



2015 ANNUAL REPORT



LAKEHEAD REGION CONSERVATION AUTHORITY

The Lakehead Region Conservation Authority (LRCA) is a community-based environmental agency. We are responsible for the wise management of renewable natural resources in our watershed. Conservation Authorities undertake a broad range of programs, including: watershed management, erosion control, flood forecasting & warning, recreation & land management, water level monitoring, plan input & review, environmental education, community outreach and stewardship. The LRCA's Area of Jurisdiction includes over 2,700 km², and is comprised of our eight Member Municipalities (see map on back cover).

BOARD MEMBERS

Bill Bartley, Chair City of Thunder Bay

Donna Blunt, Vice-Chair Municipality of Shuniah

Grant Arnold *Township of Conmee*Ed Chambers *Township of Dorion*

Wendy Wright Township of Gillies

Erwin Butikofer *Municipality of Neebing*

Jim Vezina *Township of O'Connor*

Jim Byers *Municipality of Oliver Paipoonge*

Ken Boshcoff City of Thunder Bay
Andrew Foulds City of Thunder Bay
Linda Rydholm City of Thunder Bay

STAFF

Mervi Henttonen General Manager/Secretary-Treasurer

Tammy Cook Watershed Manager
Michael Heath Finance Manager

Ryne Gilliam Field Operations Supervisor

Ryan Mackett Community Stewardship/Public Relations Officer

Melanie O'Riley Administrative Clerk/Receptionist

Roman Augustyn SWP GIS/Data Specialist
Scott Drebit GIS Technician/Planner

Gene Kent Special Projects/Education (Contract)

Various seasonal, contract and intern positions are also filled, as needed, on an annual basis.



EXCITING CHANGES AT THE LRCA

New Website

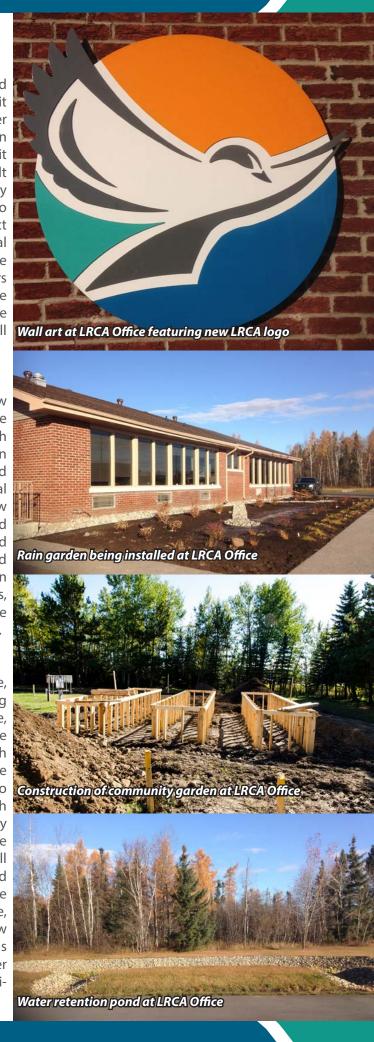
In order to enhance the resources available within the Lakehead Watershed, the LRCA undertook a complete re-build of its website. Visit www.lakeheadca.com for a plethora of valuable information. Whether you are looking for flood forecasting information or wish to book an education program, or if you are a homeowner that requires a permit application or an avid user of our Conservation Areas, the newly re-built Conservation Authority website has been designed to be a community resource. The website offers trail maps and driving directions to our Conservation Areas, homeowner resources on Low-Impact Development, downloadable brochures, interactive maps, educational information for teachers, permit applications and so much more. We hope that by having a clear, concise, easily navigable website, members of the community will be able to guickly access vital information. The new website also incorporates a quick and easy way to sign up for the LRCA E-Newsletter, so be sure to sign up so you can be in-the-know of all Wall art at LRCA Office featuring new LRCA logo the latest information from the LRCA.

New Visual Identity and Re-Branding

The LRCA was proud to present our new look in 2015, including a new logo, new official colours and new fonts. The timing was right for the LRCA to re-brand and establish this new visual identity to coincide with the unveiling of our new website, which incorporates the new design elements. In an effort to solidify our brand and our messaging, and anchor ourselves as a valuable community resource, this new visual identity clearly and effectively reflects the message of the LRCA. Our new logo features a re-purposing of the iconic Whiskey Jack (Grey Jay) found in the original logo, however the bird is now soaring with wings spread in watchful stewardship over the land and residents of the Lakehead Watershed. The colours represent green land, blue water and a golden sky symbolizing warmth and positive health. These new design elements, which are proudly on display throughout this publication, will continue to be adopted by the LRCA across all media produced by the Authority.

Continuation of Work at the LRCA Administrative Office

In continuing with the renovations at the LRCA Administrative Office, work has now moved on to the office grounds. Some very exciting elements have been incorporated into the plans, including a greenhouse, a community garden, low-impact development demonstrative installations and more. With the newly-completed recreational path along Golf Links Road bringing many people past the LRCA Administrative Office, we want to ensure the public is aware that our office is open to the public Monday to Friday from 8:30 a.m. - 4:30 p.m. (closed for lunch from 12:00 p.m. - 1:00 p.m.). A pathway connects our property to the City of Thunder Bay's recreational path, and bike racks will be installed. The community garden, which is planned to launch in spring of 2016, will allow residents to access space for growing fruits and vegetables and more. More information will be made available in the future, so be sure to check our website. In keeping with the theme of community resource, the public will be able to visit the LRCA Administrative Office and see how low-impact development solutions can be adopted to their property, as well as learn about various aspects of the Lakehead Watershed and other topics through presentations and workshops based out of the Multi-Purpose Room.



AROUND THE WATERSHED

Stewardship

The Private Landowners Tree Seedling Assistance Program was a success in 2015, with 11,854 tree seedlings being planted, including 344 two-year old seedlings planted by LRCA Staff on LRCA-owned property along McVicar Creek, as well as at Cascades Conservation Area. As a result of the program, approximately 118,073 seedlings have been planted in the Lakehead Watershed since the program's inception in 2009. The LRCA would like to thank the generous support of Hydro One in 2015 for their contribution to the program. The program will be offered in 2016 once again with the generous support of Hill's Greenhouses.

The LRCA offers various workshops and presentations in the Multi-Purpose Room at the LRCA Administrative Office located at 130 Conservation Road. Be sure to check our website frequently for events information during 2016.

Watershed Health

Annually, a Watershed Assessment of a local river or stream is conducted by staff. In 2015, the Mosquito Creek Watershed was studied. The watershed covers 31.8 km² within the City of Thunder Bay, Municipality of Oliver Paipoonge, Fort William First Nation and Municipality of Neebing. At the time of assessment, the Mosquito Creek Watershed was considered to be in good health. The full report can be accessed from the Authority website.

Hazelwood Lake Conservation Area did not have any beach advisory's posted in 2015. The last time a beach advisory was posted was in 2007.

In partnership with the Ministry of the Environment & Climate Change (MOECC), the LRCA monitors nine wells throughout the watershed as part of the Provincial Groundwater Monitoring Network. The wells record groundwater levels every hour and are sampled for water quality once per year. Data is used to monitor the groundwater conditions in the area. The LRCA also monitors the surface water quality of five area watercourses: McVicar Creek, McIntyre River, Current River, Slate River and Neebing River. Water samples are collected and analyzed monthly at the MOECC laboratory during the ice free period. Data is used to monitor the long term water quality of the sampled streams.

In 2015, the LRCA, with funding provided by the MOECC, hired certified wetland evaluators to assess the identified un-evaluated wetlands within the McVicar Creek Watershed. The 578.9 hectare wetland complex was comprised of 91% Black Spruce and Tamarack Swamp and 9% Marsh. The wetland complex scored 676 points using the Northern Ontario Wetlands Evaluation System (OWES), which exceeds the 600 points level used to define a Provincially Significant Wetland. Upon reviewing the study, the MNRF will determine if the McVicar Creek Wetlands are Provincially Significant; if found to be a Provincially Significant Wetland, the McVicar Creek Wetlands will be included in the LRCA Approximate Regulated Area, and development within that area will require permits under *O. Reg. 180/06* as administered by the LRCA.

Source Water Protection

Source Water Protection is implemented under the *Clean Water Act* by Conservation Authorities in the Province of Ontario to ensure municipal sources of drinking water are protected. The Lakehead Source Protection Plan applies to the City of Thunder Bay Bare Point Drinking Water System and the Rosslyn Village Drinking Water System in the Municipality of Oliver Paipoonge. The Source Protection Plan contains a series of policies developed by the Source Protection Committee in consultation with the local community to protect municipal drinking water sources from existing and future drinking water threats.



NEEBING-MCINTYRE FLOODWAY

The Neebing-McIntyre Floodway consists of three main components: the Diversion Structure; the Diversion Channel; and the widened and deepened Floodway that outlets into Lake Superior. The purpose of this engineering marvel is to provide riverine flood protection to the lower Neebing River and Intercity area.

The Neebing-McIntyre Floodway does not need to be turned on in order to operate. Everything works automatically. During high water events the Floodway operates without any required actions. The Diversion Structure limits flows down the lower Neebing River and diverts excess flows into the 1.5 km Diversion Channel which directs excess flows to the widened, deepened Floodway Channel to Lake Superior. As part of the Floodway's operation, maintenance dredging needs to occur every 20 years or so, depending on sediment buildup. Two sediment traps are also required to be emptied approximately every 7-10 years. This maintenance ensures that the Floodway remains operational and capable of handling rainfall up to and including the Regional Storm. The LRCA also hires two seasonal staff annually to undertake routine Floodway maintenance such as grass cutting, brushing, etc.

The third and final stage of maintenance dredging occurred in 2015. Phase III resulted in 17,627 cubic metres of sediment removed from the Floodway where it outlets into Lake Superior. Phase I dredging occurred in 2011 which removed 27,868 cubic metres of sediment, with Phase II taking place during 2012 with the removal of 12,529 cubic metres of sediment, for a total of 58,024 cubic metres of sediment being removed during the three phase maintenance dredging program. Over \$1.6 million was spent on Phase III during 2015.

During 2015 the Neebing-McIntyre Floodway did not divert. Typically the Floodway diverts on an annual basis, however due to an uneventful spring freshet and no major rainfall events within the Neebing Watershed, no diverting occurred.

The Neebing-McIntyre Floodway is an invaluable community resource. In addition to riverine flood protection of the lower Neebing River and Intercity area, the 38 hectares of land that comprises the Neebing-McIntyre Floodway has grown to include activities such as canoeing and kayaking, and the pedestrian trails provide the community with the opportunity to pursue a healthy lifestyle. The LRCA also utilizes the Floodway for educational purposes. Several guided hikes occurred along the Neebing-McIntyre Floodway throughout 2015 as part of the LRCA's Community Outreach programs.







Aerial photograph of the Neebing-Maintyre Floodway





Continuation of Phase III Dredging of the Floodway

WATERSHED MANAGEMENT

Planning & Regulation

The LRCA is responsible for developing and maintaining programs that will protect life and property from natural hazards such as riverine flooding and erosion and to conserve and enhance natural resources. In this effort, *Ontario Regulation 180/06: Development, Interference with Wetlands and Alterations to Shorelines and Watercourses* regulates development in areas where the control of flooding, erosion, pollution or conservation of land may be affected.

If you are planning on doing any type of work near a lake, river, stream or wetland within the LRCA Area of Jurisdiction, a permit from the LRCA may be required. As of November 2015, a total of 59 permits were issued.

As part of its delegated responsibility, the LRCA reviews all *Planning Act* applications on behalf of its Member Municipalities to provide comments related to natural hazards. In 2015, comments were provided on 189 Planning Act applications (as of November 2015).

Flood Forecasting & Water Level Monitoring

The LRCA monitors daily watershed conditions which help provide advance warning of high water levels, and in times of drought, low water levels. Depending on the severity of the weather and how high the water levels are, a Watershed Conditions Statement (Water Safety or Flood Outlook), Flood Watch or Flood Warning is issued to our Member Municipalities, emergency staff and the local media. During 2015, two Watershed Conditions Statements were issued (Flood Outlook), as well as one Flood Warning.

The LRCA also conducts snow surveys between November and May. Snow depth and weight (water content) are collected and forwarded to the MNRF's Surface Water Monitoring Centre as part of the Flood Forecasting Program.

As of the beginning of November, Lake Superior was 10 centimetres above the beginning of month average, and was 13 centimetres below the level one year prior. The Lake is approximately 32 centimetres below the 100 year flood level, which was observed in 1986, compared to record low lake levels observed in 2007.

On July 13th, 2015 an isolated flash flood occurred in the Whitefish River Watershed. Flood damage to roads and dwellings occurred in the Village of Hymers in the Township of Gillies and to some roads within the Township of O'Connor. Based on recorded flow, the event is estimated to have a return period between a 100 year event and the Regional Storm.

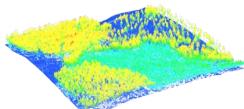
Floodplain Mapping

Work continued in 2015 to update the LRCA's existing floodplain mapping within the City of Thunder Bay. A public open house was held on November 4th in regards to the McIntyre River Floodplain Mapping Update, which saw an update to the 1985 McIntyre River Flood and Fill Line Mapping Study. Through the use of state of the art modelling, GIS techniques and LiDAR topography, these new Floodplain Maps will enable LRCA Staff to more accurately administer *O. Reg. 180/06*. For watershed residents whose property may be located within an identified floodplain, it is important to remember that the LRCA is mandated by the Province of Ontario to administer these regulations to prevent loss of life and property; the LRCA does not decide which areas need to be regulated.

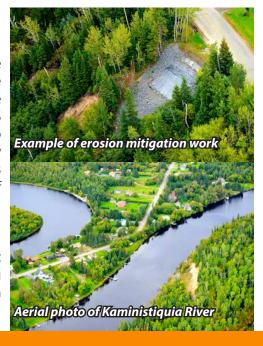
Erosion Control

Staff attended a Neebing Ward Meeting during 2015 and presented information about work done along the Kaministiquia River banks to help slow down erosion that is occurring in the area. To date, over \$5 million has been spent towards this project. Although erosion can never be stopped, all possible efforts are being made to try and slow it down.





Example of Lidear Managery



FLOOD WARNING SYSTEM

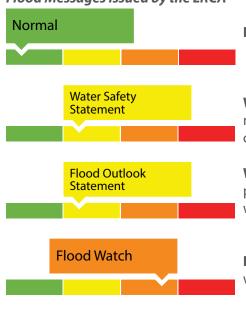
In Ontario the monitoring of weather and flood conditions is a shared responsibility of Conservation Authorities, Ontario Ministry of Natural Resources & Forestry (MNRF) and Environment Canada. MNRF monitors flows and levels of watercourses and weather forecasts at a Provincial level and issues Conservation Authorities Provincial flood messages. Conservation Authorities also monitor flows and levels on watercourses and weather forecasts within their area of jurisdiction at the local level. Environment Canada monitors the weather and provides weather forecasts to the public and agencies.

When warranted, based on the local analysis, Flood Messages related to possible or occurring riverine flooding are issued by the LRCA for the Authority's Area of Jurisdiction. MNRF Districts provide this service to areas not covered by Conservation Authorities.

The LRCA Flood Warning System operates most effectively with significant rainfall events with at least 12 hours forecast time. It is not designed to predict flood warnings as a result of high intensity, short duration thunderstorms.

There are three levels of Flood Messages issued by the LRCA: Watershed Conditions Statements (Water Safety and Flood Outlook), Flood Watch and Flood Warning (see below chart for more detailed information).

Flood Messages Issued by the LRCA



NORMAL: Conditions are within NORMAL limits. No flooding is expected.

WATERSHED CONDITIONS STATEMENT- WATER SAFETY: High flows, unsafe banks, melting ice or other factors could be dangerous for recreational users such as anglers, canoeists, hikers, children, pets, etc. Flooding is not expected.

WATERSHED CONDITIONS STATEMENT- FLOOD OUTLOOK: Early notice of the potential for flooding based on weather forecasts calling for heavy rain, snow melt, high wind or other conditions.

FLOOD WATCH: Indicates that there is the <u>potential</u> for flooding within specific watercourses and municipalities.

Flood Warning

FLOOD WARNING: Indicates that <u>flooding is imminent or occurring</u> within specific watercourses and municipalities.

Differences Between LRCA Flood Messages and Environment Canada Weather Statements

Environment Canada also issues Weather Statements to the public which are based on their public alerting criteria and use some of the same wording; however, these statements are based on their specific weather related criteria. Some examples include:

- SHORT DURATION RAINFALL EVENT WARNING: Issued when 50 mm or more of rain is expected within one hour.
- RAINFALL WARNING SUMMER: Issued when 50 mm or more of rain is expected within 24 hours; or when 75 mm of rain is expected within 48 hours.
- RAINFALL WARNING WINTER: Issued when 25 mm or more of rain is expected within 24 hours.
- SEVERE THUNDERSTORM WATCH: When conditions are favourable for the development of severe thunderstorms with one or more of the following conditions: wind gusts of 90 km/hr or greater; hail of two cm or larger in diameter; or heavy rainfall, per rainfall criteria (excluding winter).
- SEVERE THUNDERSTORM WARNING: When there is evidence based on radar, satellite pictures, or from a reliable weather spotter that any one or more of the above listed conditions in the "severe thunderstorm watch" are imminent or occurring.

Even though Environment Canada has issued a rainfall or severe thunderstorm watch or warning, the rainfall amounts may not result in riverine flooding; therefore, the LRCA will not issue a Flood Message related to the rainfall event.

CONSERVATION AREAS

Mission Island Marsh* Cedar Falls Cascades MacKenzie Point* Hazelwood Lake Little Trout Bay* Hurkett Cove* Silver Harbour*

Our Conservation Areas offer:

- *Five access points to Lake Superior; boat launches at Silver Harbour and Little Trout Bay
- Over 22 km of trails on over 2,500 hectares of Conservation Lands
- Picnic shelters, pavilions, interpretive panels, outdoor privies and barbecue grills (at certain Areas)

The LRCA pays property taxes on its Conservation Lands, and is required to carry liability insurance on those properties. Explore Card sales and \$2.00 per vehicle parking fees help offset the costs of owning, operating and maintaining these beautiful Conservation Areas.

Unique trails await you at Mission Island Marsh, Cedar Falls, Cascades, Hazelwood Lake, Little Trout Bay and Hurkett Cove Conservation Areas. The trails at each of these Areas offer their own distinct qualities, and range from a short stroll through the woods to a longer hike over picturesque terrain. Snowshoeing is also popular at several Areas, so don't let the cold weather keep you from exploring!

We would like to remind visitors that there are certain Regulations in place to ensure the safety and well-being of our visitors, as well as to protect the environmental health of the Areas. Please visit our website for a full listing of the Conservation Areas Regulations.

Let's keep Conservation Areas safe, clean and fun for everyone!







MacKenzie Point

AREAS UPDATE

Visitation to the LRCA's 8 Conservation Areas and two publicly accessible Forest Management Properties was huge in 2015. The busiest day of the year by far was Labour Day at Cascades Conservation Area, which saw over 419 vehicles at that one area alone. Through the use of newly-installed traffic counters at select Conservation Areas, the estimated number of visitors to LRCA-owned recreational properties is well over 282,000 people annually.

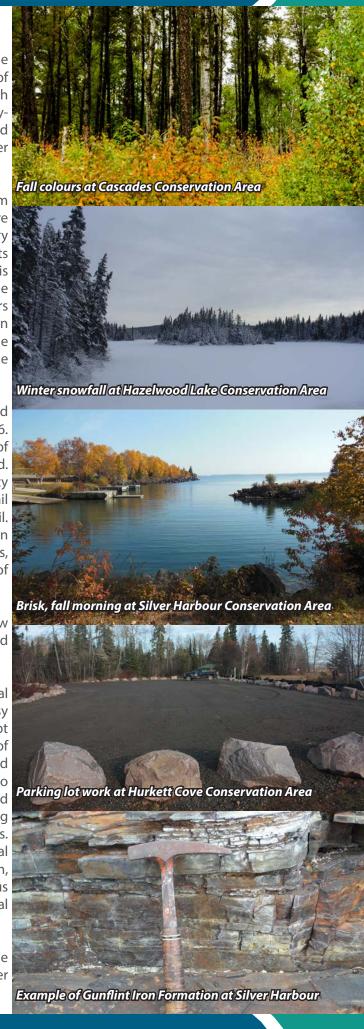
The LRCA received \$35,000.00 from Parks Canada for improved storm water management and parking lot improvements at Hurkett Cove Conservation Area, with additional funding provided by the Ministry of the Environment & Climate Change for design work. Improvements include grading and resurfacing of the parking lot to ensure runoff is directed away from Lake Superior, as well as the placement of large boulders to create a designated parking lot perimeter. These boulders will help protect the delicate coastal ecosystem at the Conservation Area. Although Hurkett Cove Conservation Area is located within the Lake Superior National Marine Conservation Area area of jurisdiction, the property is owned, operated and maintained by the LRCA.

LRCA Staff applied for several Great Lakes Guardian Community Fund grants during 2015 for potential projects to be undertaken in 2016. These potential projects include trail enhancements along stretches of trails at Mission Island Marsh Conservation Area that are severely eroded. Staff have also applied for funding from the Canada 150 Community Infrastructure Program in an effort to raise funds to turn a stretch of trail at Mission Island Marsh Conservation Area into a paved, accessible trail. LRCA Staff regularly apply for various grants throughout the year in an effort to fund projects and programs that benefit Conservation Areas, as funding for Recreation Land Management was cut by the Province of Ontario in 1995.

In 2016, Staff will be investigating the feasibility of creating a new recreational trail that would circumnavigate the entirety of Hazelwood Lake at Hazelwood Lake Conservation Area.

Each summer the LRCA employs four summer students and two seasonal staff. The summer student Conservation Areas Maintenance crew was busy all summer maintaining the Areas, while the River Clean-Up crew kept LRCA-owned properties along rivers and watercourses within the City of Thunder Bay looking sharp. In addition, summer students also assisted with bathing beach studies at Hazelwood Lake, conducted the Mosquito Creek Watershed Assessment, as well as assisting with special events and education programming. One of the big projects each summer is pulling garbage out of the Floodway and rivers along LRCA-owned properties. This past summer, LRCA Staff removed multiple truckloads of unnatural debris from rivers in the City, including discarded furniture, Styrofoam, tires, numerous alcohol containers and other bottles, as well as various shopping carts and other metal items. A big thank you to the seasonal staff and summer students who worked hard keeping our Areas clean!

LRCA Staff have discovered some unique geological features at some Conservation Areas, including meteor impact crater debris at Silver Harbour and glacial features at Hazelwood Lake and Cedar Falls.



COMMUNITY OUTREACH

Environmental Education

Education plays a large role in the LRCA's efforts to spread positive conservation and stewardship messages. Program topics include: orienteering, biodiversity, insects, animal tracking, pond studies and many others. Participants are engaged through outdoor experiences and "in-class" presentations.

New in 2015 was the Engaging Seniors in the Outdoors program, thanks to the TD Friends of the Environment Fund. Topics included: birding, dragonflies, wildflowers, trees and the Neebing-McIntyre Floodway. The LRCA will be offering similar programs in 2016.

The following statistics are representative of the LRCA's programming offered to schools and user groups within the Watershed:

- $\bullet \quad \, 51\,students\,participated\,in\,the\,pilot\,of\,the\,Watershed\,Connections\,Program$
- The 2015 LRCA Arbour Week program reached 402 students from 9 schools
- 535 participants from different user groups (including school classes, health centres and senior groups) visited Conservation Areas through our Environmental Education & Outreach Programming.

Partnerships & Sponsors

Partnerships and sponsorships are vital in enabling the LRCA to accomplish many valuable projects in the watershed. The LRCA would like to thank the following sponsors for their generous contributions in 2015:

- Ontario Power Generation
- Hydro One
- TD Friends of the Environment Fund
- Ministry of the Environment & Climate Change
- Parks Canada
- RBC Blue Water Fund.

Volunteers

The LRCA greatly values our volunteer community, which is made up of community members, employees of sponsoring businesses, local retirees, university and high school students, 55+ Centre members, etc. These volunteers assist the LRCA with data collection, environmental education programs, special events, fundraising initiatives, etc. Volunteer opportunities vary throughout the year depending on programs, projects, and funding allocations.

Events

The LRCA hosted several events throughout 2015, including:

- 5 Engaging Seniors in the Outdoors Programs
- Several guided hikes of the Neebing-McIntyre Floodway
- Silver Harbour Day
- Fall Mushroom Hike
- Trails & Tails Dog Adoption Fair
- Fall Waterfowl Viewing Day
- Birds of Prey Falconry Demonstration.

The LRCA also participated in several community events throughout the year. Be sure to check our website regularly for up-to-date events information.





LAKEHEAD CONSERVATION FOUNDATION

The Lakehead Conservation Foundation (LCF) raises funds for the LRCA's Land Management and Environmental Education programs. Funds are raised through several events held during the year, including the Annual Conservation Dinner & Auction and a new event in 2015, Wine Tasting at Whitewater.

The 2015 Fundraising Dinner & Auction was held on February 5, 2015 and raised over \$24,000.00. Tickets for the 2016 Conservation Dinner & Auction, to be held on February 11, 2016, are on sale now. Contact the Authority office for your tickets as soon as possible.

LCF President Andrea Goold presented Authority Chair Bill Bartley with a cheque for \$20,000.00 at this year's annual LCF cheque presentation. If you or someone you know is interested in volunteering or becoming a Foundation Member, contact the LCF at (807) 345-2377.

LCF MEMBERS

Andrea Goold, **President**Shelly Brown, **Vice-President**Ron Miller, **Secretary**Mary Provenzano, **Treasurer**Allison Bannister
Ken Boshcoff
Doug Guinn
Wendy Wright

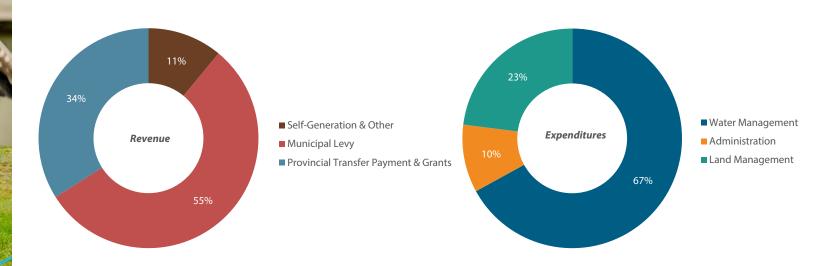


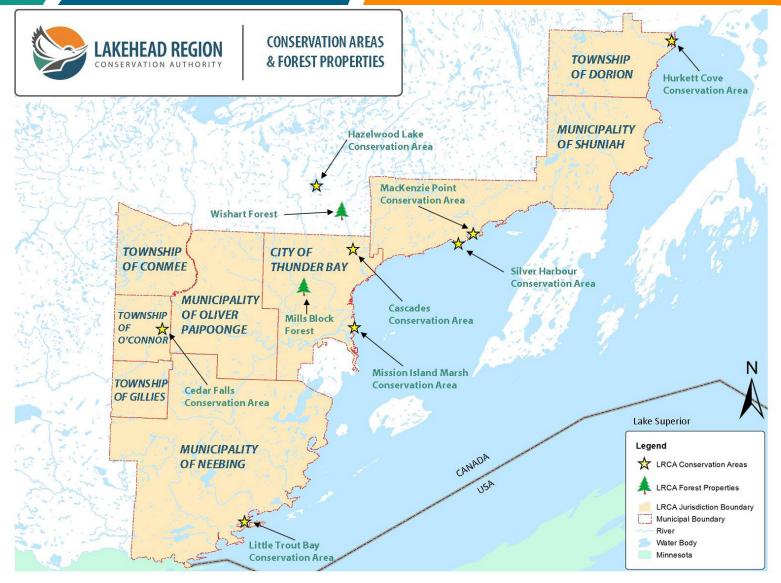


2015 FINANCIAL REPORT

The LRCA's budgeted 2015 revenue and expenditures totaled approximately \$3,049,545.00. Revenue is derived from three primary sources: Provincial/Federal Government Grants, Municipal levies and self-generation (comprised of user and parking fees, partnerships, donations and sponsorships). Source Water Protection activities are 100% Government funded. The LRCA gratefully acknowledges the support of clubs, agencies and businesses, the Lakehead Conservation Foundation and individuals making direct donations for making 2015 a successful year. The LRCA relies on grants, donations and other outside funding for its Environmental Education Program, and as such certain public events have fees attached. The LRCA is a registered charity, capable of issuing charitable tax receipts.

2015 was the beginning of a new chapter for the LRCA, and it is important to note that the time donated by volunteers is not factored into our operating costs, although their time and expertise is formally acknowledged in this Annual Report.





"TAKE NOTHING BUT PICTURES, LEAVE NOTHING BUT FOOTPRINTS!"





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www.lakeheadca.com

