



**KAWARTHA
CONSERVATION
ANNUAL REPORT
2018**

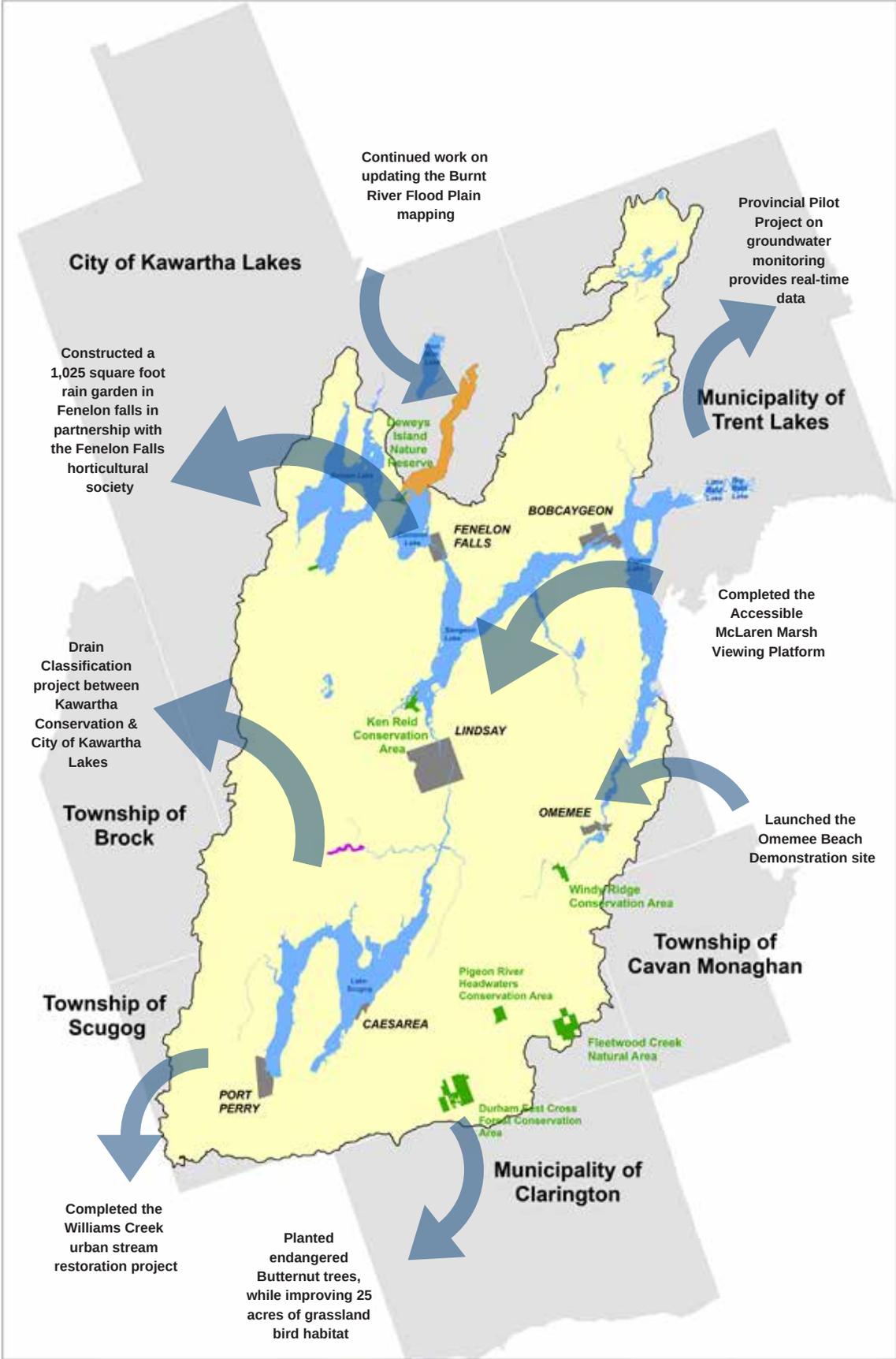
Leaders in Integrated
Watershed Management



**KAWARTHA
CONSERVATION**

Discover • Protect • Restore

2018 WATERSHED OVERVIEW



MESSAGE FROM THE CHAIR AND CAO

There is no greater feeling than seeing people truly happy. The look of pure joy while spending time with friends, family, children, parents, or just quiet moments alone where the concerns of daily life are a world away.

We were fortunate in 2018 to see so many people enjoying those moments in our conservation areas, and in our forest bathing and education programs, seniors' hikes and community events.

2018 was a year of special moments, and the recurring theme was people: connecting with the community, connecting people with nature, and providing continued value to the community.

Through our active and engaged citizen science programs to our nature camps, summer camps, Bluescaping projects, community-focused programs, lake management implementation plans, floodplain mapping initiatives and more, every day people were at the forefront of our business.

Our science-based programming, , planning and permitting activities working to conserve the value of our landscape and protect development investment, academic partnerships and climate adaptation continue to put the health of our watershed, and safety of our watershed residents, at the forefront of what we do.

Through our vision, our mission and our focus we believe that working with our community, and for our community is paramount. Fostering valued partnerships, collaboration, and trust is resulting in short, and long-term tangible benefits that matter to our entire watershed community.

We are pleased to be able to share with you some of the many highlights, activities, accomplishments and special moments that we were able to celebrate during the past year. We look forward to continuing to strengthen relationships within the community and create special moments residents and visitors alike will cherish for years to come.



Ted Smith
Chair



Mark Majchrowski
CAO

Our VISION

A sustainable watershed with clean and abundant water and natural resources assured for future generations.

Our MISSION

To be leaders in integrated watershed management and conservation.

Our FOCUS

Outstanding water quality and quantity management, support by healthy landscapes through planning, stewardship, science and education.

2018 BOARD OF DIRECTORS

CHAIR

Ted Smith
Region of Durham
(Township of Brock)

VICE-CHAIR

Peter Raymond
Municipality of Trent Lakes

Pat Dunn - City of Kawartha Lakes
Gord Miller - City of Kawartha Lakes
Isaac Breadner - City of Kawartha Lakes
Ron Hooper - Region of Durham (Municipality of Clarington)
Don Kett - Region of Durham (Township of Scugog)
Tom Rowett - Region of Durham (Township of Scugog)
Jordan Landry - Township of Cavan Monaghan



PLANNING AND REGULATION

The Planning and Regulation department provides a service to municipalities and our watershed community through the environmental review of development applications (under the Planning Act) and inquiries, and through permitting of development activities in areas prone to natural hazards, such as flooding, unstable soils, and steep slopes, and in relation to watercourses and wetlands.

In reviewing planning applications, Kawartha Conservation provides advice, recommendations, and specific conditions for development to ensure proposals have regard for public safety and the environment as well as protecting the investment of our customers.

The department generates revenue through the collection of fees from developers and property owners, including information requests, that help offset the cost of providing plan review and permit services. In 2017, the Kawartha Conservation Board endorsed an increase in the Planning Review and Permit Fee Schedules which took effect at the beginning of 2018.

Planning and permitting applications and functions continued to be busy in 2018 with 607 total permits applied for, including:

- 39 Severance
- 45 Minor Variance
- 2 Official Plan Amendments
- 9 Subdivision
- 16 Zoning By-Law Amendments
- 6 Site Plan Approvals
- 17 Information Requests
- 36 Legal Inquiries
- 437 Permit Applications

Enforcement

- Complaints Received: 35
(14 confirmed as violations)
- Remediation Agreements Issued: 22
- Violations Resolved: 20
- Permit Inspections Completed: 13

Information Management System

- In 2018 Kawartha Conservation continued to work towards the implementation of an Information Management System (IMS). This system is a digital means for sharing information across departments throughout the organization. The implementation of IMS will allow for better tracking of records, increase workflow, and result in greater efficiency across the organization.



DRAIN CLASSIFICATION

A partnership between the City of Kawartha Lakes and Kawartha Conservation, this program will help expedite the maintenance of municipal drains through the collection of field information and rating of municipal drain segments according to the Department of Fisheries and Oceans Classification system. Field data relating to flow and fishes was collected on approximately 150 sites on existing municipal drains. As part of the project \$8,000 was leveraged from the Department of Fisheries and Oceans.

Flood Plain Mapping

Knowing the extent of the flood plain is an important tool for land use planning and emergency management. This knowledge helps guide land use away from high-risk areas and for areas where historical development has already occurred, helps to identify ways to mitigate flood risk. The intent of flood plain mapping is to better protect people, property and their investments.

Work continued on a number of priority flood prone areas in the City of Kawartha Lakes, including Mariposa Brook, Dunsford Creek (Emily), Bobcaygeon Tributary, and Burnt River.

Federal funding was received through the National Disaster Mitigation Program in the amount of \$100,150 for future work on the McLaren's Creek and Fenelon Falls South Flood Plain Mapping studies.

Lake Management Plan Implementation

Healthy lakes are essential to the economies of our municipal partners. The Kawartha Lakes, in their entirety, are considered to be the second largest recreational fishery in the province, as well as one of the highest ranking tourist destinations. Clean, healthy lakes are a driving component of the popularity of the area as a destination for both residents and visitors. Lake Management Planning helps ensure adequate measures are being taken to protect our lakes, residents and visitors for years to come.

High priority recommendations identified within several lake management plans are implemented to improve shoreline conditions, near shore water quality and overall lake quality.

These recommendations are based on significant public engagement and community and stakeholder consultation held through the development of the lake management plans.



OMEMEE BEACH DEMONSTRATION SITE

The Omemee Beach Demonstration site is a Bluescaping initiative consisting of the removal of invasive phragmites, water diversion from a nearby picnic shelter, shoreline naturalization, as well as a 162 square foot rain garden.

As part of the Omemee Beach Bluescaping project, 540 Bluescaping guides were distributed through Omemee with more than 570 residents engaged regarding the well-received initiative.

The project was made possible through grants from RBC and the Ministry of Environment, Conservation and Parks Great Lakes Guardian Community Fund.

Healthy Shoreline Program

In 2018 we offered an incentive program that allowed shoreline property owners to receive an onsite visit to discuss shoreline naturalization with a stewardship technician. A tailored planting plan was created for each property and native plant species were suggested. Landowners were eligible for up to \$200 in matching native plants when they purchased \$200 for their shoreline project. A total of 21 shoreline property owners received site visits, resulting in 21 tailored planting plans.

Lake Scugog Enhancement Project

The Lake Scugog Enhancement Project is an environmental improvement and dredging project for Port Perry Bay in partnership with the Township of Scugog and the Scugog Lake Stewards that will ultimately benefit the entire lake. The range of benefits is broad, including environmental, social, economic, tourism and recreation.

- Held second round of public consultation and a 30 day public commenting period as part of the Municipal Class Environmental Assessment process.
- Performed additional geotechnical study to determine the stability of the lake bed foundation to support the berm and pedestrian bridge areas.





BLUESCAPING

Eight urban stewardship workshops were held throughout Durham Region and the City of Kawartha Lakes, providing information on stormwater management, native plants and urban stewardship to residents.

- Fenelon Falls Rain Garden: As part of the Bluescaping program a 1,025 square foot rain garden was installed in Fenelon Falls in partnership with the Fenelon Falls Horticultural Society.
- Williams Creek restoration site: Removed invasive Japanese knotweed and 20 metres of the shoreline was rehabilitated with natural rocks and 330 native plantings.
- Rain Barrel Sale: 168 rain barrels and accessories sold to the public, which will help divert 42,960 litres of rainwater allowing resident to both harvest the rain as well as prevent unnecessary runoff.



Landowner Incentive Funds

- 6 projects completed in Durham Region
- \$14,310 in landowner grants
- \$36,699 in landowner contributions

Types of Projects

- 3 well decommissioning projects
- 1 manure management project
- 1 well upgrade project
- 1 septic system upgrade project

ACADEMIC PARTNERSHIPS

Kawartha Conservation works with a number of post-secondary institutions, including Fleming College (SSFC), Trent University and the University of Ontario, Institute of Technology (UOIT). Academic partners play a role in furthering our science, and collaborating and partnering with faculty and students is occurring in a number of our programs to benefit the watershed.

Our staff provide training on industry standard techniques for water monitoring to SSFC students who then use this training to collect local information on our urban streams in Lindsay, including Jennings Creek, Sucker Creek, and Albert Street Stream. The program is part of an annual and long-term monitoring program to track changes in urban streams in Lindsay.

UOIT is an active on the ground partner while academia such as Trent and Lakehead Universities are part of our Science and Technical Committee and provide important links and knowledge sharing.

In 2018, the partnership study with Queen's University P.E.A.R.L. (Paleoecological Environmental Assessment and Research Laboratory) and the KLSA (Kawartha Lakes Stewards Association) on a multi-lake (Cameron, Stoney and Pigeon) paleolimnological study continued. Paleolimnology is the multidisciplinary science that uses the physical, chemical, and biological information preserved in sediment profiles to reconstruct past environmental conditions in inland aquatic systems.

The study results will help inform future lake management planning decisions by providing a clearer understanding of how past actions and situations have impacted lake quality over time.

Advancing Water Quality Research

In partnership with the Ministry of Environment, Conservation and Parks and Otonabee Conservation, an article was published in a scientific journal Environmental Monitoring and Assessment titled: Coarse Taxonomy (tolerance-value averaging) biases Hilsenhoff's family-level biotic index Testing how well detailed versus coarse level identification of stream bugs performs when using to assess the quality of streams in Ontario. The research tested whether or not it was feasible to use 'less detailed' stream bug identification for the purposes of identifying the water quality in our streams, ultimately reducing the cost and resources required. The study found that after examining data from numerous Ontario streams, this less detailed approach does not yield reliable results and is not advisable for use as a cost-savings substitute for 'more detailed' bug identification in calculating the water quality ratings for our Watershed Report Cards.

UOIT

- Lake Scugog water quality, vegetation, macroinvertebrate survey.
- Collecting and analyzing samples at the UOIT lab for citizen science near shore water quality study in Lake Scugog.

Fleming College

- Guest lectured students on Watershed Planning and Monitoring, GIS and more
- Provided training opportunities for students through placements and class fieldwork
- Ongoing monitoring and training program, showcasing industry standard netting techniques and fish identification

Fleming and Kawartha Lakes Stewards Association

- Provided technical assistance and equipment in a Credit for Product research project.
- Students studying Status of Dissolved Oxygen Levels in Pigeon, Lovesick, and Stony Lakes.

Streambank Stewardship Initiative

- 2,585 feet of riparian area was naturalized across the three properties
- 80 Fleming Students participated
- 1,034 plants, trees and shrubs planted
- 767 feet of livestock exclusion fencing installed to protect the new plantings



MONITORING WATER QUALITY

Sensitive Streams Water Temperature Monitoring

Of the approximately 2,876 km of streams and rivers that exist within Kawartha Conservation's jurisdiction, 588 km or 21 percent are classified as sensitive coldwater aquatic ecosystems.

Our monitoring Program evaluates how well coldwater streams are doing within the watershed, in terms of their existing thermal range and whether or not they are likely to remain capable of supporting sensitive coldwater aquatic life. Water temperature data has been routinely collected at approximately 30 locations along known coldwater streams since 2006.

These systems support sensitive aquatic life such as Brook Trout, which are of particular management concern because their populations across southern Ontario are in widespread decline.

Urban Streams Aquatic Biomonitoring

In 2016, technical staff initiated a project to characterize the aquatic ecosystem of small streams that flow through urban areas of Lindsay, Port Perry, Fenelon Falls, Bobcaygeon, and Omemee. This is done by collecting bottom dwelling stream bugs (such as insects, crustaceans, worms, and snails) and key habitat characteristics such as substrate, flow, and channel dimensions. The intent is to sample 50 sites over a 5 year period. The purpose of this project is to determine how well urban streams are doing with dense urban development all around them.

SOURCE WATER PROTECTION

The Source Water Protection program helps to implement a multi-barrier approach to strengthen the protection of municipal drinking water sources by educating and information residents about these systems and helping to assist municipalities in their efforts to implement source protection. Staff not only attended multiple events to provide educational materials to the public on how to protect their sources of drinking water, but they also attended training sessions with real estate agents and emergency responders to share information on the locations of vulnerable areas and the policies that may affect land owners purchasing property within these areas.

Through an agreement with the City of Kawartha Lakes, Kawartha Conservation provides services to the community which focus on the development of plans with landowners to ensure their activities will not have an impact on water supplies. Twenty-one activities that could have an impact on water supply are now managed through these plans. A number of development applications that have been proposed adjacent to municipal water supply locations have been reviewed and 29 notices were issued to ensure that local municipal water systems are protected.



- Watershed Conditions Statement – Water Safety – 7
- Watershed Conditions Statement – Flood Outlook – 2
- Flood Watch – 2
- Flood Warning – 2

FLOOD FORECASTING AND WARNING

Flooding

A significant flooding event occurred in February 2018 resulting from melting snow and rain. Total amount of rain measured around the watershed was 35-45 mm (highest for February since 1985). Water levels in local rivers and streams within the watershed reached high levels; and on the Mariposa Brook and Nonquon River it overtopped the highest historical records. Road and property flooding as well as ice jams were been observed.



Watershed and Climate Change Monitoring

Under the Ontario Low Water Response program, and in partnership with the Region of Durham, we have received \$8,000 that allowed us to continue enhancing precipitation monitoring by adding an all-weather precipitation monitoring gauge to the climate monitoring station in Port Perry. This gauge will allow Kawartha Conservation to improve winter precipitation monitoring. It is especially important in monitoring of mixed and freezing precipitation that are becoming more frequent in the changing climate.

Groundwater Monitoring

We are continuing to monitor groundwater resources within the watershed through 13 wells that are part of the Provincial Groundwater Monitoring Network. We are participating in a pilot project with the Ministry of Conservation, Environment and Parks through which real-time data transmission equipment was installed in 3 wells.



EDUCATION

Kawartha Conservation's Education Programs meet provincial curriculum standards and focuses on environmental issues that are important today. Education programs also complement and enhance classroom learning by providing students with hands-on activities and experiences. Educational and experiential opportunities are also provided for adults.

- 4 Forest Therapy Walks held at Ken Reid Conservation Area
- 9 Senior's Walking In Nature events held at Ken Reid Conservation Area
- 13 Nature Day Camps held in July and August for 4-6 year olds
- 12 Week Parent and Tot program held from May to August
- Partner in the Regional Centre for Excellence for Peterborough Kawartha Haliburton Sustainability Education Network
- Provided a 2 day leadership workshop for students between the ages of 13-15

School Groups

- More than 500 students took part in education sessions in 2018
- 12 education sessions held between May and June to 9 different local schools
- Hosted the Trillium Lakelands District School Boards Eco-Summit at Ken Reid Conservation Area with more than 150 students from Grade 3-8. Kawartha Conservation delivered 4 different workshops focusing on Water Bugs, Shelter Building, Orienteering and Invasive Species
- Attended the Nonquon Education Centres Wetland Festival in May, and delivered a wetland workshop to Grade 7/8 students from the Durham Region District School Board
- Attended STEM night at Prince Albert Public School, provided a Water Bugs exhibit
- Attended the Kawartha Haliburton Children's Water Festival in October, seeing over 1200 students in two days where we delivered a wetland workshop
- 21 kids attended our first ever P.A. Day Camp on October 26th. The theme of the day was Fall/Halloween

Summer Camp Programming

- 110 participants in our Nature Explorer Camps in July/August
- 45 participants in our Nature Day Camp programs in July/August
- 11 parents with their tots participated in our May-August program
- 10 students participated in our first Youth Leadership Workshop. As part of this program students participated in a two day workshop learning about leadership skills and outdoor education after which they volunteered at one of our Nature Explorer Camp weeks





CONSERVATION AREAS

Kawartha Conservation owns over 800 hectares of natural areas including valley lands, headwater tributaries, provincially significant wetlands, rare habitats, and forests with sensitive interior habitat. We manage another 440 hectares through agreements with the Ontario Heritage Trust and the Nature Conservancy of Canada. Our conservation areas provide over 35km of locally significant trails that provide opportunities for hiking, nature appreciation, horseback riding, nature photography, and more.

Spring 2018 started with the completion of the marsh viewing deck at Ken Reid Conservation Area. This exciting project offers visitors a great opportunity to observe the myriad of life that exists in McLaren's Marsh including our resident swans, a nesting pair of osprey, turtles, snakes, and beavers.

Several intense windstorms kept Conservation Areas staff busy in May and June with close to 100 trees that fell on, over, or by trails in our five conservation areas.

Network and Partners Relationship Strengthening

- Partnered with Bee City for the creation of pollinator patches
- Partnered with Fleming College for trail creation
- Strengthened relationship with Durham Regional Police Services to increase security and compliance at Durham East Cross Forest leading to 13 charges being laid and 10 warnings issued
- Partnered with Fleming College Restoration Ecology Course to plan for the enhancement of ecological value of areas within Durham East Cross Forest and Ken Reid
- Partnered with Community Care for a volunteer trail steward program at Ken Reid

Building Projects and Upgrades

- Completed marsh viewing deck at Ken Reid
- Constructed accessible washroom at Ken Reid
- Over 35 km of trail maintained for visitor safety and enjoyment.
- Built and installed 212 feet of puncheons
- 700 m of trail constructed at Pigeon River
- Remarketed trails at Durham East Cross Forest and Fleetwood Creek
- Installed new septic system at Ken Reid



STEWARDSHIP

Native Plant Distribution Program

- More than 1,700 native plants sold
- \$8,430.00 in sales

Tree Seedling Program

79 orders for tree seedlings were taken in 2018, totalling more than 11,000 seedlings and \$13,000 in sales.

Tree Day

- Two TD tree day events
- Rivera Park in Lindsay, where 150 trees were planted
- Scugog Landfill legacy site where 300 trees were planted
- 80 volunteers



HABITAT RESTORATION

The goal of this program is to create or improve habitat for species at risk through restoration efforts on Conservation Area Lands. This can be achieved through plantings, or other management activities, including the removal of invasive species, mowing grasslands, and improving wetlands.

- Planted 20 DNA tested Butternut trees (endangered) and 20 companion trees
- Improved over 25 Acres of Grassland Bird habitat for the threatened Bobolink and Eastern Meadowlark
- Removed Invasive Scots Pine
- Planted 12,000 plugs of native grasses and 32 kg of native grass seeds



CHRISTMAS AT KEN REID

Christmas at Ken Reid was a watershed-based community event to engage, entertain and bring together families, individuals, businesses and other not for profit organizations to celebrate the holiday season.

Thanks to a \$10,000 Aviva Community Fund grant, and the generous support of our local business community, we were able to provide this extremely popular and well received event, free for everyone.

The day featured musical entertainment, interactive animal displays, horse and wagon rides, refreshments, Indigenous storytelling and drumming, kids crafts, along with Santa and Mrs. Claus.



- \$10,000 Aviva Community Fund Grant
- More than 800 visitors from across the watershed
- 14 community businesses supporting
- 33 volunteers
- 170 volunteer hours



FINANCES

This financial information is condensed from the Board of Directors' Approved 2018 Budget Summary. The complete auditor's report for the year ended December 31, 2018 is anticipated to be available in April 2019, copies of which will be available upon request.



- 6% Projects Grants
227,300
- 2% Government Grants
65,000
- 42% Municipal Operating Levy
1,522,100
- 16% Municipal Special Benefiting Levy
556,800
- 5% Municipal Agreement
190,500
- 29% Program Generated Fees
1,051,300

- 2% Amortization
60,000
- 5% Municipal Agreement
190,500
- 2% General Benefiting Projects
85,900
- 19% Special Benefiting Projects
718,200
- 20% Planning, Development & Engineering
753,600
- 15% Integrated Watershed Management
574,600
- 17% Stewardship & Conservation Lands
657,700
- 20% Corporate Services
757,400



GET SOCIAL WITH KAWARTHA CONSERVATION



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