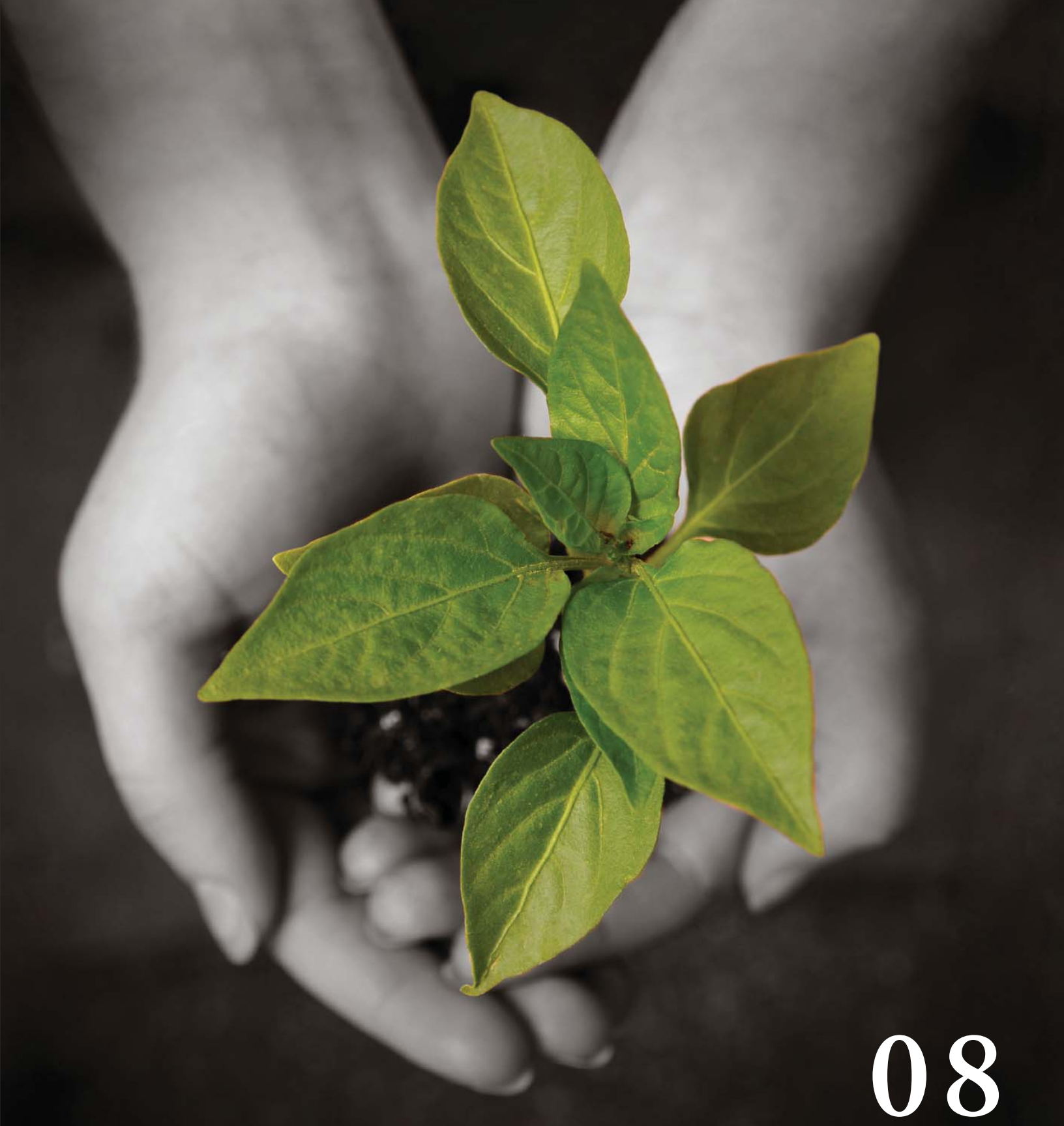




08

ANNUAL
REPORT

SCIENCE & RESEARCH
RESTORATION & PROTECTION
EDUCATION & OUTREACH



Lake Simcoe
Region
Conservation
Authority

LEADERSHIP IN TIMES OF CHANGE

LSRCA BOARD OF DIRECTORS

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Town of Innisfil Deputy
Mayor Gord Wauchope

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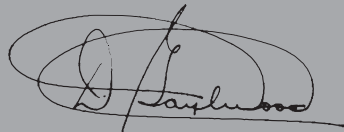
City of Orillia (Ex-Officio)
Mayor Ron Stevens

The environment. Its cause is a song for many voices, a song made richer by the diversity of opinion about the best way to ensure these precious natural resources will still be here for our grandchildren. Each voice is offered as a sincere attempt to contribute to the effort to improve the watershed. And each is heard as a relevant point of view.

Although perhaps not always harmonious, these voices share one undeniable common thread: the search for balance. Because when you draw the line on an issue, you are actually making a statement about what you believe to be the point of balance between competing ideas. And in this watershed, ideas are most in competition about where that point of balance ought to be.

It's important that we respect all perspectives. That we remind ourselves diversity makes us stronger. And that we acknowledge that hundreds of years of democratic process have proved the value of a balanced approach for the greater good.

Together, we will continue to write this music as we go, none of us entirely sure how it will turn out, yet confident that it will be good. Because we will all have a hand in its creation. And a voice in its expression.



Gayle Wood
Chief Administrative Officer



Virginia Hackson
Councillor York Region
(East Gwillimbury) Chair



SCIENCE & RESEARCH

BASIN-WIDE INITIATIVES



Watershed Report Card: The Lake Simcoe watershed's first report card provided a clear and comprehensive scientific analysis of the condition of the lake and its 18 subwatersheds. The report graded each tributary on eight measurable factors, and the lake on a different set of six factors. Copies are available from the conservation authority, or online at www.lsrca.on.ca.

Comprehensive Basin-wide Plan: The conservation authority provided its provincial partners with the basin-wide plan to assist in their development of a strategy to support the proposed Lake Simcoe Protection Act. Addressing the problems identified in the watershed report card, the basin-wide plan proposed three initiatives:

Atmospheric Modeling: Partnering with the LSRCA, the University of Guelph studied the best methods to calculate atmospheric loading. The recommended computer model will demonstrate where the atmospheric phosphorus originates. Then strategies can be developed to reduce it.

Best Management Practices: An inventory of the LSRCA's stewardship sites in the watershed showcases a variety of best management practices (BMP). This inventory is a first step in implementing a BMP strategy across the watershed basin at priority sites.

Performance Measurement: To improve its phosphorus reduction tools and methods, the conservation authority and the Ministry of the Environment enhanced the watershed monitoring program with the addition of virtual gauges (gauging stations calibrated to portray values at other inaccessible locations either downstream or upstream) to more accurately measure contaminants in the water.

CLIMATE CHANGE

Climate change has become a topic of household discussion as we continue to experience changes in global weather patterns. It's important to understand that the earth's climate changes naturally. However, we now know that this change has been aggravated and become more dramatic as a result of human activities over the past century. In 2008, the LSRCA, in partnership with the University of Guelph, began to examine climate change within the local watershed with the intent of developing a climate change strategy in 2009.

SCIENCE & RESEARCH

DRINKING WATER SOURCE PROTECTION



The Ontario Ministry of the Environment received the Terms of Reference that outline the work and responsibilities for the South Georgian Bay Lake Simcoe Watershed Region Source Protection Committee. The committee must deliver the plan to protect the region's water sources in 2012. Staff submitted several fundamental elements of the work plan, including a tier-one water budget, a draft map of significant recharge areas, a geological study of the region's surfaces, identification of protection zones for surface water intakes and the first phase of a watershed risk assessment. In addition, the LSRCA completed a groundwater vulnerability study for the Town of Bradford West Gwillimbury.

GROUNDWATER MANAGEMENT

Work continued on the Oak Ridges Moraine groundwater management program by including the Regional Municipalities of York, Peel and Durham, the City of Toronto (YPDT) and nine conservation authorities with jurisdiction on the Oak Ridges Moraine. Now in its third phase, the program focused on developing a groundwater management strategy. The Geological Survey of Canada (GSC) and the Ontario Geological Survey (OGS) provided funding and expertise for specific studies.

Further research and data gathering expanded the groundwater model developed in earlier phases to cover all of the Regional Municipality of Durham. Third parties outside of the partnership benefited by a release of the model for their use and improvements made to the web-based information management system.

Phoslock® Testing: At Newmarket's Cane Parkway Stormwater Management Pond, in front of media and provincial and municipal partners, the conservation authority and the Ontario Ministry of the Environment began the first Canadian testing of the Phoslock product. The tests will determine Phoslock's suitability for use in stormwater ponds and other locations to chemically bind with phosphorus and settle it out of the water.



NATURAL HAZARD MAPPING

Mapping Updates: Maintenance and updating of the natural hazard mapping are crucial since this mapping is the basis of the Ontario Regulation 179/06 to review development applications and issue permits for construction. New hydrologic modeling studies for the Beaver River, Pefferlaw River and Whites Creek in the Regional Municipality of Durham and of Hawkestone Creek in the Township of Oro-Medonte improved the accuracy of the conservation authority's floodplain mapping.

Emergency Management Services Mapping: Innovatively using the floodplain data, the conservation authority provided emergency management services with mapping identifying roads, buildings and other structures potentially affected by flooding. Already covering all of the Regional Municipality of York, the LSRCA extended this mapping through the majority of the watershed in the Regional Municipality of Durham.

NATURAL HERITAGE / LAND USE MAPPING & THE NATURAL HERITAGE SYSTEM

The LSRCA's Ecological Land Classification (ELC) mapping identifies all land use and ecological communities in the watershed down to the Community Series level (e.g. 'deciduous forest'). Refinement to the next level (the Ecosite Series e.g. Sugar Maple deciduous forest) requires personal observation by staff during field visits. With the work done in 2008, approximately 25% of the watershed is mapped to the Ecosite level.

The mapping is used to develop the Natural Heritage System, which is crucial to many of the conservation authority's programs, such as reviewing and permitting development and construction proposals, Drinking Water Source Protection, species at risk and the land securement strategy.

Value of the Watershed Ecosystem: The LSRCA's detailed assessments of the watershed and subwatersheds provided the David Suzuki Foundation and Friends of the Greenbelt Foundation with the information they needed to produce 'Lake Simcoe Basin's Natural Capital: The Value of the Watershed's Ecosystem Services'. This report assessed the value of the watershed's ecosystem goods and services at an estimated \$975 million per year.

Wanting to protect their environmentally sensitive areas, the municipalities of East Gwillimbury and Georgina used the ELC mapping to identify these areas in their official plans. Efforts are now underway to complete the second and final phase of the work to identify opportunities for enhancement and rehabilitation.

SCIENCE & RESEARCH

SUBWATERSHED PLANNING

Simcoe County: Starting with Hawkestone and Oro Creeks in Oro-Medonte, the LSRCA initiated work on subwatershed plans for the subwatersheds within Simcoe County. After assessing the health of the subwatershed, the conservation authority will make policy recommendations for the municipality to consider in its planning decisions. In addition, the conservation authority will design stewardship programs to address the specific problems to date within the subwatershed.

Durham and York and the Oak Ridges Moraine Conservation Plan (ORMCP): The ORMCP requires subwatershed plans for all watersheds on the Oak Ridges Moraine. A detailed study of the hydrologic characteristics of the Beaver River in Durham provided essential data for its ORMCP subwatershed plan. The conservation authority completed York Region's ORMCP subwatershed plans in 2007. This year the LSRCA started plans for the West and East Holland, the Maskinonge and the Black Rivers. This work focused on the characterization of these subwatersheds and provided the background data required for analysis.

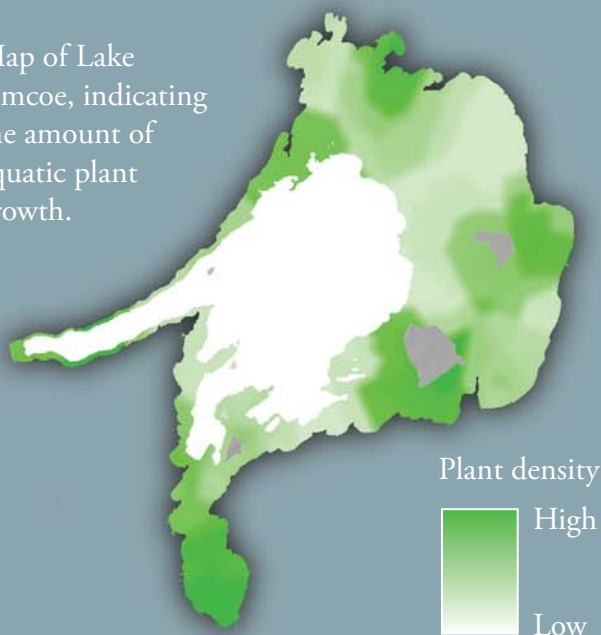


WATERSHED MONITORING



The LSRCA's new Lake Simcoe research boat was christened Ouentarionk, meaning "beautiful lake" in the Huron language.

Map of Lake Simcoe, indicating the amount of aquatic plant growth.



Water Response: Municipal water response teams deal with low flow or drought conditions by recommending conservation measures and strategies for the municipalities to implement. To assist their decision making, the conservation authority's website posts data directly from automated gauges around the watershed. Five permanent LSRCA-operated flow stations, eight rain gauges, numerous real time monitoring probes and three temporary flow gauges report to the website. Installation of new real time probes and virtual gauges increased the accuracy of the network's monitoring.

Groundwater: Current conditions and trends for groundwater quantity and quality are determined by monitoring 14 wells. The automated system feeds data to LSRCA's website and passes it on to a province-wide network that monitors over 400 wells. Valuable new information about the watershed's groundwater also came from the YPDT studies.

Open Lake /Nearshore: The addition of a limnologist and a limnology field assistant improved the LSRCA's ability to research and monitor the Lake Simcoe ecosystem. The conservation authority's new Lake Simcoe research boat enabled their work of collecting aquatic plants and benthic organisms, sampling algae, temperature, oxygen, conductivity, pH, turbidity, chlorophyll, and cyanobacteria at 12 stations, and pulling sediment cores from the Lower Holland River. A study of the lake's historical environmental changes is also underway with students and researchers at Queen's University.

Surface Water: The LSRCA sampled 12 rivers entering Lake Simcoe at 14 monitoring stations every month for water quality and measures of the water's flow. In addition to phosphorus content, surface water is tested for pesticide levels. The resulting data, when combined with biotic monitoring data (fisheries and macro invertebrates), provides a picture of the ecosystem's health and long-term trends. The monitoring program also demonstrated compliance for the Schomberg Water Pollution Control Plant Certificate of Approval.

RESTORATION & PROTECTION

CONSERVATION LANDS

Conservation Area Management Plans: Public consultations helped to shape management plans for Scanlon Creek and Sheppard's Bush Conservation Areas to balance user needs with environmental protection. User surveys in the Beaver River Wetlands formed the first step in creating a management plan for this conservation area.

Watershed Excellence Showcase: Portrayed through videos, displays and presentations, the groundbreaking science and restoration work done by the conservation authority and its partners provided compelling reasons to believe that with federal, provincial, municipal and Foundation assistance, the lake has a beautiful future.

Land Securement: The conservation authority added 167.1 ha of ecologically sensitive land to its holdings of protected lands within the watershed through purchase and easements in 2008. A total of 85.7 ha were purchased in 2008 in Durham Region's ecologically sensitive Beaver River wetlands. In York Region, 81.4 ha were secured through conservation easements.

The LSRCA now owns 1,309.5 hectares of environmentally sensitive lands, acquired with the financial support of its regional, municipal and provincial partners, the Lake Simcoe Conservation Foundation and private donors and groups like the Nature Conservancy of Canada. In Simcoe County the conservation authority holds 313.9 ha, 297.2 ha in the Region of Durham and 698.4 ha in the Region of York.



WATER CONTROL



The LSRCA operates three dams – Pepperlaw River, Fairy Lake and Scanlon Creek. The conservation authority completed safety reviews of the Pepperlaw and Fairy Lake structures. At Fairy Lake, a flood inundation study identified the area affected by potential flooding and dredging was substantially finished, creating more storage capacity and wetland to filter the water.

Fairy Lake Dredging: In the fall of 2008 the LSRCA began the long awaited dredging of Fairy Lake in downtown Newmarket. More than 200,000 m² of material were removed from the lake bottom, some of it relocated within the lake and used to create wetlands to help improve water quality. The remaining material is being stored within the park and allowed to dry out before being removed in 2009. The project will improve fish habitat, recreational opportunities and water quality in the East Holland River.

CONSERVATION AUTHORITIES MORaine COALITION (CAMC)

CAMC conservation authorities, the nine conservation authorities on the Oak Ridges Moraine, provide stewardship projects, secure properties and advance the scientific understanding of the function of the Oak Ridges Moraine. Working together and with the various levels of government, CAMC supported the YPDT studies and contributed to programs that were common among the conservation authorities, such as Drinking Water Source Protection.

ENVIRONMENTAL PLANNING & ONTARIO REGULATION 179/06

Permitting: Under Ontario Regulation 179/06, the LSRCA processed over 1,232 permit applications. The conservation authority used the regulation to direct development away from lands prone to different water hazards such as flooding, erosion, dynamic beaches, wave up-rush and unstable soils. The permitting process protects residents and their property and maintaining wetlands, water courses and shoreline habitats for future generations.

Plan Review: The LSRCA provided comments on over 464 applications circulated under the Planning Act to ensure that all relevant federal, provincial, regional and municipal legislative requirements were being addressed and satisfied. These legislative requirements protect people and property from natural hazards like flooding and erosion, while maintaining natural heritage features and functions. Conservation authority staff also provided support for a number of cases in front of the Ontario Municipal Board.

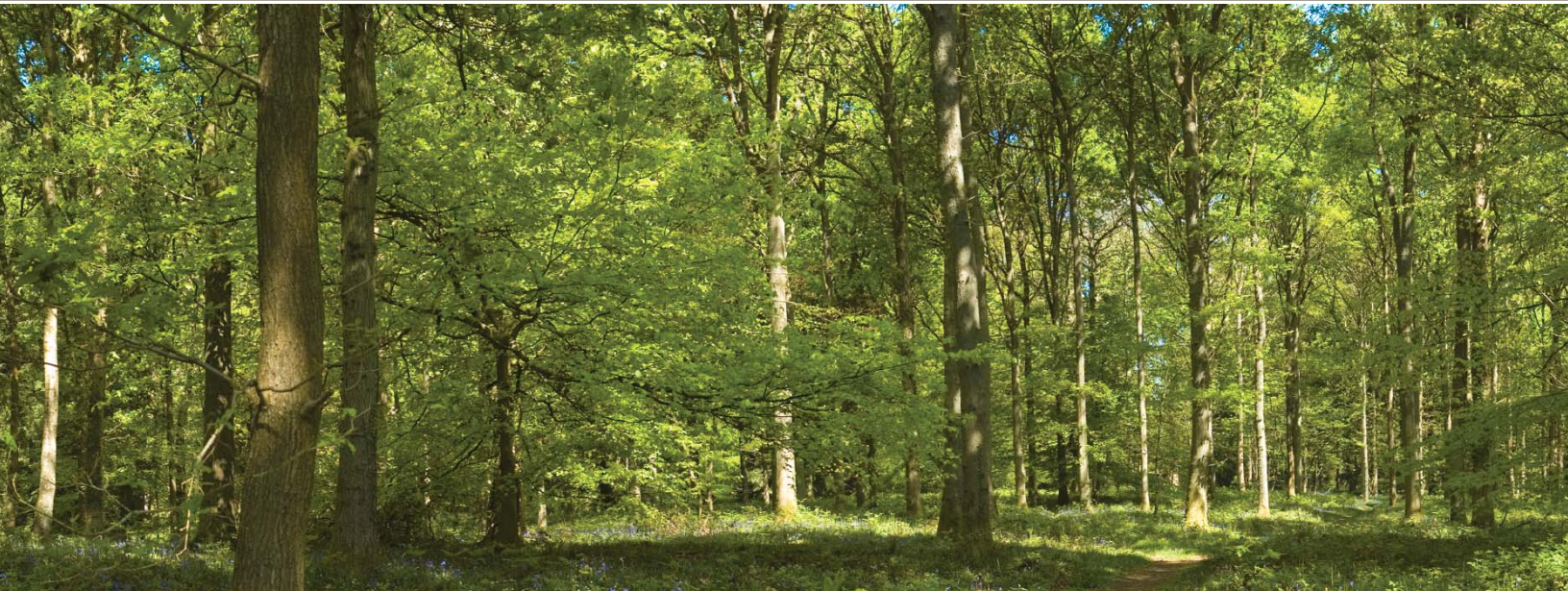
RESTORATION & PROTECTION

FLOOD FORECASTING & WARNING NETWORK

Flood Warning: Mandated by the Province of Ontario to lead the flood warning process in the Lake Simcoe watershed, the conservation authority issued 20 flood bulletins to watershed municipalities, school boards, media, police and neighbouring conservation authorities. Three different levels of warning – High Water Safety, Flood Advisories, Flood Warnings – indicated the likelihood and imminence of flooding.

When Lake Simcoe's levels reached 30 cm higher than normal at the end of February, in co-operation with the Trent Severn Waterway the LSRCA produced lake level reports for municipal authorities and posted them to the conservation authority website every three or four days during March and April.

Emergency Services Assistance: Regional Municipality of York emergency management staff used the LSRCA's emergency services mapping to identify infrastructure needing protection if the lake flooded. The conservation authority also conducted a flood scenario emergency training exercise with the York Region emergency management staff.



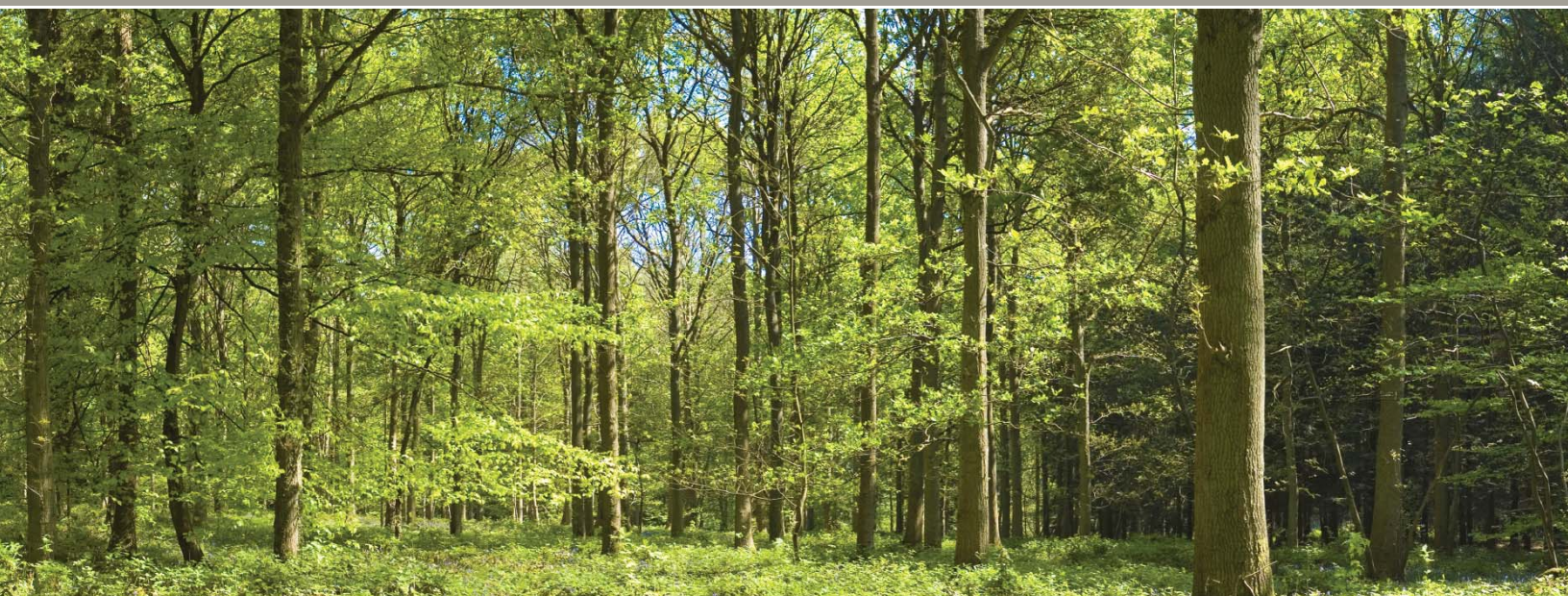
FORESTRY SERVICE



The LSCRCA forestry service manages existing forest cover on the conservation authority's properties and provides technical advice and assistance to private landowners and its municipal partners. Over 55,000 native trees and shrubs were planted on private, public, and municipal properties across the watershed. Through the development of a new management strategy and ongoing hazard tree assessment and removal, trail safety in conservation authority-owned and managed properties has improved.

Durham Forest: The LSCRCA manages six forest tracts for the Region of Durham. Timber harvesting, trail maintenance, hazard tree management, and updates to the forest management and five-year operating plans occurred in 2008. Partnering with the Durham Mountain Bike Association and other stakeholder groups enabled mapping of all single- and double-track trails within the main tract. A study was undertaken of the different options for control of the invasive species Dog-strangling vine. Eight special use permits were issued for recreational events in the forest.

York Natural Planting Partnership: In the Regional Municipality of York the LSCRCA is a partner in the York Natural Planting Partnership (YNPP). To assist in reaching York Region's target of 25% forest cover, the YNPP distributed and planted 46,000 seedlings across the region, including the completion of 20 private land planting projects. Landowners bought another 8,145 seedlings. Eight community planting events engaged the public in hands-on environmental improvements in their own communities. LSCRCA staff co-ordinated plant materials for community reforestation planting projects in four other locations and assisted York Region Forestry staff reforesting the Hall Tract, where 10,075 seedlings were planted. Tree-planting workshops promoted the partnership's offerings across the watershed.



RESTORATION & PROTECTION

LEAP - LANDOWNER ENVIRONMENTAL ASSISTANCE PROGRAM



Through the Landowner Environmental Assistance Program (LEAP), formerly the Lake Simcoe Water Quality Improvement Program (LSWQIP), the LSRCA partnered with its member municipalities, and the York, Durham and Simcoe chapters of the Ontario Federation of Agriculture. Providing technical and financial support to landowners, LEAP completed 150 projects in 2008. Several subwatersheds received focused attention.

East Holland River: Through the conservation authority's many funding partners, including the Lake Simcoe Conservation Foundation, member municipalities and the federal government through its Lake Simcoe Clean Up Fund, the East Holland River subwatershed has been a priority restoration focus. Over 50 stewardship projects have been completed or are ongoing within the subwatershed. Stewardship projects include streambank restoration, native tree and shrub planting, well decommissioning, septic system upgrades, agricultural projects and stormwater pond retrofits. In collaboration with the Town of Whitchurch-Stouffville and local residents, the conservation authority began implementation of the Musselman's Lake Subwatershed Report and Stewardship Plan to deal with the lake's environmental issues.

Since the LEAP/LSWQIP stewardship projects began in 1990, over 950 projects have resulted in over one million trees planted and an estimated reduction of 18 tonnes of phosphorus entering the lake every year.

Lake Simcoe Clean Up Fund: The federal Clean Water Strategy provides a total of \$30 million for the Lake Simcoe Clean Up Fund (LSCUF) over five years. The fund supports projects that reduce phosphorus pollution, restore wildlife habitat and the lake's coldwater fishery, and enhance research and monitoring. Two rounds of applications were considered by the Protect and Preserve the Environment of Lake Simcoe (PROPEL) committee and its Technical Advisory committee that recommend projects to the federal Minister of the Environment. The LSRCA began a total of 22 projects in 2008, including many of those described under LEAP.

Kidd's Creek: After restoring the mouth of Kidd's Creek to the surface from an underground culvert, the LSRCA and the City of Barrie chose to stabilize a headwater section of Kidd's Creek near Cundles Road. The LSRCA provided technical input and the project received funding from the federal government's Lake Simcoe Clean Up Fund.

Ramara Creeks: The federal government's Lake Simcoe Clean Up Fund and LEAP financed a roofed manure storage facility, fencing of a watercourse to restrict livestock access and windbreak planting in the Ramara Creeks subwatershed.

Maskinonge River: Phase I of the Maskinonge Adopt-A-Watershed (2008/2009) began with foundational work on a stewardship plan. With federal funding, the program will reduce phosphorus and other contaminants from both rural and urban sources by targeting fertilizer, pesticide and road salt use in the Maskinonge River subwatershed.

EDUCATION & OUTREACH

OUTDOOR EDUCATION



Education Centre: Over 3,500 students stayed one or more nights and participated in the Ontario curriculum-based programs at the Professor E. A. Smith Natural Resources Education Centre. Retrofits of the centre's lighting and kitchen appliances reduced energy costs and demonstrated energy-efficient alternatives. An infrastructure report produced by Totten Sims Hubicki Associates will guide the future of the building's maintenance and development.

Nature Centre: The Scanlon Creek Nature Centre provided day-only programs similar to those offered at the education centre to an additional 4,300 students. An extension to the 2005 agreement with the Simcoe County District School Board assured the centre's work with the board's grade four and seven students through the 2008-2009 year.

Conservation Kids: In partnership with the Town of Aurora's Leisure Services Department, the conservation authority provided an eight-week summer nature camp called Conservation Kids for about 120 children during 2008.

COMMUNITY ENGAGEMENT & EDUCATIONAL OUTREACH



Community Engagement: The Sunoco Earth Day Tree Planting event engaged over 400 local residents in planting 1,200 native trees and shrubs along the East Holland River in George R. Richardson Park. Six different categories honoured "Watershed Heroes" during an awards night and presentations. The George R. Richardson Conservation Award of Honour, the evening's most prestigious award, went to David Kerwin for his tireless work to improve the environment in Newmarket. The LSRCA met with hundreds of residents at community events around the watershed.

Educational Outreach: In-school presentation modules informed more than 3,800 kindergarten to grade eight students from 51 different schools about the ecological issues in the watershed and challenged them with their responsibility to care for the environment.

PROGRAM SUPPORT

OFFICE OF THE CAO

The Chief Administrative Officer (CAO) co-chaired the provincial Lake Simcoe Stakeholder Advisory Committee that advised the Province on its development of the proposed Lake Simcoe Protection Act and Plan. The provincial process unfolded as described in the table below:

2007	July	Premier McGuinty promised a Lake Simcoe Protection Act should his government be re-elected
	December	Minister Gerretsen, provincial Minister of the Environment, laid out the next steps before proposing legislation for the Act: • Establishing two advisory committees • Convening public consultations • Releasing a Discussion Paper
2008	Spring	Science Advisory Committee and Stakeholder Advisory Committees established
	March	Discussion paper released
	April	Stakeholder workshops and public information sessions
	May	Discussion Paper posted on the Environmental Registry for final comment
	June	Bill 99, the proposed Lake Simcoe Protection Act, introduced for first reading in the Ontario Legislature by the Minister of the Environment and posted to the EBR
	September	Bill 99 entered into second reading
	December	Third reading and royal assent

Human Resources: Human Resources recruited more than 20 positions and continued policy development to meet the needs of the growing organization.

CORPORATE COMMUNICATIONS

Watershed Report Card: A product of the basin-wide initiatives, the 24-page report card reached more than 165,000 homes in the watershed. For the first time watershed residents could discover the conditions of their neighbouring creeks and streams.

Watershed Excellence Showcase: Produced for the showcase, seven short videos presenting environmental science and restoration projects demonstrate the conservation authority's leadership in applying the best science to the problems facing Lake Simcoe. More videos are planned to capture all the varied aspects of the LSRCA's work.

FINANCE

Asset Management: In order to comply with the Public Sector Accounting Board requirements related to tangible capital assets, the LSRCA hired an individual and developed a tracking and reporting database. In addition, a policy was created and approved by the board of directors in December 2008.

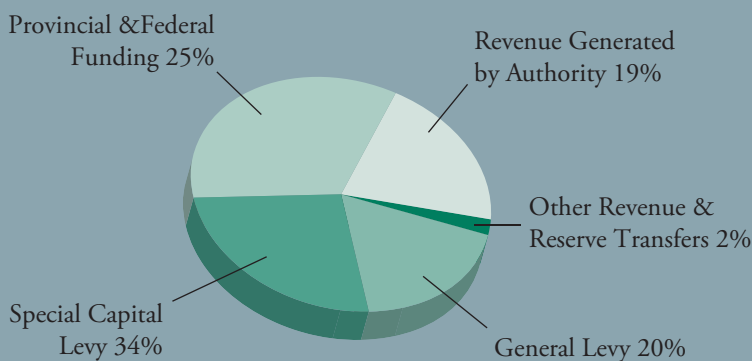
GIS, IT & PROGRAM INFORMATION MANAGEMENT

Interactive Mapping: Launched with the Ontario Regulation 179/06 mapping, a new web-based interactive mapping application enables the public to access and confirm the regulation limit lines and determine from their own computer whether their property is regulated. In addition, the LSRCA permitting and planning staff now has access to a more detailed mapping application, improving their efficiency and customer service.

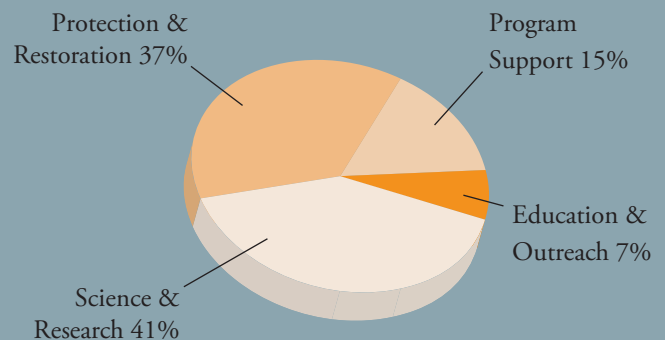
Updates to Mapping: Significant portions of the LSRCA's mapping required updating during the year, such as the ecological land classification, the natural heritage and the Regulation 179/06 mapping.

FINANCIAL SUMMARY

REVENUES & RESERVE TRANSFERS: \$11,496,721



EXPENDITURES: \$11,496,721



This financial information is condensed from the 2008 Board of Directors approved budget summary. Copies of the complete auditor's report for the year ended December 31, 2008, are anticipated to be available in April 2009, at the conservation authority's head office at 120 Bayview Parkway, in Newmarket. Revenues include funds provided by the Lake Simcoe Conservation Foundation.



Lake Simcoe Conservation Foundation

In 2008 the Lake Simcoe Conservation Foundation contributed a total of \$435,000 to essential work around the Lake Simcoe watershed. This funding leveraged other funds and enabled the Lake Simcoe Region Conservation Authority to accomplish more in the areas of stewardship, conservation education and science.

We sincerely appreciate the efforts of staff, volunteers and donors whose contributions have a significant impact on the health of the Lake Simcoe ecosystem. If you would like to get involved, make a donation or learn more, please contact Kimberley MacKenzie, Executive Director of the Lake Simcoe Conservation Foundation, at 905.895.1282 ext. 310 or k.mackenzie@lsrca.on.ca.

Together we *will* make a difference

The Lake Simcoe Region Conservation Authority is pleased to acknowledge the cooperation and support of its partners.

MUNICIPAL

Town of Aurora
City of Barrie
Town of Bradford West Gwillimbury
Township of Brock
Durham Region
Town of East Gwillimbury
Town of Georgina
Town of Innisfil
City of Kawartha Lakes
Township of King
Town of Newmarket
Town of New Tecumseth
City of Orillia
Township of Oro-Medonte
Township of Ramara
Township of Scugog
County of Simcoe
Township of Uxbridge
Town of Whitchurch-Stouffville
York Region

PROVINCIAL

Ministry of Agriculture, Food & Rural Affairs
Ministry of Natural Resources
Ministry of the Environment
Ministry of Public Infrastructure Renewal
Ministry of Municipal Affairs & Housing

FEDERAL

Environment Canada
Fisheries & Oceans Canada

Member of



Conservation
ONTARIO
Natural Champions



**Lake Simcoe
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Authority**

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