles (other than snowmobiles), dumping of refuse, and hunting on the trail or adjacent private property were concerns for many, particularly neighbours of the conservation area.

**Conservation of wildlife and water quality.** Concerns were raised about declining wildlife populations, and the perception of eutrophication and significant increase in aquatic vegetation growth in the river.

**Increased public awareness of the trail and conservation area.** The lack of public awareness of the existence of the conservation area and rail trail, even by neighbours of the conservation area, was identified as one of the major challenges for LSRCA

Management goals and objectives
The Beaver River Wetland Conservation Area will be managed to conserve and enhance the hydrological and natural heritage values of the Beaver River wetland complex, while providing for compatible recreational, educational and research activities.

More specifically, LSRCA aims to:

- Protect and enhance the wetland’s ecological integrity, including its wildlife populations and habitats;
- Provide opportunities for increased public understanding, involvement, appreciation, and enjoyment of the wetland;
- Improve infrastructure to support authorized and compatible public use of the conservation area, including a linear recreational trail along the length of the Beaver River, while reducing unauthorized and non-compatible uses
- Secure additional lands within the Beaver River wetland through donation, purchase and conservation easement

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

- LSRCA will pursue partnership opportunities with the Township of Brock, Hydro One, Ontario Realty Corporation and the Kawartha Trans Canada Trail Association to enhance the regional trail network, including
the designation of 20km of abandoned CN line between Uxbridge and the City of Kawartha Lakes as part of the Trans Canada Trail

- Both the rail trail in the conservation area, and the proposed new segment of the Trans Canada Trail will be upgraded to meet the standards of the Accessibility for Ontarians with Disabilities Act, and to effectively prevent access to the trail by non-authorized motorized vehicles
- Public parking to access the trail will be established in the communities of Cannington and Sunderland
- Signage will be erected to identify the property as the Beaver River Wetland Conservation Area, to direct visitors to parking lots, and to provide interpretive information about the trail
- Outreach in the local community will be increased to highlight the trail and proposed upgrades
- An assessment of opportunities to enhance habitat for waterfowl and turtles, and to reduce roadkill to amphibians and reptiles will be undertaken

Business plan direction
The Business Plan identifies priorities for implementation, and provides a schedule for the period 2010 – 2014 coupled with projections of revenues and expenses over that five year period. Initial effort will be expended on establishing management or lease agreements for the full trail network, upgrading the condition of the trail, providing parking lots in Sunderland and Cannington, erecting identification and interpretive signs, and increasing public engagement and awareness.

Preliminary projections of the cost to implement these projects and programs total approximately $600,000 as well as additional staff time (approximately 0.6 of a full time equivalent). Significant fundraising will be necessary to offset these expenses. A number of potential funding sources, including Municipal special capital funding, Trans Canada Trail, and the Ontario Trillium Foundation have been identified to help address these funding needs.
Authority Resolution

Beaver River Wetland Conservation Area Management Plan

At meeting No. BOD-06-10 of the Lake Simcoe Region Conservation Authority held on June 25, 2010 the following was adopted by the Board of Directors by Resolution BOD-089-10:

THAT Staff Report No. 33-10-BOD regarding the Beaver River Wetland Conservation Area Management Plan be received; and

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

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

FURTHER THAT staff be directed to use the Beaver River Wetland Conservation Area reserve, as and if required, to a maximum of $25,000.
Section I: 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, private donations, and other conservation organizations. These lands range from significant natural areas such as the Beaver River Wetland Conservation Area to more intensive recreational and educational facilities such as those provided at Scanlon Creek or Willow Beach Conservation Areas.

Beaver River Wetland Conservation Area is situated along the Beaver River in Brock Township and in the City of Kawartha Lakes, in one of the most ecologically significant natural areas in the Lake Simcoe watershed. As one of LSRCA’s priority acquisition areas, the Beaver River Wetland Conservation Area is constantly growing in size, however it currently consists of 15 km of recreational trail along an abandoned rail line as well as 393 ha of wetland habitat.

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 the property 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, development and human and wildlife use of the Beaver River Wetland 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 development.

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1 See for example White (1972), Ecologistics (1982), Hanna (1984) and MNR (1985)
Site location and brief description

The 393 ha (971 ac) Beaver River Wetland Conservation Area is situated in part of Lot 13 Concession III, Lots 12-14 Concession IV, Lots 12-13 Concession V, Lots 13-15 Concession VI, Lots 15-16 Concession VII, Lots 16-18 Concession VIII, Lots 17-18 Concession IX, Lots 18-19 Concession X and Lots 19-20 Concession XI in Brock Township, Durham Region; parts of Lots 1 and 2, Concession X in Scugog Township, Durham Region; and part of Lots 1 and 2 Concession XIV and Lots 2 and 3 Concession XV in Mariposa Township, city of Kawartha Lakes (Figures 1, 2).

Functionally, Beaver River Wetland Conservation Area consists of two parts, an abandoned CN rail line which provides a recreational trail running along the western side of the conservation area, and an extensive portion of the Beaver River wetland complex. This wetland complex has been identified as a Provincially Significant Wetland\(^2\), and an Environmentally Sensitive Area\(^3\). In addition, that portion of the wetland complex in Uxbridge (south of the current bounds of the conservation area) has been identified as a Regionally Significant Area of Natural and Scientific Interest.

Topography and soils\(^4\)

The Beaver River Wetland Conservation Area lies at the western extent of the Peterborough Drumlin Field which is characterised by a rolling calcareous sand and clay till plain, dotted with numerous drumlins and eskers. The upland features in this physiographic region tend to be well drained, and promote the accumulation of water in the intervening low-lying areas of finer till. The combination of excess water, water-retentive soil, and the flat topography of the till plain makes the Peterborough Drumlin Field typically one of steep well-drained hills interspersed with low swampy areas.

The Beaver River is located within a deep, but gradually sloping, valley in this till plain. The river tends to be extremely slow moving, and prone to flooding. Over the millennia since the retreat of the glaciers, this broad flat valley has almost always been saturated with water, allowing organic debris to accumulate rather than decompose. This partially decomposed organic matter increases the water holding capacity of the soil and has allowed the development of the Beaver River wetland complex.

Hydrology

The Beaver River Wetland Conservation Area is dominated by the Beaver River and its associated wetland. The river is a very slow flowing, meandering and shallow, mostly less than a metre in depth, and ranges from 15 to 60 metres in width. The Beaver River has a 327 km\(^2\) drainage area, which stretches from Uxbridge north to Beaverton where it empties into Lake Simcoe (Figure 3).

Approximately 10.2 km of the Beaver River, as well as a number of short tributaries, flow through the conservation area. Due to the relatively inaccessible nature of much of the conservation area, it remains relatively unimpacted by disturbance to the watercourse or wetlands, however a recent inventory by LSRCA found several locations along the rail trail where sedimentation was occurring, typically associated with culverts, motorized vehicle impacts, or both.

\(^2\) MNR (1985)
\(^3\) Ecologistics (1982)
\(^4\) Based on Olding et al (1950), Chapman and Putnam (1966), and Beacon Environmental (2008)
The information on this map has 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.

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LSRCA GIS Services Draft printed October 2004
The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

Figure 3
Hydrology

Legend
- Road
- Watercourse
- Beaver River watershed

Subwatersheds

Location Map

The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

The river has a relatively wide floodplain, underlain by organic soils, which has supported the development of an extensive wetland complex, approximately 2453 hectares in size. This complex has been assessed under a number of different programs, including a 1985 wetland evaluation by the Ministry of Natural Resources. Invariably, these studies have identified the Beaver River wetland as being one of the most significant natural areas in the Lake Simcoe watershed. MNR’s wetland evaluation identified the wetland as being ‘Provincially Significant’ as a result of its size, habitat diversity, and number of rare species it supports.

By the time water draining from this watershed enters Lake Simcoe it is among the cleanest of any tributary feeding the lake. Water quality within the wetland complex itself is a bit more uncertain however. Although LSRCA does not sample water quality in the wetland, a recent biological inventory of the conservation area identified fewer dragonflies than expected. As a species group, dragonflies tend to be sensitive indicators of water quality, which raises concerns about potential nutrient loadings in the wetland.

Climate

Beaver River Wetland Conservation Area is in the Simcoe and Kawartha Lakes climatic region. Over the past thirty years, precipitation in the Beaver River area has averaged 888 mm per year, of which an average of 724 mm has been rainfall. Average annual temperature over this period has been 6.4 °C, with average minimums of -14.4 °C (typically in February) and average maximums of 26.3 °C in July and August. 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.

Human history and settlement

The Beaver River watershed was settled beginning in 1818. The rich loamy soil in Brock Township allowed the development of a productive agricultural community in this area, and by the 1830s a number of sawmills, woollen mills, and grist mills had been built on the Beaver River near the communities of Sunderland and Cannington.

By 1871 the Toronto-Nipissing Rail line, from Toronto to Lake Nipissing, was built along the Beaver River through Blackwater, Sunderland and Cannington to carry lumber from northern Ontario and grain from Durham Region to markets in Toronto, and passengers north to Uxbridge, Stouffville, Beaverton and Sutton. The addition of the rail line was a financial boon to the area, and led to a rapid increase in population in communities along its length, including Sunderland and Cannington. Over the years this rail line changed hands until it was ultimately decommissioned and divested by Canadian National Railways in the 1980s.

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5 MNR (1985)
6 LSRCA (2008a)
7 Beacon Environmental (2008)
8 Brown et al. (1981)
9 Based on Environment Canada’s Canadian Climate Normals database
10 Colombo et al. (2007)
11 Based on Farewell (1971) and Johnson (1973)
Property acquisition

The Beaver River wetland complex came under LSRCA jurisdiction in 1978 when Brock Township joined the Conservation Authority. Shortly thereafter, its importance as a natural heritage feature was highlighted in a watershed-wide assessment of environmentally significant areas in the early 1980s\(^\text{12}\).

By the early 1990s, this expert-based acknowledgement of the value of the wetland complex was accompanied by an increasing local awareness. Local residents, including celebrated author Timothy Findley, formed grassroots conservation organizations to lobby the municipality and the then South Lake Simcoe Conservation Authority to increase the protection of wetlands in Brock Township. In response to their interest, the Conservation Authority developed a plan for acquiring portions of the wetland between Blackwater and Cannington\(^\text{13}\). At the request of Township Council in Scugog, this plan was later expanded to include those portions of the PSW in Scugog Township as well.

The acquisition of a 15 km length of the abandoned CN line in 1994 was the initial first step in the acquisition plan. This project was coordinated by Charles Sauriol, and funded by a number of private foundations. Additional outreach to landowners along the wetland was conducted by Findley and his associates.

Acquisition faltered somewhat until 2004 when Katharine Symons made a bequest to the Authority specifically to support the acquisition of additional wetland properties in the Beaver River wetland complex. Since that time LSRCA has partnered with other conservation organizations such as Ducks Unlimited Canada, the Nature Conservancy of Canada, Ontario Heritage Trust and the Region of Durham to acquire and protect 393 ha of wetland (Figure 4).

Securement of additional parcels of land in the Beaver River wetland complex continues to be a priority for LSRCA\(^\text{14}\). The Authority continues to identify priority lands which contribute to the protection of this natural heritage complex, which it is able to acquire from landowners on a willing buyer - willing seller basis. Securement of land is through a number of mechanisms, including purchase, donation, conservation easement, bequest, or combination of the above, with value established by fair market appraisal.

\(^{12}\) Ecologistics (1982)  
\(^{13}\) LSRCA (1992)  
\(^{14}\) LSRCA (2006)
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Ecosystems

Ecosystems of the Beaver River Wetland Conservation Area include a variety of wetland types, with dominant species varying in relation to hydrology. The river valley, with its slight changes in elevation and water depth laterally across the channel, as well as complex meanders longitudinally along the river, support both a diversity of habitat types and an interspersion of wetland communities, a factor that is extremely important for some wetland dependent species such as waterfowl (Figure 5).

The broad and relatively shallow river channel is dominated by submerged and floating-leaved aquatic communities, composed of mixes of pondweed, water lily, and bullhead lily, with occasional stands of wild rice along the sides of the main channel. This is an extremely productive area and by late summer the biomass in the river can become so thick it can be difficult to even navigate a canoe through.

Along the margins of the river, in areas typically with shallower water, are marshes dominated by narrow leaf and broad leaf cattail, as well as their hybrid. Interspersed with the cattails in some locations are broad leaved sedge marshes and willow thickets. Marshes are the most common habitat type in the conservation area and provide extremely important wildlife habitat.

Along the upland margins of the wetland are treed swamps, including sites dominated by mixes of black ash, Freeman’s maple, yellow birch, American elm and white cedar, and sites dominated by a mix of white cedar, white spruce and balsam fir. Small occurrences of black spruce – tamarack ecosystems can also be found. Swamps in the Beaver River Wetland Conservation Area can vary from nearly upland sites, overlooked in the original wetland evaluation, to areas more obviously swamp with inclusions of open water and cattails. One stand of black ash, Freeman’s maple and white cedar swamp was identified in the recent biological inventory as a possible old growth forest.

At the interface between treed swamp and cattail marsh are extensive stands of thicket swamp composed primarily of speckled alder and slender willow. These habitats can include inclusions of other habitat types, including areas of open water, cattails and trees such as eastern white cedar.

The Beaver River wetland complex is home to 35 plant species which are rare elsewhere in the Lake Simcoe Watershed. Of those, 6 species have been recorded in the conservation area. Included in this list of watershed rare species is the provincially Endangered butternut, which can be found in at least one location along the railway trail.

Invasive species are rare within the Beaver River wetland complex; however there are scattered occurrences of a number of invasive species (e.g. dog strangling vine, European buckthorn and Japanese knotweed) along the railway trail. European buckthorn can also be found in other relatively dry areas, including small upland knolls, and along upland edges of swamps.

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15 For more detail see MNR (1985), Beacon Environmental (2008) and Beacon Environmental and LSRCA (2008a, 2008b)
The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

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**Wildlife**

The Beaver River wetland complex, due to its size, the diversity of habitat types, its north-south orientation, and the relatively low levels of human influence, is an extremely important habitat area for wildlife in the Lake Simcoe watershed.

Many of the more interesting and rare species are associated with the extensive marsh habitats. This includes the Threatened least bittern, the Special Concern black tern and various wetland specialists such as Virginia rail, sora, American bittern, American coot and Wilson’s snipe. Waterfowl such as blue-winged teal, wood duck, mallard and Canada goose also use the marshes for brood habitat. As well, amphibians such as green frog, wood frog, mink frog, spring peeper, northern leopard frog, American bullfrog, snapping turtle and painted turtle use the marsh habitat for at least part of their life cycles.

The extensive shrub thicket communities provide important habitat for species such as yellow warbler, common yellowthroat, Nashville warbler, alder flycatcher, willow flycatcher and eastern kingbird, while the northern harrier can be seen hunting for unwary blackbirds or small mammals among the mosaic of marsh and shrubs. Many of the marsh species noted above also use the shrub areas to a greater or lesser extent.

The more heavily forested wetlands support a wide range of area sensitive wildlife including northern goshawk, red-shouldered hawk, several species of woodpecker, great crested flycatcher, nuthatches, veery, wood thrush, red-eyed vireo, and several species of warbler, including the Canada warbler, recently designated as Threatened by COSEWIC, as well as the blue spotted salamander, and gray treefrog.

The gravel base of the rail trail makes it attractive nesting and basking habitat for snapping turtles and garter snakes.

In addition to the breeding birds, migrant waterfowl use the marsh for feeding and resting. It is likely that many hundreds of thousands of birds use Beaver River Wetland Conservation Area each spring and fall during the migration periods. For example, large roosts of blackbirds and tree swallows have been seen roosting in the cattail marshes in late summer prior to, or during, their southbound migration.

Periodic sampling of the river by LSRCA has found that despite the warm water temperature, and indications of variable water quality from benthic invertebrates, the Beaver River supports a healthy mix of cool- and cold-water fish communities.

In addition to the formal data collected by the MNR in the 1970s and 1980s, and by Beacon Environmental in 2008, naturalist clubs have been visiting the conservation area near Blackwater for several years, participating in annual counts of butterflies, dragonflies and spiders. Although it is difficult to interpret the results of lists such of these, due to their inherent biases, and in the case of spider surveys, because of the limited understanding of the target species’ ecological requirements, these observers have identified a number of regionally rare insect species inhabiting the Beaver River Wetland Conservation Area.

**Development and infrastructure**

Development within the Beaver River Wetland Conservation Area is almost entirely limited to the abandoned CN rail line. In the 1980s the rail line was removed, and the rail bed became a recreational trail. This trail goes from Toronto, through Markham, Uxbridge, Blackwater, Sunderland and Cannington, ultimately connecting to the City.

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16 For more detail see Beacon Environmental (2008) and Beacon Environmental and LSRCA (2008a, 2008b)
of Kawartha Lakes. Twelve kilometres of the trail lay within the conservation area through Brock Township along the western edge of the wetland. There is an additional 2.5 km of trail within the City of Kawartha Lakes which represents the entirety of the conservation area within that municipality (Figure 1). The trail averages 4 – 6 m in width and has a gravel base, unmodified since the time of rail removal. Along the length of the trail are four trestle bridges. This rail trail is managed by the Heart of Ontario Snowmobile Club as an OFSC (Ontario Federation of Snowmobile Clubs) trail.

Signage along the trail indicates restricted uses (e.g. no motorized vehicles) as well as regulations associated with the use of the snowmobile trail. There is also a monument near Blackwater in memoriam of Katherine Symons’ brother, in whose name the bequest was made.

Some sections of the boundary of the conservation area are fenced with 48” paige wire fence. This fencing pre-dates Conservation Authority ownership.

Public use

Despite the length of the recreational trail and inter-municipal recreational opportunities it provides, the Beaver River Wetland Conservation Area receives some of the lowest use of any of LSRCA’s accessible conservation areas17. There are a few local users who use the trail for hiking, dogwalking or jogging, taking advantage of its proximity and enjoying the contact with nature it provides; however, use by local residents appears quite low.

As the only user survey conducted in this conservation area was held during the summer it did not include snowmobile riders, who form a large proportion of the trail users on this property. This rail trail is a designated OFSC trail, and is managed to support snowmobile use by the Heart of Ontario Snowmobile Club. In exchange for their use of the trail, they assist with trail maintenance and ensure it is inaccessible to motorized vehicles in the off season.

Another significant user group along this trail are naturalist clubs on organized outings. Every year a group of professional and amateur entomologists associated with the Toronto Entomological Association collect and identify spiders found along the trail near Blackwater. Similarly, naturalists from Durham Region conduct annual butterfly counts along this trail, and in some years it has been among the most diverse count locations in Canada (T. Mason, J. Kamstra, pers comm.).

Although not a permitted use, all terrain vehicle riders also make use of this property as an off-route alternative to travel between Blackwater, Sunderland and Cannington. They can access the property from a number of locations including road junctions, ditches, and from adjacent properties. Unfortunately, the gravel base of the trail is attractive nesting habitat for snapping turtles, making the turtle eggs and young hatchlings vulnerable to being crushed by ATVs. The south end of the conservation area, near Blackwater, experiences the highest levels of ATV use and demonstrates the greatest evidence of soil erosion and wetland disturbance.

Landscape influences

As a conservation area dominated by a river, the ecological health of the Beaver River Wetland Conservation Area is very much influenced by land uses upstream in the watershed. Of the total Beaver River watershed, 138 km² drain into the conservation area. Although LSRCA does not sample water quality within the wetland, water flowing into Lake Simcoe at Beaverton is among the cleanest of any tributaries entering the lake18. Within the wetland itself however, the relative lack of benthic invertebrates, and the density of aquatic vegetation, suggests

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17 LSRCA (2008b)
18 LSRCA (2008a)
that the wetland may be experiencing nutrient loading. Although the forthcoming Beaver River Subwatershed Plan has not yet been completed, these nutrients may be associated with upstream land uses in the watershed and the relative lack of forest cover along the tributaries to the Beaver River.

Population projections for Brock Township predict a 17% increase in population by 2031. Areas identified as Designated Settlement Area, which will absorb much of this population increase, include some which are immediately adjacent to the conservation area\textsuperscript{19}. As this population increases, additional challenges to the conservation area may arise, including additional use pressures, additional encroachments as the number of conservation area neighbours increase, and increases in stormwater run-off, particularly from those developments adjacent to the conservation area.

Further south, in Scugog Township, population projections suggest an increase of 18% over the same time period, most of which will occur in Port Perry\textsuperscript{20}, suggesting limited additional direct impacts on the Beaver River wetland in Scugog Township.

The Beaver River Wetland Conservation Area is LSRCA’s longest and narrowest conservation area. Despite the vulnerability to neighbouring land use this creates, it makes the conservation area valuable for wildlife movement. In Ontario, north-south trending features often attract large numbers of migrant birds in the spring and fall. The river itself provides critical and relatively unbroken connectivity for aquatic species and ecosystem processes, and wide ranging mammals appear to make use of this movement corridor as well\textsuperscript{21}. Over the long-term, north – south oriented protected areas such as this one may help alleviate the impacts of climate change by assisting in the northward migration of plant species.

Likewise, the north – south trending abandoned rail lines also provide for recreational connectivity through Durham Region. The HOOSC who utilize the rail trail under an Agreement with the Authority also use sections of the trail north and south of the conservation area. Similarly, portions of this abandoned rail line in both Uxbridge and Kawartha Lakes have become part of the Trans Canada Trail (Figure 6). Durham Region’s regional trail network\textsuperscript{22} identifies this section of trail, including the portion within the conservation area, as one of the priority recreational trails to connect municipalities in Durham Region.

\textsuperscript{19} Township of Brock, Official Plan (2007)  
\textsuperscript{20} Township of Scugog, Official Plan (1997)  
\textsuperscript{21} Beacon Environmental (2008)  
\textsuperscript{22} Durham Region (2006)
Figure 6
Regional Trails

Legend
- Trans Canada Trail

Trail ownership
- Brock
- Hydro One
- LSRCA
- Ontario Realty
- Road
- Watercourse
- Beaver River CA

Location Map

The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

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Section II: Management Plan development

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 2008, and open house workshops in 2009 and 2010. The establishment of the Beaver River Wetland Conservation Area Management Plan Steering Committee, with representatives of Durham Region, the Township of Brock, the Heart of Ontario Snowmobile Club, the Trans Canada Trail, 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 development 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. 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, September 2009

On September 27, 2009 a public workshop was held at the Sunderland Co-op to engage the public in developing a vision for the Beaver River Wetland Conservation Area. After advertising in local papers, and by sending written invitations to neighbouring landowners and other interested stakeholders, approximately 30 people attended the workshop.

Important values of the conservation area held by workshop participants

Values of the Beaver River wetland, as identified by participants, included factors related to the conservation of natural and cultural heritage, recreational opportunities, and the provision of ecological services:

- Protection of greenspace as Ontario becomes more urbanized
- Nature appreciation (esp. frogs, herons, turtles)
- Protection of wildlife
- Protection of breeding and migratory habitat for birds
- Contribution to local history
- A legacy for future generations
- Public ownership of the land, it’s available for public use
- Navigable water / canoe access
- The hiking trail
- Physical activity
- Safe place to walk with dogs
- Opportunities for scientific research
- Education values for schools and families
- Improving and maintaining air quality
- Improving and maintaining water quality
- Flood prevention
- Opportunities for local economic development associated with trails
Issues workshop participants wish addressed

Attendees at the workshop were asked to identify issues which, if addressed, could improve the Beaver River wetland and Beaver River Wetland Conservation Area, and potential actions to resolve those issues. After discussion for approximately half an hour, 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.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATVs and dirtbikes</td>
<td>37</td>
</tr>
<tr>
<td>Need for improved signage</td>
<td>29</td>
</tr>
<tr>
<td>Declining wildlife populations</td>
<td>24</td>
</tr>
<tr>
<td>Illegal hunting</td>
<td>20</td>
</tr>
<tr>
<td>Need for increased enforcement</td>
<td>16</td>
</tr>
<tr>
<td>Provide public access points</td>
<td>12</td>
</tr>
<tr>
<td>Provide some place to park</td>
<td>12</td>
</tr>
<tr>
<td>Increase public awareness</td>
<td>10</td>
</tr>
<tr>
<td>Prevent illegal dumping</td>
<td>9</td>
</tr>
<tr>
<td>Prevent water taking at bridges</td>
<td>9</td>
</tr>
<tr>
<td>Excessive weed and algae growth in the river</td>
<td>5</td>
</tr>
<tr>
<td>Provide information on who to contact re illegal use</td>
<td>4</td>
</tr>
</tbody>
</table>

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:

- Include interpretation of local history (e.g. construction of miller’s cabin near mill pond)
- Establish viewing area
- Stop the spreading of biosolids
- Expand the conservation area to have all the land permanently protected
- Stop destruction of turtle habitat by motorized vehicles
- Provide better maintenance to bridges
- Provide a printed guide pointing out places of interest, etc.
- Provide a board walk in select locations
- Provide information kiosk in select locations
- Clean up garbage
- Prevent hunters trespassing on private land
- Trails need to be gated and fenced
- Fear of using trails during the hunting season

Public workshop, May 2010

A second public workshop was held on May 15, 2010 at the Sunderland Co-op to provide the public with an opportunity to review the draft plan and provide feedback to the steering committee. After sending news releases
to local papers, posting notices on the LSRCA website, and in local public libraries and municipal offices, as well as sending written invitations to the 198 groups and individuals on the Beaver River Wetland Conservation Area mailing list, 10 participants attended the workshop.

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

**PUBLIC AWARENESS:**
The participants felt that the fundamental challenge with the Beaver River Wetland Conservation Area (and trail) was in raising public awareness. They suggested a range of communication tools which might be effective:
- Put up posters in grocery stores
- Circulate flyers on topics of interest in the community
- Seek out community leaders who would support of the trail
- Hold tea parties or cocktail parties, hosted by a community leader
- Develop a presentation that could be given to local interest groups such as the Horticultural or Historical Societies
- Send news releases and editorials to local papers
- Trails committee
- Lead school trips
- Hold walkathons
- Piggyback on community events or through provincial / national events day
- Take advantage of Brock’s booth at the CNE
- Hold a public launch of the trail upgrades

**TRAIL UPGRADES:**
- Trail upgrades are a good idea, and will have a positive impact when the public becomes aware of them
- The proposed trail upgrades could make Brock and its villages more of a tourist destination, increase physical activity, and help maintain natural resources
- The information kiosks and parking areas would provide a sense of presence and legal use
- The gates are a good idea, but need a stronger identification of illegal use
- Signage is a great idea, but should include historical / cultural interpretation
- Concrete blocks are somewhat restrictive; however, staggered gates might be ideal. There was also a question about the lifespan of the gates
- In addition to the signs, policing support is important to prohibit illegal uses

**PARKING LOTS:**
- Cannington should be the priority because of existing facilities
- Blackwater would make a good terminus
- Sunderland would be preferred over Blackwater, as it is close to town, offers economic development opportunities, and would be less subject to vandalism

**VOLUNTEER INVOLVEMENT:**
- Possible volunteers include 4H, students (looking for volunteer hours), Lions Clubs, or conservation clubs
- We could take advantage of Christmas Bird Counts and other similar existing activities to raise awareness / increase our knowledge of the conservation area

**FUNDRAISING:**
Fundraising needs to take a ‘toolbox’ approach, rather than relying on just one approach or source. Possibilities include:
- Silent auctions
Management Plan Development

- Donations / personal support
- Bike or horse-riding events
- Lotteries or draws (if we legally can)
- The support of existing, active community groups such as the Lions or Masons
- Municipal participation

Steering committee
Since June 2009, the Beaver River Wetland Conservation Area Management Plan Steering Committee has directed the development of the Beaver River Wetland 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:
- Durham Region, Regional Councillor and Lake Simcoe Region Conservation Authority, Board representative – John Grant;
- Lake Simcoe Region Conservation Authority, Chief Administrative Officer – Gayle Wood;
- Township of Brock, Chief Administrative Officer and Municipal Clerk - Thom Gettinby;
- Durham Region, Senior Planner - Lori Riviere-Doersam;
- Trans Canada Trail Ontario, General Manager – Dan Andrews;
- Heart of Ontario Snowmobile Club, President – Doug Baker

The committee was supported by the following LSRCA staff:
- General Manager of Conservation Lands – Brian Kemp;
- Land Securement Officer – Kevin Kennedy;
- Conservation Lands Planner – Bill Thompson;
- Conservation Lands Administrative Assistant – Wanda Black

Future evaluation and review of management plans
The current 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 the health of terrestrial and aquatic ecosystems at Beaver River Wetland Conservation Area. This will include aquatic resource monitoring sites, 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 Beaver River Wetland 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 III: Management Plan

Introduction
This Management Plan provides the basis and long-term direction for the management of Beaver River Wetland Conservation Area. It is based on an identification of the constraints and capabilities provided by the property (Section I), and extensive public and internal consultation (Section II).

Goals and objectives
The Beaver River Wetland Conservation Area will be managed to conserve and enhance the hydrological and natural heritage values of the Beaver River wetland complex, while providing for compatible recreational, educational and research activities.

More specifically, LSRCA aims to:
- Protect and enhance the wetland’s ecological integrity, including its wildlife populations and habitats;
- Provide opportunities for increased public understanding, involvement, appreciation, and enjoyment of the wetland;
- Improve infrastructure to support authorized and compatible public use of the conservation area, including a linear recreational trail along the length of the Beaver River, while reducing unauthorized and non-compatible uses;
- Secure additional lands within the Beaver River wetland through donation, purchase and conservation easement.

Permitted uses
Beaver River Wetland Conservation Area will be managed to provide the public with an enjoyable experience in a significant 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).23

The Beaver River rail trail (Figure 6) will be a multi-use trail permitting hiking, cycling, horseback riding, and skiing. Dog walking will also be permitted, however dogs must remain on a leash and under control at all times. LSRCA permits snowmobile use of the rail trail (with the exception of that portion between Linden Valley Road and English Road in the City of Kawartha Lakes) by holders of OFSC trail permits, through a trail use Agreement signed with the Heart of Ontario Snowmobile Club. LSRCA will continue to maintain this Agreement, on an annual basis, providing the terms of the Agreement are adhered to. Other motorized use of the trail, with the exception of maintenance and emergency response, is prohibited.

Hunting is prohibited on Conservation Authority owned land. LSRCA will work with Ministry of Natural Resources staff to ensure that this prohibition is enforced. The Beaver River itself however is Crown land, upon which hunting is a legal and traditional use, permitted under the Navigable Waters Protection Act.

Camping, littering, cutting trees or other vegetation, or lighting fires is expressly prohibited in this conservation area.

23 For more detail see www.e-laws.gov.on.ca
Lake Simcoe Region Conservation Authority will clearly mark all entrances to the Conservation Area with permitted uses. Enforcement of these regulations will be undertaken with the assistance of the Ontario Provincial Police and the Durham Regional Police Service.

**Boundary management**

Beaver River Wetland Conservation Area is located within one of LSRCA’s priority land securement areas[^24], and as such will continue to be a focus for the securement of additional lands. Priority will be given to those lands that are within a significant natural heritage feature and are thus eligible for tax exemption. Securement of land may be through a number of mechanisms, including purchase, donation, conservation easement, bequest, or combination of the above. 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.

LSRCA will conduct an inventory of all additional lands as they become secured, to document 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 the management plan, and implementing projects proposed by the plan.

Upon acquisition of new lands, LSRCA will also contact all neighbouring landowners to inform them of the presence of the conservation area, LSRCA’s goals and objectives for the property, permitted uses, and ways they can become involved.

LSRCA will retain surveys of all the boundaries of the conservation area on file, and will ensure that all boundaries are clearly marked. LSRCA will inspect boundaries annually for encroachments. Any encroachments by conservation area neighbours will be screened under LSRCA’s Conservation Area Encroachment Policy, and resolved on a case-by-case basis. As necessary, LSRCA will implement a program to resolve and remediate impacts from boundary encroachments in partnership with the conservation area’s neighbours. This partnership 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, or could lead to claims of adverse possession will be removed.

Failing other resolutions of encroachment, or the trespass of motorized vehicles to the conservation area, LSRCA will ensure that the boundary of the conservation area is adequately fenced, permitting only public access from road crossings and designated parking lots.

**Infrastructure Management**

LSRCA may develop additional infrastructure at Beaver River Wetland Conservation Area to support the goals and objectives described in this management plan. Any future development would be subject to the requirements of the *Environmental Assessment Act, Conservation Authorities Act, Fisheries Act* and other relevant Federal, Provincial and municipal legislation, and would be subject to a site inspection to mitigate detrimental impacts on the values of the conservation area. All new infrastructure would be designed and constructed to meet the standards of the *Accessibility for Ontarians with Disabilities Act* as they become available, and would be built to be durable and vandal resistant.

[^24]: LSRCA, 2006
Any built infrastructure on Conservation Authority owned land that does not contribute to meeting the goals and objectives of this management plan will be removed, to reduce liability and associated monitoring and maintenance needs.

**TRAILS**

Recreational trails in the Beaver River wetland are limited, due to the extremely wet nature of the site. A significant exception to this is the 40 km abandoned rail line which runs the length of the wetland (Figure 6). LSRCA will pursue partnership opportunities with the Kawartha Trans Canada Trail Association and Ontario Realty Corporation to include the adjacent section of abandoned CN line to the south of the conservation area in Brock and Scugog Townships as part of the Beaver River Wetland Conservation Area and the Trans Canada Trail. LSRCA will pursue a similar partnership with Hydro One and Brock Township to incorporate the sections of abandoned rail line between Cannington and Simcoe St as part of the Beaver River Wetland Conservation Area.

The rail trail will be upgraded and managed to meet the standards for accessibility under the *Accessibility for Ontarians with Disabilities Act*. This will include maintaining grades less than 5%, a maximum surface pitch of 5%, a minimum width of 4m, cleared to a height of 3.5m, with a firm, stable trail base. Material used to establish the trail base will be selected to ensure that it continues to support turtle and snake nesting.

Existing water crossings will be upgraded as necessary to ensure compliance with the *Accessibility for Ontarians with Disabilities Act* and to promote use of the bridges by cyclists and equestrians. This trail will be inspected annually for trail condition and barriers (e.g. washouts, hazard trees, and downed woody debris).

LSRCA will continue to block access to the rail trail by non-sanctioned motorized vehicles. This will include erecting barriers or gates at all road crossings and proposed parking lots, and repairing boundary fences where necessary. Barriers or gates will be constructed in such a way as to permit use of the trail in the winter by authorized snowmobile riders. Additional barriers or gates will be provided at the gap in the trail near Sunderland, to remind trail users that they are leaving the designated trail. The section of rail trail between Linden Valley Road and English Road in the City of Kawartha Lakes will be permanently closed to motorized vehicles, by placing permanent barriers at road and driveway entrances along that section. Those barriers will be placed in a way to permit continued access to the trail by pedestrians and cyclists.

In locations where additional upland sites that do not contain significant wildlife habitat and that are accessible from the rail trail or parking lots, additional secondary recreation trails may be provided. These trails would be designed, constructed and maintained such that they meet the needs and interests of the non-motorized trail users while providing a more intimate interaction with the forest and wetland habitat and minimizing impacts on native species and ecosystems. They would be maintained to a minimum width of 1.5 m, cleared to a height of 2.5 m, with a base of compacted soil. Trip hazards and wet areas along trails would be managed by topdressing with wood chips as necessary. Boardwalks would be used in areas of extreme wetness. These trails would be inspected annually for trail condition and barriers (e.g. washouts, hazard trees and downed woody debris).

Where possible, LSRCA will engage local management partners to assist in monitoring and minor clean-up of the trail and conservation area.

If trail closures become necessary to protect natural heritage values or visitor safety, they will be implemented in consultation with conservation area users. Consultation may include volunteer workdays to implement closure. Trail closure would also include the erection of interpretive signage allowing trail users to know that trail closure is intentional, rather than the result of a lack of maintenance. Trail closures would be designed and implemented to promote the establishment of native vegetation and the prevention of soil erosion or compaction.
LSRCA will establish a series of interpretive panels along the rail trail to promote its use as an interpretive nature trail. This will include interpretive signs and displays regarding representative trees, shrubs, wildflowers and habitat types that are visible from the trail, as well as information on the history, ecology, and management of the property. Where possible, these signs will be located at bridges, boardwalks, or scenic overlooks to maximize exposure to, and visual impact of, significant natural heritage features.

Durham Region and City of Kawartha Lakes emergency response personnel will be given copies of trail maps of the conservation area, clearly indicating access points and drivable portions of trails, and contact information for key LSRCA staff.

SIGNS

Lake Simcoe Region Conservation Authority will clearly mark all entrances to the Conservation Area from road crossings and formal parking lots with the permitted uses in the conservation area. Additional signs will be posted at all entry points where the trail comes within 100m of open water, informing trail users that hunting occurs on the river during waterfowl season.

Roadside signs identifying the property as the Beaver River Wetland Conservation Area will be erected on LSRCA owned land along Highway 7, where the Highway provides a vista of the wetland. Signs will be situated to complement, rather than detract from, the natural viewscape.

As formal parking lots are developed, LSRCA will have Ontario tourism signs (TODS signs) erected along nearby major roads directing the public to formal access points to the conservation area. All parking lots will also include interpretive kiosks that will include a trail map indicating trail length and difficulty, notice board of coming events, rules and regulations of the conservation area, and interpretive material suitable for a central location.

LSRCA will work with the Trans Canada Trail committees in Uxbridge and Kawartha Lakes to allow signage to be erected in Uxbridge and Lindsay directing long-distance trail users to the Beaver River wetland rail trail.

LOOKOUT POINT

LSRCA and its partners will establish a formal viewing area, with lookout platform, interpretive panels, and rest area on the high point of land north of Concession Rd 5 (Figure 7).

PARKING LOTS

LSRCA will provide additional parking near the trail near Sunderland. LSRCA will also pursue partnerships with the Townships of Brock and Uxbridge to take advantage of existing public parking lots in Cannington and Uxbridge to provide access to the rail trail. In Cannington, partnership with the Cannington Horticultural Society may allow use of the Historical Society’s nature trail to connect the Beaver River Wetland Conservation Area to MacLeod Park. In Uxbridge, parking may be provided at the municipal office on the Trans Canada Trail (Figure 7). Parking at Sunderland will be contingent on acquisition of suitable upland parking areas.
The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

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Parking lots will be subject to conditions associated with development near wetlands and floodplains under the Conservation Authorities Act, as well as any relevant conditions associated with the Federal Fisheries Act. Parking lots will be gravel, and will be re-graded or top-dressed semi-annually as necessary. As necessary, LSRCA may apply dust reduction compound to prevent erosion.

Garbage cans will not be provided in conservation area parking lots to reduce the amount of residential garbage left in the conservation area.

Vegetation and wildlife management

Land securement remains the most significant tool available to LSRCA to ensure protection of wildlife and wildlife habitat in the Beaver River wetland. LSRCA will continue to pursue the securement of priority areas within the wetland complex on a willing buyer – willing seller basis, as directed by LSRCA’s Natural Heritage System Land Securement Project strategy. LSRCA will also continue to provide technical and financial assistance to private landowners in the wetland who wish to voluntarily undertake stewardship projects on their land. Such projects will include those identified in this management plan, and the more general projects identified in the Best Management Practices inventory conducted on the Beaver River and its tributaries by LSRCA staff.

LSRCA staff will assess opportunities to improve waterfowl and turtle breeding habitat in the Beaver River wetland complex. Upland areas within the conservation area experiencing minimal human disturbance within 200m of the river will be priority sites.

Where possible, LSRCA will engage community trail stewards to assist in monitoring and protecting snapping turtle nests from predation.

Road crossings along the river will be inventoried for evidence of road kill of reptiles and amphibians. Areas experiencing high levels of road kill will be fenced to restrict wildlife crossings, and direct them to safe crossing sites. These areas will also be signed with turtle crossing signs to alert motorists of the potential for injury to wildlife. When roads crossing the wetland are upgraded, LSRCA will petition the responsible government authority to allow for wildlife crossing underpasses where appropriate.

Forest management at Beaver River Wetland Conservation Area will include the removal of hazard trees as necessary, as well as management to promote habitat values for native flora and fauna. Any trees cut, or debris falling naturally, will be removed from trails or parking lots as necessary, but left to decompose in the conservation area. Any forest management beyond the removal of hazard trees would be preceded by the development of an approved Forest Management Plan, which would identify the appropriate silvicultural techniques to meet the conservation area’s management objectives. Goals and objectives of any Forest Management Plan shall be consistent with the goals and objectives for the property as identified in this Conservation Area Management Plan.

LSRCA will also manage the property to control the spread of non-native invasive species. Management will include annual inspections of the spread and dominance of non-natives. Any aggressive invasive species occurring in the conservation area will be controlled using recommendations based on the best available science.

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25 As suggested by Hickie (1985), Sousa (1985) and Graves and Anderson (1987)
26 Guidelines for the identification and removal of hazard trees is provided by the LSRCA hazard tree management strategy (LSRCA, 2009)
27 As defined by Urban Forest Associates Inc (2002)
Aquatic resources
Opportunities to improve the quality of water entering the Beaver River wetland complex will be identified in the forthcoming Beaver River Subwatershed Plan. LSRCA conservation area staff will assist stewardship and science staff in implementing identified projects where possible, including developing public demonstration sites in the conservation area where appropriate.

Marketing
Marketing of the Beaver River Wetland Conservation Area will be primarily by road signs, both those identifying the property at vistas, and those directing trail users to parking lots. Additional information on the conservation area, wetland, and rail trail will be provided on the LSRCA website.

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

LSRCA will provide presentations on the Beaver River wetland and its features for local community groups who may be interested, such as Historical or Horticultural Societies.

LSRCA will also pursue opportunities to showcase the Beaver River Wetland Conservation Area and Beaver River trail on websites of partner municipalities as opportunities arise.

LSRCA will also release news releases and hold public launch events at key milestones in the implementation of the management plan, particularly those associated with trail upgrades and parking lot establishment.

Revenue generation
Access fees will not be collected at the Beaver River Wetland Conservation Area. If permits are provided for activities such as group events or fundraisers, a fee structure will be set, using a cost-recovery model, relative to fees charged in other conservation areas in the Lake Simcoe watershed. Any revenue generated at Beaver River Wetland Conservation Area will be retained for use in this and other conservation areas in the Lake Simcoe watershed.

External sources of revenue will be sought to implement this management plan, as described in the Beaver River Wetland Conservation Area Business Plan.

Local community engagement
LSRCA will work with the Kawartha Trans Canada Trail Association to establish a network of local trail management partners. These partners will include groups and individuals who will be responsible for periodic monitoring and reporting on the condition of the rail trail or minor secondary recreation trails.
These trail management partners, and other interested groups and individuals, will also be given the opportunity to become involved in habitat and wildlife stewardship projects including tree planting, invasive species management, turtle and waterfowl habitat restoration projects, turtle nest monitoring, and turtle road crossing monitoring, as the opportunity arises.

If interest dictates, LSRCA will work with the Kawartha Trans Canada Trail Association and interested groups and individuals to form a ‘Friends of the Beaver River’ group to act as an umbrella organization for community engagement.
Section IV: Business Plan

Introduction

The purpose of a conservation area management plan is to establish long- and short-term goals for the management of the property, and identify priorities for implementation. The Business Plan component is a description and schedule of implementation priorities, coupled with projections of revenues and expenses over a five year period.

In addition to revenues and expenses, this business plan will identify potential funding sources and will provide guidance for LSRCA management in implementing the Beaver River Wetland Conservation Area management plan.

Management plan goals and objectives

Beaver River Wetland Conservation Area will be managed to conserve and enhance the hydrological and natural heritage values of the Beaver River wetland complex, while providing for compatible recreational, educational and research activities.

More specifically, LSRCA aims to:

- Protect and enhance the wetland’s ecological integrity, including its wildlife populations and habitats
- Provide opportunities for increased public understanding, involvement, appreciation, and enjoyment of the wetland
- Improve infrastructure to support authorized and compatible public use of the conservation area, including a linear recreational trail along the length of the Beaver River, while reducing unauthorized and non-compatible uses
- Secure additional lands within the Beaver River wetland through donation, purchase and conservation easement

To these ends, priorities for investing in capital and programming for the period 2010 – 2014 have been identified (Table 1).
## Table 1. Beaver River Wetland Conservation Area management plan implementation priorities

<table>
<thead>
<tr>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Sign trail management Agreements</td>
<td>▪ Upgrade rail trail between Blackwater and Sunderland, and from Simcoe St to Brock Concession Rd 5 (Figure 8)</td>
<td>▪ Upgrade rail trail from Brock Concession Rd 5 to Regional Rd 13 (Figure 8)</td>
<td>▪ Support network of local management partners</td>
<td>▪ Upgrade rail trail between Cannington and Woodville, and between Regional Rd 13 and Scugog Con Rd 14 (Figure 8)</td>
</tr>
<tr>
<td>▪ Resolve boundary encroachments</td>
<td>▪ Establish network of local management partners</td>
<td>▪ Support network of local management partners</td>
<td>▪ Establish parking lot in Sunderland</td>
<td>▪ Support network of local management partners</td>
</tr>
<tr>
<td>▪ Develop funding applications to support implementation priorities</td>
<td>▪ Establish parking lot in Cannington</td>
<td>▪ Build boardwalk to complete trail in Sunderland</td>
<td>▪ Establish parking lot at Blackwater</td>
<td>▪ Continue wildlife enhancement projects</td>
</tr>
<tr>
<td></td>
<td>▪ Assess opportunities for wildlife enhancement</td>
<td>▪ Establish viewing platform south of Sunderland</td>
<td>▪ Continue wildlife enhancement projects</td>
<td>▪ Fence conservation area to restrict access by motorized vehicles as necessary</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Erect conservation area and Ontario tourism signs along Hwy 7</td>
<td>▪ Remove unwanted cabins from conservation area</td>
<td>▪ Erect interpretive panels along rail trail</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Begin wildlife enhancement projects</td>
<td>▪ Fence conservation area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>▪ Erect interpretive panels along rail trail</td>
<td></td>
</tr>
</tbody>
</table>
### Table 2. Projected revenues and expenses for materials and supplies to implement Beaver River Wetland Conservation Area management plan priorities.

<table>
<thead>
<tr>
<th>Expenses</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>$2,000</td>
<td>$1,800</td>
<td>$2,550</td>
<td>$3,050</td>
<td>$8,450</td>
<td>$17,850</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>$0</td>
<td>$119,775</td>
<td>$92,000</td>
<td>$154,450</td>
<td>$198,475</td>
<td>$564,700</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$0</td>
<td>$0</td>
<td>$3,000</td>
<td>$3,000</td>
<td>$2,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>Resource management</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total expenses</strong></td>
<td>$2,000</td>
<td>$121,575</td>
<td>$97,550</td>
<td>$160,500</td>
<td>$208,925</td>
<td>$590,550</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenues (confirmed)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HOOSC</td>
<td>$0</td>
<td>$1,300</td>
<td>$0</td>
<td>$1,800</td>
<td>$0</td>
<td>$3,100</td>
</tr>
<tr>
<td>Municipal levy</td>
<td>$2,000</td>
<td>$800</td>
<td>$900</td>
<td>$1,100</td>
<td>$1,200</td>
<td>$6,000</td>
</tr>
<tr>
<td><strong>Total confirmed</strong></td>
<td>$2,000</td>
<td>$2,100</td>
<td>$900</td>
<td>$2,900</td>
<td>$1,200</td>
<td>$9,100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revenues (projected)</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal special capital</td>
<td>$0</td>
<td>$25,200</td>
<td>$38,050</td>
<td>$49,950</td>
<td>$82,010</td>
<td>$195,210</td>
</tr>
<tr>
<td>Ontario Heritage Trust</td>
<td>$0</td>
<td>$38,160</td>
<td>$25,980</td>
<td>$45,640</td>
<td>$54,410</td>
<td>$164,190</td>
</tr>
<tr>
<td>Ontario Trillium Foundation</td>
<td>$0</td>
<td>$42,460</td>
<td>$22,980</td>
<td>$50,440</td>
<td>$54,410</td>
<td>$170,290</td>
</tr>
<tr>
<td>Trans Canada Trail</td>
<td>$0</td>
<td>$13,655</td>
<td>$9,640</td>
<td>$11,570</td>
<td>$16,895</td>
<td>$51,760</td>
</tr>
<tr>
<td><strong>Total projected</strong></td>
<td>$0</td>
<td>$119,475</td>
<td>$96,650</td>
<td>$157,600</td>
<td>$207,725</td>
<td>$581,450</td>
</tr>
<tr>
<td>Balance</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
</tbody>
</table>
Figure 8
Trail Upgrades

Legend
Schedule of upgrades

- 2011
- 2012
- 2013
- 2014
- No upgrades proposed

The information on this map has been compiled from various sources. While every effort has been made to accurately depict the information, data or mapping errors may exist. This map has been produced for illustrative purposes only.

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Expenses
Operational expenses at Beaver River Wetland Conservation Area can be divided into four broad categories: administration, infrastructure development, maintenance, and resource management.

ADMINISTRATION
Administration of Beaver River Wetland Conservation Area includes the general administrative duties that support and enhance the operations of the conservation area, including communication and marketing, human resource management, budget formulation and tracking, and oversight of procurement and contracting activities. This functional area also includes payment of municipal property taxes.

Priorities for this functional area include establishing a framework for collaborative trail management, resolving boundary encroachments, submitting funding applications, improved marketing of the conservation area, and a review of the management plan and business plan in 2014. An ongoing cost in this functional group however is the municipal property tax (Table 3).

<table>
<thead>
<tr>
<th>Table 3. Projected expenses to achieve administrative needs identified in the Beaver River Wetland Conservation Area management plan, for the period 2010 – 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administration</strong></td>
</tr>
<tr>
<td>Sign trail agreements</td>
</tr>
<tr>
<td>Encroachment management</td>
</tr>
<tr>
<td>Local management partners</td>
</tr>
<tr>
<td>TODS sign</td>
</tr>
<tr>
<td>Plan evaluation and review</td>
</tr>
<tr>
<td>Property taxes</td>
</tr>
<tr>
<td><strong>Total Admin</strong></td>
</tr>
</tbody>
</table>

INFRASTRUCTURE DEVELOPMENT
Investments in infrastructure at Beaver River Wetland Conservation Area are projected to be the largest expense associated with the implementation of the Beaver River Wetland Conservation Area management plan. Priorities for capital development in the period 2010 – 2014 include upgrading the 40 km abandoned CN line to provide a multi-use, accessible, nature trail running the length of the wetland, providing parking at sanctioned entry points to the trail near existing communities, fencing and gating to restrict non-sanctioned motorized use of the trail, and establishing a boardwalk near Sunderland to complete trail connection in this area (Table 4). All new capital development will be designed and constructed to meet the standards of the Accessibility for Ontarians with Disabilities Act as they become available.

Development of new and upgrades to existing facilities will be undertaken or supervised by Field Services staff.
MAINTENANCE

The maintenance functional area at Beaver River Wetland Conservation Area includes all activities that prolong the lives of the conservation area’s assets. These activities include repair work, preventive maintenance, and general upkeep of the grounds and trails. Since acquisition, limited maintenance work has been completed in this conservation area.

LSRCA’s maintenance priorities for the period 2010 – 2014 include periodic property inspections, maintenance of existing and proposed new infrastructure, removal of unwanted infrastructure, and replacement of barrier gates as necessary. LSRCA will pursue a partnership with the Township of Brock or community group in Sunderland to provide grass cutting and other minor maintenance to the proposed lookout point (Table 5).

Table 4. Projected expenses to achieve capital development needs identified in the Beaver River Wetland Conservation Area management plan, for the period 2010 – 2014

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrade Conservation Area rail trail</td>
<td>$39,400</td>
<td>0.06</td>
<td>$1,200</td>
<td>0.06</td>
<td>$78,800</td>
<td>0.06</td>
</tr>
<tr>
<td>Gates on conservation area rail trail</td>
<td>$4,000</td>
<td>0.04</td>
<td>$1,600</td>
<td>0.04</td>
<td>$11,200</td>
<td>0.04</td>
</tr>
<tr>
<td>Upgrade Trans Canada trail</td>
<td>$61,875</td>
<td>0.06</td>
<td>$45,000</td>
<td>0.06</td>
<td>$56,250</td>
<td>0.06</td>
</tr>
<tr>
<td>Gates on Trans Canada trail</td>
<td>$6,400</td>
<td>0.02</td>
<td>$3,200</td>
<td>0.02</td>
<td>$1,600</td>
<td>0.02</td>
</tr>
<tr>
<td>Boardwalks</td>
<td>$20,000</td>
<td>0.04</td>
<td>$3,600</td>
<td>0.04</td>
<td>$3,600</td>
<td>0.04</td>
</tr>
<tr>
<td>Bridge upgrades</td>
<td>$2,600</td>
<td>0.01</td>
<td></td>
<td></td>
<td></td>
<td>$2,600</td>
</tr>
<tr>
<td>Parking lots</td>
<td>$2,550</td>
<td>0.02</td>
<td>$12,000</td>
<td>0.02</td>
<td>$3,600</td>
<td>0.02</td>
</tr>
<tr>
<td>Fencing</td>
<td>$20,000</td>
<td>0.04</td>
<td></td>
<td></td>
<td></td>
<td>$20,000</td>
</tr>
<tr>
<td>Lookout platform</td>
<td>$2,000</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td>$2,000</td>
</tr>
<tr>
<td>Road signs</td>
<td>$4,000</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td>$4,000</td>
</tr>
<tr>
<td>Interpretive panels</td>
<td>$7,200</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td>$7,200</td>
</tr>
<tr>
<td>Interpretive kiosks</td>
<td>$3,000</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td>$3,000</td>
</tr>
<tr>
<td>Total Infrastructure</td>
<td>$0.00</td>
<td></td>
<td>$119,775</td>
<td>0.22</td>
<td>$92,000</td>
<td>0.33</td>
</tr>
</tbody>
</table>

Table 5. Projected expenses to achieve maintenance needs identified in the Beaver River Wetland Conservation Area management plan, for the period 2010 – 2014

<table>
<thead>
<tr>
<th>Maintenance</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grounds and trail maintenance</td>
<td>0.02</td>
<td>0.02</td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>Capital maintenance</td>
<td></td>
<td></td>
<td>$3,000</td>
<td>0.04</td>
<td>$3,000</td>
<td>0.04</td>
</tr>
<tr>
<td>Total Maintenance</td>
<td>$0</td>
<td>0.02</td>
<td>$0</td>
<td>0.02</td>
<td>$3,000</td>
<td>0.06</td>
</tr>
</tbody>
</table>

RESOURCE MANAGEMENT

The Resource Management functional area refers to the management of natural heritage features in the conservation area. Activities include inventory and monitoring of native and non-native plant and animal species, an assessment of opportunities to increase breeding habitat for reptiles and waterfowl, and reduce road mortality to amphibians and reptiles by erecting fences along select roads.

This functional area uses various permanent and seasonal technical staff of the Authority to meet the diverse workload requirements. The additional workload will also be accomplished with LSRCA technical staff with
assistance from interested volunteers where available, coordinated by the Conservation Lands Planner or General Manager of Conservation Lands.

Costs associated with achieving resource management objectives will be determined based on a detailed assessment of habitat restoration opportunities.
Projected revenues

The projected infrastructure upgrades identified in this business plan represent a significant new expense for the conservation authority, which will require additional funding. Staff projections to achieve these implementation priorities also represent a significant workload, equivalent to half a staff position.

To address these funding needs, LSRCA will need to attract new sources of funding and in-kind support. Opportunities for such may include municipal special capital, Provincial trails funding, and a greater reliance on partnerships such as the Kawartha Trans Canada Trail Association.

LSRCA will also develop a sponsorship policy for its conservation areas. The policy will identify facilities and programs that will be eligible for naming, donations required, and ways naming can be incorporated tastefully into a natural setting.

Municipal levy

Lake Simcoe Region Conservation Authority’s member municipalities provide annual base funding to support the Authority’s projects and operations. This levy is established on a per capita basis, and represents the one consistent source of revenue available to the Conservation Authority.

Municipal special capital

LSRCA’s municipal partners periodically provide “special capital” funding to support the implementation of specific projects that advance the Authority’s mandate. Special capital funding will be an important part of the funding formula for Beaver River Wetland Conservation Area. Municipal special capital will contribute to upgrades to the trail and other proposed infrastructure, marketing, and to future assessment and review of the management plan.

Trans Canada Trail Ontario

Trans Canada Trail Ontario provides financial assistance for capital development on designated sections of the Trans Canada Trail. Pending a trail management Agreement, LSRCA and its partners will apply to have the section of rail trail south of Blackwater, from Uxbridge to Kawartha Lakes (Figure 6) designated as Trans Canada Trail. Trans Canada Trail Ontario funding would assist in proposed trail infrastructure upgrades along this section of trail.

Ontario Heritage Trust

The Ontario Heritage Trust has been an important partner in assisting LSRCA secure significant natural heritage properties in the Beaver River wetland, through their Natural Spaces Land Acquisition and Stewardship Program. This program also supports stewardship programs including improved access, habitat restoration, signage, and the provision of interpretive information. LSRCA staff will develop a funding proposal to Ontario Heritage Trust to support these projects.

Ontario Trillium Foundation

The Ontario Trillium Foundation (OTF) provides funding to community-based initiatives supporting the environment, arts and culture, human and social services and sports and recreation. Although Conservation Authorities are not eligible to become recipients of OTF grants, they may receive grants as part of a
“collaborative” effort with community groups or small municipalities. Projects at the Beaver River Wetland Conservation Area which may be eligible for this funding include trail upgrades, interpretive information, and wildlife stewardship projects. LSCRA will work with the Lake Simcoe Conservation Foundation, the Township of Brock, the Heart of Ontario Snowmobile Club, and other interested community groups to develop a funding proposal to OTF to support these projects.

LAKE SIMCOE CONSERVATION FOUNDATION
The Conservation Authority’s sister organization, the Lake Simcoe Conservation Foundation, raises funds to assist the LSRCA in its mission of improving the health and quality of Lake Simcoe and its watershed. Opportunities may exist to partner with the Foundation to raise funds or collect donations to support Beaver River Wetland Conservation Area. LSRCA and the Foundation will develop a sponsorship policy to support these efforts.

DUCKS UNLIMITED CANADA
Ducks Unlimited has been an important partner in the acquisition of land within the Beaver River wetland. This partnership will continue to be fostered, and as opportunities arise to create or enhance waterfowl habitat in the conservation area, Ducks Unlimited may be approached for additional financial and technical support.

HEART OF ONTARIO SNOWMOBILE CLUB
The Heart of Ontario Snowmobile Club (HOOSC) is a member of the Ontario Federation of Snowmobile Clubs, and has an Agreement which allows them to utilize the rail trail as part of their network of snowmobile trails. As a condition of that Agreement, they maintain the decks of bridges, brush the edges of the trail, erect signage, and block motorized access to the trails in the off-season. The HOOSC has committed to upgrading the surfaces on existing bridges to support a broader recreational user group, and to meet the needs of the Accessibility for Ontarians with Disabilities Act.

OTHER SOURCES OF FUNDING
For ease of budgeting, projected expenses have been allocated against the major funding sources listed above. Other smaller funds such as the TD Trust Friends of the Environment, RBC Bluewater Fund, Shell Environment Fund, and South Lake Community Futures Development Corporation may also contribute to the Beaver River Wetland Conservation Area. The development of the trail and other amenities may also be supported by local fundraising and community-based service clubs.

VOLUNTEERS AND DONATIONS
Interested volunteers from the community may become available to assist LSRCA in trail and wildlife stewardship projects. LSRCA will work with the Kawartha Trans Canada Trail Association to establish a network of such local community partners.
Implementation schedule

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Administration</td>
</tr>
<tr>
<td></td>
<td>Property taxes</td>
</tr>
<tr>
<td></td>
<td>- Continue to pay municipal property taxes</td>
</tr>
<tr>
<td></td>
<td>- General Manager of Conservation Lands will be responsible to ensure taxes paid</td>
</tr>
<tr>
<td></td>
<td>- Estimated cost: $2000</td>
</tr>
<tr>
<td></td>
<td>- Funding source: municipal levy (100%)</td>
</tr>
<tr>
<td></td>
<td>Trail Agreements</td>
</tr>
<tr>
<td></td>
<td>- Sign secondary use Agreements with Hydro One and Brock Township on rail trail north of Cannington</td>
</tr>
<tr>
<td></td>
<td>- Assist Kawartha Trans Canada Trail Association in signing Access Agreement with Ontario Realty Corporation on rail trail south of Blackwater</td>
</tr>
<tr>
<td></td>
<td>- Conservation Lands Planner will be responsible for achieving this objective</td>
</tr>
<tr>
<td></td>
<td>Funding applications</td>
</tr>
<tr>
<td></td>
<td>- Submit funding applications to major funders to support implementation of the management plan</td>
</tr>
<tr>
<td></td>
<td>- Staff of the Lake Simcoe Conservation Foundation will be responsible for achieving this objective, with assistance from the Conservation Lands Planner and the Kawartha Trans Canada Trail Association</td>
</tr>
<tr>
<td></td>
<td>Encroachment management</td>
</tr>
<tr>
<td></td>
<td>- Inventory, assess and resolve boundary encroachments</td>
</tr>
<tr>
<td></td>
<td>- Land Securement Officer will be responsible for achieving this objective, with the assistance of the Conservation Lands Planner</td>
</tr>
<tr>
<td></td>
<td>Maintenance</td>
</tr>
<tr>
<td></td>
<td>Grounds and trails maintenance</td>
</tr>
<tr>
<td></td>
<td>- Annual workload to maintain property including garbage removal and hazard tree management</td>
</tr>
<tr>
<td></td>
<td>- Field Services will be responsible for achieving this objective</td>
</tr>
<tr>
<td></td>
<td>Resource management</td>
</tr>
<tr>
<td></td>
<td>Securement inventories</td>
</tr>
<tr>
<td></td>
<td>- Inventory any newly secured properties, as necessary, to document built and natural heritage features, existing uses, and potential contribution to management plan</td>
</tr>
<tr>
<td></td>
<td>- Conservation Lands Planner and Land Securement Officer will be responsible for achieving this objective</td>
</tr>
<tr>
<td></td>
<td>Natural heritage monitoring</td>
</tr>
<tr>
<td></td>
<td>- Annual monitoring of wildlife populations, including invasive species, in the Beaver River wetland</td>
</tr>
<tr>
<td></td>
<td>- Conservation Lands Planner and LSRCA technical staff will be responsible for achieving this objective</td>
</tr>
</tbody>
</table>

28 Expenses related to materials and staffing have been treated as separate items. Staffing needs have been summarized on an annual basis.
Staffing requirements
- Field services: 0.02 FTE (2009 complement approximately 0.0 FTE)
- Conservation lands planner: 0.16 FTE (2009 complement approximately 0.3 FTE)
- Land Securement Officer: 0.14 FTE (2009 complement approximately 0.02 FTE)

Administration
Property taxes
- Continue to pay municipal property taxes
- General Manager of Conservation Lands will be responsible to ensure taxes paid
- Estimated cost: $800
- Funding source: municipal levy (100%)

Encroachment management
- Inventory, assess and resolve boundary encroachments
- Land Securement Officer will be responsible for achieving this objective, with the assistance of the Conservation Lands Planner

Local management partners
- Establish and support a network of local management partners
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $1000
- Funding source: municipal special capital (100%)

Infrastructure development
Trail upgrades
- Upgrade rail trail between Blackwater and Sunderland, and from Simcoe St to Brock Concession Rd 5
- Field Services will be responsible for achieving this objective
- Estimated cost: $101,275
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

Trail entry gates
- Establish barriers or gates at all trail entrance points along upgraded trail, with permitted uses posted, to restrict access by unauthorized motorized vehicles
- Field Services will be responsible for achieving this objective
- Estimated cost: $10,400
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)
Bridge upgrades
- Upgrade existing water crossings in upgraded trail sections to ensure they meet the requirements of the AODA
- Conservation Lands Planner to assist Kawartha Trans Canada Trail and Heart of Ontario Snowmobile Club in achieving this objective
- Estimated cost: $6500
- Projected funding source: Heart of Ontario Snowmobile Club (50%), Ontario Trillium Foundation (50%)

Parking lots
- Establish formal parking area with trail linkage and interpretive kiosk at MacLeod Park in Cannington
- Conservation Lands Planner and Field Services to assist Township of Brock in achieving this objective
- Estimated cost: $3000
- Projected funding source: Ontario Trillium Foundation (100%)

Maintenance
Grounds and trails maintenance
- Annual workload to maintain property including garbage removal and hazard tree management
- Field Services will be responsible for achieving this objective, in partnership with HOOSC and local management partners

Resource management
Securement inventories
- Inventory any newly secured properties, as necessary, to document built and natural heritage features, existing uses, and potential contribution to management plan
- Conservation Lands Planner and Land Securement Officer will be responsible for achieving this objective

Wildlife stewardship assessments
- Inventory road crossings to determine areas of significant road-kill
- Inventory upland areas within study area to prioritize and plan waterfowl and turtle nesting habitat enhancement projects
- Conservation Lands Planner will be responsible for achieving this objective

Natural heritage monitoring
- Annual monitoring of wildlife populations, including invasive species, in the Beaver River wetland
- Conservation Lands Planner and LSRCA technical staff will be responsible for achieving this objective

Staffing requirements
- Field services: 0.24 FTE
- Conservation lands planner: 0.17 FTE
- Land Securement Officer: 0.14 FTE
- General Manager of Conservation Lands: 0.07 FTE
Administration

Property taxes
- Continue to pay municipal property taxes
- General Manager of Conservation Lands will be responsible to ensure taxes paid
- Estimated cost: $900
- Funding source: municipal levy (100%)

Local management partners
- Support the network of local management partners
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $1000
- Projected funding source: municipal special capital (100%)

Marketing
- Erect TODS sign near Sunderland
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $650
- Projected funding source: municipal special capital (100%)

Infrastructure development

Trail upgrades
- Upgrade rail trail in Sunderland, and from Brock Concession Rd 5 to Regional Rd 13
- Field Services will be responsible for achieving this objective
- Estimated cost: $46,200
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

Trail entry gates
- Establish barriers or gates at all trail entrance points on upgraded trail, with permitted uses posted, to restrict access by unauthorized motorized vehicles
- Field Services will be responsible for achieving this objective
- Estimated cost: $4,800
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

Parking lot
- Establish formal parking lot with interpretive kiosk and trail map near Sunderland
- Pending acquisition of land
- Field Services to be responsible for achieving this objective
- Estimated cost: $15,000 (plus land costs)
- Projected funding source: Municipal Special Capital (40%), Ontario Heritage Trust (40%), Ontario Trillium Foundation (20%), land securement funding to be identified

**Boardwalk**
- Construct boardwalk south of Concession road 6, to bridge gap in trail at Sunderland
- Pending acquisition of land
- Field Services to be responsible for achieving this objective
- Estimated cost: $20,000
- Projected funding source: Municipal Special Capital (100%)

**Lookout platform**
- Construct lookout platform with rest area and interpretive panel south of Concession road 6
- Field Services to be responsible for achieving this objective
- Estimated cost: $2000
- Projected funding source: Municipal Special Capital (100%)

**Conservation Area signs**
- Erect Beaver River Wetland Conservation Area signs at vista points along the Highway
- Field Services to be responsible for achieving this objective
- Estimated cost: $4000
- Projected funding source: Municipal Special Capital (100%)

**Maintenance**

**Grounds and trails maintenance**
- Touch up on trail upgrades completed in 2011
- Replacement of damaged or removed barrier gates
- Annual workload to maintain property including garbage removal and hazard tree management
- Field Services will be responsible for achieving this objective, in partnership with HOOSC and local management partners
- Estimated cost: $3,000
- Projected funding source: Municipal Special Capital (100%)

**Resource management**

**Securement inventories**
- Inventory any newly secured properties, as necessary, to document built and natural heritage features, existing uses, and potential contribution to management plan
- Conservation Lands Planner and Land Securement Officer will be responsible for achieving this objective

**Wildlife stewardship projects**
- Implement turtle crossing barriers and signs at road crossings with significant road-kill
- Begin implementation of waterfowl and turtle nesting habitat enhancement projects
- Conservation Lands Planner will be responsible for achieving this objective, with assistance of Natural Heritage Ecologist and local trail management partners
- Estimated cost: to be determined based on assessments in 2011
- Projected funding source: Ducks Unlimited Canada (50% of waterfowl projects), Municipal Special Capital (50% of turtle projects), Ontario Heritage Trust (50% of all projects)
Natural heritage monitoring
- Annual monitoring of wildlife populations, including invasive species, in the Beaver River wetland
- Conservation Lands Planner and LSRCA technical staff will be responsible for achieving this objective

Staffing requirements
- Field services: 0.39 FTE
- Conservation lands planner: 0.27 FTE
- Land Securement Officer: 0.04 FTE
- General Manager of Conservation Lands: 0.07 FTE

Administration
Property taxes
- Continue to pay municipal property taxes
- General Manager of Conservation Lands will be responsible to ensure taxes paid
- Estimated cost: $1100
- Funding source: municipal levy (100%)

Local management partners
- Support the network of local management partners
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $1000
- Projected funding source: municipal special capital (100%)

Marketing
- Maintain TODS sign near Sunderland
- Erect TODS sign near Blackwater
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $950
- Projected funding source: municipal special capital (100%)

Infrastructure development
Trail upgrades
- Upgrade rail trail between Cannington and Woodville, and between Regional Rd 13 and Scugog Con Rd 14
- Field Services will be responsible for achieving this objective
- Estimated cost: $135,050
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

Trail entry gates
- Establish barriers or gates at all trail entrance points on upgraded trail, with permitted uses posted, to restrict access by unauthorized motorized vehicles
- Field Services will be responsible for achieving this objective
- Estimated cost: $12,800
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

**Bridge upgrades**
- Upgrade existing water crossings in upgraded trail sections to ensure they meet the requirements of the AODA
- Conservation Lands Planner to assist Kawartha Trans Canada Trail and Heart of Ontario Snowmobile Club in achieving this objective
- Estimated cost: $6500
- Projected funding source: Heart of Ontario Snowmobile Club (50%), Ontario Trillium Foundation (50%)

**Fencing**
- Survey and fence conservation area in locations of unabated encroachment and trespass, as necessary
- Land Securement Officer and Field Services to be responsible for achieving this objective
- Estimated cost: $20,000
- Projected funding source: Municipal Special Capital (100%)

**Maintenance**

**Grounds and trails maintenance**
- Touch up on trail upgrades completed in 2012
- Replacement of damaged or removed barrier gates
- Annual workload to maintain property including garbage removal and hazard tree management
- Field Services will be responsible for achieving this objective, in partnership with HOOSC local management partners
- Estimated cost: $ 3000
- Projected funding source: Municipal Special Capital (100%)

**Resource management**

**Securement inventories**
- Inventory any newly secured properties, as necessary, to document built and natural heritage features, existing uses, and potential contribution to management plan
- Conservation Lands Planner and Land Securement Officer will be responsible for achieving this objective

**Wildlife stewardship projects**
- Monitor turtle crossing barriers
- Implement waterfowl and turtle nesting habitat enhancement projects
- Conservation Lands Planner will be responsible for achieving this objective, with assistance of Natural Heritage Ecologist and local trail management partners
- Estimated cost: to be determined based on assessments in 2011
- Funding source: Ducks Unlimited Canada (50% of waterfowl projects), Municipal Special Capital (50% of turtle projects), Ontario Heritage Trust (50% of all projects)

**Natural heritage monitoring**
- Annual monitoring of wildlife populations, including invasive species, in the Beaver River wetland
- Conservation Lands Planner and LSRCA technical staff will be responsible for achieving this objective
Staffing requirements
- Field services: 0.33 FTE
- Conservation lands planner: 0.25 FTE
- Land Securement Officer: 0.04 FTE
- General Manager of Conservation Lands: 0.07 FTE

Administration

Property taxes
- Continue to pay municipal property taxes
- General Manager of Conservation Lands will be responsible to ensure taxes paid
- Estimated cost: $1200
- Funding source: municipal levy (100%)

Local management partners
- Support the network of local management partners
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $1000
- Projected funding source: municipal special capital (100%)

Marketing
- Maintain TODS signs near Blackwater and Sunderland
- General Manager of Conservation Lands will be responsible for achieving this objective
- Estimated cost: $1250
- Projected funding source: municipal special capital (100%)

Plan evaluation and review
- Initiate 5 year review of management plan and business plan
- Conservation Lands Planner will be responsible for achieving this objective, with assistance from General Manager of Conservation Lands, and Administrative Assistant
- Estimated cost: $5000
- Projected funding source: municipal special capital (100%)

Infrastructure development

Trail upgrades
- Upgrade rail trail between Sunderland and Cannington, and between Scugog Con Rd 14 and Regional Rd 23
- Field Services will be responsible for achieving this objective
- Estimated cost: $160,875
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)
Trail entry gates
- Establish barriers or gates at all trail entrance points on upgraded trail, with permitted uses posted, to restrict access by unauthorized motorized vehicles
- Field Services will be responsible for achieving this objective
- Estimated cost: $10,400
- Projected funding source (CA rail trail): Municipal Special Capital (50%), Ontario Trillium Foundation (25%), Ontario Heritage Trust (25%)
- Projected funding source (TCT): Ontario Trillium Foundation (40%), Ontario Heritage Trust (40%), Trans Canada Trail (20%)

Interpretive panels
- Erect interpretive panels along the Beaver River rail trail, highlighting features of natural or cultural interest
- Field services to be responsible for achieving this objective, with assistance of Conservation Lands Planner and LSRCA Corporate Communications
- Estimated cost: $7,200
- Projected funding source: Municipal Special Capital (80%), Trans Canada Trail (20%)

Maintenance
Grounds and trails maintenance
- Annual workload to maintain property including garbage removal and hazard tree management
- Replacement of damaged or removed barrier gates
- Removal of unwanted cabins in remote tracts of conservation area
- Field Services will be responsible for achieving this objective, in partnership with HOOSC and local management partners
- Estimated cost: $2000
- Projected funding source: municipal special capital (100%)

Resource management
Securement inventories
- Inventory any newly secured properties, as necessary, to document built and natural heritage features, existing uses, and potential contribution to management plan
- Conservation Lands Planner and Land Securement Officer will be responsible for achieving this objective

Wildlife stewardship projects
- Monitor turtle crossing barriers
- Implement waterfowl and turtle nesting habitat enhancement projects
- Conservation Lands Planner will be responsible for achieving this objective, with assistance of Natural Heritage Ecologist and local trail management partners
- Estimated cost: to be determined based on assessments in 2011
- Projected funding source: Ducks Unlimited Canada (50% of waterfowl projects), Municipal Special Capital (50% of turtle projects), Ontario Heritage Trust (50% of all projects)

Natural heritage monitoring
- Annual monitoring of wildlife populations, including invasive species, in the Beaver River wetland
- Conservation Lands Planner and LSRCA technical staff will be responsible for achieving this objective
**Staffing requirements**
- Field services: 0.31 FTE
- Conservation lands planner: 0.40 FTE
- Land Securement Officer: 0.08 FTE
- General Manager of Conservation Lands: 0.07 FTE
References


Fisheries Act. 1985. Revised Statutes of Canada, Chapter F-14


### Appendix I

#### Appendix 1. Detailed expenses to achieve management plan objectives

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### Appendix 2. Detailed projected revenues to achieve management plan objectives

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<td>$97,550</td>
<td>$160,500</td>
<td>$208,925</td>
<td>$590,550</td>
</tr>
</tbody>
</table>

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Note that this table is not intended as an exhaustive list of potential funding sources. For more information see pp 35-36.