



Annual Report



2007

Message from the Chair



I am delighted to have served as the Chair of Kawartha Conservation in 2007, facilitating programs and services that protect and restore water quality and quantity in our watershed.

We depend on a good supply of clean water for so much of what we value; such as agriculture, wildlife, tourism, boating, fishing, swimming, and even water for drinking. It is imperative that municipalities, businesses, landowners and residents make wise decisions based on sound science—to protect this precious natural resource.

Water quality and quantity are impacted in many different ways, which is why Kawartha Conservation provides a range of programs and services, each contributing to abundant, clean water within a healthy landscape.

Among our many successes in 2007, we secured an additional 279.5 acres in East Cross Forest, an important water source for Scugog River. This brought the total amount of protected land within the area to 832 acres, which will form a new Conservation Area in the spring of 2009.

Our scientists uncovered pollution sources across the Lake Scugog watershed, which enabled our environmental protection and restoration team to begin addressing the problems. They launched the Blue Canoe, which visited over 270 lakefront residents to talk about how they can prevent pollution from entering the lake, and the Scugog WATER fund provided funding for pollution prevention projects such as septic and well upgrades, erosion control, and manure storage.

Kawartha Conservation created shoreline naturalization demonstration sites in 4 municipal parks, where over 600 volunteers at 30 separate events planted more than 7,500 native wildflowers and shrubs. The parks included Rainbow Bridge Park in Lindsay, Omemee Municipal Park, Coboconk Lion's Park, and Birdseye Park in Port Perry. Shoreline naturalization is key to maintaining healthy lakes and rivers.

Our many successes in 2007 are due, in no small part, to a commitment from all levels of government, stewardship

organizations, funding partners, volunteers, and many others who care deeply about our environment. Our staff are also dedicated individuals who bring energy, innovation and creativity to every program, service and initiative they take on.

Kawartha Conservation will continue to make an important contribution to the well being of our watershed communities and the residents who we serve. I look forward to a renewed commitment from our partners in 2008 and ongoing support for water conservation and stewardship efforts in our watershed.

A handwritten signature in black ink, appearing to read 'Larry O'Connor'.

Larry O'Connor
Chair

2007 Board of Directors

Six municipalities govern Kawartha Conservation through our Board of Directors:

CHAIR

Larry O'Connor
Township of Brock

VICE-CHAIR

Lynn Philip Hodgson
Township of Scugog

DIRECTORS

Lloyd Robertson
City of Kawartha Lakes

Ron Hooper
Municipality of Clarington

David Marsh
City of Kawartha Lakes

Peter Franzen
Township of Galway-
Cavendish & Harvey

Donna Villemaire
City of Kawartha Lakes

Alex Ruth (past chair)
Township of Cavan
Monaghan

Jim McMillen
Township of Scugog

The Kawartha Watershed

The Kawartha Region watershed drains 2,563 square kilometres of land, an area roughly bounded by Port Perry in the south, Kinmount in the north, Manilla to the west and Omemee to the east. Five major lakes and five stream/river systems drain through this land area.



Conservation and Natural Areas

We manage six natural and conservation areas that together protect over 2,225 acres of environmentally significant land. These areas contain important natural heritage features such as forests, wetlands, headwaters and fisheries habitat.

Our conservation and natural areas include Ken Reid Conservation Area (north of Lindsay), Windy Ridge Conservation Area (south of Omemee), Pigeon River Headwaters Conservation Area (east of Bethany), Fleetwood Creek Natural Area (north of Bethany) and Dewey's Island Natural Area (north of Fenelon Falls).



Aerial photo of Ken Reid Conservation Area by Lou Wise

East Cross Forest (southeast of Port Perry) is a new conservation area that will open in the spring of 2009.

With the exception of East Cross Forest, these areas are open to the public during daylight hours. Each year, dozens of schools and organized groups make day trips for outdoor education, nature appreciation, day camps and community events. Visitors are welcome to walk, hike, snowshoe, cross-country ski or cycle the many kilometres of trails. Group camping facilities for day and overnight use and a beach are also available at Ken Reid Conservation Area.

East Cross Forest

We are protecting and rehabilitating ecologically significant land in the southeast corner of the Township of Scugog that was damaged by years of illegal off-roading and dumping. This area, called East Cross Forest, is in a Natural Core Area of the Oak Ridges Moraine.

The East Cross Forest Project protects the headwaters of East Cross Creek and key natural heritage features that are critical to maintaining the integrity of ground and surface water, as well as the Oak Ridges Moraine as a whole. East Cross Creek is an important water source for Scugog River, which feeds into many lakes within the

Kawartha watershed.

This year, we secured an additional 279.5 acres, bringing the total amount of protected land within the area to 832 acres. This land will form a new Conservation Area, opening in the spring of 2009, once a management plan has been completed and restoration projects identified.

In June, 75 people volunteered at a community cleanup event, providing an in-kind contribution valued at more than \$16,000. Using over 30 pieces of volunteered equipment, they retrieved a total of 60 cubic yards of garbage, 10 abandoned vehicles, 3 truckloads of shingles and 3 one hundred-litre drums of hazardous waste.

Eliminating illegal activities in the forest has been very challenging. However, security reports indicate a 90% reduction of trespassing, with most illegal activity involving repeat local offenders. This year, we initiated the Zero Tolerance phase. Durham Regional Police Services began charging offenders under the *Trespass to Property Act*.

We also conducted a trails inventory to map the existing trail network and identify areas of special concern and interest. This information will be used to develop a Trails Strategy in early 2008.

Funding partners for the East Cross Forest Project included the Region of Durham, the Township of Scugog, Oak Ridges Moraine Foundation, McLean Foundation and the Greenlands Fund.



Volunteers at the 2007 East Cross Forest Community Clean Up

Memorial Trail at Ken Reid Conservation Area

The Memorial Trail at Ken Reid Conservation Area was created in the summer to provide a place for quiet reflection and memory of loved ones. The trail features both native trees and memorial stones of natural granite.



A natural granite stone marks the beginning of Memorial Trail

Shoreline Naturalization

Creating a natural buffer zone along shorelines is key to maintaining healthy lakes and rivers. A natural shoreline prevents contaminants and nutrients from entering the water; prevents erosion caused by wind, wave and storm action; supplies food, shelter and cover for wildlife; provides shade and cover in shallow areas to moderate water temperature; expands fish habitat; and decreases unpleasant algae growth.

This year, 4 municipal parks in the Kawartha watershed were chosen as shoreline naturalization demonstration sites. Over 600 volunteers at 30 separate events planted more than 7,500 native wildflowers and shrubs. The parks included Rainbow Bridge Park in Lindsay, Omemee Municipal Park, Coboconk Lion's Park, and Birdseye Park in Port Perry.

In addition to planting events, we held numerous information sessions, workshops and individual shoreline

consultations to educate landowners and assist with shoreline naturalization projects, and visited many schools. We provided students with opportunities to participate in naturalization projects at the demonstration sites (see Education and Outreach, p. 10).

The Shoreline Naturalization program received generous support from volunteers and municipal partners, in addition to funding from EcoAction Community Funding, HIVA Environmental Fund, Evergreen Wal-Mart, Helen McCrea Peacock Foundation, Shell Environment Fund, and the Victoria Land and Water Stewardship Council.

The TD Great Canadian Shoreline Cleanup

In September, we locally coordinated the Great Canadian Shoreline Cleanup, with a total of four parks registered. In Lindsay, the parks included Rainbow Bridge, Nayoro and Riverview. The Lion's Park in Coboconk was the fourth site. Over 35 volunteers collected more than 40 kg of trash and recyclable goods from delicate shoreline habitats.



Volunteers help clean up in Rainbow Bridge Park, Lindsay, September, 2007

Port Perry Pitch-In Week

As part of Port Perry's Pitch-In Week in April, Kawartha Conservation and local students naturalized a portion of the storm water pond on the west side of Simcoe Street. A financial contribution from both the Durham Land Stewardship Council and the Township of Scugog funded the planting of 135 native shrubs and trees.

There were 25 students from Port Perry High School's Environmental Club who assisted and guided the planting with over 25 grade 8 students from Immaculate Conception Catholic School.



Rainbow Bridge Park shoreline naturalization demonstration site, Lindsay, October 2007

Planning Applications and Permits

We provide recommendations on development applications to municipalities and the public under Ontario Regulation 182/06, *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses*.

This service helps protect human life and property from various natural hazards, such as flooding, erosion, and unstable slopes or soils. Through this process, we also ensure the preservation, enhancement and rehabilitation of natural features, such as wetlands, fish habitat, and areas of natural and scientific interest.

In 2007, we reviewed a total of 582 planning applications that included 128 information requests, 61 legal inquiries, 74 severances/applications for consent, 83 minor variances, 11 official plan amendments, 1 zoning by-law amendment, 27 site plan approvals, 13 subdivisions, and 80 Section 28 regulations.

Geographic Information System

We provide a wide variety of maps to program staff and outside clients to illustrate various natural resource information and environmentally sensitive features for ongoing projects, municipal official plans, and to assist with the evaluation of development proposals by our Environmental Advisory Services department.

This year, we made improvements to the maps used for administering the *Development, Interference with Wetlands, and Alteration to Shorelines and Watercourses Regulation* (Ontario Regulation 182/06). We categorized watercourses, digitized cross-sections and determined bankfull widths for watercourses, in addition to conducting stable slopes and refinement of wetland mapping and hazard line compilation.

We updated our Ecological Land Classification maps. Ecological Land Classification (ELC) provides tools and techniques for consistent description, identification, classification and mapping of community types.

The Source Water Protection program required the creation of many maps to support the Watershed Characterization Report written for the Kawartha and Gull & Burnt River watersheds.

Drinking Water Source Protection

As part of the Trent Conservation Coalition (TCC), Kawartha Conservation is working with 4 conservation authorities to protect drinking water at the source. Together, this coalition represents a Source Protection Region that includes the watersheds of Kawartha, Haliburton, Otonabee, Lower Trent, Ganaraska, and Crowe Valley.

Protecting our water at the source is proven to be much more effective than traditional “end of the pipe” practices, while keeping our rivers, streams, lakes, wetlands and groundwater healthy, and by placing public health at the forefront.

As part of the coalition, a Source Protection Committee, made up of community representatives, was created to oversee the process of gathering information about the Source Protection Region, assessing threats and assembling the information into a comprehensive Drinking Water Source Protection Plan.

We collected watershed information, analyzed data gaps, and produced maps for watershed description and assessment.

The committee reviewed in-depth technical characterization reports about the Source Protection Region prepared by the conservation authorities.

We also visited over 700 homes and businesses to provide information about the Source Protection Program and early funding available for decommissioning abandoned wells, upgrading existing wells, septic system inspections and upgrades, runoff and erosion protection, and pollution prevention reviews for businesses.



Lake Scugog Environmental Management Plan

The Lake Scugog Environmental Management Plan (LSEMP) is an initiative to improve the health of Lake Scugog. As the lead organization, we undertake research and restoration projects in cooperation with a Steering Committee comprised of representatives from other partner agencies, as well as Port Perry and area volunteers.

This year, we summarized intensive water quality sampling data from 2004-2006.

We discovered phosphorous and nitrogen concentrations at levels two and three times the recommended norms in some areas, well beyond natural levels. High levels of these nutrients degrade the water quality, and can cause harmful algal blooms and reduce the levels of oxygen in the water. Improvements in landuse practices will help decrease these nutrients and other contaminants.

We identified shoreline property septic systems, urban runoff, urban point source, and river flow as the main

sources of the phosphorous and nitrogen, plus how much each source contributed. Various human activities on adjacent lands were the most significant and manageable source input.

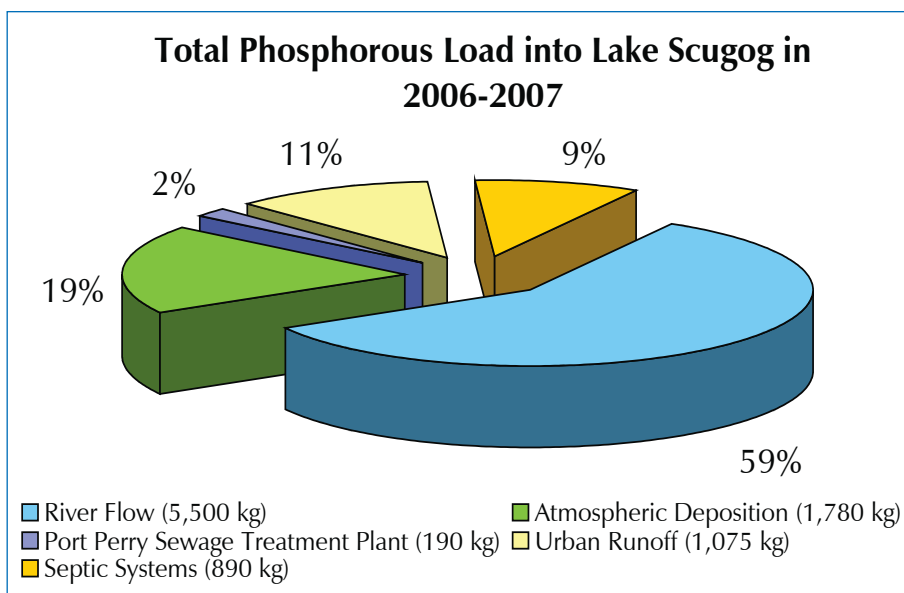
These findings form a basis for education and land stewardship actions; plan implementation has already begun through the Blue Canoe and the Scugog Water and Terrain Environmental Restoration (WATER) Fund.

The Blue Canoe visited 279 shoreline residences in 2007, providing cottagers and full time residents with

information and personalized consultations about ways to reduce their impact on Lake Scugog.

The Scugog WATER Fund assisted landowners with projects that reduce nutrient input to surface and ground water resources. Some of these projects included well decommissioning

and upgrades, erosion control, managing barnyard runoff and septic upgrades. In 2007, \$32,000 was provided by the Region of Durham. It was allocated on a 'cost share' basis for 18 projects.



Nonquon River

The 35 km Nonquon River drains an area of approximately 187 square kilometres. The river has as its source several tributaries on the Oak Ridges Moraine to the southwest of Port Perry. The river flows through the village of Seagrave, and then empties into Lake Scugog. The majority of the Nonquon River Watershed is located within the Township of Scugog and faces the ongoing development pressures typical of this region.

We plan to sustain Nonquon fishery resources through the Nonquon River Fisheries Management Plan, drafted this year and scheduled for public review under the Environmental Bill of Rights in 2008. This plan resulted from the Nonquon River Watershed Study in 2005-06 that involved an inventory and assessment of aquatic habitats and riverside ecosystems.

In these surveys, we assessed fish and fish habitat, identified data gaps and established five unique



A reporter interviews Kristie Virgoe, Manager of Environmental Protection and Restoration, at the Blue Canoe launch.

management areas based on geographic features and fish communities. A total of 17 stations were sampled using the Ontario Stream Assessment Protocol, including electro-fishing, with an additional 46 sites sampled with netting gear.

In the Nonquon River Fisheries Management Plan, we identified specific areas of concern, and recommended a long-term strategy that details a complete range of stewardship activities. Government and non-government agencies, landowners and other volunteers have contributed as Steering Committee members from the beginning, and will continue on as an Implementation Committee in 2008.

East Cross Creek Aquatic Resources Management Plan

East Cross Creek originates on the Oak Ridges Moraine, and flows northeast through the Township of Scugog, then through the south corner of the City of Kawartha Lakes and into Scugog River south of Lindsay.

The East Cross Creek Aquatic Resources Management Plan is an initiative to manage and sustain aquatic health and water quality.

This year, we assessed fish community and habitat characteristics using hoop nets at 11 sites and the Ontario Stream Assessment Protocol at 10 sites.

We used the Ontario Benthos Biomonitoring Network protocol to investigate the degree of organic pollution and determine water quality within the watershed using benthic macro invertebrates (aquatic insects).

These initial studies will provide information that is necessary for determining our sampling in the 2008 summer season, which will lead to the development of an implementation plan in 2009.

Oak Ridges Moraine Conservation Plan

The Oak Ridges Moraine Conservation Plan is a multi-year study that involves creating inventories of various environmental factors, such as water quality, base flow, aquatic and terrestrial habitats, and adjacent land use pressures on a sub-watershed basis within the Region of Durham. The study will result in sub-watershed plans and water budgeting to determine the environmental impacts of existing and proposed land uses. Subwatershed plans will provide direction to municipal partners, consultants, developers, landowners and resource users that will allow for a more integrated

watershed approach to environmental and land use planning.

This year, we looked at aspects of water quantity and quality, fisheries, and natural heritage in Blackstock Creek, Lake Scugog tributaries and East Cross Creek.

Groundwater Monitoring

Many residents, commercial businesses, and almost all agriculture operations in the Kawartha watershed rely on an adequate supply of clean groundwater through communal and municipal drinking water systems and private wells. Increasing our understanding of groundwater resources within the watershed is essential for effective planning for present and future water needs and pollution prevention measures. Better science provides better information for planning officials as they review land development proposals or other activities that may impact sensitive hydrological areas, and, subsequently, the quality and quantity of groundwater.



Hydrologist Iryna Shulyarenko samples ground water

We monitored groundwater levels and sampled water quality at 9 strategically placed wells in the Kawartha watershed, which are part of the Provincial Groundwater Monitoring Network across southern Ontario. Water levels were measured on an hourly basis and recorded with data loggers. We also measured water quality for a series of parameters.

Groundwater is an essential source of cool, high quality water for many creeks and rivers, providing the “base flow” that supports aquatic ecosystems and fisheries during lengthy periods of little or no rain.

Base flow measurements provide important information on stream flow conditions throughout the watershed, and help identify aquifer discharge. This information helps us develop a better understanding of our aquifer locations and other aquifer characteristics, while long-

term assessments identify trends and early identification of problems such as aquifer depletion or unexpected contamination.

In total, we measured baseflow at 198 sites throughout the watershed. This measurement provides essential information required for overall water resource management and the development of stewardship programs, or other programs such as a Low Water Response strategy.

Temperature Data Loggers

Stream temperature is an aspect of water quality that affects every aquatic organism. Everything from microbes to fish depend on certain temperature ranges for their health. If temperatures are outside of this optimal range for a prolonged period of time, organisms become stressed and can die.

We deployed over 80 temperature loggers in watercourses within the watershed. These loggers gathered hourly data for eight months of the year. We will use this information to identify areas for watershed improvements and assist with planning decisions.



Technician Andrew Hibma deploys a temperature data logger

Benthic Macro invertebrate Biomonitoring

Benthic macro invertebrates, better known as aquatic insects, are excellent indicators of water quality. They show the effects of water quality and habitat changes over time.

Through monitoring, we use benthic collections to assess the ongoing impacts of historical and ongoing settlement. At the same time, this information is a type of scientific data that we use as a basis for current land-use planning

decisions and identification of the need for better stewardship practices.

In 2007, we collected samples from 32 sites within the watershed.



Benthic collections are analyzed under microscopes

Municipal Drain Study

The Township of Scugog Drainage Study involved an inventory of Township owned lands and easements to determine the potential for drainage issues.

This study forms a base understanding of drainage patterns. Planning and public works departments will use this information to ensure adequate water outlets from developed lands and maintenance of those structures.

Management options for ensuring a coordinated planning approach that provides adequate and maintained drainage will be finalized in 2008.

Kawartha Water Watch

The Kawartha Water Watch (KWW) Program has been operating each spring to early fall since the 1990s. Project sponsors include several private individuals and not for profit organizations. KWW volunteers expand our capacity for water quality sampling, while providing opportunities for volunteers to get involved with Kawartha Conservation and gain insight into water quality and various water issues and impacts.

In 2007, KWW volunteers sampled 37 sites, 3 times each during the months of June, July and August on Cameron, Crego, Scugog, and Four Mile lakes, as well as Mariposa Brook, Pearn's Creek, Scugog River, and Staples River. This inventory provides a reliable indication of whether a watercourse's health is being maintained, improving or declining, and can indicate a need for greater assessment or stewardship activities.

Flood Forecasting and Surface Water Level Monitoring

Flood forecasting and water level monitoring protect lives and property. We gather data from a number of sources: stream gauges, weather stations, snow condition surveys, meteorological forecasts and computer models. With this information, we can estimate the potential for flooding, and then provide advanced warning to municipalities, emergency officials and the public of potentially dangerous conditions.

In 2007, we monitored water levels at 4 permanent and 4 temporal gauge stations, precipitation at 4 locations, and the snowpack at 4 snow survey locations. A new Geonor all weather precipitation gauge with real-time access (sponsored by the Ontario Ministry of Natural Resources) was installed in Ken Reid Conservation Area to improve our monitoring.



Hydrologist Iryna Shulyarenko and Technician Kimberly Denison inspect a rain gauge

As a result of our monitoring, we issued three Watershed Conditions Bulletins in March, April and December, and a Spring Water Safety media release in March. The “Watershed Conditions Bulletin” (one of three warning levels) is a general notice of conditions that pose a risk to personal safety, or advise of general watershed conditions.

Precipitation levels for 2007 were very low, with rainfall for May, June and July at the Mariposa Brook gauge station totalling only 128.5 mm, or about 60% of the historical average. In Blackstock, the gauge station recorded 190.9 mm of precipitation, or approximately 59% of the historical average.

As a result, we declared a Level 1 Low Water Condition in August and a Level 2 Low Water Condition in September. Level 1 is primarily a warning level that

involves educating the public about water conservation, with the goal of a 10% reduction for non-essential uses. Level 2 indicates a potentially serious problem, and water conservation reduction targets for non-essential use increases to 20%. (Level 3 indicates a failure of the water supply to meet demand.) By mid-December, based on improved precipitation and stream-river flow, the watershed returned to the Level 1 condition.

Kawartha Conservation, in cooperation with the Ministry of Natural Resources, administers the Ontario Low Water Response program in the watershed. As part of the program, representative local water users and water-related agencies form the Water Response Team (WRT) share information regarding water conservation with their sector constituents and the general public.

Workshops, Information Sessions and Presentations

Workshops, information sessions and presentations give us an opportunity to meet with people in our watershed, discuss a range of issues and provide information on our programs and services. Some of our outreach initiatives this year included the following:

- 6 community information sessions and workshops on shoreline naturalization for over 100 landowners. Topics of discussion included erosion control, deterring Canada geese, native plants, ice damage, water quality, the importance of fish, establishing shoreline gardens, and the landowner grant program.
- Presentations at 6 schools to teach students about the benefits of shoreline naturalization. The 296 students also had an opportunity to participate in a planting event at one of our demonstration sites.
- Participation in the 3rd annual Haliburton-Muskoka Children’s Water Festival in September, reaching over 1,200 children from the Trillium Lakelands District



2007 Scugog Spring Garden Show

School Board, with over 400 students from the City of Kawartha Lakes.

- 3 community information workshops about the status of the East Cross Forest project for more than 100 people.
- A municipal partners tour of East Cross Forest to show highly degraded areas, wetlands, mature forests, red pine plantations, and the infamous “Test Hill.” Additionally, the “We’re Your Neighbours” program was launched to provide information about the forest and encourage landowners to report illegal activities.
- An Open House in Port Perry for the Nonquon River Fisheries Management Plan.
- A presentation on Ecological Land Classification mapping to Carden Plain residents.
- A presentation to the Geographical Information Systems (GIS)/Cartography students from Fleming on “GIS in the Workplace.”
- Native plant gardening demonstrations at the Scugog Spring Garden Show.



Lady Eaton Elementary School students at Ken Reid Conservation Area

Partnership Award

The Region of Durham and Durham Environmental Advisory Committee presented the Jessica Markland Partnership Award to Kawartha Conservation on May 30 for co-operative efforts to enhance the natural environment in East Cross Forest (see p. 4).

Erast Huculak, who donated a 552-acre East Cross Forest property to Kawartha Conservation, was recognized with the George A. Scott Stewardship Award.

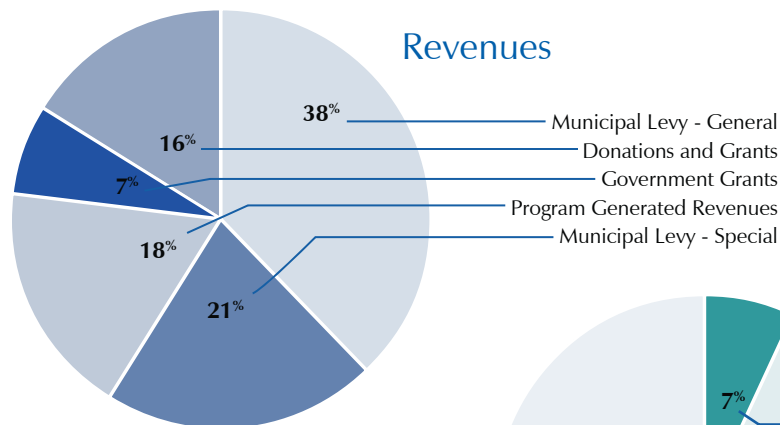


East Cross Forest municipal tour, September 20. From left to right: Larry O'Connor, Chair, KRCA; Ian Macnab, CAO, KRCA; Kim Coates, Clerk, Township of Scugog; Uxbridge Mayor Bob Sheppard; Bev Hendry, CAO, Township of Scugog; unidentified; Scugog Mayor Marilyn Pearce; Alex Ruth, Director, KRCA.

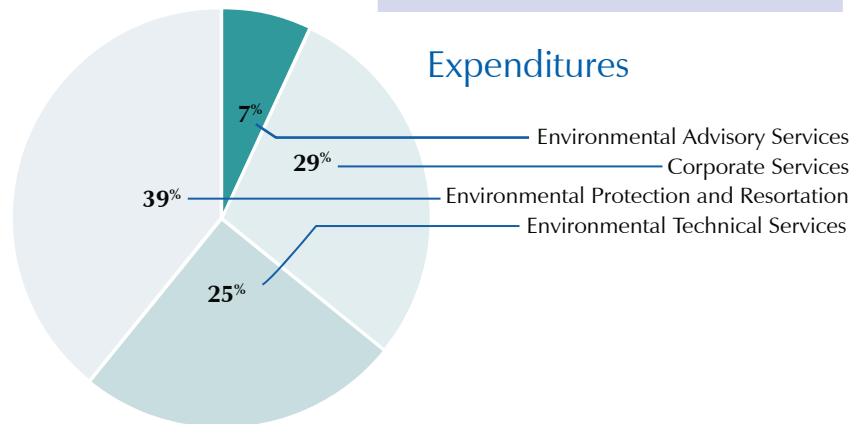


From left to right above: Scugog Mayor Marilyn Pearce; Roger Anderson, Durham Regional Chair ; Kristie Virgoe, Manager of Environmental Protection and Restoration, KRCA ; John Gray, Chair of the Planning Committee, Durham Region; Lynn Philip Hodgson, Director, KRCA; Larry O'Connor, Chair, KRCA

2007 Financial Statements



Each general levy dollar leverages additional funds through partnerships and grants. This money is invested in programs and services that support a healthy environment for present and future generations.



Extracted from audited financial statements. Full copies are available upon request.

Friends of Kawartha Conservation

Friends of Kawartha Conservation is a registered charitable organization that provides support to Kawartha Conservation for conservation and stewardship initiatives that protect and improve our environment.

This year, Friends contributed over \$36,900 to Kawartha Conservation through grants from the EcoAction Community Funding Program and the Wal-Mart Evergreen Grants program for shoreline naturalization projects. Shoreline naturalization is key to healthy lakes.

Friends also held their 3rd annual guided spring nature walk in Pigeon River Headwaters Natural Area.

2007 Friends Board of Directors

President: Janine Pilakowski
 Vice-President: Rob Arsenault
 Secretary-Treasurer: Bob Pool
 Past-President: Chris Ellingwood
 Directors: Barb Elliot, Kim Denison, Ellen Woodward, Ron Fevang, and Dennis Sage
 Kawartha Conservation Board Appointees:
 Larry O'Connor, Lynn Philip Hodgson

Thank-you !!

Our thanks go to the many people and organizations who have made a valuable contribution to conservation in the Kawartha watershed:

- Kawartha Water Watch
- Friends of Kawartha Conservation
- Scugog Lake Stewards
- Victoria Land and Water Stewardship Council
- Durham Stewardship Council
- Fleming College
- Trillium Lakelands District School Board
- Trent-Severn Waterway
- Grow Wild Native Plant Nursery
- EcoAction Community Funding Program
- Shell Environmental Fund
- Wal-Mart Evergreen Grants
- R.H. Cornish Public School
- Dunsford Elementary School
- Lindsay Collegiate and Vocational Institute
- St. Thomas Aquinas Secondary School
- Parkview Public School

For more information, contact us at:

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