



2019

Annual Report

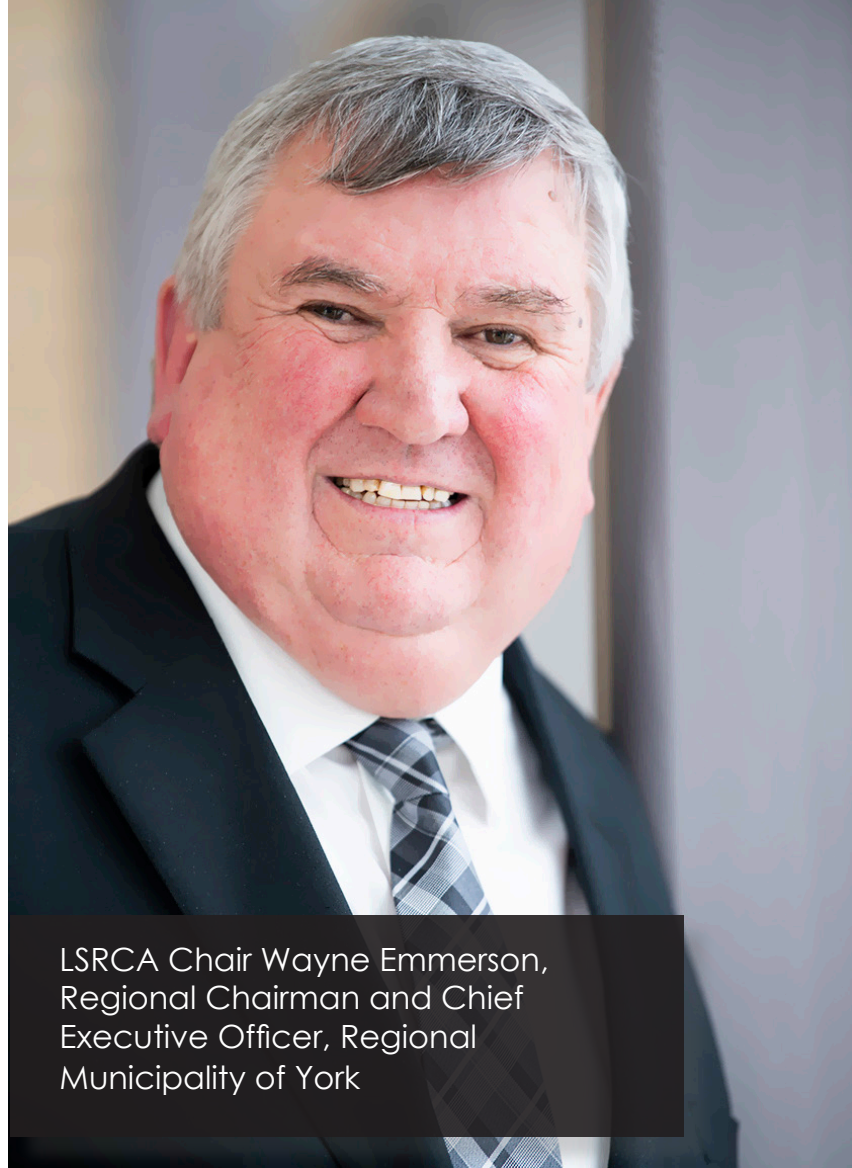


Lake Simcoe Region
conservation authority

Table of Contents

04	A Message from our Chair 2019 Board of Directors	13	Optimizing Operations Engaging Our Audiences Right Message, Right Time	22	Engaging with our Libraries as Critical Partners Chemical Contaminants Content	31	Mastering Stormwater Maintenance
06	A Message from our CAO	14	Positive Enforcement	23	Zero to 70 in 10	32	Greening our Fleet Launching Soon: Climate Adaptation Project
07	About Lake Simcoe Region Conservation Authority	17	Education Through the Years All Ears, All In Learning the Forest School Way	24	Blueprint for Beaver River		Corporate Carbon Reduction Strategy Climate Change Mitigation Strategy
08	Readying Our Rescuers Collaboration on Flood Risk Areas	18	Innovative Teacher Professional Development	25	New Signs for Safer Trails	33	Scanlon Arboretum Upgrades Annual Aquatic Plant Monitoring Takes Root Happy to Help
09	Citizen Science on Ice	19	Therapy in the Woods Therapy in the Woods is Growing!	26	Offsetting Successes	34	Staff Spotlight
10	Another Online Pond Bites the Dust An Occasion to Celebrate	20	New Nature Centre at Scanlon Creek	27	Enforcement Case Study: It's Always Better to Work with Nature, than Against It	36	Staff Accolades
11	We're Done "Kidding" Around this Creek			28	Trees, Trails and Traffic	38	Financial Summary Harnessing our Holdings
12	Budget Big Picture Acres of Opportunity Municipal Act Changes			29	Felling and Fixing		
				30	Beyond Political Boundaries: Rethinking Stormwater - Study the First of its Kind in Canada		





LSRCA Chair Wayne Emmerson,
Regional Chairman and Chief
Executive Officer, Regional
Municipality of York

2019 Board of Directors

City of Barrie
Councillor Natalie Harris
(Jan.-Sep.)
Councillor Keenan Aylwin
(Oct.-Dec.)

City of Barrie
Councillor Clare Riepma

City of Kawartha Lakes
Councillor Emmett Yeo

Durham Region
Township of Brock
Mayor Debbie Bath-Hadden

Durham Region
Township of Scugog
Mayor Bobbie Drew

Durham Region
Township of Uxbridge
Mayor Dave Barton

Town of Bradford
West Gwillimbury
Councillor Peter Ferragine

Town of Innisfil
Councillor Alex Waters

Town of New Tecumseth
Councillor Shira Harrison-McIntyre

Township of Oro-Medonte
Councillor Scott Macpherson
(Jan.-Nov.) **(LSRCA Vice Chair)**
Councillor Randy Greenlaw (Dec.)

Township of Ramara
No Representative Appointed

York Region (at large)
Regional Chairman and CEO,
Wayne Emmerson **(LSRCA Chair)**

York Region
Town of Aurora
Councillor Wendy Gaertner

York Region
Town of East Gwillimbury
Mayor Virginia Hackson

York Region
Town of Georgina
Mayor Margaret Quirk

York Region
Township of King
Councillor Avia Eek

York Region
Town of Newmarket
Regional Councillor Tom Vegh

York Region
Town of Whitchurch-Stouffville
Councillor Ken Ferdinands

A Message from our Chair

It has been a privilege and a pleasure over this last year to be a member of the Board of Directors and to take on the role of Chair.

Certainly, I was familiar with LSRCA's reputation as a leading-edge conservation organization dedicated to conserving, restoring and managing the watershed, but participating on the Board of Directors has really offered me a new perspective. Over the past year, I have had the opportunity to see first-hand, the innovative initiatives, the quality service and care that staff put into their work and I'm continually impressed with their knowledge, dedication and their considerable impact on the overall health of our environment.

One of the highlights for me this year was attending our annual conservation awards ceremony, where 21 deserving recipients received special recognition for the value they bring to this watershed through their environmental actions. Their accomplishments, their passion and their determination are inspiring and indicative of what happens when people make a personal connection with nature.

I'm honoured to play a part in our mission to "work with our community to protect and restore the Lake Simcoe watershed by leading research, policy and action" and I look forward to what the future brings.

Wayne Emmerson



Back row from left: Councillor Wendy Gaertner, Councillor Emmett Yeo, Mayor Virginia Hackson, Councillor Ken Ferdinands, Mayor Margaret Quirk, Councillor Alex Waters, Councillor Peter Ferragine.

Front row from left: Councillor Shira Harrison-McIntyre, Regional Councillor Tom Vegh, Councillor Avia Eek, Regional Chairman Wayne Emmerson **(LSRCA Chair)**, Councillor Scott Macpherson **(LSRCA Vice Chair)**, Mayor Bobbie Drew, Mayor Dave Barton, Mayor Debbie Bath-Hadden.

Missing: Councillor Keenan Aylwin, Councillor Clare Riepma, Councillor Natalie Harris, Councillor Randy Greenlaw



Chief Administrative Officer,
Michael Walters

About Lake Simcoe Region Conservation Authority

LSRCA is a local watershed management organization incorporated under the Conservation Authorities Act (1946). Since 1951, we have been dedicated to protecting, restoring and managing the Lake Simcoe watershed.

Over our 68 years of service, our jurisdiction has grown to include the entire Lake Simcoe watershed with the exception of the City of Orillia and the Upper Talbot River subwatershed, in the City of Kawartha Lakes.

LSRCA is governed by an 18-member Board of Directors, appointed in a four year cycle by nine member municipalities. Each year the Board of Directors elects a Chair and Vice Chair from amongst its members.



A Message from our CAO

Since we first began to really understand the impacts of human activity on the land and the water, there has been a movement in Ontario to mitigate, restore and regenerate – it's known as the conservation movement.

LSRCA has been dedicated to this conservation movement since our humble beginnings in 1951, when we were first known as the Upper Holland Valley Conservation Authority.

Our original mandate was nearly all encompassing of the still-major issues of today - soil and water conservation, forest management and reforestation, pollution abatement and wildlife protection. Due to our unique focus on watershed management, it was no surprise that after

hurricane Hazel, in 1954, the Province expanded our mandate and the Conservation Authorities Act to include flood plain management and flood forecasting and warning. Over time our role has continued to evolve to meet the needs of our many partners and to respond to new challenges, including climate change, in order to protect and improve the health and quality of Lake Simcoe and its watershed.

Reflecting on this year, I'm proud of our many accomplishments. With climate change squarely in our focus, we're working to reduce our own carbon emissions and released our 2018 progress report. We completed a Climate Change Mitigation Strategy and developed a watershed-wide greenhouse gas emissions inventory that

will help us develop a carbon budget for the watershed, plus we'll be launching our Climate Change Adaptation Strategy in the coming months. We completed nearly one hundred restoration projects across the watershed and finalized our Natural Heritage Land System Securement project. We moved well into the design phase to build a new Nature Centre to house our growing education programs, and we took the lead on a ground-breaking study to find the most cost-effective infrastructure solution to deal with stormwater run-off from a watershed perspective.

Capping off 2019; while global youth environmentalist Greta Thunberg's urges to plant trees to tackle climate change were going viral, here at home we were celebrating our own forest

technician, Paul Cottenden, and his impressive achievement of planting one million trees! We're ever mindful that a singular action like planting a tree is still one of the easiest and most effective actions any one of us can take to begin to alleviate our personal footprint here on our planet.

So, with 2019 behind us, we eagerly look forward to enlisting the support of our partners, stakeholders and watershed community to implement the many strategies we've now developed. All the while, we'll continue to seek out more efficient and effective ways of achieving our vision of a thriving Lake Simcoe that inspires and sustains us for generations to come.

Michael Walters



Readying our Rescuers

This year we completed flood inundation mapping for several subwatersheds within the watershed: East and West Holland River, Lake Simcoe shoreline, South Barrie and Innisfil watercourses.

Flood inundation mapping goes beyond the regulation flood mapping that we use to guide development within regulated areas of the watershed. Inundation mapping provides scenarios for municipal and emergency responders, so that they can estimate locations of flooding and respond more quickly in the event of a flood situation.

Collaboration on Flood Risk Areas

Two LSRCA staff members, Melinda Bessey and Ashlea Brown, have spent the past year participating on a technical advisory committee for Natural Resources Canada, which is developing a Federal Land Use Guide for Flood Risk Areas. The committee includes representatives from all over Canada, each with experience related to planning and land use in flood risk areas. It has been encouraging to learn through this process that Ontario is leading the way in managing flood risk.

Citizen Science on Ice

This past year we received tremendous support from several local fish hut operators who helped us collect the valuable lake water samples for our winter lake monitoring program. Collecting water samples on a routine basis is critical to support our monitoring efforts, and our monitoring team can't be at all places at all times.

Thankfully, we have a willing and capable group of fish hut operators who have stepped up to offer their assistance and be our eyes and ears on the lake, allowing us to respond more rapidly to emerging lake issues.

Thanks to these fish hut operators, our winter lake monitoring program continues unabated, with the operators providing samples to our lake science team, Dr. Brian Ginn (our Lake Doctor) and Raymond Bolton (Ecology Ray).

Watershed flood messages issued this year:

16



We're Done "Kidding" Around this Creek

We've partnered with the City of Barrie to reduce the potential for flooding from Kidd's Creek at Dunlop Street and to restore the health of the creek.

Besides flooding, washouts were causing significant erosion issues, and barriers in the creek were preventing fish from reaching critical habitat. The entire project will take place over several years, but this year we naturalized the area in and around the creek, reducing erosion and removing barriers for fish.

We started by reshaping the land around the creek, using bioengineering techniques to stabilize its banks. One technique used trees that, instead of being removed from the site, were repurposed as anchors. Their root wads were strategically lodged into the banks of the creek to stabilize the soil.

The creek can now adapt to larger rain events without being eroded, and barriers for fish have been removed, providing them with more habitat. A Community Tree Planting will be held in Spring 2020 to celebrate the improvements.

Did you know?

About 2,300 cubic metres of dirt (230 dump trucks) had to be removed from the floodplain to enhance the banks around the creek. Rather than trucking the dirt away, we repurposed most of it to create lookout points out of the floodplain. In the end, we only had to truck 300 cubic metres (30 dump trucks) offsite, which saved the project money as well as reduced its carbon footprint.



Another Online Pond Bites the Dust

It might be hard to understand how a pond seemingly teeming with life can be a bad thing, but that's exactly what was happening in Pangman Springs.

Pangman Springs is a 100-hectare property on the Oak Ridges Moraine within the East Holland River subwatershed.

One of the creeks running through the property contained an online pond. Online ponds are generally not good for fish, as the pond slows the water down and allows it to warm up, both of which make the water less attractive for fish. The pond also had a barrier at one end that prevented fish from migrating further upstream.

This year we removed the pond and let a creek re-establish itself instead, creating more habitat for fish. We also created 0.4 hectares of wetland habitat, which improves wildlife diversity on the property.

An Occasion to Celebrate

Earlier this year we completed the construction of a new bridge in Sheppard's Bush Conservation Area in Aurora. The new bridge replaced the remnants of a 100-year-old sawmill, which was acting as a public trail connection between two sides of the creek. The concrete crossing was structurally unsound, constraining water flows and acting as a barrier to fish migration. To mark the completion of the project, we held an opening ceremony and tree planting with students from a local school in May.

Budget Big Picture

Our newly updated Budget Companion Document has been of tremendous value to our partners, the Province and even other conservation authorities, who plan on modelling our document. The 40-page companion supports discussions with our municipal partners and provides simple, understandable information about our sources of revenue, how our budget is allocated, what our goals and objectives are both for the future year and coming years, and what's been achieved. This is just one of the ways we demonstrate our transparency and accountability to our partners. You can find our Budget Companion Document on our website at LSRCA.on.ca/about-us/financials.

Acres of Opportunity

This year we completed our Natural Heritage System Land Securement Project, 2019 – 2025. The report outlines land securement opportunity areas until 2025. Based on an analysis of our ecological protection and restoration/enhancement opportunities, we've set a goal of securing an additional 250 – 300 hectares of ecologically protected land by 2025. We currently own, manage or hold easements on over 2,425 hectares of conservation land across the watershed, so this goal represents a 10 percent increase in holdings.

Municipal Act Changes

Changes to Bill 68, passed by the Province in 2017, clarify the roles of conservation authorities and municipalities regarding the issue of illegal fill activities in regulated areas. Bill 68 gives municipalities additional jurisdiction on these lands, as long as they amend their site alteration by-laws.

While conservation authorities still have jurisdiction for illegal fill activities in regulated areas, this legislation ensures we can work better together, as partners, to address issues of illegal dumping. It also means that municipalities can take advantage of their more powerful tools, like stop-work orders, to address illegal activities in a timelier manner, in all areas within their municipality, including regulated areas.

This year, we've been working with our municipal partners on establishing "Memoranda of Understanding" agreements for working together in these areas.



Photo courtesy of Jim Craigmyle Photography

Optimizing Operations

Finding operational efficiencies is what it's all about with our new Human Resource Information System, integrating attendance, payroll, budget and performance management. With the new system, launched at year-end, we're saving staff time, cutting back on paper use, expediting approvals and improving organizational efficiency.

Engaging our Audiences

We continue to reach out to new audiences using novel approaches. This year we focused on highlighting some of our researchers and scientists, including our Lake Doctor, Dr. Brian Ginn, and Ecology Ray, our resident bug expert, through a series of Facebook Live events and short videos.

All three of our primary social media channels saw strong growth this year. Between 2018 and 2019, our Twitter following increased by 9%, Facebook increased by 35% and Instagram grew by 43%.

Right Message, Right Time

Our media relations program encourages media coverage for messages that are important to our audiences. We've had great success this year with numerous front page/leading stories, as a result of interesting, relevant and well-timed news releases. Just one of many examples; on May 7, in the wake of recent flooding across the country, we issued the release "It never rains, it pours", resulting in front page coverage in the May 23 edition of the Barrie Advance. The story provided sound advice for residents – to help prepare them for the impacts of climate change. The release also prompted the media to include messaging from the City of Barrie on its efforts to combat climate change.





Planning
Applications
Received:

822

Regulations
Applications
Received:

1,064

Customer
Service Enquiries
Responded to:

3,500

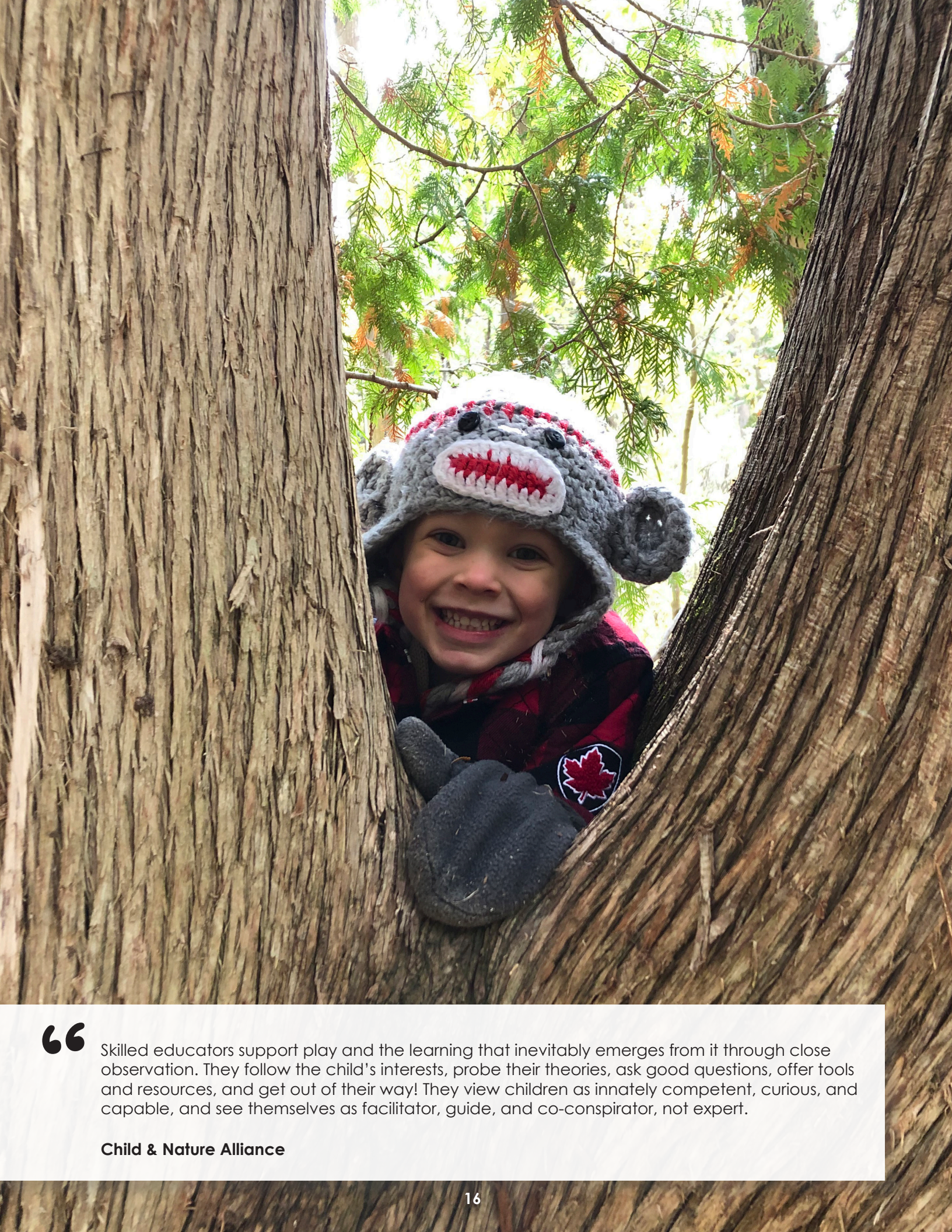
Positive Enforcement

Each year our enforcement team spends hundreds of hours and thousands of dollars investigating unlawful activities on the land. Our goal is always to find a mutually agreeable solution, but sometimes legal action is our only recourse.

In 2019, we investigated a total of 145 complaints, issued 77 violation notices and 20 summonses. We were also successful in getting 9 convictions.

For comparison, in 2018, we investigated 201 complaints, issued 162 violation notices and 23 summonses. We were successful in getting 28 convictions.

While we provide numbers related to our enforcement activities for the past two years, we acknowledge that it's not always easy to compare year over year, particularly with regard to convictions. Often times, cases that we are involved in take place over the course of more than one year.



“Skilled educators support play and the learning that inevitably emerges from it through close observation. They follow the child’s interests, probe their theories, ask good questions, offer tools and resources, and get out of their way! They view children as innately competent, curious, and capable, and see themselves as facilitator, guide, and co-conspirator, not expert.

Child & Nature Alliance

Education Through the Years

In addition to the regular outdoor education programming we are well known for, we continue to expand our offerings in new and innovative ways.

Our highly qualified educators are leaders in their field, offering programming to children, youth and adults, including special programming for at risk youth, differently abled youth and newcomer Canadians.

All Ears, All In

Teachers in our watershed know we're always up for a new challenge or opportunity. If it involves engaging kids in a meaningful way, we're all ears! That's why this past year teaching staff at Sutton District High School wanted to know if we could help augment, with special programming, their six-week outdoor education course for their alternative education students.

Our Education staff lead, Dana Eldon, put out a further call to other staff at LSRCA, specifically in the Lands and Restoration Services Divisions, to see if they could help out, which of course, they did. The group created a unique 3-day program that provided real-world, relevant and engaging experiences for these teens. Dana, who's been an Educator with the conservation authority for more than 10 years, and has personally interacted with thousands and thousands of kids, said of the experience, "it's some of the most rewarding work I've done."

A teacher in the Science Department at Huron Heights Secondary School in Newmarket also had an idea for engaging his students in citizen science. Our educators led an in-school session for a Grade 11 Biology class, helping them learn how to use the "iNaturalist" App and then took them outside on their own school grounds to get some hands-on experience with the App. The student's second experience included a walk to Mabel Davis Conservation Area, where they put their newly acquired skills into action and conducted a mini "BioBlitz" on the property. Plans to continue this program are already in the works!

The benefits of this collaboration are numerous. LSRCA learned more about the species at one of our conservation areas. The kids, who didn't even know about the conservation area before this exercise, are now acquainted with it and are more apt to visit the area, which is a simple walk from their school.

Community
Events:

28

Community
Volunteers:

1,385

Community
Volunteer
Hours:

2,770

Learning the Forest School Way

Forest school is gaining momentum all over the world. It's an opportunity to engage children with rich experiential learning and ecological literacy through child-led activities that help them develop a strong sense of self and connect them to the land. This connection is critical if we want to raise a generation that will steward (take care of) the land and contribute to a more sustainable world.

Forest School was newly offered at our Scanlon Creek Conservation Area in 2018 as a pilot program. Its success kept it going into 2019 and we have more offerings planned for 2020. We have one staff member who has already completed her year-long intensive certification as a Forest School Practitioner and another staff member that began his training this year.



Innovative Teacher Professional Development

Our Education staff also engage teachers in professional development, creating opportunities to learn how to deliver their own outdoor education programs to their students. This year, we offered a full day session with high school science department heads at York Region District School Board, and then a session with teachers in the elementary panel. Collaborating with staff in several other key service areas at LSRCA, we offered training in developing citizen science programming using the “iNaturalist” App and we provided information and experiential activities about climate change issues in the watershed. Both groups came away with practical resources they could then take to deliver with their students.

Therapy in the Woods

Therapy in the Woods is an outdoor education program for early learners with special needs. The program began in 2015, led by staff at Royal Victoria Regional Health Centre, while we provided the specialized outdoor education.

This year, the program has been acknowledged as a “Leading Practice” by Accreditation Canada, which came out of the hospital’s recent Accreditation process. A “Leading Practice” is defined as being people-centred, demonstrating positive change, and is safe and efficient.

This recognition has shone a spotlight on the program and may encourage others to develop their own similar programs.

Therapy in the Woods is Growing!

What began as a pilot with a handful of children is now expanding to another city! In 2020, the program is going to expand beyond the Nature Centre at Scanlon Creek to a greenspace in the Barrie area.

School
Programming
Participants:

10,800

Training and
Development
Participants:

375

Community
Programming
Participants:

1,925





Photo courtesy of Jim Craigmyle Photography

Our New Nature Centre



Our Old Nature Centre



Students engaged in outdoor and environmental education programs at Scanlon Creek:

3,988

New Nature Centre at Scanlon Creek

Each year, we welcome thousands of children to our Nature Centre to explore the outdoors for engaging, inspiring and outstanding educational experiences. We know that raising the next generation to experience the outdoors is the best way to get them to love it. **We protect what we love.**

The current Nature Centre has come to the end of its lifecycle. Our future Nature Centre will usher in a whole new range of opportunities for engagement, with 8,000 square feet of space, capacity for 250 people, 3 flexible, multi-use rooms and it will incorporate the latest in sustainable design. It's our goal to build a new environmental hub where our entire community, young and old – will have the opportunity to reconnect with nature.

Fundraising for a new Nature Centre is a massive undertaking. Our external campaign will launch in 2020, but already in 2019, staff actively embarked on their own fundraising efforts because they recognize the inherent value of a new Nature Centre. Their FUNdraising efforts in 2019 brought in over \$30,000. The highlight of their activities was their "Roughing it for a Reason" overnight camp-out at Scanlon Creek, which raised \$24,000. The Get Connect-Ed Campaign will continue in 2020 and beyond.

Our goal is for the new Nature Centre at Scanlon Creek to open in 2022. It will be a place unlike any other, where nature inspires us and sustains us for years to come.

Engaging with our Libraries as
Critical Partners

Libraries deliver increasingly important community services that we are now tapping into as another avenue to support and promote care for the watershed.

This past year, we collaborated with the Town of Aurora to offer information, presentations, and an interpretive walk to newcomers to Canada about living around Lake Simcoe.

In the Town of East Gwillimbury, we provided programming to support two local libraries (Holland Landing and Mount Albert) and their TD Bank summer reading club series: "The Natural World".

We also offered a program in partnership with the Town of Bradford West Gwillimbury Library, called "Storywalk™", at Scanlon Creek. Pages of the book "Leafman" were displayed along a trail at the conservation area and participants could read the book as they walked along the trail. There was also a leaf craft, an interactive nature display table and children could play at the Discovery Play Garden. It was a great way to combine outdoor adventure with an indoor pleasure.

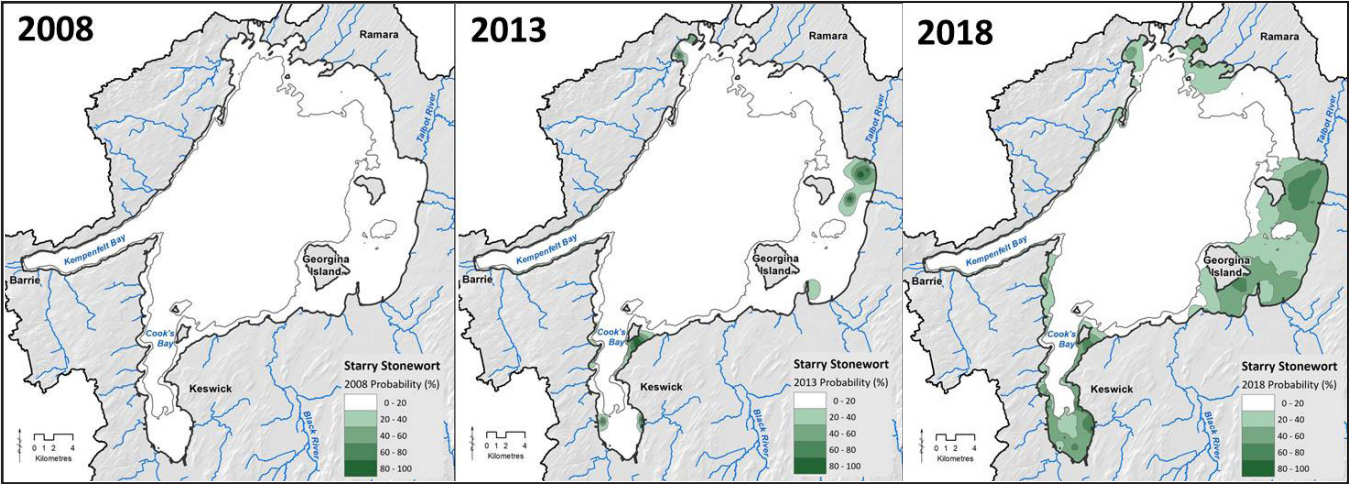


Zero to 70 in 10

Lake Simcoe's newest invader, the aquatic plant Starry stonewort, is proving to be a particularly aggressive intruder. In 2008, we found no signs of it in our lake sampling. In 2009, the "stars" (the part of the plant which allows it to over-winter and gives this species its name) were found at one site near Brechin. By 2013, it accounted for 31% of the total amount of plants in the lake. By 2018, it accounted for almost 70% of all aquatic plants in Lake Simcoe!

Starry stonewort is difficult to remove once it has taken hold because harvesting allows tiny fragments to spread and start new colonies in new places, and this species is also resistant to herbicides. We're not sure what the future holds for this invader, but we have partnered with 26 other agencies in Canada and the USA to find management solutions. Also, annual monitoring will help us identify changes to aquatic plants, forecast weed growth and better detect new invasive species.

Presence of Starry Stonewort in Lake Simcoe: 2008 - 2018



Chemical
Contaminants
Content

This year we updated our website with information about a range of chemical contaminants, including contemporary pesticides, flame retardants, microplastics, phenols, and several others.

We provide details about each chemical, its environmental impact and results of research specific to the Lake Simcoe watershed. We also include a large list of resources for further information.

Starry stonewort spreads rapidly and forms dense, impenetrable stands.



Blueprint for Beaver River

The Beaver River Conservation Area is a 500 hectare conservation area situated along the Beaver River, in the Townships of Brock and Scugog, in the Regional Municipality of Durham with a property in the City of Kawartha Lakes.

This year we completed the Beaver River Wetland Conservation Area Management Plan. The 2020 – 2024 Management Plan, including recommendations from citizens, establishes both short- and long-term goals and develops strategies to achieve the goals. It also projects required staff time and funding to plan and complete the necessary work and will act as a guide in applying for funding opportunities.

Goal highlights include: a wetland lookout point adjacent to the trail; a parking lot with accessible parking spaces; a washroom; and accessible launch points in the river for canoes.

New Signs for Safer Trails

Keeping motorized vehicles off our trails on the Beaver River Wetland Trail system from spring to fall continues to be a challenge. Recently we worked with The Heart of Ontario Snowmobile Club to remove damaged access gates at road/trail crossings and replace them with safety signage.

We installed safety signs that collapse on impact and then pop back up afterwards, as an alternative to the damaged barriers. A total of 44 signs are now installed from spring to fall to discourage motorized vehicle use on our trails.

Number of restoration projects completed:

93

Metres of stream restored:

2,825



Did you know?

The Beaver River wetland is one of the most significant natural areas in the Lake Simcoe watershed.

By the time the water draining from the Beaver River subwatershed enters Lake Simcoe it is among the cleanest of any tributary feeding the Lake.



Offsetting Successes

As of January 1, 2019, when our Water Balance Offsetting Policy took effect, we have numerous policies in place to minimize environmental impacts from development, including:

- Water Balance Offsetting
- Phosphorus Offsetting
- Ecological Offsetting

With each policy, our goal is to minimize the impact to the environment. In some development situations, where environmental impacts cannot be avoided, the developer can contribute to an offsetting fund to support work we would then undertake to offset the environmental consequences. This is always a last recourse. Developers are encouraged to implement restorative measures on their own and many have embraced our new policies to help reduce their impact on the landscape.

An example is Ballymore Homes, the developers overseeing the Ainslie Hill residential subdivision in Sutton, located in the Town of Georgina.

The developer and their team proposed a combination of woodland, meadow and wetland restoration in their offsetting/restoration plan, despite only being required to offset for woodland removal. As wetland areas are more difficult to recreate on the landscape, we think it's worthy to recognize this developer is exceeding requirements of our Ecological Offsetting Policy by creating a variety of habitat types and achieving a net ecological benefit.



Enforcement Case Study: It's Always Better to Work with Nature, than Against It

If you live near the shore, a clearing where you can sit and enjoy that beautiful view is usually a "must-have". The problem is, Mother Nature might have other plans. A shoreline doesn't want to be tamed, but that doesn't mean you can't find a solution.

Last fall our enforcement team visited a waterfront site that had been "renovated" to suit the owner's vision – large amounts of soil were moved, an armour stone wall was installed as well as a meandering path down to that "perfect lakeside spot". Fast forward just a few months; winter's forceful tides made a

mess of the retaining wall, ripped up the landscaping and wreaked havoc on the once-serene spot.

We've seen this before! Our message? Shorelines are meant to be natural. This type of work is not permitted, in part, because it won't stand the test of Mother Nature, putting all that effort and investment at risk.

So back to square one. This time the owner sought out our knowledge, expertise and the required permit. We excel at finding tailored win-win solutions – after all, we're nature lovers too! The newly drafted waterfront plan got implemented with the

same meandering path, but this time with smaller native shrubs and grasses to keep those vistas, and plants that attract turtles, birds and butterflies even closer. Water access was not restricted outright, just planned for with nature in mind, designed to withstand whatever erratic conditions might occur. The family's waterfront is now stable, safe, and stunning.

When it comes to your home, there's nothing more beautiful than knowing your "must-have" spot meets everybody's needs and will stand the test of time.



In the last
10 years we've
planted
400,000
trees!

Trees, Trails and Traffic

The restoration of Durham Forest continues. This year we focused on two different sections of the forest, thinning out approximately 36 hectares. Selective thinning encourages natural regeneration of maple, oak, beech and white pine species, which were the species originally here before being clear cut in the 1920s and 30s. The trees we harvest are sold, with the money received going back to the forest through our regeneration programs.

Through a strong on-the-ground partnership with Durham Mountain Biking Association, we replaced 1,721 metres of eroded or prone-to-erosion trails, with 2,016 metres of sustainable recreational trail. The new segments are multi-use and improve access to other trails, and are designed and built to withstand higher traffic.

We also undertook a number of improvements to the parking lot, including widening a section to increase capacity as well as some improvements to enhance sightlines and safety.

Felling and Fixing

LSRCA actively manages its multi-use recreational trails to ensure they are safe and enjoyable for everyone. Part of management involves removing trees which are dead, dying or pose a risk to the trail system. This year, a total of 535 trees were removed, 320 (60 percent) of which were ash, affected by the Emerald Ash Borer.

On the positive side, we planted 44,197 trees and shrubs through our full-service planting program, 5,882 through community events and distributed a further 9,550 seedlings through our do-it-yourself (DIY) seedling sale.

Beyond Political Boundaries: Rethinking Stormwater – Study the First of its Kind in Canada

Addressing the environmental and societal impacts of stormwater is one of the most challenging issues LSRCA deals with. Stormwater's impact on the watershed is also not very well understood. Stormwater contributes a significant amount of pollution to the lake and is responsible for flooding and erosion issues, particularly in urban environments.

For the past several decades, municipalities have managed stormwater through the use of stormwater ponds. Initially the ponds were designed to address water quantity, but it became evident that they could also address water quality and measures were put in place to help control pollution from entering the lake.

Unfortunately, stormwater pond maintenance and management have been dramatically underfunded to the point where Ontario now has a 6.8 billion dollar deficit in stormwater infrastructure.

Because stormwater plays a major role in the Lake's health, and factors into flooding issues, we've embarked on a ground-breaking study to evaluate the most cost-effective infrastructure solution to stormwater runoff amongst the municipalities within our watershed.

The reality is that political boundaries don't match hydrological boundaries. The study will look at municipalities in the East Holland subwatershed – Aurora, Newmarket, Whitchurch-Stouffville and East Gwillimbury.

First we'll characterize the existing conditions based on data such as stream flow, precipitation, soil types and existing infrastructure and then run scenarios to track how best to manage stormwater to achieve the most effective environmental outcomes in the most cost effective way.



Mastering Stormwater Maintenance

Stormwater is a significant source of pollution to Lake Simcoe, bringing with it a variety of pollutants and contaminants, including phosphorus, to the Lake.

Did you know that urban areas account for 12% of the watershed, yet 31% of phosphorus loads to Lake Simcoe?

Stormwater ponds are one of the culprits. Our research has identified them as sources of phosphorus to the Lake. While they were designed to reduce the pollution entering Lake Simcoe, the problem is that they have not always been maintained to the standards they need to be in order to continue to remove contaminants.

The result? We have a large number of stormwater ponds that are not operating at peak performance, an issue not isolated to the Lake Simcoe watershed, but one that exists throughout the entire province. In our watershed, we have more than 350 stormwater ponds, and we estimate around 19 more are added each year.

While stormwater pond maintenance is the responsibility of municipalities, staff at LSRCA have stormwater management expertise that we are partnering with municipalities to share. As such, we started offering stormwater maintenance training this year. Our first pilot training day took place on May 30 in Bradford, where we had around 40 staff from all municipalities participate.

Included in the training we offer is a prioritization methodology tool – a tool that allows municipalities to rank their stormwater pond maintenance priorities with the overall goal of improving stormwater pond efficiency and reducing the amount of phosphorus entering our waterways.

Greening our Fleet

We are committed to reducing our carbon footprint. Using 2016 as a baseline year, we are targeting a 28% reduction in carbon emissions by 2026.

Part of that commitment involves greening our fleet of cars, which we completed this year with the purchase of two additional plug-in hybrid electric vehicles. This means we no longer have gasoline-only vehicles as part of our car fleet. We also added two charging stations to our parking lot – and they were paid for with the revenues made from our solar panels.

Launching Soon: Climate Adaptation Project

This year we completed all the technical chapters, which make up the bulk of the Climate Change Adaptation Strategy. We also developed the recommendations, which involved a jurisdictional scan, a staff-wide presentation and survey, two workshops with our internal project team, and two external rightsholder/stakeholder workshops. We are now in the final stages of revising the recommendations and expect to release the strategy in early 2020.



Corporate Carbon Reduction Strategy

Since being approved by the Board of Directors in December 2018, we have been working through the proposed carbon reduction opportunities outlined in the strategy, with the creation of a 10-year implementation plan and timeline. This year we also released our 2018 progress report, which outlines what actions we have taken and the resulting carbon reductions. We plan to release a progress report each year.

Climate Change Mitigation Strategy

As part of our Climate Change Mitigation Strategy, we've developed a watershed-wide greenhouse gas emissions inventory based on downscaling provincial and national inventory emissions. This helps to determine where the hotspots for greenhouse gas emissions are in the watershed across various sectors, and where we can focus our efforts to reduce these emissions. Through our partnership with Lakehead University and the University of Toronto, we have obtained estimates for wetland and forest carbon sequestration in the watershed. Together, the inventory and the sequestration rates will help us to create a carbon budget for the watershed. We are also developing an emissions forecast based on official plan data to see where the areas of population and employment growth will be in the watershed and therefore, the areas of growth for carbon emissions.



Agricultural BMP's (tile outlet control structures, wash water treatment systems and cover crops) installed by Holland Marsh farmers:

21

Hectares of cover crops planted in the Holland Marsh:

413

Phosphorus reduced in the Holland Marsh this year:

165 kg

Scanlon Arboretum Upgrades

This year we completed maintenance at the Scanlon Creek Arboretum. The property now features a new trail that connects to the established Chickadee Trail loop, one of several trails at Scanlon, and it showcases a pollinator garden. The Arboretum now boasts 133 trees of 42 different species. To help visitors boost their tree knowledge, there's at least one tree of each species marked with its common and scientific name as well as a fun fact about that species.

Annual Aquatic Plant Monitoring Takes Root

In 2019 we began an annual aquatic plant monitoring program, in part, to be more adaptable to the rapid changes taking place in our watershed. Until this year, we've used a 5-year monitoring cycle, but are finding that this timeframe is not responsive to our needs, particularly in detecting new invasive species.

Happy to Help

In response to the focus Bill 108 has placed on conservation authority customer service, Conservation Ontario organized standard customer service training for all conservation authority planning, development and regulations staff. A total of 24 staff members from LSRCA took part in this training which focused on communications (verbal and written), time management, task management and prioritization.



Shelley Fogelman, Senior Administrative Assistant

What I really do: I provide support to the General Manager and Chief Financial Officer of Corporate & Financial Services and its three managers. I coordinate and maintain corporate legal and insurance files. I am also the main contact for any Freedom of Information (FOI) requests that come in.

How I came into the role: When I saw the ad for an Administrative Assistant at LSRCA come up, I jumped on it. After commuting downtown for 18 years, I was looking to be closer to home. The role was new and so I was able to help shape it into the strong administrative role it is today.

What I love most about my job: I am completely fascinated by the FOI process, the requests we get, the people who make them and the response process.

Accomplishment I am particularly proud of: Through my experience I've become an FOI resource and guide to other conservation authorities throughout the province.

Manish Kaushal, Conservation Engineer

What I really do: I am part of a team that reviews stormwater management submissions for development, to ensure compliance with our guidelines and regulations.

How I came into the role: I have two degrees in engineering. I've worked for the Ministry of the Environment and have also worked for a private engineering consulting firm. When an opportunity with LSRCA came up, I felt that my background and experience would be a good fit. So I applied and got the job!

What I love most about my job: I work with a team that shares the same values and vision of protecting Lake Simcoe.

Accomplishment I am particularly proud of: During my work with the Ministry of the Environment, I was part of the team that developed the Lake Simcoe Phosphorus Reduction Strategy.



Rob Wilson, Aquatic Ecologist

What I really do: Wade around in the streams of the Lake Simcoe watershed assessing fish and invertebrate populations as well as the habitat they live in.

How I came into the role: It started with my parents ingraining a love of the outdoors in me through camping and fishing as a child. While at Trent University, studying to become a math teacher, I took one course in environmental science and was hooked.

What I love most about my job: I get paid to go fishing... with electricity!

Accomplishment I am particularly proud of: Being part of the restoration of Lovers Creek at Centennial Park in Innisfil in 2016. We have been sampling that area since 2007 and caught our first brook trout there in 2019. Can't get any better proof than this that our efforts are making a difference!

Staff Spotlight



Peng Du, Systems Architect / Information Management Systems Coordinator

What I really do: I deliver information management services to the entire organization with a talented group of colleagues. I ensure that our corporate data is organized in a meaningful way for staff to use. I also develop our own business applications to allow data to flow smoothly within our business processes.

How I came into the role: With an academic background in both applied meteorology and computer science, GIS at LSRCA was the perfect place for me.

What I love most about my job: I get a sense of satisfaction in being in on the ground in developing productivity tools that staff need to do their jobs.

Accomplishment I am particularly proud of: I am proud of a new staff productivity tool that is coming out in the new year.



Sara Rawski, Environmental Monitoring Technician

What I really do: I help to run and implement our environmental monitoring programs which include tributary water quality sampling, flow monitoring, groundwater sampling and stormwater performance monitoring. I also help organize, manage and import all of the monitoring data in our "WISKI" database.

How I came into the role: From a young child, I've always loved the outdoors. While at Nipissing University, my first summer contract was with LSRCA as a Culvert Assessment Technician. That contract led to additional contracts which led to the role I am in now.

What I love most about my job: I love the variety. I get to perform field work as well as desk work where I manage the data we collect in the field.

Accomplishment I am particularly proud of: In March 2017 I skied down the Blackcomb Glacier in Whistler, BC with my husband.



Staff Accolades

Paul Cottenden, Forest Technician II, was officially recognized this year for single-handedly planting one million trees over the course of his lifetime. LSRCA held a small media event in September where he planted a Bur Oak tree as a commemoration of the achievement.

Brian Ginn, PhD, Limnologist, gave four presentations at the 39th International Symposium of the North American Lake Management Society in Burlington, Vermont, in November. Topics ranged from: tracking the spread of the invasive aquatic plant, starry stonewort, in Lake Simcoe; monitoring trends related to the shift from zebra to quagga mussels; a possible correlation between reduced beach closures and quagga mussels; and the impact of salt water on stormwater ponds with a model to determine the amount of rain needed to improve pond performance.

Lauren Grzywniak, Lands Management Technician, was featured in a short career-focused video for current high school students that was used at a York Region Career Pathways Expo in November. You can hear what Lauren says about a career in conservation if you go to our YouTube Channel!

Kaitlyn Read, Integrated Watershed Management Specialist, gave two presentations on the topic of ecopassages and road ecology best management practices at the 2019 International Conference on Ecology and Transportation (ICOET) in Sacramento, California. The conference hosts over 580 participants from around the world. She was also able to take part in a field trip to Lake Tahoe to learn about their approach to mitigating roadway impacts on the lake.

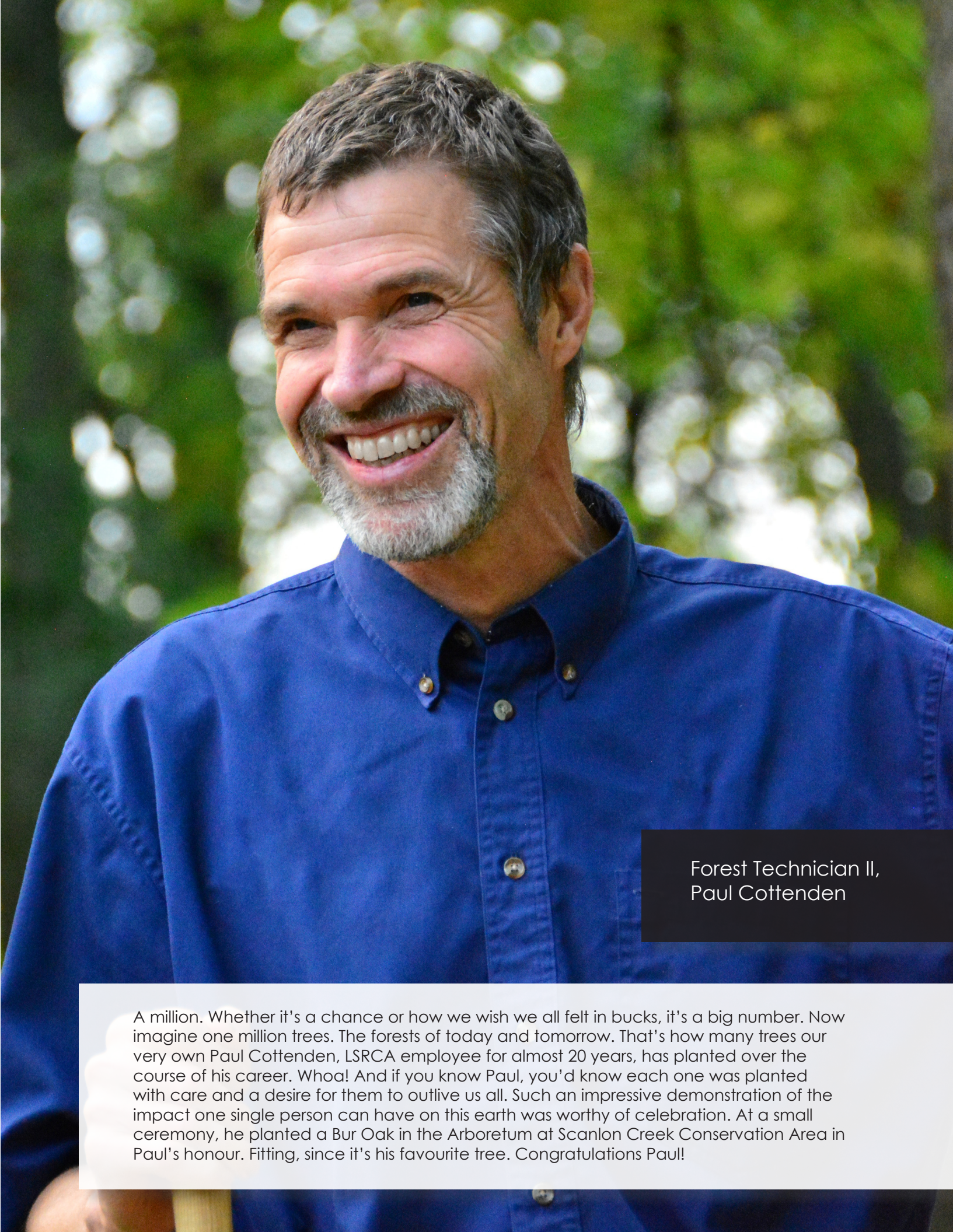
Cassandra Connell, Outreach Educator, received her Forest School Practitioner certification, a one-year program that qualifies her to teach Forest School. While all our educators understand the power of play and child-directed, hands-on learning, this certification demonstrates her commitment to foster that deeper connection to the land and ignite an ethic of care for the future.

Brian Kemp, General Manager of Conservation Lands, was appointed to a three-year term on the International RiverFoundation's Board of Directors. The International RiverFoundation champions integrated river basin management for the restoration, protection and sustainable management of the world's rivers.

Susan Jagminas, Senior Communications Advisor, earned her Forest Therapist Guide certification, and is qualified to lead individuals and groups in an evidence-based therapeutic practice that connects people to natural environments through gentle sensory based invitations, deepening their nature connection.

Shauna Fernandes, Natural Heritage Ecologist, recently completed her Masters degree in Public Administration from Queens University, after just over two years of part time study (during which she also had a baby!). The program focused on public sector governance and her capstone project centered upon designing policy solutions and strategic plans for an affordable housing strategy in Peel Region.

Nancie Knight, Web and Content Marketing Specialist, **Lori McLean**, Restoration Project Specialist and **Melissa Rosato**, Communications Specialist, presented at the Latornell Conservation Symposium in Alliston, Ontario in November. Their presentations highlighted two successful projects that incorporate best practices in outreach, collaboration and communications: Restoration Success in the Holland Marsh, and Modern Marketing for Results: the Overhaul of LSRCA's Longstanding Grant Program.



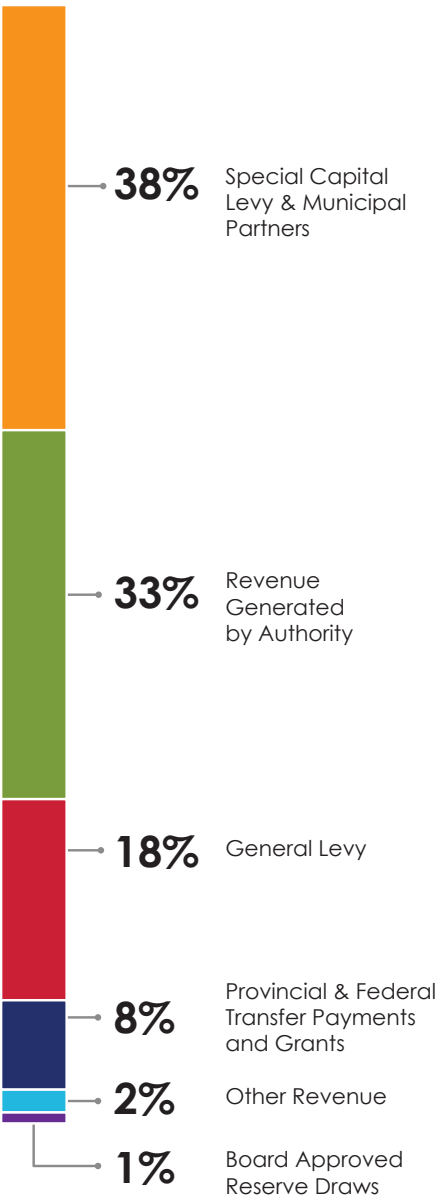
Forest Technician II,
Paul Cottenden

A million. Whether it's a chance or how we wish we all felt in bucks, it's a big number. Now imagine one million trees. The forests of today and tomorrow. That's how many trees our very own Paul Cottenden, LSRCA employee for almost 20 years, has planted over the course of his career. Whoa! And if you know Paul, you'd know each one was planted with care and a desire for them to outlive us all. Such an impressive demonstration of the impact one single person can have on this earth was worthy of celebration. At a small ceremony, he planted a Bur Oak in the Arboretum at Scanlon Creek Conservation Area in Paul's honour. Fitting, since it's his favourite tree. Congratulations Paul!

Financial Summary

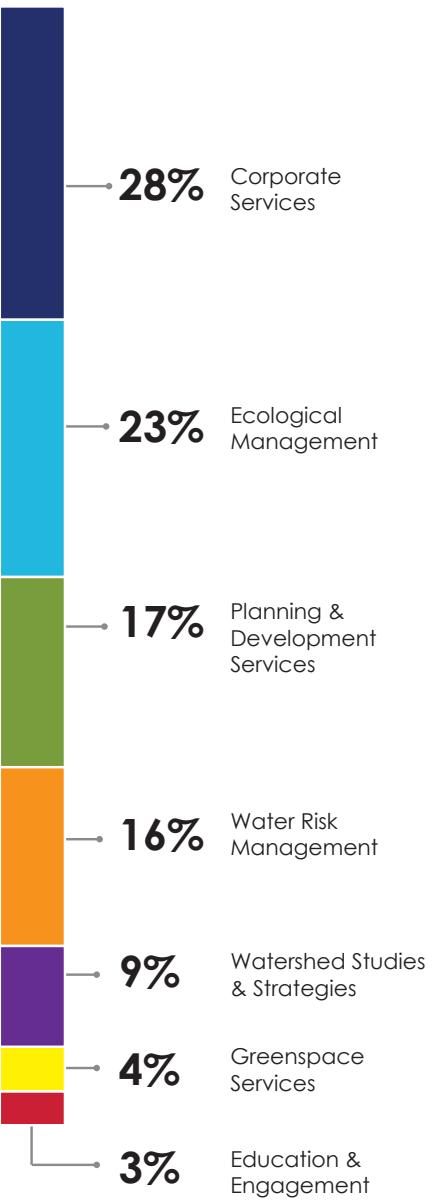
2019 Revenues

\$21,338,700



2019 Expenditures

\$21,338,700



Number of Freedom of Information (FOI) Requests received:

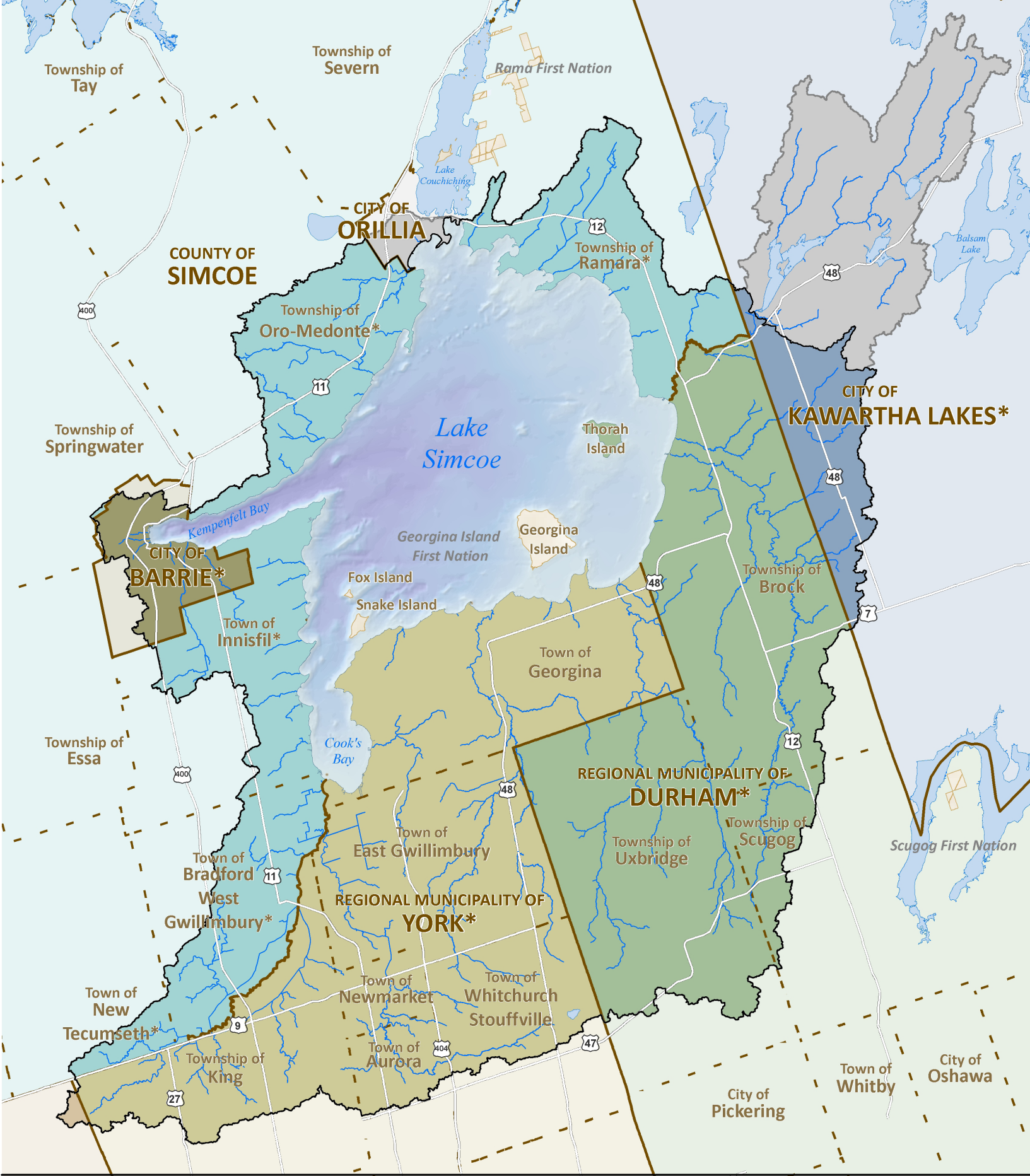
23

Number of other Conservation Authorities that attended our in-house FOI training:

10

Harnessing our Holdings

In 2019, LSRCA leveraged \$45,000 in funding from the Federation of Canadian Municipalities to complete building condition assessments at Mabel Davis, Scanlon Creek and Sheppard's Bush. Using the expertise of our consultants, we'll be able to complete a financial strategy in 2020 to ensure we have enough money to maintain and replace these assets over the next 25 years.



Legend

- Lake Simcoe Watershed
- LSRCA Jurisdiction
- Watercourse
- Major Road
- Upper / Single Tier Municipality
- Lower Tier Municipality
- * Member Municipality, LSRCA

0 5 10 20 30 Kilometres

This product was produced by the Lake Simcoe Region Conservation Authority and some information depicted on this map may have been compiled from various sources. While every effort has been made to accurately depict the information, data / mapping errors may exist. This map has been produced for illustrative purposes only. LSRCA GIS Services DRAFT created January 2016. © LAKE SIMCOE REGION CONSERVATION AUTHORITY, 2016. All Rights Reserved. The following datasets municipal boundaries and roads are © Queens Printer for Ontario, 2016. Reproduced with Permission



Photo courtesy of Jim Craigmyle Photography

The work highlighted in this publication couldn't have been done without the generous support of our partners.

Lake Simcoe Region Conservation Authority (LSRCA) is the leading environmental protection agency in the Lake Simcoe watershed. For over 65 years, we've been collaborating with community, government and other partners to protect and restore the environmental health and quality of Lake Simcoe and its watershed.

• 120 Bayview Parkway. Newmarket, Ontario, L3Y 3W3 •

E	info@LSRCA.on.ca	Instagram	lakesimcoeconservation
T	905-895-1281	Twitter	@LSRCA
TF	1-800-465-0437	YouTube	TheLSRCA
W	LSRCA.on.ca	Facebook	lakesimcoeconservation

If you require this document in an alternate format, please contact us at 905-895-1281. Printed on FSC paper.



Lake Simcoe
Conservation
Foundation



Lake Simcoe Conservation Foundation (LSCF) is the leading environmental charity in our watershed, raising funds from individuals and organizations for the critical environmental programs and projects of Lake Simcoe Region Conservation Authority. LSCF is one of only a few environmental charities nation-wide that has been accredited in Imagine Canada's Standards Program after demonstrating excellence in operations in the charitable sector. Contact LSCF directly for information about how you can support their important fundraising activities.

E	foundation@LSRCA.on.ca
T	905-895-1281
TF	1-800-465-0437
W	lakesimcoefoundation.ca