



Celebrating
Central Lake Ontario Conservation **60**
Years

Year in Review

2018

Visitors enjoy our 60th Anniversary Snowshoe at Enniskillen Conservation Area.

A close-up photograph of several mushrooms with pinkish-red caps and stems, growing on a bed of vibrant green moss. The scene is lit with natural light, highlighting the textures of the fungi and the moss.

Message from CLOCA's Chair and CAO

It is refreshing that after 60 years we are still pioneering new programs, projects, technology and finding new partners to ensure our work continues to be relevant and meets the needs of our watershed communities.

In 1958 when Central Lake Ontario Conservation was formed, NASA was just announced, Texas Instruments had invented the microchip and Sir Edmund Hillary finally realized his dream of reaching the South Pole. Closer to home the lost villages of Ontario were permanently flooded as part of the completion of the St. Lawrence Seaway and Power Project and the microwave relay network now permitted coast to coast transmission of television signals.

As you read this report you will see the benefits of building on the foundation of innovation that was our world and our country 60 years ago. We now use the same technology to map our watershed as NASA's Apollo 13 used to map the moon's surface of volcanoes, craters and lava flows. This technology is now a tool in our toolbox to help us update our watershed plan mapping, assist us with modeling Lake Ontario's shoreline. From laptops, to smart phones, portals and web sites and secondary products like our storyboards, we are seeing the potential for improved data management and sharing, communication and innovation in every aspect of our business. And if Hillary can get to the South Pole, we knew we could get our watershed residents out into winter using our trails, our snowshoes or our free library parking passes to ensure an affordable and local opportunity to sustain physical and mental health.

As we look forward to the next 6 decades, we know we have established a solid foundation of policies, services, programs and products to ensure future staff have the 'right stuff' to move our communities, partners and stakeholders toward improving the health of our watersheds.



Leaders in Integrated Watershed Management

Watershed Plan Update

Central Lake Ontario Conservation began a two year process, updating watershed plans across our jurisdiction. These updates will provide recommendations and tools to help mitigate the changes to the natural and built environment. This process will celebrate successful outcomes from our previous work and establish new goals and targets with measurable results. This update delivered a consultation process gathering input from watershed stakeholders through two Public Information Centres and an online survey.

Port Darlington Shoreline Hazards Management Study

We are working in partnership with the Municipality of Clarington in the completion of a Hazard Management Study for Port Darlington, a residential community located along the Lake Ontario shoreline. After the record high Lake Ontario water levels of 2017 and the flooding of Cedar Crest Beach and West Beach Road, the Study was initiated to further investigate the natural hazards imposed on existing homes and infrastructure. The study will investigate methods to lessen the impacts, and propose a plan for managing the risks. In 2018 we hosted two public meetings to update the community and obtain their input.

Lake Ontario Shoreline Hazards Management Plan

Work is underway to update the 1990 Lake Ontario Shoreline Management Plan by Sandwell Swan Wooster. This study has provided valuable information on shoreline processes, damage centres, and establishes lake flood and erosion limits used in our regulation process. The 1990 study included the reach of Lake Ontario shoreline of the CLOCA, Ganaraska and Lower Trent Conservation Authority watersheds. Lake Ontario shoreline processes, like sediment transport, extend through multiple municipal and conservation authority jurisdictions. There is anticipated financial and technical benefits to working collaboratively with these Conservation Authorities to cover a larger geographic range. The plan was approved

in 2018 for federal funding through the National Disaster and Mitigation Plan, and Durham Region.

Planning and Regulation

Our planning staff supported the Town of Whitby in advancing the new Brooklin Secondary Plan to adoption, undertook a detailed review of the draft Columbus Subwatershed Study in Oshawa and supported the Municipality of Clarington in the commencement of new Subwatershed Planning for the Darlington and Tooley watersheds. We also provided environmental planning advice on over 85 pre-application consultation meetings with landowners, developers and municipal planning department staff. As well, we issued over nearly 300 permits for various development activities, under Ontario Regulation 42/06. We reviewed over 1000 different technical submissions from landowners, consultants, realtors and municipalities resulting in 285 detailed planning comments.



To keep track of all this information, we entered over 6,000 documents into our electronic records management system for efficient retrieval and archiving.

We continue to play an important role in the development of provincial legislation and guiding documents which focus on natural heritage, wetlands, Conservation Authority product and service delivery, agriculture land use and large scale commercial fill operations.

Leaders in Integrated Watershed Management

Conservation Areas and Land Holdings

Enniskillen Conservation Area - Storoschuk Restoration Project

In 2018 we started a restoration project for an abandoned aggregate pit in Enniskillen Conservation Area to re-establish the historical site topography, reconnect the valley wall and plant native vegetation for habitat connectivity, slope stability and reduction of erosion hazards. Any revenues generated from the project will support ongoing monitoring and management efforts.



Restoring the Storoschuk Property.

Historically in Southern Ontario, grasslands covered a significant part of our landscape. Today less than three percent of the original extent remains. The necessary restoration work will occur over the next 5 years. The work will involve managing invasive species, cultivating and seeding native grass species to establish the habitat needed by nesting Bobolink, one of many grassland bird species at risk. Upon completion of the project, CLOCA staff will continue the management and monitoring efforts, ensuring long term grassland habitat at this site.



Craig Tract Native Grassland Restoration Project Site.

Long Sault Conservation Area - Craig Tract Restoration

In 2008 CLOCA purchased the Craig Farm as an important tract of the Long Sault Conservation Area. The management plan maintained the northern agriculture portion through lease agreement. The southern portion, formerly pasture, is typical Oak Ridges Moraine hummocky topography, our goal for this portion is to re-establish habitat for grassland birds and wildlife. Native grasslands are some of the most endangered ecological communities in Canada.

Leaders in Integrated Watershed Management

Conservation Lands Masterplan

We own and manage 2,700 hectares of environmentally sensitive land across our jurisdiction. With regional population growth the demand for these greenspaces, our trails and nature appreciation is increasing. In response to this, a Conservation Lands Master Plan Study was initiated, to ensure these lands continue to meet our objective to conserve natural features and functions, while providing compatible high quality visitor experiences for users. To date, we have attended community events, conducted public surveys, stakeholder and public information consultations, a youth art competition, sessions with local and regional municipal staff and neighbouring conservation authorities.

Invasive Species Management

Our Conservation Area land provides us with unique opportunities to manage invasive species. At Purple Woods Conservation Area, we completed year five of “To Beat It We Eat It” Garlic Mustard Management Program. High school students spend a day at the site removing the plant and then working with a local chef to make pesto, pasta and pizza using some of the harvested garlic mustard as the main ingredient.

At Heber Down Conservation Area, staff continue to manage phragmites, an invasive plant established along an existing hydro corridor. Volunteers spade and a licensed contractor managed a portion of the population with herbicide in partnership with key stakeholders. Continued monitoring and planting of native plants at this site are next steps to reduce the presence of this unwelcome visitor.

Conservation Area Improvements

Each year, we implement a number of projects at various Conservation Areas to update and replace aging public use infrastructure, facilitate day use bookings, deliver enforcement services and make trail improvements. In 2018, we accomplished the following:

- Design and installation of new day use area signage,
- Trail improvements to 800 metres of the Rail Trail
- Enhancements to the north and south entrances at Heber Down Conservation Area,
- Enforcement related efforts around hunting and baiting complaints at Lynde Shores Conservation Area,
- Hazard tree removal, particularly along our trail systems, with 400 trees and limbs removed in 2018,
- A No Smoking Policy for our Conservation Areas.



Trail Enhancement at Heber Down Conservation Area.

Advanced Watershed Science and Knowledge

To be the respected and trusted source of environmental knowledge and relevant scientific information for the watershed.

Integrated Watershed Monitoring Program

The Integrated Watershed Monitoring Program (IWMP) launched in 2017 provides data to depict watershed health and informs watershed management actions. An important component of this program is to enhance monitoring data communication internally and externally. The first phase of the IWMP communication strategy was to develop a web based story board. This is an online interactive page providing mapping, data and imagery of our annual monitoring results. The story board gives users easy access to information on watershed health, specific to the indicators we monitor.

YPDT-CAMC UPDATE

The York Peel Durham Toronto-Conservation Authority Moraine Coalition (YPDT-CAMC) Groundwater Program was initiated in 2001 and is a coalition of 13 agencies working together to better understand, and manage our shared groundwater resources. The Oak Ridges Moraine focused program stretches from the Credit and Nottawasaga Conservation Authority Watersheds in the west to the Trent River in the east and reaches from the shores of Lake Ontario northwards to beyond Lake Simcoe and the Kawartha Lakes.

The program provides a multi-agency, collaborative approach to collecting, analysing and disseminating water resource knowledge as a basis for effective stewardship of water resources. Agencies and consultants look to the program for regional geological and hydrogeological context for their ongoing technical studies and management initiatives. One notable accomplishment in 2017 is the YPDT-CAMC enhanced website. Completed with assistance from our GIS staff, this program's technical groundwater data, information and analysis is now easily accessible via the website. The enhanced website won an award in 2018 from the Urban & Regional Information Systems Association (URISA).



CLOCA Summer Staff Monitoring the Creek Community.



URISA Award to CLOCA Staff for the YPDT-CAMC Enhanced Website.

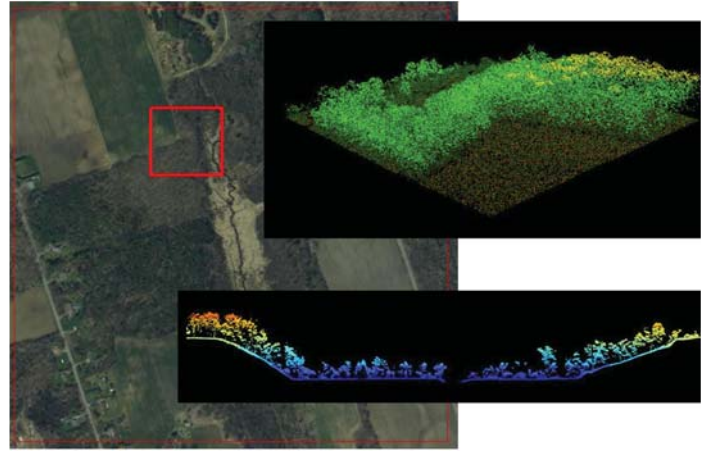
Advanced Watershed Science and Knowledge

LiDAR Mapping Acquisition:

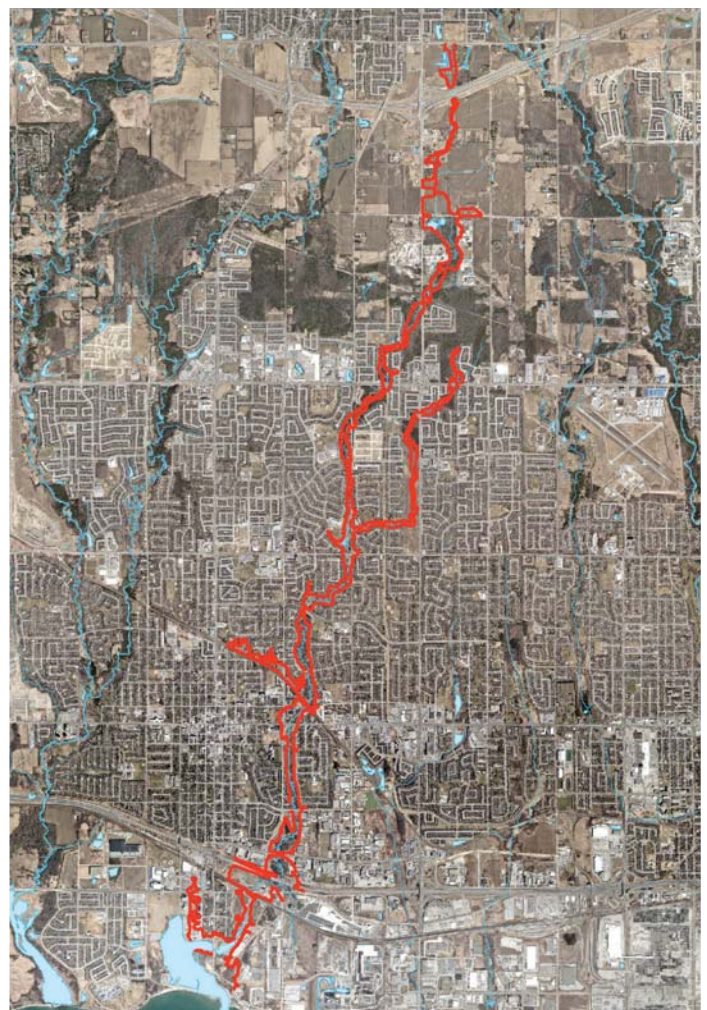
The National Disaster Mitigation Program provided funding for half the costs of Light Detection and Ranging (LiDAR) mapping for the west half of the CLOCA watershed. Other funding sources included Durham Region and the City of Oshawa. LiDAR provides accurate topographic mapping, and is very valuable for floodplain mapping and other applications by our municipal partners. In 2017, the Ontario Ministry of Agriculture and Rural Affairs included the Municipality of Clarington in a LiDAR mapping project for Southern Ontario, providing topographic mapping for the eastern portion of the CLOCA watershed. The 2018 project provided similar base mapping for the remainder of our watershed.

Pringle Creek Flood Plain Mapping

The Pringle Creek Floodplain Mapping was completed by Candevcon Consulting in 2018 in association with the The Town of Whitby Pringle Creek Master Drainage Plan Update Study. CLOCA provided LiDAR topographic base mapping for the project, completed significant portions of Geographic Information System analysis to support hydrologic and hydraulic modelling, participated in public information centres and provided funding through a National Disaster Mitigation Program grant. This mapping is an important tool, supporting our core business of the administration of Regulation (42/06), Development Application Review, Plan Review input and Flood Forecasting and Warning.



Example of LiDAR mapping product.



Pringle Creek Flood Plain Mapping.



Wood and Stone.



Collaborate & Partner

To promote a stronger culture of collaboration and partnership across the watershed.

McLaughlin Bay

The Darlington Provincial Park and McLaughlin Bay Restoration Project steering committee received the Ontario Parks Board Ecological Integrity Award. Staff continued work on a meadow restoration project as part of a partnership with General Motors Canada (GM) on the McLaughlin Bay Wildlife Reserve. The project incorporated seeding and planting native meadow species to increase biodiversity of an existing meadow, to attract pollinators and birds. Staff also continued to work with Darlington Provincial Park in monitoring Piping Plover nestlings whose parents find the habitat provided by the barrier beach separating McLaughlin Bay from Lake Ontario, an ideal home.

Festivals - Purple Woods Maple Syrup Festival

A warm March saw more than 10,000 visitors to our 12 day Festival held at the Purple Woods Conservation Area. We hosted the second annual Ontario Autism day and our first Durham Region Staff Day with excellent feedback from participants. Tribute Communities returned, sponsoring half price admissions, free wagon rides and a day camp from Simcoe Settlement House. Many community partners made the Festival magical, including Soper Creek Wildlife Centre, Oshawa Community Museum, Scugog Shores Museum, Windreach Farm and the Bawaagigewin Aboriginal Community Circle. Operations staff had their best production in 43 years, tapping 750 trees and installing 1300 taps and lines to produce a record 1319 litres of syrup.



The Purple Woods Maple Syrup Festival Horse and Wagon Ride.

The 21st Durham Children's Watershed Festival

The 2018 Durham Children's Watershed Festival at Camp Samac hosted 4,033 grade four students and 752 teachers and adult volunteers. The generosity of our sponsors makes this event a huge and affordable, fun and informative success for students. Thank you to returning sponsors the Region of Durham, Cargill Foundation, RBC Foundation, Dufferin Aggregates, Charities Aid Foundation of America, Covanta, Trans Canada Pipelines Ltd, Ontario Power Generation and TD Friends of the Environment. And welcome to our new sponsors the GM Sustainability Program, The McLean Foundation, Safran Landing Systems Toronto, Ontario Wildlife Foundation and Mississaugas of Scugog Island First Nation.



Durham Children's Watershed Festival.

Collaborate & Partner

Conservation Areas Library Program

In 2018, we implemented a Conservation Areas Library Program. We know our Conservation Areas are extremely valuable to the public and support environmental education, awareness, stewardship, community engagement and community health. We also know, from an increasing body of research, that beyond the physical benefits of spending time in nature, there are significant mental health benefits too. Current research shows exposure to nature reduces symptoms of stress, anxiety, depression, and attention deficit/hyperactivity disorder. Work conducted by the Regional Health Department under the Healthy Neighbourhoods Program, indicates a correlation between low-income and poor health outcomes. We want to ensure that individual or family financial means is not an impediment to access to our Conservation Areas as an opportunity to feel good. We now offer parking passes through the libraries in Whitby, Oshawa and Clarington with 206 borrows from June to December.

Low Impact Development (LIDS) in the CLOCA Watershed

In June, CLOCA staff hosted the second full day training workshop offered by STEP (Sustainable Technologies Evaluation Program) on Advanced LID Design: Bioretention Facilities. The workshop provided water management practitioners with the 'ins and outs' of bio-retention design including sizing and siting, inlet and outlet design, material specification, construction planning, as well as the associated lifecycle inspection and maintenance requirements to be considered during the design process.

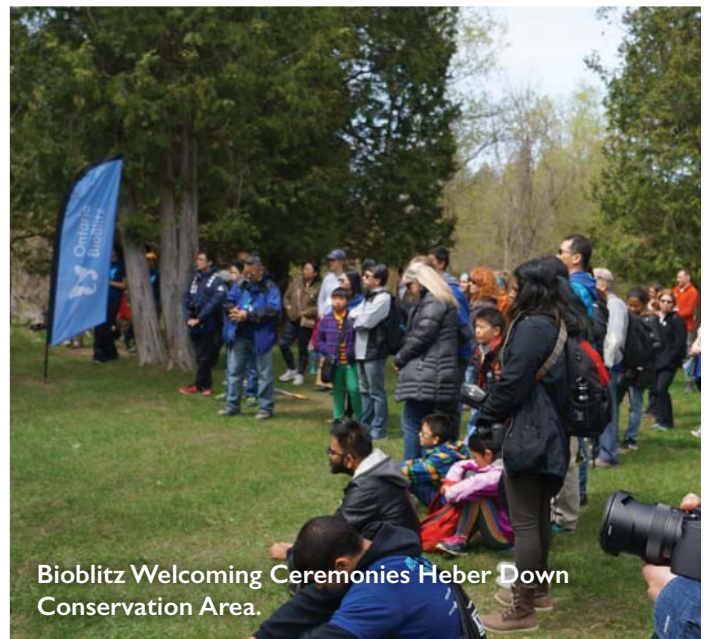
Just what is a Low Impact Development or LID you ask? These are small and large scale water infiltration tools, for new and existing urban developments to collect and treat stormwater runoff at the source. Small scale examples might be a rain barrel or a rain garden. Large scale examples might a bio-swale adjacent to a parking lot renovation at a local arena.

2018 Bioblitz

This year CLOCA co-hosted an Ontario BioBlitz, which is a series of events to bring together taxonomic experts, citizen scientists, and the public to inventory species within a defined area over a specific period. Our focus was the Lynde Creek Watershed, to update species lists and develop data to contribute to scientific projects and research. Additional programs were delivered including outdoor education classes, guided walks, focused surveys for mammals, fish, birds, butterflies and bats. A signature public festival was hosted over a weekend at Heber Down Conservation Area. We estimate more than 500 people participated in the event series and data was collected for 672 species in this watershed.

Increasing Forest Cover

A big thank you to TD Tree Days, Forests Ontario, Highway of Heroes Tribute, Municipality of Clarington and Tree Canada for helping us plant 24,125 native trees to ensure we continue to increase forest cover and contribute to improving watershed health. We estimate the trees, 1,000 of them planted by community volunteers, will create 10 hectares of mixed deciduous coniferous forests in another 100 years.



Bioblitz Welcoming Ceremonies Heber Down Conservation Area.

Communicate, Educate, Inspire

To share our watershed story, to inspire our community to be watershed champions and to take action for real change.

60th Anniversary

We were incorporated in July 1958, thereby making this our 60th anniversary year. A committee was established across all departments to develop and deliver four signature events, a 60th anniversary brand and a staff tour. In all, an estimated 360 people attended the public events hosted at three of our Conservation Areas to showcase snowshoeing, our Sugarbush, aquatic life and fireflies. Our Conservation Areas were free on Saturday February 19th as part of Family day and sixty day free parking passes were issued to the public as part of our signature events.

We are Communicators

As part of our commitment to share our story, we issued the **2018 Watershed Report Card (WRC)**, as part of Conservation Ontario's provincial Conservation Authority (CA) reporting program. All participating CA's used the same protocol measuring the health of three primary indicators, forests, surface water and groundwater, from 2012 to 2016. Because we monitor the Coastal Wetlands across Durham Region, we included those as a fourth indicator. Our grades in this WRC indicate what many of Ontario's watersheds are showing, particularly those in southern, more urban areas, that our natural resources are stressed. This was also the finding of our 2007 and 2013 Watershed Report Cards.

In 2018 we launched our second **CLOCA Website**, taking advantage of the many technological advances since our previous launch in 2005. Using WIX software, the content, design and many accessible features like tracking and updating, allowed the website to be developed completely in house. There are 106 pages, which meet current audio and visual accessibility standards, responding to mobile devices and desktops. We have updated Google Maps for all of our Conservation Areas and trails, provided an excellent search bar, and offered access to online tools

as well as event registration. Staff now have the ability to update information instantly and remotely for flooding and low or high water status in response to changing conditions.



CLOCA Staff Feeding Chickadees on 60th Anniversary Watershed Tour.



CLOCA Website.

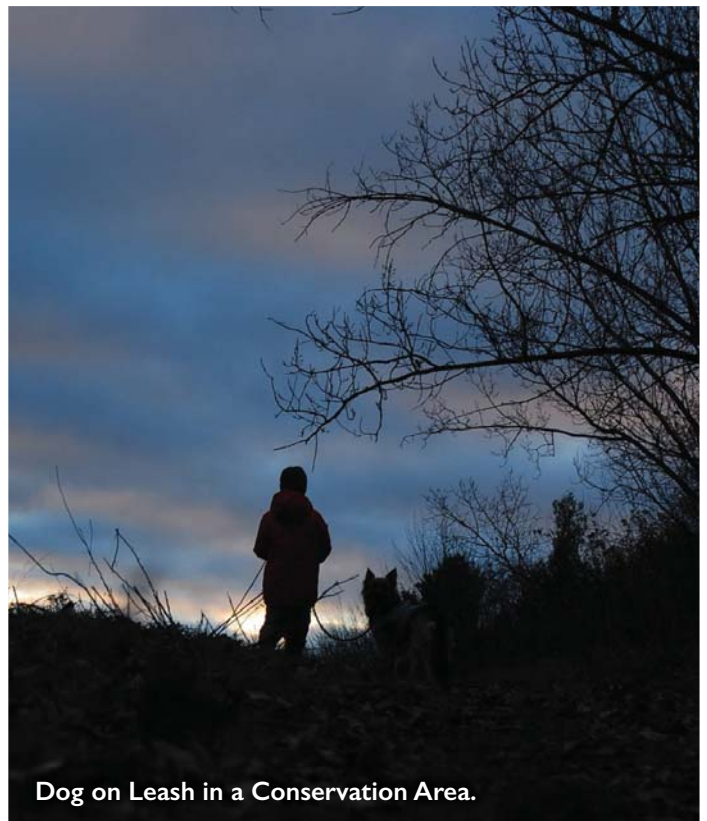
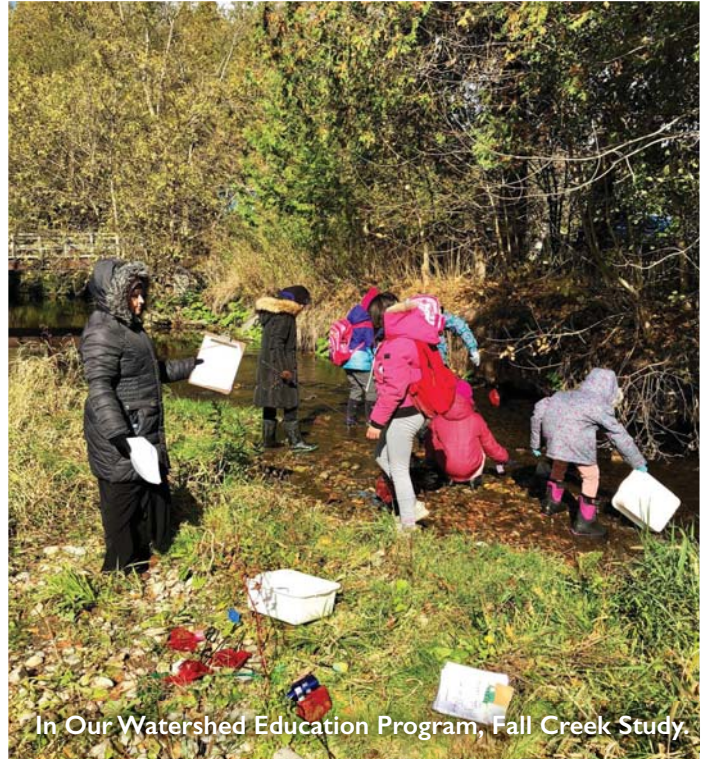
Communicate, Educate, Inspire

In Our Watershed Education Program

We continue to serve our education stakeholders to capacity as part of our “In Your Watershed” programs. Each program offers experiential hands-on activities designed to incorporate priority curriculum expectations and learning outcomes identified by each individual teacher who books a program. We service the Durham District, Durham Catholic, Peterborough Victoria Northumberland Clarington Catholic and Kawartha Pine Ridge District School Boards, various Montessori schools, private schools, home school families and some Toronto District School Board schools. We engaged just over 7,000 students during the 2017/2018 school year. One of the highlights was the creation of a native bee hotel, in partnership with local schools and Ontario Power Generation. We established new partnerships with the Association for Canadian Education Resources, Ecospark and the Robert McLaughlin Gallery. We added a new program, “Coyote Cache Survival Game,” to our booking options and delivered our first Specialists High School Majors program to high school students helping us work towards addressing the problem with dog waste at Heber Down Conservation Area.

Community Engagement Summary

With our partners, we hosted 21 programs and events, provided 35 corporate and community presentations, attended 10 community events, delivered 5 curriculum based education programs to 12,921 students, produced 9 corporate communication products, engaged 1,635 volunteers and we hosted 2,000 children in our summer camp program in partnership with the YMCA GTA.



Operate Responsibly

To be known as an exceptionally well-run and well-managed, financially sustainable, transparent organization.

Open Data Portal

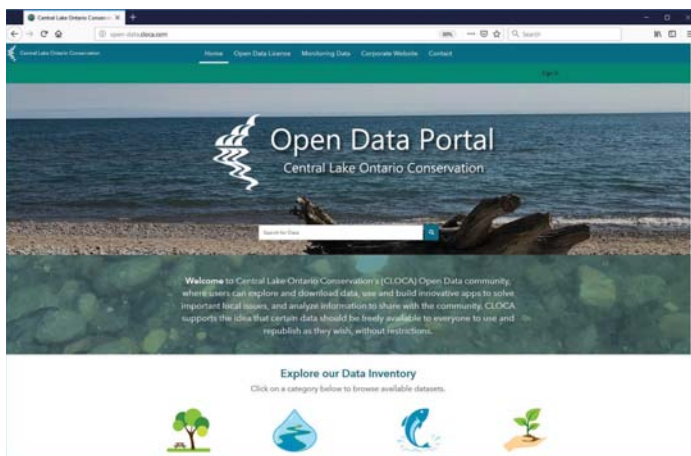
CLOCA is committed to accountability, transparency and barrier removal when it comes to sharing geospatial data through the new Open Data Portal. This portal is an online hosted service of data collected, prepared, published and maintained by CLOCA staff, now available to a variety of users to freely explore, interact and download information specific to their needs.

Updated and New Policies

In 2018, we made changes to our Administration and Meeting Procedural Policy to align with the Amended Conservation Authorities Act. As well we incorporated a Save Harmless Agreement as part of our permit process to allow for developments and designs that present residual risks associated with natural hazards. We established a Corporate Successional Policy and updated our Personnel Policy to ensure we continue to deliver on aspects of our Strategic Plan.

Strategic Plan

We continue to navigate the 45 Actions to achieve our vision as outlined in the Strategic Plan 2016 to 2020 we are in our fourth year and many of the 113 detailed tasks to be undertaken have been completed. In 2018 we completed 15 of the 19 tasks we committed to. Of the 4 tasks not completed they are in various stages of progress or have been deferred due to other priority actions, pending Provincial guidelines or funding. Staff have dedicated significant time toward achieving the goals of the Strategic Plan and have exemplified our core values of conservation, innovation, excellence, collaboration and leadership. Updates on the status of the Strategic Plan tasks continue to be presented to our Board of Directors each January.



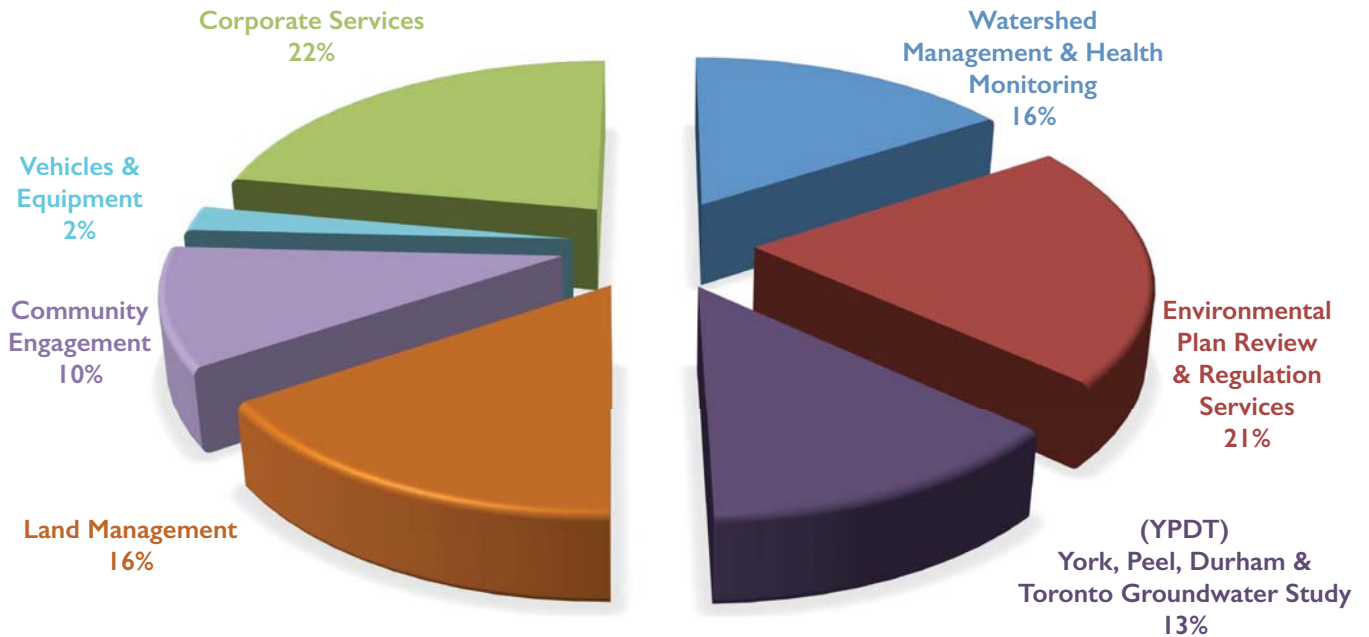
Open Data Portal landing page.



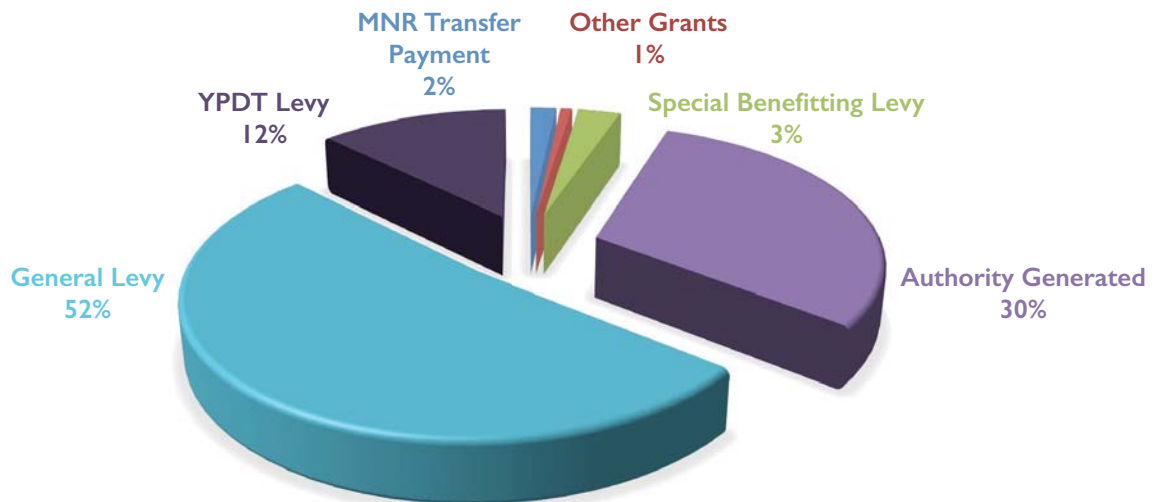
Young volunteer discovers Praying Mantis.

Operate Responsibly

EXPENDITURES TOTAL EXPENDITURES: \$7,386,435



REVENUE TOTAL REVENUE: \$7,386,435



2018 Budget

The approved 2018 budget reflects an allocation of resources to support CLOCA's planned programs and services. The budget allowed us to continue our efforts in support of our mission to advance watershed health through engagement, science and conservation.

Operate Responsibly

We would like to thank our Board of Directors for their dedicated service over the past 4 years, in helping us navigate the complexities of watershed management.

2018 Board of Directors:

Town of Ajax

Councillor Shaun Collier

Municipality of Clarington

Mayor Adrian Foster (Vice Chair)

Councillor Ron Hooper

Councillor Joe Neal

City of Oshawa

Councillor John Aker

Councillor Bob Chapman

Councillor John Neal

Councillor Nester Pidwerbecki

City of Pickering

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Councillor Dave Barton

Town of Whitby

Councillor Joe Drumm

Councillor Derrick Glead

Mayor Don Mitchell (Chair)

Councillor Elizabeth Roy

Working in Partnership



Conservation
ONTARIO
Natural Champions



Central Lake Ontario Conservation, looking after your forests.



Celebrating
60
Years

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