



GRCA Annual Report 2024

Ganaraska Region Conservation Authority

Clean Water, Healthy Land For Healthy Communities



A Year In Review

This past year has been one of opportunities and many successes. The *Ganaraska Region Conservation Authority (GRCA) 2024 Annual Report* that is presented highlights many of these accomplishments.

GRCA staff continued with delivering excellent programs and services throughout the year. There were many projects completed during the year, while others were just beginning.

Conservation Authorities across Ontario continued to work with the Ministry of Natural Resources in moving forward the

changes and requirements of the *Conservation Authorities Act*. This includes the completion of the *Conservation Lands Inventory and Strategy*, as well as the *Watershed-Based Resource Management Strategy* in the fall of 2024.

The fall also saw the opening of the new boardwalk in the Ganaraska Millennium Conservation Area, which was built, with funding from the Ministry of Transportation, to accommodate the upcoming 401 bridge construction. This expansion will need to infringe on both this conservation area, as well as Port Hope Conservation Area, for a few years. New Ganaraska Forest trailhead signage was also installed, with funding from the Greenbelt Foundation. Future improvements in conservation areas are scheduled over the next few years.

This past year, Vicki Mink was pleased to have the opportunity to serve as Chair of the Ganaraska Region Conservation Authority. As Chair, she would like to thank Vice-Chair Willie Woo, the Board of Directors and dedicated staff for their continued support. We look forward to continuing working together as we head into 2025.

Please take the time to review the 2024 Annual Report, we welcome your feedback.

Yours in Conservation,

Vicki Mink

Chair, Board of Directors

Linda Laliberte, CPA, CGA

CAO/Secretary-Treasurer

Climate Change

The GRCA participated in climate change working groups to assist several municipal partners in shaping their respective climate action plans, through climate mitigation and adaptation strategies.

The importance of these collaborations lies in the opportunity to leverage expertise, share resources and ensure climate action plans are comprehensive, as well as tailored to the specific needs of each municipality.

Updates to the *GRCA Climate Change Strategy* have been initiated, focusing on the role of the Authority in mitigating

and adapting to the impacts of climate change within local watersheds.

Through its *Watershed Management Programs*, the GRCA aims to protect water resources, improve biodiversity and enhance resilience against climate impacts, such as severe weather, heatwaves and rising temperatures. The scope includes reducing and mitigating greenhouse gas emissions by promoting nature-based solutions, reforestation, carbon sequestration and low-impact development practices.

Adaptation and mitigation strategies will address water quality and quantity, flood risks, shoreline erosion and the protection of natural ecosystems, helping communities manage the local impacts of climate change. Additionally, the GRCA will monitor and model local climate conditions to guide decision-making, while also promoting education and outreach on climate change strategies.

The improved strategy involves collaboration with municipalities, landowners and various organizations to ensure comprehensive, community-based action in both urban and rural settings.

Natural Hazards

Region of Durham Floodplain Mapping Updates

In 2024, the GRCA finalized efforts to update floodplain mapping for Lovekin, Bouchette Point and Port Granby Creeks, as well as the northwestern portion of the Ganaraska River watershed in the Municipality of Clarington.

The project was a partnership between the GRCA and the Regional Municipality of Durham, with matching funding from Natural Resources Canada, through the Flood Hazard Identification and Mapping Program. Previous mapping was nearly 49 years old, requiring updating to provide the latest data and to assist with emergency preparedness planning, including flood prevention and mitigation.

These efforts align with *Priority 1 of Ontario's Flooding Strategy; 'Understand Flood Risks'*. New floodplain models have been produced to update watershed hydrology and river hydraulics.

The new mapping will help guide planning to ensure new development is directed to areas outside of flood susceptible areas, protecting people and property from potential flood damages.

Region of Durham Flood Risk Assessment

The GRCA continues its work with the Regional Municipality of Durham to support the region's risk assessment efforts.

This work aims to quantify flood risks associated with riverine (creek) systems at road and rail crossing locations, using the recently updated floodplain mapping projects within the region. This information will be used in asset management and capital infrastructure planning, in addition to emergency management planning.

Conservation Areas

The GRCA maintains nine conservation areas for passive, public recreational use, including residents and visitors alike.

2024 saw a lot of activity in Conservation Areas (CA):

- Sylvan Glen Conservation Area was re-opened in May, after replacement of the Sylvan Glen Road bridge.
- 45 Eastern White Cedar and Red Maple trees were planted at Garden Hill Conservation Area, in partnership with the Rotary Club of Cobourg and Trees for Life.
- Interpretive, project-specific and property signs were installed at Cobourg Conservation Area, in partnership with the Town of Cobourg and the Rotary Club of Cobourg.

- As of Sept. 1st, Port Hope Conservation Area was closed to the public for Highway 401 expansion work. The parking lot will be used for staging until 2029.
- The Ganaraska Millennium Conservation Area was also impacted by 401 expansion work. As a result, the boardwalk at the south end of the property has been rebuilt further north and general trail improvements were made throughout.

In Sept. 2024, the GRCA Board of Directors approved the *Conservation Land Strategy*, which will guide future conservation and management of GRCA lands.

Forest Management

A single timber harvest tender was

awarded, in 2024, for the harvest of 120 hectares of utility poles in the West Ganaraska Forest.

For the third year in a row, this tender was awarded to Penguin Poles of Wallenstein, ON, with harvesting being completed by Robinson Forest Products of Stirling, ON.

This area included the final removals of Red Pine in some stands, marking the end of the plantation's life span and the formal conversion to a younger, natural mixed wood state. These post-removal stands will now switch to a more passive management approach, monitoring the growth and success of the established mixed wood species. Once the new stand has had adequate time to develop, active management will begin again to maintain health, productivity and other ecological objectives.

A single harvest tender in the West Forest has been marked for harvest in 2025. Similar to 2024, this will target a smaller geographic area, prioritizing the removal of larger Red Pine, utility pole and sawlog material to release regenerating mixed wood species.

Forest Health

Routine *Forest Health Monitoring* was conducted as part of forest inventory duties, including *Invasive Species Monitoring* and *Forest Health Assessments*.

In total, approximately 736 hectares of predominantly Red Pine stands were assessed, through 109 surveys. This is part of an ongoing effort to establish baseline forest health data across the Ganaraska Forest.

Unsurprisingly, forest management objectives continue to be challenged by invasive species, such as Dog-Strangling Vine

(found in 44% of surveys), European Buckthorn (29%), Autumn Olive (22%), Honeysuckle (11%) and Garlic Mustard (11%). However, these numbers are likely an underestimation, given the timing of most surveys. The two most common pathogenic challenges to forest management objectives — Red Pine Pocket Decline (17%) and White Pine Blister Rust (12%) — were also observed.

A newer threat found in the Forest in recent years, Beech Leaf Disease (BLD) was detected on 5 different occasions. BLD sightings continue to be limited to the West and Central Forest, though it is expected to be present in the East Forest as well.

The GRCA continues to support Canadian Food Inspection Agency (CFIA) and Ministry of Natural Resources (MNR) researchers on the dedicated monitoring of Hemlock Woolly Adelgid and Oak Wilt Disease, with no positive detections being made for either via visual observation or eDNA trapping.

Anecdotal observations during the field season noted increasing sightings of Spongy Moth (formally LDD or Gypsy Moth) egg masses throughout the Forest. This well-known, defoliating pest follows a roughly 7–10-year outbreak cycle, with the last outbreak observed in 2020–2021.

Spongy Moth is not anticipated to have immediate impacts in 2025, though it is expected these observations will become more common as we move toward the start of a new outbreak cycle.

Forest Recreation

As part of ongoing maintenance, GRCA staff implemented both forestry and arboricultural practices to address areas with significant vegetation encroachment issues. This work mitigates hazards and allows for increased sightline clearance, adding to the safety and enjoyment of trail users.

In early summer, the GRCA began installing new trailhead signage within the Ganaraska Forest, specifically parking lots P2, P5, P6, P7 and at the Ganaraska Forest Centre. This project was made possible through Greenbelt Foundation funding.

Trail users can expect further signage updates throughout 2025.

As part of the approved *Conservation Lands Strategy*, the GRCA is assessing additional trail placement in relation to natural features within the Central Forest. Some of the features include, but are not limited to, topography, creeks, ponds, tallgrass prairie and various forest types.

GIS-modelling is being utilized to combine data to identify and support ideal trail placement. The GRCA will utilize this data, in combination with supporting physical and historical data and public input, to plan future multi-use trails and infrastructure development.

More students visited the Ganaraska Forest Centre (GFC) for *Outdoor Education Programs* in 2024 than any other year in the past decade.

The 10,500 participant days recorded this year consisted of visits from 14 different public school boards, as well as students attending home schools, private schools, community groups and post-secondary-institutions.

Breaks in the 2024 school calendar were once again filled by the *Nature Nuts March Break and Summer Camp Programs*. The GFC also offered its annual in-class, safety-themed *Spring Water Awareness Program (SWAP)* to 500 junior-aged students.

In 2024, GRCA staff constructed a new outdoor teaching space to meet the demand for education programs. Accessibility improvements to our pond docks continued through the support of the Vanhaverbeke Foundation. Progress was also made toward an *Indigenous Education Program* and partnership, with the support of the Alva Foundation.

The GFC hosted its second annual *Environmental Symposium* for the Peterborough Victoria Northumberland and Clarington Catholic District School Board (PVNCCDSB), with additional programs led by Ontario Parks, Paul Baines and the Board's Indigenous Education Department. This day of curriculum-based, experiential learning programs attracted 60 students identified as Environmental Leaders in their schools.

This collaboration continued at Darlington Provincial Park, where the GFC provided programs with a Western science perspective, for a multi-day First Nation, Métis, and Indigenous Peoples Celebration. The GFC also provided a

workshop on leadership in outdoor education at the Rekindle the Sparks Workshop for Ontario's Conservation Authority educators.

At the end of the year, the landscape of the GFC changed forever with the demolition of the Quonset hut, representing the end of an era and an opportunity to meet the needs of the future.

We thank all our partners for their support in this monumental year of watershed education at the GFC.

2024 GFC Event Statistics

- **21 Full-Facility, 1 Pop-Up Wedding**
- **16 Not-For-Profit Bookings**
- **4 Corporate Bookings**
- **3 Full-Facility Overnight Camps**

Clean Water-Healthy Land Stewardship

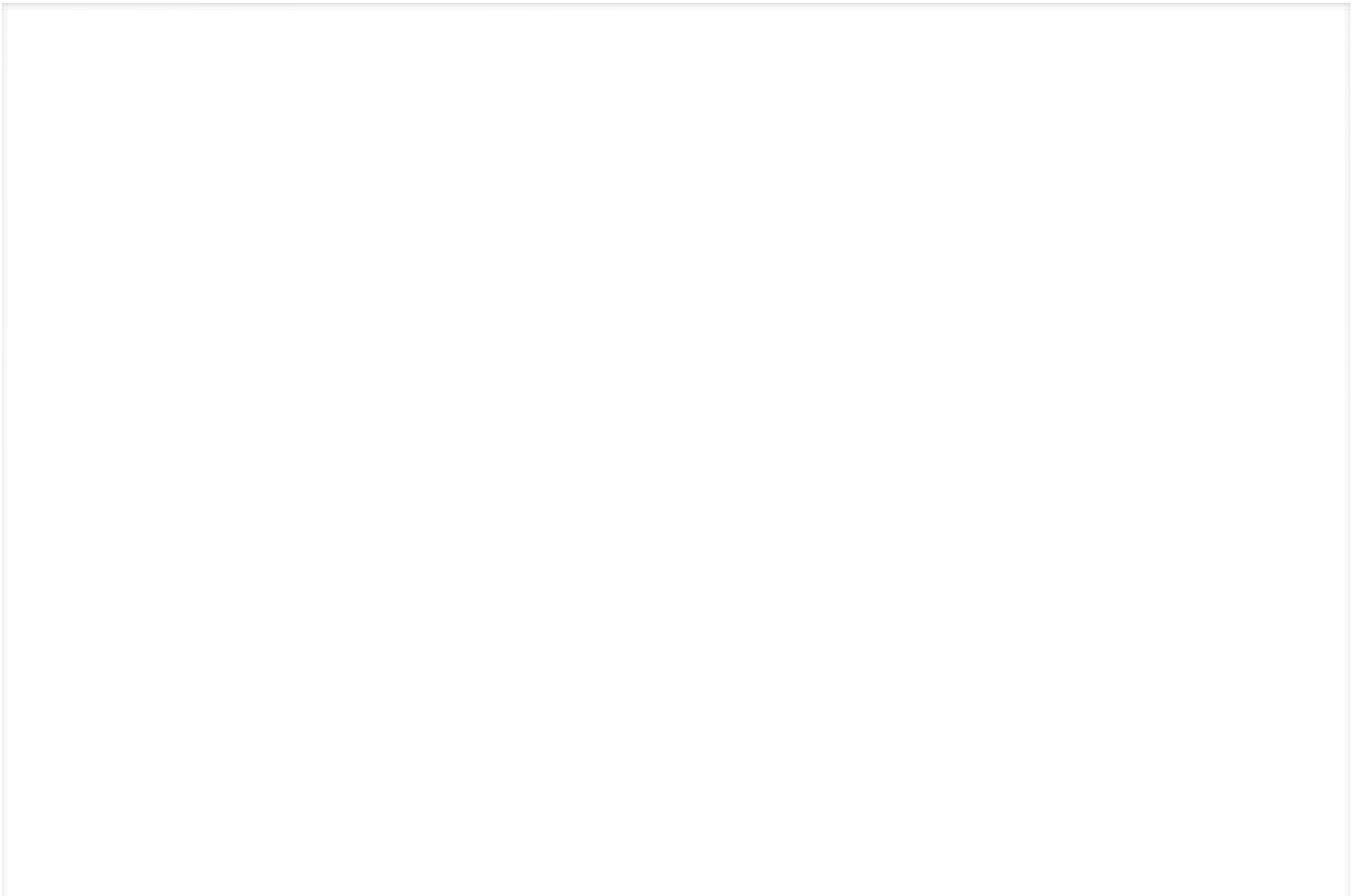
Throughout 2024, the GRCA offered *Stewardship Programs* to assist watershed residents with their environmental restoration goals within the Municipalities of Clarington and Port Hope, Township of Hamilton and Town of Cobourg, through the *Clean Water-Healthy Land Financial Assistance Program (CWHLFAP)*.

The GRCA expanded to include rain barrel sales this year, in partnership with member municipalities, the Township of Hamilton Environmental and Climate Advisory Committee and Lakefront Utility Services Inc. In total, 92 barrels were

sold to promote water conservation.

Through the CWHLFAP, 12 environmental projects were funded for a total allocation of approximately \$17,900, at a monetary value of approximately \$92,500.

Over 23,000 trees and shrubs were planted through various programs. Plants are available for sale through the [GRCA Tree Seedling Program](#) or provided for free via the [Trees for Rural Roads Program](#), in partnership with the Municipality of Clarington, Township of Hamilton and Municipality of Port Hope. Ongoing engagement with landowners is occurring through [Durham TREES](#), aimed at increasing tree cover in the Regional Municipality of Durham.



Environmental Advisory Planning & Regulations

The GRCA provided input on 71 municipally circulated Minor Variances, Severances, Zoning and Official Plan Amendments. Comments were provided to partner municipalities, consistent with the *Provincial Policy Statement 2020* and *Provincial Planning Statement 2024*.

Staff reviewed and provided input on six new subdivisions and 16 ongoing subdivisions. 14 new site plan applications for Major Development Proposals were reviewed, as well as 12 ongoing Site Plans. The GRCA received and provided responses on 175 Formal Inquiries, Authorizations and / or Pre-Consultation requests. The GRCA also issued 95 permits, including 23 permits under the previous Ontario Regulation 168/06 and 72 permits under Ontario Regulation 41/24, pursuant to Section 28 of the *Conservation Authorities Act*. GRCA planning staff also provided input into Municipal Official Plans and Zoning Bylaws.

GRCA planning staff presented to the Northumberland Area Planners, as part of an Ontario Provincial Planning Institute (OPPI) event on June 20, 2024. Staff also continue to participate in several working groups and committees. GRCA planning staff have adapted to the legislative updates to the *Conservation Authorities Act*, Regulation and *Provincial Planning Statement*.

Geographic Information Systems (GIS)

GRCA GIS staff supported many *Watershed Services Projects* throughout the year, including *Flood Forecasting and Warning*, *Fisheries and Ecology*, as well as *Stewardship, Forestry and Recreation*.

Artificial intelligence capabilities at the GRCA continue to expand to increase efficiencies in data processing, as well as enabling automated extraction of environmental data from aerial and satellite imagery. The GRCA is involved with Canada's *RADARSAT Constellation Mission*, further advancing *Earth Observation Technologies* with the Canadian Space

Agency.

GIS staff further upgraded the public, mobile trails mapping system for the [Ganaraska Forest Trails Map](#), including full integration into the *Forest Operations System*, allowing for real-time trail updates.

The GRCA provided leadership and support in Geospatial Sciences to partners and stakeholders, including working closely with municipal, provincial and federal governments, in developing effective technical solutions to pressing water resource issues, namely flood disaster mitigation and climate change.

Drinking Water Source Protection (DWSP)

Significant progress was made in safeguarding drinking water sources through updates to the *Technical Rules (2021)* and proposed amendments to the *Ganaraska Region Source Water Protection Plan*, required under Section 36 of *Ontario's Clean Water Act*.

- Refined criteria for evaluating threats, like agricultural runoff, chemical handling and greenhouse operations, mean only significant threats require regulatory action.
- Municipalities must now address potential risks using precise metrics, such as impervious surface area calculations and water demand formulas.
- For the first time, municipalities can now incorporate climate change risk assessments into *Source Protection Plans*, supporting proactive adaptation measures to address the long-term impacts of changing weather patterns on water resources.
- New methodologies have improved how groundwater and surface water vulnerabilities are assessed, particularly for Groundwater Under the Direct Influence of surface water.

Paired with ongoing collaboration among conservation authorities, municipalities and provincial bodies, these advancements ensure Ontario remains a leader in drinking water source protection.

Watershed Monitoring

The GRCA continues to collect important data describing the current quality and quantity of our local water resources, as well as identifying trends in watershed health.

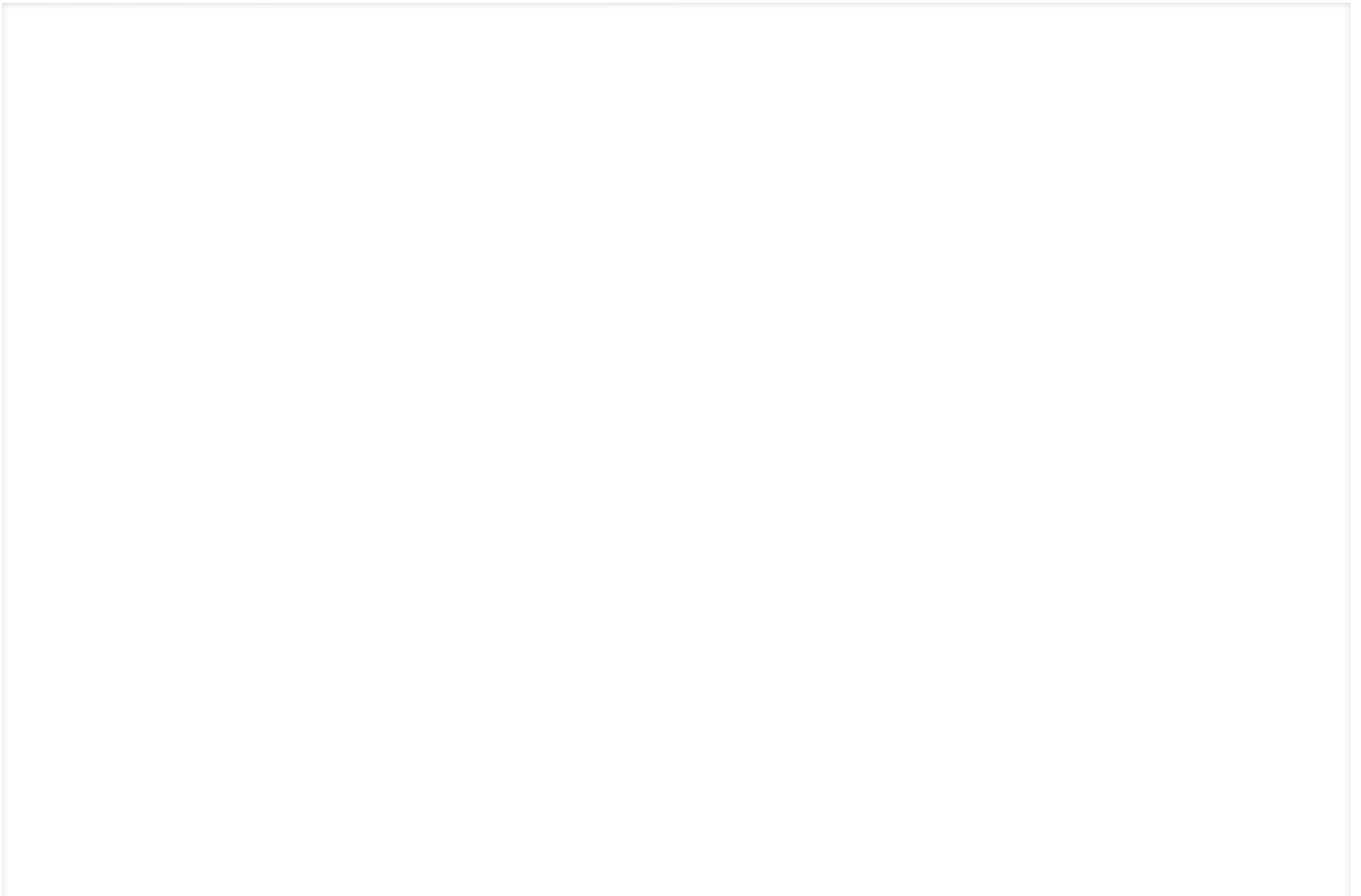
The GRCA maintains a consistent approach to monitoring water resources, as well as aquatic and terrestrial ecosystems. Summer students assisted in monitoring stream levels, precipitation and water quality during the busiest monitoring season.

Staff installed new sensors at stations to monitor

temperatures at stream gauges, along with taking manual measurements of water levels and stream flows to calibrate equipment. Ten rain gauges were tested and calibrated to ensure accurate rainfall data is collected year-round.

Staff received training on a multi-parameter water quality probe in 2024. The new probe measures parameters, such as temperature, pH, oxygen, turbidity and conductivity levels. The data aids in the analysis of lab sample data, including nutrients, bacteria and metals. Monthly water quality samples are collected at 27 locations in the watershed and submitted to provincial and private labs for analysis.

The data produced is used to assess current conditions, identify long-term trends and is summarized in the [GRCA Watershed Report Card](#), found at [**grca.on.ca**](https://grca.on.ca).



Flood Forecasting & Warning

In 2024, GRCA staff issued seven *Watershed Conditions Statements* over the previous year, starting in March. With very little snow accumulation over the winter, there was little concern for flooding from snowmelt. However, rain events in April did lead to high flows in local streams and issuance of additional statements.

Fortunately, no flooding was reported after nearly 40mm on April 11–12th.

Above average rainfall in April, June and July was helpful to those growing crops, as soil moisture was higher than usual. Rain totals in May, August and September were only slightly below normal.

A fifth statement was issued in July when a thunderstorm, producing heavy downpours, arrived in the watershed. On July 16th, 40mm fell over a three-hour period, leading to high intensity rainstorm runoff and resulting in a peak flow of 24m³/s on the Ganaraska River. Erosion of bare soils from fields and construction sites caused muddy runoff to enter local creeks, with no flooding reported.

Dry conditions did eventually return through October and November. December was once again above normal with over 100mm falling in some locations over the course of the month. Another storm brought 25mm of rain on December 29th and melted the early snow accumulation.

Groundwater

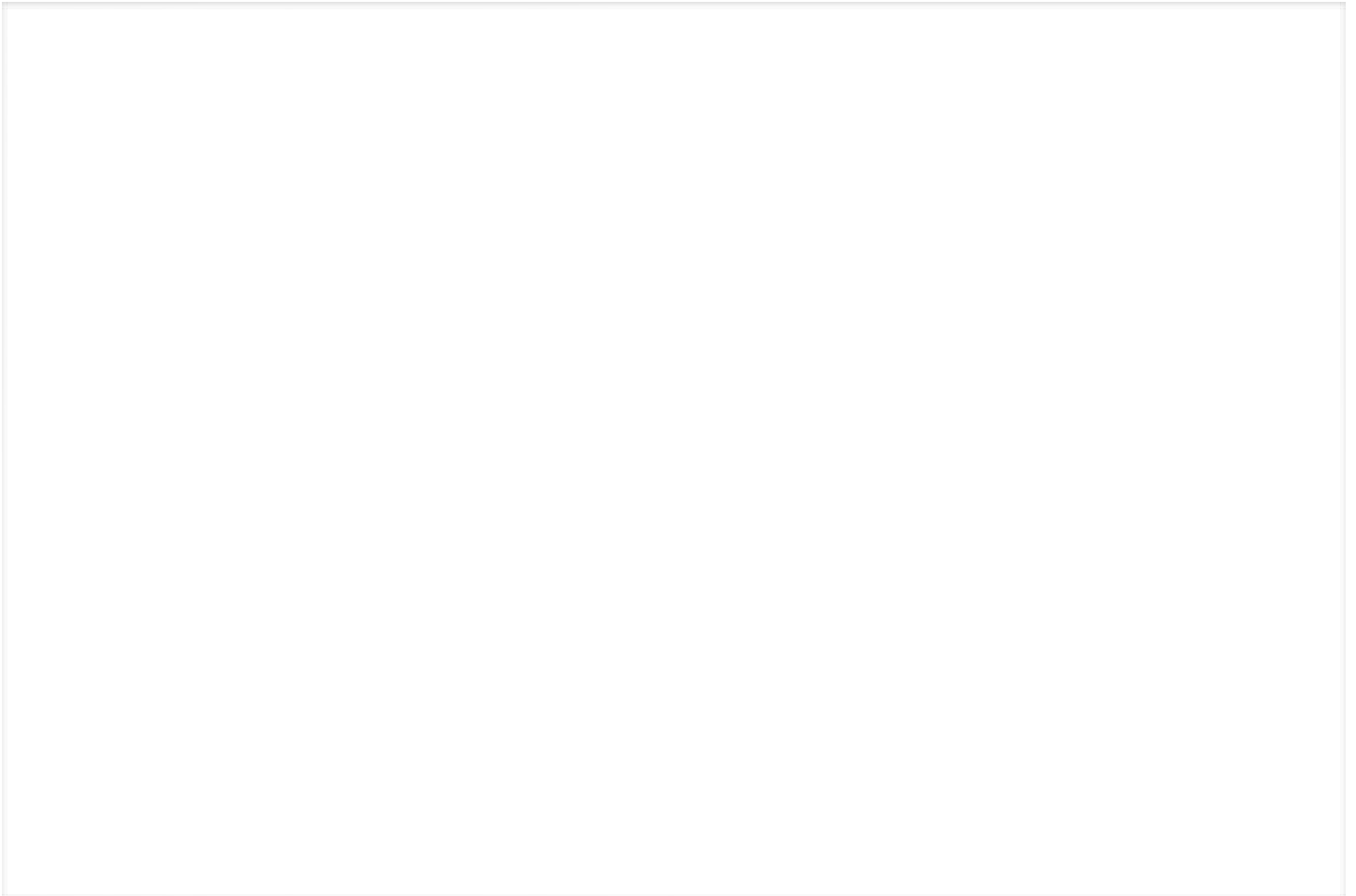
Central to preserving groundwater resources in the Ganaraska Watershed is the *Provincial Groundwater Monitoring Network (PGMN)*, a joint program by the province and the GRCA to monitor water levels in 17 wells across GRCA watersheds.

Monitoring programs support long-term water management goals, including groundwater analyses, water budgeting, private well inquiries and municipal decision-making and development planning. GRCA staff maintain monitoring equipment to ensure accurate data, which is shared with the

Ministry of Environment, Conservation and Parks (MECP) and uploaded to a provincial database.

Participation in the *York, Peel, Durham and Toronto - Conservation Authorities Moraine Coalition (YPDT-CAMC)* shared database further strengthened regional collaboration and supports municipal health and public works departments.

Advanced GIS tools improved the GRCA's ability to map groundwater conditions, identify vulnerable areas and support informed decision-making. These tools support the development of a comprehensive *Groundwater Management Plan* to quantify water availability and quality, while addressing challenges like climate change, drought and future development pressures.



Aquatic Ecology

The GRCA reaffirmed its dedication to the *Cobourg Creek Sea Lamprey Control Program*, achieving significant milestones in ongoing conservation efforts this year.

The number of sea lamprey captured dropped significantly this year, from 1,372 in 2023 to 489 in 2024, reflecting promising progress in controlling this invasive species. A total of 2,353 individual fish, representing 25 different species, were captured, documented and released, contributing valuable data on local biodiversity.

Partnerships with Ontario Power Generation and Hydro One remained pivotal in advancing GRCA work within the Wesleyville Area. Efforts continued to monitor critical metrics, such as abundance, species richness, population density and biomass. A major focus of the study is the long-term population status of Brook Trout. A significant milestone was achieved in this six-year, mark-recapture program — four individuals were recaptured from the previous year, providing critical insights into survival and habitat use for the first time.

2024 marked the introduction of Benthic Macroinvertebrate Sampling to the *GRCA Watershed Monitoring Program*. Benthic macroinvertebrates, such as aquatic insects, worms and mollusks, serve as reliable indicators of ecosystem health.

Eight sites were analyzed to assess water quality. Their diversity and abundance provide a snapshot of water quality conditions, as they respond quickly to changes in pollution, habitat degradation and other environmental factors.

The GRCA remains committed to fostering strong partnerships

and applying science-based approaches to protect and restore the biodiversity and health of local watersheds for future generations.

Terrestrial Ecology

GRCA staff continued vital work through the *Durham Region Coastal Wetland Monitoring Program*, including ongoing breeding bird and frog surveys at monitoring stations, throughout the spring

and summer. While no focal species were recorded this year, the data collected plays a crucial role in tracking wetland health and biodiversity trends over time.

The fight against invasive species advanced significantly, thanks to funding secured through the provincial *Invasive Species Action Fund*. This funding allowed the GRCA to expand monitoring capacity and continue addressing critical threats, such as Hemlock Woolly Adelgid, Beech Leaf Disease and the emerging concern of Oak Wilt Disease.

There were five new Beech Leaf Disease-infested areas discovered and reported to the Ministry of Natural Resources. Proactive surveillance and rapid response efforts remain key to managing these challenges.

In addition to monitoring, the GRCA made considerable strides in invasive shrub removal near the Ganaraska Forest Centre. This marked the second-year of targeted efforts to restore native plant communities in this plantation area.

Several smaller-scale removal projects were also undertaken, including the elimination of a new Phragmites population in the Ganaraska Forest and continued control of Wild Parsnip, as well as foliar spray for Poplar and European Buckthorn in the Ochonski Prairie.

These efforts represent the GRCA's unwavering commitment to protecting and restoring natural ecosystems in local watersheds. By combining robust monitoring with strategic intervention, ensuring these landscapes remain resilient and biodiverse for generations to come.

Financial Summary

In 2024, the Ganaraska Region Conservation Authority (GRCA) budget totalled \$4,687,669.

The *Municipal General Levy* was increased by 3.3% and was adjusted in accordance with the current value assessment figures. The *General Levy* for 2024 was \$1,279,854, representing about 27% of the total budgeted revenues.

This past year, the GRCA continued to partner with others on important initiatives, which were funded by those partners. As well, the *Source Protection Planning Program* continued, which remains fully funded by the province. The *Provincial*

Section 39 funding of \$51,863 has remained unchanged since 2019 when it was reduced by 50%.

The chart above shows the actual revenues for 2024. The *Levy* shown is a combined total of *General and Benefitting Levies*.

The *Ganaraska Forest Timber Sales* of \$447,235 and *Memberships* of \$324,160, as well as the revenues from *Treetop Trekking* of \$36,000, are included in the *Ganaraska Forest Revenue*. It should be noted that \$200,000 of revenues from timber sales were moved into a reserve, to be utilized should timber contracts fall below the anticipated forecast due to reduced markets.

Grants include the *Provincial Section 39* funding, along with *Employment Program Grants* of \$16,116 and other grants of \$17,220. The *User Fees & Sales* consist of the revenues from the *Stewardship Programs, Watershed Services* and the *Water Resources Fees*.

The category of “*Other*” includes direct funded projects of the Conservation Authority, including \$94,855 for the *Trent Conservation Coalition Source Water Protection* initiative and a bequeath of \$320,625.

2024 GANARASKA REGION CONSERVATION AUTHORITY STAFF & BOARD

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- **Linda Laliberte**, CAO/Secretary-Treasurer
- **Kim Baldini**, HR / Finance Clerk
- **Alyssa Butters**, GIS Technician
- **Michelle Giddings**, Bookkeeper
- **Jeff Harrigan**, GIS Technican
- **Ian Jeffrey**, GIS/Remote Sensing Specialist
- **Jeff Moxley**, GIS/IT Coordinator
- **Craig Smith**, Communications & Creative Design Specialist
- **Julie Verge**, Corporate Services Assistant

Planning & Regulations

- **Leslie Benson**, Watershed Engineer
- **Joanne May**, Administrative Assistant, Planning & Regulations
- **Ken Thajer**, Planning & Regulations Coordinator

Watershed Services

- **Lindsay Champagne**, Watershed Biologist
- **Ryan Good**, Water Resources Engineer
- **Cory Harris**, Watershed Services Coordinator
- **Jessica Mueller**, Watershed Hydrogeologist
- **Mike Smith**, Water Resource Technician

Conservation Lands

- **George Elgear**, General Superintendent
- **Pam Lancaster**, Conservation Lands Coordinator
- **William Lemieux**, Conservation Lands Technician
- **Gus Saurer**, Forester
- **Jonathan Shaddock**, GFC Technician
- **Ed Van Osch**, Forest Recreation Technician

Ganaraska Forest Centre

- **Katie Roberts**, Outdoor Education Instructor
- **Aaron Staples**, Outdoor Education Instructor
- **Matt Williams**, Weekend Events Facilitator
- **Hannah Winger**, Outdoor Education Instructor

Board of Directors

- **Vicki Mink**, Chair, Municipality of Port Hope
- **Willie Woo**, Vice-Chair, Municipality of Clarington
- **Mark Lovshin**, Township of Hamilton
- **Margaret Zwart**, Municipality of Clarington
- **Adam Pearson**, Municipality of Port Hope

- **Joan Stover**, Township of Alnwick/Haldimand
- **Lance Nachoff**, Township of Cavan Monaghan
- **Randy Barber**, Town of Cobourg
- **Miriam Mutton**, Town of Cobourg
- **Tracy Richardson**, City of Kawartha Lakes
- **Bruce Buttar**, Agricultural Sector Representative

2024 Summer Students

- **Heather Birney**, Water Resource Assistant
- **Payton Hill**, Conservation Areas Technician
- **Katelyn Murphy**, Forest Health Assistant
- **Rylee Pelow**, Teacher's Assistant
- **Jacob Robinson**, Water Resource Assistant
- **Matteus Schwirtz-Zinser**, Forest Health Assistant