



*Central
Lake Ontario
Conservation*

2013
year in review

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A Message from the Chair

It has been a pleasure to serve as Chair of Central Lake Ontario Conservation in 2013 and I would like to share with Board Members and staff, a number of this year's highlights.

- Completion of the Black/Harmony/Farewell, Bowmanville/Soper and Oshawa Creek Watershed Plans.
- Completion of the Cranberry Marsh Water Level Management Report which documents the improvements to the marsh since 2001 when the water control structure was installed in partnership with Ducks Unlimited Canada.
- Completion of Phase II of the Purple Woods Redevelopment plan which included upgrading our maple syrup production equipment, providing efficiencies in production and improving food safety.
- Completion of Westside Creek and Bennett Creek Flood Plain Mapping.
- Completion of McLaughlin Bay Restoration Plan.
- A complete redesign and installation of new signage at our Conservation Areas.
- Conservation Area brochures updated and re-branded.
- Hosted our 38th annual Purple Woods Maple

Syrup Festival attended by a record 14,446 people over 13 days.

- Hosted our 16th Durham Children's Groundwater Festival with more than 4,200 grade 4 students attending and now acting as good water stewards in our communities.
- In partnership with the University of Ontario Institute of Technology and City of Oshawa established the Oshawa Creek Water Quality Study, a one year pilot project to collect water quality samples at seven sites across the Oshawa Creek watershed.
- In partnership with a number of community organizations and businesses, CLOCA hosted the 14th annual Jerry Ouellette Kids Fishing Day at Heber Down Conservation Area, attracting more than 1,500 participants.
- Hosted a Big Drum Social at Heritage Hall in partnership with the Durham Region Aboriginal Advisor Circle offering our 350 guests traditional native food, arts, crafts, dance, drumming and access to programs and services offered to Durham Region Aboriginal residents.

• The Waterfront Regeneration Trust and (CLOCA) celebrated a \$600,000 investment by the Ontario government to complete a 3 kilometre section of the Waterfront Trail through Lynde Shores Conservation Area in Whitby.

• CLOCA entered into an agreement with the Town of Whitby to establish two formal dogs off leash areas at Lynde Shores and Heber Down Conservation Areas.

• Completed acquisition of 5 properties totaling 143 acres on the Oak Ridges Moraine. This brings the CLOCA land acquisition total from 1998 to 2013 to just under 3,500 acres and total current land holdings to 6,000 acres.

It is important to note that the projects within this report would not be possible without the support of our community partners: Region of Durham, member municipalities, community stakeholders and watershed residents. Thank you for your support and we look forward to working with all of you in 2014.

Pat Perkins



Earth Day Tree Planting at Heber Down CA

Who We Are

The Central Lake Ontario Conservation Authority was established in 1958 by the Government of Ontario at the request of the municipalities located within the watersheds of the following creek systems: Bennett, Black, Bowmanville Corbett, Darlington, Farewell, Goodman, Harmony, Lynde, Oshawa, Pringle, Robinson, Soper, Tooley and Westside.

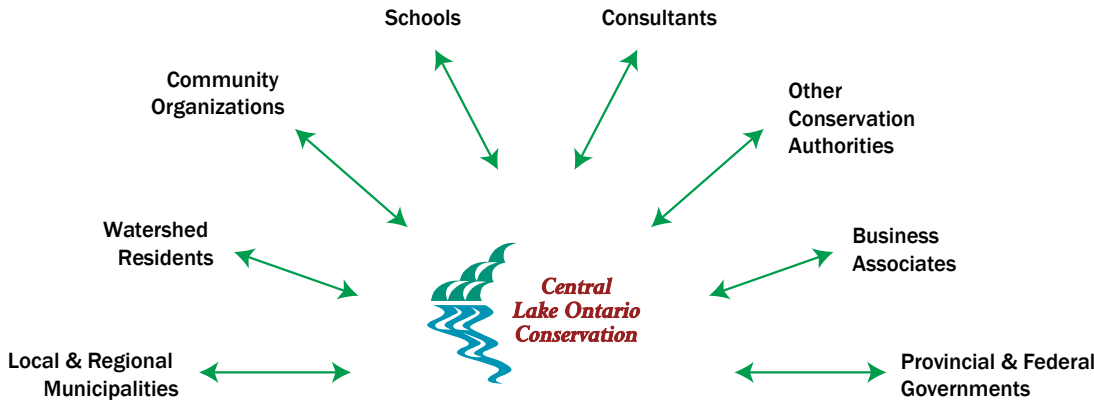
Our Mission

“To increase the awareness, understanding, wise use and enhancement of our watershed resources for the benefit of the natural environment in partnership with the Region of Durham including: Cities of Oshawa and Pickering, Towns of Ajax and Whitby, Municipality of Clarington, Townships of Scugog and Uxbridge and our watershed Communities.”

2013 Board of Directors



Front Row: Councillor Joe Drumm, Councillor Larry Corrigan, Councillor Bob Chapman, Mayor Pat Perkins (Chair), Councillor Mary Novak (Vice-Chair), Councillor Amy England, Councillor Corinna Traill. Back Row: Councillor Don Mitchell, Councillor Shaun Collier, Councillor Lorne Coe, Councillor John Neal, Councillor Ron Hooper, Councillor Peter Rodrigues, Councillor Tito-Dante Marimpietri, Russ Powell (CAO)



Town of Ajax
Councillor S. Collier

Municipality of Clarington
Councillor R. Hooper
Councillor M. Novak (Vice Chair)
Councillor C. Traill

City of Oshawa
Councillor B. Chapman
Councillor A. England
Councillor T.D. Marimpietri
Councillor J. Neal

City of Pickering
Councillor P. Rodrigues

Townships of Scugog & Uxbridge
Councillor L. Corrigan

Town of Whitby
Councillor L. Coe
Councillor J. Drumm
Councillor D. Mitchell
Mayor P. Perkins (Chair)



Cranberry Marsh at Lynde Shores CA

Watershed Planning

Water and related natural resources have value—for our economy, the environment and for society. Our activities on the land impact the health and sustainability of natural resources and can threaten water quality and quantity as well as how we adapt to environmental changes. The best way to protect resources is on a watershed basis. This approach allows us to address multiple issues and objectives; and enables us to plan within a very complex environment.

Benefits of Watershed Planning include: Improved water quality & quantity, flood and erosion management, resilient biodiversity and habitats, sustainable economic and recreational opportunities, improved quality of life and neighbourhood desirability.

Watershed Plan Implementation

Watershed Plans provide a comprehensive, integrated and long-term approach to management, having regard for future considerations including urban growth and climate change. The information and recommendations contained within these Plans are scientifically based and support managing the natural heritage resources in a sustainable manner, ensuring a healthy, diverse and sustainable ecosystem.

Watershed Plans Completed in 2013:

- Black/Harmony/Farewell Creek
- Oshawa Creek
- Bowmanville/Soper

Work has begun to implement watershed plan recommendations, including 24 Watershed Action Plans. These Plans will provide greater detail for achieving specific watershed goals and targets and will provide the framework and implementation planning necessary to complete future on-the-ground monitoring, research, restoration and rehabilitation work.

Significant progress was made in 9 of these Action Plans and 3 Plans were completed.

Completed:

- CLOCA Land Securement Strategy
- CLOCA Regulation & Plan Review Policies and Procedures Manual
- CLOCA Implementation of the Invasive Species Management Strategy

Initiated:

- Natural Heritage System Restoration Plan
- Riparian Corridors Restoration Plan
- Wildlife Corridor Protection & Enhancement Plan
- CLOCA Salt Management Plan
- CLOCA Community Engagement Plan
- CLOCA Lichen Pilot Project
- Watershed In-Stream Barriers Action Plan
- High Volume Recharge Area (HVRA) Case Study
- Montgomery Creek Restoration Plan





Salmon using the Bowmanville Fishway

Habitat loss, degradation and fragmentation of natural heritage features like wetlands, forests and valley lands are the biggest challenges Central Lake Ontario Conservation (CLOCA) faces in managing healthy watersheds. In 2011, CLOCA completed its Natural Heritage Strategy to provide us and our partner municipalities with a planning tool to address these issues on a watershed scale. It balances the needs of growth and economic development in our rural and urban communities with natural resource protection and management. In 2013 we focused on our coastal wetlands, invasive species, Lake Ontario fisheries and removal of a significant fish barrier in Bowmanville Creek.

Cranberry Marsh Water Level Management Strategy

The Cranberry Marsh Water Level Management Strategy summarizes the historical and cultural use of Cranberry Marsh, the restoration work completed in 2001, and change in marsh conditions since the restoration work was undertaken. The restoration works at Cranberry Marsh have proven to be a success with the health of the marsh thriving. CLOCA will

continue to monitor the health and diversity of Cranberry Marsh and will assess management needs annually.

Watershed Report Card

CLOCA completed their second watershed report card with data from 2007 to 2011 on 4 primary indicators: Surface Water Quality, Forest Conditions, Groundwater Quality and Wetland Conditions, providing a snapshot of land and water resource health. The report is available in the Library Section at www.cloca.com.

Invasive Species in our Watersheds

CLOCA continued to implement our Invasive Species Management Strategy in 2013. Work conducted included: hosting a Clean Equipment Protocol workshop with the Ontario Invasive Plant Council, assessment of 12 stormwater management ponds for the presence of invasive fish species, 655 trees and shrubs were planted at Lynde Shores to offset the anticipated loss of Ash trees and management of Common Buckthorn, mapping of Common Reed grass along the roadways in the Black/Harmony/

Farewell Creek Watershed, and removal of 380kg of Garlic Mustard from Purple Woods. All this work was supported by partner funding from TD Friends of the Environment Foundation and Ontario Federation of Anglers and Hunters Invading Species Awareness Program and many enthusiastic community volunteers.

McLaughlin Bay Restoration Project

Released in March 2013, the purpose of the McLaughlin Bay Restoration Strategy is to improve water quality, diversify wetland and riparian vegetation, enhance wildlife habitat and further enrich recreational opportunities. The Strategy was developed in consultation with a Steering Committee whose members include landowners, special interest groups, permitting agencies and technical experts. The report is available in the Library Section at www.cloca.com.

Urban Recreational Fisheries Plan

CLOCA has participated with a number of partners in the preparation and consultation to establish an Urban Recreational Fisheries Plan.

The focus of this fisheries plan is on improving urban recreational fishing opportunities along Lake Ontario from Mississauga to the eastern border of Durham Region.

CLOCA's role in this project is to provide local aquatic data and information and coordinate consultation with local municipalities.

Bowmanville Fishway

With a tremendous effort by the Valleys 2000 community group, the Bowmanville Fishway was completed late in 2013. The fishway provides passage for trout and salmon past the Veyance dam on the Bowmanville Creek.

The project was identified by CLOCA through the Aquatic Resource Management Plan for Bowmanville/ Soper Creeks, and CLOCA provided technical, permitting and design services to produce a concept plan for funding a fish passage structure at the site.

The Municipality of Clarington and Veyance Technologies were key partners for this project.

Monitoring



Summer students electrofishing

Central Lake Ontario Conservation (CLOCA) is continually involved in various kinds of monitoring activities: water quality testing, aquatic species, wildlife/ terrestrial populations and groundwater/stream flow monitoring. The information collected from these activities is used to track trends and adapt to changes in the environment. The information also assists in making decisions regarding plan review, watershed planning, conservation area management, stewardship and education programs. Monitoring information is shared with all levels of government, academic institutions and community partners to further the advancement and knowledge of the natural resources within CLOCA's watersheds.

Aquatic Monitoring

In 2013, CLOCA's aquatic monitoring efforts focused on the Black/Harmony/Farewell Creek Watershed, collecting stream temperature, fish species, abundance and diversity information, benthos data and gathering information on instream barriers.

Terrestrial Monitoring

- The annual terrestrial monitoring program continued as did the implementation of a number of site specific long-term monitoring projects such as the monitoring of water levels and water dependent vegetation in Heber Down Provincially Significant Wetland (PSW).
- The Invasive Species Management Strategy continued with identification of locations within Conservation Areas highly susceptible to the Emerald Ash Borer and engaging municipal partners in development and implementation of invasive species best management practices.



Emerald Ash Borer

Wildlife Monitoring

- The annual Wildlife Monitoring focused on the Black/Harmony/Farewell Creek Watershed, providing, in particular, valuable bird and amphibian species, diversity and abundance information.
- In 2013, emphasis was placed on documenting and identifying barriers to wildlife movement in CLOCA's watershed. Roads can have a devastating impact, especially for turtles and amphibians. This work focused on areas where wildlife habitat and roads intersected. It included documenting the presence/absence of culverts, bridges or other structures that could be used or adapted for wildlife movement. Work on this project will continue with the development of a wildlife crossing action plan.

Durham Region Coastal Wetland Monitoring Program

- The Durham Region Coastal Wetland Monitoring Program allows Central Lake

Ontario Conservation (CLOCA) and our partners to collect the data necessary to monitor overall health conditions and confirm the need for restoration and/or management actions at these wetlands. Using this information, CLOCA staff developed a restoration strategy for Bowmanville Marsh and a wetland creation project for Lynde Shores.

- CLOCA, in partnership with Ontario Ministry of Natural Resources (OMNR), undertook a study to assess muskrat populations in our coastal wetlands. Muskrats do not hibernate and live in houses called push-ups made of cattails and mud. Muskrats use underwater entrances for access and as such, water levels in the marshes and wetlands can have a significant impact on their survival. If water levels are too high in the winter, they will drown, if water levels are too low, their entrances will freeze and they become trapped. The data collected through this program provides valuable information on wildlife habitat and wetland quality in 10 coastal wetlands.

Monitoring



Green Frog

Water Monitoring

- CLOCA's Water Monitoring Network is a collection of stream gauges, rain gauges, air and water temperature probes, groundwater monitoring wells, snow measurement sites and surface water and groundwater quality sites. This Water Monitoring Network and the valuable information collected from it, helps us better understand and predict the impacts of land use activities on water quantity. The data is catalogued and analyzed to help us develop effective watershed wide management programs and policies like our state of the art Flood Forecasting and Warning System, Low Water Response and Source Water Protection programs.
- In an attempt to better monitor low water conditions and it's impact to the Lynde Creek watershed, five monitoring locations within the headwater streams were established. In August, cross-sections were surveyed at each site to generate rating tables used to convert water level to discharge rates.

- Recovering from a lower snowfall in 2012/13 and early spring, monitoring indicated average rainfall for April, May with June being above average. Baseflows of the creeks stayed above normal for the summer months. As a result, CLOCA did not issue any Low Water Condition messages in 2013.



Temperature logger in relation to culvert

Oshawa Creek Water Quality Study

In 2013, the City of Oshawa approached Central Lake Ontario Conservation (CLOCA) and Durham College/UOIT to participate in a monitoring partnership for Oshawa Creek. A total of 7 monitoring sites were established with dataloggers to measure water levels, water temperature and conductivity. This built on CLOCA's existing 3 sites.

Once a month Conservation staff would take water quality samples and students conducted on-site water quality samples, measured light penetration and measured algae growth at each monitoring site.

UOIT will be preparing a report in early 2014 which will establish the baseline data and allow the partnership to make decisions on continued monitoring and direction.

Conservation Authorities Moraine Coalition

In preparation for the 2015 review of the Oak Ridges Moraine Conservation Plan and the Greenbelt Plan, the Conservation Authorities Moraine Coalition (CAMC) received funding

from the Oak Ridges Moraine Foundation and Friends of the Greenbelt Foundation to prepare a report card depicting the current health of the ORM and adjacent Greenbelt lands.

Using indicators such as surface water quality, forest conditions, groundwater quality, fish presence, and stream temperature, CLOCA provided input on development of the project, methodologies used to analyze the data, data from our monitoring programs and mapping of the CLOCA jurisdiction. This report card will be released in 2014.



Oshawa Creek

Conservation Areas and Land Holdings



New main entrance sign

Central Lake Ontario Conservation (CLOCA) owns over 6012 acres (2432.9 ha), of land within its watershed jurisdiction that includes valleylands, provincially significant wetlands, natural areas, forests as well as floodplain lands. The natural heritage value of these properties, and the public investment in acquiring these lands, is supported through Central Lake Ontario Conservation's Land Management Program.

- The December ice storm had devastating impacts on trees within our Conservation Areas. The clean-up will continue well into 2014.
- The arrival of the Emerald Ash Borer and the observed decline of Ash tree health is also being monitored by CLOCA. Actions will be required to remove dead and dying trees where they pose a hazard to the public or existing infrastructure like trails and parking.
- Visitors to Lynde Shores, Stephen's Gulch and Bowmanville/Westside Marshes Conservation Areas have noticed new main

entrance signs. Sign replacement work will continue in 2014. The design work was created by Emily Gallant, a Durham College graduate working with CLOCA during the summer of 2013.

Conservation Areas

Heber Down Conservation Area

- CLOCA and the Town of Whitby entered into agreements to establish two off leash dog parks on CLOCA lands by the summer of 2014. The sites, at Heber Down Conservation Area (Cochrane Street), and Lynde Shores Conservation Area (Jeffrey Street), will be fully operated by the Town. The new parking lot can be shared by dog park and Heber Down CA visitors, and moves CLOCA one step closer to the proposed relocation of the main entrance to this Area.
- The Ontario Aggregate Resources Corporation (TOARC) entered into an agreement with CLOCA for restoration works at Heber Down Conservation Area. The work will include the restoration of a

former gravel pit where historically, concrete rubble and rebar were dumped into a gully running into the Lynde Creek Valley at the Devil's Den Pond. CLOCA plans to use the restored area as an access road to the pond, and establish an accessible trail. TOARC will complete the work, at their expense, by the fall of 2014.

- All remaining buildings were demolished at the Heber Down CA Group Camping Area. The site was planted with tree seedlings in partnership with TD Friends of the Environment to improve forest cover for the watershed.

Lynde Shores Conservation Area

- Victoria Street road widening is anticipated to start in late 2014. Although impact to the wetland is unavoidable, staff have been discussing with the Region of Durham, road design features to minimize impact and habitat improvements with the establishment of a Hall's Road parking lot as compensation.
- In October 2013, the Waterfront

Regeneration Trust announced funding from the Province to complete a 3 kilometre section of the Waterfront Trail running from Lakeridge Road through to the Lynde Shores Conservation Area entrance. Construction to begin in 2014.

Purple Woods Conservation Area

- An outdoor classroom was constructed on the Discovery Trail near the Heritage Hall. The armoustone classroom provides an opportunity for outdoor environmental education in a setting that allows a view of our watershed from the Oak Ridges Moraine to Lake Ontario.
- The maple syrup operation continues to improve at Purple Woods CA. The spring of 2013 was a good year for maple syrup, with over 1,000 litres of syrup produced. In the fall, CLOCA expanded the sap lines to reach into untapped areas of the maple bush. A maple syrup expert from Quebec was retained to work with staff to set-up the expansion and share current production techniques.

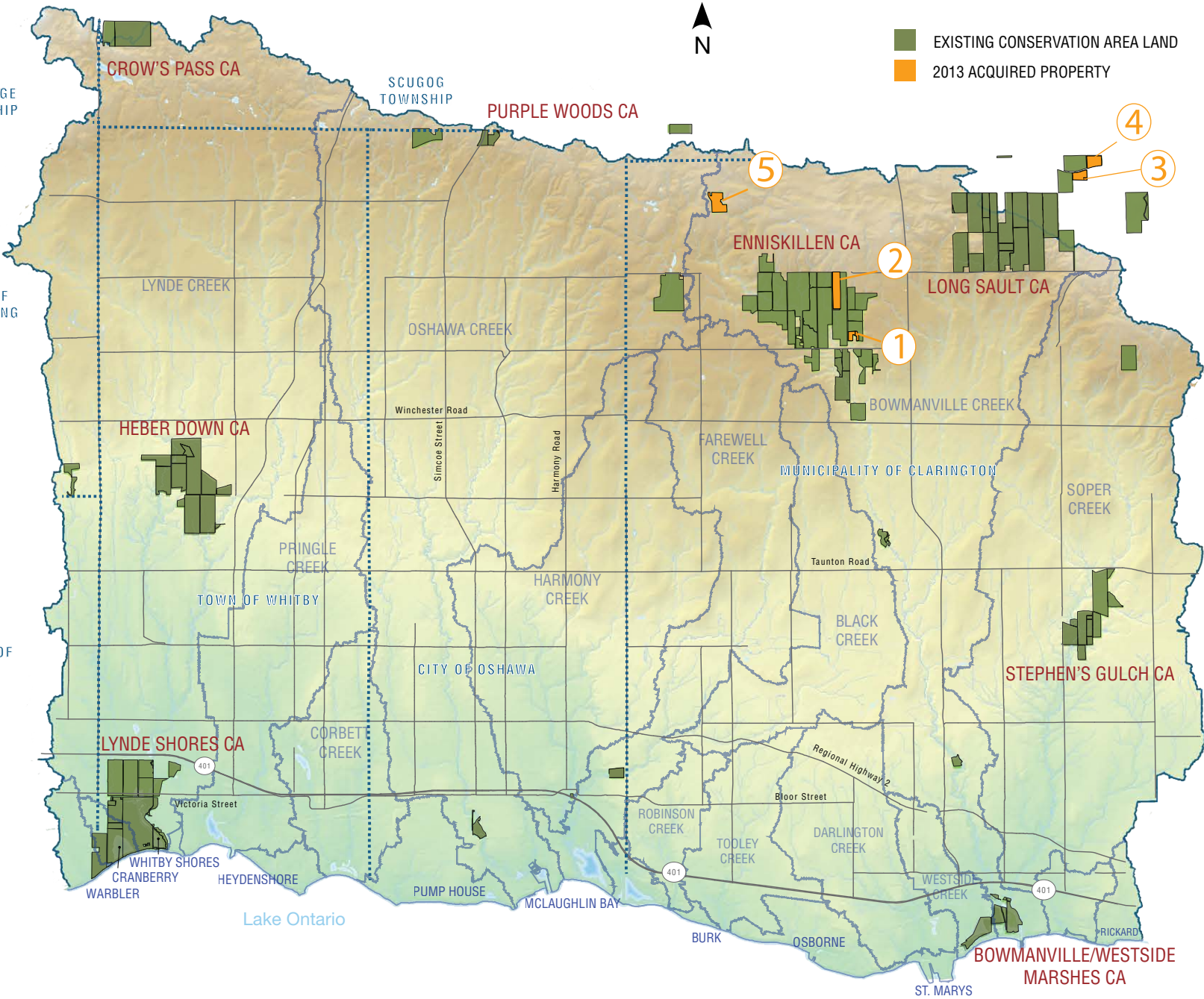
Land Acquisition

In 2013, Central Lake Ontario Conservation (CLOCA) acquired 5 parcels, all on the Oak Ridges Moraine, adding 140 acres (56.6 ha) to the Conservation Authority’s landholdings. Details of each of the 5 parcels secured is as follows:

Enniskillen Conservation Area (2 Properties)

1 A 9 acre (3.6 ha) parcel. Protects important headwater wetlands, sides slope seeps and springs, grassland habitat and a small headwater tributary to Bowmanville Creek.

2 A 52 acre (21 ha) parcel. It is an integral component of the Enniskillen Valley Core Wildlife Habitat Area. It possesses a diversity of habitat including swamps, upland forest and grasslands supporting a wide range of wildlife including Species at Risk and breeding population of area sensitive bird species. Significant groundwater discharge zones are exhibited along the two headwater streams that flow through this property, so critically important to the sensitive Brook Trout fishery downstream. The glacial valley wall of the Enniskillen Valley bisects this property resulting in a 60m+ change in topography resulting in spectacular views west across the Enniskillen Valley.



Long Sault Conservation Area (2 Properties)

3 A 1.5 acre (.6 ha) parcel. Was a remnant and now with its acquisition, CLOCA’s land holdings in the area of Long Sault have been “squared off” and are continuous to the unopened road allowance.

4 A 30 acre (12.14 ha) treed parcel provides interior forest habitat for sensitive species, abuts other Long Sault land holdings, and is adjacent to East Cross Forest.

Enfield Conservation Area (Land Donation)

5 CLOCA received a very generous donation to the Enfield Conservation Area of 48 acres of wetland and mixed forest. This property lies very close to the divide between the Oshawa Creek and Bowmanville Creek Watersheds. In addition to valuable wetland and forest habitat, no fewer than 4 headwater tributaries originate or pass through these lands, supported by groundwater discharge arising from the south slope of the Oak Ridges Moraine. The existence of an on-line pond generates ample restoration opportunities focused on improving downstream conditions.





Comprehensive planning and regulation services are provided to our watershed residents, the development industry and our municipal and government partners to ensure the formulation of policy documents and proposed development is undertaken with the environment and safety at the forefront. Staff continue to work with hundreds of landowners each year on various planning and activity proposals.

CLOCA also administers Ontario Regulation 42/06 under the Conservation Authorities Act, requiring technical reviews and permits for development proposals involving activities adjacent to watercourses, wetlands, shorelines and hazard lands, as well as any activity that causes interference with a watercourse or wetland.

Permissions are granted, provided the development will not have an adverse affect on the control of flooding, erosion, dynamic beaches or the pollution or conservation of land. Staff are also involved in public education and seeking compliance with the regulation.

- In 2013 CLOCA provided planning advice, comments and/or clearances on 219 new or revised planning documents/applications as follows:

- 9 Official Plan Amendments
- 14 Zoning By-law Amendments
- 87 Site Plan Applications
- 70 Subdivision/condominium Plans
- 29 Land Divisions
- 10 Minor Variances

- Provided advice and comments on 26 Special Studies (EA's, Master Drainage/Environmental Servicing Plans, Secondary Plans, Good Forestry Practices applications).
- Participated in 3 Ontario Municipal Board Hearings.

- Attended 113 pre-consultation meetings with our municipal partners.

- Under the authority of Ontario Regulation 42/06, staff issued 250 permits for activity/development within our Regulated Area.

As well, 99% of the permit applications received were reviewed and issued within the timeline guidelines of the Ontario Ministry of Natural Resources (OMNR).

- 2 Notices of Violation were issued for work done without the necessary approvals. One violation has been resolved without the need for convictions before the courts.
- Staff continue to pursue outstanding violations from previous years with 3 violations from 2012 currently before the courts.

In 2013, CLOCA planning staff received approval from the Authority Board in support of establishing effective work flows, delivery and compliance for Plan Review and Regulation Services as follows:

CLOCA Policy and Procedural Document

CLOCA staff now have a working document that provides policy direction, clarity and transparency for administration and implementation of the Ontario Regulation 42/06 and our plan review responsibilities.

Delegation of Permit Approval

In accordance with the amended Ontario Regulation 42/06, in 2013, staff received the approval authority for non-complex permissions within the following framework. The Permissions are: consistent with the approved CLOCA Policy and Procedural Document; for a time period of 2 years or less; extensions that do not extend the time frame beyond 2 years; and where the applicant agrees to the conditions.

Partnership Agreement with the City of Oshawa

This Agreement provides clarity on our role in Plan Review and Regulation Services and a seamless process for making informed decisions on planning proposals with natural heritage and hazard implications. A similar process to establish additional Agreements will be initiated with other municipal partners.

Large Fill Policy

A revised version of this document ensures the tests associated with monitoring fill quality for large fill sites complies with the Conservation Authorities Act.

Groundwater Resources



Left to right: Rig drilling monitoring well, core samples, completed well

The Central Lake Ontario Conservation (CLOCA) Groundwater Department continues to provide hydrogeological expertise and services internally to the various Conservation Departments. Responsibilities include: review of hydrogeological reports submitted with plan applications, support for watershed planning, ground and surface water analyses/documentation and permit to take water review. Staff also respond to direct groundwater service requests for the Region of Durham and local municipalities.

The Groundwater Department also leads the CLOCA Source Water Protection Program that supports the data collection and development of technical products. Staff continue to lead the administration of the Lake Ontario Collaborative study and represent Ontario's Conservation Authorities on the Great Lakes Annex 8 (Groundwater) of the Great Lakes Water Quality Agreement.

- In 2013 CLOCA reviewed and commented on 45 hydrogeological Environmental Assessments or geotechnical studies

- Processed 16 well projects under CLOCA's well decommissioning and upgrade program
- Continued to be active members of the York/Peel/Durham/Toronto Conservation Authorities Moraine Coalition.

Source Water Protection (www.ctcswp.ca)

In 2012 CLOCA submitted a Proposed Source Water Protection Plan for the Credit Valley, Toronto and Region and Central Lake Ontario Conservation Source Water Protection Region (CTCSWP) to the Ministry of the Environment. The Plan consists of several policies to manage or eliminate significant threats to drinking water sources. Staff have received comments from the Province and are currently working with the Source Protection Committee, Province and stakeholders to incorporate the comments to resubmit for final approval. Staff are also working with the Municipalities to prepare for implementation.

Working on the Great Lakes Water Quality Agreement, CLOCA sits on the Groundwater Committee Annex 8 to determine the full

impact of groundwater on Great Lakes' health. Work began in 2013 and should conclude in 2015.

Oak Ridges Moraine Groundwater Program

Since 2001, the program has been providing high level technical groundwater services to the Regional Municipalities of York, Peel, Durham and the City of Toronto and their partners. In 2013, the program focused on database update, quality assurance/control and updated modes of data sharing and distribution.

A business plan was created in 2013 that included hiring a staff person to focus on analyzing 5-10 years of technical groundwater modelling within the Oak Ridges Moraine.

Best Management Practices- Hydrogeological Guidelines for Development Plans

The Conservation Authorities Geoscience Group recognized inconsistencies with hydrogeological and/or environmental assessment guideline documents used by consultants in the plan review process.

A subcommittee developed the guidelines in 2013 to standardize hydrogeological study requirements within Conservation Authorities. Final review was completed in 2013 and is scheduled for approval in 2014.

CLOCA staff led this initiative along with Nottawasaga Valley and Lake Simcoe Region Conservation Authorities.

Ecological Significant Groundwater Recharge Areas (ESGRA)

In 2013, CLOCA initiated work to identify the recharge areas to support the development plan review process to protect important ecological features and functions.

To establish an ESGRA, a linkage must be established between the recharge area and the ecological feature such as a cold water stream, Provincially-Significant Wetland or an Area of Natural or Scientific Interest.

Work is expected to conclude in 2014.



Flooding at Mary Street and Taunton Road, Oshawa

Central Lake Ontario Conservation Authority (CLOCA) maintains a Flood Forecasting and Warning system. The purpose of the system is to reduce risk to life and property damage by providing local agencies and the public with advanced notice, information and advice so that they can respond to potential flooding and flood emergencies.

Flood Forecasting and Warning System

CLOCA monitors, on an ongoing basis, weather forecasts and watershed conditions at locations across the watershed. Water level and related information is recorded through an extensive monitoring network of stream and rain gauges, snow course sites and staff gauges. These measurements, weather forecasts and radar information on temperatures and rainfall predictions, along with historic data, are all taken into consideration when developing a flood forecast.

In total, 7 Watershed Conditions Statement messages were issued in 2013:

- 4 Water Safety Statements
- 3 Flood Outlook Statements

Throughout 2013, staff from the Engineering and IT/GIS departments worked on several projects related to the flood forecasting and warning program. These projects included:

- Creating a data management module to interpret creek discharge information from water levels and improve queries and reports.
- Switching our automated dialer system to a more cost efficient system.
- Creating a gauge monitoring webpage to display automated flood monitoring stations information in map and data files.(<http://www.cloca.com/gauging>)
- Relocating the Harmony Creek stream gauge station north of HWY 401 to provide a more accurate reading. For the past few years, water levels through the site have been elevated due to a very large debris jam between the CN Railway and the highway. With the settling of the debris in the pooled areas, the intake pipes of the gauge are consistently covered. CLOCA and Environment Canada will conduct site walks in 2014 to find a more suitable location.

Floodplain Mapping

Floodplain maps are an important component of CLOCA's Flood Forecasting and Warning System and are essential for Plan Review and Regulation. An annual update to the regulation mapping was completed in the spring of 2013 to include minor changes to flood limits from studies completed during the previous year. The changes were minor in nature and did not require public consultation.

- During 2013, staff advanced mapping for the Oshawa Creek watershed, and provided draft mapping for our municipal partners to review. The Oshawa Creek Floodplain Mapping Study will be completed in 2014.
- The Westside Creek and the Bennett Creek Floodplain Mapping Studies were completed in 2013, and the new mapping provided to our municipal partner, and added to the CLOCA Natural Hazards Regulation mapping.
- CLOCA also began a complete update of erosion hazard mapping using automated

GIS routines. This process will carry on over multiple years, with Clarington being the first municipality to be completed. The updated erosion hazard limits will be integrated with the regulation mapping.

Highway 407 East

- The Phase 1 Highway 407 East design and construction advanced in 2013 with tree clearing, rough grading, stream realignments and bridge structure erection. Conservation staff meet monthly with the 407 East Development Group as part of the Regulatory Agency Group, and is also a member of the Hwy 407 East Advisory Committee.
- Central Lake Ontario Conservation continued to meet with Ministry of Transportation and their consultant group to advance the design of the Phase 2 Hwy 407 East project.

Stewardship, Education & Communication



Kids Fishing Day at Heber Down CA

The focus of this department is to provide a variety of stewardship, education and communication products to support Central Lake Ontario Conservation's (CLOCA) mandate. Through stewardship we encourage landowners to maintain, restore and protect existing natural heritage features. We undertake programs to promote natural heritage stewardship providing technical services and financial grants from our partners to assist watershed residents undertaking habitat restoration, enhancement and agricultural best management practices projects.

Our education programs provide hands-on experiential learning opportunities to instill an environmental ethic in current and future generations and establish a passionate awareness in the value of environmental protection and stewardship in our watersheds.

Being an active community partner we use a variety of media to create an awareness of watershed resources and ensure our corporate programs, projects, services and policies are understood by the general public.

Stewardship

Private Well Decommissioning/Upgrade Program

Initiated by the Groundwater Department in 2004, the program's goal was to provide assistance to private well owners with regards to bringing their well up to provincial standards and reducing potential threats to groundwater supplies. The program was completed in 2013 with successes that include 91 well decommissioning and upgrade projects across CLOCA's jurisdiction.

Trees, Trees and MORE TREES!

Now in its 9th year, the **Private Land Tree and Shrub Program** provides bare root native tree and shrub seedlings, at cost, to landowners with a minimum of 2 acres. Since 2006, more than 90,000 native trees and shrubs have been sold, engaging more than 300 landowners, contributing to 375 acres (150 ha) of natural forest cover across our jurisdiction.

The **Trees for Rural Roads** was launched as a pilot program in 2012, in partnership with the Municipality of Clarington and Ganaraska Region Conservation. The program offers free trees to

rural landowners who are willing to plant them along the roadsides inside their property line. We have had a tremendous response with over 1,600 trees being planted along the rural roads in Clarington to date.

Over 80 volunteers gave nature a helping hand at our annual **Earth Day Tree Planting Event**. Volunteers assisted with restoring the old group campground at Heber Down Conservation Area by planting 2,000 native tree and shrub seedlings. The event was graciously sponsored by TD Friends of the Environment and the Brooklin TD Bank of Canada and Royal Bank of Canada.

Thanks to Siemens, Tree Canada and TD Tree Days, 1,100 native trees and shrubs were planted in 2013 to assist our restoration efforts at the Cranberry West Tract, Heber Down and Purple Woods CAs.

Education

CLOCA hosted the 13th annual **Jerry Ouellette's Kids Fishing Day** at Heber Down Conservation Area. An estimated 1,500 people lined Devil's Den Pond throughout the day

catching about 200 of the 600 rainbow trout which are stocked in advance of the event. A long list of community partners, businesses and community organizations contribute to the event's success. For more information visit www.jerryskidsfishingday.ca

The 7th annual **Durham Farm Connections** event was hosted in Brooklin to give grade 3 students across Durham Region a chance to be a farmer for the day. Eight learning activity centres are offered to the students in this half day program, allowing them to see live chickens, pigs, cows and CLOCA's demonstration of the land and water stewardship activities of local farmers. An evening open house allows the students to bring their families to the "farm" and share their experience and excitement. For more information visit www.durhamfarmconnections.ca

In Your Watershed

For more than 25 years, CLOCA has delivered curriculum based outdoor education programs offering hands-on experiential learning opportunities to students from kindergarten to

Stewardship, Education & Communication



Durham Children's Groundwater Festival

grade 12. Attendance for the 2012 and 2013 school year was estimated at 5,100 students. In addition, staff coordinated and delivered 2 Teacher Professional Development Day workshops at the elementary and high school level promoting outdoor education and secured funding to construct new floating docks at Heber Down and Enniskillen Conservation Areas to enhance pond study classes year round.

New Education programs were initiated in 2013 with a focus on Species at Risk and Climate Change.

Purple Woods Maple Syrup Festival

CLOCA celebrated 38 years of the annual Purple Woods Maple Syrup Festival in March 2013, with a record attendance of 14,500 people. Support from a long list of community partners is now engraved in the bricks that lead to the Heritage Hall, with the initiation of our Festival Walk of Fame.

New this year was a cultural experience for our visitors with traditional native dance, drumming and fiddling by members of the Oshawa and

Durham Region Metis Council and a new tipi now part of our aboriginal interpretive stop, thanks to a generous donation from the Baagwaating Community Association.



Maple Syrup Festival volunteers with new tipi

Social media was introduced to the Festival this year with a Twitter account to highlight features and special guests to our visitors.

Durham Children's Groundwater Festival

CLOCA and the Durham Children's Groundwater Festival Organization Committee hosted their 16th anniversary Festival in September 2013, engaging 4,200 grade four and 400 high school students, teachers,

parents and our partners in this annual outdoor science fair at Camp Samac in Oshawa.



Highlights for this festival were some new programs, Aquatic Adventurers and Professors Drip, Drop and Dew. Thanks to our many sponsors for supporting the Festival. To find out how you can support this educational event please visit www.groundwaterfestival.ca.

Watershed Awards

The biennial Watershed Awards were hosted in November 2013 to recognize the environmental contributions made by community stakeholders toward the stewardship and enhancement of our watersheds.

Special recognition watershed awards were given to TD Friends of the Environment, Royal Bank of Canada, Ontario Power Generation Darlington, Regional Municipality of Durham Works Department and Health Department. Business and Corporate Watershed Awards were presented to the Municipality of Clarington Engineering Service Department and Planning Department, Trans Canada, Cargill, Ontario Power and Utilities Corporation and Dufferin Aggregates. Community Group Watershed Awards were given to the St. Thomas Aquinas Catholic School Peace of Nature project and Durham Farm Connections.

Communications

Undertakings in our communication department in 2013 included rebranding our conservation area brochures and Year in Review, designing and installing 9 new primary and secondary entrance signs for the Conservation Areas, publishing the watershed report card, three watershed management plans, redesign of our education program brochure, the Purple Woods Maple Syrup Festival and Durham Children's Groundwater webpages.



Common Buckeye Butterfly

Corporate Services is an important part of the day to day operations of Central Lake Ontario Conservation (CLOCA). Corporate Services includes all aspects of administration including Full Authority Board meeting agendas and minutes, accounting, IT support, general inquiries from the public and reception.

Accessibility for Ontarians with Disabilities Act (AODA)

CLOCA is committed to increasing accessibility for persons with disabilities who visit, work or conduct business at any of our facilities. In 2013, the Board of Directors approved CLOCA's Integrated Accessibility Standards Policy. This policy establishes the Integrated Accessibility Standards Regulation in the areas of Employment, Information and Communications, Transportation and Public Spaces that meets Ontario standards. Staff shall use every effort to ensure that we meet the needs of people with disabilities, in a timely manner, through the implementation of this policy.

CLOCA is committed and guided by the four (4) core principles of Dignity, Independence, Integration and Equal Opportunity and supports the full inclusion of persons as set out in Canadian Charter of Rights and Freedoms, and the Accessibility for Ontarians with Disabilities Act, 2005.

Solar Application at CLOCA Office Site

CLOCA's venture into solar electricity generation under the Province's Micro Feed – In Tariff Program is now in its third year of operation. Revenue generated for 2013 was \$9,585 (2012 - \$9,810) which represents 11,730 kWh of electricity being fed back into the grid. The payback period is expected to be towards the end of 2019.

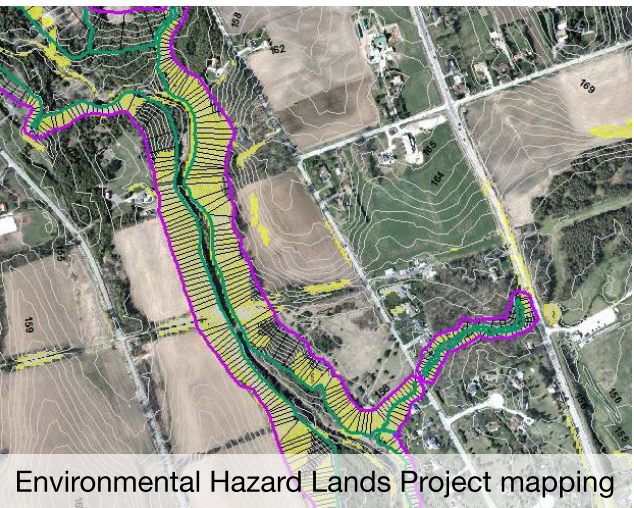
Ontario Job Creation Partnership

CLOCA was approved for an Ontario Job Creation Partnership (JCP) Grant to hire nine individuals for 32 weeks. The positions provided much needed support to the GIS Department. JCP staff did the groundwork on the following two projects:

- JCP staff completed the first stage on the Environmental Hazard Lands Project, by mapping the tops and toes of stream valley slopes within CLOCA's jurisdiction. Upon completion, information produced will be used to support CLOCA's mandate to prevent loss of life and property due to erosion and unstable slopes and will support production of subsequent iterations of the Generic Regulation update.

- Developing a mobile application to obtain environmental information from citizens was the JCP members' second project. The application will utilize citizen-gathered data to supplement the organization's environmental monitoring programs and engage the public in conservation efforts. Sir Sandford Fleming College students provided feedback to ensure the mobile application met the needs and requirements of CLOCA staff.

Both projects are scheduled to be completed in 2014.



Environmental Hazard Lands Project mapping

Administrative Policies and Meeting Procedures

CLOCA's Administrative Regulations were updated in 2013 to bring us into conformity with today's practices and procedures. A Conservation Authority template was adopted and adapted to meet CLOCA's requirements in supporting our Board of Directors. CLOCA's Administrative Regulations were last updated in 1983 at a time when in addition to the full Board, an executive committee and a number of advisory boards conducted our business.

2013 Budget Summary

Expenditures

Total Expenditures: \$6,125,715

Category	Percentage
Watershed Management & Health Monitoring	27%
Land Management	23%
Corporate Services	21%
Environmental Plan Review & Regulation Services	17%
Watershed Stewardship Services	4%
Community Outreach Program	6%
Vehicles & Equipment	2%

Revenue

Total Revenue: \$6,125,715

Category	Percentage
General Levy	43%
Authority Generated	36%
Regional Capital Levy	18%
MNR Transfer Payment	2%
Other Grants	1%

Capital & Operations

Total Capital: \$1,380,300
Total Operations: \$4,085,815
Total External Contracts: \$ 659,600

Category	Percentage
Operations	75%
Capital	23%
External Contracts	11%

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