

*Notice of Meeting*  
*Meeting of the Membership #8-2020*

**Date:** October 21, 2020  
**Time:** 7:00 p.m. – 9:00 p.m.

**Location:** Upper Hall, Wroxeter Community Centre, Wroxeter, Ontario

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*Agenda*

*Meeting Objectives*

- To provide direction on 2021-2023 Work Plan and Budget Forecast
- To provide direction on the priorities for Conservation Ontario's Strategic Plan
- To provide direction on MVCA's 70<sup>th</sup> Anniversary Celebration in 2021

**1. Call to Order**

**2. Declaration of Pecuniary Interest**

**3. Minutes** – Approval of Minutes: Membership Meeting #7-2020 held on September 16, 2020 (attached)

**4. Presentation: Healthy Watersheds-Healthy People and Wildlife:**

**Dr. Justina Ray, President and Chief Scientist for the Wildlife Conservation Society of Canada**

**5. Business Requiring Direction**

- a) 2021-2023 Work Plan and Budget Forecast: **Report #44A-20** (attached) and **Report #44B-20**
- b) Conservation Ontario Council Meeting: Strategic Planning Priorities: **Report #45-20** (attached)
- c) Celebrating MVCA's 70<sup>th</sup> Anniversary in 2021: **Report #46-20** (attached)

**6. Chair and Members Reports:**

**7. Consent Agenda:**

- a) Revenue – Expenditure Report for September: **Report #47-20** (attached)
- b) Correspondence received for information: Article from The Globe and Mail on Climate change threatens Canada’s dams (attached)

**8. Adjournment: Next Meeting, Wednesday, November 18, 2020 at 7:00pm**

**DRAFT** General Membership Meeting #7-20

September 16, 2020

**Member's Present:** David Turton, Matt Duncan, Roger Watt, Alison Lobb, Ed McGugan, Kevin Freiburger, Anita van Hittersum, Megan Gibson, Cheryl Matheson, Alvin McLellan, Erinn Lawrie

**Staff Present:** Phil Beard, General Manager/Secretary-Treasurer  
Danielle Livingston, Administrative/Financial Services Coordinator  
Jayne Thompson, Communications Coordinator

**1. Call to Order**

Chair Dave Turton welcomed everyone and called the meeting to order at 7:00 pm.

**2. Declaration of Pecuniary Interest**

There were no pecuniary interests at this time.

**3. Minutes**

The minutes from the Maitland Valley Conservation Authority (MVCA) General Membership Meeting #6-20 held on June 17, 2020 have been circulated for information and approval. The Members agreed with the minutes and the following motion was made.

**Motion FA #66-20**

**Moved by: Megan Gibson**

**Seconded by: Alison Lobb**

**That** the minutes from the General Membership meeting #6-20 of June 17, 2020 be approved.

**(carried)**



#### **4. Review of Results of Governance Survey: Report #38-2020**

Following the presentation of Report #38-2020, discussion took place around the importance of informing the public through education, social media and MVCA's website.

The Member's also provided feedback to staff to further develop the questions in the survey for the next governance review.

This motion followed.

##### **Motion FA #67-20**

**Moved by: Ed McGugan**

**Seconded by: Alvin McLellan**

**That** Report #38-2020 be accepted as presented.

**(carried)**

#### **5. Presentation: 2020 Work Plan Update: Report #39-2020**

Report #39-2020 was presented and this motion followed.

##### **Motion FA #68-20**

**Moved by: Alison Lobb**

**Seconded by: Matt Duncan**

**That** the work plan progress Report #39-2020 be accepted as presented.

**(carried)**

#### **6. Business Requiring Direction and Decision**

##### **a) Federal Funding Program: Resilience Stream- MVCA Priorities: Report #40-2020**

Following the presentation of Report #40-2020, the Member's agreed that all of the projects that meet the criteria should be included in any funding submission.

This motion followed.

##### **Motion FA #69-20**

**Moved by: Matt Duncan**

**Seconded by: Megan Gibson**

**That** MVCA apply for any funding opportunities for the projects outlined in Report #40-2020 that meet the eligibility criteria set by the Provincial Government for the Resilience Stream of the Investing in Canada Infrastructure Program.

**(carried)**

#### **7. Reports**

At this time, Chair Turton on behalf of the membership said thank you to the GM and staff for the guidance and all the work that has been accomplished at MVCA.

## 8. Consent Agenda

The following items were circulated to the Member's for their information.

- a) 2020 Budget Update: Report #41-2020
- b) Revenue – Expenditure Report for June, July and August: Report #42-2020
- c) Agreements Signed: Report #43-2020
- d) Correspondence received for information: Letter from the Municipality of Huron East Re: Brussels Mill

The following motion was made.

### **Motion FA #70-20**

**Moved by: Alvin McLellan**

**Seconded by: Kevin Freiburger**

**That** reports #41-20 through #43-20 along with their respective recommended motions and correspondence as outlined in the Consent Agenda be accepted as presented.

**(carried)**

## 9. Review of Meeting Objectives, Follow-up Actions, Next meeting:

Chair Turton reviewed the meeting objectives and announced that they have been met.

The next meeting of the membership will take place on October 21, 2020 at 7:00pm

## 10. Adjournment

The meeting adjourned at 8 pm with this motion.

### **Motion FA #71-20**

**Moved by: Megan Gibson**

**That** the general membership meeting be adjourned.

**(carried)**

Dave Turton  
Chair

Danielle Livingston  
Administrative/Financial  
Services Coordinator

## **MEMBERS REPORT #44A-20**

**TO:** Members, Maitland Valley Conservation Authority  
**FROM:** Phil Beard, General Manager-Secretary-Treasurer  
**DATE:** October 14, 2020 (to be presented October 21, 2020)

**SUBJECT:** 2021-2023 Work Plan and Budget Forecast

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### **PURPOSE:**

To outline the major activities and authority funded projects that need to be undertaken by MVCA over the next three years.

To outline the funding needed to undertake the major activities and projects identified in the three year work plan.

### **BACKGROUND:**

The Ministry of Environment, Conservation and Parks is proposing to make changes to the Conservation Authorities Act that will affect the services and regulations that we may undertake and levy our member municipalities.

The Ministry of Environment, Conservation and Parks is proposing that conservation authorities focus on three service areas. Conservation areas, flood control and drinking water source protection. These services would be the only services that could be part of the mandatory levy. Any other service areas would be considered as a discretionary levy service. MECP is also proposing to download the cost of the Drinking Water Source Protection Program onto the municipal levy.

The Minister of Environment, Conservation and Parks has advised Conservation Ontario Council that he is proposing to take the proposed changes to cabinet for review this fall. If Cabinet supports the proposed changes, the proposed changes will be released for review and comment. MECP has advised that there will be a two year transition period before any changes come into effect.

### **VISION:**

Working for a healthy environment.

### **MISSION:**

Providing leadership to protect and enhance local water, forests and soils.

### **ENDS:**

1. To protect life, property and prevent social disruption from flooding and erosion hazards;
2. To protect water and related resources for present and future generations;
3. To protect and expand natural areas

## **PRIORITIES:**

The work plan and budget forecast for 2021-2023 builds upon the progress that we have made over the past six years. The focus of the three year work plan will continue to focus on those priorities:

1. Help our member municipalities reduce the potential for loss of life, property damage and social disruption in flood and erosion prone areas.
2. Help our member municipalities and landowners develop and implement soil and water conservation systems that will help keep soil and nutrients on the land and out of watercourses and Lake Huron.
3. Ensure that management of our conservation areas sets high standards of conservation practices and are safe for the public to use.
4. Develop a stable financial base for the MVCA so that we will be in a position to provide the support that our member municipalities require to develop a healthy, resilient and prosperous watershed.

## **WORK PLAN FORMAT:**

A three year work plan has been developed for each of MVCA's four service areas. Drinking Water Source Protection has been left out of the work plan as we do not know as yet what the work plan and funding will be for this project over the next three years.

1. Corporate Services
2. Flood/Erosion Safety Services
3. Watershed Stewardship Services
4. Conservation Areas Services

Each service area's work plan outlines the major activities and projects that are to be undertaken over the next three years. Activities and projects have been identified based upon:

1. Members approval
2. Major staff time project
3. Activity or project is included as a separate project in the budget
4. Activity or project involves a member municipality

## **FLOOD/EROSION SAFETY SERVICE**

**1. Responsibility is to reduce the risk to life and property from flooding and/or erosion in a rapidly changing climate through the use of emergency preparedness, flood forecasting, planning, regulation and infrastructure.**

### **2. Service Components:**

#### **a) Preparedness**

- i) Emergency planning and training for staff and municipalities
- ii) Flood/erosion risk mapping
- iii) Regulation of development in hazard areas
- iv) Planning support to municipalities regarding natural hazards

#### **b) Monitoring**

- i) Year round monitoring and data acquisition for river levels, snow pack, precipitation and runoff potential
- ii) Maintenance of all monitoring equipment
- iii) Development and maintenance of flood forecasting tools
- iv) Monitoring bluff & gully collapse and toe erosion along the Lake Huon shoreline

#### **c) Flood and Erosion Control Infrastructure (Listowel Conduit, Goderich Bluffs/Groyne and McGuffin Gully)**

- i) Annual inspections
- ii) Annual minor maintenance
- iii) Major maintenance planning in conjunction with partners

#### **d) Response**

- i) Utilizing all MVCA staff as necessary to operate the flood forecast system and provide watch and warning messages to municipalities during flood and erosion emergencies

**Staffing:** Flood Erosion Safety Services Coordinator, Water Resources Technician, Field Services Coordinator, Field Services Technician, Environmental Planner/Regulations Officer, Coastal Technician, Planning & Regulations Assistant, Stewardship Project Lead and Communications Coordinator.

**Flood Erosion Safety Service – 2021-2023 work plan:**

<b>Component</b>	<b>Priorities</b>	<b>Outcomes</b>
<p><b>Preparedness</b></p> <p><b>Focus:</b> Directing new development away from natural hazards. Ensuring municipalities have appropriate information to respond to a flood or erosion emergencies for existing development in hazard areas.</p>	<p>Administration of Development, Interference / Alteration Regulation</p>	<ul style="list-style-type: none"> <li>• No loss of features/functions due to development in flood plain, shoreline, river valley dynamic beaches or wetlands</li> <li>• Development that does not affect flood control, erosion, pollution, dynamic beaches or conservation of land</li> <li>• No adverse alterations to watercourses</li> <li>• No interference to wetlands</li> <li>• Updated policies better achieve purposes of regulation with respect to wetlands and watercourses</li> </ul>
	<ul style="list-style-type: none"> <li>• Land Use Planning Support/Drainage Act Support:               <ul style="list-style-type: none"> <li>• OP: ACW, North Huron</li> <li>• Bruce County Official Plan</li> <li>• South Bruce Zoning bylaw</li> </ul> </li> <li>• Develop triage policy for violations (2021)</li> </ul>	<ul style="list-style-type: none"> <li>• Municipal land use plans that are consistent with the natural hazard policies in the Provincial Planning Policy</li> <li>• Municipal Land Use &amp;/or zoning amendments that are consistent with the natural hazard policies in the PPS.</li> <li>• Municipal land use &amp;/or zoning amendments that are complement</li> <li>• MVCA’s development/interference policies with respect to wetlands and watercourses</li> <li>• Drainage Act applications that will not have an adverse impact on flood control, erosion, pollution or conservation of land</li> <li>• Conform with natural hazard policies in Provincial Policy Statement</li> <li>• Staff can consistently and appropriately allocate resources to alleged violations</li> </ul>

<p>Outreach and Education Strategy</p>	<ul style="list-style-type: none"> <li>• Target audiences (shoreline municipalities &amp; property owners,</li> <li>• CBO's, contractors, planners, real estate, solicitors ) are more</li> <li>• supportive and understanding of CA</li> <li>• development/interference/alteration regulation policies</li> <li>• Better compliance with CA regulation, fewer violations</li> </ul>
<p>2021 Updating value of property at risk of flooding erosion</p>	<ul style="list-style-type: none"> <li>• Better understand the value of property that is at risk of flooding and erosion.</li> </ul>
<ul style="list-style-type: none"> <li>• 2021 (pending funding): Lake Huron Shoreline Erosion Risk Mapping Update: develop new strategy to update erosion rates. Public notification for new gully mapping</li> </ul>	<ul style="list-style-type: none"> <li>• Build understanding and awareness of updated shoreline and gully erosion amongst shoreline municipalities, county planning department and lakefront residents.</li> <li>• Have more accurate erosion rates to use for regulation purposes to keep development safe and protect bluffs</li> </ul>
<ul style="list-style-type: none"> <li>• 2021 Update flood emergency plan to include progression mapping</li> </ul>	<ul style="list-style-type: none"> <li>• Better prepared to respond to sudden flood emergencies by being able to advise municipalities where to deploy resources</li> </ul>
<ul style="list-style-type: none"> <li>• Flooding and Erosion Emergency Planning Support</li> <li>• 2021 Wingham Area Flood progression mapping</li> </ul>	<ul style="list-style-type: none"> <li>• Municipalities with flood and or erosion damage centres are prepared to deal with flood and erosion emergencies.</li> <li>• Hazards are clearly identified so that future development can be directed away from hazardous areas.</li> </ul>
<ul style="list-style-type: none"> <li>• Staff emergency training: annual exercise to be carried out with FESS staff and regular training to keep staff up to date</li> </ul>	<ul style="list-style-type: none"> <li>• Staff capable of carrying out their responsibilities during a flood and/or erosion emergency.</li> </ul>
<ul style="list-style-type: none"> <li>• Technical resource for Minto with flood damage remediation strategies</li> </ul>	<ul style="list-style-type: none"> <li>• Long term plan created to reduce flood damages in Harriston</li> </ul>
<ul style="list-style-type: none"> <li>• Listowel Hydrology Project data collection</li> </ul>	<ul style="list-style-type: none"> <li>• To obtain sufficient flow information collected to calibrate the future flood forecast model for Listowel</li> </ul>
<ul style="list-style-type: none"> <li>• Lucknow Hydrology Project data collection</li> </ul>	<ul style="list-style-type: none"> <li>• To obtain sufficient flow information collected to calibrate the future flood forecast model for Lucknow</li> </ul>

	<ul style="list-style-type: none"> <li>• Education: Climate Trends/Impacts conducted annually</li> </ul>	<ul style="list-style-type: none"> <li>• increased understanding by staff/Member/municipalities of the increased probability/magnitude of flooding/erosion in watershed</li> <li>• increased understanding of trends/changes in precipitation / temperature and severe weather and the impacts on watershed</li> <li>• knowledge transfer between the Stewardship service and data collected by the flood forecast network</li> </ul>
<p><b>Monitoring</b></p> <p><b>Focus:</b> Monitoring rainfall and streamflow so timely flood messages can be issued to municipalities. Collecting accurate data to be used for hydrology modeling to improve flood forecasting.</p>	<ul style="list-style-type: none"> <li>• Maintenance of rain gauges and stream gauging stations</li> </ul>	<ul style="list-style-type: none"> <li>• to ensure that gauges accurately record rainfall and streamflow information so that MVCA can better forecast potential flood events for member municipalities</li> </ul>
	<ul style="list-style-type: none"> <li>• 24 hr day/7 days a week monitoring of weather and gauge data. Quality control and storage of all collected data. Operation of models as required</li> </ul>	<ul style="list-style-type: none"> <li>• all events with the potential for flood impacts identified to allow for activation of flood contingency plan. Ensures that MVCA can provide timely flood warnings to member municipalities</li> </ul>
	<ul style="list-style-type: none"> <li>• Snow Water Equivalent Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• to ensure that the amount of moisture contained in the snow pack across the watershed can be included in flood monitoring system.</li> </ul>
	<ul style="list-style-type: none"> <li>• Modelling development and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• duty officers trained with use of flood forecast models</li> </ul>
	<ul style="list-style-type: none"> <li>• Installation of snow cameras (Listowel, Lucknow, Harriston)</li> </ul>	<ul style="list-style-type: none"> <li>• Improve ability for remote snow depth monitoring to increase flood forecasting capabilities in rapid snow melt events</li> </ul>
	<ul style="list-style-type: none"> <li>• Volunteer rain gauge reader relationship building</li> </ul>	<ul style="list-style-type: none"> <li>• Since volunteer readers provide an improved understanding of rainfall events for flood forecasting and it is difficult to find new reliable readers, relationships will be built so that existing readers stay with the program</li> </ul>
<p><b>Flood and Erosion Control Infrastructure</b></p>	<ul style="list-style-type: none"> <li>• Regular structure maintenance (Listowel Conduit, Goderich Bluffs/Groyne, McGuffin Gully)</li> </ul>	<ul style="list-style-type: none"> <li>• Minor maintenance carried out as per annual inspection reports to keep them operating properly to continue to offer flooding/erosion protection</li> </ul>
	<ul style="list-style-type: none"> <li>• Inspection of structures (Listowel Conduit, Goderich Bluffs/Groyne, McGuffin Gully)</li> <li>• Maintenance/repair agreements signed</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection reports completed and work plan developed for future maintenance so that budgeting can be done effectively</li> <li>• Clear agreement on how future minor and major maintenance/repairs will be funded.</li> </ul>

<b>Response</b>	<ul style="list-style-type: none"> <li>Utilize all MVCA staff as necessary to operate the flood forecast system and provide watch and warning messages to municipalities during flood and erosion emergencies</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate flood messaging provided to municipalities to aid municipal decision making for municipal emergency response</li> </ul>
	<ul style="list-style-type: none"> <li>Document all flood/erosion emergencies</li> </ul>	<ul style="list-style-type: none"> <li>Documentation as per Flood Forecast and Warning Guidelines that may be used to increase flood standard if flood is beyond flood plain mapping</li> </ul>

#### Shoreline Hazard mapping project

Year	Major milestones
2021	Develop terms of reference for hazard mapping update with the help of coastal experts. Award of contract for hazard mapping update
2022	Data acquisition Calculation of future 100 year lake level and erosion rates
2023	Final report, mapping generation and public notification

#### **SUMMARY:**

##### **Preparedness**

The focus of Flood/Erosion Safety Services is to ensure that both MVCA and our member municipalities with flood and/or erosion prone areas are prepared to deal with the increasing probability of major flooding, shoreline erosion and gully erosion.

There are 15 urban flood damage centres with over an assessed value of \$176 million dollars of development at risk from flooding and 50 kms of the Lake Huron shoreline that have an assessed value of \$366 million dollars of assessment located in flood or erosion prone areas.

Our rapidly changing climate is increasing the probability and severity of future flood and/or erosion events in the watershed. Preliminary data from Environment Canada is showing that future extreme Lake Huron water levels could much higher than what have been experienced in the last 100 years. Also, reduced ice cover is expected to lead to more erosion during early winter storm events. Given that the planning horizon is 100 years, the future hazard needs to be better understood so that future development is appropriately guided to safe locations. Over the next three years, the update of the hazard mapping is a significant endeavour that will require the assistance of many experts.

We want to help municipalities develop a better understanding of why there is an increased risk of flooding and erosion. We also want to work with municipalities and the development community to help them understand why it is important to protect the features and functions associated with flood plains, river valleys, shorelines, wetlands and watercourses.

We also plan to focus on undertaking outreach with municipalities so that they understand how the Municipalities roles and responsibilities related to development control complement those of MVCA.

Staff will continue to try and streamline the review of inquiries and applications to develop in or near hazardous areas. The key will be to focus on this applications and inquiries that could impact the features and functions associated with the river system and Lake Huron shoreline. We anticipate that the number of applications and inquiries will continue to increase over the next three years. We will continue to identify ways to improve our flood forecasting abilities over the next three years.

In order to provide appropriate advance flood warning, accurate flood models are needed. The three year monitoring programs for Lucknow and Listowel will help MVCA to develop the baseline knowledge to calibrate future models. The flood mapping project in Harriston will increase our accuracy for identifying flood prone areas. It will also provide enhancements in flood progression mapping that will be important to help improve Minto's emergency response to flooding.

## **Monitoring**

The Ministry of Natural Resources Weather Office and Environment Canada can't provide the information needed to accurately predict the location and amount of high intensity rainfall events. It is these types of events that can suddenly cause significant flood events. As a result, the MVCA's monitoring network and Duty Officers are the front line for flood forecasting. Regular scheduled maintenance must be done on the monitoring system (both in the field and in the office) to ensure that it is fully operational. Duty Officers must be adequately trained so they can quickly understand the impacts of suddenly changing weather. This will be both a priority and a challenge over the next three years as MVCA has limited staff who can be trained as duty officers and the number of days per year when thunderstorms are forecast is increasing.

## **WATERSHED STEWARDSHIP SERVICES**

### **Work Plan 2021-2023**

**1. Provide stewardship services to watershed landowners and municipalities that will help build watershed resiliency to protect and enhance our water, soils and forests.**

**2. Service Components:**

**a) Extension**

- i) Restoration – Project planning services, large stock and seedling sale
- ii) Soil Conservation – Rural Storm Water Management and Soil health
- iii) Watershed Stewardship Programs – Huron Clean Water Project, Wellington Rural Water Quality Program, Healthy Watersheds Program

**b) Outreach**

- i) Outreach opportunities to promote watershed resiliency to our key audiences
- ii) Community projects and collaborations

**c) Monitoring and Reporting**

- i) Provincial Water Quality/Ground Water - Monitoring Network and Watershed Report Card
- ii) Special Monitoring Projects: e.g., Water sampling for general pesticides

**d) Projects**

- i) Healthy Lake Huron Initiative
- ii) Priority Area Mapping and Outreach
- iii) Garvey-Glenn Shoreline Watershed Project
- iv) Middle Maitland Headwaters Restoration Project
- v) Scott Municipal Drain Project

**Staffing:** Stewardship Services Coordinator, Rural Water Quality Specialist, Watershed Monitoring Specialist, Stewardship Projects Lead, Restoration Technician, Monitoring Assistant, Outreach Technician

**2021- 2023 Work Plan**

**\* Activities that will be dependent on additional funding sources for staffing key stewardship positions.**

**WORK PLAN 2021-2023**

<b>Component</b>	<b>Activities-Actions</b>	<b>Outcomes</b>
<p><b>Extension:</b>  <b>Restoration - Planning Service, Large stock/Seedlings Sale</b></p> <p><b>Focus:</b>                      Our focus is to restore ecosystem function of our streams, forests and wetlands.</p>	<ul style="list-style-type: none"> <li>• Provide technical advice, planning services and assistance with funding applications for projects that restore ecosystem function including: riparian plantings, wetlands, forests, and multi-functional windbreaks.</li> </ul>	<ul style="list-style-type: none"> <li>• Staff help reduce barriers to project implementation by providing technical support and assistance with funding applications.</li> </ul>
	<ul style="list-style-type: none"> <li>• Spring Tree and Shrub Sale provides native tree stock to landowners and municipalities for conservation projects</li> <li>• Promotion of large stock/seedling program</li> </ul>	<ul style="list-style-type: none"> <li>• Landowners and municipalities have access to native stock for conservation projects</li> <li>• Opportunity for staff to meet new clients and promote stewardship programs.</li> <li>• Increases interest in spring sale and in conservation.</li> </ul>
	<ul style="list-style-type: none"> <li>• 2021-2023: Source funding for Restoration Technician position</li> </ul>	<ul style="list-style-type: none"> <li>• Restoration Technician would help landowners and municipalities implement restoration projects</li> </ul>
	<ul style="list-style-type: none"> <li>• 2021: Develop planting service to be offered in partnership with neighbouring CAs (SVCA and ABCA).</li> </ul>	<ul style="list-style-type: none"> <li>• Able to offer a more efficient service for the public.</li> <li>• Gives MVCA more control over restoration outcomes.</li> <li>• Provides revenue to support Restoration Technician position.</li> </ul>

	<ul style="list-style-type: none"> <li>• 2021: Review and incorporate climate science into restoration and rural storm water management approaches</li> <li>• Identify researchers &amp; practitioners in the field and find ways to collaborate on projects</li> </ul>	<ul style="list-style-type: none"> <li>• Ensures survival of plantings and addresses climate change and other stressors</li> <li>• Stewardship staff can incorporate this information into the restructuring of stewardship services and projects.</li> </ul>
	<ul style="list-style-type: none"> <li>• Annual review of restoration services.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensures continuous improvement including growth of program and customer satisfaction.</li> </ul>
<p><b>Extension:</b> <b>Soil Conservation and Rural Storm Water Management (RSWM)</b></p> <p><b>Focus:</b> Our focus is to reduce impacts of runoff on our streams and rivers by reducing soil erosion and increasing storage and infiltration on the landscape.</p>	<ul style="list-style-type: none"> <li>• Provide technical advice and assistance with funding applications for projects that improve soil health (e.g, cover crops), control runoff (e.g., erosion control structures).</li> <li>• Promote use of erosion control structures, riparian plantings and wetlands in municipal drains by presenting case studies from the MVCA watershed.</li> </ul>	<ul style="list-style-type: none"> <li>• Staff help reduce barriers to project implementation by providing technical support and assistance with funding applications.</li> <li>• Provides positive image of MVCA working with landowners and municipalities to address storm water runoff issues.</li> <li>• Increased awareness of benefits and options for implementation</li> <li>• Ensures RSWM projects are maintained and protected into the future</li> </ul>
<p><b>Extension:</b> <b>Watershed Stewardship Programs</b></p> <p><b>Focus:</b> Our focus is to be an effective delivery agent for cost-share programs that improve watershed resiliency by providing on ground support for applicants.</p>	<ul style="list-style-type: none"> <li>• Delivery of Huron Clean Water Project to landowners in MVCA watershed</li> <li>• Annual review of program to improve guidelines, customer experience and overall effectiveness</li> <li>• 2021: Revise applications so they can be filled out by applicants directly and be made available online.</li> </ul>	<ul style="list-style-type: none"> <li>• Builds watershed resiliency and improves water quality in Huron County.</li> <li>• Ensures program categories and guidelines are updated to reflect needs in county</li> <li>• Ensures funds are used effectively</li> <li>• Simplified process for applicants.</li> </ul>
	<ul style="list-style-type: none"> <li>• Delivery of Wellington Rural Water Quality Program</li> </ul>	<ul style="list-style-type: none"> <li>• Builds watershed resiliency and improves water quality in Wellington.</li> </ul>

	<ul style="list-style-type: none"> <li>Targeted outreach to utilize the North Maitland and Dredge Creek Headwaters Improvement Strategy</li> </ul>	
	<ul style="list-style-type: none"> <li>Maitland Conservation Foundation (MCF) - Project Planning and Implementation</li> <li>Develop three year outline of projects in the Middle Maitland Headwaters Project and Garvey Glenn Watershed Project</li> </ul>	<ul style="list-style-type: none"> <li>Projects builds watershed resiliency and improves water quality.</li> <li>Provides MCF information on funding needs to support their fundraising efforts.</li> </ul>
	<ul style="list-style-type: none"> <li>Source funding to develop a Healthy Watersheds Program – to target priority areas (see Projects section).</li> </ul>	<ul style="list-style-type: none"> <li>Program options developed that allow for targeted outreach (utilizing priority area mapping).</li> <li>Increased number of projects in priority areas.</li> </ul>
<p><b>Outreach</b></p> <p><b>Focus:</b> Our focus is to promote stewardship services to our key audiences.</p>	<ul style="list-style-type: none"> <li>Promotion of existing programs at community events and media</li> </ul>	<ul style="list-style-type: none"> <li>Builds awareness of programs and increases interest in stewardship actions</li> <li>Opportunity to meet new clients</li> </ul>
	<ul style="list-style-type: none"> <li>2021-2023: Soil Health and Water Quality Workshop/Tour – ONFARM</li> </ul>	<ul style="list-style-type: none"> <li>Greater awareness of practices to improve soil health and water quality</li> </ul>
	<ul style="list-style-type: none"> <li>2021-2022: Buffer Workshops – DFO HSP</li> <li>2021-2022: Buffer Bus Tour – DFO HSP</li> </ul>	<ul style="list-style-type: none"> <li>Landowners take better care of new plantings</li> <li>Public high school involvement in planting projects</li> </ul>
	<ul style="list-style-type: none"> <li>* Community Restoration Projects (e.g., TD Tree Days)</li> </ul>	<ul style="list-style-type: none"> <li>Increased community support for restoration projects</li> </ul>
	<ul style="list-style-type: none"> <li>Collaborations with colleges &amp; universities to improve restoration approaches</li> </ul>	<ul style="list-style-type: none"> <li>Introduces new ideas and approaches</li> <li>Helps with recruitment for junior positions</li> </ul>
<p><b>Watershed Monitoring/ Reporting</b></p> <p><b>Focus:</b> To understand</p>	<ul style="list-style-type: none"> <li>Continue long-term environmental monitoring and reporting including:</li> <li>Provincial Water Quality Monitoring</li> </ul>	<ul style="list-style-type: none"> <li>Long term sampling will help to determine long term trends in water quality.</li> <li>Collect information on surface water quality</li> </ul>

<p>the current health of our watershed so that we can track progress and guide our stewardship efforts.</p>	<p>Network (PWQMN) – Partner with Ministry of Environment Conservation and Parks (MECP) to collect 8 water samples a year from PWQMN sites.</p> <ul style="list-style-type: none"> <li>• Provincial Groundwater Monitoring Network (PGMN) Partner with MECP to sample PGMN wells once a year and perform quality assurance at wells quarterly. Current agreement expires April 1, 2026.</li> <li>• Benthic Sampling – Number of sites sampled will be dependent on funding available. (JHETF)</li> </ul>	<ul style="list-style-type: none"> <li>• Collect information on ground water quality and quantity.</li> <li>• Assists in assessment of health of rivers and streams. Compliments other sampling</li> </ul>
	<ul style="list-style-type: none"> <li>• General Pesticides – Partner with MECP and OMAFRA to collect pesticide samples.</li> </ul>	<ul style="list-style-type: none"> <li>• Track the emerging rural issues of systemic and pervasive agricultural chemicals on the environment</li> </ul>
	<ul style="list-style-type: none"> <li>• 2021: Source funding for Monitoring Assistant Position</li> </ul>	<ul style="list-style-type: none"> <li>• Position would provide support for enhanced ecosystem monitoring.</li> </ul>
	<ul style="list-style-type: none"> <li>• 2021: Developing improved and comprehensive monitoring of the health of the watershed in partnership with Nuclear Waste Management Organization &amp; Saugeen Valley Conservation Authority</li> <li>• 2021: Data collection for new monitoring program funded through Nuclear Waste Management Organization with Saugeen Valley Conservation Authority</li> </ul>	<ul style="list-style-type: none"> <li>• MVCA has established protocols for monitoring that can better help us track progress towards improving ecosystem health.</li> <li>• Enhanced understanding of ecosystem health for our watershed which can be used to guide future restoration efforts.</li> </ul>
	<ul style="list-style-type: none"> <li>• 2023: Watershed Report Card – Next release 2023.</li> </ul>	<ul style="list-style-type: none"> <li>• Helps MVCA, municipalities, general public to determine health of our water, forests and wetlands.</li> </ul>

		<ul style="list-style-type: none"> <li>• Methodology to be improved for reporting on watershed health and recommendations for action.</li> </ul>
<b>Projects</b>  <b>Focus:</b>  <b>Our focus is pursue projects that help us to increase watershed resiliency by restoring ecosystem function and improving soil health at the subwatershed, and watershed scales.</b>	<ul style="list-style-type: none"> <li>• *Implementation of the 5 year Healthy Lake Huron workplan including the following key activities outlined below:</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of nearshore water quality</li> </ul>
	<ul style="list-style-type: none"> <li>• *Mapping Priority Areas for floodplain, river valley restoration as well as RSWM and cover crops.</li> <li>• Develop background documentation describing the methods</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to identify and quantify need for stewardship work.</li> <li>• Opportunity for consistent approach across the Healthy Lake Huron area.</li> </ul>
	<ul style="list-style-type: none"> <li>• *Develop and test approaches for delivering targeted stewardship basin wide including surveys/interviews with landowners (Healthy Lake Huron)</li> </ul>	<ul style="list-style-type: none"> <li>• Identify program delivery models that help to effective target high priority projects.</li> <li>• Establishes MVCA as an on the ground program delivery agent.</li> <li>• Ensures effective use of public funds.</li> </ul>
	<ul style="list-style-type: none"> <li>• *Preliminary SWEEP for 18 Mile (Healthy Lake Huron)</li> </ul>	<ul style="list-style-type: none"> <li>• SWEEP methodology will be documented and shared with partners as an example of proactive stewardship.</li> </ul>
	<ul style="list-style-type: none"> <li>• *Garvey-Glenn Watershed Project Implementation</li> <li>• 2021-2024 focus will be on cover crops and ecosystem restoration.</li> </ul>	<ul style="list-style-type: none"> <li>• Projects in priority areas are completed in the Garvey-Glenn</li> <li>• Project serves as a demonstration site for soil health, restoration, rural storm water management and Drainage Act opportunities.</li> </ul>
	<ul style="list-style-type: none"> <li>• *Long-term Monitoring in Garvey-Glenn (Healthy Lake Huron)</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of long-term trends and modelling results are used to inform approaches in other</li> </ul>

<ul style="list-style-type: none"> <li>• 2021-2023: On-Farm Applied Research and Monitoring (ONFARM): Water Quality and Soil Health Monitoring and Modelling in Garvey-Glenn</li> </ul>	<p>areas of the MVCA watershed and Ontario.</p> <ul style="list-style-type: none"> <li>• ONFARM is opportunity to engage the agricultural sector as it is a part of a provincial, multi-stakeholder initiative to monitor soil health</li> </ul>
<ul style="list-style-type: none"> <li>• Middle Maitland Headwaters Restoration Project: Target projects as determined through the Priority Area Mapping Project.</li> <li>• *Restoration Strategy developed for Middle Maitland Project</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration value of flood plain/ river valley restoration.</li> </ul>
<ul style="list-style-type: none"> <li>• Scott Municipal Drain Project</li> <li>• Stream Restoration expected Fall 2021</li> <li>• Features Incorporated in Drainage Report</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstration value of a range of stewardship practices including erosion control and plantings, being incorporated into a municipal drain.</li> </ul>

## **SUMMARY:**

The focus of Watershed Stewardship is help landowners and municipalities implement ecological restoration, rural stormwater management and soil conservation projects by reducing barriers to adoption. MVCA provides technical advice, project planning, and assistance with funding applications. Monitoring and Reporting is a key component which focuses on understanding the current ecological health of our watershed, to help measure our progress and guide our approach.

Our priority over the next three years will be to strengthen watershed stewardship extension staffing to be able to promote and implement projects that help our communities and ecosystems to withstand and recover from the impacts of climate change and ecosystem degradation.

MVCA will begin to provide planting services directly to landowners through a partnership with our neighbouring conservation authorities. This will provide a more cost effective service to clients and give MVCA greater control over project outcomes and improve overall customer satisfaction.

We will be reviewing our approaches and seeking to incorporate a greater understanding of ecosystem restoration principles as well as climate change science to ensure our plantings have the most benefit and highest chance of success amid our changing climate.

Stewardship is seeking to develop the capacity to deliver targeted stewardship in priority areas. Over the coming years we will develop and test the mapping as well as delivery approaches. Much of this work will be done as part of the Healthy Lake Huron workplan. This initiative is a vital partnership so we will aim to be an active contributor to this effort.

MVCA will continue long-term monitoring programs including Provincial Water Quality Monitoring Network and the Provincial Groundwater Monitoring Network. We will pursue new opportunities to improve understanding of watershed ecosystem health.

## **CONSERVATION AREAS SERVICE:**

**1. Responsible for the management, development, and protection of significant natural resource lands, features, and infrastructure on Authority owned property as well as the management of the Authority's motor pool and equipment services.**

### **2. Service Components:**

#### **a) Management/Development of Authority Lands**

- i) Lands and Infrastructure - inspections, maintenance and enforcement
- ii) Water Control Structures - inspections, maintenance and operations
- iii) Forest Management
- iv) Administration

#### **b) Land Acquisition**

- i) Review land donations or purchases for conservation purposes

#### **c) Leasing/Agreements on Authority Lands**

- i) Review lease/use agreements that are compatible with the land use
- ii) Monitoring of agreements

#### **d) Motor Pool Management**

- i) Authority Vehicles - inspections, maintenance and purchasing
- ii) Authority Equipment - inspections, maintenance and purchasing
- iii) Authority emissions control and reductions

#### **e) Falls Reserve and Wawanosh Park Conservation Areas**

- i) Lands and Infrastructure - inspections and maintenance
- ii) Campground Operations - enforcement, gate control
- iii) Administration - financial, personnel, reporting

**Staffing:** Conservation Areas Coordinator; Field Services Technician; FRCA/WPCA Superintendent; FRCA/WPCA Assistant Superintendent; Water control structures require additional help from Water Resources Technician and Watershed Information Technician.

**Conservation Areas Service: 2021-2023 work plan:**

<b>Component</b>	<b>Priorities</b>	<b>Outcomes</b>
<p><b>Management/ Development</b></p>	<ul style="list-style-type: none"> <li>• 2021-2023 Administration office renovations</li>   <li>• 2021-2023 Hazard tree removals: Various Conservation Areas</li>   <li>• 2021-2023 Ash tree replacement: Various Conservation Areas</li>   <li>• 2021-2023 Forestry Management</li>   <li>• 2021-2023 Field Service Assistant Position</li>   <li>• 2021-2022 Gorrie Conservation Area: Gorrie Dam Decommissioning and Restoration</li>   <li>• 2021-2022 Naftels Conservation Area Improvements</li>   <li>• 2021 Brussels Mill building</li> </ul>	<ul style="list-style-type: none"> <li>• Interior renovations of office to meet accessibility standards, create usable office space, and to update carpet and painting. Exterior brick repairs completed on damaged sections.</li>   <li>• Removal of dead/dying trees along trails and parking areas for public safety</li>   <li>• Maintain tree cover and diversity. Species selection and proper pruning to address climate change.</li>   <li>• Plantation and hardwood management completed as indicated in the Forest management plans</li>   <li>• Provide additional support to complete field operations including maintenance and project requirements</li>   <li>• Complete decommissioning of structure and rehabilitate the conservation area for community use.</li>   <li>• Replace boardwalks through wetland section and bridge over Naftels creek. Replace privy and install benches for continued community use.</li>   <li>• Complete disposition requirements and transfer ownership of Mill to Maitland Mills Association</li> </ul>

	<ul style="list-style-type: none"> <li>• 2021 Galbraith Conservation Area</li> <li>• 2021 Administration office naturalization</li> <li>• 2021 Footprints to Forests program</li> <li>• 2022-2023 Office Shed Repair and Construction</li> <li>• 2022 Naturalization of MVCA marginal agricultural lands</li> <li>• 2023 Wawanosh Valley Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Continue with disposition of property pending development of lease agreement with North Perth</li> <li>• Maintain naturalized flowerbeds and shrub plantings to reduce maintenance costs</li> <li>• Plant trees from 2020 donations</li> <li>• Renovations to existing shed for vehicle storage and build new storage shed to meet all service area needs.</li> <li>• Naturalization of agricultural sections at Wawanosh Valley Conservation area</li> <li>• Removal of barn structures as approved by membership motion in 2018</li> </ul>
<b>Agreements</b>	<ul style="list-style-type: none"> <li>• 2021 Water and Erosion Control Infrastructure</li> <li>• 2021-2023 Wawanosh Valley CA. Agricultural Land Agreement</li> <li>• 2021-2022 lease agreements at Turnberry Flood plain, Pioneer C.A, and Kilgour Tract</li> </ul>	<ul style="list-style-type: none"> <li>• Develop funding agreements with Municipalities that authority owned recreational dam structures are located</li> <li>• Renew land agreement annually</li> <li>• Renew agreements the meet MVCA objectives/policies</li> </ul>

<p><b>Motor Pool</b></p>	<ul style="list-style-type: none"> <li>• 2021-2023 MVCA Emissions Reduction Program</li> <li>• 2021 Compact truck Replacement</li> <li>• 2022 Minivan Replacement</li> <li>• 2023 ½ ton truck replacement</li> <li>• 2022 Snow blower replacement</li> <li>• 2023 Flatbed trailer replacement</li> </ul>	<ul style="list-style-type: none"> <li>• Reforest and naturalize lands to help store carbon and reduce fossil fuel use in fleet operations</li> <li>• Replacement vehicles to be fuel efficient or electric powered that meets needs of MVCA and reduces carbon emissions in accordance with MVCA’s carbon footprint strategy</li> <li>• Replace suitable equipment for snow removal</li> <li>• Replace trailer with similar model.</li> </ul>
<p><b>Falls Reserve, Wawanosh Park</b></p>	<ul style="list-style-type: none"> <li>• 2021-2023 FRCA emissions reduction program</li> <li>• 2021-2023 FRCA/WPCA hazard tree removal</li> <li>• 2021 FRCA Septic System Replacement</li> <li>• 2022 FRCA Entrance Gates.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce fossil fuel use in park operations and plant trees/shrubs to sequester carbon.</li> <li>• Removal of dead/dying trees along trails, campsites and parking areas for public safety</li> <li>• Remove septic systems in high vulnerability zone and install new system in approved location</li> <li>• Install entrance/exit gate system for controlled access</li> </ul>

## **SUMMARY:**

The priorities for Conservation Area Services over the next three years will be to:

1. Maintain, decommission and develop priority infrastructure based on the needs and resources of the Authority.
2. Implement best management conservation practices on authority owned lands through the management of naturalized marginal farm land, completing forestry management identified in approved forestry management plans, and by developing “low maintenance” conservation areas.
3. Ensure that conservation areas are maintained to allow for public use by removing hazards and repairing essential infrastructure.
4. Implement MVCA’s carbon footprint strategy to reduce the use of fossil fuels with respect to MVCA’s vehicles and equipment as well as to sequester carbon on MVCA lands through tree/shrub planting on conservation areas.

## **CORPORATE SERVICES WORK PLAN: 2021-2023.**

### **1. Responsible for the leadership, governance, administration and financial management of Maitland Conservation.**

#### **2. Service Components**

##### **a) Governance / Leadership Responsibilities (MVCA/MSPA) Conservation Authorities Act and Clean Water Act**

- i) Setting Priorities and Policies
- ii) Financial Planning and Monitoring
- iii) Services and Project Development
- iv) Conservation Ontario Council & Committees
- v) Reporting to Member Municipalities
- vi) Supporting the Maitland Conservation Foundation

##### **b) Administration / Human Resources / Equipment**

- i) Human Resources Planning and Administration
- ii) Work Space and Equipment Management
- iii) Records Retention and Management
- iv) Compliance with Legislation related to Employment, Health & Safety, Accessibility etc.

##### **c) Financial Management**

- i) Bookkeeping, Investments, Banking, Financial Planning
- ii) Tangible Capital Asset Management
- iii) Financial Agreements with External Funders

##### **d) Communications**

- i) Communications strategy development and implementation
- ii) Provide communications and marketing support to service areas

##### **e) Information Technology and Geographic Information System**

- i) Provide IT and GIS services to all service areas

**Staffing:** General Manager-Secretary-Treasurer, Administrative-Finance Coordinator, Clerk, Administrative Assistant, GIS Specialist, Communications-GIS-IT Coordinator

Corporate Services: 2021-2023	Major Activities	• Outcomes
<p><b>Governance &amp; Leadership</b></p> <p><b>Focus: To ensure that the Membership has the information it needs to make decisions on the future of the conservation authority and all of the business that the Members need to provide direction on.</b></p>	<ol style="list-style-type: none"> <li>1. Annual Priorities-Budget-Levy</li> <li>2. Three Year Work Plan/Budget</li> <li>3. Government Relations Strategy: Federal/Provincial</li> <li>4. Appointments to Committees/Boards</li> <li>5. Draft Budget, Levy, Priorities</li> <li>6. Members Training/Education</li> <li>7. Conservation Ontario</li> <li>8. Maitland Source Protection Authority Board &amp; JMC</li> <li>9. Maitland Conservation Foundation</li> <li>10. Members Meeting Pkg.</li> <li>11. Governance Review (2022)</li> </ol>	<ul style="list-style-type: none"> <li>• meets needs of MVCA</li> <li>• approved by Members/municipalities</li> <li>• meets needs of MVCA &amp; approved by Members</li> <li>• MPs &amp; MPPs support MVCA Positions &amp; priorities &amp; projects</li> <li>• all positions filled</li> <li>• meets needs of MVCA/approved in principle by the Members</li> <li>• training that meets needs &amp; responsibilities of the Members</li> <li>• Provide technical support to Voting Delegate at council meetings</li> <li>• Reports &amp; Agendas. Support Board to develop an agreement that meets MSPA's needs and responsibilities</li> <li>• Support MCF &amp; JHETF Boards and Fundraising Committee</li> <li>• Agenda and reports that meet the needs of the Membership</li> <li>•</li> <li>• Identification of any changes to governance policies and or procedures</li> </ul>

<p><b>Administration &amp; Human Resources</b></p> <p><b>Focus: To ensure that MVCA is compliant with all applicable legislation and keeps its policies up to date.</b></p>	<p>1. Personnel, Health &amp; Safety Policies compliant with applicable legislation and Authority needs</p>	<ul style="list-style-type: none"> <li>• meet needs &amp; legislative requirements: recommended by Personnel Committee, Health and Safety Committee and approved by the Membership</li> </ul>
<p><b>Financial Management</b></p> <p><b>Focus: To ensure that MVCA is maintaining its financial records in compliance with authority and government requirements.</b></p>	<p>1. Tangible Capital Asset Inventory Updates with replacement values &amp; schedule</p> <p>2. Three Year Budget Updates:</p> <p>3. Financial Document Management</p> <p>4. HST Review and Update</p> <p>5. Investigate and continue to develop electronic payment system</p> <p>6. Requests for Proposals for Audit Services (2022)</p>	<ul style="list-style-type: none"> <li>• up-to-date inventory of MVCA assets and replacement costs</li> <li>• identifies operating/capital needs</li> <li>• organize and purge files to meet requirements of legislation as outlined in the MVCA policy</li> <li>• changes identified in last review are implemented</li> <li>• Updated Review to be undertaken in 2021</li> <li>• System to meet approval of auditor and membership</li> <li>•</li> <li>• Audit firm selected by membership in 2022 for three year term</li> </ul>

<p><b>Communications</b></p> <p><b>Focus: To ensure that our member municipalities, MPP's, MP's and the public are aware of MVCA's, three year work plan, annual budget and work plan and meetings.</b></p>	<p>1. Annual refinement and implementation of communications strategy</p>	<ul style="list-style-type: none"> <li>• Build support for MVCA priorities and services amongst primary target audiences (municipalities, MPs and MPPs, media)</li> <li>• 2021: Prepare annual workplan and budget information package in Feb.</li> <li>• 2021: Update municipalities on changes to the Conservation Authority Act and outline a transition plan to implement these changes. Targets: ACW, Central Huron, Goderich, Huron East, Huron-Kinloss, Minto and North Perth as well as other municipalities that request information. Timeframe: April and May</li> <li>• 2022: Prepare annual workplan and budget information package in Feb.</li> <li>• 2022: Provide presentations relating to Conservation Authority Act changes and transition plan to: Wellington North, Morris-Turnberry, North Huron, West Perth, Perth East, Mapleton, Howick and South Bruce</li> <li>• 2023: Prepare annual workplan and budget information package in Feb.</li> <li>• 2023: Orientation to new Councils</li> </ul>
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<p><b>Information Technology and GIS</b></p> <p><b>Focus: to ensure staff have the computer technology and GIS support needed to undertake their responsibilities.</b></p>	<ol style="list-style-type: none"> <li>2. Commemorate MVCA 70<sup>th</sup> Anniversary and FRCA 50 + 1 Anniversary</li> <li>3. Gorrie Conservation Area</li> <li>4. Implement communications requirements relating to Accessibility for Ontarians with Disabilities Act</li> <li>5. Photo management system</li> <li>6. Marketing and promotion</li> <li>1. Annual computer hardware and software replacement and upgrades as per schedule set out in GIS/IT Service Plan, upgrade internet service and wiring</li> <li>2. Property database and e-document mgmt. system</li> <li>3. Server organization and upgrade (2021)</li> <li>4. GIS support to service areas</li> </ol>	<ul style="list-style-type: none"> <li>• 2021: Develop and implement strategy to highlight achievements and priorities to target audiences recognizing limited staffing and funding resources.</li> <li>• Provide on-going updates to the Gorrie community on dam decommissioning and restoration work. Phase 1 in 2021 - downstream of dam, Phase 2 in 2022 - upstream</li> <li>• Communications materials and practices in compliance with AODA.</li> <li>• Consolidate photo storage and improve photo searching. Continue purging of surplus in 2021. Install management software and begin initial organization of photos in 2022, staff training in 2023.</li> <li>• Provision of advertising and media support to service areas</li> <li>• Ensure each service area has functioning hardware, software and back-up support to meet their needs</li> <li>• Upgrade stewardship component (2021). Review Planning and Regs component (2022). Link document files to database (2022-2023).</li> <li>• Maintain streamlined file storage.</li> <li>• Provision of required GIS products to each service area.</li> </ul>
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## **SUMMARY:**

Corporate Services primary focus for the next three years is to ensure that the Members have the information and processes to help them to make decisions that will meet their governance responsibilities.

Corporate services will also focus on developing the administrative and financial support services that will help each service area to carry out their responsibilities safely, efficiently and effectively.

Corporate Services will continue to provide administrative support to the Maitland Conservation Foundation so that they can continue to increase the amount of funding that they raise through the “Restoring the Maitland” campaign. This campaign is raising money for watershed stewardship and conservation area projects.

Corporate Services will also focus on ensuring that our member municipalities are aware and understand the changes being made to the Conservation Authorities Act and associated regulations and the impact that these changes will have on our ability to deal with the challenges that we have to deal with throughout the watershed.

We will also focus on ensuring that the MPPs and MPs in the watershed and other key target audiences are aware and supportive of MVCA’s priorities and work plan over the next three years.

A key thrust for the Membership should be to emphasize to the MPPs and MPs in the watershed that in order to effectively develop a healthy, resilient and prosperous watershed all levels of government need to work collaboratively through partnerships such as Healthy Lake Huron but having a much broader focus than just improving nearshore water quality.

## **MEMBERS REPORT #45-20**

**TO:** Members, Maitland Valley Conservation Authority  
**FROM:** Phil Beard, General Manager-Secretary-Treasurer  
**DATE:** October 13, 2020 (to be presented October 21, 2020)

**SUBJECT:** Strategic Plan: Conservation Ontario

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### **PURPOSE:**

To determine if the Members would like to make a submission regarding the governance of Conservation Ontario Council as part of their Strategic Planning Process.

### **BACKGROUND:**

Conservation Ontario held its first Council meeting for 2020 on September 27<sup>th</sup>. The meeting was held electronically so that no one would have to travel to the meeting.

Conservation Ontario Council approved the development of a five year strategic plan. A consulting company, Strategy Corp has been retained to facilitate the process. Conservation Ontario would like to start the process in late October and have a draft Strategic Plan prepared for Council to review at their December 14, 2020 meeting.

### **Strategic Planning Process:**

Conservation Ontario has polled the voting delegates, alternates and General Managers asking for volunteers to sit on each of the four committees that will be established.

The committees will identify the key direction for each of Conservation Ontario's four services areas:

1. Governance and Structure
2. Science and Policy
3. Members Services
4. Public Affairs and Advocacy

See attached chart which outlines what each committee will be focussing on.

I have volunteered to sit on the Science and Policy Committee.

## **MVCA Input Re: Governance:**

In 2016, MVCA sent a letter to every Conservation Authority in the Province as well as Conservation Ontario encouraging them to amend CO's Administrative Bylaw to allow only political representatives from each Conservation Authority to be voting delegates and alternates. Currently each Conservation Authority can appoint their General Manager as a voting delegate or alternate. MVCA Board did not consider this to be a good governance practice. The Association of Municipalities amended their administrative bylaws many years so that only elected officials could be voting delegates at AMO.

I have attached the letter that MVCA sent to Conservation Ontario in 2016. MVCA's voting delegate, Art Versteeg, former Chair of MVCA moved the motion to amend Conservation Ontario's Bylaws but the motion did not pass at that time. However over the past four years, more conservation authorities are appointing their elected representatives as the voting delegate and attending Conservation Ontario's Council Meetings.

MVCA could ask the Governance and Structure Committee to consider recommending that these amendments be made as part of their discussion on how to improve governance and structure at Conservation Ontario over the next five years.

## **RECOMMENDATION:**

**To be developed at the meeting.**



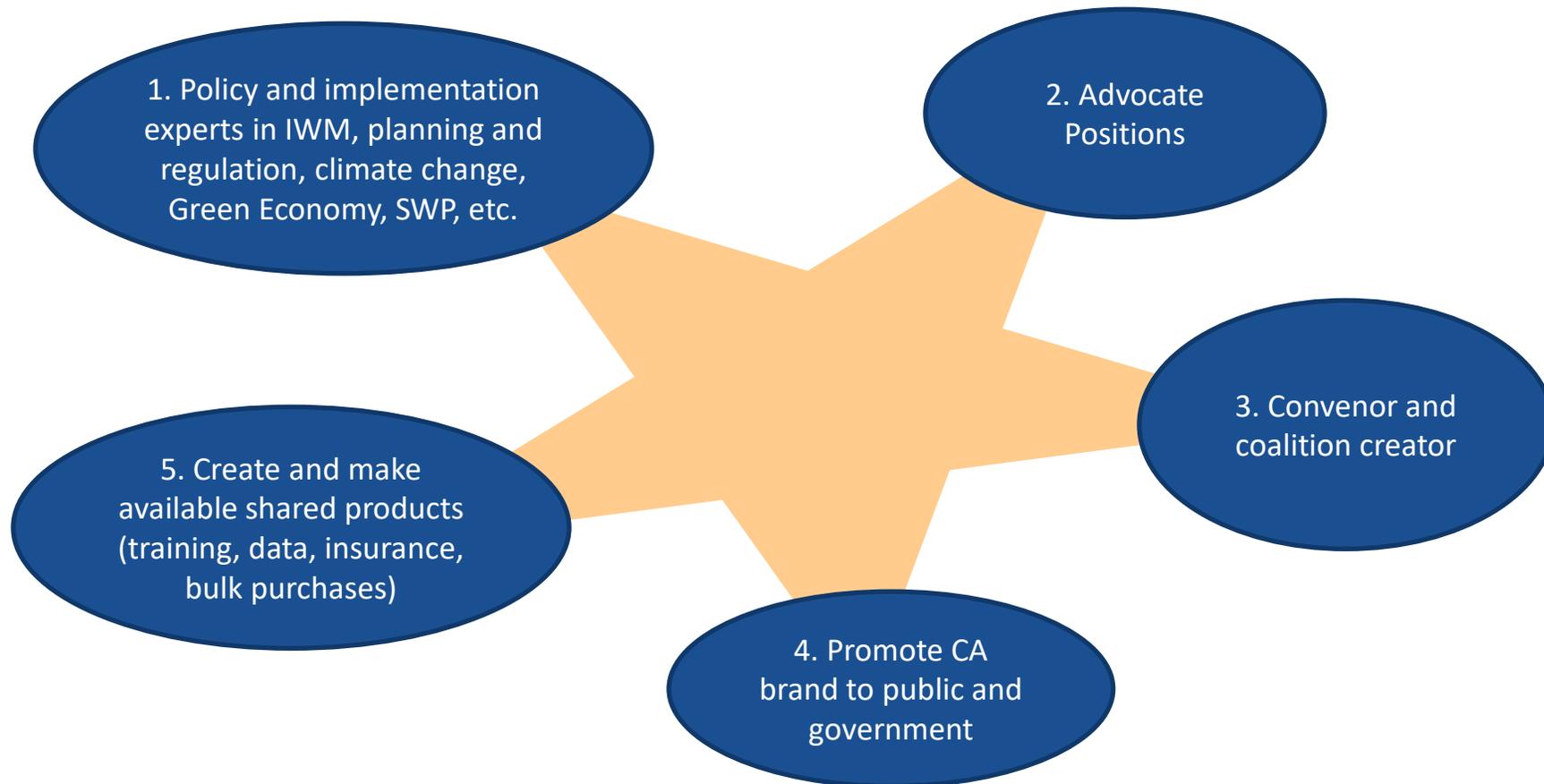
# Conservation Ontario

Towards a Strategic Plan

September 2020

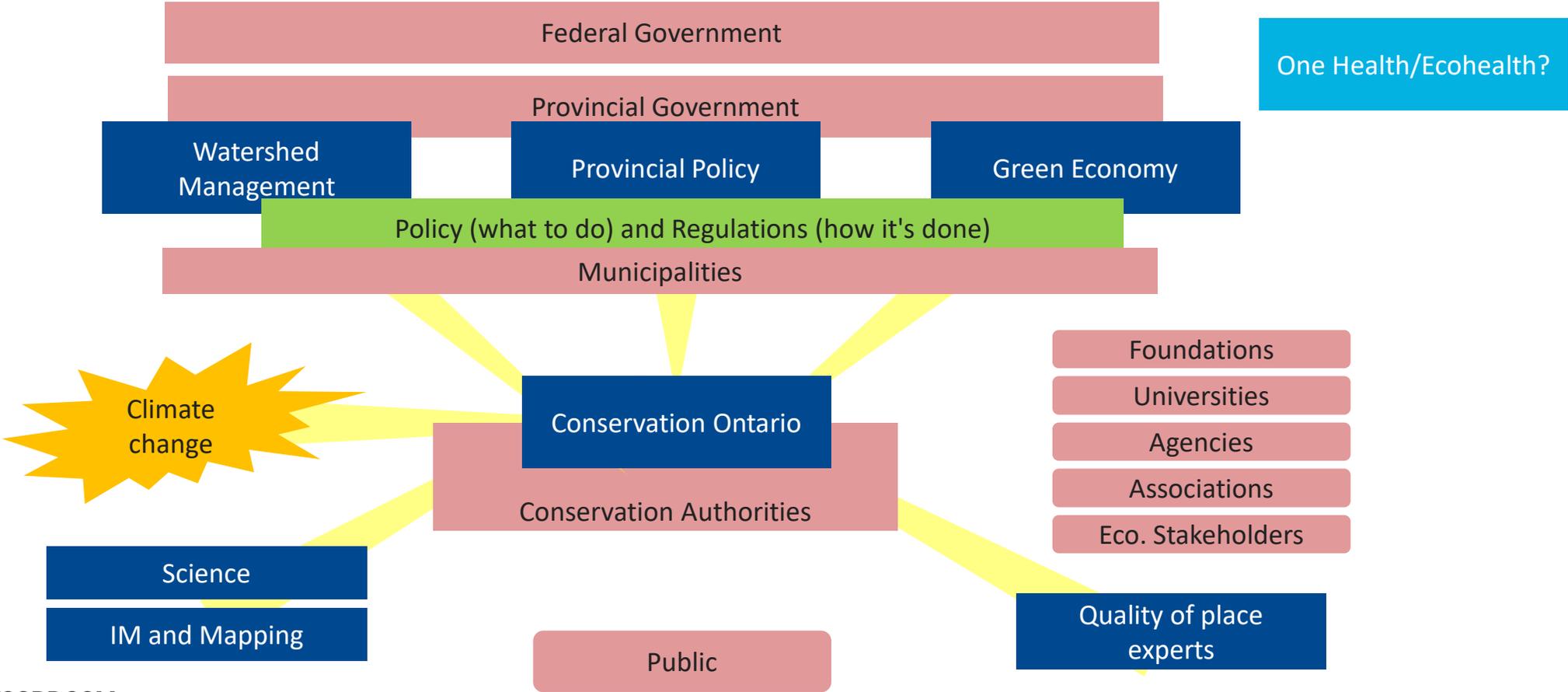
# CO 2020 Business functions

As an association of CAs, Conservation Ontario has seven business functions:



# Observations from 2015 – How would this be different in 2020?

The goal for CO is to drive its agenda through the building and management of working relationships



# Working Groups & Topics for Discussion

## Member Services

CO will provide value-added shared services to members, in such areas as purchasing, training and communications.

- Bulk Purchasing
- Scaling up training and confirming priorities
- Diversity and inclusion

## Governance & Structure

CO will continuously improve the function of internal governance to deliver more effective and engaging participation for members and also examine ways to support CAs ability to address municipal and provincial concerns regarding service delivery.

- Changes associated with COVID e.g. more electronic council meetings and GM meetings than face to face; more regular GM meetings than twice per year
- Internal communications
- Facilitate CA Joint service delivery discussion revisited in light of COVID

## Public Affairs & Advocacy

CO will serve as the collective voice on matters of interest to all Conservation Authorities.

- Diversity and inclusion
- External communication
- Potential revamping of statistical survey further to amendments to Conservation Authorities Act and role of other surveys (e.g. COVID impacts survey)
- Addressing the need for solidarity and collective brand promotion

## Science & Policy

CO will aggregate, manage and disseminate shared knowledge and use it to develop and advance science and policy (i.e. Federal, provincial, and CA)

- COVID-forced changes, what does short, medium- and long-term recovery look like
- CA Act/regulations amendments and client service/streamlining initiative
- Scaling up development of targeted BMPs/guidelines, templates
- How does CO continue to push the bigger environmental picture – e.g. sustainability, climate change, one health, green economy



# Maitland Valley Conservation Authority

*Providing leadership to protect and enhance our water, forests and soils!*

February 8, 2016

Conservation Ontario  
120 Bayview Parkway  
Newmarket, Ontario  
L3Y 3W3

Attention: Dick Hibma, Chair

Dear Mr. Hibma:

**Re: Proposed Amendments to the Bylaws of the Association of Conservation Authorities of Ontario**

On January 27, 2016 the Board of Directors passed the following motion:

**Motion FA #8/16**

**Moved by: Alison Lobb**

**Seconded by: David Turton**

**THAT all the proposed amendments to the Bylaws of the Association of Conservation Authorities of Ontario as outlined in Report #2/16 be submitted to Conservation Ontario for consideration at Conservation Ontario's Annual meeting in April.**

(carried)

The Board of Directors recommends that the following amendments be made to ACAO's Bylaws:

MAITLAND VALLEY CONSERVATION AUTHORITY  
1093 Marietta Street, Box 127, Wroxeter, ON N0G 2X0  
519 335-3557 Fax: 519 335-3516 Email: [maitland@mvca.on.ca](mailto:maitland@mvca.on.ca)



## **Section 2: Definitions:**

- i) “Voting Delegate” is a Representative designated by a member to vote on its behalf at Council meetings.
- ii) The “Alternate” is a Representative designated by a Member who votes at Council meetings if the Voting Delegate is unable to attend.
- iii) The “Second Alternate” is a Representative designated by a Member who votes at council if the Voting Delegate or Alternate can not attend.
  
- iv) **Possible Amendment to Section 2: Voting Delegates, Alternates and Second Alternates are restricted to Conservation Authority Board members.**
- v) **Ex Officio Members: Conservation Authority staff may attend Conservation Ontario meetings and participate in the meetings as non- voting members.**

## **2. Section VI: The Council**

### **Subsection 2: Composition:**

Members may appoint up to three Representatives, designated as Voting Delegate, Alternate and Second Alternate. Council will consist of the Voting Delegates appointed by each Member. The Voting Delegate and both Alternates shall be registered with Conservation Ontario annually.

**Possible Addition: Each member will provide a copy of their appointment bylaw or resolution outlining their Voting Delegates and Alternates for the coming year prior to the Annual Meeting.**

### **RATIONALE FOR PROPOSED CHANGES:**

#### **1. Conservation Authority Board Members as Voting Delegates/Alternates:**

MVCA’s Board thinks that this change is just a good governance practice. The Association should be governed by representatives from the member’s governance side rather than staff.

CA General Managers and CAO’s should be able to attend the meetings but as non voting members. The primary responsibility of the GM’s/CAO’s should be to ensure that there delegate to Conservation Ontario is well briefed on the issues to be discussed at council meetings.

The Association of Municipalities of Ontario made a similar change to their bylaws a number of years ago. Their Association is similar to Conservation Ontario’s in that they develop policy papers on issues of concern and undertake advocacy efforts with the Provincial Government. They recognized that this advocacy should be developed and lead by municipal politicians rather than municipal staff.

AMO does elect some municipal staff members to their Executive Committee, but these staff members are elected by the voting delegates.

MVCA thinks that this change would help Conservation Ontario to become a more effective organization.

It would ensure that more CA Board members attend Council meetings.  
It would help to ensure that they develop a better understanding of the issues and challenges facing conservation authorities.

They would also be in a better position to undertake advocacy efforts with AMO, Provincial and Federal Government.

This change should lead to the development of more political champions for Conservation Authorities.

## 2. Appointments to Conservation Ontario:

The bylaw should be amended to require that each Conservation Authority provide either their appointment bylaw or motion outlining who has been appointed to Conservation Ontario. The present bylaw is unclear regarding the verification that is required from each conservation authority to ensure that the voting delegate and alternates have been appointed by their respective conservation authority.

Conservation authorities require their member municipalities to provide a resolution outlining who has been appointed to the conservation authority board. Therefore Conservation Ontario should ensure that all their voting delegates have been appointed by their respective conservation authority.

The strategic plan adopted by Conservation Ontario back in June identified improving governance as a key strategic goal. MVCA's Board thinks that the proposed changes will help to improve the governance of Conservation Ontario.

We respectfully request that the proposed amendments be referred to Conservation Ontario Council for consideration at the Annual Meeting in April.

Sincerely;

A handwritten signature in black ink that reads "Art Versteeg". The signature is written in a cursive, flowing style.

Art Versteeg  
Chair

## **MEMBERS REPORT #46-20**

**TO:** Members, Maitland Valley Conservation Authority  
**FROM:** Jayne Thompson, Communications and GIS-IT Coordinator  
**DATE:** October 13, 2020 (to be presented October 21, 2020)  
**SUBJECT:** Possible Anniversary Activities for 2021

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### **PURPOSE:**

To obtain input from Members on potential MVCA 70<sup>th</sup> anniversary activities and FRCA's 50 + 1 anniversary.

### **BACKGROUND:**

Next year marks the 70<sup>th</sup> anniversary of Maitland Conservation. In addition, Falls Reserve Conservation Area's 50<sup>th</sup> anniversary was not marked in any significant way this year due to the COVID-19 situation. These milestones provide an opportunity to inform member municipalities, landowners, park visitors and partner agencies about our accomplishments and highlight our current activities.

Staff have been considering opportunities to mark these anniversaries in ways that promote the organization and the park but take into consideration our financial and time constraints.

### **Possible Anniversary Activities:**

- Early summer tour and barbeque at FRCA for Members, staff, past Chairs, some past staff and Maitland Conservation Foundation Directors. This tour would focus on naturalization efforts and infrastructure upgrades at the park.
- Rather than holding a large public event, messages relating to 70 years of conservation could be inserted into on-going services and activities. For example:
  - Incorporation of the 70<sup>th</sup> anniversary into the MVCA logo. This would be used in advertising and electronic correspondence during 2021.
  - Include an anniversary slide in municipal presentations highlighting our long-term partnership and successful projects.
  - FRCA summer staff developed draft anniversary displays this summer. Those displays could be printed and posted on park kiosks in 2021 and some historic photos added to the annual park guide.
  - Include anniversary messages in stewardship project milestones such as the completion of the Scott Municipal Drain Project and reaching 1.5 million watershed trees planted.
  - Use an anniversary hashtag on social media posts and highlight significant accomplishments.
  - Media release highlighting some key achievements and outlining current priorities.

**Next Steps:**

Are Members comfortable with the activities listed above? Are there any other activities that the Members would like to see implemented to commemorate the anniversaries?

**RECOMMENDATION:**

**To be developed at the meeting.**

**MEMBERS REPORT #47-20**

**TO: Member's, Maitland Valley Conservation Authority**  
**FROM: Danielle Livingston, Administrative and Financial Services Coordinator**  
**DATE: October 6, 2020**

**SUBJECT: Corporate Services - Accounts Paid and Received for:  
September 2020**

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**RECOMMENDATION:**

**THAT THE** financial report be accepted as presented for the month of September 2020 ;  
**AND THAT** accounts outlined in the appendix to this report be approved.

Financial Summary Report Ending	September 2020
Revenue Invoiced	\$88,604.91
Accounts Paid	\$234,616.66

Financial Status at Month Ending	September 2020
Bank Loans Outstanding	\$0.00
Bank Balance at Month End	\$2,418,329.91
Total	\$2,418,329.91

**Maitland Valley Conservation Authority**  
**Accounts Receivable as of September 30, 2020**

**Operating Budget Revenue**

**Corporate**

Corporate Services sale office support/rent office equipment	\$ 634.91
Drinking Water Source Protection rent/overhead	\$ 180.00
Huron Clean Water Project administration	\$ 442.16
bank interest	\$ 1,379.46
	\$ 2,636.53

Communications sales and donations	\$ 311.02
	\$ 311.02

**Total Corporate Services** \$ 2,947.55

**Flood Safety**

Planning/Regulations planning application fees	\$ 960.00
property advisory fees	\$ 2,450.00
solicitor inquires	\$ 795.00
CWMS/watercourse regulations	\$ 890.00
	\$ 5,095.00

**Total Flood Safety Services** \$ 5,095.00

**Conservation Areas**

FRCA camping	\$ 40,971.37
sales/concession booth	\$ 10,448.86
donations	\$ 50.00
	\$ 51,470.23

Motor Pool revenue	\$ 3,501.60
	\$ 3,501.60

Carbon Offset Maitland Valley Conservation director's/staff	\$ 10.79
	\$ 10.79

**Total Conservation Areas Operations** \$ 54,982.62

**Total Operating Budget Revenue** \$ 63,025.17

**Total Operating and Project Revenues** \$ 63,025.17

**Projects Budget Revenue**

**Watershed Stewardship**

Huron County Clean Water funding	\$ 23,693.41
	<u>\$ 23,693.41</u>

**Total Watershed Stewardship Services** \$ 23,693.41

**Special Projects**

DWSP Transition Ausable Bayfield Conservation reimbursement	\$ 1,886.33
	<u>\$ 1,886.33</u>

**Total Special Projects** \$ 1,886.33

**Total Project Budget Revenue** \$ 25,579.74

**Total Operating and Project Revenues** \$ 88,604.91

**Maitland Valley Conservation Authority**  
**Expense Reports**  
**As of September 30, 2020**

<b>Date</b>	<b>Num</b>	<b>Name</b>	<b>Amount</b>
09/03/2020	22615	Foxton Fuels Limited	\$300.46
09/08/2020	22616	ALS Canada Ltd.	\$822.19
09/08/2020	22617	Art Burns Firewood	\$10,023.00
09/08/2020	22618	Bell Canada-properties	\$436.45
09/08/2020	22619	Bell Mobility (FRCA 501214021)	\$263.59
09/08/2020	22620	Borrmann's Garage	\$99.28
09/08/2020	22621	Eric Cox Sanitation	\$3,477.77
09/08/2020	22622	Gardiners Goderich Ltd.	\$1,636.50
09/08/2020	22623	RONA Hodgins	\$148.56
09/08/2020	22624	Telizon Inc.	\$45.64
09/08/2020	22625	Waste Management of Canada Corporation	\$813.22
09/08/2020	22626	CDW Canada Inc.	\$605.14
09/08/2020	22627	Xerox Canada Ltd.	\$293.59
09/08/2020	22628	Purolator Courier Ltd.	\$19.02
09/15/2020	22629	Buffett Taylor & Associates Ins. Ag. Inc.	\$4,692.63
09/15/2020	22630	Ausable Bayfield Conservation Authority	\$1,743.78
09/15/2020	22631	Borrmann's Garage	\$1,059.06
09/15/2020	22632	Gord Hern	\$450.00
09/15/2020	22633	Earl and Marilyn Miller	\$420.00
09/15/2020	22634	Laverne Flynn	\$270.00
09/15/2020	22635	Ted Livingston - vendor	\$4,630.35
09/15/2020	22636	Mathew Shetler	\$50.00
09/15/2020	22637	Public Services Health & Safety Ass.	\$452.00
09/15/2020	22638	Xerox Canada Ltd.	\$1,475.71
09/15/2020	22639	MicroAge BASICS	\$129.57
09/15/2020	22640	Township of Howick	\$40.00
09/15/2020	22641	Watson's Home Hardware	\$446.16
09/15/2020	22642	CIBC Visa Centre	\$5,071.01
09/15/2020	22643	F.S. Partners	\$15.35
09/15/2020	22644	Brandt Security	\$22.60
09/15/2020	22645	Westario Power Inc.	\$25.36
09/15/2020		Payroll	\$42,781.84
09/16/2020	22646	Receiver General	\$8,478.84
09/22/2020	22647	Mars Environmental	\$316.40
09/22/2020	22648	Municipality of Huron East	\$2,184.37
09/22/2020	22649	Wightman Telecom Ltd. (vendor)	\$609.30
09/22/2020	22650	Wroxeter Hall	\$226.00
09/22/2020	22651	ContinuIT Corp.	\$3,505.26
09/22/2020	22652	Eric Cox Sanitation	\$1,792.77
09/22/2020	22653	G.W.G. Resources Services	\$565.00

09/22/2020	22654	Colin Cameron	\$750.00
09/22/2020	22655	Margaret Allin	\$741.57
09/22/2020	22656	Municipality of Central Huron	\$618.75
09/22/2020	22657	Tony Dykstra	\$750.00
09/22/2020	22658	North Huron Publishing Inc.	\$268.77
09/22/2020	22659	Verbinnen's Nursery Ltd.	\$1,033.27
09/29/2020	22660	Moir, J.	\$119.99
09/29/2020	22661	Ausable Bayfield Conservation Authority	\$28.25
09/29/2020	22662	BOSTECH Mechanical Ltd.	\$1,707.71
09/29/2020	22663	Bureau Veritas Canada Inc.	\$164.42
09/29/2020	22664	Emanuel E.M. Martin	\$113.00
09/29/2020	22665	Eric Cox Sanitation	\$585.79
09/29/2020	22666	R. J. Burnside & Associates (Orangeville)	\$651.45
09/29/2020	22667	Wighty's Repairs Inc.	\$5,174.98
09/29/2020	22668	Hyde Construction Limited	\$750.00
09/29/2020	22669	Lighthouse Cove	\$6,000.00
09/29/2020	22670	Forest City Landworks Ltd.	\$5,085.00
09/29/2020	22671	Peavey Industries LP	\$97.04
09/29/2020	22672	Catherine Billings	\$150.00
09/30/2020		Payroll	\$42,274.77
09/30/2020	22673	OMERS	\$19,054.44
09/30/2020	22674	Minister of Finance	\$2,441.30
09/30/2020	22675	Foxton Fuels Limited	\$183.72
09/30/2020	22676	Gardiners Goderich Ltd.	\$322.50
09/30/2020	22677	Ideal Supply Inc.	\$501.65
09/30/2020	22678	Workplace Safety & Insurance Board	\$3,475.56
09/30/2020	22679	Receiver General	\$35,124.37
09/30/2020	22680	Bell Mobility Inc. 500181172	\$498.08
09/30/2020	22681	CDW Canada Inc.	\$432.02
09/30/2020	22682	Dr.Harold Schroeter	\$400.00
09/30/2020	22683	MARCC Apparel and Promotions	\$134.98
09/30/2020	22684	Papple Aviation	\$3,523.34
09/30/2020	22685	RTM North Ltd.	\$988.75
09/30/2020	22686	Telizon Inc.	\$21.90
09/30/2020	22687	Yellow Pages	\$11.52
		Total	<u>\$234,616.66</u>

IN DEPTH

## Climate change threatens Canada's dams - but who's keeping track?

There are more than 14,000 dams across the country, but not all provinces have legislation or record-keeping to monitor their maintenance or assess the risks they pose

**MATTHEW MCCLEARN** >[+ FOLLOW MATTHEW](#)

PUBLISHED OCTOBER 7, 2020

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A sign warns visitors at the Gorrie Dam, which spans the North Maitland River in Southern Ontario.

MATTHEW MCCLEARN/THE GLOBE AND MAIL

On a hot summer afternoon, the North Maitland River in Southwestern Ontario trickles lazily past crumbling concrete. The Gorrie Dam – what’s left of it –awaits removal.

Its destruction had been long foretold. Following a damaging flood in 1974, engineers concluded that neither its spillways nor its earthen dikes had been constructed properly; the silty sand and gravel on which they rested allowed water to seep through. An engineer from the Ministry of Natural Resources concluded that the dam would eventually fail.

In 2017, amid heavy rains leading to the second highest flows on the river in half a century, it finally did. Flood waters overtopped and eroded its emergency spillway, and damaged its concrete structure.

Luckily, this failure unfolded gradually; it didn’t release a massive pulse of water that might have damaged other infrastructure downstream. As it was, other owners throughout the area were struggling to prevent failures of their own dams, a fate that was narrowly avoided.

Such incidents will likely arrive more frequently as Canada’s aging dams continue on a collision course with a warming climate.

There are more than 14,000 dams across Canada, with significant concentrations in Quebec, Ontario and British Columbia. Many date from the early and mid-20th century. While some are well-maintained and were built to withstand extreme events, others have deteriorated beyond hope of restoration.

They are at risk of failing even during moderate rainfall, let alone the massive deluges that are becoming increasingly commonplace.

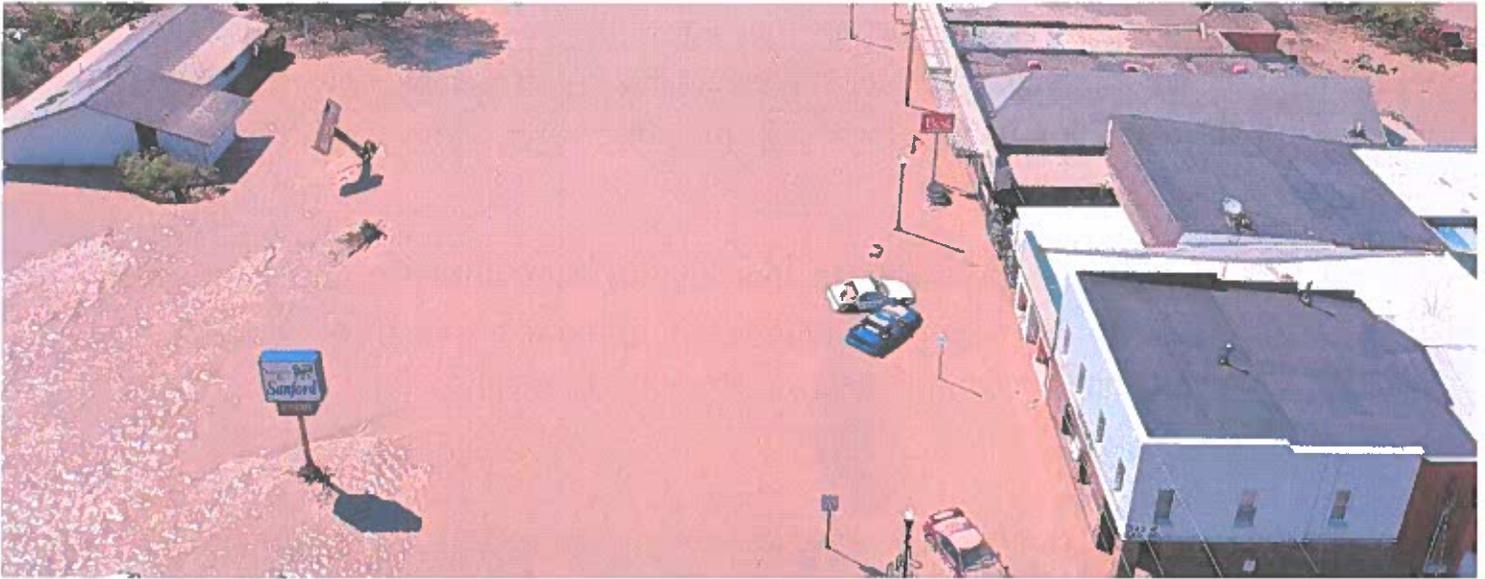
The extent of the problem is obscured by a massive data gap. Dams fall largely under provincial jurisdiction, and while the rigour of supervision varies considerably, most provinces publish little information that could be used to identify poorly maintained dams, or assess what might happen if they fail.

But the available evidence suggests the Gorrie Dam was no anomaly. A report by engineering firm Greck and Associates Ltd. following its failure noted that Ontario alone has more than

5,000 dams and weirs. “Many dams are approaching or have exceeded their normal life expectancy,” the report noted. “They are in poor condition and no longer provide their originally intended function. They present risks to public safety, owner liability issues, and impacts to the natural environment.”

Evidence from around the globe establishes that ignoring dams until they fail can be a costly and hazardous error. An alternative – decommissioning and removing them – is often cheapest. But it’s also politically unpopular, and hasn’t yet caught on in Canada.





In Sandford, Mich., aerial photos on May 20 show the remains of a dam, top, and a flooded main street, bottom, a day after two dams on the Tittabawassee River collapsed.

PHOTOS: GREGORY SHAMUS/GETTY IMAGES

## **DAM BLINDNESS**

In May, the Edenville Dam and Sanford Dam in Michigan breached amid heavy rainfall, leading to flooding and evacuations of nearby towns. The New York Times reported that the flood waters inundated parts of a large chemical complex and threatened the site of a major toxic cleanup.

Failures of this magnitude are mercifully rare: According to a 2018 study by the National Performance of Dams Program at Stanford University, since 1980 the U.S. has experienced an average of 24 failures annually. When they do occur, however, major failures prompt re-evaluations. The Michigan incident sparked a flurry of reports reminding Americans that their country is littered with vulnerable dams. According to a national inventory maintained by the U.S. Army Corps of Engineers, nearly 25,000 of the more than 90,000 dams in the country have hazard ratings of “high” or “significant,” meaning their failures might cause loss of human life, property damage or environmental destruction.

Critics complain that the true extent of the problem in the U.S. is obscured by a lack of data. But if the U.S. has blind spots, Canada is almost entirely blind.

To begin with, Canada lacks a national inventory and has no body equivalent to the Army Corps of Engineers. The closest thing Canadians have is a list from the Canadian Dam

Association of fewer than 1,200 “large” dams – a classification that includes dams higher than 15 metres, or smaller ones that impound large volumes of water. That wouldn't be such a problem if provinces published their own comparable inventories. Some (such as Quebec and Alberta) do, but there are considerable gaps. Ontario's inventory, for example, provides little more than names and locations of dams.

This is just one indication of how little attention some Canadian regulators pay. According to a report released in August by the Intact Centre on Climate Adaptation at the University of Waterloo, most provinces and territories don't require owners to conduct flood risk assessments for their dams. Without them, it's difficult to identify decrepit dams whose failure would seriously threaten people and property. “This may pose a potential threat to the safety of Canadians,” the report noted, “as it may lead to outdated or inaccurate dam safety information.”

Not all provinces are blind. Alberta and British Columbia, for example, classify dams based on the hazard they present. That information is crucial if regulators want to prioritize where to focus their attention. It also helps emergency responders; for example, it could help prioritize where to issue evacuation orders during a major flood or earthquake.

Apart from the 400 dams it owns, Ontario says it doesn't keep information on hazard potential classifications for dams within its borders. “There's no legislation that requires dam owners, large or small, to do the engineering analysis to determine what happens if these dams fail,” said Jeff Graham, president of GSS Engineering Consultants Ltd. in Owen Sound, Ont.

Ontario also lacks a system for verifying whether dams are properly maintained. British Columbia, in contrast, audits high and extreme consequence dams at least once every five years for compliance with provincial regulations; significant consequence dams are revisited every decade. B.C. employs dam safety officers who perform this work.

B.C. also requires dam owners to report annually on the status of their dam safety programs. Nothing like that exists in Ontario. B.C. publishes annual reports about its enforcement activities, which include audits to ensure dam owners comply with regulations. (Through these audits, the B.C. government has learned that “many dam owners are not following through with the work indicated on their report.”) Ontario doesn't.

Ontario doesn't even know how often dams fail within its borders because it doesn't maintain records or data. Contrast that with Stanford University, which maintains a database of dam

failures for the entire United States.

Dams do fail in Canada, regardless of whether anyone is keeping track. Last year, water overtopped the Glen Miller hydropower plant near Quinte West, Ont., following a power outage that caused the dam's doors to close. Downstream, a road collapsed and a home was flooded. Worse still was the failure of a dike in Sainte-Marthe-sur-le-Lac near Montreal, which flooded dozens of residential streets and forced around 6,500 people to evacuate.

Dianne Saxe, Ontario's former environment commissioner, doesn't mince words. "The clear impression I was given was that the Ministry of Natural Resources was not paying attention."



Quebeckers use a boat to navigate a flooded street on Ile Bizard, west of Montreal, in 2019. That year's spring floods raised alarms that climate change will make similar disasters more frequent and worse.

GRAHAM HUGHES/THE CANADIAN PRESS

## **COLLISION COURSE**

Such inattention could become a bigger problem if, as many climatologists expect, Canada is condemned to more frequent and devastating floods.

According to a paper published this year by Megan C. Kirchmeier-Young and Xuebin Zhang, researchers with Environment and Climate Change Canada's climate research division, extreme precipitation is already on a clear upward trend in North America, one that will likely continue. As the earth's climate continues to warm, it evaporates more water into the atmosphere. This can produce heavier downpours, leading to flash floods.

"There is lots and lots of data around the world showing that the intensity of storms is increasing," said Ms. Saxe. "Which is exactly what you'd expect from the basic physics."

Continuing loss of wetlands and other natural buffers exacerbates flooding in some areas. Paradoxically, climate change may also lead to more and longer droughts. And that's not good news for dams, either: Under such conditions, earthen dams and levees may crack due to drying, subsidence and erosion.

Properly maintained and upgraded, even an aging dam may continue to operate safely and reliably. Consider Ontario Power Generation's fleet of 241 dams. According to Tony Bennett, OPG's director of dam safety, the utility inspects many dam components – such as spillway gates and the hoists that lift stop logs – annually. Fences, safety booms and buoys are regularly maintained to keep people out of harm's way. And OPG also needs to keep its emergency plans current for all 24 river systems on which it operates.

That OPG goes to all this bother is hardly surprising: Its dams produced more than 32 terawatt hours of electricity last year. Similarly, owners of flood control structures have strong incentives to keep their dams in good working order.

But it's a different story with so-called "deadbeat dams" – those that have outlived their usefulness. These include dams built for log driving or to provide mechanical power for mills. Some are owned by municipalities, mining companies and private owners who may lack adequate resources, and may not even know about emerging problems because they're not inspecting.

And that's to say nothing of "orphan dams" – ones that effectively have no owner at all. If they are in remote areas, the very existence of some earthen dams has been forgotten, and they

may be so overgrown with vegetation as to have become unrecognizable.

“The great majority of dams really have no active maintenance,” said Mr. Graham, “so they just slowly deteriorate.”



The Maitland Mill stands near the Gorrie Dam. It has been closed since the 1960s.

MATTHEW MCCLEARN/THE GLOBE AND MAIL

The Gorrie Dam is a prime example. The nearby Maitland Mill's windows are either shuttered or broken, its clapboard weathered and disintegrating, its cogs rusted and motionless. Built in the 1850s, its equipment was once powered by water diverted by the dam into the sluiceway, which is now clogged with algae. (The current dam dates from 1929.)

The mill closed in 1962. That's when the Maitland Valley Conservation Authority bought the dam. General manager Phil Beard said that at the time, the provincial government provided funding to its conservation authorities to buy up such properties to establish parks, campgrounds and other amenities. Since then the dam's sole purpose has been to create a small pond for recreational purposes in the warmer months.

But owing to subsequent budget cuts, particularly during the 1990s, Mr. Beard said conservation authorities lack the funding to conduct major maintenance. "Everything has a lifespan," he said. "And these structures weren't designed to deal with the impacts of a changing climate. So it's a double whammy."

Just kilometres downstream of the Gorrie Dam, in the Township of North Huron, anglers hop a chain-link fence to hang their fishing rods. They do so against all advice: The structure they're standing on, the Howson Dam, makes its failed upstream cousin appear robust by comparison.

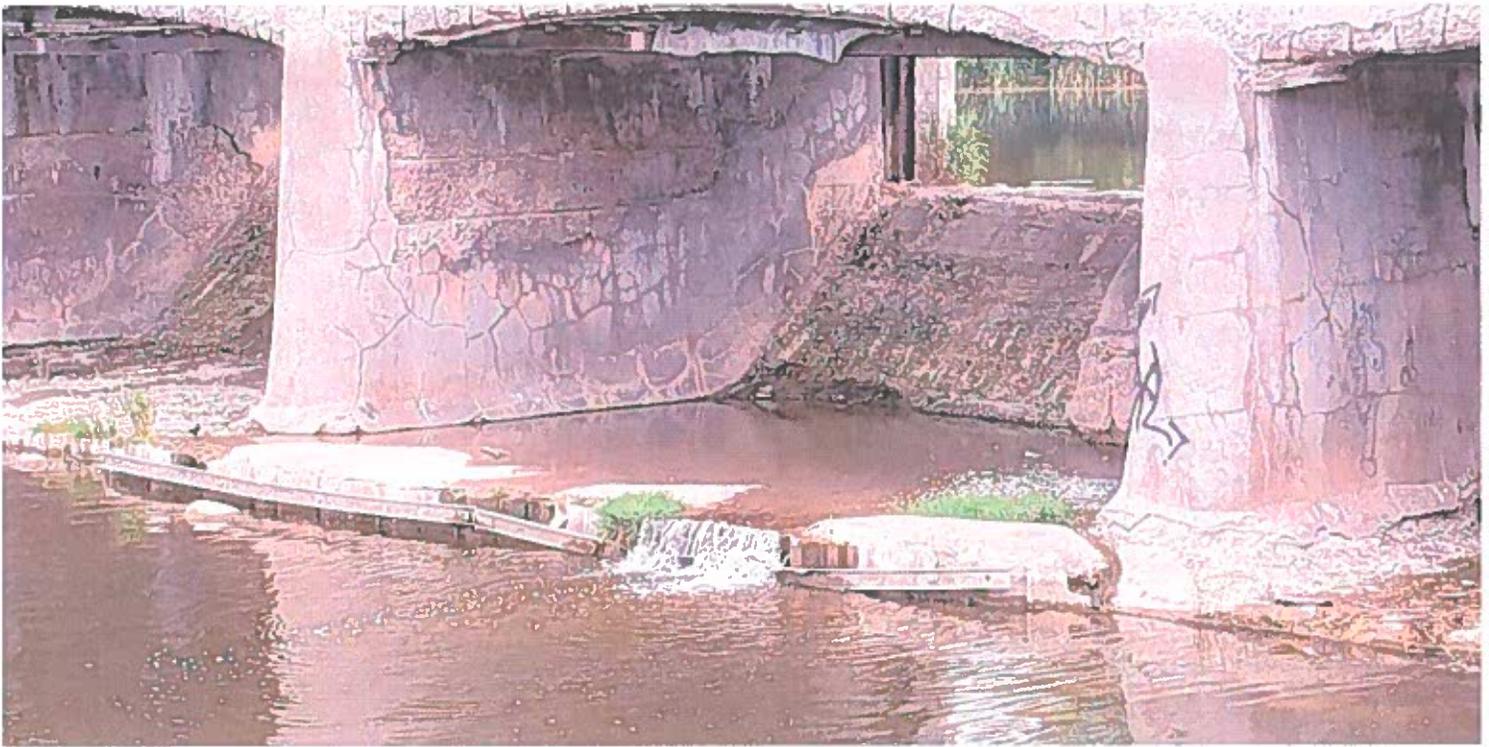
Its piers are etched with webs of deep cracks that the rude slogans and genitalia spray-painted on them can't conceal. Originally designed to do double duty as a bridge, it's been closed to traffic for two decades. As early as the 1980s, evaluations determined that the concrete was in poor condition; another, in 2018, found that the concrete from three vertical core holes was "extensively deteriorated with fractures present throughout."

A document produced by the Township of North Huron warned that the Howson Dam "represents a liability to the municipality" and "has degenerated to the point that it can no longer be ignored."

Only recently, however, did the municipality become aware of what would be at stake if it failed. The first-ever safety review, in 2018, recommended that its hazard potential classification be listed as high because "the dam is located in a populated area susceptible to flooding during large floods." The Maitland Valley Conservation Authority has warned the town that it's "a bottleneck in the floodplain" that could flood the area immediately upstream.

"A lot of these old dams are really precarious," Mr. Graham said. "There's a good chance that these dams will fail in the next 50 years or so, due to really big flood events that will likely occur as a result of climate change, or maybe just bad luck."





Deep cracks cover the surface of Ontario's Howson Dam, a few kilometres downstream from the Gorrie Dam. Evaluations found poor conditions in the concrete as early as the 1980s.

MATTHEW MCCLEARN/THE GLOBE AND MAIL

## **BREACH OF KNOWLEDGE**

The Testalinden Dam was a privately owned earthen dam in B.C. Completed in 1937 for irrigation, it failed in June, 2010, releasing torrents of mud and debris that damaged a handful of homes and farms downstream.

An independent review conducted soon afterward found that beginning as early as the 1960s, inspections had revealed a series of deficiencies. One inspector wrote in 1977 that “the dam is in deplorable condition” and needed to be breached or rebuilt. Another report, a decade later, made nearly identical observations.

But while B.C.'s dam safety program was able to detect poor maintenance, it failed to compel improvements. “There is no indication that the needed repairs were acted upon,” the 2010 review concluded, “but also no indication that the owner was being held accountable to make those repairs.”

Nor did the government warn the public. B.C.'s Information and Privacy Commissioner found in a 2013 report that while the government knew the dam was near the end of its life, it failed

“to disclose information about the compromised state of the dam to residents downstream.”

But here's the rub: B.C. was one of only four provinces that even had a dam safety program. Other provinces, like Ontario, are likely oblivious to such dams because they don't require dam safety reviews except in rare circumstances, and often don't possess or study them when they are produced.

Despite reforms introduced following the Testalinden Dam failure, some owners in B.C. continue to flout their obligations. According to audits conducted by B.C. dam safety officers, “many dam owners are not following through with the work indicated on their report.”

Take the Frank Lake Dam, located near the Canada-U.S. border. In 2018, provincial officials reported that the “unauthorized” dam “was exhibiting signs of instability on the upstream slope” and was holding back about 130,000 cubic metres of water. The government ordered that it be decommissioned by September, 2019.

According to a government spokesperson, the dam's owner – Elkink Ranch Ltd. – has not complied. Elkink Ranch, the government noted, “formerly owned the Testalinden dam.”





Debris from a landslide litters a property near Testalinden Creek, just south of Oliver, B.C., in 2010. The failure of the privately owned Testalinden Dam sent mud pouring over farms and homes in the area.

DANIEL HAYDUK

## **A SIMPLE BUT UNPOPULAR SOLUTION**

The good news is that there is a relatively straightforward remedy for the hazard presented by deadbeat dams: remove them.

It's the solution favoured by a growing number of small non-governmental organizations. They're often motivated more by hopes of restoring river ecosystems rather than improving public safety. The Ontario Rivers Alliance, a non-profit organization that focuses on restoring freshwater ecosystems, has begun approaching owners who might be interested in removal. "We're exploring ways of finding more of these old and dysfunctional dams," said its chair, Linda Heron.

Robert Huber, president of the Thames River Anglers Association in London, Ont., is also eager to encourage more decommissionings. He says he was inspired by large-scale decommissionings of hydroelectric projects on major U.S. river systems. "They've been even knocking them down in the States left, right and centre, and doing a really good job of it," he said. "We looked at that and we're like, we could do that here... We're gonna keep trying to tear them out every chance we get."

Financially, removing a deadbeat dam is often the cheapest option. For the cash-strapped Maitland Valley Conservation Authority, the calculation for the Gorrie Dam was fairly straightforward. An engineer's study estimated removal would cost nearly \$1-million. Replacing it, on the other hand, could cost as much as \$3.5-million. (The Conservation Authority believes the decommissioning cost will be far lower than the initial estimate.)

Informed by that experience, in 2018 the Conservation Authority adopted a new policy for end-of-life dams: It will offer to transfer ownership to the municipalities in which they're located for replacement. Failing that, the Conservation Authority will decommission them.

The Township of North Huron, which hasn't decided yet what to do with the Howson Dam, faces similar math. By one estimate, removal would cost \$436,000, versus between \$2.8-million and \$6.2-million to fix or rebuild.

Nevertheless, decommissioning is often a tough sell. While doing nothing may court significant legal liability in the event of subsequent failure, it is even cheaper (at least in the short term) than removal. And outside sources of funding are typically few. Ontario's Conservation Authorities, for example, can call on the province's Water Erosion Control Infrastructure program to fund removals, but at \$5-million a year it is small and consistently oversubscribed.

To remedy this and encourage more removals, some have suggested government-funded schemes resembling recent efforts to remediate abandoned oil wells in Western Canada. To encourage removals, the Ontario Rivers Alliance offers to help owners raise money.

Even the most deadbeat of dams often has local defenders, who form "save the dam" groups to lobby local officials for rehabilitation. "Most people don't want to lose their reservoirs or local ponds that have been created with these dams," said Ms. Heron. "Sometimes we're successful, most times we're not."

There are also regulatory obstacles. A curious aspect of Ontario's Lakes and Rivers Improvement Act is that owners require provincial permits to repair or remove their dams, whereas there are few requirements for owners who choose to do nothing.

"The fascinating thing is, it's harder to go through the process of removing it than it was to put it in there in the first place," said Mr. Huber.

Since establishing his own engineering firm in 2013, Mr. Graham has helped several municipalities and conservation authorities remove small and medium-sized dams in Ontario. Last year GSS Engineering removed the Truax Dam on the Saugeen River in Walkerton, Ont. But he said the pace of removals in Canada is "glacial," and far slower than that south of the border.

"If we only are able to achieve the removal of one or two or three or four of these dams per year in Ontario, we'll never make a big dent in the total number," said Mr. Graham. "I mean, we're just scratching the surface."

## The coming deluges: More from Matthew McClearn