



KAWARTHA CONSERVATION

Discover • Protect • Restore

LEADERS IN INTEGRATED WATERSHED MANAGEMENT



2 0 2 1 A N N U A L R E P O R T

Corporate Values

Our **VISION**

Engaged communities that love, respect and appreciate our natural environment.

Our **MISSION**

To champion watershed health as the recognized leader in natural asset management.

Our **FOCUS**

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

OUR VALUES GUIDE OUR ACTIONS, AS THEY SHAPE THE KIND OF ORGANIZATION THAT WE ARE PART OF. IN ALL OF OUR DECISION MAKING, WE WILL:

- Act with Integrity
- Value Knowledge
- Promote Teamwork
- Achieve Performance Excellence
- Foster Innovation

2021 Board Of Directors

- CHAIR – Andy Letham (City of Kawartha Lakes)
- VICE-CHAIR – Deborah Kiezebrink (Township of Scugog)
- Kathleen Seymour-Fagan - City of Kawartha Lakes
- Pat Dunn - City of Kawartha Lakes
- Ted Smith – Region of Durham (Township of Brock)
- Ron Hooper – Region of Durham (Municipality of Clarington)
- Robert Rock – Region of Durham (Township of Scugog) - Current
- Angus Ross – Region of Durham (Township of Scugog) - Former
- Ron Windover – Municipality of Trent Lakes
- Cathy Moore – Township of Cavan Monaghan

We would like to acknowledge that many Indigenous Nations have longstanding relationships, both historic and modern, with the territories upon which we are located.

Today, this area is home to many indigenous peoples from across Turtle Island. We acknowledge that our watershed forms a part of the

treaty and traditional territory of the south-eastern Anishinaabeg.

It is on these ancestral and treaty lands that we live and work.

To honour this legacy, we commit to being stewards of the natural environment and undertake to have a relationship of respect with our Treaty partners.

Message From The Chair and CAO

A lot can change in a year. But one thing remains constant: our commitment to champion watershed health as a recognized leader in natural asset management.

Looking back at the past two years, since the start of the Covid-19 pandemic, it is easy to become distracted by the day to day challenges of operating an organization in a global pandemic; however, a quick pause allows us to notice the tremendous growth, opportunity, and success the organization has achieved.

2021 was just that at Kawartha Conservation; a year of overcoming challenges, delivering results, and realizing success.

Building on the positive implementation of new technology in 2021, our staff continued to deliver timely service, critical programs, and first-class nature-based experiences to a growing number of visitors.

In 2021, Kawartha Conservation's planning and permitting department issued 477 permits, an increase of more than 17 per cent over 2020.

Our Integrated Watershed Management team brought together, virtually, more than 50 citizen scientists to undertake data collection on several lakes across our watershed. The results of those efforts will provide a baseline for data collection moving forward and was an inspiring example of our watershed community

coming together to protect and restore our lakes, rivers, and streams.

Our Stewardship team continued to find ways to connect with residents and property owners to facilitate projects aimed at improving water quality across the watershed.

Through our tree seedling sale and 50 Million Tree program we aided in the delivery and planting of more than 22,000 trees across the watershed, improving our environment and increasing forest cover.

For our Conservation Lands team, 2021 was a year to be celebrated. After years of infrastructure challenges, a new bridge was installed at Pigeon River Headwaters Conservation Area completing the popular trail network and providing an improved user experience for visitors in the southern portion of our watershed.

The CA Lands staff also launched the Kawartha Quest program, providing an enhanced outdoor educational and family-oriented opportunity for visitors.

Realizing the tremendous impact Covid-19 has had on the mental health of many area residents and visitors, our forest bathing program in 2021 was operated on a donation basis and resulted in a donation of more than \$500 to the Canadian Mental Health Association.

We continued to strengthen ties with our business community with the second year of a wonderful partnership with the

Fenelon Falls Brewing Company and a newly launched partnership with Seven Forty Six.

And corporately, 2021 saw the development of our new five year strategic plan. A document that will help guide our efforts over the next five years and provide tangible goals and outcomes, fostered through our new Vision: Engaged communities that love, respect, and appreciate our natural environment.

When we read those words, and read them again, it begins to manifest a recognition that our new vision inspires and touches upon all facets of the incredible work our team at Kawartha Conservation does every day. It is more than conservation areas, it is more than lakes and rivers, it is more that any one department or area. When we work together with our community, when we create experiences, when we foster trust, understanding and respect through our planning and permitting processes, when we deliver critical and timely flood forecasting and warning information, when we do all the things that are unique and necessary of Conservation Authorities, we truly do create engaged communities that love, respect, and appreciate our natural environment.

We continue to be prepared to tackle new challenges, embrace new opportunities, and share in our collective successes with our colleagues, municipal partners, Board of Directors, and our watershed community. 🌲



KAWARTHA CONSERVATION FOUNDATION

The Kawartha Conservation Foundation launched their first-ever Explore Nature Challenge in 2021. The challenge

encouraged participants to walk, hike or bike all of the trails at Ken Reid Conservation Area.

The challenge attracted sponsors and participants who embraced the fun challenge and made it an overwhelming success.

Planning and Regulation



Permits and planning help protect property owners and their investment from natural hazards such as flooding, unstable soils, and steep slopes, while contributing to clean water and a healthy, sustainable environment in the Kawarthas. Continuing to meet the needs of our municipal partners and building community, Kawartha Conservation issued 477 Permits in 2021, with another 37 Permit Extensions and Revisions.

Planning Applications processed in 2021:

- Official Plan Amendment – 3
- Zoning By-law Amendment – 17
- Minor Variance – 40
- Site plan – 18
- Plan of Subdivision – 12

- Plan of Condominium – 5
- Consent – 17
- Total – 112

Enforcement

- Permit Inspections Completed: 14
- Violations Reported and Confirmed: 50
- Remediation Agreements Issued: 8



Permitting Annual Report

Beginning in 2020, we began summarizing annual permitting performance to our Board of Directors, indicating the timeliness of our approvals under Section 28 of the Conservation Authorities Act. Conservation Ontario and conservation authorities have agreed to prescribed timeframes, to be met in the issuance of permits, and to be specifically reported on by high-growth conservation authorities.

Although Kawartha Conservation is not considered a high-growth Conservation Authority we are leaders in our ability to track our performance on permitting activities and produced our second Permitting Performance Annual Report in March 2021. 98 per cent of all permits issued met timeframes established in the issuance of permits. 🍁

Monitoring Our Water Resources



Water and Groundwater Monitoring

We continue to work with the Ministry of the Environment, Conservation, and Parks to monitor our 11 surface water sites and 13 groundwater sites for water quality.

Urban Streams Monitoring

This year, 10 sites were sampled for aquatic bugs (e.g., insects, worms, crustaceans, mollusks) and habitat conditions (e.g., substrate, water depth and flows, cover).

■ Preliminary results indicate that these urban streams exhibit degraded

conditions, as indicated by relatively high populations of tolerant organisms and low populations of sensitive organisms.

Streamflow and Precipitation Monitoring

Water levels and streamflow are monitored at 8 locations throughout the watershed and precipitation, specifically:

- Rain in 5 locations
- All year precipitation in 3 locations
- Snowpack at 4 snow locations
- Historical and current snow data are now available on our website in 2021.

Coldwater Streams Monitoring

Water temperatures are tracked through the deployment of portable data loggers that are fixed in the water column all year. 30 sites are monitored and evaluated against science-based temperature thresholds.

We continued our investments in Bluetooth logger technology, that enables us to save time and money when transferring data from each logging device to our databases. 🌲

Environmental Monitoring Strategy



The strategy will ensure our monitoring programs meet future environmental and technological changes while enabling our organization to champion watershed health as the recognized leader in natural asset management.

This initiative began with a public and community engagement survey, which supplied insight on the general knowledge both the public and community partners had about environmental monitoring services we provide. To help with the development of the strategy

document, a Strategic Guidance group made up of partner agencies and community leaders was formed.

A comprehensive program review of each current monitoring program was completed that included a detailed analysis of each program's resources. The strategy is ready for final Board endorsement in January 2022. 🌸



Partnerships



We partnered with Fleming College to facilitate student-run soil and wildlife studies on the Windy Ridge and Durham East Cross Forest properties. This helps the students gather needed field experience and provides information that supports our habitat restoration planning.

Results indicate that the shoreline has experienced significant loss of natural habitats over this timeframe due to the expansion of residential development along the shoreline.

We partnered with Trent University's Environmental and Life Science graduate program to look at microplastics across the Lake Scugog watershed. Over 100 samples were collected and all samples

had microplastics present.

We continued our partnership with Ontario Tech University for nearshore monitoring in the shorelines of the Kawartha Lakes.

This year we also included the monitoring of Starry Stonewort through a partnership with the Finger Lakes Institute, Kawartha Lakes Stewards Association, Ontario Tech, and Ontario Federation of Anglers and Hunters, a new invasive species discovered in Lake Scugog.

Over 90 volunteers across five lakes took water samples and collected information about Starry Stonewort. We found new areas of Starry Stonewort in the Kawarthas and the information has been uploaded to EDDMapS, a centralized reporting site for invasive species.

Durham Watershed Planning – Water Resources Mapping Project

New water resources information provides planning staff with the most up-to-date planning information necessary to advance municipal land use planning approvals and projects and will streamline and expedite comments on planning applications.

This year's activities focused on filling data gaps on streams in the Township of Scugog, through verifying the flow path of 86km of streams, field sampling 117 sites to confirm flow permanency (e.g., permanent vs. intermittent), and confirming the location of sensitive areas (e.g., coldwater fish habitat). 🍁



Lake Management Plan Implementation



Erosion and Sediment Control

The recently completed Lake Management Plans identified that better adoption of erosion and sediment controls on construction sites near waterways is a priority objective for the community and that enhanced education and training be undertaken within the local industry to help protect water quality and fish habitats.

Staff visited various active construction sites to determine common deficiencies.

We created 4 'How-To' instructional videos and 5 factsheets that show how to install and inspect silt fencing, straw bale check dams, fibre rolls, and erosion control blankets, as well as how to calculate slopes and identify high-risk areas of erosion.

Aquatic Plant Control Research

We installed 3 aquatic thrusters (also called 'bubblers') in Balsam Lake, Sturgeon Lake, and Lake Scugog to test the impacts of its operation on nearshore aquatic plant communities.

■ In partnership with local waterfronts owners, Trent University's Masters of Bioenvironmental Monitoring & Assessment program, and with funding support from Eco-Canada and the Great Lakes Local Action Fund, we undertook sampling for key physical, chemical, and biological parameters.

■ Preliminary results indicate that the thrusters do cause a measurable reduction in local aquatic plant communities, when compared to several 'control' sites and a research collaborative for further research on the topic has been formed.

Lake Management Plan Implementation



Lake Dalrymple Management Plan

A lake management plan was initiated to study Lake Dalrymple, supported by a local community working group to develop management recommendations to keep the lake healthy.

■ A core water quality and quantity monitoring network was implemented and samples were taken at 20 locations within the lake and its tributaries.

■ Twenty-three (23) issues of concern have been identified by community stakeholders for us to address as we continue through the planning project.

Upstream Investigative Monitoring

In 2021 we collected 124 samples from 18 sites across three tributaries.

Results from this project help identify hotspots of high contamination. By

highlighting these areas, we can start to address these inputs, leading to better water quality and habitat.

We focused on analyzing the results for Jennings, McLaren's, and Restoration Creek.

In addition, further work was done to identify hotspots across the CKL region during precipitation events, leading to a collection of 90 samples from 82 sites. Results from this work will help inform Planning, Permitting and Stewardship.

Lake Management Plan Implementation



Nearshore Monitoring

To address data gaps and determine areas of higher nutrient concentrations for future proactive stewardship activity, we:

- Continued to monitor the nearshore environments of Balsam, Cameron, Scugog, Sturgeon, and Pigeon Lakes.
- A total of 48 volunteers across these lakes took monthly samples, totalling 192 samples collected.

- We also monitored 6 lake sites in Lake Scugog and 8 stream sites that drain into the lake from May to November.

Integrated Watershed Management Lunch and Learns

Offered a series of monthly lunch and learn presentations throughout 2021 to the

community on a variety of topics including:

- Provincial Water Quality Monitoring Network (PWQMN)
- Citizen Science
- Groundwater
- Low Water Response
- Discovering the World through GIS
- Environmental Monitoring Strategy 🍁

Stewardship



Our Stewardship team focused on the implementation of our Stewardship Strategy and the Lake Management Plans in 2021.

Of particular note, 2021 was our first planting season for the 50 Million Tree program. Combined with our tree seedling sale, we achieved our Strategic goal of 21,000 trees planted this year.

Water Fund Landowner and Community Grants

City of Kawartha Lakes

In 2021, we provided 18 Landowner Grants (\$32,525 grant leveraging \$142,667 in landowner grants) and 2 Community Grants (\$12,472 grant leveraging \$88,460 in community investment).

- 5 shoreline erosion control

- 3 septic upgrades
- 2 tree planting projects
- 2 well decommissions
- 2 well upgrades
- 2 invasive aquatic plant harvesting projects
- 1 manure management
- 1 barnyard eavestroughs
- 1 agricultural exclusion fencing
- 1 rain garden

Durham Region

In 2021, we provided 9 Landowner grants (\$12,475 grant leveraging \$50,015 in landowner investment).

- 4 shoreline erosion control
- 3 well decommissions
- 1 urban rain garden and tree planting
- 1 Agricultural BMP



Agricultural Stewardship

Thanks to a grant from OMAFRA, staff were able to complete four landowner demonstration projects. These projects will inspire the adoption of sustainable soil management, water conservation, and other practices which protect water quality and quantity, and overall watershed health.

- Constructed a wetland and installed fencing and an alternate watering system in partnership with Ducks Unlimited Canada
- Installed a tile drain control box
- Installed 2 barnyard eavestrough and rainwater harvesting projects to reduce nutrient loading and provide water to livestock.
- 4 videos of agricultural Beneficial Management Practice (BMP) demonstration sites to promote local environmental farming to the broader sector.

Bring Back the Fish

In 2021 we received a two-year grant from the Environmental Damages Fund to implement 10 private land demonstration sites with a goal to improve fish habitat on urban streams. In our first year we connected with over 50 landowner and conducted site visits to determine project viability. In the fall we implemented our first project including bank stabilization and securing the slope of a culvert along the Scugog River in Lindsay.

We also completed five technical fact sheets on sediment and erosion control methods to share with developers. These outline proper site assessment and installation procedures of erosion and sediment control measures.

Forestry

In 2021, we helped facilitate 23,400 trees being planted across the watershed. This includes species-at-risk plantings in Pigeon

River Conservation Area, our 50 Million Tree program, and our annual tree seedling sale. An estimated 10 acres of our watershed was planted through these programs.

Tree Seedling Sale

- 16,260 trees and shrubs planted in the watershed through the sale
- \$19,940.00 in revenue from the sale

50 Million Tree Program

- 6,700 trees planted
- 6 private landowners
- \$12,725 in grants leveraged
- \$7,900 in Landowner contributions

Habitat Restoration

- 220 Species at Risk (Butternut) trees planted at Pigeon River Headwaters Conservation Area
- 220 conifer and deciduous trees planted 🍁

Flood Forecasting



Flood forecasting is one of the most important services that Kawartha Conservation provides to our residents and member municipalities. We monitor watershed conditions and assess flood potential every day. A timely warning of upcoming high-water conditions is critical to helping everybody to prepare and be better able to respond.

While we observed an early and low freshet in spring of 2021 that did not result in flooding concerns, several very intense rain events during the summer months prompted flood messages.

Flood Messages Issued:

- 8 Watershed Conditions Statements – Water Safety
- 1 Watershed Conditions Statement – Flood Outlook
- 1 Flood Watch

As part of our public education and outreach efforts, we held three events in 2021 focused on flood emergencies:

- A Lunch and Learn ‘Floods Happen: Be Aware and Prepare’ Mar 12, 2021
- Flood Preparedness and Safety Public Seminar, Mar 18, 2021

- Flood Forecasting and Warning Seminar for municipal partners, Jan 20-21, 2021

Ontario Low Water Response

Kawartha Conservation in partnership with the Ministry of Northern Development, Mines, Natural Resources and Forestry helps in the coordination and support of local response in the event of a drought as part of the Ontario Low Water Response Program.

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In 2021 we observed prolonged periods of low precipitation that were interrupted by periods of intense rain events. According to our monitoring, in nine months throughout the year monthly precipitation amounts were below the long-term average values.

As a result, the Level I of the Low Water Conditions was declared on June 7th and continued until October 1st.

Monthly precipitation data as well

as OLWR precipitation indexes are now available on our website.

Flood Plain Mapping

A flood plain is an area around a stream, river, or body of water where water will travel during a flood event. Collecting information about ground elevation, land use, rain and snow melt, culverts and bridges, and stream profiles allows us to model what a major flood event might look like and map where the flood plain exists.

We use flood plain mapping to support regulations that limit existing and new development inside the flood plain to protect your personal safety and property from flood hazards.

- The McLarens Creek Flood Plain Study was approved in 2021.
- The Haliburton Flood Plain Mapping project for the Burnt and Gull River has been initiated and is currently in the preliminary data gathering and verification stages. 🌸

Connecting People To Nature



We have been focussed on providing opportunities for people to enjoy nature, which has become more important as the pandemic continued through the year. Our activities focused on physically distanced, responsible sessions and programs that allowed our community members to enjoy nature at their own pace.

- Hosted 5 Forest Therapy Walks and raised \$550 to donate to the Canadian Mental Health Association.

- Partnered with the Kawartha Lakes Public Library to provide the Story Walk on the Pond Loop. This partnership featured a different story each month.

- The “Talking Forest App” developed for January 2021 launch to facilitate Covid -19 remote learning and a low-risk community activity.

- Developed downloadable family friendly outdoor seasonal education activities.

- Launched the Kawartha Quest program in December. This program encourages exploration of the natural world through a variety of adventures and provides a certificate to those who complete the quest.

Conservation Lands

- Created 500m of new trails through Windy Ridge Conservation Area

- Installed a permanent story book walk at Ken Reid Conservation Area – a total of 24 structures along the Pond Loop in partnership with the Kawartha Lakes Public Library

- Launched The Talking Forest interactive trail app at Ken Reid Conservation Area and Windy Ridge Conservation Area

- Installed a new bridge at Pigeon River Conservation Area, allowing for expanded access to the property.

Environmental Restoration and Rehabilitation:

- Durham East Cross Forest Cleanup – 3 cubic yards of metal, lumber, burnt tires, household garbage, abandoned vehicles and assorted building supplies removed from the property

- Planted 220 Butternut trees and 220 companion trees of various species

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through the Habitat Compensation Program at Pigeon River Headwaters Conservation Area.

Security and Safety

- Designated 2 Provincial Offences Officers to enforce Section 29 of the Conservation Authorities Act
- Installed seven additional security cameras across our Conservation Areas as a response to increased trespass activities

- Enhanced signage at Durham East Cross Forest Conservation Area to encourage safety and educate our visitors on park boundaries and designated uses

- Hosted 2 Durham Regional Police ATV training courses at Durham East Cross Forest for 6 officers over 6 days

- Decommissioned 100 feet of illegal access points throughout Durham East Cross Forest

Film Production

In 2021 we implemented a Filming program at our Conservation Areas. This

new program lays out the framework for renting our Conservation Areas as filming locations for productions of various sizes. We were also successful in attracting two movie shoots to our area in the summer and fall of 2021.

- Hosted the film crew for the Hollywood production of “Marsh King’s Daughter” at Ken Reid Conservation Area.

- Hosted the film crew for an independent film called “A Violent Nature” at Ken Reid Conservation Area and Durham East Cross Forest. 🍁

Embracing Technology



We successfully implemented several technological enhancements in 2021, to support our member municipalities, internal staff, watershed residents and visitors, as well as our building and development communities, ultimately providing a greater level of customer service.

Enhancements include:

- Added functionality incorporated into our award winning website to help

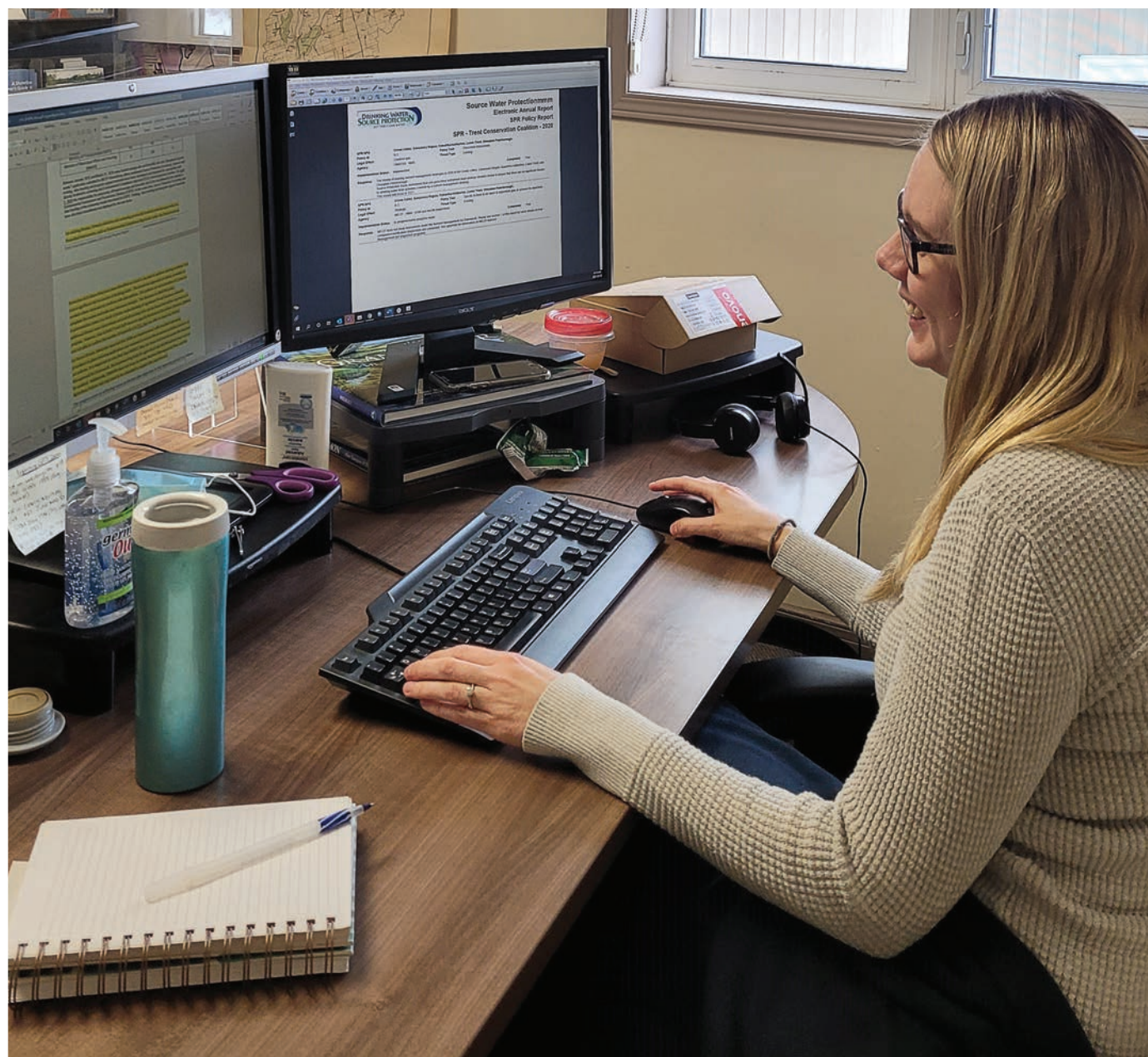
streamline on-line content and activities of our clients and community.

- Created a new online Public Property Mapping tool in early 2021.
- Utilized online data management software to showcase Low Water, Snow Survey and Precipitation information on the website in an easy, accessible way.
- Launched an organization-wide VoIP telephone system to allow for more responsive remote work responsiveness.
- Promoted the online parking app to reduce in-person parking pass purchases.
- We purchased two water quality meters, one conductivity logger, and 10 Bluetooth

temperature loggers for our water quality programs. These additions will increase our capacity to deliver water quality information.

- Utilized software to enable remote digital collection of information collected in the field for the Integrated Watershed Management Team.
- Purchased one new tablet for use within the Permitting and Planning department during site visits. This increases efficiency with the ability to add notes and photos directly into files while on site. In addition, on-site mapping using the GPS capability of the tablet increases our ability to assess natural features. 🌲

Corporate Initiatives



Strategic Plan

Throughout the spring and summer, staff worked closely with the Board of Directors to facilitate the development of the new 5-Year Strategic Plan. With a renewed Vision of ‘Engaged communities that love, respect and appreciate our natural environment,’ the new 2022-2026 Strategic Plan will focus on three strategic priority areas:

- Restore and Protect
- Engage and Inspire
- Innovate and Enhance

Transition Plan

The Conservation Authorities Act requires Conservation Authorities to prepare Transition Plans outlining steps and timelines for the preparation of an Inventory of Program and Services

and for the development and execution of funding agreements between Kawartha Conservation and participating municipalities.

The Transition Plan was completed in 2021 with the Inventory of Programs and Services being delivered early in 2022. When complete program funding discussions with our member municipalities will follow. 🍁

Finances

NOTE: This financial information is condensed from the Board of Directors' Approved 2021 Budget Summary. The complete auditor's report for the year ended December 31, 2021 is anticipated to be available in May 2022, copies of which will be available upon request.

Sources of Revenue and Expenditures

