

BUDGET Central Lake Ontario Conservation

Approved by Auth. Res. #48/20, dated June 16, 2020





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History

On July 17, 1958, Central Lake Ontario Conservation was established by an Order-in-Council under the Conservation Authorities Act. It was formed by the Ontario Government at the request of the municipalities located within the area of jurisdiction.

As watercourses transcend municipal boundaries, all Conservation Authorities are established on the basis of natural watershed boundaries. A watershed is defined as an area of land that is drained by a river or creek. Similar to the branch of a tree, creeks empty into streams, which then empty into larger streams, eventually forming one main trunk. Within this system, everything is connected to everything else. In other words, actions which take place at the top of the system can and do affect those downstream.

Today, the province's 36 Conservation Authorities are regarded as world leaders in conservation, environmental protection, and flood control. Together Authorities own more than 407,550 acres (165,000 hectares) of land, including areas in the Oak Ridges Moraine, Carolinian zone, as well as Significant Wetlands and Provincially areas protecting important flora and fauna. Conservation Authorities operate in watersheds in which 90 per cent of the provincial population reside. Managing Ontario's watershed resources is a major undertaking that calls upon Conservation Authorities and their staff to work collaboratively with landowners, developers, educators, multi levels of government, professionals and the general public.



CENTRAL LAKE ONTARIO CONSERVATION 2020 BUDGET

The Central Lake Ontario Watershed

CLOCA's jurisdiction is based upon the watershed boundaries of four major watercourses draining an area of over 627 sq. km. The four major watercourses which begin with their headwaters in the Oak Ridges Moraine are from west to east Lynde Creek, Oshawa Creek, Black/ Harmony/ Farewell Creeks, and Bowmanville/ Soper Creeks. There are 17 additional watersheds which include Warbler, Cranberry, Whitby Shores, Heydenshore, Pump House, Corbett Creek, Pringle Creek, McLaughlin Bay, Robinson Creek, Burk, Tooley, Osborne, Darlington, St. Marys, Westside, Bennett Creek and Rickard. The Municipalities within CLOCA's watershed include the Regional Municipality of Durham, City of Pickering, Town of Ajax, Township of Uxbridge, Township of Scugog, Town of Whitby, City of Oshawa and the Municipality of Clarington.

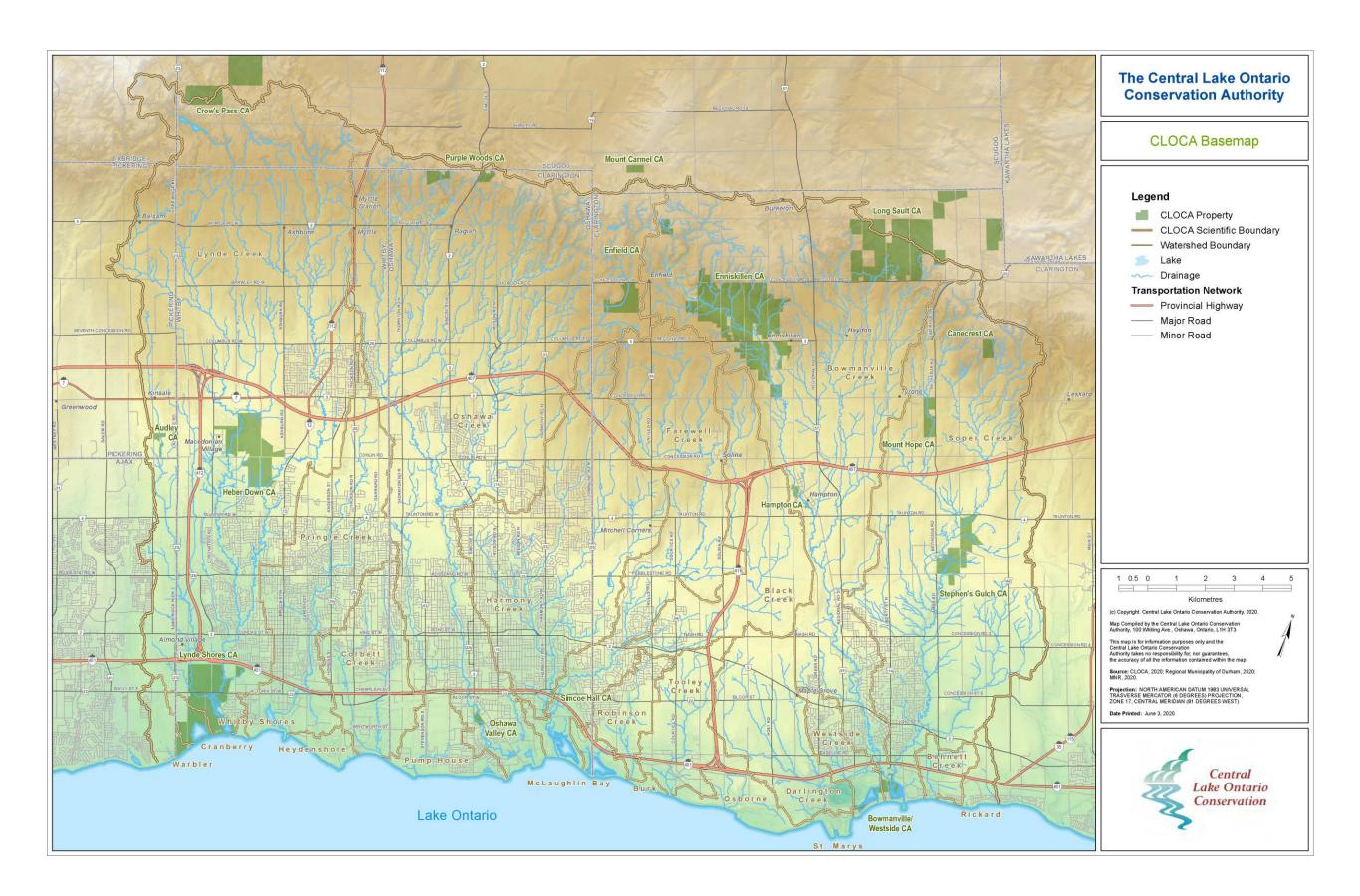
A diverse landscape exists within CLOCA's jurisdiction which includes urban and rural settlements (hamlets), agriculture and natural areas. For the most part, the highly urbanized area is situated within the southern portion of the watershed, leaving the northern portion dominated by rural land uses and significant undeveloped natural areas.

There are 3 major physiographic features within CLOCA's watershed being the Lake Ontario Waterfront, Lake Iroquois Beach and the Oak Ridges Moraine. Each of these distinctive landscape features contribute to the overall ecological functions that support healthy watersheds in CLOCA's jurisdiction.

CLOCA Watershed

- Coastal Wetlands Monitoring
- Conservation Authorities Moraine Coalition
- Groundwater Monitoring and Assessment
- YPDT Groundwater Program

- Environmental Planning & Permitting
- Fisheries Management Plans
- Flood Forecasting and Warning System
- Natural Hazard Policy & Mapping
- Groundwater Monitoring Wells
- Natural Heritage Land Securement
- Source Water Protection
- Terrestrial & Wildlife Monitoring
- Watershed Stewardship
- Water Quality & Stream Flow Monitoring
- Watershed Planning
- Environmental Education & Community Outreach Programs
- Conservation Areas for Wildlife Viewing and Hiking Opportunities



CENTRAL LAKE ONTARIO CONSERVATION AUTHORITY 2020 BUDGET

Mandate of Conservation Authorities

Established under the Conservation Authorities Act R.S.O. 1990, a CA's mandate is to establish and undertake programs and services that further the conservation, restoration, development and management of natural resources in watersheds.

Member Municipalities

Durham Region Town of Ajax Municipality of Clarington City of Oshawa City of Pickering Township of Scugog Township of Uxbridge Town of Whitby

CLOCA Watershed Population

Approximately 368,000

Our Business is

Watershed Studies Natural Areas Protection Municipal Plan Input & Review Flood Warning Conservation Education Source Water Protection Floodplain/Valleyland Protection Land Management and Operations Watershed Stewardship

Vision

"Healthy watersheds for today and tomorrow."

Our Mission

"Advancing watershed health through engagement, science and conservation."

Governance

Central Lake Ontario Conservation is governed by a Board of Directors comprised of Councillors from the member municipalities. Through the Region of Durham each of the municipalities appoints Councillors to represent their jurisdictions. The number of representatives per municipality is determined by the population of the municipality within the watershed.

The Central Lake Ontario Conservation Board of Directors meets monthly at the Conservation Authority's Administrative office at 100 Whiting Avenue. The Board considers and approves all projects of the conservation authority and makes policy decisions related to the ongoing management, governance and future direction of the conservation authority.

Membership Structure

2019 Board of Directors

Chair Councillor Bob Chapman City of Oshawa



Vice-Chair Councillor Ron Hooper Municipality of Clarington



Dave Barton, Township of Uxbridge Janice Jones, Municipality of Clarington Chris Leahy, Town of Whitby Sterling Lee, Town of Ajax Tito-Dante Marimpietri, City of Oshawa Ian McDougall, Township of Scugog Don Mitchell, Town of Whitby Rhonda Mulcahy, Town of Whitby John Neal, City of Oshawa Brian Nicholson, City of Oshawa David Pickles, City of Pickering Elizabeth Roy, Town of Whitby Corinna Traill, Municipality of Clarington

Human Resources

Chris Darling, Chief Administrative Officer

◆ <u>Directors</u>◆

Rose Catulli, Corporate Services Jamie Davidson, Watershed Planning & Natural Heritage Chris Jones, Planning & Regulation Patricia Lowe, Community Engagement Perry Sisson, Engineering & Field Operations

◆ <u>Staff</u> ◆

Vanessa Aubrey, Development Planner Todd Backus, Resource Technician - Lead Hand Lucy Benham, Senior Water Resources Engineer Brandi Boardman, Executive/Accounting Assistant Lisa-Beth Bulford, Development Planner Meagan Breems, Outreach & Education Facilitator Jeff Burgess, Water Resources Engineer Andrew Caky, Senior Systems Development Specialist Luisa Camelo, Payroll/Accounts Payable Administrator Eric Cameron, Infrastructure Planner/Enforcement Officer Godofredo Carpio, Hydrogeologist Connie Ciulla, Service, Information & Records Coordinator Alex Cooper, Resource Technician - Field Andrew Cunning, Financial Services Coordinator Ben DeWaal, Resource Technician - Field Cathy Grant, Education Instructor Lisa Hastings, Communications Specialist John Hetherington, Regulation & Provincial Offenses Officer Harry Hirschfeld, Resource Technician - Field Dan Hope, Land Management & Operations Supervisor Louie Jakupi, Senior Water Resources Engineer Ian Kelsey, Aquatic Ecologist David Krupicz, Systems Development Specialist Sylwia Kubrak, Senior GIS Specialist

Kathy Luttrell, Natural Heritage Ecologist Jason Maas, Resource Technician - Field Annie Miller, GIS Technician Bryan Mistak, Senior GIS Analyst Dan Moore, Aquatic Biologist Roy Mosher, Restoration Coordinator Heather Pankhurst, Wetland Biologist Stefanie Penny, Development Planner Jackie Scott, Wildlife Biologist Diana Shermet, Terrestrial Biologist Yvonne Storm, Community Events Coordinator Leena Vaja, Executive Assistant/Health & Safety Admin *Holly Whittington, Environmental Engineering Tech* Alana McDonald, Environmental Engineering Tech Rod Wilmot, GIS/Systems Supervisor

External Contracts

Mike Doughty, Intermediate Hydrogeologist – YPDT* Richard Gerber, Senior Hydrogeologist – YPDT* Steve Holysh, Senior Hydrogeologist – YPDT* Mason Marchildon, Water Resources Engineer –YPDT* Britt Smith, Groundwater Management Analyst-YPDT*

*YPDT – York, Peel, Durham, Toronto Groundwater Program

Budget Presentation

The Budget format is organized into Central Lake Ontario's Program Units. Each unit is intended to reflect all associated (direct and measurable) costs and revenues.

- A. <u>Watershed Management & Health Monitoring</u> Program costs and revenues required to develop the framework and management strategy to provide a rational approach to natural systems protection, restoration and use. Also included in this unit is the operation and maintenance of the flood forecasting system, the watershed monitoring program, a number of restoration projects across the watershed supported by federal and provincial grants, and capital projects such as watershed plans, source protection planning, various groundwater studies and research and a number of provincial grant contracts administered by CLOCA.
- B. <u>Oak Ridges Moraine Toronto Groundwater Program YPDT</u> As part of an ongoing contribution, CLOCA administers a number of contracts on behalf of the Conservation Authorities Moraine Coalition and the Regions of Durham, Peel and York and the City of Toronto. Five staff (YPDT staff) for this initiative are housed in rental offices within the TRCA office.
- C. <u>Environmental Plan Review & Regulation Services</u> Program costs and revenues associated with the provision of plan input to municipalities for development applications. Plan input includes the review and analysis of planning applications as these applications may impact on natural hazards, natural heritage resources and water resources as well as circulations under the Environmental Assessment Act. Included in this unit are updates to floodplain mapping and the ongoing identification and associated data management for natural hazards. The Program also includes the implementation of Ontario Regulation 42/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), which is required in order to ensure the integrity of the Authority's flood plain management program under the Conservation Authorities Act and the regulations made thereunder. Finally, this program unit includes the development and maintenance of policy and procedural directions for efficient and effective environmental plan review and regulation services.
- D. <u>Community Engagement</u> Stewardship, Outreach, Education and Communication programs include the direct costs, revenues and partnerships associated with the development and delivery of a suite of environmental programs that broaden CLOCA's relationships with the community. Our stewardship programs focus on public and private lands contributing to improving watershed health and function. Outreach events like the Annual Purple Woods Maple Syrup Festival and seasonal hikes allow us to showcase our Conservation Areas and establish partnerships with the community. Our education programs target grades 1 to 12 incorporating curriculum learning outcomes to ensure we are relevant to the 4 school boards we service. Our communication products include managing an active website and ongoing creation and updating of printed, electronic, social media and Conservation Area signage.
- E. <u>Land Management</u> Program costs and revenues associated with assets owned or managed by the Authority and provide green space for residents of Durham Region. Also includes land acquisition and development of conservation areas, land management planning and special projects in conservation areas.

- F. <u>Vehicles and Equipment</u> Costs and revenues associated with new acquisitions and the operation of the Authority's motor pool, and equipment required for the on-going work of the Authority. Internal charges are made to the various projects and programs for the use of vehicles and equipment.
- G. <u>Corporate Services</u> Corporate Services Includes management and non-direct program specific costs, governance, head office operations, audit, legal, human resources, health and safety and the costs of GIS/IT support, Information Management Systems and the continuous improvement of the Enterprise GIS for the dissemination, integration and analysis of data throughout the organization.

BUDGET ASSUMPTIONS

Wages & Benefits

• As approved by Board of Directors on April 16, 2019.

Regional Operating Levy

• As approved by Durham Region Council on February 11, 2020.

MNRF Transfer Payments

• MNRF transfer payments for natural hazard management reported in the budget continue to reflect the 50% reduction in payments which took effect in 2019.

Ontario Government Funding

• Will continue the Source Water Protection initiative.

User Fees

• Authority fees for administration, plan review and regulation, community outreach and conservation areas/facility fees are based on a fee schedule approved by the Board of Directors on November 19, 2019.

Miscellaneous

- The Authority supports the York Peel Durham Toronto Groundwater Program across the GTA by providing payroll and administrative services.
- The Authority utilizes government employment grants wherever feasible.

Consolidated Statem	ont of Opera	otions		
Consolidated Staten		10113		
R e ve nue	2020 Budget	2019 Budget	2019 Actual	2018 Actual
	Buugot	Buugot	rotau	notau
General Levy	4,068,185	3,917,710	3,917,712	3,822,155
Municipal Special Levy	385,000	404,525	359,118	192,801
MNR Transfer Payment	64,445	64,445	64,445	124,833
Other Grants Federal	73,000	144,700	86,279	117,952
Other Grants Provincial	-	54,850	59,025	62,656
Other Revenue	211,580	365,255	443,617	343,479
Other Grants	60,000	-	-	6,304
Reserve Transfer	(49,750)	(8,508)	(52,079)	(16,641
Deferred Revenue	228,210	54,100	13,142	(44,387
Interest Earned	46,750	46,750	76,476	56,668
Administrative Services	29,400	27,500	32,549	35,255
Sandbox Demo	-	-	1,111	1,334
Environmental Plan Review & Regulation Services				
Plan Review Fees	785,000	785,000	726,700	809,763
Fill Sites Large Application Fees	40,000	120,000	27,020	-
Regulations 42/06 Permit	380,000	380,000	381,083	439,725
Property Inquiry Fee	20,000	20,000	19,705	27,140
Map Sales	7,000	5,000	9,580	5,710
Reports & Photocopy trail guides	-	-	1,040	595
Community Engagement				
Education Fees	3,100	66,000	65,555	77,537
Maple Syrup Tours	-	10,000	8,823	13,100
Admission Fees - Purple Woods Maple Syrup Festival	2,000	41,000	48,229	55,158
Maple Syrup Sales	25,000	35,000	40,200	42,704
Maple syrup sales office	6,000	7,000	6,713	6,018
Product Sales	10,000	14,000	15,679	14,593
Community Pancake sales	-	30,000	31,577	38,786
CLOCA Days Pancake sales	780	3,800	5,793	3,796
Land Management				
Pay & Display	120,530	111,000	137,896	129,700
Seasons Passes	20,000	20,000	22,131	22,240
Donations	73,200	120,000	158,841	156,648
Property Rental	59,350	58,680	63,042	59,822
Facility Rental Fees	2,000	16,500	16,939	18,825
Commercial Rent Signs	7,200	7,200	7,233	7,233
Vehicle/Equipment Sales	-	-	6,238	-
Rental Recovery	117,450	117,450	112,491	122,553
Oak Ridges Moraine Groundwater Program (YPDT)				
Other Revenue (YPDT)	700,000	802,400	880,607	918,308
Consulting Revenue	-	7,200	-	54,155
Website/Portal Access Fee	50,000	-	69,315	-
	7,545,430	7,848,557	7,863,826	7,726,516

Cost and Expenditures Salaries, Wages & Benefits Salaries & Wages Salaries & Wages - PWMSF Salaries & Wages - Summer Student Program Benefits Future Benefit Expense Members Per Diems	2020 Budget 4,391,400 3,400 44,200 1,194,550	2019 Budget	2019 Actual	2018 Actual
Salaries, Wages & Benefits Salaries & Wages Salaries & Wages - PWMSF Salaries & Wages - Summer Student Program Benefits Future Benefit Expense	4,391,400 3,400 44,200		Actual	Actual
Salaries & Wages Salaries & Wages - PWMSF Salaries & Wages - Summer Student Program Benefits Future Benefit Expense	3,400 44,200	4 400 750		
Salaries & Wages Salaries & Wages - PWMSF Salaries & Wages - Summer Student Program Benefits Future Benefit Expense	3,400 44,200	1 100 750		
Salaries & Wages - PWMSF Salaries & Wages - Summer Student Program Benefits Future Benefit Expense	3,400 44,200	4,492,750	4,369,786	4,047,449
Benefits Future Benefit Expense		20,400	21,033	19,093
Future Benefit Expense	1,194,550	134,720	133,410	132,312
	.,	1,168,725	1,136,713	1,057,738
Members Per Diems	-	10,000	10,000	20,000
	8,500	8,500	7,500	5,800
Administration				
Office Supplies/Postage/Promotion	8,475	8,500	8,819	12,424
Staff Mileage	23,300	14,900	13,049	13,019
Administration Expense	29,405	27,920	31,766	34,829
Course Registration	41,700	46,800	49,018	39,348
Publications & Subscriptions	41,820	47,120	34,991	32,089
Printing	9,000	9,000	8,673	8,415
Software	64,425	60,775	69,648	41,859
Services	329,700	414,275	551,809	467,271
Cellular	18,645	19,905	18,704	18,078
Travel Payroll Processing Fees	19,285	23,410	19,974	24,472
Audit Fees	8,525 27,000	8,475 24,600	9,014 24,814	8,453
Bank Service Charges	9,420	24,600	24,814 12,256	10,600
Insurance	92,480	74,310	79,253	72,400
Legal Fees	90,000	65,000	43.958	76,586
Donation	400	7,400	7,628	8,801
Materials & Supplies	151,965	200,090	142,718	187,260
Water Sample Testing	34,700	34,700	35,009	34,051
Uniform Purchases	4,200	7,300	8,033	7,729
Consultant	57,335	151,977	193,181	56,969
ACAO Levy	33,800	32,550	32,550	31,115
Utilities				
Telephone	14,875	15,875	14,840	14,335
Hydro	37,700	36,250	33,608	32,299
Alarm	3,975	3,975	3,862	3,862
Water	4,600	4,500	4,600	4,350
Gas	12,700	12,000	13,077	11,796
Taxes	48,255	46,805	45,321	45,452
Land Management				
Pay & Display Software Monitoring Fees	4,800	4,800	4,762	4,498
Construction Contracts	4,000	29,000	29,000	68,801
Equipment Rental Equipment/Capital Assets	15,300 457,220	21,500 291,875	19,398 288,734	20,934
Small Tools	457,220	3,000	288,734	1,259
Land Acquisition	-	-	-	29,479
Vehicle & Equipment				
Vehicle Purchases	26,000	26,000	25,982	51,497
Vehicle Rental	50	-	-	141
Fuel	25,725	31,700	29,511	32,022
Licence	2,000	2,000	1,663	3,149
Vehicle Recovery	105,200	105,200	101,732	109,992
Equipment Recovery	12,250	12,250	10,759	12,561
Other				
Office Services (YPDT Rent - TRCA)	16,600	16,600	16,579	16,579
Transportation (GWFestival)	-	15,500	14,193	15,292
Purchases for Resale - PWMSF	9,100	10,000	10,235	9,342
Bulk for Resale - PWMSF Pancake Group Expenses - PWMSF	2,700 1,750	15,200 20,000	7,016 19,316	11,273
Tanoano Oroup Experioco - I WINOF	7,545,430	7,848,557	7,769,213	7,346,473

Watershed Management & Health Monitoring

PROGRAM OPERATIONS

Program Operations provide overall watershed management and watershed health monitoring in order to develop a framework and management strategy for natural systems protection, restoration and use. Expertise provided by CLOCA staff in the fields of environmental engineering, ecology, hydrogeology, fish, wetland and wildlife biology, and forestry enable the development of programs and plans to prepare for anticipated future changes in the watershed and deal with the issues that are presented in the day-to-day operations of the Authority.

The Authority accomplishes its watershed objectives through involvement with stakeholders and all levels of government, providing input to the protection of natural heritage features, expanding the natural heritage database for terrestrial, fisheries, and wildlife resources. Low water and base flow surveys are building on an existing information base to ensure the best information is available. Monitoring, data collection and analysis enables trends to be documented and characterized and watershed health to be assessed.

OTHER PROGRAMS

Water Monitoring Network/Forecasting/Flood Warning

The Central Lake Ontario Conservation Authority's (CLOCA) 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. This knowledge allows us to make informed decisions about the management and protection of our water resources. CLOCA partners with Water Survey Canada and the Ontario Ministry of Natural Resources and Forestry for the flood forecasting and warning program and the Ministry of the Environment, Conservation and Parks for the Provincial Water Quality Monitoring Network and Provincial Groundwater Monitoring Network to reduce duplication and offset program costs. The data is catalogued and analyzed to help us develop effective watershed wide management programs and policies like our Flood Forecasting and Warning System, Low Water Response and Source Water Protection programs.

Each year we review the location of monitoring equipment and its effectiveness in recording the required data and replace outdated and inoperable equipment. Staff from the Engineering and IT/GIS departments also continue to advance several projects related to the flood forecasting and warning program. These projects are improving the automation of data retrieval from the gauge stations, data management, and reporting.

In 2019 CLOCA joined the Eastern Conservation Authorities Hub and gained access to the WISKI database for water monitoring data. This system is used provincially and provides efficient and consistent data retrieval and storage of information from our stream and precipitation gauges, groundwater wells, and stream water quality program.

Related information including gauge data and floodplain information is also being made more accessible to staff, municipal partners, and the general public through improvements to CLOCA's Web Products. Early Warning Systems are in place and will send email alerts to appropriate staff to advise of significant rainfall or water levels nearing flood conditions at various gauging stations. In 2020, four gauge stations will be updated with full telemetry equipment and updated gauging equipment. This project was approved for funding under the National Disaster Mitigation Program.

National Disaster Mitigation Program

Under the National Disaster Mitigation Program (NDMP), CLOCA receives 50% federal funding for flood mitigation projects. In 2020, CLOCA will complete stream gauge station upgrades, complete floodplain mapping of the Corbett Creek watershed in cooperation with the Town of Whitby and the Corbett Creek Master Drainage Plan, work with the City of Oshawa in the completion of the Oshawa Creek/Goodman Creek Two Zone Flood Study, and will continue to collaborate with the Ganaraska and Lower Trent Region Conservation Authorities on a Lake Ontario Shoreline Management Plan. The latter plan will provide information on flooding and erosion hazards associated with the Lake Ontario shoreline, and recommend measures to protect the shoreline and manage development.



HAZARD MAPPING

Biennial Lake Ontario Shoreline Surveys

The Lake Ontario Shoreline Monitoring Program is a continuation of the original Canada/Ontario Great Lakes Erosion Monitoring Program that was carried out from 1973-1981 by Fisheries and Oceans Canada. Following the termination of this program in 1982 the Ministry of Natural Resources and Forestry, in partnership with the Conservation Authorities, continued to monitor the sites located within their jurisdiction.



Every other year, surveys are completed at 8 bluff features along the Lake Ontario shoreline within CLOCA's watershed. These surveys provide insight on the erosion processes that continually work against these shoreline features.

The survey data is plotted against previous years, and biennial erosion rates are calculated. The extensive period of record is important to provide significance to the data, and to provide long term trends. In 2020, CLOCA will utilize recommendations from our Shoreline Hazard Management Study to update our procedures for the shoreline erosion monitoring program.

Integrated Watershed Monitoring

CLOCA's monitoring program focuses on key indicators of watershed health and provides key information for many Authority Programs including plan review, watershed planning, conservation area management, stewardship, education and communication. Continued monitoring enables the Authority to identify changes, whether incidental or long term, in the quality and condition of the health of the watershed. Monitoring results are annually updated and made publicly available by incorporating the data into CLOCA's Watershed Monitoring Story map posted on CLOCA's website. The story map incorporates monitoring results into a multi-media context, combining maps, text and images providing an excellent source of information highlighting watershed health. The 2020 monitoring season will continue as scheduled; however, the COVID-19 pandemic will result in some modifications to the program to accommodate delayed starts, changes in summer staffing, and requirements for social distancing.

The turtle monitoring project initiated in 2019 will continue in a modified capacity in 2020. This multi-year project will provide greater detail regarding the presence and absence of these species at risk across the CLOCA jurisdiction. Data collected through this program will enable the Authority to assess population trajectories of Painted and Snapping Turtles in particular. This work may also provide insight into movement patterns and population characteristics, survivorship, sex ratios, and range sizes of turtles. The outcome of this monitoring will be the development of management strategies where possible that will help local turtle populations persist and thrive within the CLOCA jurisdiction.



Water quality and aquatic monitoring includes benthos sampling using the Ontario Benthos Bio-monitoring Network (OBBN) protocol, fish sampling in accordance with the Ontario Stream Assessment Protocol, seine netting, spring and fall spawning surveys, identification and inventory of in-stream barriers, and the collection of temperature data using portable temperature loggers to evaluate in-stream thermal regime. Much of this monitoring will continue to occur in 2020 but may be modified according to staff resources and social distancing requirements. Supplemental monitoring will be undertaken in other watersheds, as a result of openings in the schedule that have come as a result of the modifications alluded to the above.

Bird, amphibian, forest and other terrestrial monitoring also provide indications of watershed health, and are also integral to the CLOCA Integrated Watershed Monitoring Program. Long-term monitoring of

these conservation targets will continue through 2020. As in past years, work will also continue on invasive species monitoring and programing throughout the jurisdiction, with an emphasis on conducting invasive species management projects within CLOCA Conservation Areas. These monitoring activities will continue status quo through 2020 given the solitary nature of this work and the ability to use existing staff compliments.

Provincial Groundwater Monitoring Network

Groundwater well monitoring equipment is checked regularly to ensure proper functioning and data is collected, reviewed and analyzed quarterly providing input to the YPDT shared database as well as the provincial online database. Through the YPDT- CAMC municipal/ C.A. initiative, the data is available to the regional staff and support both municipal Works and Health departments groundwater analyses and programs. Data from monitoring wells support groundwater characterization and water budget modelling activities. Processed data are also provided to the Region in response to private citizen inquiries.



CLOCA currently maintains 15 wells under the Provincial Groundwater Monitoring Network (PGMN). These monitoring wells provide continuous water level data recorded hourly by the installed level loggers.

Water quality samples are also collected and analyzed annually from these wells. These analyses were conducted twice a year since the start of the program in 2002 until 2010. In 2011, with this established solid baseline, water quality sampling shifted to once a year. PGMN wells have over 15 years of water level and quality records.

MECP is working to make groundwater data records more accessible and is moving to a standard provincial database that will be accessible to the Conservation Authority partners and the public.

Durham Region Coastal Wetland Monitoring Program

Long-term monitoring of 18 coastal wetlands across Durham Region will continue in 2020 but some modifications to the program will be required to accommodate delayed starts, changes in summer staffing, and requirements for social distancing as a result of the conditions imposed by the COVID-19 pandemic. A range of stakeholders including Environment Canada, neighbouring Conservation Authorities and local volunteers assist with data collection. The information and data gained through monitoring of these wetlands provides valuable information to assess watershed and coastal wetland health in Durham Region. This monitoring program captures the response and success of restoration and management actions undertaken like the work at Cranberry Marsh and Carruthers Marsh, and provides significant data from which projects such as the McLaughlin Bay Restoration Strategy, Lynde Shores and Bowmanville Marsh restoration plans rely upon. In 2020, CLOCA staff will continue to prepare Wetland Conditions and Management Reports for a number of the coastal wetlands. These reports document and synthesize monitoring information collected to date, providing an assessment of wetland health to help direct future management recommendations.



Watershed Planning

An update to CLOCA's 4 watershed plans got underway in 2018 with significant public, stakeholder, agency and municipal consultation conducted. This update recognizes the updated urban, rural and natural environment conditions present in the watershed, considers potential future growth, planning policy requirements, climate change and presents specific recommendations to protect CLOCA's natural resources.

The updated watershed plans are to be used by CLOCA, municipalities, planning authorities, agencies and other stakeholders as a definitive tool to guide decisions concerning the effective management of watershed resources in response to a changing environment. As part of these updates, CLOCA implemented a refined, science-based framework for watershed planning. This framework provides a systematic, comprehensive, and consistent process that links actions to results and ultimate outcomes.

Draft watershed plans for Lynde Creek, Oshawa Creek, Black Harmony Farewell Creeks, and Bowmanville Soper Creeks were presented to partner municipalities, stakeholders, and the public in late 2019. The results

of this review and consultation will be incorporated into the final watershed plan updates and finalized in 2020. Work towards implementation of the recommendations will also continue through 2020.

Source Water Protection Plans

The Source Water Protection (SWP) initiative commenced in 2005, following recommendations made to Justice O'Connor after the Walkerton drinking water tragedy in May 2000. Conservation Authorities received funding from the Province of Ontario to complete technical Assessment Reports (ARs) and a SWP Plan based on the findings presented in the AR. The Central Lake Ontario Source Protection Authority's (CLOSPA) AR was completed and approved by the Province in November of 2011. Work on the SWP Plan started in 2011 and included several rounds of consultation with municipalities and various affected stakeholders. The Source Protection Plan (SPP) was approved by the Ministry of Environment and Climate Change on August 14, 2015 and took effect on December 31, 2015. The SPP consists of several policies to manage or eliminate significant threats to drinking water sources that were identified in the provincially approved Assessment Reports. Staff of the Credit Valley, Toronto and Region, Central Lake Source Protection Region (CTC SPR) have been working with member municipalities since 2012, consulting on the plan and holding workshops and meetings to assist with the understanding and implementation of the plan. The CTC and CLOSPA staff will continue during the implementation period to work with municipal and other personnel to ensure they fully understand their responsibilities under the SPP and to provide support and tools, as necessary. The CTC and CLOSPA staff will continue their work on the CTC SPR Data Portal. The portal will provide a centralized location to house, search and retrieve all of the CTC's related documents, reports, correspondence, and spatial information. In addition, the portal will provide mapping and access to metadata and spatial information.

Hazard Studies

CLOCA staff will continue to update digital erosion hazard mapping for stream and valley systems. The erosion hazards include valley features, steep slope allowances, stream erosion allowances, and meander belts; all-natural hazards that are used in the determination of our Regulation Limits. The completion of the digital erosion hazards will assist applicants with determining the applicable hazards on property.

CLOCA staff will also work towards the completion of return period flood mapping. This product provides CLOCA and partners with information on the most vulnerable flood locations including homes and businesses, and roads and culverts/bridges.



Climate Change

CLOCA is working on a number of fronts to advance our scientific and adaptation knowledge with respect to climate change. Through our watershed plan review and update process, CLOCA will be taking a more detailed examination of the impacts of climate change on watershed processes, including the identification of climate change adaptation practices that will help lessen these impacts. In partnership with Durham Region, CLOCA has been working in a leadership capacity with the flooding and natural heritage sector climate change adaptation work identified in "Towards Resilience". This includes work on development of an updated climate change ensemble model for Durham Region, incorporation of climate change considerations within municipal and regional plans, policies and operational plans, initiating the development of a climate resilient natural heritage system through the integration of climate impacts on natural features and functions. CLOCA will be working closely with Durham Region and other partners as the updated regional climate change model is finalized in early 2020. Once finalized, the updated model will be used to inform climate change related programs throughout 2020 and into the future.

Lynde Shores – Shisko Wetland Restoration

Located south of Victoria, east of Halls Road, a seasonally wet area was identified as the preferred location for a wetland restoration project required as part of the required compensation for widening of Victoria Road through the Lynde Shores Conservation Area. CLOCA staff continue to be involved in the development of the Shisko Wetland Restoration and will utilize this project to also provide additional parking and trail features for our Conservation Area visitors. In 2020, CLOCA anticipates the restoration work get underway. To further enhance wetland and aquatic habitat functions CLOCA will pursue additional opportunities to expand upon this wetland feature.

Heber Down – Habitat Compensation Project

The Ontario Ministry of Transportation will be entering into an agreement with CLOCA to undertake creek and wetland restoration work within Heber Down Conservation Area as part of species at risk compensation work required through the 407 East project. CLOCA will be working through to design, contract, and begin to implement this important project 2020. Once completed, the project will result in significant creek naturalization, wetland creation and other improvements to Devil's Den pond, and reduce the impact of public use infrastructure (for example bridge crossings) on habitat features within the conservation area.

Oshawa Second Marsh Management Plan

The original management plan for Oshawa Second Marsh is over 20 years old and has been beneficial in directing restoration and management activities. Yet this marsh continues to be significantly influenced by anthropogenic inputs, invasive species, climate change, and Lake Ontario water level regulation. To address these and potential future threats. the an update to management plan has been initiated. This work will identify new adaptive



management techniques and tools which will help to ensure the marsh and its habitat remains healthy, diverse and productive. CLOCA, as a member of the Second Marsh Steering Committee will continue to participate and guide the preparation of a management plan for Oshawa Second Marsh. With funding from the City of Oshawa, this work is being conducted by a consultant. In 2020 the draft management plan, which will include a forest management plan and invasive species management plan, will be completed and made available for consultation.

CLOCA Restoration Planning and Implementation

The CLOCA Restoration Prioritization Plan is a mapping tool that identifies and prioritizes restoration opportunities that will improve and strengthen CLOCA's natural heritage system and overall watershed health in the most efficient and cost-effective manor. The development of this tool utilizes CLOCA's NHS mapping, ELC mapping and watershed healthy indicators and can be used at a watershed scale or at the site level. The information supporting this mapping will be continuously updated consistent with regular updates of CLOCA's mapping and will be available publicly, supporting watershed stakeholder and municipal restoration initiatives. Complementary to this tool will be the development of a Conservation and Restoration Planning Framework in 2020 that will support successful implementation of restoration projects. With these and other important tools and strategies in place, CLOCA will be working to further build its restoration program through 2020. In addition to implementation of restoration projects on CLOCA conservation lands, CLOCA will be looking to enhance its private land stewardship programming with the development of a Restoration Guideline. Work on these guidelines will begin in 2020.

	rshed Management			
	2020	2019	2019	2018
Revenue	Budget	Budget	Actual	Actual
General Levy	924,175	943,402	851,104	809,615
Municipal Special Levy - Other	150,000	268,275	222,868	56,925
Grants/Transfer Payments				
MNR Transfer Payment	28,500	22,500	22,500	45,000
Federal Grants	3,000	89,900	82,359	44,690
Provincial Grants	0	34,850	38,147	46,449
Other Grants	60,000	0	0	(
Donations	0	0	24,860	(
Self Generated				
Education Fees	0	0	1,634	1,373
Other Revenue	80,180	219,905	257,669	111,479
Deferred Revenue	63,085	9,675	-53,599	11,830
	1,308,940	1,588,507	1,447,542	1,127,360
	1,300,340	1,300,307	1,77,372	1,127,500
Cost and Expenditures	2020	2019	2019	2018
	Budget	Budget	Actual	Actual
Salaries & Benefits				
Salaries & Wages	771,550	820,650	709,535	647,225
Salaries & Wages - Summer Student Program	9,000	73,420	72,338	72,374
Benefits	214,800	221,325	195,594	173,325
Operating Expenses				
Promotion	-	-	105	84
Travel	2,650	3,310	2,138	2,864
Staff Mileage	3,755	3,500	2,285	2,720
Course Registration	6,500	8,000	4,205	13,032
Postage	200	250	631	256
Materials & Supplies	58,800	33,750	8,976	15,090
Publications & Subscriptions	1,720	4,720	6,352	2,140
Software	18,275	21,925	20,537	8,098
Services	32,300	88,005	85,010	59,569
Cellular	4,955	5,325	5,288	4,791
Telephone	1,600	1,650	1,666	1,505
Insurance	750	425	547	391
Water Quality Testing	34,500	34,500	34,589	33,631
Consulting	57,335	144,477	161,624	25,720
Equipment Rental	-	6,200	5,221	5,520
Fuel	700	·		962
Vehicle/Equipment Recovery	26,100	26,100	22,877	25,728
Equipment/Capital Assets	63,450	90,375	106,862	32,336
	1,308,940	1,588,507	1,447,542	1,127,360
				1 1 2 7 2 6 0

ORMGP (Oak Ridges Moraine Groundwater Program) Formerly known as YPDT (York, Peel, Durham & Toronto Groundwater Study)

As part of an ongoing contribution, CLOCA administers several contracts on behalf of the Oak Ridges Moraine Groundwater Program, a joint program of the Regions of Durham, Peel and York and the City of Toronto as well as their respective Conservation Authorities. Five staff for this initiative are housed in rental offices within the TRCA office at Highway 407 and Jane St. A review of the projects is summarized below.

ORM (YPDT) Groundwater Study

This ongoing partnership between the Regions of Durham, York, Peel, the City of Toronto, and their associated Conservation Authorities continues to provide technical hydrogeological support to the 13 agencies partnered in the program. In 2020, work will continue on a number of initiatives related to one of the four current program areas: 1) database, 2) geology, 3) modelling, and/or 4) website. Some of the tasks that are in the 2020 work plan include:



- Provide technical expertise to the partner agencies as requested.
- Work with City of Toronto staff to increase awareness of ORMGP data/information and website access so that City staff can: i) effectively implement their Groundwater strategy; ii) plan for future developments to minimize interactions with the groundwater system; and iii) adequately manage groundwater that is being pumped from deep excavations;
- Increase awareness of the program's website with an aim of attracting new partnerships with consultants and other smaller municipalities to foster greater use of the program's data and information.
- Provide technical oversight and insight into the ongoing numerical modelling updates in Durham and Peel Regions which should be largely completed in 2020.
- Continue to harmonize the program's interpretations (geology and hydrogeology) across the entire ORMGP area by incorporating new well data as well as information from numerical model studies (i.e. data enhancements, hydrological/hydrogeological insights, etc.) which will provide a framework/interpretation that partner agency/consultant staff can use to gain an initial regional understanding of local study area conditions;
- Working with existing agency and consultant partners, as well as with new consultant partners, to improve the program's data and interpretations.
- Continued growth of the program database with incorporation of new boreholes and temporal data (water levels, pumping, chemistry, etc.).

- Continued improvement in the program website with new/updated mapping (e.g. addition of maps to the website scheduled for 2020 (for example 2020 will see the addition of GW discharge area mapping, vertical hydraulic gradient mapping, providing access to consultant and other rarer/difficult to find borehole logs, etc.);
- Continued improvement in the program website with new analysis tools available (e.g. improved hydrograph analyses; better watershed characterization; more robust water budgeting, linking groundwater levels to climate and pumping records, improved searching of library documents; clipping data from the website for export, etc.).
- Development of additional tools to manage the transfer of data from external partners to the master database on the program's Citrix platform.
- Working with partner agencies to incorporate geotechnical and hydrogeological reports and data into the program's library.
- Collection and incorporation of high-quality data from select monitoring sites across the program study area.

ORMP - Oak Rid	ges moraine Gro	oundwater Pro	ogram (TPDT)	
Revenue	2020 Budget	2019 Budget	2019 Actual	2018 Actual
Revenue	Buuget	Buuger	Actual	Actual
Other Revenue	700,000	802,400	880,607	918,308
Deferred Revenue	85,625	31,300	68,495	(17,503
Consulting Revenue	-	7,200	-	-
Website/Portal Access Fee	50,000	-	69,315	54,155
	30,000		00,010	04,100
	835,625	840,900	1,018,417	954,960
	2020	2019	2019	2018
Cost and Expenditures	Budget	Budget	Actual	Actual
Salaries & Wages	550,800	601,250	595,568	601,825
Benefits	136,500	140,850	142,119	137,693
Future Benefit Expense	-	10,000	10,000	20,000
Staff Mileage	2,000	1,000	1,203	1,327
Administration Expense	10,800	10,500	14,346	17,829
Course Registration	6,000	3,000	5,712	3,276
Postage	25	25	-	12
Materials & Supplies	-	-	1,418	1,149
Publications & Subscriptions	3,500	8,500	4,863	8,403
Software	20,000	12,500	17,880	14,398
Services	45,000	1,000	141,342	75,381
Fuel	4,000	4,000	3,512	3,670
Telephone	3,000	3,000	3,053	3,056
Cellular	3,500	3,500	3,208	2,947
Travel	12,000	14,000	11,110	12,026
Insurance	2,200	2,000	1,953	1,837
Legal Fees				1,603
Audit Fees	3,300	3,000	3,000	3,000
Bank Service Charges	300	175	214	191
Licence	-	-	-	480
Payroll Processing Fees	1,100	1,000	1,079	979
Office Services	16,600	16,600	16,579	16,579
Equipment Purchases	15,000	5,000	40,158	26,731
Vehicle Recovery	- 835,625	- 840,900	100 1,018,417	568 954,960

Environmental Plan Review & Regulation Services

PROGRAM OPERATIONS - MUNICIPAL PLAN REVIEW

The purpose is to promote the Authority's watershed resource management interests through the provision of technical analysis and comments on land use planning proposals, development applications, and public infrastructure projects. Complementary work includes the continuous review and updating of natural hazard limits associated with flood plains, stream erosion, steep slopes, meander belts and Lake Ontario shoreline including associated planning and procedural policy directions.



2020 Program:

- Continuing Memorandum of Understanding (MOU) partnership with the Region of Durham to provide plan review advice on watershed management, natural heritage and natural hazard planning and the implementation of the `One-Window' MOU with the Ministry of Municipal Affairs and Housing regarding hazard lands.
- Consistent with previous years, it is anticipated that the Authority will review and provide comments on over 200 planning applications and supporting technical reports of various scales and locations.
- Implementation of the updated Fee Schedule for Planning Services including efficient revenue collection and alignment of service needs with staff capacity to maintain quality of service.
- Update CLOCA's Policy and Procedural Document for Regulation and Plan Review to update policy directions, streamline and add clarity wherever possible including conformity with the Provincial Greenbelt Plan, Growth Plan for the Greater Golden Horseshoe and Oak Ridges Moraine Conservation Plan.
- Authority staff will continue to support CLOCA's watershed and partner interests through working groups/committees with municipal and development representatives dealing with Official Plan reviews, Master Environmental Servicing Plans, sub-watershed planning, storm water management and environmental issues, including but not limited to:
 - Municipality of Clarington Clarington Comprehensive Zoning By-law review and Secondary Plans;
 - City of Oshawa Northwood Planning Area, Kedron Planning Area, and Columbus Sub watershed Study and Part II Planning Study, South Oshawa Planning Appeals related to Significant Wildlife Habitat for Monarch Butterflies;
 - Town of Whitby Brooklin Secondary Plan and Implementing Servicing and Block Planning;
 - Region of Durham Official Plan Update and Provincial Plan Conformity.
- Integrate climate change considerations into day-to-day review of development applications with an emphasis on promoting resilience through effective flood control, thermal mitigation, and low impact development storm water management techniques, landscape design for vegetation protection zones and stream corridor enhancement opportunities.

- Ensure timely responses for application review in line with Conservation Ontario guidelines and assess performance against Strategic Plan Implementation performance measures while building staff capacity.
- Transition archived planning files to electronic format accessible through CLOCA's CADIMS platform.

PROGRAM OPERATIONS - REGULATIONS

The Regulations program is designed to protect both the public and property from flood and erosion hazards as well as wetlands and watercourses through the review and permitting of applications for Development, Interference with Wetlands & Alterations to Shorelines & Watercourses (Conservation Authorities Act - Ontario Regulation 42/06).

2020 Program:

- Approval and maintenance of Ontario Regulation 42/06 mapping as required.
- Consistent with previous years, it is anticipated that the Authority will review and make decisions on over 200 permit applications.
- Implementation of the updated Fee Schedule for Regulation Services including efficient revenue collection
- On-going enforcement and court appearances.
- On-going review and maintenance of guidelines to provide consistent standards for the administration of the Authority's Regulation, Ontario Regulation 42/06.
- Review and provide advice on the finalized Provincial Excess Soil Management Framework and subsequent implementation actions including liaison with municipal planning and engineering staff.

STUDIES

CLOCA will continue to review and provide comments on a number of special studies and environmental assessments for proposed infrastructure within our watershed to ensure protection of natural resources and address natural hazards.

	2020	2019	2019	2018
	Budget	Budget	Actual	Actual
Revenue	(00.000			
General Levy	423,930	332,400	405,918	54,598
Grants/Transfer Payments				
MNR Transfer Payment	25,000	31,000	31,000	62,000
Federal Grants				1,680
Self Generated				
Map Sales	7,000	5,000	9,580	5,710
Reports & Photocopy Trail Guides	0		1,040	595
Property Inquiry Fee	20,000	20,000	19,705	27,140
Regulations 42/06 Permit	380,000	380,000	381,082	439,725
Plan Review Fees	785,000	785,000	726,700	809,763
Fill Sites Large Application Fees	0	50,000	0	(
OtherRevenue	0	0	11,793	40,555
Deferred Revenue	0	0	0	32,839
	1,640,930	1,603,400	1,586,818	1,474,605
	2020	2019	2019	2018
Cost and Expenditures	Budget	Budget	Actual	Actual
Salaries & Benefits				
Salaries & Wages	1,178,400	1,171,700	1,162,261	1,007,131
Benefits	319,000	308,700	306,401	277,539
Office Administration				
Promotion	-	-	125	30
Travel	1,500	1,500	1,823	3,111
Staff Mileage	5,500	7,500	5,806	5,587
Course Registration	5,000	5,000	4,575	5,070
Postage	-	-	66	64
Materials & Supplies	600	600	1,218	1,282
Publications & Subscriptions	12,100	12,100	4,713	5,141
Software	4,500	7,200	7,616	5,319
Services	500	-	12,504	43,748
Telephone	-	1,000	0	6
Cellular	1,830	2,100	1,978	2,251
Insurance	30,500	22,000	21,863	23,262
Legal Fees	75,000	50,000	27,475	57,265
Consulting	-	7,500	24,651	29,875
Equipment/Capital Assets		-	-	911
				7 01 2
Vehicle/Equipment Recovery	6,500	6,500	3,744	7,012

Community Engagement

STEWARDSHIP

The stewardship program costs and revenues are those associated with staff resources necessary to provide services and/or technical assistance to private and public landowners and environmental organizations on call to action projects contributing to improvements in overall watershed health. Through the watershed planning process, natural heritage strategy, fisheries and resource management plans, the Authority makes recommendations where specific stewardship initiatives would result in achieving watershed indicator targets. Technical assistance is provided, and partner funding sought for implementing priority stewardship projects. Typically, the majority of stewardship projects focus on tree planting.

Watershed Restoration Program

New for 2020, this program will contribute to improving watershed health by coordinating and delivering restoration projects on public and private lands in our jurisdiction. The priorities will focus on opportunities to deliver low impact development and green infrastructure projects, creation and restoration of wetlands, forests, streams, erosion control enhancement using naturalization, bioengineering and natural channel design.

Well Decommissioning Program

CLOCA re-introduced the Well Decommissioning Program in 2017 providing technical and financial assistance to landowners in our jurisdiction. An abandoned well can allow for surface runoff to flow directly to local and regional aquifers, potentially carrying organic waste, fertilizers, chemical residues including pesticides and petroleum products to groundwater. In 2020, there are 7 approved applications and staff are waiting for final signatures from the licensed contractor to issue the grants. Information about the service, application and brochure will continue to be distributed to municipalities and landowners online and at community events.

Increasing Watershed Tree Cover

Our efforts continued in 2019 to re-establish missing forests and strengthen existing ones providing a wellconnected natural heritage system to store carbon while contributing to overall biodiversity for a variety of wildlife. In 2019 we planted 900 native trees to restore one half hectare of land. We are grateful to our planting partners, TD Tree Days, Highway of Heroes Tribute, Municipality of Clarington (Trees for Rural Roads), Forests Ontario and Tree Canada. Public and volunteer tree plantings for Earth Day in the spring and TD Tree Days in the fall have been cancelled for 2020

Highway of Heroes Tribute (New for 2020)

In 2019 we established a partnership with the Highway of Heroes Tribute organization and neighboring conservation authorities with watersheds along the 401, to deliver planting projects on private land. In 2020, we identified marginal and retired agriculture lands in the Bowmanville Soper Creek watershed to improve forest and interior forest cover targets to support increasing natural cover.

Clarington Trees for Rural Roads

The Clarington Trees for Rural Roads has planted more than 5,000 trees along rural roads in the municipality since it began in 2012. The program has many benefits aside from improving the aesthetics of the rural countryside, it increases tree canopy and provides wildlife habitat. We continued to partner with the Municipality of Clarington in 2020 to deliver this program with the Ganaraska Conservation Authority. In 2020 we approved 15 projects with 3 returning landowners and new for this year, provided native shrubs as an option to landowners with property constraints associated with hydro infrastructure. Due to the pandemic, Clarington staff delivered the trees to individual landowners, rather than the typical tree pickup at the municipal works yard.

Forest Tending and Management

Forest management actions continue through the services of a Registered Professional Forester (RPF) in 2020, who will deliver a tending and thinning contract on Enniskillen and Rodger's Tracts respectively.

Home Improvement Program (HIP)

CLOCA staff continue to work with schools, volunteers, community organizations and naturalist groups to build and install a variety of habitat features including bird and insect boxes, pollinator gardens and turtle nesting protection structures at Conservation Areas, school yards and parkland. As well we work with volunteers and corporations to make improvements to our Conservation Areas which includes working on trails, signage, bridges, fencing and planting native plants. In 2020 we established a new partnership with the Durham Region Field Naturalists and the Durham Christian High School to assist with bird box maintenance, monitoring in our Conservation Areas.



Invasive Species Management

CLOCA continues to implement its Invasive Species Management Strategy within our conservation land holdings and in partnership with municipalities and stakeholders. With a focus on prevention, detection, response, and management the 2020 work plan will:

- continue implementing the Rogers Tract Invasive Species Management Plan.
- continue managing, monitoring, and mapping invasive species at all Conservation Areas, Pumphouse and Corbett Creek Marshes.
- continue to implement pilot projects in partnership with watershed stakeholders as opportunities align with funding and priority invasive species.
- continue to participate in online outreach initiatives to develop more community engagement and communication products for enhancing invasive species awareness.

EDUCATION

For the past 31 years, Central Lake Ontario Conservation Authority (CLOCA) has delivered formal and informal education programs to ensure environmental literacy for students and CLOCA's watershed community. The following is a summary of our accomplishments for the 2019/20 school year.

In Your Watershed

Our suite of innovative education programs informs and raises awareness about the value of healthy watersheds, educating diverse audiences about CLOCA, what we do and why its important. 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. In the 2019/2020 school year, due to rotating teachers strikes and COVID-19, we reached about 25% of our capacity to engage 7,000 students. Many community education programs we support throughout our watershed like Farm Connections,



Summer Camps and our local libraries were cancelled for 2020. Efforts to provide online resources on our website have been well received by regular CLOCA education program participants.

For the latter half of 2020 and beyond, we anticipate program modifications to support provincial and local board of education decisions when schools re-open in September. We expect to incorporate more online and in school programs, as well as encourage full day bookings with supervised and unsupervised activities on site and new programs related to watershed management and climate change. Funding has been secured to construct a nature based free play space at Enniksillen Education Centre. We initiated a program with Ontario

Power Generation (OPG) to deliver the Stream of Dreams in 2020, however have suspended until such time as school visits resume. We continue to work with OPG for a modified as part of their summer programs with a curbside component and opportunities to connect with nature close to home. Ongoing partnerships with the Association for Canadian Education Resources, Ecospark and the Robert McLaughlin Gallery were also suspended until further notice.

Durham Children's Watershed Festival

The Region of Durham continues as the Festival Event Sponsor in 2020, providing core funding to cover operational costs associated with delivery since 2014. This program in its usually format as a week-long festival at Camp Samac for grade 4 students, has been cancelled and a modified in-school program is in development for delivery from September to December in conjunction with our In Your Watershed program above. At this time, we have more than 20 schools confirmed for this free program.

Summer Programs

Since 2016, the YMCA of Greater Toronto has delivered a summer camp from the Education Centre at Enniskillen Conservation Area. The camp operates for 9 weeks during July and August. Revenues generated through this program assist us in maintaining and upgrading the building and the facility. Unfortunately, due to the extension of the provinces' emergency measures to June 30th,



preparation and delivery of this program were beyond the capacity of the YMCA to navigate. We look forward to offering this program again in 2021.

Low Impact Development (LID) Workshops

Since 2018, CLOCA staff have offered two full day training workshops in partnership with STEP (Sustainable Technologies Evaluation Program) on Advanced LID Design: Bioretention Facilities. Delivery and partnerships with our municipalities will continue in 2020 to bring this concept into mainstream development in our watersheds. A workshop to provide information on



construction of LID systems, including a construction demonstration at the Purple Woods Conservation Area Heritage Hall site in September 2020, will be delivered if feasible.

OUTREACH

In 2019, with our partners, we hosted 13 corporate events, provided 28 corporate and community presentations, attended 14 community events, delivered 6 curriculum based education programs to 12,776 students, produced 8 corporate communication products, engaged 1,212 volunteers and hosted 1,531 children in our summer camp program in partnership with the YMCA GTA. Regretfully these numbers will not be reached in 2020 due to cancellation of program delivery and participation in public events throughout our watershed community.

Conservation Area Trail Stewards (CATS)

We initiated the Conservation Area Trail Stewardship (CATS) Program at Lynde Shores Conservation Area with 11 volunteers completing their onsite and online training. They committed to visiting our trials a minimum of 2 to 3 hours per month over the course of 2020. From January to March, they assisted in trail maintenance and informal educational engagement with the public. Based on the success of the program from an operational perspective and feedback from these volunteers about their experience, we intend to expand the program to other Conservation Areas in the future. We have suspended the program currently and have more than 20 volunteers on a waiting list for our second intake which will expand the existing program at Lynde Shores Conservation Area and initiate a new program at Heber Down Conservation Area.

Conservation Areas Library Program

We will continue to deliver the Conservation Areas Library program initiated in 2018. We currently have 3 backpack kits complete with wildlife and plant identification guides and snowshoes to add to the borrowing programs in Whitby, Oshawa and Clarington in 2020 or 2021. This will complement the free parking passes currently offered by these same libraries.

Marvelous Monarchs

In 2019 we introduced the Marvelous Monarch program at the libraries with a living display of this species of concern to showcase their lifecycle, their relationship with milkweed and migration patterns. The response from each library and library patrons was significant, likely reaching about 500 patrons each week. We have had to cancel this program in 2020 but will re-introduce in 2021 with a focus on reaching out to libraries and community gardens in our watershed.

Watershed Wilderness Nature Hikes

In 2020 we engaged over 100 individuals in our evening "Owl Love You Forever" snowshoe program in February. We offered an early program for families and a later program for adults and partnered with Soper Creek Wildlife Rescue to introduce our guests to some live native owls. We have had to cancel the seasonal programs we offer to the general public on evenings and weekends and have instead developed an online presence with a Conservation Kids corner to continue reaching families and individuals interested in the natural environment. We are planning a



December 2020 one day event to engage families in celebrating Christmas in the Woods.

Purple Woods Maple Syrup Festival and Sugar Bush

The 45th Purple Woods Maple Syrup Festival was cancelled after its first weekend due to the calling of a provincial wide state of emergency. We continued to produce our maple syrup following new Standard Operating Procedures (SOP's) to ensure the safety of staff was first and foremost amidst COVID-19. Producing more than 1,000 litres of syrup, we created an online store in June 2020 to sell this and other maple products through curbside pickup at Purple Woods Conservation Area.



RBC Smart Watersheds – (New for 2020)

Funded by RBC's Tech for Nature program, we are enhancing our existing water monitoring program creating a technology-based ecosystem in areas of our watershed that we require more data information. The program will not only enhance our data collection and allow us to make science-based decisions around water quality and quantity, but it will engage our local community. With the funds provided, we are purchasing weather stations to install at 3 local watershed schools, 6 water quality monitoring probes for citizen science, installing 1 real time water quality data collection sensor and camera to provide us with a more accurate snapshot of conditions at an existing CLOCA monitoring station. We will also develop a Smart Watersheds Portal for staff, students, citizen scientists, our partners and stakeholders to access an interactive database that allows for visualization, mapping, data input, manipulation, modeling and statistical reporting and analysis. Subject to the successful implementation of this one-year pilot project, RBC will be approached to support year 2 and 3.

CORPORATE COMMUNICATION

This includes the operating costs associated with communications to ensure the public and partners are informed about CLOCA's programs and services. Our communication products in 2020 will include building media relations; marketing our programs and accomplishments; developing Conservation Area signage; design and production of corporate publications, brochures, reports, and fact sheets; producing the CLOCA Annual Report; maintaining and updating our website; social media postings; developing new online services; servicing the communication needs of all CLOCA departments with design, editing and publication services; supporting external community environmentally themed programs and projects with partners and stakeholders. In 2020 we will focus on delivery of the following additional documents; the Watershed Plan Updates and the Conservation Area Master Plans. We will also facilitate the Strategic Planning process which will include consultation and specific goals and objectives for 2021 to 2025 and the creation of an online publication to summarize our next 5 years to support watershed health.

CLOCA Chronicle E-Newsletter

We continue to deliver the CLOCA Chronicle quarterly for each season to our mailing list of 2,400. The e-newsletters are well received and offer us another tool to engage a broad audience in showcasing the work we do across all departments.



Central Lake Ontario Conservation's spring 2020 newsletter

Communicating, educating and inspiring. To share our watershed story, to inspire our community to be watershed champions and to take action for real chanae.



In this issue:

Communi	ty Engagemer	nt		
	2020 Budget	2019 Budget	2019 Actual	2018 Actual
Revenue				
General Levy	536,340	448,505	421,418	380,300
Municipal General Levy - Children's Groudwater Festival	52,530	51,250	51,250	50,000
Donations	200	7,000	14,270	11,412
Donations - Children's Groundwater Festival	0	40,000	45,209	43,757
Self Generated				
Education Fees	3,100	66,000	63,921	76,164
Maple Syrup Tours		10,000	8,823	13,100
Admissions/PWMSF	2,000	41,000	48,229	55,158
Maple Syrup Sales	25,000	35,000	39,167	43,328
Maple Syrup Sales - Office	6,000	7,000	6,713	6,018
Maple Syrup Promotion			1,033	
Product Sales PWMSF	10,000	14,000	15,400	13,874
Community Pancake Sales		30,000	31,577	38,786
CLOCA Days Pancake Sales	770	3,800	5,793	3,796
Other Revenue	3,000	11,500	22,767	55,600
Deferred Revenue	0	11,100	0	-11,028
	638,940	776,155	775,570	780,265
	2020	2019	2019	2018
Cost and Expenditures	Budget	Budget	Actual	Actual
Salaries & Benefits				
Salaries & Wages	459,700	464,300	462,659	461,530
Salaries & Wages - Purple Woods Maple Syrup Festival	3,400	20,400	21,033	19,093
Benefits	125,000	122,800	121,173	120,884
Office Administration				
Office Supplies/Postage/Printing	-		278	264
Materials & Supplies	4,150	10,000	24,210	34,587
Promotion	400	400	768	271
Travel	100	200	408	322
Staff Mileage	200	600	839	433
Cellular	1,420	1,400	938	1,244
Publications & Subscriptions	2,600	4,100	2,995	2,922
Equipment Rental	-	-		-
Equipment/Capital Assets	1,875	-	212	-
Services	2,400	11,800	4,765	2,443
Donations	-		375	350
Software	650	650	558	635
Course Registration	100	1,200	1,560	885
Insurance			-	408
Vehicle/Equipment Recovery	6,500	6,500	8,946	7,852
	30,025	75,710	69,113	70,200
Purple Woods Maple Syrup Festival				
Purple Woods Maple Syrup Festival Children's Groundwater Festival	420	56,095	54,740	55,943

Land Management

The Central Lake Ontario Conservation Authority owns over 2,433 hectares of land within its watershed jurisdiction that includes valley lands, provincially significant wetlands, natural areas, forests as well as flood plain lands. The natural value of these properties, and the public investment in these lands, is protected through the Authority's Land Management Program.

PROGRAM OPERATIONS

Program operational costs include inspections following our Conservation Areas Risk Management Policy; facility repair, trail maintenance, and hazard tree work required to maintain public infrastructure for 8 public Conservation Areas and 45 kilometers of trail. Inspections and hazard tree management will continue for all public use portions of our landholdings.

Conservation Areas Planning and Development

In 2020, Conservation Area development will focus on the on-going landscaping of the Heber Down Conservation Area Cochrane Street entrance and picnic areas. The Heber Down Habitat Compensation Project will also commence in 2020.

Lynde Shores Conservation Area

CLOCA will be constructing a new public entrance for the Lynde Shores Conservation Area. The entrance will be located on Halls Road and will relieve overcrowding of the Victoria Street entrance. The new facilities will include a larger parking lot, information kiosk, washroom, and trail connections. The project will be coordinated with the Region of Durham's wetland restoration project that is to be completed adjacent to the new entrance feature.



Rogers Tract

At the Rogers Tract, efforts will continue to reduce the impact associated with two existing manmade ponds. These 2 on-line ponds were constructed by the previous owner in the 1960s for recreational purposes. The ponds are barriers to aquatic movement and have thermal impacts on downstream temperatures. The ponds were by-passed in 2019 through a natural channel. Monitoring the success of this bypass will continue through 2020. This restoration work will have positive improvements to the aquatic habitat and thermal regime. Two new culverts and surrounding roadbeds will be replaced in 2020. One culvert replacement is in conjunction

with the newly created pond bypass channel, and a second one is downstream and will maintain maintenance access around the property and improve fish passage. Restoration plans will focus on naturalization of the pond areas to a stream channel with healthy riparian vegetation.

Invasive species monitoring and some control work will be continued through 2020, in preparation for more aggressive control in future years. It is anticipated that the red pine plantations will be marked for thinning in 2020, with harvesting following in 2021. Invasive species control will be an important consideration in these areas after harvesting.

Property Management

Costs and revenues associated with ownership of land or buildings, taxes, insurance, maintenance and servicing of landholdings and facilities. At the Administration Office, minor office renovations are planned, and annual building maintenance will include replacement of worn carpet and painting. Exterior landscaping and property security improvements are also planned.

Acquisition Opportunities

CLOCA continues to pursue land acquisition opportunities and funding opportunities in accordance with the Central Lake Ontario Conservation Authority Land Acquisition Strategy with an emphasis on implementing the Lake Iroquois Beach Securement Strategy and completing acquisition in important gaps within our conservation areas.



Purple Woods

Our Maple Syrup Festival facilities have been greatly improved over recent years, and staff continue to replace and extend the tap lines with modern collection tubing in the maple bush.



Storoshchuk Restoration

Restoration of the abandoned aggregate pit on the Storoshchuk Tract in Enniskillen Conservation Area will continue throughout 2020. The purpose of this restoration project is to restore the valley wall and return the terrain to its original form, eliminating the hazards associated with the eroding slopes, improving vegetation communities and habitat connectivity. This work will be undertaken by a local contractor and monitored by CLOCA.



Conservation Landholdings Master Plan Development

CLOCA's lands support and help to sustain Durham Region's critical natural resources including water, aquatic, terrestrial and wildlife habitats. These are the same areas that Durham residents visit to enjoy and experience nature. Continued increases in population will result in a rise in the number of visitors to CLOCA's Conservation Areas. The infrastructure and development necessary to support this growth will significantly impact our watershed resources. As such, CLOCA must be confident that our conservation areas adequately protect the Region's critical natural resources and that these areas can continue to provide appropriate recreational and educational needs. CLOCA staff have been working on development of a Conservation Landholdings Master Plan. This plan will guide current and future decisions with respect to land needs and management needs for the next 50 years.

	A Land Managen			
	2020	2019	2019	2018
	Budget	Budget	Actual	Actual
Revenue				
General Levy	622,590	723,245	680,033	745,919
Municipal Special Levy	235,000	85,000	85,000	85,876
Other Grants Federal	70,000	53,600	-	69,902
Other Grants Provincial	-	20,000	20,878	16,207
Other Revenue	38,000	44,350	40,491	43,854
Other Grants	-	-	-	6,304
Reserve Transfer	(49,750)	(59,275)	(52,079)	(7,985)
Deferred Revenue	88,000	-	-	(50,000)
Interest Earned	1,750	1,750	2,428	1,794
Pay & Display	120,530	111,000	137,896	129,700
Seasons Passes	20,000	20,000	22,131	22,240
Donations	73,000	73,000	74,500	101,479
Property Rental	59,350	58,680	63,042	59,822
Facility Rental Fees	2,000	16,500	16,939	18,825
Commercial Rent Signs	7,200	7,200	7,233	7,233
Fill Sites Large Application Fees	40,000	70,000	27,020	-
	1,327,670	1,225,050	1,125,514	1,251,170

Lynde Shores Conservation Area



CA Lan	id Managen	nent		
	2020	2019	2019	2018
Cost and Expenditures	Budget	Budget	Actual	Actual
Salaries & Wages	463,000	519,600	503,851	494,666
Salaries & Wages - Summer Student Program	35,200	51,300	51,343	39,572
Benefits	131,500	144,800	139,515	137,183
Staff Mileage	10,000	500	735	1,098
Administration Expense	17,850	17,420	17,420	17,000
Course Registration	4,000	5,000	3,163	4,910
Materials & Supplies	58,575	125,000	73,289	99,792
Publications & Subscriptions	8,600	2,600	1,966	1,008
Services	136,000	156,170	126,359	128,032
Water Sample Testing	200	200	420	420
Telephone	1,775	1,725	1,719	1,718
Hydro	15,700	16,250	12,440	12,829
Alarm	1,375	1,375	1,340	1,340
Gas	6,000	6,000	6,404	5,024
Cellular	4,600	4,960	4,875	4,394
Travel	1,200	1,200	1,086	1,930
Taxes	39,255	40,805	36,553	36,460
Insurance	9,475	7,245	7,203	6,764
Legal Fees	-	-	-	3,730
Audit Fees	1,700	1,600	1,721	1,640
Bank Service Charges	2,620	2,250	2,487	2,157
Land Acquisition	-	-	-	29,479
Permit/Approval Fees	-	-	-	1,000
Pay & Display Software Monitoring Fees	4,800	4,800	4,762	4,498
Construction Contracts	4,000	29,000	29,000	68,801
Consultant	-	-	6,905	-
Equipment	303,995	19,000	21,506	76,539
Equipment Rental	100	100	468	75
Vehicle Recovery	55,400	55,400	60,018	58,692
Equipment Recovery	10,750 1,327,670	10,750 1,225,050	8,965 1,125,514	10,422 1,251,170

Vehicles and Equipment

VEHICLES & EQUIPMENT

Usage of Authority vehicles and equipment are charged back to Authority projects and programs at a rate intended to cover the cost of operations. Included in the 2020 budget is the replacement of one vehicle.

Vehicles & Ec	quipment		
2020	2019	2019	2018
Budget	Budget	Actual	Actual
3 400	7.440	(10.226)	36,341
3,490	7,440		30,341
- 117,450	- 117,450	112,491	122,554
120.940	124.890	108.503	158,895
	,		
2020	2019	2019	2018
Budget	Budget	Actual	Actual
11,300	10,900	3,981	5,625
3,300	3,100	1,047	1,552
			18
3,240	3,240	2,403	2,837
20,500	20,500	19,502	23,337
21,000	27,000	24,806	27,373
3,000	3,000	1,507	1,259
12,900	11,450	11,392	10,912
2,000	2,000	1,663	2,669
15,000	15,000	15,317	28,294
26,000	26,000	25,982	51,497
2,700	2,700	904	3,500
			22
	2020 Budget 3,490 - 117,450 2020 Budget 11,300 3,300 3,240 20,500 21,000 3,000 12,900 2,000 15,000 26,000	2020 2019 Budget Budget 3,490 7,440 - - 117,450 117,450 120,940 124,890 2020 2019 Budget Budget 120,940 124,890 120,940 124,890 117,450 117,450 120,940 124,890 11300 10,900 3,300 3,100 3,300 3,100 3,300 3,240 20,500 20,500 21,000 27,000 3,000 3,000 12,900 11,450 2,000 2,000 15,000 26,000 2,700 2,700	2020 2019 2019 Budget Budget Actual 3,490 7,440 (10,226) - - 6,238 117,450 117,450 112,491 120,940 124,890 108,503 120,940 124,890 108,503 117,450 112,491 - 2020 2019 2019 Budget Budget Actual 11,300 10,900 3,981 3,300 3,100 1,047 3,240 3,240 2,403 20,500 20,500 19,502 21,000 27,000 24,806 3,000 3,000 1,507 12,900 11,450 11,392 2,000 2,000 1,663 15,000 15,000 15,317 26,000 26,000 25,982 2,700 2,700 2,700

Corporate Services

PROGRAM OPERATIONS

Corporate Services includes general direction, coordination and implementation of all approved Authority programs and policies; member services, governance, financial management and reporting, budgets, corporate records, Geomatics and Information Management Systems, health and safety, human resources, payroll and administration support for all programs.

Desktop Hardware and Software Upgrades / Maintenance

This includes the costs for ongoing licensing of software and the purchase of hardware to replace aging/outdated components.

Server/Network Infrastructure Upgrades and Maintenance

CLOCA has a heavy operational dependency on Information Technology, including Wide and Local Area Networks (WAN's and LAN's), database servers, intranet, internet and e-mail. The potential loss of operational control of essential IT services has the potential to have a negative impact on the flow of information and data that staff and stakeholders depend on daily.

CLOCA will continue work on the development and implementation of its hybrid cloud business continuity plan to lay the foundation for future expansion of the information technology infrastructure. In 2020, specific network infrastructure and licensing acquisitions are planned to secure the availability of all applications and services to users.

Conservation Authority's Application Development Shared Services Agreement

CLOCA, along with Mississippi Valley, Ganaraska Region, Kawartha Region and Otonabee Region Conservation Authorities have implemented a coordinated shared services application development program. CLOCA has been acting as the lead agency providing planning, development, operation and maintenance support for the Conservation Authority Content Management System (CACMS), Reference Library, Vehicle Bookings and other future applications. The shared services agreement is helping to standardize application development and business processes amongst the participating Conservation Authorities and ensure sustainability.

CLOCA Data Portal

CLOCA will continue its work on the data portal and tool development for staff, partners and the public to provide a gateway for exploring and retrieving information about the Authority's watersheds. This portal directs you to various interactive mapping, reporting and data download tools to help partners and the public find the information they need. The data portal leverages the information stored in the Water Information System and the Authority's spatial data repository.

The Central Lake Ontario Conservation's (CLOCA) Open Data community is where users can explore and download data, use and build innovative apps to solve important local issues, and analyze information to share with the community. CLOCA supports the idea that certain data should be freely available to everyone to use and republish as they wish, without restrictions.

Migration to Water Information System (WISKI)

Continue to enhance CLOCA's water and climate monitoring system (WISKI) to gain efficiencies in data collection, manipulation, and interpretation. The system will continue to expand to incorporate other business areas to facilitate data maintenance, analysis and dissemination of the Authority's monitoring information network.

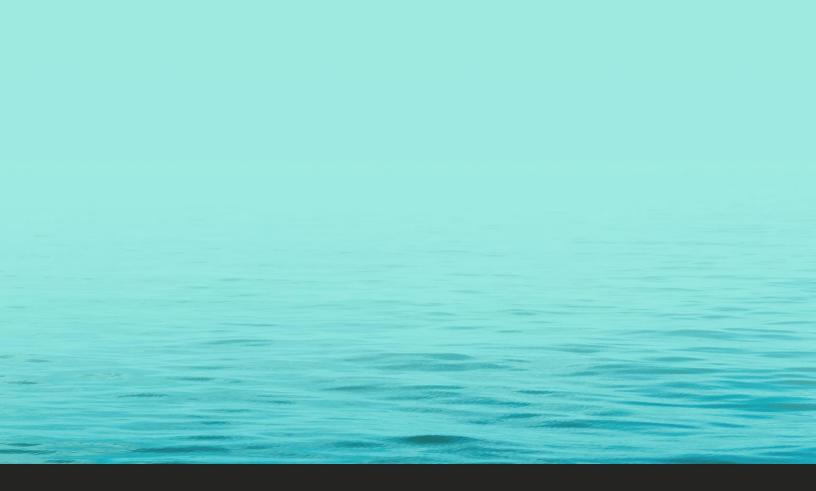
Office Environmental Monitoring

CLOCA continues to work through environmental site monitoring and risk assessments for contaminated land surrounding the administration office. An Environmental Risk Assessment is being completed over a period of three years to satisfy both **Environmental Protection Act and** Public Sector Accounting requirements.



Corporate Services								
	2020	2019	2019	2018				
Revenue	Budget	Budget	Actual	Actual				
General Levy	1,505,140	1,462,718	1,474,853	1,415,337				
MNR Transfer Payment	10,945	10,945	10,945	17,833				
Federal Grants	0	1,200	3,920	1,680				
Merchandise Sales	0	0	278	95				
Interest Earned	45,000	45,000	74,048	54,875				
OtherRevenue	90,400	89,500	111,680	92,414				
Sand Box Demo			1,111	1,334				
Reserve Transfer	0	50,767	0	-8,655				
Deferred Revenue	-8,500	2,025	-1,754	-10,524				
Administrative Services	29,400	27,500	31,767	34,829				
	1,672,385	1,689,655	1,706,848	1,599,218				

Corpo	orate Service	S		
	2020	2019	2019	2018
Cost and Expenditures	Budget	Budget	Actual	Actual
Salaries & Wages	955,250	904,350	929,919	839,323
Salaries & Wages - Summer Student Program	-	10,000	9,729	10,490
Benefits	265,850	227,150	232,877	209,562
Members Per Diems	8,500	8,500	7,500	5,800
Office Supplies	5,000	5,000	4,427	5,762
Postage	2,025	2,025	1,757	1,879
Printing	9,000	9,000	8,207	8,415
Promotion	225	100	274	111
Uniform Purchases	4,200	7,300	8,033	7,729
Travel	1,835	3,200	3,409	4,219
Cellular	2,120	2,400	2,103	2,233
Bank Service Charges	6,500	5,500	6,507	5,323
Payroll Processing Fees	7,425	7,475	7,935	7,474
Publications & Subscriptions	10,600	12,100	10,035	9,195
Materials & Supplies	18,000	14,500	19,655	20,021
Equipment Rental	15,200	15,200	13,631	15,193
Equipment/Capital Assets	56,150	155,200	103,116	169,017
Services	91,000	100,300	123,915	97,509
Consultant Fees				1,374
Property Taxes	9,000	6,000	8,769	8,991
Utilities	44,400	41,600	43,365	41,061
Insurance	35,855	30,555	30,666	28,825
Legal Fees	15,000	15,000	16,483	13,989
Audit Fees	22,000	20,000	20,092	18,097
Donations	400	400	185	312
Staff Mileage	2,550	1,750	2,162	1,855
Software	21,000	18,500	23,057	13,409
Course Registration	20,000	24,500	29,553	12,176
Vehicle/Equipment Recovery	9,500	9,500	6,937	8,759
Conservation Ontario Levy	33,800	32,550	32,550	31,115
	1,672,385	1,689,655	1,706,848	1,599,218





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