

Central Lake Ontario Conservation

Year in Review 2016

What Happens Here Matters



Piping Plovers, a Species at Risk, return to Lake Ontario after an 81 year absence. Two nesting pairs are monitored by community volunteers, staff from Ontario Parks and Canadian Wildlife Service on the barrier beach at McLaughlin Bay.

Photo by Diana Whiting Photography



Central
Lake Ontario
Conservation

Message from CLOCA's Chair and CAO

For Central Lake Ontario Conservation (CLOCA), 2016 was a year of innovation and significant progress in the delivery of existing and emerging programs and services. Our new Strategic Plan helped focus our actions on watershed health, and we are proud of our accomplishments. We have received recognition from our peers for pioneering an Augmented Reality Sandbox and implementing a Conservation Areas Inspection Policy. We continue to launch critical projects to enhance watershed health, like the restoration of three Provincially Significant Wetlands along the Lake Ontario shoreline. Our core programs continue to show our dedication to the protection of our natural resources, human health and property from natural hazards like flooding.

The highlights contained in this Year In Review, are a summary of what we have achieved through many collaborations with our partners and the community. CLOCA has always and continues to be very successful in achieving a tremendous return on the investments we make for positive outcomes in our watershed. We take great pride in leveraging the funding we receive from the Region of Durham, all levels of government, private foundations and partners. We estimate the return rate is \$2 for every \$1 received which in turn is invested in our watershed. As we look forward to 2017, we will advance watershed health through engagement, science, and conservation. Thank you for your contributions. We could not do our work without your support.



Chris Darling
Chief Administrative Officer



Don Mitchell
Chair, Central Lake Ontario Conservation



2016 Board of Directors:

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Working in
Partnership



Member of



Conservation
ONTARIO
Natural Champions

Communicate, Educate, Inspire

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

Central Lake Ontario Conservation (CLOCA) staff continue to deliver a suite of programs in our communities to give participants a reason to love nature. In 2016, we partnered with Ontario Shores Mental Health Sciences Centre, the Canadian Mental Health Association and Conservation Ontario, hosting a series of outdoor hikes for youth in our watershed. The program is called Mood Walks and promotes physical and mental wellness by creating new opportunities for young people to get active and get outside.

As part of our family program, we offered the annual Valentine Snowshoe at Enniskillen CA and the Summer Solstice Firefly Hike at Purple Woods CA engaging 160 guests.

Our school programs continue to be popular with the four local school boards we service with our 16 curriculum programs. The 'In Your Watershed' reached over 7,000 students in its 25th year. New for 2016, the Wetland Centre of Excellence Mentorship, sponsored by Ducks Unlimited Canada and the Ontario Trillium Foundation, reached 25 elementary and 7 high school classes.

In 2016, the artists of the Oshawa Art Association helped us create a Stream of Dreams™ mural at our office. The results are in the 50 or so fish, which now grace the vehicle compound, promoting the program and a water stewardship message to the local community and trail users.

We continued to partner with the agricultural community by presenting at Farm Connections, where 1,200 grade 3 students were farmers for the day. We saw an additional 900 visitors at the evening open house for this program.

Members of the CLOCA Board and staff toured MPP Jennifer French and MP Celina Caesar-Chavannes around our watershed. Both of our guests conducted fish and water monitoring alongside staff, complete with our electrofishing boat.

We continued to develop our July and August programs, engaging about 440 visitors in partnership with the YMCA GTA Environmental Camp and Ontario Power Generation Darlington's Tuesdays on the Trail. In 2016 we launched the CLOCA Chronical, an e-newsletter, sending two issues this year to 1,800 viewers.

Durham Children's Groundwater Festival

Central Lake Ontario Conservation and our sponsors hosted the 19th annual Durham Children's Groundwater Festival, with over 4,100 participants, which included 3,458 grade 4 students, 500 secondary students and 640 teachers and parent volunteers. We thank our sponsors, Durham Region and Durham Region Health Department, Ontario Power Generation, RBC Blue Water, TD Friends of the Environment, TransCanada, Cargill Foundation, Covanta, Advanced Tent Rental, Dufferin Aggregates, Scouts Canada, Durham District School Board, Durham District Catholic School Board, Kawartha Pineridge District School Board, Peterborough Victoria Northumberland and Clarington Catholic District School Board.

Purple Woods Maple Syrup Festival

Once again, we hosted over 10,000 visitors of all ages at the 41st annual Purple Woods Maple Syrup Festival during the month of March. In 2016, we hosted the Ontario Maple Syrup Producers Association First Tapping event and enjoyed a successful crop, tapping 700 trees and producing 1250 litres of syrup in 2016.



A young visitor takes the sweetness test at the Purple Woods Maple Syrup Festival

Leaders in Integrated Watershed Management

Watershed and Habitat Restoration

Coastal Wetland Restoration Across Our Jurisdiction

Oshawa Second Marsh, McLaughlin Bay and Bowmanville Marsh all received significant financial investments to improve habitat, water quality and quantity and public access features. Oshawa Second Marsh was given a second chance as water levels were drawn down to encourage its natural seed bank to re-establish itself, just in time for the fall migration. This initiative was supported by Ducks Unlimited Canada, City of Oshawa, Friends of Second Marsh and Central Lake Ontario Conservation.



Second Marsh Draw Down Partner Tour

We received \$100,000 from the Eco Action Community Funding Program (Environment and Climate Change Canada), to work toward the design and implementation of an integrated restoration and public access project for McLaughlin Bay in 2017. The project partners include the City of Oshawa, Friends of Second Marsh, Ontario Parks, General Motors of Canada and Central Lake Ontario Conservation.

With support from Environment and Climate Change Canada and Ducks Unlimited Canada, we are implementing a berm and water level control structure in the Bowmanville Marsh to re-establish natural water level fluctuations. This will improve the health of the marsh to support wetland species, including some Species At Risk.

Watershed Plans Five-Year Update

Central Lake Ontario Conservation has initiated a five-year update of its Watershed Plans. The reviews will incorporate new data, modelling and policies to ensure they remain relevant; evaluate plan implementation to date; and engage the public and our stakeholders. The four watersheds included in this update are Lynde, Oshawa, Black/Harmony/Farewell and Bowmanville/Soper Creeks.

Invasive Species Management

In 2016, our staff and their partners coordinated

several workshops and invasive species management projects. At Purple Woods Conservation Area we managed garlic mustard with a public event and the 5th annual 'To Beat It We Eat It' culinary program for high school students. In partnership with Ganaraska Region Conservation Authority and the Ontario Invasive Plant Council, we hosted a Giant Hogweed Open House in Newcastle. With funding from the Ontario Federation of Anglers and Hunters we delivered the 8th year of a summer Invasive Species Outreach Program. We supported the Ontario Phragmites Working Group in a coordinated provincial approach to managing phragmites. We also managed phragmites at Heber Down Conservation Area in partnership with Hydro One, Enbridge Pipelines Inc. and Trans-Northern Pipeline Inc. In partnership with Courtice Eco Projects and the Municipality of Clarington, we managed another population of phragmites and hosted an invasive species workshop for residents.

OUR EXPERTISE

Provincial Plan Review

As part of their Co-ordinated Land Use Planning Review, in 2016 the province released a draft Growth Plan for the Greater Golden Horseshoe, a draft Greenbelt Plan and a draft Oak Ridges Moraine Conservation Plan. These provincial plans play a large role in determining community growth, agricultural land protection and land and water management in our watershed over the coming decades. We endorsed a detailed comment submission to the province on the plans providing suggestions on implementation, large fill sites, integration with the Conservation Authorities, detailed technical text changes and strategic additions to include three of our coastal wetland areas in the Greenbelt.

Conservation Authorities Act

Staff worked with Conservation Ontario on a Province of Ontario submission to help clarify the future role and mandate of Conservation Authorities (CAs). The review process was initiated in 2014 by the Ministry of Natural Resources and Forestry. The theme for the submission focused on clarity, and highlights the similarities in programs and services offered by



provincial ministries and CAs. We identified the need for more dialogue with the provincial ministries, a sustainable funding model and stronger legislation framework for the 36 CAs across the province. CLOCA staff attended Conservation Ontario's first Queens Park Day with MPPs and guests in March 2016. By attending, we demonstrated how experience and expertise is shared and leveraged between the Province and CAs, resulting in quality science-based watershed management programs and services.

Planning and Regulation

Our planning staff continued to assist our municipal partners in Whitby, Oshawa and Clarington to adopt comprehensive environmental planning updates to their Official Plans. We also provided environmental planning advice on over 210 pre-application consultation meetings with landowners, developers and municipal planning department staff. As well we issued over 345 permits of various scales, under the Ontario Regulation 42/06.

Highway 407 Compensation

Staff worked with the Ministry of Transportation (MTO) on the Highway 407 project, reviewing and commenting on Environmental Assessment documents, design and construction reports and the implementation framework. We played a key role in identifying habitat compensation opportunities to offset some of the environmental impacts to our forest, grassland and wetland features, functions and wildlife. A number of restoration projects were implemented on MTO lands benefiting our natural heritage system and watershed health. There are two projects on conservation lands, a tree planting on 7.8 hectares within the Enfield and Enniskillen CA and a stream and riparian restoration project for Devils Den Pond at Heber Down CA.

CONSERVATION AREAS AND LAND HOLDINGS

Conservation Areas Inspection Policy

In our commitment to demonstrate responsible land management practices, we have implemented a Conservation Areas Inspection Policy. This policy ensures we continue to provide a safe/low risk

environment for visitors, protect our property and visitors from inappropriate use and limit our liability against injuries and claims.

And the Winner Is?

Well, it is not every day that we drive around with a bear in our vehicles, but we did on Friday, October 28. That's because our GIS team and Field Operations staff constructed an Augmented Reality Sandbox. This was entered into the Conservation Areas Workshop Innovation Award competition, which we won. We competed with 30 of our peer conservation authorities across the province, and now have the privilege of hosting a hand carved Smokey the Conservation Bear, at our offices for the next year. For more information on what an Augmented Reality Sandbox is, check out the **Shaping Watersheds** section on the back page.

Looking After the Forest

We completed hazard tree inspections at our Conservation Areas during April, May and June and additional inspections after major weather events and reports from users. Hazard tree removal in 2016 was approximately 500 compared to 600 trees removed in 2015 with the majority being ash trees impacted by the invasive Emerald Ash Borer.

Central Lake Ontario Conservation conducted a timber harvest to thin 75 hectares of pine and spruce plantations at Long Sault Conservation Area. The harvest, as prescribed in our Forest Management Plan, maintains and improves plantation health and stimulates seeding of mixed hardwood and softwood tree species.



Thinning Pines at Long Sault Conservation Area

Advance Watershed Science and Knowledge

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

Monitoring

Central Lake Ontario Conservation (CLOCA) continues to monitor aquatic and terrestrial ecosystems, wildlife, coastal wetlands, the surface water in our creeks and groundwater under our feet, placing that information into managed databases to support our various corporate programs.

We completed our 15th year of the Durham Region Coastal Wetland Monitoring Program collecting data for birds, herpetiles, fish, aquatic macro-invertebrates, submerged aquatic plants, water levels, sediment quality and muskrat houses in 18 coastal wetlands.



Northern Leopard Frog (*Rana pipiens*) checking out the Oshawa Second Marsh during the draw down

Using a variety of equipment, the Aquatic Monitoring Team collected fish data from various creeks, the Lake Ontario shoreline and coastal wetlands, placed temperature loggers in creeks to record stream temperatures and collected benthic invertebrate samples across our jurisdiction. In September, we collected a young potentially invasive, Chain Pickerel, when sampling the Port of Newcastle Marsh. Jointly with other key partners we did further sampling, genetic testing on other related species, looking for signs of hybridization. There is concern regarding the potential for this species to out compete native fish species for food, shelter and nursery habitat.

The Terrestrial Monitoring Team focused on collecting data on forest and wetland health in the Bowmanville/Soper Creek Watershed and mapped and managed invasive species at high priority sites within our conservation areas.

We continued to monitor birds and amphibians to assess watershed health and habitat quality for native wildlife. This information is shared with federal and provincial agencies to include in their databases providing us with access to other

collected data and providing context when assessing and analyzing our information.

A summer crew of post-secondary students and staff from the Ministry of Natural Resources Forestry Aquatic Endangered Species Lab, continue to monitor the Lynde Creek in response to a 2014 manure and milk water wash spill from a dairy farm in the Lynde Creek.

Review of CLOCA's Monitoring Program

Staff initiated an examination of our current monitoring programs to confirm if the current program adequately addresses emerging issues and anticipated changing management priorities within the watershed. The work plan for this undertaking, included a literature review of monitoring methods and programs, interviews with other conservation authorities, complete assessment of our current monitoring programs including gap and resource analysis and stakeholder consultation. A refined integrated monitoring program will be ready for implementation in 2017.

Water Monitoring Network

Central Lake Ontario Conservation's Water Monitoring Network is a collection of stream gauges, rain gauges, air and water temperature probes, groundwater monitoring wells, snow measurement sites, surface water and groundwater quality sampling sites. The data is catalogued and analyzed to develop effective watershed wide management programs in support of our policies like the Flood Forecasting and Warning System, Low Water Response and Source Water Protection programs.

Although we issued multiple Water Safety and Flood Outlook messages in February and March of 2016, this year will be remembered for the persistent drought conditions. An extremely dry spring and early summer resulted in the Central Lake Ontario Water Response team confirming a Level 1 Low Water condition in June, and a Level 2 condition in August for watersheds within our jurisdiction. The extremely dry conditions resulted in dry creek tributaries, low levels in ponds, and numerous reports of shallow



groundwater wells going dry. Water level data from our groundwater monitoring network showed shallow groundwater levels dropping from two to three meters below normal levels during the summer, and persistent low water levels through the fall. Under these conditions staff worked with our partners and communities to practice water conservation.

Updated Flood Mapping

Central Lake Ontario Conservation has a regulatory responsibility to protect people, the environment and property from natural hazards associated with flooding, erosion and slope instability and to conserve wetlands, watercourses and the Lake Ontario

shoreline. This involves mapping features and natural hazards that establish a cautionary approach to development in and around those areas of concern. It requires regular updating based on the best technical information available from various internal and external studies, modeling and analysis projects, ground truthing and environmental assessments. In 2016 we completed an update to our flood mapping, providing staff with current information to support review of development applications or proposals, ensuring we maintain watershed function, specifically next to the sensitive ecological features we are required to protect.



Thank you to our Watershed Community Heroes for helping us deliver a variety of programs and projects in our Conservation Areas and the community.



Deloitte volunteers building a bridge

Deloitte Impact Day

Deloitte for the ninth year in a row, chose CLOCA as one of their Impact Day sites for their employees to give back to their communities. More than 30 volunteers helped us cleanup our existing trails, install new trail signs, trails and a pedestrian bridge at Heber Down Conservation Area.

Increasing Watershed Forest Cover

In an effort to increase forest cover across our watersheds, we developed planting prescriptions for reforestation of more than 16 hectares of our lands. Through volunteers we planted 600 trees at Lynde Shores and Bowmanville/Westside Marshes Conservation Areas, in partnership with TD Tree Days; and 2016 trees were planted in partnership with the RBC Foundation as part of our annual Earth Day event at Enniskillen Conservation Area. Through a reforestation contractor, we planted 20,000 native trees at Enniskillen Conservation Area in partnership with Canadian National Railway and Tree Canada.



RBC volunteers planting trees

Operate Responsibly

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

Personnel Policy Updates

Staff updated the corporate personnel policy with a new section for Leaves of Absence and updated existing policy to comply with the new Workplace Anti-violence, Harassment, and Sexual Harassment Policy and the AODA Integrated Accessibility Standards Regulation Customer Service Policy.

Successional Policy

We have created a Successional Policy to ensure we have qualified staff to compete for and fill key positions within the organization, supporting service continuity as our workforce retires or leaves the organization. In addition to ongoing recruitment, this will require a commitment and investment in retention actions including, supporting professional development, coaching and mentoring as part of our corporate Performance Management Plan.

Conservation Area Pay and Display Parking Program

We now have pay and display parking at all our conservation areas excluding Purple Woods CA. The benefits and investments in our CA's from these revenues, far outweighs the cost to purchase, install, maintain and operate this system. We continue to offer annual parking passes and accounting records show the sale of annual parking passes and pay and display revenues have doubled in the last five years, indicating that users see value in visiting our conservation areas.

WEB AND DATABASE PRODUCTS

Managing and Sharing Our Data

Central Lake Ontario Conservation has developed a number of internal and external products to allow staff and the public access to a variety of data. In 2016, we launched the Regulation Limit Online Browser as an internet mapping tool for easily accessible information related to CLOCA's Regulation Limits. We also offer hydrologic monitoring network data used for flood forecasting operations, low flow and drought conditions, groundwater budgets and aquatic community health. The information is accessible on our website by the general public, allowing them to click on the map of stream gauges and see current precipitation, water levels and discharge rates.

We have improved our internal Information Management System (IMS) with dashboards, integrated email, enhanced searching and reporting features allowing instant access to information. We have a central intranet portal with access to event information, reference library, social media, mapping, along with IMS quick links to other applications.

Shaping Watersheds

Thanks to a partnership with Ryerson's Digital Media Experience Lab and busy hands across multiple departments in our organization, we are now the proud owners of an Augmented Reality Sandbox. The model was showcased at the Durham Children's Groundwater Festival, Latornell Conservation Symposium, Durham District School Board Eco Summit, the Urban and Regional Information Systems Association 54th Annual Conference and Conservation Ontario's Conservation Areas Workshop.



2016 to 2020 Strategic Plan

A key accomplishment for 2016 was the completion of our 2016-2020 Strategic Plan. After a comprehensive consultation process, we have set our vision, mission statement, strategic goals and actions to ensure we have a consistent focus on priority activities to help maintain and enhance the health and resilience of our watershed, protect people and property from natural hazards and encourage a culture and understanding of conservation. A detailed implementation plan was created to identify the timing and resources for moving forward the 45 strategic actions identified in the plan.



*Central
Lake Ontario
Conservation*

100 Whiting Avenue
Oshawa, Ontario, L1H 3T3
Phone: (905) 579-0411
Email: mail@cloca.com
Web: www.cloca.com