

# Grand River Conservation Authority

**Report number:** GM-12-23-105

**Date:** December 15, 2023

**To:** Members of the Grand River Conservation Authority

**Subject:** 2022-2024 Strategic Plan Update

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## **Recommendation:**

THAT Report Number GM-12-23-105 – 2022-2024 Strategic Plan Update be received as information.

## **Summary:**

The current Strategic Plan was an extension of the previous Plan (2019-2021) with the addition of two new Strategic Priorities: (1) Compliance and implementation of the amendments to the Conservation Authorities Act and new regulations, and (2) Enhancing Indigenous awareness, understanding and relationships.

The GRCA has continued to work towards completing its strategic goals and actions throughout the past two years. Regardless of the changes to the legislation and implementation of new regulations, the strategic priorities remain relevant. Staff will embark on an update to the existing strategic plan in 2024 with input from GRCA staff and the Board.

## **Report:**

This report provides background information on the GRCA's strategic plan. On April 22, 2021 the Grand River Conservation Authority added two additional Strategic Priorities to the extended 2019-2021 Strategic Plan. The following are the current six strategic priorities:

1. Protecting life and minimizing property damage from flooding and erosion
2. Improving the health of the Grand River watershed
3. Connecting people to the environment through outdoor experiences
4. Managing land holdings in a responsible and sustainable way
5. Compliance and implementation of the amendments to the Conservation Authorities Act and new regulations
6. Enhancing Indigenous awareness, understanding and relationships

Under each strategic priority, a number of key actions were identified. This report provides background for the priorities and an update with respect to the status of the key actions to address.

### **Strategic Priority 1 – Protecting Life and Minimizing Property Damage from Flooding and Erosion:**

The GRCA operates a flow-monitoring network, as well as dams and dikes to manage high flows and a flood forecasting and warning system. New development in the floodplain, and other hazard areas like steep slopes, are regulated to minimize future risks. We plant trees and restore natural areas to minimize the impacts of large rainstorms.

With climate change, there is increasing risk of extreme weather. As well, longer and hotter summers put strain on reservoirs operations, which ensure there is an adequate supply of water to the river and municipalities downstream. The key actions outlined below relate to activities

that improve the safety and security of the GRCA's water control infrastructure and improve the tools used for making decisions related to hazard management.

The following table provides a breakdown of each key action and the progress we have achieved to date.

Key Action	Progress to date
Update mapping to further identify flood risk and other natural hazard areas	<ul style="list-style-type: none"> <li>• Completed the Upper Grand Hydrology model.</li> <li>• Flood Damage assessments are underway for the communities of Drayton, Waldemar and Grand Valley (Township of Mapleton).</li> <li>• Work has been initiated with the US Army Corps of Engineers to implement enhancements to their HEC-HMS software to facilitate updating flood hydrology in the Grand River watershed.</li> <li>• Led flood line mapping updates along the following reaches: (1) Grand River from the community of Dundalk to Belwood, (2) Speed River from the Grand River to the Guelph Dam, and (3) Conestogo River from the Grand River to the Conestogo Dam.</li> <li>• Technical review of flood line mapping updates underway through municipal studies: (1) Laurel Creek flood line mapping updates and (2) Breslau Creek and Randall Drain flood line mapping updates.</li> <li>• Participate on provincial committees to identify priorities and technical information for floodplain mapping 2022-2023.</li> <li>• Led or participated in Subwatershed Studies and Master Environmental Servicing Plans that identified flood risks and other natural hazards in Region of Waterloo, Brantford and Guelph.</li> <li>• Participated in Floodplain Policy (SPA) Updates and related mapping in the City of Waterloo.</li> </ul>
Manage and update infrastructure to deal with expected changes in rainfall patterns.	<ul style="list-style-type: none"> <li>• The Wellesley Dam auto gate will be implemented in 2023.</li> <li>• The Luther weighing gauge stations were installed.</li> <li>• The Dam Safety Review for Wellesley Dam was initiated and will provide background information for the future dam rehabilitation project.</li> <li>• Updates to Operation, Maintenance and Surveillance (OMS) Manuals for the large dams have been initiated.</li> <li>• Brantford Dike- Environmental Assessment will progress in 2024 following completion of the Feasibility Study.</li> <li>• Continuing work on the Bridgeport Dike Capacity Improvement Class EA.</li> <li>• Completion of Dam Safety Maturity Matrix- evaluation of GRCA's dam safety management program and implementation of initial priority recommendations.</li> </ul>

Key Action	Progress to date
Upgrade the monitoring, flood forecasting and warning systems	<ul style="list-style-type: none"> <li>• Training of new Senior Operators and knowledge transfer of retiring senior engineering staff in flood and reservoir operations.</li> <li>• Knowledge transfer of forecast model and tools has been completed and is on-going with new staff.</li> <li>• Datalogging and communication upgrades at stream and precipitation gauge monitoring sites across the watershed have been completed.</li> <li>• Additional rain gauges have been installed at selected monitoring sites to improve precipitation gauge network coverage.</li> <li>• Implementation of the SCADA monitoring systems in GRCA dams has begun. Equipment upgrades has started and been completed at 2 of the 9 sites.</li> </ul>
Update GRCA permit policies.	<ul style="list-style-type: none"> <li>• Participation in Conservation Ontario S.28 and S.29 compliance committees.</li> <li>• New or updated mapping and policies for natural hazards incorporated into municipal planning documents align with GRCA permit policies and mapping.</li> </ul>

**Strategic Priority 2 – Improving the health of the Grand River watershed:**

The focus of GRCA programs and services is to improve watershed health. We encourage and support landowners and residents to take actions that protect and enhance it. We work with farmers to keep soil and nutrients on their fields. We support landowners to create and enhance natural areas, forests and stream-side buffers.

Major reservoirs on the Speed, Conestogo and Grand rivers supply the majority of flow in summer, helping reduce harmful impacts on aquatic ecosystems. We work with partners and First Nations through the Grand River Notification Agreement. We coordinate the Water Management Plan that highlights actions of municipal partners, landowners, government partners and the GRCA to improve watershed health. We carry out subwatershed plans and identify opportunities to enhance natural features.

The challenges in this area are related to the role of the GRCA. With the watershed as a management unit, there is a logical role in water quality for the GRCA, yet other agencies and jurisdictions have been mandated that role as well. There is an expectation for results in improving water quality, but improvements take time. With the reduction in provincial funding support, the sub-watershed planning process is ad hoc, and often driven by development rather than on a comprehensive basis. The strategic priorities relate to developing long-range plans that deal with impacts of climate change, population growth and increasing pressure on the natural environment.

The following table provides a breakdown of each key action and the progress we have achieved to date.

Key Actions	Progress to date
Support municipalities in optimizing wastewater treatment plants	<ul style="list-style-type: none"> <li>• Voluntary effluent targets have been established for phosphorus and ammonia.</li> <li>• 40% reduction in phosphorus and &gt;90% reduction in ammonia discharged from wastewater treatment plants (WWTP) since 2012. Further reductions are possible if all WWTPs consistently meet the voluntary targets.</li> <li>• Hands-on training and other studies have been conducted with wastewater operators from Centre Wellington, Southgate and Ontario Clean Water Agency staff at Brant County.</li> <li>• Several technical presentations and webinars were presented to provincial, federal and international audiences and three technical papers were published in wastewater industry conference proceedings.</li> <li>• Staff continue to provide input into municipal wastewater master plans and assimilative capacity studies for Haldimand County (Caledonia), Brant County (Paris), City of Guelph and Oxford County.</li> </ul>
Engage the provincial and federal governments to develop programs to reduce nutrient loads in rivers and streams, and ultimately Lake Erie	<ul style="list-style-type: none"> <li>• Federal funding for Municipal Drain Classification around Luther Marsh and areas of future development in the Region of Waterloo.</li> <li>• Federal funding: Great Lakes Protection Initiative Upper Nith Phosphorus reduction program was completed. Supported landowners implementation of 64 Best Management Practices to address phosphorus loss.</li> <li>• Provincial Profit Mapping Demonstration Project was renewed until 2024 to allow assessment of profit mapping tool over two additional growing seasons.</li> <li>• Provincial Cover Crops project that promotes the adoption of cover crops as an enhanced land management practice that will increase carbon sequestration.</li> <li>• Staff provided support to provincial/federal working groups focused on improving soil health, water quality.</li> <li>• Actively engage MECP to promote Wastewater Optimization.</li> <li>• Participate in the Environment and Climate Change Canada Lake Erie Eastern Basin Task Team setting phosphorus targets for the Eastern Basin of Lake Erie.</li> </ul>
Continue to work with municipalities on drinking water source protection.	<ul style="list-style-type: none"> <li>• Source protection plans are reviewed and updated as required in collaboration with municipalities. Approved source protection plan amendments</li> </ul>

Key Actions	Progress to date
	<p>include: (1) Grand River amendment for Wellington/Brant, (2) Grand River amendment for Wellington/Waterloo and (3) Grand River amendment for Grand Valley.</p> <ul style="list-style-type: none"> <li>• Continue to identify voluntary water quality priority projects to municipalities and landowners in wellhead protection zones and issue contributing areas.</li> <li>• Enhancements to the water quality network were completed to include real-time monitoring of nitrate at Brant and cyanobacteria at Brant and York.</li> <li>• A real-time phosphorus analyzer was installed below Shand Dam.</li> <li>• Manage wastewater systems appropriately on GRCA lands.</li> <li>• Work with provincial Permit to Take Water staff to share watershed knowledge and promote effective water management.</li> </ul>
Continue to work with landowners to reforest and restore natural spaces	<ul style="list-style-type: none"> <li>• Trees planted 2022-2023: 294,700 total trees (15,000 on GRCA land and 279,700 on private land). Of these trees planted approximately 30,000 were provided by the Burford Nursery.</li> <li>• Participated and coordinated community events for reforestation and restoration such as agriculture association and producer events, tree planting on municipal/community and GRCA lands tree planting.</li> <li>• Restoration of wetlands and adjacent areas is achieved by working with landowners through some permit compliance actions. Buffers next to natural areas are identified for future restoration opportunities in sub-watershed planning.</li> <li>• Mill Creek Stewardship Rangers Program - ecological restoration with an emphasis on aquatic environments and riparian areas.</li> </ul>

### **Strategic Priority 3 – To Connect People with the Environment through Outdoor Experiences**

The GRCA operates 11 active Conservation Areas on a user-fee basis. Many of these areas have important natural heritage features. We also operate five Nature Centres, providing curriculum-based outdoor environmental education programs in partnership with school boards, as other community programs. The Grand River Conservation Foundation is instrumental in supporting the environmental education program.

With a growing population, public attendance in the active Conservation Areas is expected to continue to grow. Capital upgrades will be required in both the Conservation Areas and Nature Centres in order to meet user needs. Some assets are nearing the end of their useful life.

The following table provides a breakdown of each key action and the progress we have achieved to date.

Key Actions	Progress to date
Implement infrastructure upgrades for the Conservation Areas.	<ul style="list-style-type: none"> <li>• The Brant Conservation Area workshop was completed in 2023.</li> <li>• The Elora Conservation Area highlevel bridge was restored.</li> <li>• Rockwood Bridge #5 is currently in the process of being replaced. A temporary bridge was constructed to ensure continued access.</li> <li>• 800 metres of Rotary Link Trail was improved.</li> <li>• Each Conservation Area has developed an accessible opportunity plan to be 'shovel ready' for new/future grant applications.</li> </ul>
Prepare plans that balance revenue generation with protecting natural features in the Conservation Areas.	<ul style="list-style-type: none"> <li>• Development of an Asset Management Database Framework for GRCA owned assets is being completed.</li> <li>• Conservation Area rebranding project has been completed. Conservation Areas have been rebranded, logos have been updated, all print and website materials have been updated.</li> <li>• Ancillary activities have been evaluated and out-sourced where appropriate. All food concessions have been outsourced, and depending on locations some canoe and kayak rental services have been outsourced.</li> <li>• Elora Quarry Conservation Area online reservation program now includes a pilot program to allow 15% membership holders participation on Monday-Friday.</li> </ul>
Prepare capital forecasts for the Nature Centres and develop a long-term funding plan	<ul style="list-style-type: none"> <li>• Considering changes to the Conservation Authorities Act, the review of the Outdoor Environmental Education Program has been completed and presented to the GRCA Board of Directors. Additional discussion is required with the Board regarding the operations of the program and will be completed throughout 2024, with a final recommendation being presented by the September 2024 board meeting.</li> <li>• Site and building conditions assessments were completed for four Nature Centres (Apps Mills, Shades Mills, Laurel Creek and Taquanyah) to inform anticipated cost estimates.</li> </ul>
Construct a new Nature Centre at Guelph Lake.	<ul style="list-style-type: none"> <li>• Site plan approval and the building permit for the new Guelph Lake Nature Centre were obtained in the Q4 of 2023.</li> <li>• The project will be tendered in Q1 of 2024.</li> </ul>
Work with member municipalities to encourage river-related links and trails between communities.	<ul style="list-style-type: none"> <li>• Staff continue to provide input on municipal trail master plans, community plans and also provide support through land use planning applications.</li> <li>• Heritage River Designation Annual 2020 and 2022 reports were submitted. 2021 was deferred due to the pandemic.</li> <li>• Planning for 30<sup>th</sup> Anniversary (2014-2024) report has begun.</li> </ul>

**Strategic Priority 4 – Managing land holdings in a responsible and sustainable way.**

Lands around Belwood and Conestogo reservoirs support a cottage lot program with over 700 tenants. In addition, houses on land purchased for reservoirs and natural areas have been rented to tenants for several years, and this program is winding down. Land is being evaluated and sold where appropriate, with funds placed in a reserve for high-priority projects like future land acquisition or repairs to our flood control infrastructure. Hydro is produced at GRCA dams where economically feasible.

Passive areas, especially those near urban centres, are expected to see a significant increase in public use. With increased use there is potential for conflict among user groups and impacts on sensitive natural areas. Passive areas and rail-trails are managed with limited resources. Invasive species like emerald ash borer and phragmites, and weather-related events like ice and wind storms, will continue to cause damage to GRCA properties and natural areas.

The following table provides a breakdown of each key action and the progress we have achieved to date.

Key Action	Progress to date
Prepare management plans for our passive lands where there is a high level of conflicting uses, and establish a long-term funding plan for these areas	<ul style="list-style-type: none"> <li>• Niska Management Plan draft has been completed. Staff are finalizing the Plan and consulting with First Nations.</li> <li>• Work has begun on developing a GRCA lands classification/inventory system to help better guide decisions on use of GRCA lands, including passive recreation lands.</li> <li>• Staff are working closely with municipalities where unauthorized tenting has been identified on GRCA lands.</li> <li>• Research permit processed re-established in 2023: 36 Access Agreements for Research were issued for various types of research &amp; monitoring – from greenhouse gas emissions to waterfowl banding and black-legged tick monitoring.</li> </ul>
Prepare lands for sale where appropriate.	<ul style="list-style-type: none"> <li>• Staff are progressing with the wind-down of the residential tenancy program.</li> <li>• Staff completed a long-standing disposition with the Waterloo District School Public Board for 17 acres in southeast Kitchener.</li> <li>• Staff have continued to work with municipalities and other public agencies to facilitate the disposition of lands that are surplus to the GRCA</li> </ul>
Continue to actively manage hazard trees in accordance with the Tree Risk Management Plan.	<ul style="list-style-type: none"> <li>• Co-ordination of EAB Strategy: reporting/documentation, managing inventory, implementation of tree removals, inventory of treatments on GRCA properties.</li> <li>• As of 2023, staff are continuing to treat 100 individual ash trees on 18 GRCA properties distributed across the watershed. A ten-year review of the treatment program is planned for 2024.</li> </ul>

Key Action	Progress to date
<p>Manage and enhance GRCA natural areas with funding support from partners.</p>	<ul style="list-style-type: none"> <li>• Planted 15,000+ trees across multiple GRCA properties</li> <li>• 716 acres (290 ha) of plantation thinning/restoration at 11 properties</li> <li>• Luther Marsh Wildlife Management Area early Phragmites control efforts including first over-water treatments on the main marsh</li> <li>• Taquanyah Phragmites Control/Virginia Mallow conservation</li> <li>• Other invasive species management actions on GRCA land included: <ul style="list-style-type: none"> <li>• injections to protect ash trees from EAB</li> <li>• early intervention for dog strangling vine control</li> </ul> </li> <li>• Grassland habitat management was conducted on the following GRCA properties: Luther Marsh, Birkett Lane, Damascus</li> <li>• Ecological monitoring and inventories</li> </ul>
<p>Develop a plan to evaluate and reduce our environmental impact</p>	<ul style="list-style-type: none"> <li>• In 2021, mandatory recycling was added to the Conservation Areas waste removal contract. Staff created signage and designated areas within the conservation areas to help explain and implement the program to users.</li> <li>• Hybrid vehicles are being incorporated into the Conservation Area vehicle fleet.</li> <li>• Where appropriate, battery-powered hand tools are replacing gas-powered equipment.</li> </ul>

**Strategic Priority 5 – Compliance and implementation of the amendments to the Conservation Authorities Act and new regulations.**

Over the last five years, several changes have been made to the *Conservation Authorities Act*; many of which have come into force and/or regulations have been released. These modifications to the Act included changes to governance, further defining of Conservation Authority programs and services, changes to the funding model, and increased requirements for operational transparency.

The changes to the Act that included governance came into effect in 2022. This included a maximum term for Chair and Vice Chair, details of minutes and posting requirements, the appointment of a provincial agricultural representative to the Board of Directors and changes to municipal appointments.

*Ontario Regulation 686/21: Mandatory Programs and Services* prescribes the mandatory programs and services conservation authorities are required to provide; risk to natural hazards, conservation and management of land, elements of source water protection and core watershed-based resource management strategies. This regulation also identifies key deliverables to be completed by all conservation authorities by the end of 2024.

*Ontario Regulation 687/21: Transition Plans and Agreements for Programs and Services* under Section 21.1.2 of the Act requires each Authority to have a ‘transition plan’ that outlines the steps to be taken to develop an inventory of programs and services and to enter into agreements with participating municipalities to fund non-mandatory programs and services. These agreements must be in place before the end of 2023.



Several other regulations and policies related to Conservation Authorities' budget process/timelines, municipal apportionment, transparency requirements, and Conservation Authorities' fees have been released.

The following table provides a breakdown of each key action and the progress we have achieved to date.

<b>Key Action</b>	<b>Progress to date</b>
Implementation of governance changes	<ul style="list-style-type: none"> <li>• Submitted and received approval from the Ministry of Environment, Conservation and Parks (MECP) to extend the maximum term for the Chair and Vice Chair by two, 1-year terms.</li> <li>• Circulated notice to participating municipalities of the new requirement under the Act that at least 70% of the municipality's appointees must be selected from that municipality's councillors.</li> <li>• The GRCA By-law (February 2022) has also been updated to reflect the governance changes.</li> </ul>
Completion of Transition Plan, Programs and Services Inventory and Progress Reports	<ul style="list-style-type: none"> <li>• The Transition Plan was approved by the GRCA Board on December 17, 2021, and subsequently submitted to the MECP, circulated to all watershed municipalities and posted on the GRCA website.</li> <li>• Inventory of Programs and Services (version 4, dated March 24, 2023) was approved by the GRCA Board and circulated to all participating municipalities.</li> <li>• GRCA submitted all six Progress Reports to MECP, circulated to all watershed municipalities and posted on the GRCA website.</li> </ul>
Transition to new funding framework for 2024	<ul style="list-style-type: none"> <li>• Budget 2024 Draft #1 was approved for municipal circulation on October 27, 2023</li> <li>• Staff have presented to participating municipal council when requested.</li> </ul>
Approval of Memorandums of Understanding (MOU) with Participating Municipalities	<ul style="list-style-type: none"> <li>• The GRCA Board of Directors approved the final MOU for category 2 programs and services on September 22, 2023.</li> <li>• To date, 16 of MOUs have been signed by the participating municipalities.</li> </ul>
Completion of Regulatory Deliverables in 2024	<ul style="list-style-type: none"> <li>• Internal work plans have been developed to ensure the GRCA meets the regulatory deliverable requirements.</li> </ul>

## Strategic Priority 6 – Enhancing Indigenous awareness, understanding and relationships.

The Grand River watershed is located on the traditional lands of many Indigenous peoples dating back generations. The GRCA is in the process of gaining a greater understanding of all the Indigenous Nations, Communities and Peoples within the Grand River watershed. There is room to grow and improve our understanding of Indigenous perspectives on the stewardship of the lands, waters and resources of the watershed.

The following table provides a breakdown of each key action and the progress we have achieved to date.

Key Action	Progress to date
Gain understanding and awareness of Indigenous Nations, Communities and Peoples within the watershed	<ul style="list-style-type: none"> <li>• Engagement with Six Nations of the Grand River and Mississaugas of the Credit First Nations for the Grand Valley, Waldenmar and Drayton Flood Damage Assessment Study and the Bridgeport Dike Capacity Improvement Class Environmental Assessment.</li> <li>• Provided support for Six Nations of the Grand River watershed tour in March 2023.</li> <li>• Provided support the Mississaugas of the Credit First Nations regarding a research request at Rockwood Conservation Area in July 2022.</li> </ul>
Greater understanding of Indigenous perspective on stewardship of land, water and resources of the watershed	<ul style="list-style-type: none"> <li>• Six Nations of the Grand River and Mississaugas of the Credit First Nations were invited to join the Water Managers Working Group.</li> <li>• Staff consulted with both First Nations on the Niska Management Plan</li> <li>• Provided access for Six Nations of the Grand River Kayanse Greenhouse and Nursery to GRCA properties for seed collection</li> </ul>
Provide education and training to staff and the GRCA Board	<ul style="list-style-type: none"> <li>• Managers who have were involved in the Grand River Notification Agreement participated in webinars on reconciliation, land acknowledgements and a virtual tour of the Woodland Cultural Centre/Mohawk Institute Residential School.</li> <li>• All staff were invited to participate in the True North Aid Settler Discussion Series webinars; a series of four webinars that will be completed in 2024.</li> </ul>

Key Action	Progress to date
Continue to develop working relationships with Elected Band Councils in the Grand River watershed	<ul style="list-style-type: none"> <li>• Staff meet quarterly with members of the Six Nations of the Grand River to discuss issues of mutual interest. This can include renewal/establishment of agreements on projects, development/permit files, etc.</li> <li>• Renewed Grand River Notification agreement on February 28, 2023.</li> <li>• Meetings with the Mississaugas of the Credit First Nations on issues of mutual interest occur regularly.</li> </ul>
Establish an appropriate and respectful way to acknowledge indigenous Nations, Communities and Peoples of the Grand River watershed	<ul style="list-style-type: none"> <li>• Staff have included both First Nations in the development of the 30<sup>th</sup> Heritage River Designation report.</li> <li>• Staff are looking for other opportunities to incorporate acknowledgement that are appropriate and respectful to the First Nations in the watershed.</li> </ul>

**Process for Updating the Strategic Plan**

Staff will continue to work towards achieving the outstanding key action items throughout the 2024 year. The main strategic goals of the Strategic Plan remain relevant regardless of the changes to the Conservation Authorities Act. There are still pending regulations, and they are anticipated to be released before the end of 2023. Most notably, the updated Development Regulation, which pertains to GRCA’s permitting function.

Staff will embark on a new Strategic Plan in the second quarter of 2024. The new Strategic Plan will focus on priorities for the next five years, starting in 2025. This new plan will include the engagement of staff, the GRCA Board, First Nations and the watershed community.

**Financial Implications:**

Not applicable.

**Other Department Considerations:**

Not applicable.

**Submitted by:**

Samantha Lawson  
Chief Administrative Officer