



Board of Directors Meeting

By Zoom

1:00 pm

May 19, 2021

AGENDA

ROLL CALL

Agenda Review

Declarations of Interest (written)

Business Arising

Business

1. Approval of Minutes – Board of Directors, April 21, 2021
2. Watershed Condition Report, 3132/21 (Jennifer North)
3. Corporate Strategic Plan, 3133/21 (Sally McIntyre)
4. Policy & Priority Advisory Committee report:
 - a. Watershed Plan, 3131/21 (Alyson Symon)
5. Conservation Ontario Governance Accountability and Transparency Initiative, 3134/21 (Sally McIntyre)
6. Eastern Ontario LiDAR Acquisition Project, 3135/21 (Ronda/Sally McIntyre)
7. Budget Control Report, 3136/21 (Angela Millar)
8. Mississippi Valley Conservation Foundation
 - a. Foundation Financial Statements, MVCF 3/21 (Angela Millar)
9. General Manager Update Report, 3137/21 (Sally McIntyre)

ADJOURNMENT



Board of Directors

MINUTES

Via Zoom

April 21, 2021

MEMBERS PRESENT

J. Mason, Chair
J. Atkinson, Vice-Chair
F. Campbell
E. El-Chantiry
G. Gower
C. Lowry
B. Holmes
J. Inglis
J. Karau
P. Kehoe
B. King
P. Sweetnam
K. Thompson

MEMBERS ABSENT

R. Darling
C. Kelsey
A. Tennant

STAFF PRESENT

S. McIntyre, General Manager
A. Millar, Treasurer
A. Broadbent, IT Supervisor
M. Craig, Manager of Planning and Regulations
J. Cunderlik, Director, Water Resource Engineering
R. Fergusson, Operations Supervisor
S. Gutoskie, Community Relations Coordinator
C. McGuire, Water Resource Engineer
E. Levi, Recording Secretary

J. Mason called the meeting to order at 1:00pm.

B04/21/21-1

MOVED BY: K. Thompson

SECONDED BY: J. Karau

Resolved, That the Agenda for the April 21, 2021 Board of Directors meeting be adopted as presented.

“CARRIED”

BUSINESS

1. Approval of Minutes – Board of Directors

B04/21/21-2

MOVED BY: E. El-Chantiry

SECONDED BY: F. Campbell

Resolved, That the Minutes of the Mississippi Valley Board of Directors Meeting held on March 17, 2021 be received and approved as printed.

“CARRIED”

2. Receipt of Standing Committee Minutes

B04/21/21-3

MOVED BY: J. Atkinson

SECONDED BY: C. Lowry

Resolved, That the following Minutes of the Mississippi Valley Standing Committees be received:

1. Finance and Administration Advisory Committee, February 8, 2021
2. Policy and Priorities Advisory Committee, November 13, 2020
3. Executive Committee, October 14, 2020
4. Executive Committee, November 25, 2020
5. Executive Committee, February 8, 2021

“CARRIED”

3. Watershed Conditions

C. McGuire discussed the below average freshet in the upper watershed as a result of snow sublimation and below average precipitation. He advised that water control structures are being operated more often and more aggressively this spring in order to achieve target summer levels. He noted that if current conditions persist, a low water level one condition may be announced.

4. Chair Report – Conservation Ontario Council Meeting

J. Mason advised Report 3126/21 was provided in the package and could speak to it if there were any questions.

5. Report of the MOK Museum Special Advisory Committee

C. Lowry reviewed Report 3127/21. Revenues and expenditures were reviewed with one correction noted: yearly operating expenses should read \$134,000, not \$156,000. She advised that the Special Advisory Committee met 4 times over 2019-2020 and twice in 2021; and that the options presented in the report reflect the outcome of those meeting.

J. Atkinson explained that all options forwarded by the committee keep the McKenzie and Naismith collections and museum at the Mill of Kintail as they are integrated with the site. Options will be put to the public for comment, with findings provided to the Board.

J. Karau asked whether the National Capital Commission had been contacted for feedback on the collection. C. Lowry advised that they had not been, but staff could reach out at this juncture.

In the event that a new owner/operator of the collections is secured, P. Sweetnam asked what would be deemed appropriate for the minimum amount of rent. S. McIntyre advised that a suitable rent had not yet been determined but would cover facility costs to the extend deemed appropriate by the Board.

B04/21/21-4

MOVED BY: J. Atkinson

SECONDED BY: B. Holmes

Resolved, That the Board direct staff to:

- 1. Carry-out a public consultation program for the options set out in this report.**
- 2. Undertake further investigations to assess the viability of the options contained in this report, and report back to the Board with findings and recommendations.**

“CARRIED”

6. Policy & Priority Advisory Committee reports:

a) PPAC Report- Consent Agenda

S. McIntyre reviewed Report 3119/21 and recommendations from the Policy & Priorities Advisory Committee regarding potential use of consent agendas.

P. Sweetnam commented that he was in favour of consent agendas and also lengthening meetings by 30 minutes to allow staff to present their items to the Board.

J. Inglis did not support use of a consent agenda given the reluctance of members who may feel that they have to explain why they wish to move an item out of the consent portion of the agenda. He suggested cutting down meeting times by reducing duplication in the form of providing a written report and also providing a presentation explaining the report.

B. King supported use of consent agendas and reinforced the point of report reading ahead of the meeting so there is no requirement to present the same information again at the meeting. He would prefer more discussion of items amongst members.

C. Lowry and J. Karau both expressed interest in making use of consent agendas, extending meetings to 2.5 hours where appropriate, and for presentations to simply provide an executive summary of reports, which are generally fulsome and don't require repeating.

Staff were asked to provide advance notice if a meeting is expected to go beyond 2 hours.

B04/21/21-5

MOVED BY: P. Kehoe

SECONDED BY: B. Holmes

Resolved, That the Board direct staff to:

- 1. Draft amendments to the MVCA Administrative By-law to allow for consent agenda.**
- 2. Include item summaries or PowerPoints in Board Agenda Packages for verbal updates**

"CARRIED"

b) PPAC Report - Committees Structure and Mandate

S. McIntyre reviewed Report 3120/21 and the recommendation brought forward from the Policy & Priorities Advisory Committee regarding committee structure, governance and mandate.

J. Inglis asked for confirmation that the Policy and Priorities Committee would be tasked with governance work instead of a new ad hoc committee. S. McIntyre confirmed his understanding.

B04/21/21-6

MOVED BY: E. El-Chantiry

SECONDED BY: B. King

Resolved, That Terms of Reference for the Policy & Priorities Advisory Committee be amended to clarify its ability to consider and make recommendations concerning committee structures.

"CARRIED"

7. Finance & Administration Advisory Committee reports:

a) FAAC Report - Amendment to the 2021 Fee Schedule

A. Millar highlighted Report 3122/21 proposing a new fee for models and digital copies due to increased demands for items. She noted that the proposed fees are consistent with those of South Nation Conservation and Rideau Valley Conservation Authorities.

B04/21/21-7

MOVED BY: P. Sweetnam

SECONDED BY: J. Inglis

Resolved, That the Board approve amendment of Schedule D of the 2021 Fee Schedule, as presented.

“CARRIED”

b) FAAC Report - Amendment of Wage Scales

B04/21/21-8

MOVED BY: F. Campbell

SECONDED BY: K. Thompson

Resolved, That the Board of Directors move to in-camera session for discussion of the following matter:

- **Labour relations or employee negotiations;**

And Further Resolved, That Sally McIntyre and Angela Millar remain in the meeting.

“CARRIED”

B04/21/21-9

MOVED BY: P. Sweetnam

SECONDED BY: G. Gower

Resolved, That the Board of Directors move out of “in-camera” discussion.

“CARRIED”

8. O.Reg. 153/06 Permits Update

M. Craig presented Report 3128/21. He advised that permit numbers were consistently high in recent years, reflective of past flood damage and a building boom during pandemic.

P. Sweetnam asked about pooling of permit applications. M. Craig explained that MVCA will combine where appropriate, for example the City of Ottawa submits bulk permit applications.

9. General Manager Update Report

S. McIntyre offered to elaborate and answer questions about Staff Report 3129/21 that is itself a summary document.

P. Sweetnam asked for an update regarding WECl funding for Shabomeka Dam repair. S. McIntyre advised that a complete WECl application package was submitted to MNRF with a detailed design and MVCA is awaiting funding results by late April.

E. El-Chantiry asked for an update regarding projects in partnership with the City’s Planning, Infrastructure and Economic Development Department under allocations to municipalities. S. McIntyre explained that MVCA did not have shovel-ready projects within City of Ottawa for use of those funds, but understand that projects are being pursued by RVCA.

E. El-Chantiry asked whether flood mapping is a good investment by and in municipalities. S. McIntyre agreed, and advised that MVCA has been speaking with local municipalities and the counties to secure funds to support expanded mapping in the Mississippi.

J. Karau requested that some overview of reports be provided despite a general request for brevity in presentations.

ADJOURNMENT

The meeting was adjourned at 2:30p.m.

B04/21/21-10

MOVED BY: P. Sweetnam

SECONDED BY: P. Kehoe

Resolved, That the Board of Directors meeting adjourned.

“CARRIED”

“E. Levi, Recording Secretary

J. Mason, Chair”

REPORT

3132/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Jennifer North, Water Resource Technologist
RE:	State of Mississippi Watershed
DATE:	May 11, 2021

For Information.

It has been difficult to achieve and maintain targeted seasonal flows on the river system due to the earlier and lower than average spring peak across the Mississippi Valley watershed. Stop logs were installed earlier than usual to capture runoff and precipitation, and the dams have been sealed tight.

The amount of rainfall received over recent weeks helped most lakes to approach or achieve target summer levels. Dams on Shabomeka, Mazinaw and Kashwakamak lakes are now at target levels with excess flows helping to replenish the downstream system. Crotch Lake is still approximately 0.35 meters below normal for this time of year, and we are continuing to build water levels to sustain flows on the system during the summer.

The Mississippi River has below average flows for most of its length for this time of year. For example, it is at approximately 60% of normal flows at both the Ferguson Falls and Appleton monitoring stations. Most tributaries are showing 80% or greater average flows, for example on Buckshot Creek, Clyde River, Fall River, and Indian River. The Carp River is also experiencing below average flows for this time of year.

April-May rains have improved conditions enough that the watershed has not yet reached a Low Water Level 1 declaration (a concern earlier in the season.) Although conditions have improved, the long-range forecast is for a hot and dry summer. Water evaporation on lower than normal lakes will be a concern this summer. More rainfall is needed over the next two months to help sustain levels and flows this summer.

REPORT

3133/21

TO:	Board of Directors Mississippi Valley Conservation Authority
FROM:	Sally McIntyre, General Manager
RE:	MVCA 2021-2025 Corporate Strategic Plan
DATE:	September 9, 2020

Recommendation

That the Board approve the *2021-2025 Corporate Strategic Plan*, as presented.

1.0 BACKGROUND

The proposed *2021-2025 Corporate Strategic Plan* (Attachment 1) replaces the *2013-2018 Strategic Plan*. The new Plan was drafted to address the changing mandate, governance, and funding of conservation authorities per Bill 108 and Bill 229, and other key pressures facing MVCA and the communities it serves such as climate change and aging infrastructure.

The firm Ecovox was retained to facilitate discussions, to document and synthesize findings, and to support drafting of the new Strategic Plan. The following steps were carried out to ensure appropriate Board member, staff, and stakeholder engagement in the drafting of the Plan:

- December 2020 – Staff identified accomplishments under the *2013-2018 Strategic Plan* and participated in a visioning exercise for the next five years.
- January 2021 – Staff completed SWOB¹ analyses of current operations.
- February 2021 – Ecovox undertook and documented an Environmental Scan based upon the above and other information provided by MVCA.
- March 2021 – Ecovox developed conducted and analyzed results of an on-line survey of Board members, a selection of staff, and key stakeholder representatives.
- April 2021 – Ecovox prepared a draft strategic plan and interview guide and conducted targeted interviews and workshops with Board members, the management team, and key stakeholder representatives. Final findings and recommendations were documented.
- May 2021 – The draft Plan was reviewed by the Chair and GM, the management team, and MVCA staff.

Refer to Attachment 2 for a copy of the Ecovox April 2021 Summary Report for results of the engagement process.

¹ Strengths Weaknesses Opportunities Barriers analysis

2.0 SUMMARY

The new **Mission** addresses changes in mandate per the amended *Conservation Authorities Act*:

MVCA delivers programs and services that further the conservation, restoration, development and management of natural resources in the Mississippi and Carp watersheds and areas draining directly to the Ottawa River for the protection of people, property and ecological functions and services.

The new **Vision** was the subject of considerable discussion, with the following supported by the Chair and General Manager:

Watershed stakeholders working together to foster a sustainable landscape where ecological integrity is maintained and community needs are met.

Goals and Objectives were developed around three themes requiring targeted action over the next five years, as set out in Attachment 1:

- Asset management
- Community building
- People and performance

3.0 USE OF THE PLAN

Going forward, work planning, staffing, and budgeting at MVCA will be based upon the strategic goals and objectives of the Plan. Specific **actions** will be identified and an **implementation plan** developed once draft regulations are released and funding constraints are better understood. This will include a review of MVCA's *Interim Financial Plan* and potential adjustments to the list of priority projects.

Future reports to the Board and Standing Committees will comment on how each item addresses one or more of the strategic goals and objectives. As such, the Plan will provide for and demonstrate good governance and accountability to the Board, member municipalities and other funders, and the community at large.

A 'balanced score card' approach will be used to monitor and report on key metrics of the organization and to assess how MVCA is performing against the Strategic Plan.

4.0 NEXT STEPS

The *2021-2025 Strategic Plan* will be shared with member municipalities and partner organizations, and posted on the MVCA website.

Attachment 1

MISSISSIPPI VALLEY CONSERVATION AUTHORITY: 2021-2025 CORPORATE STRATEGIC PLAN

MISSION

MVCA delivers programs and services that further the conservation, restoration, development and management of natural resources in the Mississippi and Carp watersheds and areas draining directly to the Ottawa River for the protection of people, property, and ecological functions and services.

VISION

Watershed stakeholders working together to foster a sustainable landscape where ecological integrity is maintained and community needs are met.

GOALS AND OBJECTIVES

Goal 1: Asset Management – revitalize watershed management activities and invest in our legislated mandate.

- a) Implement the five-year capital program.
- b) Strengthen our risk analysis and management capacity to include climate change and development impacts.
- c) Implement priority actions identified in the *Mississippi River Watershed Plan*.
- d) Work with the City of Ottawa towards update of the *Carp River Watershed Plan*.
- e) Plan for the next phase of asset development and management.

Goal 2: Community Building – engage local partners to foster connections, leverage our resources, and strengthen our “social license” to operate.

- a) Demonstrate MVCA to be a trusted, client-centered, resourceful, and helpful partner.
- b) Strengthen relationships with municipalities and community stakeholders, First Nations, the agricultural sector, developers, not-for-profits, and academia.
- c) Rejuvenate the Mississippi Valley Conservation Foundation (MVCF) into a highly functional and effective fundraising organization.

Goal 3: People and Performance – support the operational transformations required to achieve MVCA’s priorities and to address legislative changes.

- a) Staff the organization to allow for: delivery of mandatory programs and services, priority projects, and fulfillment of commitments made under memoranda of understanding (MOUs) and other agreements.
- b) Monitor the quality, efficiency and impact of what we do and modify to improve operational effectiveness.
- c) Promote an engaging and inclusive environment that attracts and retains passionate and highly skilled people, and optimizes their expertise and contributions.

PRIORITY ACTIONS and IMPLEMENTATION PLAN to follow in fall 2021.

MISSISSIPPI VALLEY CONSERVATION AUTHORITY

STRATEGIC SUMMARY REPORT

Strategic Plan 2021-25

April 22, 2021 (final)

SURVEY PARTICIPATION

Total number of participants: 25 (out of a possible 35) / 71% participation rate

Category	Total	Percentage of Total
Staff	6	24 %
Management	5	20 %
Board Member	9	36 %
External Stakeholder/Partner	5	20 %

Number of years involved with MVCA

Category	Total	Percentage of Total
Less than 2 years	4	16 %
2 to 5 years	4	16 %
5 to 15 years	9	36 %
Greater than 15 years	8	32 %

STRATEGIC PLAN COMPONENTS

VISION STATEMENT

A Vision Statement is a guiding image of success for the organization, highlighting its hopes and ambitions in a succinct way, in the present tense, as though “it is already there”. It is intended to inspire people to imagine a better future and stretch the organization’s capabilities and image of itself. It gives shape and direction to the organization’s future.

Current Statement:

A watershed in which ecological integrity is maintained and human needs are met in balance with the needs of the natural environment.

RECOMMENDED VISION STATEMENT OPTIONS

1. Stakeholders partnering to foster a healthy watershed where communities, businesses, and nature thrive.
2. A healthy watershed where communities, businesses and nature thrive.
3. Stakeholders partnering to protect and enhance the natural resources needed for a healthy and prosperous watershed.

VISION BACKGROUND INFORMATION

MVCA's Current Vision Statement Adequate and/or Pertinent?

Yes: 16 (61.5%)
No/Not Entirely: 10 (38.5%)

General impressions based on survey comments

1. Vision Statement focus . . . wondering if it would be better if
 - a. It reflects the perspective of the public and/or users (such as option 5. Above)
 - b. It be more closely associated with a guiding image of the organization itself rather than the broader outcome which may not be entirely under its control. See statement option no. 4.
2. Need to confirm if these 3 descriptions of MVCA's core programs are accurate: 1. Water management flood forecasting; 2. Protect property and lives; 3. Offer recreational opportunities. If so, should we/could we use them?
3. We sense an opportunity to *position* the CA as a steward (champion) rather than as an authority (police).
4. We saw a few comments in the survey suggesting the CA put more focus on human need. If your mandate is clearly the conservation and responsible management of the watershed, then your priority is unequivocally protecting the integrity of the watershed and conserving its natural resources now and for generations to come. Instead of aiming for "balance", could the vision statement focus on themes such as working collaboratively with municipalities and partners in the appreciation/ recognition of the watershed and its natural resources, and in the maintenance/protection of ecological integrity (water), and in the sustainable use and development of land now and for the future.

MISSION STATEMENT

A Mission Statement is a brief, powerful statement that outlines the reason why the organization exists. It tells everyone what the organization does and who it does it for. It uses clear and memorable language, inspiring people to support the work being done by the organization.

Current Statement:

Mississippi Valley Conservation Authority assumes a leadership role in the conservation, enhancement and development of the Mississippi Valley by way of watershed planning, integrated resource management programs and conservation awareness.

RECOMMENDED MISSION STATEMENT OPTIONS

1. MVCA provides environmental leadership through watershed planning and management as well as stewardship, monitoring, research and public education programs.
2. MVCA uses the best available science, methods and tools to manage, protect and promote natural resources essential for a healthy watershed

MISSION BACKGROUND INFORMATION

MVCA Mission Statement Adequate and/or Pertinent?

Yes: 14 (54%)
No/Not Entirely: 12 (46%)

General impressions based on survey comments

1. Clarify need/importance for MVCA to be perceived and experienced from a stewardship perspective rather than from an authority/police perspective. Also “leader” versus “partner”.
2. Stewardship implications. . . we want to help foster stewardship activities that will help improve our image in the community to be a more positive role then hopefully financial support will be easier to obtain if the public sees the value in the work we do rather than just the enforcement / negative aspects.
3. Could we make it more relatable to the public that may not understand jargon like watershed planning-integrated resource management? Too much jargon to be powerful.
4. Lead in water *management*, not *conservation*; emphasize the "water" aspect of MVCA's mandate.
5. Need to add elements related to partnerships or - from Core Values comments, “collaboration” - (with the landowners, stakeholders, member municipalities); also, climate change/action, recreation, stewardship.
6. Important comment with regard to having and living up to core values that reflect the essence of MVCA: “Everything MVCA does stems off evidence-based decision making and subsequent adaptive management. Our value to the residents of the watershed is based on how effective we can be at illustrating this transparently through education, visualizations, open data and a customer service mentality. Water management is often the face of the organization to residents. It would be helpful to have internal company culture statements that include respect, integrity, growth and curiosity, collaboration to create underlying values that guide what we do as a staff.”

CORE VALUES / GUIDING PRINCIPLES

Core Values / Guiding Principles speak to what an organization values most. They are a reflection of its internal compass and form a solid core of what the organization stands for and what it believes in. They inspire and guide its choices in the way it operates and deals with people.

RECOMMENDED CORE VALUES

In fulfilling our mission, MVCA staff and volunteers endeavour to offer the best of ourselves everyday by living through these five Core Values:

1. **Science-Based Action:** Decision-making guided by the best available science and research.
2. **Community Engagement:** Respecting the varying interests, concerns and cultures in our communities, including those of Aboriginal peoples.
3. **Working Together:** Recognizing the intrinsic value of partnerships in managing a watershed as we collaborate and create synergies.

4. **Integrity:** Holding ourselves accountable to each other and to the public by communicating and conducting our everyday business responsibly, clearly and transparently.
5. **Flexibility:** Acknowledging that watershed management is a dynamic process, and programs and services must reflect the ever-changing landscape.

CORE VALUES BACKGROUND INFORMATION

Survey results:

1. Science-Based Action: 4 + 15 = 19 (15%)

Decision-making guided by the best available knowledge and science.

2. Community Engagement: 3 + 13 = 16 (13%)

Promoting subsidiarity and appreciating the varying interests and cultures in our communities, including those of Aboriginal peoples.

3. Sustainable Development: 6 + 9 = 15 (12%)

Recognizing and valuing human and ecological needs within our mandate of conservation and protection.

4. Collaboration: 2 + 11 = 13 (11%)

Recognizing the intrinsic value of connectedness/interrelation in managing a watershed and seeking alignment to create synergies and reach common goals.

4. Integrity: 1 + 12 = 13 (11%)

Approaching our work with integrity and holding ourselves accountable to each other and to the public.

6. Respect : 6 + 6 = 12 (10%)

Seeking, recognizing and respecting the contributions of all people and communicating honestly and respectfully.

7. Flexibility: 1 + 9 = 10 (8%)

Watershed management is a dynamic process, and programs and services must reflect the ever-changing landscape.

8. Bold Leadership: 2 + 5 = 7 (5%)

Leading with boldness to bring forward innovative solutions and speak up for the environment and ecosystems.

8. Proaction and Precaution: 1 + 5 = 6 (5%)

Preventing environmental degradation, even in uncertainty, is more cost-effective (than cleaning it up after the fact) and better for the environment and for communities.

10. Growth and curiosity: 0 + 4 = 4 (3%)

Committing to remaining curious and seeking opportunities to grow our knowledge and skills.

STRATEGIC DIRECTIONS AND GOALS

Strategic Goals are the big-picture priorities for the organization. They drive the organization and provide focused direction towards the actualization of its Vision. Strategic Goals serve to bring the greatest ambitions of the organization to life.

Current Strategic Goals (2016-19):

To facilitate an integrated approach to watershed management which is founded on sound science but contends with inevitable uncertainty through an adaptive management process.

- 1. Facilitate integrated watershed management across MVCA's jurisdiction through the provision of information, knowledge, and collaboration.*
- 2. Design and implement programs to minimize the risk to life and property damage from flood, drought erosion and slope stability hazards.*
- 3. Develop and implement programs designed to maintain, restore and where possible improve the diversity and connectivity of natural features and the long-term ecological function and biodiversity of natural heritage systems recognizing linkages between natural heritage features and areas, surface water features and ground water features.*
- 4. Raise awareness and understanding in watershed residents of how we impact the environment and the importance of maintaining healthy ecosystems.*
- 5. Provide cost effective administrative support functions.*

RECOMMENDED STRATEGIC DIRECTIONS AND GOALS

A. PROTECTING OUR ASSETS FOR ALL - Revitalize the heart of our mandate to protect our watershed for everyone, forever.

1. Strengthen our risk analysis and management capacity to include climate change and development impact.
2. Prioritize the Mississippi River Watershed Plan projects for implementation over the next five years.
3. Build the resilience of our assets by deepening our understanding of them.
4. Define our responsibilities in the protection and management of the Carp River.

B. COMMUNITY-BUILDING - Engage local partners to foster connections and strengthen our social license to operate.

1. Establish MVCA as a trusted, client-centred and helpful partner.
2. Facilitate and leverage partner involvement, assets, expertise and achievements to streamline watershed priorities and access necessary funding.
3. Strengthen relationships with municipalities, Indigenous people, the agricultural sector, community stakeholders and developers.
4. Develop a compelling image of MVCA and raise awareness of its role and mandate.

C. SUSTAINABILITY AND VITALITY - Tap into the power of like-minded people who share a passion for our watershed.

1. Build the volunteer capacity of MVCA to help deliver stewardship and public education programs.
2. Rejuvenate the Mississippi Valley Conservation Foundation into a well-aligned and highly functional organization.
3. Explore new revenue streams and funding opportunities.

D. PEOPLE AND PERFORMANCE - Support the operational transformations required to achieve MVCA's new priorities and to address legislative changes.

1. Create a clear alignment between the strategic plan, the prioritized projects and the work we do every day.
2. Monitor the quality, effectiveness and impact of what we do and adapt to improve operational efficiencies.
3. Promote an engaging and inclusive environment that attracts and retains passionate and highly skilled people, and optimizes their expertise and contributions.

STRATEGIC DIRECTIONS AND GOALS BACKGROUND INFORMATION

In order to dig deeper into the information collected through the survey, a group of five stakeholders (three staff and two board members) were presented with preliminary themes and draft goals. Their feedback was received through telephone conversations or virtual meetings. The strategic directions and goals integrate their input.

Survey comments associated with A. PROTECT OUR ASSETS FOR ALL

- Undertake planning and costing enhancement to additional control structures on the watershed.
- Maintaining your water control structures.
- Maintaining or recovering wetlands
- Determine the carrying capacity of the watershed as to residential, industrial, and commercial development.
- Complete flood mapping in all of the watershed. Not sure where or if this piece fits . . . Modify floodplain mapping to set out a one in 125-year floodplain as well as the 100-year floodplain. This may allow a buffer factor for increased intensity storms during a period of climate change.
- Map floodplains that are not currently mapped.
- MVCA should be dexterous enough to be able to Modify floodplain mapping to set out a one in 125-year floodplain as well as the 100-year floodplain. This may allow a buffer factor for increased intensity storms during a period of climate change.
- HOW: Aerial photography and interpretation in the upper watershed should be promoted and encouraged. It is so helpful when looking at communities to decide appropriate uses for land. Periodic flyovers using LIDAR is a cost- effective way of assessing if the area of wetlands is diminishing.
- Complete and implement the Mississippi River Watershed Plan and update Carp River Watershed Plan
- Create a workable and accurate watershed model to assist in the prediction and operation of the WCS 5
- Improve lake and river water quality.
- Hazards and flood management.
- Implement the Watershed Plan.

Survey comments associated with 2. COMMUNITY BUILDING

- Understanding the effect of climate change in our area and communicating that to the public.
- Development of relationships with municipal partners and associations for joint advocacy.
- Leverage opportunities to advocate via Conservation Ontario, ROMA, AMO, Warden's Caucus, etc.
- Gain additional public trust.
- Community outreach through enhanced stewardship programming. Look for opportunities to demonstrate our key mandates and programming at our conservation areas.
- Public Relations
- Improving public awareness and support of MVCA
- Clarification of key roles and responsibilities (our own and our partners - municipalities, province)
- build partnerships
- Communicate better to the public who we are and what we do.
- Better engage the municipalities and the Board of Directors in our programs.

- Engage the public more through stewardship programs and general public education.
- Educating the public, municipalities in our purpose and need to manage and regulate within our watershed.
- Raise public awareness about our roles and responsibilities. (Manage expectations)
- Focus on being experts in our field and sharing our expertise and research outcomes more effectively (ex. climate change adaptation, water budget and modelling work, natural hazard mitigation, etc.).
- Community Involvement.
- Continuing to foster engagement and partnerships with municipalities.
- Stewardship/education/outreach.
- Community engagement/awareness
- Improve community profile.
- Improve rapport with developers.
- Introduce more education into existing and new conservation areas.
- Encourage public involvement.
- Establishing itself as the region's steward of the watershed and its natural environment (note: added to both Vision and Mission statement options).
- Expanding its relationships with community stakeholders as partners in watershed management Inclusion of Indigenous communities/leadership in decision-making.
- Improve relationships with customers/residents.
- Demonstrate value of MVCA to municipalities.
- Plan to assist in litigation of climate change
- Public education of public and agriculture community on benefits of MVCA. i.e. role in flood control.

Survey comments associated with 3. SUSTAINABILITY and VITALITY

- Determine costs associated with the watershed activities and infrastructure needs (as per strategic goals above) and seek the necessary funding.
- Apply for infrastructure funding from the Federal Government.
- A water budget for rural areas to guide growth or limit it where necessary.
- Long term financial plan (to ensure dam repairs along the watershed for example)
- Secure sustained funding
- Securing stable, reliable funding for long-term projects (such as infrastructure renewal).
- Explore new revenue sources/ funding opportunities and fundraising Initiatives.
- Seek out more fee for service contracts.
- Invest in the scientific and operational capacity to achieve intended goals.
- Cut spending, eliminate all “nice to have” but not “essential” costs.
- MVCA should set aside some funds to replace dams at the end of their life span. The current plan of only allowing 40 years to set aside sufficient money to replace dams is a bit aggressive for a structure that should last between 60 and 100 years. I'm sure most municipalities do not set aside sufficient funds to replace all the sewer lines which are 40 years old. 60 and 80 year old sewer lines are still operational. It may be necessary to have a higher maintenance budget for 60 year old sewer lines. We should do our best to provide sufficient funds to deal with dam replacement at the end of their life but MVCA should not curtail good planning and testing programs to set aside excessively large replacement funds. A 40 or 50 year life expectancy for the MVCA building at Carleton Place may be realistic.
- Develop an infrastructure integrity flood and drought mitigation.
- Keep the dams and repair
- Transitional support model for Mill of Kintail Museum in its new chapter.
- When culvert changes take place to consider up sizing encourage municipalities to increase the size of culverts where it is appropriate to you and you and you. Like for like me not be adequate with the higher intensity of storms which now occur.

- Asset Management is full Addressing infrastructure needs (flood control structures) y integrated into long terms financial plans.
- Integrated asset management and human resources tracking system to better understand complete costs and return on investment.
- Continue with the capital renewal program and asset management
- Well mapped plan to continue the ongoing need to replace watershed aging infrastructure (WCS)
- Protect and invest in our assets

Survey comments associated with 4. PEOPLE and PERFORMANCE

- HR Plan - succession planning to retain/acquire right staff, build for future while being sensitive to local impact (to municipal partners).
- Review current and expected programming pressures in relation to staffing levels
- Employee Retention Initiatives
- Improving processes - digitalizing and updating technology
- Implementing changes to the Conservation Authorities Act Actioning recommendations in new Watershed
- Strengthening staff capacity and support
- Develop a strategic plan with complimentary workplans that put a reasonable workload on each employee. This may require us to rethink or remove some of the things we do 'because we've always done them.
- All data collection is digital and stored automatically from health and safety inspections to program sign ups to watershed quality and quantity.
- All data is stored in a standardized logical formats from files to images to water quality and quantity.
- Streamlined planning approvals processes with clear expectations, timelines, staff training and reduced filing/paperwork.
- Adjust to changing mandate; develop missing resources; build partnerships; grow watershed knowledge; enhance corporate culture.
- Deal with poor retention of new staff.
- Securing a stable, well remunerated and managed employee base.
- Digitizing of internal data, files, documents, etc.
- Recognition of funding/resource constraints and working within those constraints (i.e. do fewer things really well, than many things not so well)
- Climate Change
- Developing succession planning.
- Continue to retain top quality staff
- Infrastructure integrity Flood and drought mitigation
- Incorporating climate change policies and research into daily practices
- Move towards paperless filing - Improving interconnections between departments –
- IMS use by more departments in the organization.
- Address change management.
- Secure funding and staffing allotment Internal understanding of stresses including.
- Respect among staff and leadership and board including allocation of work and impact on staff due to unforeseen events such as floods.
- Mandates, finances, policies updated, municipalities with representatives on the board.
- Retrenching to core mandate.
- Plan to assist in litigation of climate change.
- Monitor implications from amendments to the Conservation Act under Bill 229 and 108. e.g. The Ministerial Zoning Order.

REPORT

3131/21

TO:	Policy & Priorities Committee, Mississippi Valley Conservation Authority
FROM:	Alyson Symon, Watershed Planner
RE:	Draft Mississippi River Watershed Plan
DATE:	April 30, 2021

Recommendation:

That the Policy & Priorities Committee recommend that the Board of Directors direct staff to release the Draft Mississippi River Watershed Plan for public consultation and return with final document for approval.

1.0 BACKGROUND

Update of the *Mississippi River Watershed Plan* was identified as a priority project in MVCA's *2016-2019 Corporate Strategic Plan*. The current plan was prepared in 1983 and a new plan was needed to guide MVCA's activities in the watershed.

Work on the update began in 2019 and occurred with considerable community engagement over a period of 18 months. The new draft plan reflects current watershed conditions and anticipated changes in population, land use, and the environment, including the impacts of climate change. It identifies key issues and challenges, and presents strategic actions aimed at maintaining a healthy river and watershed while balancing the needs of its many users.

2.0 WATERSHED PLANNING

Integrated Watershed Management is the process of planning and managing human activities and natural resources on a watershed basis. It allows for the protection of important water resources, while addressing critical issues such as the current and future impacts of climate change and land use. A Watershed Plan provides for the documentation of watershed management conditions and needs, the identification of related challenges, and the planning of strategic actions to address those needs and challenges.

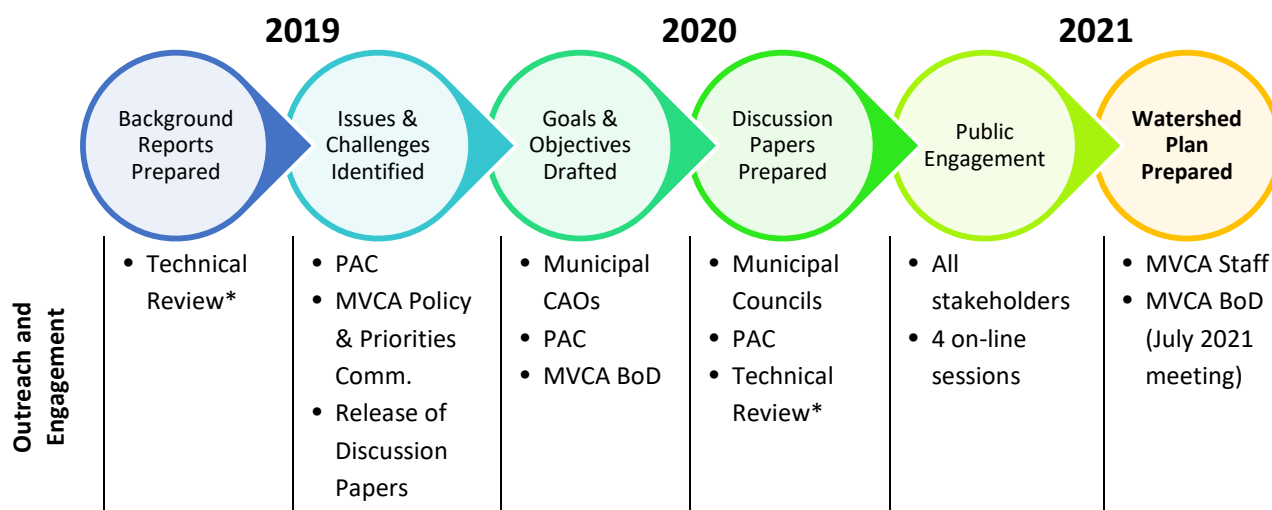
2.1 Planning Process

Watershed planning has four key phases:

- Background research and documentation (characterize the watershed)
- Identification of Issues, Goals & Objectives, and Strategic Actions
- Drafting and approval of the Plan
- Implementation, review and update of the Plan

From the outset, partner/stakeholder engagement was identified as crucial to the success of the Plan—both for its development and future implementation. Figure 1 illustrates the key steps carried out and how partners/stakeholders were involved.

FIGURE 1: Planning and Stakeholder Engagement Process



2.2 Community Engagement

Early in the process, a **Public Advisory Committee (PAC)** was established with representation from across the watershed and different sectors of the economy. The PAC was involved throughout the planning process and served as sounding board, technical editors, and community engagement ambassadors.

Key documents that underwent broad circulation and consultation were the following:

Backgrounders – four comprehensive reports were prepared that document the current conditions, key findings, and potential issues under the following themes: Physical Environment, People and Property, Natural Systems, and Asset Management.

Discussion Papers – eight short documents were used to zero-in on specific land uses or themes in order to engage the broader public and stakeholders regarding potential actions:

- Agriculture
- Municipal Infrastructure
- Water Management
- Natural Systems
- Waterfront Properties
- Forestry
- Tourism
- Growth and Development

Following release of the discussion papers, four Zoom **Lunchtime Talks** were held in Q1 2021 on the following topics, with a total of 180 registered participants:

- Growth and development
- Water management
- Waterfront properties, and
- Natural Systems

Videos of the Lunchtime Talks uploaded to YouTube were viewed a further 150+ times.

Technical consultations were used throughout the project to ensure quality control, and included internal review by MVCA staff and external circulation of the above and other draft documents to federal and provincial agencies, Health Units, and municipal staff. Further outreach to **municipalities** included:

- one on one briefing of municipal CAOs in Q1 2020 on the project;
- project updates to municipal councils in Q4, 2020 regarding interim findings; and
- two zoom meetings for municipal planners and public works staff to discuss potential implementation actions.

The **Policy & Priorities Committee** reviewed all Backgrounders, and assisted in identifying issues and challenges, and in developing the Goals & Objectives that were approved by the Board of Directors in December, 2020.

Three short promotional videos, focussing on agriculture, forestry and waterfront development were produced and shared during the public information sessions and by social media. The videos featured interviews with subject matter experts from the Public Advisory Committee (PAC).

As a result of the agricultural video, one member of the PAC was also interviewed on the Valley Heritage Radio (Renfrew) “Barnyard Breakdown” show and helped to promote interest in the Watershed Plan.

Finally, over February-March 2021 a **public survey** was used to collect input on the draft strategic actions, with 62 completed surveys.

While an **Indigenous Engagement Plan (IEP)** was prepared early in the project, with four local communities expressing interest in participating, the impacts of COVID-19 effectively halted further engagement as it was agreed by both sides that in-person meetings were necessary for early relationship building; and that engagement would resume once conditions allowed. To that end, a commitment was made to revisit the Watershed Plan, as needed, to address indigenous issues as identified at a future date.

Thirty-three actions arose from the above planning process. Actions have been divided into two tables that show which watershed plan goals they support (refer to Attachment 1):

- Attachment 2 lists the actions that clearly support regulated programs and services as defined per Bill 108 and Bill 229; and
- Attachment 3 presents actions that are not clearly mandatory and may require municipal MOUs or other funding agreements to implement.

3.0 NEXT STEPS

The next steps in the Watershed Plan process are shown in Figure 2. After the draft plan is considered by the MVCA Board of Directors at their May meeting, a second broad public consultation will be launched. Through late May and into June, the MVCA General Manager will present the draft Plan to each municipal council. Public engagement will be promoted through print media, social media, and direct emails, with a comment deadline of June 30th 2021. The consultation will be directed to all of the groups and individuals that were consulted in the previous round of engagement. The Watershed Plan will be finalized and presented to the MVCA Board of Directors at the July 2021 meeting.

FIGURE 2: Next Steps - Review of Draft Mississippi River Watershed Plan



ATTACHMENT 1

WATERSHED PLAN GOALS

These Watershed Plan goals, adopted by the MVCA Board of Directors in December 2020, were developed based upon the issues raised in the background reports, through input received from the PAC, and through a technical review by a number of partners including municipal staff, provincial and federal agencies.

1. To collaborate with watershed partners in promoting an integrated and consistent approach to the health and management of the watershed and water resources.
2. To use and manage both surface water and groundwater wisely to meet current and future needs under normal and extreme conditions.
3. To minimize risks to human life and property due to flooding, erosion, and unstable slopes and soils.
4. To sustain or improve current water quality for all users.
5. To increase our resiliency and adaptive response to climate change.
6. To support environmentally sustainable growth and economic development.
7. To maintain, enhance, or restore natural features and systems for all users.
8. To support learning and environmental stewardship.

ATTACHMENT 2: ACTIONS THAT SUPPORT REGULATED PROGRAMS AND SERVICES PER BILLS 108/229:

- i. Programs and services related to the risk of natural hazards (*Conservation Authorities Act*).
- ii. Programs and services related to the conservation and management of lands owned or controlled by the authority, including any interests in land registered on title (*Conservation Authorities Act*).
- iii. Programs and services related to the authority's duties, functions and responsibilities as a source protection authority under the (*Clean Water Act, 2006*).
- iv. Programs and services related to the authority's duties, functions and responsibilities under an Act prescribed by the regulations.

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth & develop	7 natural systems	8 education
1. Undertake meaningful engagement and establish new relationships with indigenous partners through implementation of an Indigenous Engagement Plan and through ongoing engagement in watershed initiatives.	Respect treaty rights.	MVCA INDIGENOUS	X						X	X
2. Apply a climate change lens to all strategic directions within this Plan.	A key overriding challenge impacting all program areas.	All Partners and Stakeholders listed throughout this Plan	X	X	X	X	X	X	X	X

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth & develop	7 natural systems	8 education
3. Work with all partners to continue to support environmentally sustainable growth and development objectives on a watershed basis for the protection of watershed values and features.	A key overriding challenge impacting all program areas.	All Partners and Stakeholders listed throughout this Plan	X	X	X	X	X	X	X	X
4. Prepare a Mississippi River Watershed Model incorporating historical, near real-time, and projected future hydro-climatic data, based on up to date information and science.	Directly supports Natural Hazard and Source Protection responsibilities	MVCA(L) POWER PRODUCERS UNIVERSITIES MECP WSC		X	X	X	X	X		X
5. Update the Mississippi River Water Budget to better evaluate water needs and use by completing the recommendations of the MRSP Tier 1 budget assessment and incorporating climate change considerations.	Directly supports Source Protection responsibilities	MVCA(L) MECP		X			X	X		
6. Undertake a Water Storage Capacity and Management Study of both man-made (dams and reservoirs) and natural storage (wetlands) options and capacity.	Directly supports Natural Hazard and Source Protection	MVCA(L) UNIVERSITIES		X	X		X	X	X	

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth & develop	7 natural systems	8 education
7. Update Mississippi River Water Management Plan to build on modeling, water budget work and storage assessment completed under Actions 4, 5, and 6 to assist in rebalancing the competing interests for the watershed's water resources where needed.	Directly supports Natural Hazard and Source Protection	MVCA (L) MNRFL POWER PRODUCERS		X	X		X	X		
8. Develop and implement an Asset Management Plan for water control structures.	Directly supports Natural Hazard and Source Protection	MVCA(L) MUNIC		X	X		X			
9. Improve the MVCA hydrometric (water level and flow monitoring) network, to increase automated monitoring capabilities and overall efficiency.	Directly supports Natural Hazard	MVCA WSC Shared leadership roles		X	X		X			
10. Work with municipalities, agriculture and development communities, landowners and other partners to quantify, value and protect wetlands as hydrologic and natural assets.	Wetland Regulation and directly supports Natural Hazard	MVCA MUNIC UNIVERSITIES DEVEL & AGRI NGOs Shared leadership roles	X	X	X	X	X	X	X	X
11. Enhance response planning and readiness through the Low Water Response Team to address low water response and to ensure it includes representation from all key water use sectors.	Responsi-bility assigned through	LWRT(L) MUNIC MNRFL	X	X		X	X	X		X

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth & develop	7 natural systems	8 education
	Provincial <i>"Ontario Low Water Response, 2010"</i>									
12. Maintain up to date hazard mapping to identify and map flood and erosion risk areas, including effects of climate variability and change.	Directly supports Natural Hazard	MVCA (L) MNRF MUNIC			X		X	X		
13. Work with MNRF to assess and update current floodplain standard (100 Year), policies, and floodproofing measures to address conditions under typical and extreme events.	Directly supports Natural Hazard	MVCA MNRF(L) MUNIC			X		X	X		
14. Work with municipalities to undertake a roadway flood vulnerability assessment to: identify flood prone roadways; and properties potentially impacted by unsafe access; and to develop a strategy to address properties potentially impacted by unsafe access.	Directly supports Natural Hazard	MVCA (L) MUNIC			X		X	X		
15. Develop an approach to identifying and mitigating potential risks associated with unstable slopes and unstable soils throughout the watershed.	Directly supports Natural Hazard	MVCA(L) MUNIC MNRF			X			X		
16. Continue to support the Ministry of Environment, Conservation and Parks (MECP) Provincial Water Quality Monitoring Network (PWQMN) in collecting baseline surface water quality data.	Supports Source Protection	MECP(L) MVCA	X			X		X		X

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth & develop	7 natural systems	8 education
17. Improve the groundwater monitoring program to meet MVCA and municipal source water protection requirements. <i>(CA responsibility under Clean Water Act)</i>	Directly supports Natural Hazard and Source Protection	MECP(L) MVCA RVCA MUNC HEALTH UNITS		X				X		
18. Continue to support municipalities in actions prescribed by the Mississippi-Rideau Source Protection Program. <i>(Responsibility under Clean Water Act)</i>	Directly supports Source Protection	MVCA-SPA(L) MUNIC(L) Shared leadership roles	X	X		X	X	X		X
19. Continue to offer Septic Approval and Re-Inspection Programs for municipalities and encourage all municipalities to implement septic re-inspection programs in high priority area such as waterfront and rural settlement areas.	Supports Source Protection.	MUNIC(L) MRSSO(L) Shared leadership roles	X			X		X		X
20. Develop a Land Conservation Strategy to mitigate flood, erosion and other natural hazards, and to support the ecological services provided by natural systems.	Can support both core and non-core programs	MVCA(L) MNR MUNIC AGRICULTURE, DEVELOPMENT & FORESTRY COMMUNITIES LAND TRUSTS OTHER CONSERVATION GROUPS	X	X	X	X	X	X	X	X

ATTACHMENT 2: ACTIONS NOT DIRECTLY ALIGNED TO PROGRAMS AND SERVICES REGULATED PER BILLS 108/229:

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth &	7 natural systems	8 education
1. Extend the role of the MVCA Public Advisory Committee (PAC) for the implementation and updating of the Watershed Plan.	* Might be core depending on amendments to act/regulations	MVCA SECTOR REPRESENTATIVES	X							X
2. Continue to collaborate with and promote collaboration among lake associations through networking groups and direct partnerships.	Supports many MVCA traditional objectives	MVCA, LAKE ASSOC., FOCA	X			X	X			X
3. Support waterfront property owners in implementing adaptive management measures to address potential impacts of variable water levels.	Supports hazard mitigation and climate resiliency	MVCA WATERFRONT GROUPS MUNIC	X	X	X		X			X
4. Support Hydro Producers and municipalities in undertaking an Ice Risk Assessment if deemed beneficial.	Supports water management goals	MVCA HYDRO(L) MUNIC(L)		X	X		X			
5. Support municipalities in assessing and enhancing stormwater management in new and existing developments.	Supports hazard mitigation and climate resiliency	MUNIC(L) MVCA DEVEL	X	X	X	X	X	X		X
6. Work with municipalities, agriculture and development communities, and other landowners and	Supports hazard mitigation and climate resiliency	MUNIC(L) MVCA DEVEL & AGRI NGOs	X	X	X	X	X	X		

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth &	7 natural systems	8 education
partners to enhance on-site retention and infiltration of water.										
7. Review existing and potential environmental monitoring programs and identify opportunities for improvement/collaboration. (Including MVCA, Provincial, NGO and Citizen Science programs/opportunities).	Current focus on recreational water quality. Could be adjusted to support Source Protection Responsibilities and/or natural system and land conservation goals.	MVCA MECP OTHER GOVNT NGOS CITIZEN SCIENCE ETC.	X			X	X	X	X	X
8. Continue annual analysis and reporting of water quality conditions presented at a subwatershed scale and adjust reporting cycles, parameters, and geographic coverage where needed.		MVCA		X		X	X			X
9. Work with municipalities and the MNRF to improve application and coordination of regulatory tools for the protection of water quality, shoreline and riparian areas.	Water quality again. MVCA needs to decide where it fits into WQ.	MVCA MUNIC MNRF	X			X		X	X	
10. Encourage and support studies to determine environmental valuations for the ecosystem services and climate resiliency provided by natural asset features and functions (wetlands, woodlands, etc.).	Strongly supports water management and natural hazard responsibilities.	MVCA UNIVERSITIES PROVINCIAL & FEDERAL AGENCIES	X	X	X	X	X	X	X	X

DRAFT WATERSHED PLAN ACTIONS	RATIONALE	PARTNERS	GOALS SUPPORTED							
			1 collaboration	2 water quantity	3 natural hazards	4 water quality	5 climate change	6 growth &	7 natural systems	8 education
11. Work with municipalities and public agencies to improve the application and coordination of regulatory tools for the protection of wetlands, woodlands and natural systems. Including: <ul style="list-style-type: none"> Support counties and municipalities in fulfilling Provincial Policy Statement (PPS 2020) requirements for Natural Heritage Systems. Set measurable environmental targets. 	A responsibility/ priority for municipalities with MVCA providing a support role. MVCA has resources to assist with data, information, mapping.	MVCA MUNCI MNR MECP OMAFRA Shared leadership roles relative to legislative responsibilities	X	X	X	X	X	X	X	X
12. Develop and implement a 3 Year MVCA Stewardship Program Pilot for protection of water quality, wetland cover, forest cover, and other environmental features.	Focus has been on recreational water quality. Could be reassessed to support a broader function related to climate resiliency for watershed management.	MVCA STWDSHP GPS SECTOR CONTACTS AGRICULTURE, DEVELOPMENT & FORESTRY COMMUNITIES	X	X	X	X	X	X	X	X
13. Develop and implement an MVCA Education Strategy.	Can enhance/support both core and non-core programming	MVCA ALL PARTNERS	X	X	X	X	X	X	X	X

MISSISSIPPI RIVER DRAFT WATERSHED PLAN May 2021



Acknowledgments

Mississippi Valley Conservation Authority (MVCA) acknowledges that the watershed is situated on the Traditional Territories of the Mississauga and Chippewas of the Williams Treaties First Nations as well as the Omàmiwinini Algonquins of Ontario. This acknowledgement comes from a place of respect for the land, people and the unique history of the territory, and for the rights of the Indigenous Peoples who have cared for this land since time immemorial. We acknowledge the injustices of the past and those that continue today and we are dedicated to honoring Indigenous history and culture as well as committed to moving forward in the spirit of reconciliation and respect with all First Nation, Métis and Inuit Peoples.

Indigenous Engagement

At the outset of this project, MVCA made a firm commitment to undertake meaningful engagement with Indigenous Communities in developing this Plan as we recognize the interconnectedness and the rich knowledge the Indigenous Peoples of this place possess. This project has presented an ideal opportunity for MVCA to work with the Indigenous Communities to start to develop a solid and mutually respectful relationship. MVCA has also recognized that this is an opportunity to learn from the Indigenous Communities and strengthen our connection to the land which will assist us in better protecting and preserving the watershed.

Although not mandated, early in the planning process MVCA undertook to have an Indigenous Engagement Plan (IEP) prepared under the guidance of Cambium Indigenous Professional Services (CIPS). The IEP sets an implementation strategy to ensure that all First Nation leaders and Indigenous Peoples/groups, with an interest in the watershed, are given full opportunity to provide input and have their knowledge and ideas included in this Plan. It is recognized that early interaction through information sessions, written correspondence, and/or meetings with the First Nation leaders and Indigenous Peoples/groups sets the stage for developing relationships that are hoped to extend well beyond the planning phases of a project. Although the original intent of this initiative was to actively engage at the early stages and information packages were sent out, circumstances surrounding the global pandemic prohibited engagement opportunities.

Being that MVCA is committed to undertake meaningful engagement with the Indigenous Communities and have their input included in this plan and being that this is a living document, we will continue to implement the IEP and the plan will be adjusted as needed to reflect those outcomes.

Thanks

We would like to acknowledge the contributions of all those who participated in the development of the Mississippi River Watershed Plan. (May list people and/or groups)

Executive Summary

As one of the largest river systems in eastern Ontario, the Mississippi River watershed covers 3,765 km² of land, spans 11 municipalities, and supports over 42,000 year round residents and many seasonal residents. Located on the geographic transition between the Canadian Shield to west and the St. Lawrence Lowlands to the east, the watershed exhibits a diversity of landscapes. The Shield area features a network of lakes, rivers, streams and small wetlands within forested cottage-country and crown-owned lands. The Lowlands area features a larger river valley situated amongst agricultural, rural and urban land uses.

The natural assets of the watershed offer numerous ecosystem services to those who live, work and play within its landscapes. They provide drinking water; replenish wetlands and groundwater; and support agriculture, forestry, hydroelectric power, recreation and tourism. The watershed also supports vast communities of plants, animals, birds, fish and other organisms.

The watershed is facing the stresses of climate change, urban growth, aging or inadequate infrastructure, and related challenges with flooding and droughts, impairment of water quality and impacts to natural features and systems. Maintaining and enhancing the watershed's natural resources is critical to ensuring resiliency to climate change and the impacts of urban growth. This requires an integrated approach that brings together stakeholders as well as rights holders from across the watershed to develop and implement strategies that are aimed at achieving a sustainable and resilient system.

Given their broad resource management mandate and areas of jurisdiction, conservation authorities play a coordinating role in watershed planning and management. In keeping with this role, the Mississippi Valley Conservation Authority (MVCA) worked in cooperation with watershed municipalities, residents, government organizations, non-governmental organizations, and representative from the agriculture, development, environment, forestry, hydropower producers, lake communities and special interest groups, to prepare this Watershed Plan.

Section 1 of this document describes the planning process, Section 2 provides an overview of the watershed, and Section 3 presents the strategic plan, structured around eight broad themes and program areas: Integration & Collaboration, Climate Change, Growth & Development, Water Management, Natural Hazards, Water Quality, Natural Systems; and Education & Outreach. For each of the eight themes, the plan presents: goal and objectives, challenges, and strategic actions for addressing those challenges and goals. The plan also identifies the agencies and stakeholders that will need to work collaboratively to implement the recommended strategies.

Integrated Watershed Management is the process of managing human activities and natural resources on a watershed basis considering social, economic and environmental factors to manage watershed resources sustainably.

Throughout the watershed planning process, in discussion and consultations with our many partners in watershed management, several recurring themes emerged as priority areas for determining the strategic actions:

- **Collaboration between MVCA and its watershed residents, economic communities, and partner organizations**, to work towards mutually beneficial results in the management of water and watershed features and functions.
- **Robust water management infrastructure (dams) with operating regimes** sufficiently adapted to respond to **climate change** impacts.
- **Resilience to flooding and drought** by building on the provision and protection of the **natural water storage** features and functions, like wetlands and infiltration.
- Management of **growth and development** to provide for **sustainable water use and availability**.
- **Sharing** with our many partners in the **protection**, monitoring and stewardship of **natural features and systems**.

Once implemented, the strategies will need to be monitored, reported on, and updated to adapt to changing land use, new or increasing stressors, new information and/or different management approaches. This adaptive management approach will allow this Watershed Plan to be a living document that can be revisited and updated to reflect the changing needs of the watershed.

Summary of Watershed Plan Strategic Actions

Theme: Integration & Collaboration

Goal: To collaborate with watershed partners in promoting an integrated and consistent approach to the health and management of the watershed and water resources.

- Extend the role of the MVCA Public Advisory Committee (PAC) for the implementation and updating of the Watershed Plan.
- Undertake meaningful engagement and establish new relationships with Indigenous partners through implementation of an Indigenous Engagement Plan and through ongoing engagement in watershed initiatives.
- Continue to collaborate with and promote collaboration among lake associations through networking groups and direct partnerships.

Theme: Climate Change

Goal: To increase our resiliency and adaptive response to climate change.

- Apply a climate change lens to all strategic directions within this Plan.

Theme: Growth & Development

Goal: To support environmentally sustainable growth and economic development.

- Work with all partners to continue to support environmentally sustainable growth and development objectives on a watershed basis for the protection of watershed values and features.

Theme: Water Management

Goal: To use and manage both surface water and groundwater wisely to meet current and future needs under normal and extreme conditions.

- Prepare a Mississippi River Watershed Model incorporating historical, near real-time, and projected future hydro-climatic data, based on up to date information and science.
- Update the Mississippi River Water Budget to better evaluate water needs and use by completing the recommendations of the MRSPF Tier 1 budget assessment and incorporating climate change considerations.
- Undertake a Water Storage Capacity and Management Study of both man-made (dams and reservoirs) and natural storage (wetlands) options and capacity.
- Update the Mississippi River Water Management Plan to build on modeling, water budget and storage assessments completed under the previous three actions to assist in rebalancing the competing interests for the watershed's water resources where needed.
- Develop and implement an Asset Management Plan for the water control structures.
- Improve the MVCA hydrometric (water level and flow monitoring) network, to enhance automated monitoring capabilities and overall efficiency.
- Work with municipalities, agriculture and development communities, landowners and other partners to quantify, value and protect wetlands as hydrologic and natural assets.

- Work with municipalities, agriculture and development communities, and other landowners and partners to enhance on-site retention and infiltration of water.
- Enhance response planning and readiness through the Low Water Response Team to address low water response and to ensure it includes representation from all key water use sectors. (CA responsibility falls under Ontario Low Water Response Strategy).
- Support Hydro Producers and municipalities in undertaking an Ice Risk Assessment if deemed beneficial.

Theme: Natural Hazards

Goal: To minimize risks to human life and property due to flooding, erosion, and unstable slopes and soils.

- Maintain up to date hazard mapping to identify and map flood and erosion risk areas, including effects of climate variability and change.
- Work with MNRF to assess and update current floodplain standard (100 Year), policies, and floodproofing measures to address conditions under typical and extreme events.
- Work with municipalities to undertake a roadway flood vulnerability assessment to: identify flood prone roadways; and properties potentially impacted by unsafe access; and to develop a strategy to address properties potentially impacted by unsafe access.
- Develop a methodology to identifying and mitigating potential risks associated with unstable slopes and unstable soils throughout the watershed.
- Support waterfront property owners in implementing adaptive management measures to address potential impacts of variable water levels.

Theme: Natural Systems

Goal: To maintain, enhance, or restore natural features and systems for all users.

- Develop a Land Conservation Strategy to mitigate flood, erosion and other natural hazards, and to support the ecological services provided by natural systems.
- Encourage and support studies to determine environmental valuations for the ecosystem services and climate resiliency provided by natural asset features and functions (wetlands, woodlands, etc.).
- Work with municipalities and public agencies to improve the application and coordination of regulatory tools for the protection of wetlands, woodlands and natural systems.

Theme: Education & Outreach

Goal: To support learning and environmental stewardship.

- Develop and implement a 3 Year MVCA Stewardship Program Pilot for protection of water quality, wetland cover, forest cover, and other environmental features.
- Work with the Indigenous Communities to understand and educate the greater public the interconnectedness of the Indigenous Communities and this land and importance of their inclusion in protecting and preserving it.
- Develop and implement an MVCA Education Strategy.

This Plan is intended to improve awareness of the interactions between our actions and the state of the watershed, and to assist us in acting as stewards of the water and land. The strategic actions outlined in this plan provide a framework for MVCA, the municipalities, government agencies, public sector partners and watershed residents to work together in fulfilling our collective responsibilities in managing the watershed resources wisely.

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Note about the map images: Unless otherwise referenced, the maps in this document were produced in part with data provided by the Ontario Geographic Data Exchange under License with the Ontario Ministry of Natural Resources and Forestry and the Queen's Printer for Ontario, 2021.

List of Acronyms

ANSI - Area of Natural or Scientific Interest
CA - Conservation Authority
DFO - Department of Fisheries and Oceans Canada
EC - Environment Canada
IEP - Indigenous Engagement Plan
IPCC - Intergovernmental Panel on Climate Change
LID - Low Impact Development
MECP - Ministry of Environment, Conservation and Parks
MNRF - Ministry of Natural Resources and Forestry
MNDMF - Ministry of Northern Development, Mines and Forestry
MRSP - Mississippi Rideau Source Protection Plan
MRSSO - Mississippi Rideau Septic System Office
MRWMP - Mississippi River Water Management Plan
MTO - Ministry of Transportation of Ontario
MVCA - Mississippi Valley Conservation Authority
OMAFRA - Ministry of Agriculture, Food and Rural Affairs
PPS - Provincial Policy Statement
PSW - Provincially Significant Wetland
SPA - Source Protection Authority

1

Introduction



Mississippi Valley Conservation Authority

Conservation authorities are mandated to “study and investigate the watershed and to determine programs and services whereby the natural resources of the watershed may be conserved, restored, developed and managed”.¹ The development of a watershed plan is a key step to fulfilling this responsibility.

Established under the *Conservation Authorities Act*, the Mississippi Valley Conservation Authority (MVCA) is a watershed-based organization responsible for flood and erosion control, flood forecasting and warning, and providing expertise on and regulating land use planning matters related to flood and other hazards. Under the *Clean Water Act*, MVCA is also responsible for supporting municipalities in the protection of drinking water through Source Protection. MVCA monitors and reports on water quality and delivers various programs aimed at protecting the health of the watershed. As such, it is well positioned to help coordinate actions amongst the many bodies involved in water management and protection.

¹ Section 21(a) [Conservation Authorities Act, RSO 1990](#)

Integrated Watershed Planning

Human activities can place direct and indirect impacts and stressors on water resources and ecosystem functions.

Integrated Watershed Management is the process of managing human activities and natural resources on a watershed basis, considering, social, economic and environmental issues, as well as community interests, in order to manage water resources sustainably. (Conservation Ontario, 2021)

A watershed describes an area of land that contains a network of creeks, streams and other waterways, that all drain into a single larger body of water, such as a large river. Within a watershed, surface and groundwater are generally connected, as water flows across the landscape through waterways, or vertically through the various layers of soil, and through cracks and fissures in the bedrock. As depicted in Figure 1, watersheds are complex natural systems where activities and conditions that affect water quality, quantity or flows in one part of the watershed may affect locations downstream.

The Mississippi River watershed covers 3,765 km² of land, spans 11 municipalities, and supports over 42,000 year round residents and many seasonal residents. The natural features of the watershed offer numerous ecosystem services to those who live, work and play within its landscapes. They provide drinking water; replenish wetlands and groundwater; and support agriculture, forestry, hydroelectric power, recreation and tourism. The watershed also supports vast interconnected communities of plants, animals, birds, fish and other organisms.

MVCA completed its first Watershed Plan in 1983 and has since implemented many of its recommendations. A new Integrated Watershed Plan is needed to provide long term guidance for MVCA's activities within the Mississippi River watershed. This new plan reflects current watershed conditions and anticipated changes related to climate, land use, and the environment. It identifies key issues and challenges, and presents strategic actions aimed at maintaining a healthy river and watershed while balancing the needs of its many users.



Figure 1: Diagram of Watershed Interactions

The Watershed Planning Process

The Integrated Watershed Plan process is one of understanding, collaboration, implementation and continued improvement (see Figure 2). This Plan is intended to provide long-term (~20 year) direction with regular reviews and updates every 5 years.

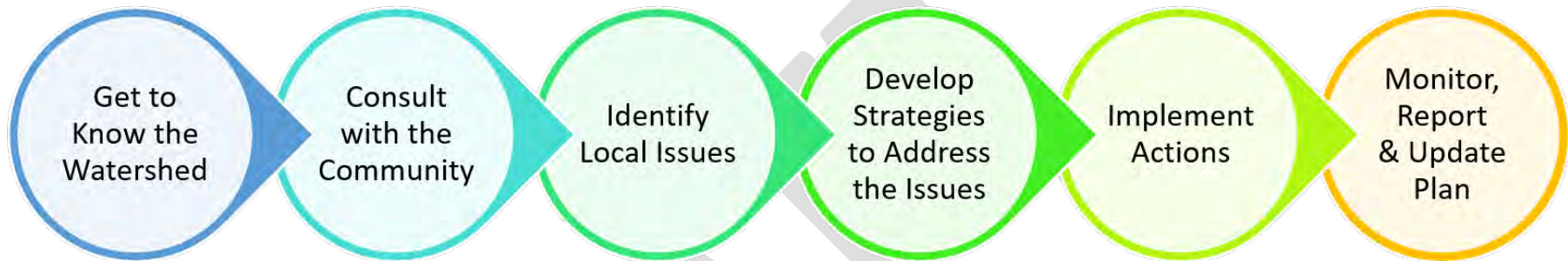


Figure 2: Watershed Planning Process

The foundation of this Plan is through understanding of, and appreciation for, the Mississippi River watershed from each of the environmental, social, cultural and economic perspectives. A number of community interests had a voice in identifying the key issues impacting the watershed's resources, and in recommending strategies to address the most significant issues and watershed stressors.

Understand the Watershed & Identify Issues

Commencing in 2019, a detailed review of background information and data was completed to document and characterize the current state of the watershed. Wherever possible, information was also analyzed to assess relevant changes over time. This work was enhanced by local insight and knowledge provided by watershed stakeholders and local technical experts, and is summarized in a series of four "Backgrounders" released in 2020.

- [Backgrounder One: PHYSICAL ENVIRONMENT](#)
- [Backgrounder Two: PEOPLE AND PROPERTY](#)
- [Backgrounder Three: NATURAL SYSTEMS](#)
- [Backgrounder Four: ASSET MANAGEMENT](#)

The Backgrounders provided the basis for initial consultation and discussion with key stakeholders, and the broader watershed community, who partnered in developing this Watershed Plan.

Public Advisory Committee (PAC)

In Fall 2019, a Watershed Plan Public Advisory Committee (PAC) was formed by the MVCA Board of Directors. The PAC is comprised of 10 representatives from a number of sectors including agriculture, environment, forestry, hydro power, lake associations, land development, tourism as well as the general public. The Committee met numerous times throughout the development of the Plan. It's members have played a critical role in helping MVCA to identify and explore issues and to assess possible actions. The Discussion Papers and this Plan reflect the significant time and investment of the Public Advisory Committee members.

Indigenous Engagement

The engagement of Indigenous Communities is ongoing. This plan presents a welcome opportunity for MVCA to work on building respectful, reciprocal relationships with the Indigenous Peoples and Communities who have been the caretakers of this land since time immemorial. This will involve including Indigenous knowledge and insight about the watershed and working together to determine collaborative actions to further good stewardship of the land, water and ecosystems that they support. An Indigenous Engagement Plan (IEP) is directing the path that engagement is taking, respecting the customs and needs of the Indigenous Peoples. This Plan will be updated to reflect the outcomes of this engagement.

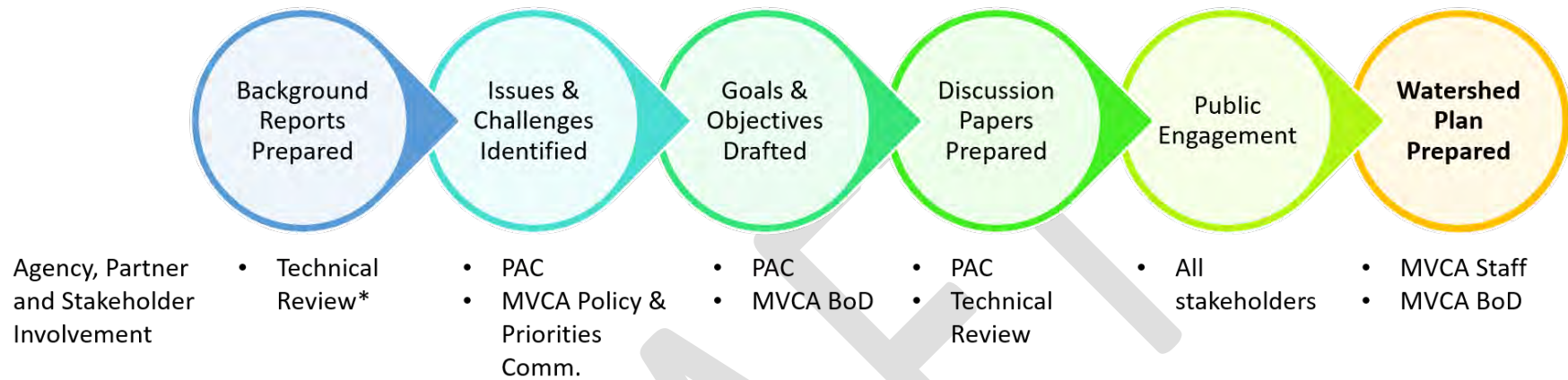
Engage Stakeholders and the Public

The Watershed Plan was developed through engagement with a range of stakeholders including federal, provincial and municipal government, environmental organizations, the sectors and communities represented by the PAC and the general public. Engagement took place through in-person meetings, webinars, advertisements and promotions through print and social media, and on-line surveys. The input received through these engagement activities assisted in identifying watershed issues and the related actions that are recommended in this Plan.

Appendix A provides a record of the consultation and engagement undertakings and a listing of the groups that were included the process.

Partner Agency and Stakeholder Involvement

The steps and the stakeholders involved in various stages of the engagement process are shown in Figure 3.



* Technical Review included circulation to MVCA staff, Federal and Provincial agencies, Health Units, Municipal Staff

Figure 3: Engagement Process - Steps & Stakeholder Involvement

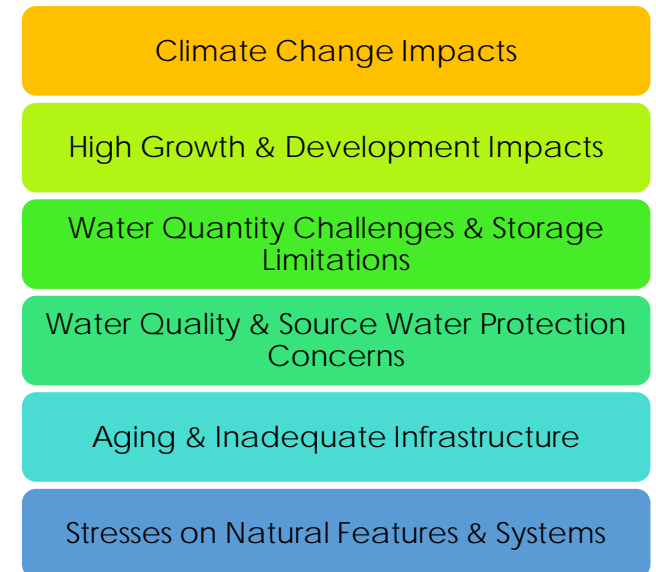
Watershed Stressors

In each of the Background Reports, key issues and stressors within the watershed were identified. After completing the background phase, MVCA worked closely with PAC members and MVCA's Policy and Priorities Committee (a sub-committee of the MVCA Board of Directors) to identify priority areas for action to address the issues and challenges that were identified. The stressors listed to the right are reflected in the listings of challenges presented in Section 3 of this document.

Discussion Papers

Building upon the Background Reports, a series of Discussion Papers were developed to help stimulate public engagement discussions. The papers focused on eight themes: Agriculture, Growth & Development, Forestry, Municipal Infrastructure, Natural Systems, Tourism, Water Management, and Waterfront Properties. They presented general information about each topic and listed associated challenges and opportunities along with some draft actions to address the identified challenges. A total of 33 strategic actions were identified and are presented under Section 3 of this Plan.

Key Watershed Stressors



Watershed Plan Goals

These Watershed Plan goals adopted by the MVCA Board of Directors, were developed based upon the issues raised in the background reports, through input received from the PAC, and through a technical review by a number of partners including municipal staff, provincial and federal agencies.

1. To collaborate with watershed partners in promoting an integrated and consistent approach to the health and management of the watershed and water resources.
2. To increase our resiliency and adaptive response to climate change.
3. To support environmentally sustainable growth and economic development.
4. To use and manage both surface water and groundwater wisely to meet current and future needs under normal and extreme conditions.
5. To minimize risks to human life and property due to flooding, erosion, and unstable slopes and soils.
6. To sustain or improve current water quality for all users.
7. To maintain, enhance, or restore natural features and systems for all users.
8. To support learning and environmental stewardship.

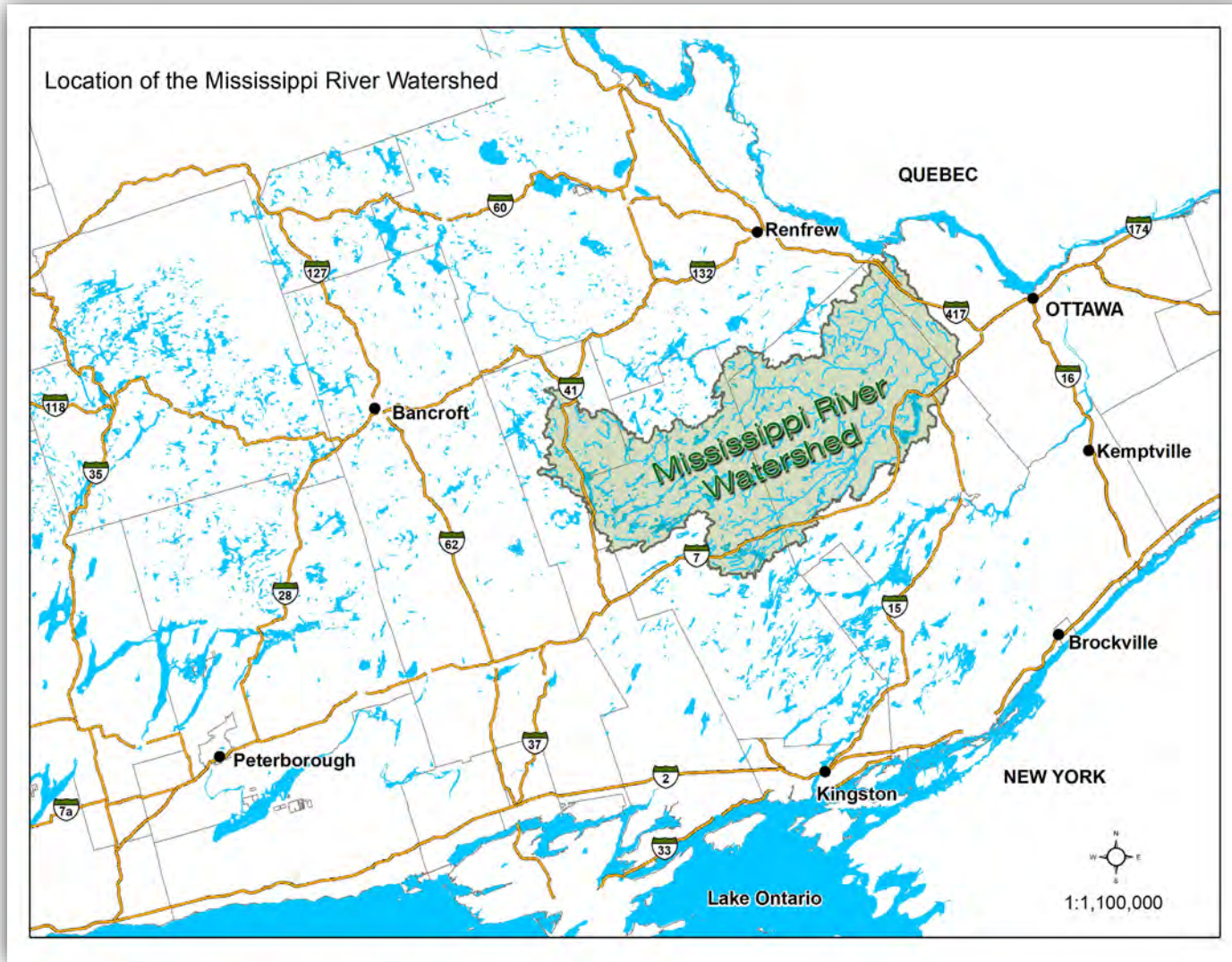


Figure 4: Location of the Mississippi River Watershed

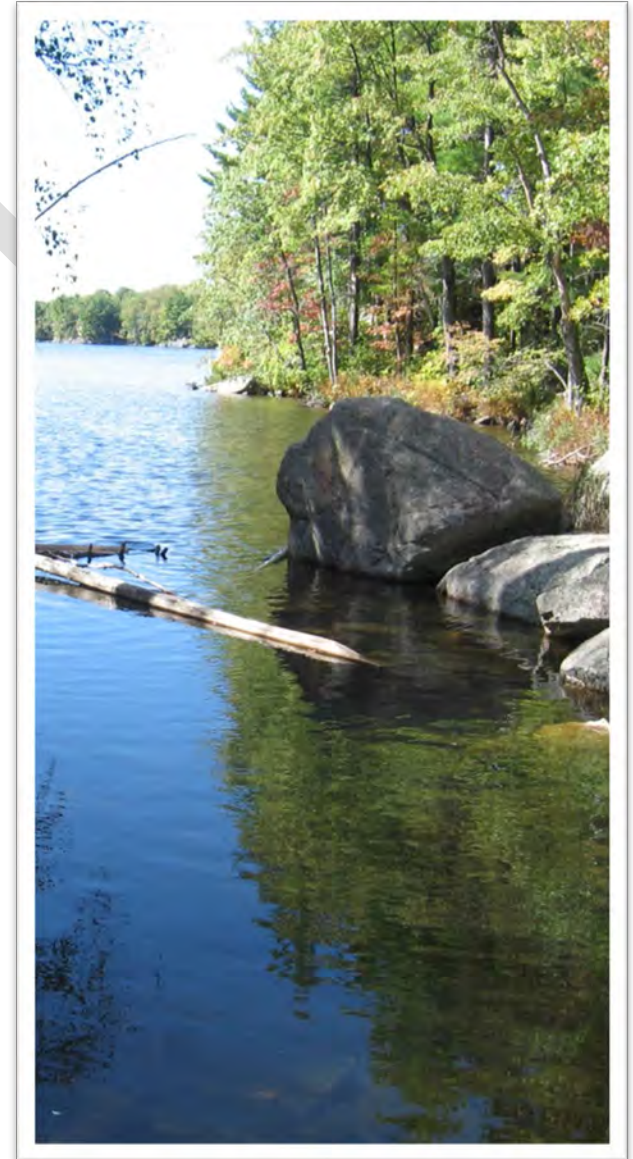
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Overview of the Watershed

The Watershed

Located in Eastern Ontario, west of the City of Ottawa (Figure 4), the Mississippi River watershed is 3,765 km² in size and encompasses eleven municipalities serving the needs of its year round and seasonal residents, and various economic communities.

The watershed has two distinct physiographic regions: the Canadian Shield in the west; and the Ottawa-St. Lawrence Lowland basin in the east. The divide between these “Shield” and “Lowlands” areas, shown in Figure 5, separates two quite distinct landscapes. The “Shield” area has a hummocky topography with thin soil cover, rock outcroppings, and many lakes and small wetland scattered throughout. The “Lowlands” area has a flatter topography with more soil and fertile lands and a number of large wetland areas. There is a blended transition between the two that runs through the south part of Lanark Highlands, Mississippi Lake and the centre of Mississippi Mills .



The west part of the watershed with its rugged Shield area retains most of its forest cover and wetlands, while the east Lowlands area is characterized by urban settlement and agricultural lands, with relatively limited remaining forest cover and fewer, but larger, wetlands.

Some key facts about the two regions are presented below.

Facts about the Watershed's Physiography

Physiographic Regions:

(Canadian) "Shield" - West	<ul style="list-style-type: none"> • covers 82% of the watershed • rugged, hummocky topography • 70% forested, 12% wetland, 8.5% water • hundreds of lakes and streams • numerous small wetlands • thin soils and exposed bedrock • deeper till (sand and gravel deposits) in Balderson, Lanark and Snow Road area
(St Lawrence) "Lowlands" – East	<ul style="list-style-type: none"> • covers 18% of the watershed • flatter topography • 40% agriculture, 30% forested, • 14% wetland, 4.5% water • larger river valley and just one lake - Mississippi Lake (on transition) • a number of large wetlands • more soil cover and diversity of soil types • viable farm land

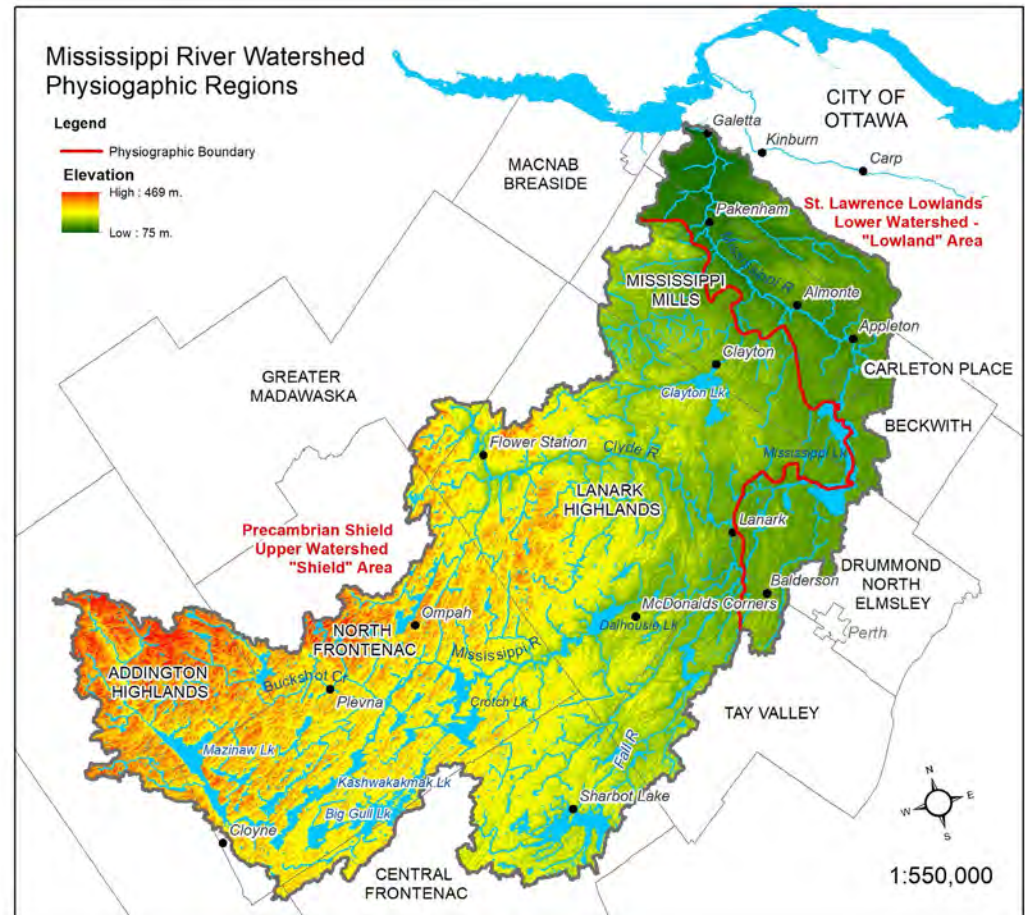


Figure 5: Physiographic Regions

The Aquatic and Terrestrial Landscapes

The large contiguous expanses of natural area in the west (Shield) watershed, and smaller fragmented pockets of natural area in the east (Lowlands) support a diversity of aquatic and terrestrial environments. The interconnected system of lakes, rivers, riparian areas, wetlands, woodlands and wildlife habitat, embodies the interdependence of these features. To maintain biological diversity, ecosystem services, species populations, and resiliency to climate change, these features must continue to function as a system.

A number of key natural features are shown in Figure 6 with some facts presented below.

Facts about the Natural Features and Systems

Mississippi River	212 km
Tributary length	>7,100 km (includes smaller rivers, streams and creeks)
Number of lakes	>250, mostly west watershed (Shield Area)
Wetland Area	Entire watershed – 13% wetland; Shield Area 14%, Lowlands Area 12%
Woodland Cover	Entire watershed – 64% woodland; Shield Area 72%, Lowlands Area 31%
Forest Interior Cover	Entire watershed – 23% interior forest; Shield Area 27%, Lowlands Area 7%
Areas of Natural & Scientific Interest	22 ANSIs (13 Provincially Significant, 9 Regional, Local or Candidate)

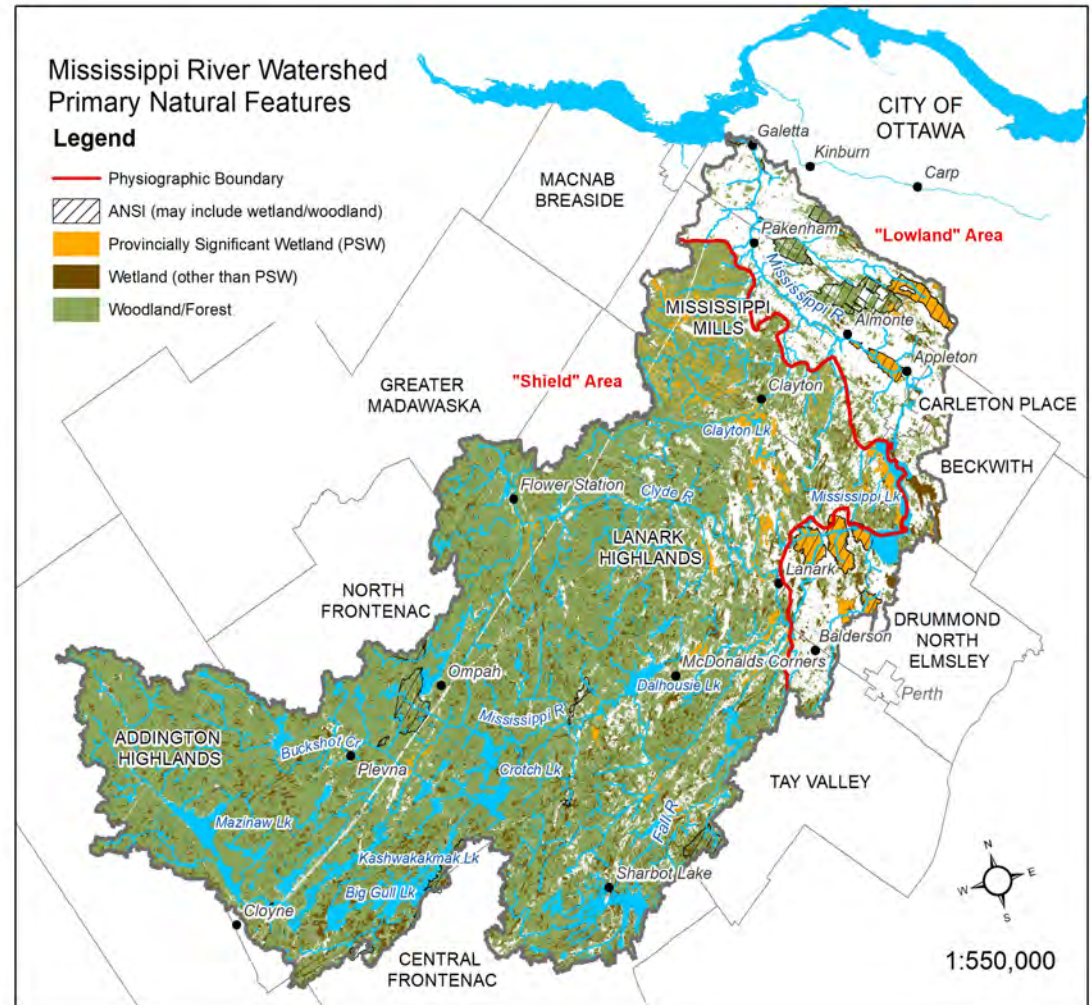


Figure 6: Key Natural Features

There are numerous other natural and cultural features that are not shown in Figure 10. The examples listed below are features that MVCA is aware of and/or that have been of significance to various aspects of MVCA's work. There will be numerous other natural and cultural features that are not listed here, that also hold natural and/or cultural significance.

- **Species at Risk:** there are roughly 30 documented Species at Risk (SAR) within the watershed including plants, reptiles, fish, birds and mammals. This number is based on available information but due to the sensitivity of SAR information, the actual number of species may be different.
- **Specialized aquatic features:** including cold water lakes and streams, and walleye and trout spawning areas that provide specialized and sensitive habitat and are located mostly in the west.
- **Significant wildlife habitats:** this includes sites where species seasonally congregate, like the Mississippi Lake Migratory Bird Sanctuary and heron rookeries.
- **Rare vegetation communities;** and other specialized habitats, or habitats of species of conservation concern such as snake hibernacula.
- **American Eel:** is an endangered species that once thrived in the Mississippi River System. Monitoring and research initiatives suggest there is potential for repopulation with the construction of passageways at dam's sites.
- **Wild rice:** is a very valuable grain that has been used by Indigenous Peoples as food, for thousands of years. It holds enormous cultural importance to First Nations communities. In Ontario, regulations falling under the Ministry of Natural Resources and Forestry prohibit the commercial harvest of wild rice without a permit. The key stressors potentially impacting wild rice are shoreline development, water levels and climate change.
- **Historically significant places:** there are places in the watershed that hold sacred importance for Indigenous Peoples. An extensive collection of pictographs on the face of Mazinaw Rock is one example.

The Human Landscape

Anishinaabe Peoples were the first to inhabit the Mississippi River watershed and surrounding areas. There are a number of historically significant places in the watershed that continue to hold sacred importance to Indigenous Peoples, who live in and/or maintain a connection to the area. After the War of 1812, Europeans colonized the area, beginning with British soldiers and followed by immigrants from Scotland and Ireland. The watershed has supported decades of economic development largely focused on timber and agriculture, and the river itself, which provided power for sawmills, flour mills and woolen mills.

The proximity to Ottawa, has contributed to continued urban and rural estate lot type growth in the east watershed, whereas the “cottage country” of the Shield area has continued to attract waterfront development. As of 2016, the watershed had a population of approximately 42,425, with more than half residing in Carleton Place (25%) and Mississippi Mills/Almonte (30%).

There is a large seasonal population (cottagers) that is not accounted for in the Statistics Canada Census data. Estimates derived for Frontenac County, where cottage properties are prevalent, range from a 250% increase during cottage season (Central Frontenac) to almost six times the year round population for North Frontenac (Watson & Associates, 2014).

Some basic population and property facts are presented to the right. There are over 31,000 individual properties within the watershed of which about 8,500 (27%) are waterfront. In the east, most waterfront properties have year-round homes. In the west, cottages predominate, with a steady rate of conversions to permanent use.

Local municipal Official Plans designate ‘Settlement Areas’ where future growth is to be directed. Carleton Place and Almonte, the largest urban communities in the watershed, continue to attract growth to and around them. The populations of Drummond/North Elmsley and Mississippi Mills are projected to increase by 60% between 2016 and 2038, and Carleton Place and Beckwith Township are projected to almost double over the same time frame.

Facts About Population and Property

Watershed Population (2016 Census)	42,425
Seasonal Population	Estimated 2.5 to 6 times greater than the year - round population
Total Properties (2018 municipal assessment)	31,3610
Waterfront Properties	8,500 (27% of total)
% Population on municipal water and wastewater services	37% (Carleton Place and Almonte)
% Population on private water (well or surface intake) and wastewater services (septic system)	63%
Crown land	21% of total watershed

Water Supply

Carleton Place and Almonte are the only two settlement areas within the watershed that are fully serviced with municipal water and sewer/wastewater systems. Combined, they account for 37% of the population. The Town of Mississippi Mills supplies drinking water to Almonte residents from five municipal wells. Carleton Place supplies drinking water from a surface water intake at its water treatment plant located 900 metres downstream of Mississippi Lake. Throughout the rest of the watersheds there are also a number of communal wells and designated facilities for nursing homes, schools, and similar facilities that supply drinking water to the public. All other settlement areas and rural residents, representing roughly two-thirds of the watershed's population, rely on private septic systems with either private wells or private surface water-intakes.

Land Use

Figure 7 shows the distribution of primary land uses across the watershed, highlighting the differences between the Shield and Lowlands areas. This illustrates the dominance of forest, lakes and cottage country in the west, and the mix of agriculture, rural and urban development in the east.

Crown Land

Crown land is land that is owned by the province and managed by the Ministry of Natural Resources (MNR) under the *Public Lands Act*. Crown land makes up 21% of the total watershed area, and except for the Burnt Lands Provincial Park near Almonte, it is all located in the Shield area.

Crown lands are managed under a number of designations such as Conservation Reserve, Enhanced Management Area and General Use Area. Area specific land use plans incorporate key cultural, ecological, social and economic values. There may be opportunity to work with the province in identifying crown lands that are rich in ecological services and that should be conserved over the long term.

The Province is currently in the process of establishing a new provincial park around Crotch and Fawn Lakes, and parts of Pine and Big Gull Lakes and is in land claim negotiations with First Nations.

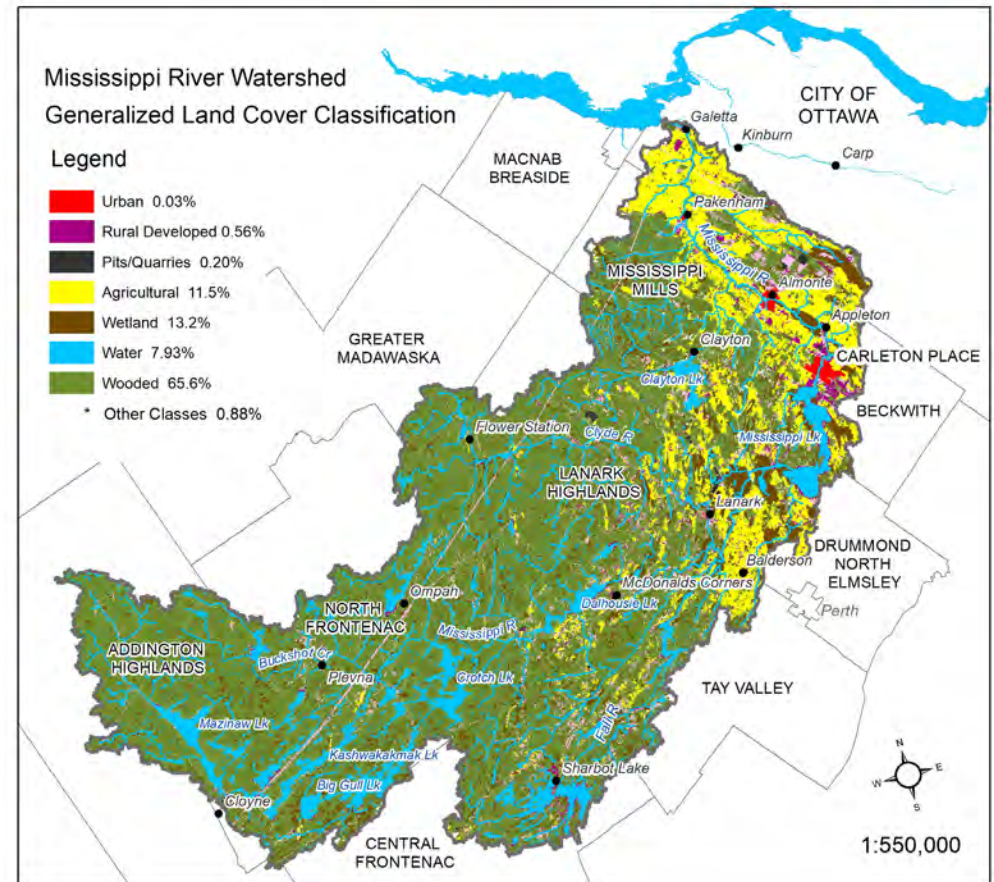


Figure 7: Generalized Land Cover

3

Actions & Strategies

This section identifies the strategies developed through stakeholder consultation, to address the issues facing the Mississippi River watershed. It is presented under eight headings as listed below, which the key themes of the eight watershed plan goals. The first three, Integration & Collaboration, Climate Change, and Growth & Development represent “overriding” themes that are reoccurring throughout the five program area themes.

Overriding Themes

- Integrated Management & Collaboration
- Climate Change
- Growth & Development

Program Area Themes

- Water Management
- Natural Hazards
- Water Quality
- Natural Systems & Land Conservation
- Education, Outreach & Stewardship

For each theme, an overview provides: key facts; agency roles and responsibilities (where applicable); and watershed management considerations. Strategic actions are presented in table format at the end of each theme section. A list of challenges is also presented for each of the five program areas which include challenges that relate to Climate Change and Growth & Development.

The theme of Integrated Management & Collaboration is carried throughout each of the five program areas. For each strategic action, the agencies that have a role in its implementation are listed under ‘Partners’. The role of each partner will vary from strategy to strategy, ranging from sharing of information, to funding partner, to action/program lead. Such roles will be established through discussions with relevant partners during subsequent implementation planning.

Integrated Management & Collaboration

STRATEGIC GOAL

"To collaborate with watershed partners in promoting an integrated and consistent approach to the health and management of the watershed and water resources."

Objectives:

- Develop a plan that integrates all relevant aspects of watershed management and planning.
- Clarify responsibilities for delivering and funding watershed assets, programs and services.
- Cultivate partnerships among individuals, community groups, businesses and government agencies that have a stake in the health of the watershed.
- Develop and strengthen Indigenous partnerships, respecting Indigenous values and rights.
- Establish a coordinated and adaptive approach to watershed management activities amongst government and other partners.

Integrated Watershed Management allows for the management of important water resources, while addressing critical issues such as the current and future impacts of changing land use and a changing climate. Figure 8 shows the multitude of factors that can make up the integrated watershed plan. The features and activities listed in Figure 8 are managed under a suite of legislation, both federal and provincial, that assign agency responsibility, and provide the powers and instruments for implementation. MVCA and its partners also operate under a number of plans, policy documents, guidelines and strategies, each focusing on specific programs or features.

Appendix B provides tables listing the agencies that have a role in various aspects of watershed planning and the numerous legislations that provide those agencies the authority and/or tools to implement policy.

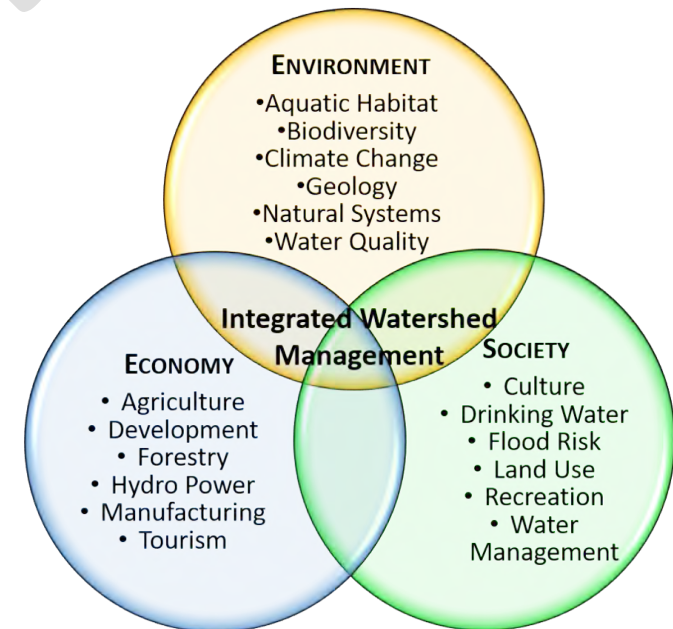


Figure 8: Factors in Integrated Watershed Planning

Watershed Partners

A watershed plan should reflect the shared values and priorities of the people living, working, and recreating throughout the watershed. The responsibility for water and resource management falls under a multitude of government agencies and legislation. This opens the door for duplication and overlap, or to fragmented and potentially conflicting approaches to addressing various mandates. It can also lead to confusion amongst the public as to which agency is responsible for what.

With limited resources directed to the environment, it is imperative that watershed partners adopt a collaborative integrated approach to the handling of watershed management concerns. Duplication of effort should be avoided wherever possible, and collaborative partnerships that improve the use of resources and the delivery of services should be promoted. Each jurisdiction has its own mandated responsibilities, and it is important that those responsibilities are clearly articulated and understood, and that the related actions are implemented by the appropriate bodies.

Public Sector Partners

MVCA works with a number of public sector partners in carrying out its watershed responsibilities. Direct partners include the eleven member municipalities, who appoint members to the MVCA Board of Directors, and the Province, through the Ontario Ministry of the Environment, Conservation and Parks (MECP) and the Ontario Ministry of Natural Resources and Forestry (MNRF). The direct partners provide financial support, with more than 50% of the funding coming from the municipalities and the remaining from the province, fees for service, special levies, and grants.

MVCA also has agreement relationships with a number of agencies to provide delegated services. MVCA has an advisory role in providing municipalities with review and comments on land use planning applications made by property owners. As a public commenting body under the *Planning Act*, MVCA has Memorandums of Agreement with both the County of Lanark and the City of Ottawa to address "Provincial Interests" related to Natural Heritage Features and to provide comments that are in the public's best interest. MVCA also has collaborative relationships with organizations involved in other aspects of watershed management. For example, MVCA collaborates with MECP in implementing the Provincial Water Quality Monitoring Program and with the County of Lanark to help manage its Community Forests program.

Indigenous Communities

This Watershed Plan provides an excellent opportunity to develop and strengthen relationships with the Indigenous Peoples that have a long standing connection and relationship with the watershed. MVCA views Indigenous engagement as a key factor to developing a balanced watershed plan and is working with an Indigenous Consultant to implement an Indigenous Engagement Plan to guide this process.

Non-Government Organization (NGO)

MVCA also shares environmental protection and resource management interests with many Non-Government Organizations (NGOs), local groups and associations. It has collaborative relationships with universities, many lake associations, and a variety of stewardship organizations. These collaborations become increasingly important as Provincial resources and services continue to diminish at the local level. See Appendix A for a listing MVCA's existing and potential non-government partners.

Collaboration is an overriding theme that is carried throughout this Plan. For each watershed plan action, opportunities for partnership and collaboration have been considered and where practical, included as part of the strategy.

Collaboration Strategic Actions

Action No.	Actions/Strategic Directions	Partners	Implementation Considerations & Options
IMC1	Extend the role of the MVCA Public Advisory Committee (PAC) for the implementation and updating of the Watershed Plan.	<ul style="list-style-type: none"> MVCA All sectors and communities represented on the PAC (Pg. 4) 	<ul style="list-style-type: none"> May be made mandatory through 2021 changes to Conservation Authorities Act. Will require a revised PAC Terms of Reference to clarify roles, responsibilities and terms of engagement.
IMC2	Undertake meaningful engagement and establish new relationships with Indigenous partners through implementation of an Indigenous Engagement Plan and through ongoing engagement in watershed initiatives.	<ul style="list-style-type: none"> MVCA Indigenous Communities 	<ul style="list-style-type: none"> Indigenous Engagement Plan (IEP) has been prepared and is being implemented as this Plan is adopted. Following completion of the IEP, the Plan will be reviewed and amended where needed to incorporate Indigenous considerations. The intent is to continue engagement, collaboration and relationship building throughout and beyond the implementation of this Plan.
IMC3	Continue to collaborate with and promote collaboration among lake associations through networking groups and direct partnerships.	<ul style="list-style-type: none"> MVCA Lake Associations & Networks Federation of Cottage Associations (FOCA) 	<ul style="list-style-type: none"> The North Frontenac Lake Association Alliance and The Lake Networking Group are key conduits to grassroots collaboration. Collaborations can include: <ul style="list-style-type: none"> Monitoring and stewardship initiatives Educational workshops, materials and tools Scientific research projects Technical and advisory support in developing lake plans

Climate Change

STRATEGIC GOAL

"To increase our resiliency and adaptive response to climate change."

Objectives:

- Improve our understanding of climate change impacts in the Mississippi River watershed.
- Improve local resiliency to changing climatic and extreme weather conditions.
- Incorporate climate change considerations into planning and management decision-making tools, guidelines, plans and policies.

Climate change has emerged as a prominent focus in developing sound watershed management strategies to guide us through the coming decades. It is an overriding consideration throughout this entire document with many of the strategic actions aimed at building resiliency to extremes in climate and weather through improvements to water management and storage, and protection of natural features.

The MVCA has been a leader among the eastern Ontario Conservation Authorities in looking at climate change impacts from a water management perspective. Beginning in 2007, MVCA collaborated with local experts and stakeholders on a local climate change adaptation initiative (Egginton, P. and B. Lavender. 2008). MVCA subsequently partnered with the province, universities and others on a variety of research projects to undertake vulnerability assessments of:

- fish populations (Casselman, et.al 2011)
- wetlands (Ministry of the Environment & Climate Change. 2014)
- water budget impacts (Kunjikutty, 2014)
- small waterpower facilities (Lehman. et.al, 2015)

Projected Local Climate Change Impacts

- Increased flooding and erosion, and early spring flooding (freshet)
- More frequent and prolonged drought conditions and more frequent severe weather
- Reduced winter snow cover and river/lake ice
- Water quality changes (ex. warming and increased algae blooms)
- Decreased soil moisture during the growing season
- Reduction in (drying of) wetland areas
- Increases in invasive species, plant pests and diseases
- Changes in aquatic species (more warm water/less cool water species).
- Changes to forest composition and species, affecting ecosystem processes and the forest industry.

The key projected local impacts are listed here, however this is by no means a complete list, as other interrelated impacts continue to become evident.

For the Mississippi River watershed, in addition to increases in average annual air temperatures, climate change models project more frequent and extreme rainfall events, an earlier spring freshet, prolonged periods of low summer flow, and more frequent drought-like conditions. Patterns of earlier onset of spring freshet and reduction in the summer low flow season have already been observed in the watershed. The Mississippi watershed has experienced six large floods since 1998, and four droughts, since 2012. Recent occurrences of Harmful Algae Blooms (HAB) on Mississippi and Dalhousie Lakes may be attributed to warmer temperatures in the early fall.

In Ontario, the MECP is the lead agency responsible for overseeing provincial preparedness for climate change. The 2018 *A Made-in-Ontario Environment Plan* outlines the Province's plan to help communities prepare for climate change. The Plan commits to updating policies and building partnerships to improve local climate resilience through improved flood proofing measures, resiliency in infrastructure, and support for agriculture/food sector resiliency.

Under the *Provincial Policy Statement (2020)* for managing growth and development, municipalities are required to prepare for the impacts of a changing climate by:

- Incorporating efficiencies in their infrastructure and public service facilities;
- Planning for sewage and drinking water services, and stormwater management (including the use of green infrastructure);
- Protecting, improving or restoring the quality and quantity of water by evaluating and preparing for the *impacts of a changing climate* to water resource systems at the watershed level; and
- Mitigating potential risk to public health or safety or of property damage from natural hazards, and preparing for increased risks associated with natural hazards.

Climate Change Strategic Actions

Action No.	Actions/Strategic Directions	Partners	Implementation Considerations & Options
CC1	Apply a climate change lens to all strategic directions within this Plan.	All Partners and Stakeholders listed throughout this Plan	<ul style="list-style-type: none"> • The climate change lens includes: <ul style="list-style-type: none"> • Further overall understanding of climate change impacts to watershed management goals through monitoring and research. • Determining needs and options for building local resilience, mitigation and adaptation. • Wherever possible, incorporating adaptive and mitigative measures in watershed management activities.

- | | | | |
|--|--|--|--|
| | | | <ul style="list-style-type: none">• Seeking ways with partners to promote enhanced carbon capture and reduced carbon footprint throughout the watershed. |
|--|--|--|--|

Note: As a key overriding theme, many additional strategic actions presented further on in this document are directed at improved resiliency and adaptation to the implications of climate change.

DRAFT

Growth & Development

STRATEGIC GOAL

“To support environmentally sustainable growth and economic development.”

Objectives:

- Monitor and report on watershed conditions.
- Quantify water use trends and needs by sector and establish priority needs and management practices under extreme conditions.
- Work with watershed partners to develop and implement best practices in the watershed.

Overview

Growth and development are tied to a number of economic sectors including agriculture, development (residential, industrial and commercial), forestry and tourism. The Mississippi River watershed is mostly rural with urban development in and around Carleton Place and Almonte, and rural estate-lot growth in the surrounding municipalities. Proximity to Ottawa has been a large contributing factor to growth in this part of the watershed. The 2011 and 2016 Statistics Canada Census data for these municipalities show growth rates at three times the Provincial average. The growth is expected to continue, with Carleton Place and Beckwith populations projected to almost double between 2016 and 2038, and Drummond/North Elmsley and Mississippi Mills increasing 60% over that same period.

Local municipal Official Plans designate ‘Settlement Areas’ where future growth is to be directed. Of those, only Carleton Place and Almonte have municipal water and sewer systems. Much of the current growth throughout the watershed is taking place outside of designated settlement areas, in areas without municipal services. Higher concentrations of estate-lot type development on private services (well and septic systems) present potential concerns with respect to groundwater availability and contamination. Through the Source Protection program, most of the watershed has been identified as “Highly Vulnerable Aquifer” suggesting that, over much of the watershed, contaminants could travel quickly into the aquifers and potentially cause risk to users drawing drinking water from those sources. This is a concern for private wells in the rural parts of the watershed where an estimated 63% of the permanent population use groundwater wells for their drinking water. The high growth areas also contain some of the largest wetlands and groundwater recharge areas of the east watershed, where development has the potential to negatively impact hydrologic conditions.

With development, the loss of wetlands, forest cover and riparian buffers can cause increased soil erosion, impairment of water quality; reduced terrestrial and aquatic habitat; and impaired ecological function (see strategies under Water Quality and Natural Systems). Increased impermeable surfaces also reduce natural infiltration, causing higher runoff surges and more pollutants and sediments flushed into the water.

Municipal Development Infrastructure

The eleven local municipalities are responsible for a range of infrastructure including: water and wastewater facilities, sanitary and stormwater collection systems, roadways and culverts, and management of public lands. Proper drainage, adequate water supply and good water quality are key infrastructure concerns. With the high growth rates, the eastern municipalities are experiencing increased drinking water, stormwater management and other servicing demands. Asset Management Plans and integrated infrastructure planning are needed to ensure the integrity and appropriate design and operation of water and erosion control structures, and municipal water systems, road structures, and drainage infrastructure.

Waterfront Development

Almost one third of the properties in the watershed are waterfront. The numerous lakes and rivers continue to attract development. With relatively few vacant waterfront lots remaining, waterfront development primarily takes the form of enlargement and/or conversions of seasonal cottages to year round homes. There is ongoing pressure for infill development of properties and areas formerly deemed unsuitable for development because of drainage concerns. Second tier (back lot) developments are also becoming more common.

Provincial and municipal planning documents implement a 30 metre "normal high water mark" setback as the minimum distance needed to protect water quality and the aquatic environment. About 3,450 homes/cottages, and another 3,450 auxiliary structures (i.e. garages and sheds) are within the 30 m setback. Some municipalities implement grandfathering provisions allowing for intensification of existing development within the setback. Much of MVCA's municipal plan review service focusses on reviewing applications for development within the 30 m. setback area, and trying to work with municipalities to limit further development in this critical area and achieve a net environmental gain.

Water Management Tools for Sustainable Growth & Development

- Protection of wetlands, for natural storage and other benefits.
 - Riparian buffers along all waterways including natural features (lakes, rivers, stream), and manmade features (municipal and agricultural drains).
 - A 30 metre setback from water (normal high water mark) for structural development and hardened surfaces.
 - Implementation of low impact development measures (LIDs),
 - Protection of natural features and systems.
-

Where the development involves construction, grading or other work on shore or in the water, such as the construction of a dock or boathouse, approvals may also be required from the MNRF under the *Public Lands Act*. The multijurisdictional review of development applications (municipalities, conservation authority, provincial agencies, etc.) can be difficult and cumbersome for applicants to navigate. For shoreline and in-water works, confusion about regulations with regard to which agencies must be involved, and when and where the certain regulations apply, is an ongoing issue. Improvement is needed to ensure development review processes are understood and followed, and are timely, effective, and balanced.



Urban and Agricultural Land Use around

Agriculture

Agricultural land is found throughout the watershed. Most is located in the Lowlands area downstream of Mississippi Lake, where one-third of the land is used for farming. Crop (grain and oilseed) production is the prominent agriculture, but farmlands are also used for dairy and beef cattle and other livestock, maple syrup production, market gardens, and specialty farming operations - a fast growing sector.

The shift from livestock farming to crop farming has led to the consolidation of farmland holdings. Increasing field size has required the removal of hedgerows, woodlots, and wetlands, and changes to drainage features. Practices to drain wetland areas, and to move water quickly off the land in the spring (ex. increased tile drainage) can increase flooding and erosion in the receiving water bodies. Such practices can also impair water quality through sedimentation and the flushing of nutrients and other pollutants into waterways.

With mutual goals of sustained water availability (storage, infiltration) and healthy soils, there are opportunities for greater collaboration between MVCA and the agricultural community. This is particularly relevant as we collectively contend with the impacts of climate change which project: more frequent extended wet spring conditions, causing delayed and poor planting; more frequent extreme weather events, causing soil erosion and flushing of nutrients; and more frequent extended hot and dry summers during peak growing seasons. Land use practices that improve the natural storage and infiltration of water are a key priority that can benefit both parties. Priorities include: the design of good agricultural drainage practices; the provision of riparian areas and vegetated buffers next to waterways; and the maintenance/creation of wetland features for water storage.

Forestry

The Mississippi River watershed is two thirds forested. As well as providing economic, recreational and social benefits, forested lands play a vital role in lessening flooding and erosion, and protecting water quality by filtering runoff. Most of the forest cover is in the west with much less in the east, where the woodlots are generally unconnected fragmented patches. About 70% of the forest is on

private land, 28% on crown land, and 2% on municipal/county lands and land trust managed properties. The Ministry of Natural Resources & Forestry (MNRF) manages timber harvest on crown lands. In private woodlots, forestry is generally not regulated and harvest is permitted without license unless the stand is deemed significant under other legislation (ex. significant wetland, or subject to a municipal tree cutting by-law). A key watershed plan consideration with respect to forestry is the management of forests on private lands, particularly in the east part of the watershed where forest cover, forest interior and forested corridors are more scarce.

Tourism

The Mississippi River watershed offers many nature based attractions that support tourist operators that are directly marketing an outdoor recreation experience. By attracting visitors to the area, it also generates numerous secondary benefits (grocery, restaurant, gas, other accommodation, etc.). Local tourism is largely focused on the recreational opportunities provided by the many lakes, rivers, and vast areas of crown land. Private water recreation focused businesses such as resorts, camps, fishing expeditions, marinas and canoe/boat rentals, are mostly located in the west part of the watershed and on Mississippi Lake. The industry depends on the sustained integrity of the lakes and rivers, shorelines, crown land and other natural areas, and vistas and viewsapes.

As a largely outdoor recreation based industry, local tourism is vulnerable due to a number of environmental and human-induced factors that are beyond the control of the tourism operator. Key challenges relate to both climate change and changes in land use, with resulting impacts to water levels, water quality, aquatic habitats, fish & wildlife health and populations, shoreline aesthetics/health, and the quality and availability of natural landscapes.

Growth & Development Strategic Actions

Action No.	Actions/Strategic Directions	Partners	Implementation Considerations & Options
GD1	Work with all partners to continue to support environmentally sustainable growth and development objectives on a watershed basis for the protection of watershed values and features.	<ul style="list-style-type: none"> All Partners and Stakeholders listed throughout this Plan 	<ul style="list-style-type: none"> Key tools for environmental sustainability are: <ul style="list-style-type: none"> the protection of wetlands, for natural storage and other benefits, riparian buffers along all waterways including natural features (lakes, rivers, stream), and manmade features (municipal and agricultural drains), the 30 metre setback from normal high water mark for structural development and hardened surfaces, the promotion of low impact development measures (LIDs), the protection of natural features and systems.

Note: As a key overriding theme, many additional strategic actions presented further on in this document are directed at environmentally sustainable management of growth and development.

Water Management

STRATEGIC GOAL

“To use and manage both surface water and groundwater wisely to meet current and future needs under normal and extreme conditions.”

Objectives:

- Expand our understanding of the water budget of the Mississippi River watershed and the potential impacts of climate change.
- Maintain and enhance the hydrologic balance, including baseflow, groundwater quantity, recharge and discharge, within the Mississippi River watershed.
- Provide water storage throughout the system to improve resiliency during low water/drought events.
- Work with watershed landowners, communities and industry to balance competing demands for water use in a sustainable manner.

Overview

While at the local level, MVCA is the lead in water management, the federal and provincial governments, and municipalities, also have roles and responsibilities in managing surface and groundwater quantity. Responsibilities include monitoring and managing flows and levels, managing water use, and managing water storage and availability. Figure 9 presents a generalized overview of agency roles and Appendix B Table 1 lists the legislation relevant to those roles. (See also Water Quality.)

The Mississippi River is a “managed system”, with a series of water control structures (dams and weirs) that are used to regulate water flows and levels for a variety of purposes. In 2006, the **Mississippi River Water**

Figure 9: Agencies Involved in Water Management



Management Plan (MRWMP) was developed by the Ministry of Natural Resources (MNR), hydro power producers, and MVCA in accordance with the *Lakes and Rivers Improvement Act*. The plan documents operating ranges (upper and lower water level/flow targets) and management strategies for the major water control structures along the river system.

Water control structures: MVCA, the MNR, and hydro producers own and operate a series of dams along the system (Figure 10). The structures are operated for several purposes: to mitigate flooding, erosion, and ice hazards; to provide low flow augmentation; to support recreation, fisheries, and tourism; and to enable sustainable power generation. The MRWMP gives particular consideration to wild rice beds, and lake trout and walleye spawning habitats as all three are highly sensitive to water level fluctuations.

Reservoir lakes: shown in Figure 10, six lakes in the west part of the watershed are used as storage both to mitigate flooding and augment low flows. Crotch Lake is the largest “reservoir lake” and provides as much water storage capacity as the other five lakes combined.

Gauge network: MVCA partners with Water Survey of Canada (WSC) and MNR to collect water level and flow data from a network of river/stream gauges located throughout the watershed. Data is used to inform dam operations, flood forecasting and warning; to conduct trend analysis; and to carry out system planning and dam design.

Generating stations: owned by Ontario Power Generation (OPG), Enerdu Power Systems, Mississippi River Power, and TransAlta are all “run-of-river” facilities that rely on natural river flows.

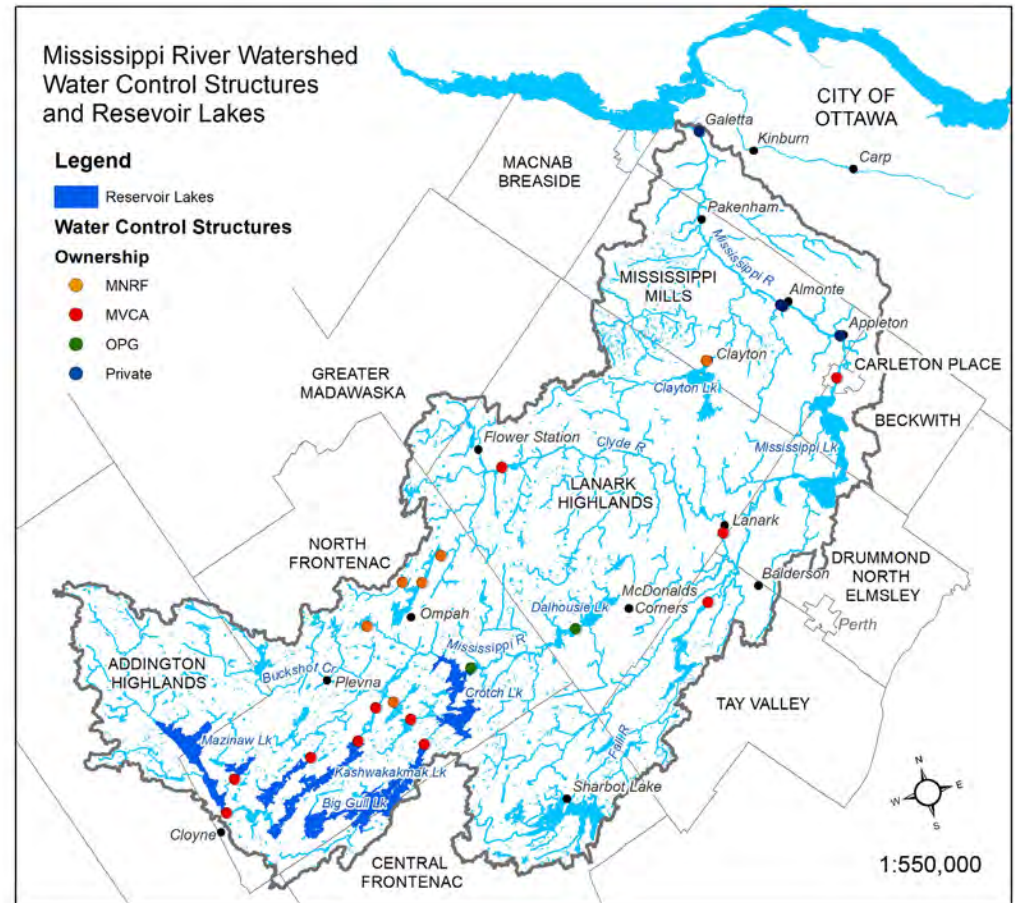


Figure 9: Water Control Structures & Reservoir Lakes

The eleven local municipalities are responsible for water supply and management through their water and wastewater facilities, sanitary and stormwater collection systems, and rural municipal drains. Proper drainage, flood mitigation, adequate water supply, and good water quality are key infrastructure concerns. The eastern municipalities are experiencing high growth and development, with increased drinking water, wastewater and stormwater management and servicing demands.

Stormwater Management

In addition to the management of water flows and levels within the lakes and rivers, stormwater is another component of water management. Stormwater comes from urban areas and rural subdivisions/development where the hardening of surfaces from roads, buildings, driveways, and parking lots reduces the capacity for ground infiltration. Precipitation and snowmelt are rapidly flushed off the surface through drains and ditches that eventually outlet into the nearby lakes and rivers. Stormwater is a prime cause of urban and rural flooding and also a major source of water pollution, particularly road salt.

Under the Provincial Policy Statement (PPS, 2020), municipalities are responsible for ensuring proper stormwater management of new developments. For areas of high growth, master stormwater/drainage planning is a tool available to municipalities to guide the management of drainage and stormwater at a comprehensive scale rather than on a site-by-site, development by development basis. As part of its municipal plan review advisory function, MVCA reviews and advises on large scale developments to try to ensure that the design of drainage and stormwater infrastructure addresses future land use, and considers impacts to receiving waterbodies. This is done on a fee for service basis through agreements with the municipality.

Low Flow and Drought Response

Until recently, extended periods of dry, hot weather and low water levels were relatively uncommon, occurring once every decade or so. However, between 2012 and 2021 the watershed has experienced four notable droughts. Severe drought conditions have far reaching impacts to both the natural environment and to human needs for water availability. It causes stress to forests, wetlands and aquatic environments, and stress for industries such as agriculture and tourism that depend on the availability of water. During extreme conditions, droughts could also impact the Carleton Place water intake and the quality of water entering the plant. Under such conditions, system operators (MVCA and the power producers) may need to adjust water levels elsewhere on the river system to protect the Town's water supply with potential impacts to waterfront properties. The outflow from the wastewater treatment plant to the river also requires enough water (level) in the river for assimilation of waste, especially during the low flow season.

In 2001, the MNRF established the Ontario Low Water Response Program to assist in coordination and support of local drought response. It entailed the establishment of local Water Response Team (WRT) coordinated by the Conservation Authority, and made up of representative water users: member municipalities, farmers, businesses, recreation and others. The WRT communicates when necessary to review stream flow information and weather forecasts in order to officially declare drought status and to assist in messaging and response.

Climate Resiliency and Natural Water Storage

For watershed managers, water storage is a key building block in providing resiliency to both flooding and droughts. With limited capacity to store water in the reservoir lakes and through the operation of the water control structures, the protection and creation of natural storage is increasingly important. Wetlands are the primary and most obvious form of natural storage. They hold water during high water events/seasons and slowly release it back into the system when it's needed during the low water season. A study by the Intact Centre on Climate Adaptation, University of Waterloo, determined that wetlands left in their natural state can reduce the cost of flood damage by 29% in rural areas and 38% in urban areas (Moudrak, et.al. 2017).

Surface water storage and the recharge of groundwater supplies can also be increased through Low Impact Development practices (LIDs). LIDs include a range of design features that encourage the on-site retention and infiltration of precipitation and snow melt. Examples include bioretention and rainwater collection features like bioswales, raingardens, rain barrels and constructed wetlands, and the use of permeable surfaces in place of traditional pavement and concrete.

Wetlands Store Flood Waters, Ease Droughts and Support the Ecosystem

Wetlands are an essential part of a healthy ecosystem. They play a critical role in regulating the movement of water within our watersheds and in doing so they provide numerous benefits to the surrounding area and ecosystem. Wetlands:

- Help regulate water levels, storing water in wet periods and releasing it in dry periods, easing flood and drought impacts;
 - Regulate the movement of water between the surface and underlying aquifers by recharging and discharging groundwater;
 - Improve water quality by providing natural filtration systems;
 - Process nitrogen, produce oxygen and have a high capacity to sequester and store carbon;
 - Enhance biodiversity and provide habitat for numerous species including more than 1/3 of Canada's species at risk;
 - Provide important wildlife passage corridors between their habitats.
-

CHALLENGES

Dam Operations/Mississippi River Water Management Plan (MRWMP, 2006)

- With extremes in weather target water levels/flows are increasingly difficult to achieve.
- The scope of the MRWMP(2006) does not address water quality, changes in climate, or changes in land use.
- Ice (both surface and frazil ice) can impact flow management, hydropower-generation operations, and municipal works, and can damage shoreline properties and structures; increased incidences with climate change.

Aging Infrastructure

- The dams are at or nearing the end of lifespans and will require major repair or replacement in the next 10-15 years at an estimated cost of \$5.9 million (2020).

Water Storage

- Water storage is a key limiting factor in mitigating floods and droughts, and the dams & reservoir lakes have limited storage/flood control capacity.
- Most storage capacity lies in the west watershed, with little available downstream of Crotch Lake. There is a large amount of “uncontrolled” runoff in the east part of the watershed.
- Natural storage from wetlands and on-site infiltration is being reduced through changes in land use, primarily development and agriculture, that have resulted in filling/draining of wetland areas, and hardened surfaces replacing permeable surfaces.

Water Availability vs Demand

- An MVCA Water Budget prepared for Source Protection identified deficiencies in data on groundwater use and supply.
- Droughts have recently been more frequent with potential impacts to quantity and quality at the Carleton Place water intake and groundwater supplies.
- Water levels elsewhere on the system may need to be adjusted to protect Carleton Place water supply; this has implications for water management/allocation.
- Growth is increasing the residential and commercial demand for water, while the environment and economic sectors such as agriculture and tourism also depend on the water availability/levels.

Municipal Drainage Infrastructure

- Stormwater - rainfall / snow melt can overwhelm the capacity of municipal drainage collection systems such as ditches, culverts and storm sewers resulting in localized “urban” flooding.

Water Management Strategic Actions

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
WM1	Prepare a Mississippi River Watershed Model incorporating historical, near real-time, and projected future hydro-climatic data, based on up to date information and science.	<ul style="list-style-type: none"> • MVCA(L) • POWER PRODUCERS • UNIVERSITIES • MECP • WSC 	<ul style="list-style-type: none"> • Apply new climate change scenarios based on the upcoming Intergovernmental Panel on Climate Change (IPCC) Assessment Report.
WM2	Update the Mississippi River Water Budget to better evaluate water needs and use by completing the recommendations of the MRSP Tier 1 budget assessment and incorporating climate change considerations.	<ul style="list-style-type: none"> • MVCA(L) • MECP 	<ul style="list-style-type: none"> • Actual water takings data is recommended for all percent demand calculations. The Province is currently collecting this information for all permitted users. When data is available, the stress calculations should be updated. • Flow monitoring downstream of Appleton is recommended. Should this information become available, stress calculations should be performed again. • Establish a centralized system of collecting and consolidating groundwater data collected through existing programs and through the subdivision review process, to support updates to water budget. • Assess past drought occurrences to determine impacts on river flow, and the conditions under which the target flows could not be achieved. • Undertake a climate change analysis to assess future drought implications and what adaptation/mitigation measures will be needed. • Use updated budget to define management objectives and set policy for the allocation or "use" of water. • Survey (voluntary) industry partners on a regular basis to maintain up to date information on water use, water needs, and water availability.
WM3	Undertake a Water Storage Capacity and Management Study of both man-made (dams and reservoirs) and natural storage (wetlands) options and capacity.	<ul style="list-style-type: none"> • MVCA(L) • UNIVERSITIES 	<ul style="list-style-type: none"> • Undertake an analysis of climate impacts on existing storage capacity. • Natural storage component could be done in-house or as a research collaboration with the academic community.

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
			<ul style="list-style-type: none"> Assess groundwater monitoring and data needs to determine whether current data and related information is meeting with MVCA and municipal requirements to fulfil their obligations for Source Water Protection. If not, work with MECP to address identified deficiencies.
WM4	Update the Mississippi River Water Management Plan to build on modeling, water budget and storage assessments completed under Actions WM1, WM2, and WM3 to assist in rebalancing the competing interests for the watershed's water resources where needed.	<ul style="list-style-type: none"> MVCA (L) MNRF(L) Consulting with Indigenous Peoples, municipalities, and other major water users² 	<ul style="list-style-type: none"> Review the findings of the MVCA Climate Change Implications for Small Waterpower Facilities (2015) study to assist in rebalancing the competing interests for the watershed's water resources.
WM5	Develop and implement an Asset Management Plan for the water control structures.	<ul style="list-style-type: none"> MVCA(L) MUNIC 	<ul style="list-style-type: none"> Asset management system for optimizing infrastructure priorities, considering risk, legislation requirements, and available resources. Ensure climate change impacts and potential increases to storage capacity and/or operational flexibility are considered for any planned major redesign/reconstruction.
WM6	Improve the MVCA hydrometric (water level and flow monitoring) network, to enhance automated monitoring capabilities and overall efficiency.	<ul style="list-style-type: none"> MVCA WSC Shared leadership roles 	<ul style="list-style-type: none"> Flow monitoring is needed downstream of Appleton. Improve the efficiency and robustness of the system as new technologies come available. Establish new monitoring stations to capture climate change Establish an ice monitoring regime.
WM7	Work with municipalities, agriculture and development communities, landowners	<ul style="list-style-type: none"> MVCA MUNIC 	<ul style="list-style-type: none"> Explore collaborations with academic community to undertake ecological/environmental valuation research.

² Water users taking more than 50,000 liters of water per day who must obtain a Permit to Take Water (PTTW) from the MECP under requirements of the *Water Resources Act*. Permit holders include: municipal water and wastewater treatment facilities, agricultural and aquaculture facilities, campgrounds, construction sites, golf courses, hydropower generators, and pit and quarry operations

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
	and other partners to quantify, value and protect wetlands as hydrologic and natural assets.	<ul style="list-style-type: none"> • UNIVERSITIES • DEVEL & AGRI • INDIGENOUS PEOPLES • NGOs <p>Shared leadership roles</p>	<ul style="list-style-type: none"> • Explore federal funding opportunities to support valuation research relative to climate change resiliency.
WM8	Work with municipalities, agriculture and development communities, and other landowners and partners to enhance on-site retention and infiltration of water.	<ul style="list-style-type: none"> • MUNIC(L) • MVCA • DEVEL & AGRI • NGOs 	<ul style="list-style-type: none"> • Produce and deliver education and communication programming to demonstrate LID technologies for municipalities and developers. • Work with municipalities to determine strategies for the implementation of LIDs at both policy and planning approval levels. • Direct stewardship programming to focus on on-site retention/LID design and best management practices.
WM9	Enhance response planning and readiness through the Low Water Response Team to address low water response and to ensure it includes representation from all key water use sectors. <i>(CA responsibility falls under Ontario Low Water Response Strategy).</i>	<ul style="list-style-type: none"> • LWRT(L) • MUNIC • MNRF 	<ul style="list-style-type: none"> • With broad representation of many partners, the LWRT is well positioned to lead projects aimed at: <ul style="list-style-type: none"> • determining sector specific stresses and needs during drought events to inform water budget and water management considerations • encouraging the development of water conservation measures and tools among impacted sectors to support self-directed resilience efforts.
WM10	Support Hydro Producers and municipalities in undertaking an Ice Risk Assessment if deemed beneficial.	<ul style="list-style-type: none"> • MVCA • HYDRO(L) • MUNIC(L) 	<ul style="list-style-type: none"> • MVCA to provide a support rather than lead role. • Work with hydropower producers and municipalities to determine the need for such a study. • Assist in providing data and technical support, and in seeking project research support and/or funding from outside sources.

Natural Hazards

STRATEGIC GOAL

“To minimize risks to human life and property due to flooding, erosion, and unstable slopes and soils.”

Objectives:

- Identify hazards and mitigate risks associated with flooding, erosion, unstable slopes, and unstable soils.
- Undertake water management operations to mitigate flooding and erosion.
- Provide flood storage throughout the system.
- Provide effective flood forecasting and warning.
- Communicate and educate about risks and mitigation strategies associated with flooding, erosion and unstable slope/soils.

Overview

Natural Hazards include flood hazards, erosion hazards, unstable soils and hazardous slopes. In Ontario, the Conservation Authorities (CAs) are the primary agency responsible for issues related to natural hazards. Where there is no CA, including the area to the north of MVCA and throughout most of Northern Ontario, it is the responsibility of the MNRF. The CAs are responsible for identifying and mapping natural hazard areas, and for reviewing local municipal Official Plans and Zoning By-laws to ensure they contain appropriate mapping, policies and provisions to direct development outside of hazardous lands and, where permitted, to include appropriate floodproofing, erosion and slope stability control measures. Note: CAs full set of responsibilities specific to flooding are listed and described further on Page 35.

The Provincial Policy Statement (PPS, 2020) is the key policy document for guiding the management of development on hazardous lands. Local municipalities are responsible for implementing provincial natural hazard policies (PPS Sect. 3.1) by restricting development in natural hazard areas. Under agreement with the province (MMAH and MNRF) the CAs are responsible for reviewing municipal policy documents and development proposals processed under the *Planning Act* to ensure compliance with provincial Natural Hazard policies. MVCA also regulates development in flood and erosion risk areas by implementing its Regulation of *Development, Interference with Wetlands and Alterations to Shorelines and Watercourses O.Reg 153/06*. In the Mississippi River watershed, both the Mississippi-Rideau Septic System Office (MRSSO), which is an entity of the MVCA and the Rideau Valley

Conservation Authority (RVCA), and the local Public Health Units review development applications with respect to sewage system requirements under the *Ontario Building Code*.

Flood Hazards

Following provincial standards and guidelines, the flood hazard in the Mississippi River Watershed is defined and mapped based on the 100-Year Flood standard. The 100-Year Flood is defined as a flood event that has a return period of 100 years on average, or has a 1% chance of occurrence in any given year.

Floodplain mapping has been prepared for urban areas, rural built-up areas (i.e. Dalhousie Lake and Mississippi Lake) and the downstream sections of the Mississippi River, Indian River, and Cody Creek (see Figure 11). Floodplain areas pose a risk to residents, structures, and access roads and were mostly developed before implementation of provincial regulations. MVCA administers O.Reg 153/06 in the mapped floodplain areas to restrict further development and to require landowners to implement floodproofing measures. A "Two-Zone" policy around Mississippi Lake allows for intensification of the "flood fringe" portion of the floodplain where sufficient floodproofing can be demonstrated.

Almost 500 homes/cottages and 1,000 auxiliary structures are within the mapped floodplain areas shown on Figure 11. The areas have seen continued intensification of development, including new residences and accessory structures, and enlargements to existing development.

There are also numerous roadways, both public and private that cross through floodplain areas to provide access for property owners. The private roads, originally built for seasonal cottage access, are now servicing many properties for year round use. These roads were often not built to address floodproofing standards and during major flood events they can be rendered inaccessible for local traffic and emergency vehicles. PPS(2020) policy requires the provision of safe access for all new development as a flood protection standard.

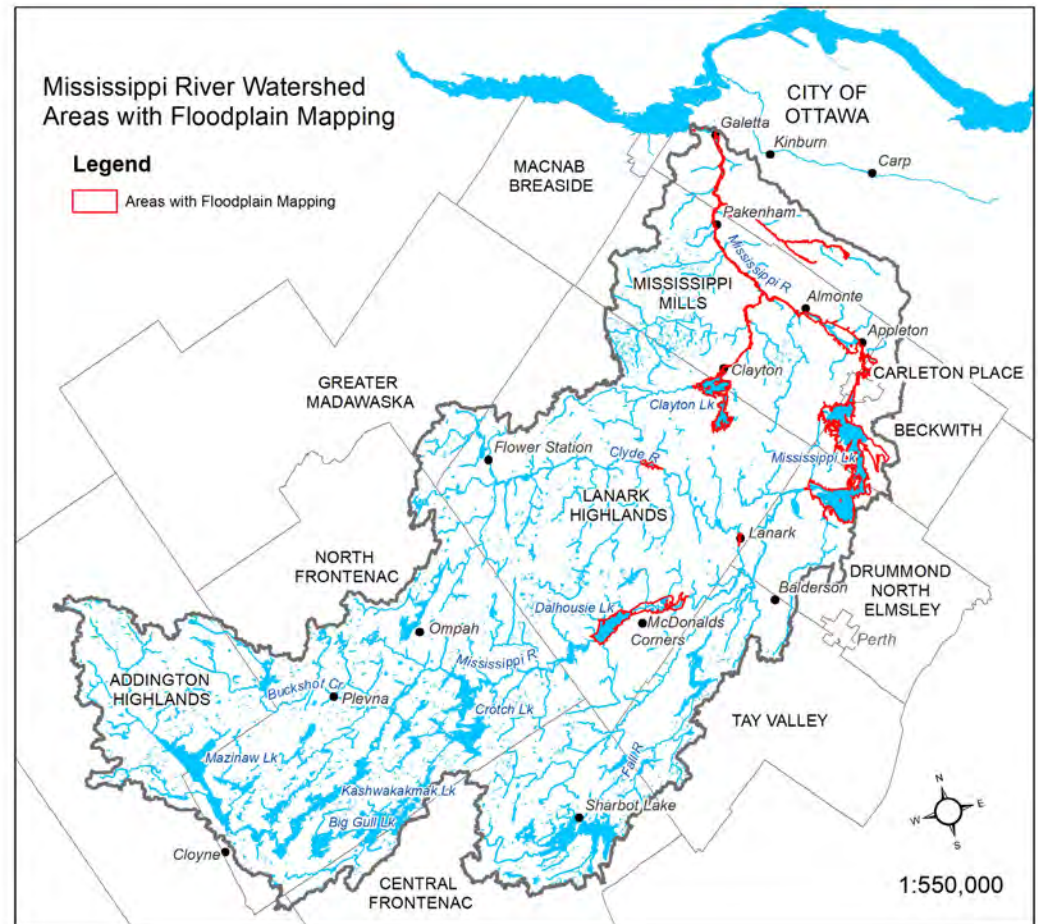


Figure 10: Areas with Floodplain Mapping

Slope, Erosion and Unstable Soils Hazards

The Mississippi River watershed also has areas that are susceptible to slope and soil instability, due to the presence of sensitive marine clays (Leda type clays) and other unstable or highly erosive soil types (sandy or silty soils), or to erosion from river undercutting. Most known slope stability hazards are located in the east watershed between Almonte and Pakenham, and along Cody Creek. Currently, erosion and slope risk areas are only mapped and regulated in areas that have floodplain mapping. Areas with unstable slopes and/or soils, that are located outside of the floodplain hazard mapped areas are not addressed under MVCA regulations, presenting a potential deficiency in natural hazard mitigation and protection.

Water Management for Flood Mitigation

MVCA's Water Management program and strategies as described on Pages 25 to 32 pertain both to water availability during low flow and drought conditions, and to mitigating flooding and erosion during high flow conditions and extreme flood events.

Flood Forecasting and Warning

MVCA is the lead agency responsible for flood forecasting and warning. Forecasting uses stream flow, snow pack, and weather data, with modelling, to predict flood events. Enhanced modeling of the watershed is needed to determine if opportunities exist to create new storage capacity or to adjust operating regimes to mitigate existing risks and the projected impacts of climate change (see Action WM1).

MVCA also has in place a Flood Warning System that is activated in the event of a flood to help prevent the loss of life, and to minimize property damage. The warnings are issued to the municipalities, other interested parties and the general public.

Flood Response

The responsibilities for flood response are shared between the municipalities and the Provincial and Federal governments. Municipalities are responsible for emergency preparedness and flood response and recovery (ex. public communications, making sandbags available, closing flooded roadways, etc.) The Federal and provincial governments are responsible for administering various disaster mitigation, adaptation and recovery assistance funding programs.

Conservation Authority Responsibilities for Flooding:

- Monitoring flows, water levels and flood conditions (see Water Management)
 - Maintaining and operating water control structures (see Water Management)
 - Computer modeling and flood forecasting
 - Disseminating flood messages
 - Advising municipalities on flood contingency planning and response
 - Providing planning support and advice to municipalities to minimize the impact of flooding on development
 - Regulating development in flood prone areas (see Natural Hazards)
 - Protecting natural features such as wetlands that help to control flooding (see Natural Systems)
 - Educating the public about natural hazards
-

CHALLENGES

Mapping/information limitations

- Floodplain mapping is costly requiring up-to-date aerial imagery and engineered modelling, and has focused on built up areas/communities of known flood risk and the east watershed.
- Incomplete floodplain mapping coverage in the west watershed may result in flood risk areas that are not officially identified for planning and regulatory purposes.
- Unstable slope and soil hazards mapping is currently limited resulting in incomplete application of regulation relative to slope and erosion hazards across the watershed.

Water Management and Water Storage for flood mitigation

- See Water Management Pgs. 25 to 32.

Regulatory floodplain and flood proofing standards

- The original 100-Year Flood standard and associated flood proofing/mitigation standards were developed prior to climate change considerations and may not adequately mitigate impacts during extreme flood events.

Land use intensification in floodplain areas

- Two-zone policies (Mississippi Lake) enable intensification that pushes the limits of development within the floodplain. This is especially challenging on undersized and/or physically constrained properties.

Planning and permit processes

- Management of development in floodplain areas is administratively challenging for both MVCA and municipalities.
- Municipal planning application review and MVCA regulations are managed in parallel but are not fully and consistently integrated. This can cause frustration for applicants, short and long-term impacts to the environment, and potentially exacerbate the potential impacts of natural hazards.

Roadways and unsafe access

- Roadways, many privately owned, are prone to flooding during extreme events which may prevent/impede access of emergency vehicles and pose a safety risk to residents.

Near shore and in-water works/structures (retaining walls, docks, etc.)

- There are many shoreline structures along lakes and waterways that are vulnerable to fluctuations in water levels, major storms and ice damage;
- They can also cause environmental impacts if designed incorrectly and cause water management conflicts.

Natural Hazard Strategic Actions

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
NH1	Maintain up to date hazard mapping to identify and map flood and erosion risk areas, including effects of climate variability and change.	<ul style="list-style-type: none"> • MVCA(L) • MNRF • MUNIC 	<ul style="list-style-type: none"> • Work with the province and municipalities to provide updated LiDAR imagery every 10 years. • Conduct regular floodplain mapping updates.
NH2	Work with MNRF to assess and update current floodplain standard (100 Year), policies, and floodproofing measures to address conditions under typical and extreme events.	<ul style="list-style-type: none"> • MVCA • MNRF(L) • MUNIC 	<ul style="list-style-type: none"> • Encourage, and where practical, support the province in carrying out the recommendations of the Ontario's Flooding Strategy, 2020 for improved policies and standards. • Consult with municipalities regarding known inefficiencies in current floodproofing standards (i.e. evidence/documentation of structures and roads impacted during flood events)
NH3	Work with municipalities to undertake a roadway flood vulnerability assessment to: identify flood prone roadways; and properties potentially impacted by unsafe access; and to develop a strategy to address properties potentially impacted by unsafe access.	<ul style="list-style-type: none"> • MVCA(L) • MUNIC 	<ul style="list-style-type: none"> • Following assessment, work with municipalities to develop a strategy to address provincial requirements for safe access.
NH4	Develop a methodology to identifying and mitigating potential risks associated with unstable slopes and unstable soils throughout the watershed.	<ul style="list-style-type: none"> • MVCA(L) • MUNIC • MNRF 	<ul style="list-style-type: none"> • Undertake preliminary mapping to identify those areas where unstable slopes are likely to occur based on soils, vegetation, etc. • Work with municipalities in mitigating potential risks associated with unstable slopes. • Identify areas and existing information about marine clays and identify potential risks and triggers. • Establish a zone around slopes where a more rigorous geotechnical assessment should be undertaken. • Develop a landslide screening tool (GIS based) for internal use by and municipal planners.

NH5	Support waterfront property owners in implementing adaptive management measures to address potential impacts of variable water levels.	<ul style="list-style-type: none">• MVCA (L)• WATERFNT OWNERS & GROUPS• MUNIC	<ul style="list-style-type: none">• Develop educational materials about adaptative measures for waterfront living (ex. removable vs fixed docks, enhanced deep rooted shoreline vegetation to resist erosion, etc.)• Work with water recreation based businesses, lake associations and municipalities to implement shoreline adaptive management measures.
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DRAFT

Water Quality

STRATEGIC GOAL

"To sustain or improve current water quality for all users."

Objectives:

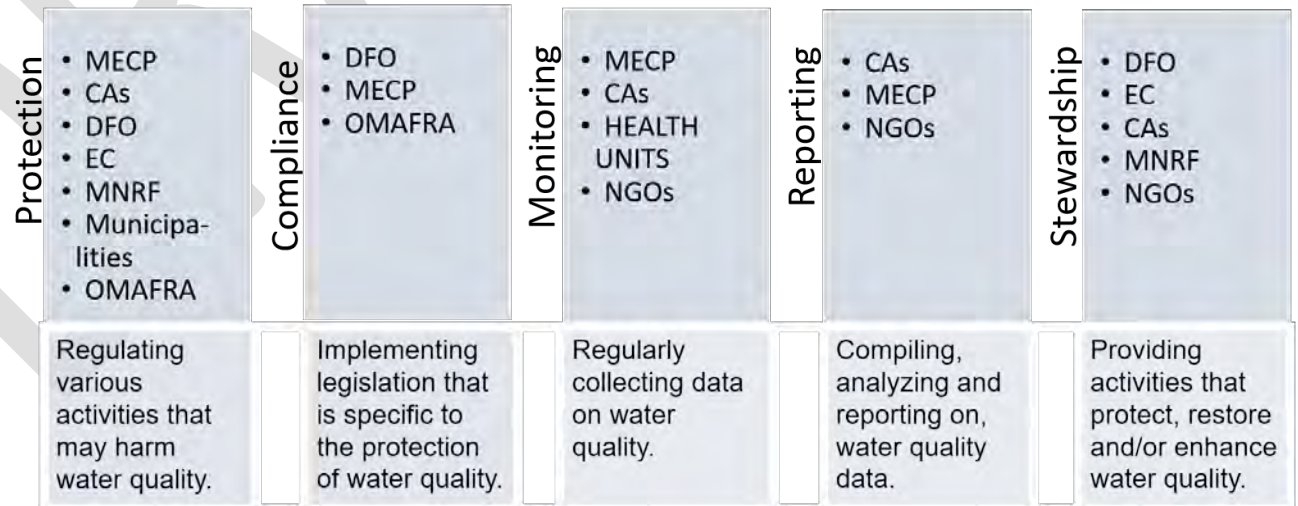
- Establish surface water quality trends and determine sources of surface water quality impairment.
- Carry out remedial actions to mitigate further degradation and ensure safe drinking water.
- Establish groundwater quality trends and determine sources of groundwater quality impairment.
- Prevent groundwater contamination to ensure safe drinking water supplies.

Safe drinking water, from both surface and groundwater supplies, is critical to human health. The water quality of the lakes and rivers is also critical to local environments and economies, supporting tourism, outdoor recreation, and cottage and waterfront communities that in turn support local business and commerce. There are many agencies that have a role in the protection of water quality (Figure 12).

The MECP is the lead agency responsible through the implementation of the *Water Resources Act*, the *Environmental Protection Act* and the *Clean Water Act* (Source Water Protection). Under the *Clean Water Act*, municipalities are responsible for the implementation of local source protection plans (regulation of development and land use within influence areas) and the Provincial Policy Statement (PPS 2020).

Conservation Authorities (CAs) are responsible for the development and upkeep of local Source Protection Plans for the protection of drinking water. In this role

Figure 12: Agencies Involved in Water Quality



they provide technical expertise and guide local policy. The MVCA Board of Directors act as the Source Protection Authority (SPA). MNRF and DFO are responsible for water quality as it relates to the protection of fish populations and fish habitat. Other agencies including OMAFRA, MMAH and the Health Units also have a role. A full list of agencies and applicable legislations is provided in Appendix B -Table 2.

The table below lists the water quality monitoring programs taking place within the watershed. MVCA's water quality monitoring and reporting focusses mostly on nutrient levels and trophic status, which provides a measure of the recreational (aesthetic) quality of the lakes and rivers and reflects the overall aquatic ecological condition. The MECP provincial programs monitor for a much broader suite of parameters.

Both surface and groundwater quality in the Mississippi River watershed are generally good. In the lakes, nutrient levels (total phosphorus) fall mostly within the desirable ranges for recreational water quality objectives. PWQMN data also shows that nutrient levels and other parameter measures in the rivers and streams are generally well within the acceptable limits.

Groundwater quality monitoring is primarily limited to the provincial PGMN program which collects groundwater samples periodically. Some data is also collected through monitoring wells installed for large scale development proposals. Landowners with private wells have access to free bacteriological monitoring of their well water through their local Health Unit.

Water quality is a key concern of waterfront property owners. Harmful Algae Blooms (HABs) have been confirmed on Mississippi and Dalhousie Lakes in recent years. HABs are triggered by a combination of nutrient availability and warm temperatures.

Water Quality Monitoring Programs in the Watershed			
Program	Agency	Data Types	Notes
MVCA Lake Monitoring Program	MVCA	Trophic status indicators	44 lakes (63 sites) on 2 to 5 yr. rotation
MVCA Stream Monitoring Program	MVCA	Benthic invertebrates & stream characterists	Stream sites throughout the watershed
Provincial Water Quality Monitoring Network (PWQMN)	MECP (Lead) MVCA (Partner in field work)	River water chemistry and parameters	11 stations MVCA collects samples on behalf of MECP
Provincial Groundwater Monitoring Network (PGMN)	MECP (Lead) MVCA (Partner in field work)	Groundwater level & general chemistry	8 wells measure continuous water levels MVCA collects data in the field on behalf of MECP Annual water quality testing
Beach Water Quality Monitoring	Public Health Units	Total Coliform E.coli	Testing at public beaches
Private Well Water Testing Program	Public Health Units	Total Coliform E.coli	Free bacteriological testing of well water to private residents
Citizen Science Programs	various	Lake water quality	MECP Lake Partner Program Water Rangers Lake Associations

Key tools for the protection of water quality include:

- Riparian/vegetated buffers along the shorelines of lakes and rivers to intercept and filter pollutants. This is one of the most effective tools in protecting surface water quality. The minimum recommended buffer is 15 metres in width parallel to the shoreline.
- A 30 metre development setback from the normal average high water mark.
- Protection of wetlands which filter pollutants.
- Proper installation, operation and maintenance of septic systems to prevent leakage into groundwater and surface water supplies.
- Municipal Official Plan policies and Zoning By-law provisions for minimum lot size and maximum lot coverage can have a major benefit for protecting water quality by decreasing waterfront development density.
- Stewardship and education programs to encourage best management practices by property owners (including agriculture, development and waterfront communities) of the tools/best management practices listed above.

Why the Riparian Buffer and the 30 Meter Water Setback are so Important

A riparian buffer is a vegetated area (a "buffer strip") next to a stream, river or lake, which helps to protect the watercourse or waterbody from the impact of adjacent land uses. The recommended buffer is a 15 metre wide band of vegetated and naturalized area along the shoreline.

Riparian buffers play a critical role in protecting water quality by filtering and taking up nutrients and other pollutants before they reach the water. The vegetation's roots stabilize streambanks and reduce floodwater velocity, resulting in reduced downstream flood peaks. Riparian areas also supply food and cover for a large diversity of animals and serve as migration routes and stopping points between habitats for a variety of wildlife.

Provincial guidelines and supporting research also recommend a minimum **30 metre development setback** from the average normal high water mark as a key tool for the protection of water quality. The **30 metre setback** from water provides for infiltration and uptake of nutrients and other pollutants before they reach the water.

A riparian buffers extending 15 metres from shore, and the 30 metre water setback are the two most effective tools in minimizing the impacts of development in waterfront areas. These are implemented through the municipal plan review process and MVCA Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation and voluntarily through stewardship efforts.

CHALLENGES

MVCAs Lake Monitoring Program and MVCA Stream Monitoring Program

- These programs rely on significant resources and there may be overlap with the MECP Lake Partner Program and other monitoring programs.
- The lake data provides for a general overview of current conditions but is insufficient for trend analysis or in-depth qualitative analysis.

Drinking water quality and Public Health

- Source Protection Policies focus on municipal systems. For rural development on private services, protection of surface and groundwater protection relies on education and the implementation of best management practices.
- Source Protection identifies extensive areas of Highly Vulnerable Aquifer throughout the watershed.
- Harmful Algae Blooms (HABs) pose a potential threat to private lakeside water intakes, Carleton Place water supply, and recreational use at public beaches.

Land use intensification

- Concentrations of sewage systems in settlement and rural built up areas may lead to drinking water contamination issues.
- Intensification of waterfront development within the 30 m water setback and associated clearing of riparian buffer areas can cause impairment of water quality from faulty septic systems, overland runoff of fertilizers, pesticides, and road salt.

Riparian Buffers

- There is limited direct regulation to protect riparian vegetation so implementation is attempted through conditions of approval under the *Planning Act* and the MVCA Regulation.
- The conditions of approval are difficult to enforce and compliance monitoring/enforcement is challenging due to lack of resources.

Stormwater and Municipal and Agricultural Drainage

- Stormwater from large scale development (subdivisions, industrial and commercial parks, etc.) including sediments/siltation, road salt, and nutrients is a source of pollution to surface and groundwater.
- Municipal drains through rural areas present a resource management conflict between maintenance needs (dredging and clearing of riparian vegetation vs riparian benefits).
- Agricultural drains that lack riparian buffers are a source of nutrients and other pollutants.

Stewardship Challenges

- Stewardship programming faces chronic funding and resource challenges.
- Outside of Ottawa, stewardship program opportunities for the rural/agricultural property owners are limited.

- Uptake for stewardship initiatives is not reaching the properties and locations most in need, such as agricultural lands, higher density development areas and waterfronts.
- Limited uptake of septic reinspection programming due to funding and property rights concerns.
- Lack of educational resources and outreach to targeted properties/landowners.

Water Quality Strategic Actions

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
WQ1	Continue to support the Ministry of Environment, Conservation and Parks (MECP) Provincial Water Quality Monitoring Network (PWQMN) in collecting baseline surface water quality data.	<ul style="list-style-type: none"> • MECP(L) • MVCA 	<ul style="list-style-type: none"> • Recognize the extreme importance of the PWQMN in providing consistent and long term surface water quality data.
WQ2	Improve the groundwater monitoring program to meet municipal and MVCA source water protection requirements.	<ul style="list-style-type: none"> • MECP(L) • MVCA • RVCA • MUNC • HEALTH UNITS 	<ul style="list-style-type: none"> • Undertake a groundwater data needs assessment to determine whether current monitoring meets municipal and MVCA requirements for their obligations for Source Protection. • Where needed, work with MECP to address identified deficiencies. • Work with RVCA and the municipalities to establish a centralized groundwater data warehouse to include PGMN data and groundwater data collected through the subdivision review process, the Health Units, and other identified sources. •
WQ3	Continue to support municipalities in actions prescribed by the Mississippi-Rideau Source Protection Program.	<ul style="list-style-type: none"> • MVCA-SPA(L) • MUNIC(L) <p>Shared leadership roles</p>	<ul style="list-style-type: none"> • Ensure that the Mississippi-Rideau Source Protection Plan is reviewed and updated regularly to address new information and understanding, changes in the watershed and watershed needs. (i.e. climate modelling results, water budget updates, etc.) • Work with the Town of Carleton Place to ensure expansion of its water and wastewater facilities can address water supply/demand, and quality requirements relative to growth and climate change.

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
			<ul style="list-style-type: none"> • Work with MVCA Source Protection Authority(SPA) to review the implementation/effectiveness of the MRSP best practices guidelines and education/outreach initiatives with respect to rural areas. • Promote the Well Aware Program, and provide information and links through MVCA's website to increase public awareness about groundwater and wells in rural areas.
WQ4	Support municipalities in assessing and enhancing stormwater management in new and existing developments.	<ul style="list-style-type: none"> • MUNIC(L) • MVCA • DEVEL 	<ul style="list-style-type: none"> • Continue to provide to municipalities stormwater management advisory services for new development, to mitigate flood impacts and to provide water quality control to the receiving water bodies. • Encourage municipalities to inventory catchment areas lacking or requiring upgraded, stormwater management facilities and work with municipalities to determine best management practices and retrofit solutions for existing stormwater facilities that are deficient in meeting current quantity and quality objectives. • Recommend municipal Official Plan policy requiring coordinated stormwater planning for areas of concentrated rural settlement; and promote and participate in the development of master stormwater drainage plans, to address quantity and quality control, for the rural settlement areas where high growth is projected and/or already occurring.
WQ5	Work with municipalities and the province to improve application and coordination of regulatory tools for the protection of water quality, shoreline and riparian areas.	<ul style="list-style-type: none"> • MVCA • MUNIC • MECP • MNRF 	<ul style="list-style-type: none"> • Review municipal Official Plans and Zoning By-laws, MVCA Regulations Policies and Guidelines, and MNRF <i>Public Lands Act</i> Work Permit requirements and guidelines, to determine opportunities for improved consistency. • Develop a simplified property owners guide for undertaking work on the shoreline.
WQ6	Continue to offer Septic Approval and Re-Inspection Programs for municipalities and encourage all municipalities to implement	<ul style="list-style-type: none"> • MUNIC(L) • MRSSO(L) <p>Shared leadership roles</p>	<ul style="list-style-type: none"> • Requires willingness and support, both political and financial, by the municipality. • Voluntary programs are easier to implement at the outset.

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
	septic re-inspection programs in high priority area such as waterfront and rural settlement areas.		<ul style="list-style-type: none"> Mandatory programs have been implemented in parts of Central Frontenac and Tay Valley Township, where there has been a demonstrated public support within a lake community.
WQ7	Review existing and potential environmental monitoring programs and identify opportunities for improvement/collaboration. (Including MVCA, Provincial, NGO and Citizen Science programs/opportunities).	<ul style="list-style-type: none"> MVCA MECP OTHER GOVNT NGOS CITIZEN SCIENCE ETC. 	<ul style="list-style-type: none"> Examine the potential need for a baseflow monitoring network to measure baseflow conditions at key locations throughout the watershed. Consider realigning monitoring programs, where needed to: <ul style="list-style-type: none"> address climate change detection and assessment needs(i.e. to support vulnerability and impact assessments); facilitate “state of the watershed/subwatershed” trend analysis and reporting, and environmental target assessment; support nutrient and ecological modelling and other research initiatives. Promote citizen science based monitoring programs as a complimentary means of collecting environmental data and to provide community engagement and education.
WQ8	Continue annual analysis and reporting of water quality conditions presented at a subwatershed scale and adjust reporting cycles, parameters, and geographic coverage where needed.	<ul style="list-style-type: none"> MVCA(L) 	<ul style="list-style-type: none"> Continue to use the Watershed Report Card five-year reporting cycle to monitor changes in wetland and forest cover conditions. Measure wetland, forest and other environmental conditions against Environment Canada and other relevant targets. Continue to produce Integrating Monitoring Reports at the subwatershed scale.

Natural Systems & Land Conservation

STRATEGIC GOAL

"To maintain, enhance, or restore natural features and systems for all users."

Objectives:

- Protect and enhance the form and function of aquatic habitat and riparian areas.
- Reduce habitat fragmentation and protect, restore and enhance natural cover to improve connectivity, quality, biodiversity and ecological function.
- Optimize use of land acquisition tools and explore new means of acquiring public natural assets.

Overview

The watershed has large contiguous expanses of natural area in the west and much smaller fragmented pockets in the east. The interconnectivity between lakes, rivers, riparian areas, wetlands and woodlands is essential to maintaining biological diversity, ecosystem services, and species populations. The Natural Heritage System approach moves from treating natural features as isolated units and provides a more solid foundation in maintaining, restoring and enhancing ecologically sustainable and resilient landscapes to help buffer the impacts of climate change.

In Ontario, many jurisdictions have a role in the management, conservation and protection of natural features and systems. Federally, Fisheries and Oceans Canada is responsible for the protection of aquatic systems and Environment Canada (EC) for Species at Risk and Natural Environment Areas and Migratory Bird Sanctuaries. MNRF is responsible for provincial support and oversight of the protection of natural features and systems through the policies of the *Provincial Policy Statement (PPS, 2020)*, and municipalities are responsible for their implementation through their Official Plans and Zoning By-laws. MNRF is also responsible for fish and wildlife management (populations, regulating harvest, etc.). The MECP is responsible for the Species at Risk in Ontario (SARO) list and for their protection under the *Endangered Species Act*. The Conservation Authorities (CAs), under the



Conservation Authorities Act, are specifically responsible for the regulation of development in and adjacent to wetlands. The legislations and agencies for natural feature protection and land conservation are listed in Appendix B Table 3.

Aquatic Habitat

Regulatory tools for protecting aquatic systems include: the MNRF *Public Lands Act* and *Lakes and Rivers Improvement Act*; MVCA's *Development, Interference with Wetland and Alterations to Shorelines and Watercourses Regulation*; and municipal implementation of the *Provincial Policy Statement, 2020*(sect. 2.1). A variety of implementation measures are available including: development setbacks from water, requirements for the maintenance and/or enhancement of a vegetated riparian buffer, sediment controls, in-water timing restrictions, and equipment restrictions for works in/near water. These tools generally only come into play when a property owner is undertaking an activity that requires a formal application process for work on the waterfront. Vegetation clearing and grading activities often take place outside of the regulatory process and can cause significant negative impact on the riparian and aquatic environments.

Education and outreach have proven helpful in furthering the protection of aquatic environments through the promotion of shoreline and waterfront best management practices. There have been numerous local stewardship initiatives to enhance riparian buffers and fish habitat. MVCA has collaborated with a number of partners in carrying out such projects, and many other groups carry out such initiatives on their own and through other partnerships.

Wetlands

Under the PPS 2020, municipalities are required to protect Provincially Significant Wetlands (PSWs), while protection of other wetlands is at the municipality's discretion. Since 2006, Conservation Authorities have had the responsibility and regulations to regulate wetlands. This extends to the wetlands that are not evaluated as PSWs. At the watershed scale, the current wetland cover of 13% meets Environment Canada (2013) minimum targets of 10%, though if wetland losses continue the watershed could dip below the threshold levels. A local vulnerability assessment also predicts that most watershed wetlands are at risk of shrinking or drying due to climate change (Ontario Ministry of the Environment and Climate Change. 2014).



Forests

Under Section 2.1 of the PPS (2020), municipalities are required to identify and protect significant woodlands in Eco Regions 6E and 7E. Here, that generally coincides with the Lowlands area that lies off the Shield and where we also see the lowest amounts of forest cover and interior forest. The EC (2013) targets include a minimum of 30% forest cover and 10% interior forest habitat. At the watershed level there is 64% forest cover overall, however there is significant disparity between the 72% forest cover in the Shield area and 31% in the Lowlands. At the watershed level there is 23% forest interior, and the Shield area has 27% forest interior, whereas the Lowlands area has just 6%. In this area there is also a lack of natural corridors and linkages between the woodlands and other natural areas.

While there is extensive crown land in the west, across the entire watershed, 70% of forested lands are in private ownership where regulatory tools for managing harvest are limited.

Areas of Natural & Scientific Interest (ANSIs)

Under the PPS 2020, municipalities are required to protect Provincially Significant ANSIs. The protection of other ANSIs is at the municipality's discretion. The thirteen ANSIs classified as provincially significant are protected however, there is inconsistent protection for the nine Regionally Significant, Locally Significant and Candidate ANSIs across the watershed.

Species at Risk

The protection of Species at Risk and their habitat is primarily captured only for activities that are subject to the *Planning Act* application process. Otherwise, impacts to species at risk resulting from activities on the land and in water are not adequately monitored and addressed.



Natural Heritage Systems (NHS)

Under the PPS, municipalities are required to identify and include policies in their Official Plans for Natural heritage systems (NHS) in EcoRegion 6E. Several different NHS mapping projects have been produced for various parts of the watershed, but there is no comprehensive systems-wide mapping product to inventory the features and where they are located, and to identify connecting linkages and corridors. There are other systems based models, such as the A2A (Algonquin to Adirondacks Collaborative), that promote initiatives to enhance natural system connectivity at a broad regional scale.

Land Ownership and Land Acquisition

Parts of the watershed benefit from having large tracts of natural area under public ownership and/or long term agreements (i.e. conservation easements) for the purpose of natural area and feature protection. This provides a degree of protection from development and other land uses that may negatively impact the natural features and functions. Most of this is crown land located in the west/Shield part of the watershed, with comparatively very little public conservation land in the east/Lowlands part of the watershed.

Crown land covers almost 21% of the watershed. Another 5% of the watershed falls under public ownership and/or long term agreements for conservation and /or recreation purposes including MVCA Conservation Areas, the County of Lanark Community Forests, the Mississippi Madawaska Land Trust properties and the Mississippi Lake National Wildlife Area owned by Environment Canada. The crown lands are managed under a number of classifications such as Conservation Reserve, Enhanced Management Area and General Use Area. There may be opportunity to work with the Province in identifying crown lands that are rich in ecosystem services, and that should be conserved as crown land over the long term and under the appropriate designations.

Land Trusts are another means of protecting natural areas. The Mississippi Madawaska Land Trust actively seeks to acquire large natural land holdings for long term protection. They currently have six properties within the watershed, some managed as Nature Reserves and Sanctuaries with varying levels of preservation.

A number of conservation incentives are also available to encourage the protection and restoration of natural lands that are in private ownership. The MNRF Conservation Land Tax Incentive Program (CLTIP) provides tax relief for the conservation lands such as Provincially Significant Wetlands. The Managed Forest Tax Incentive Program (MFTIP) assists property owners in sustainable harvest and management of their woodlots.

Environmental/Ecosystem Valuation

Environmental/ecosystem valuation is a growing field of research. Environmental valuations can be used to: promote findings to foster awareness; encourage municipal governments to incorporate values into land use and policy decisions; incorporate values into subwatershed studies and other reports, plans and strategies; and establish ongoing natural capital accounting for the watershed.

CHALLENGES

Development impacts to natural systems

- Removal of riparian buffers, remnant forests and other natural features; can lead to increased soil erosion, impairment of water quality, reduced terrestrial and aquatic habitat, and impaired ecological function.
- Regulations/policies to protect natural features are generally only applied through a formal application process.
- The tools for protection are difficult to implement, monitor and enforce.
- Many of the features are on private lands, with a reliance on education and outreach to encourage the voluntary protection of features and function by landowners.

Wetlands

- Current cover meets EC(2013) minimum targets, though if wetland losses continue they could dip below the threshold levels (10% for watersheds and 6% for subwatersheds).
- Vulnerability assessment predicts that most watershed wetlands are at risk of shrinking or drying due to climate change.
- Wetlands continue to be drained and filled for other land uses.
- The "ecological services" wetlands provide (easing flooding and drought and recharging groundwater) are generally poorly understood and undervalued.
- Regulatory tools and planning policies alone have proven inadequate in protecting wetlands.

Forest and Riparian Cover

- There is historic and continued loss in the east Lowlands part of the watershed and along waterfront.
- The Lowlands area falls below the EC(2013) minimum targets with 29% cover and 6% interior habitat and lacks natural corridors and linkages between the woodlands and other natural areas.
- 70% of forested lands in private ownership where regulatory tools for managing harvest are limited.

Areas of Natural & Scientific Interest

- There is inconsistent protection for the 9 Regionally Significant, Locally Significant and Candidate ANSIs in the watershed .

Species at Risk

- Protection primarily only captured through the *Planning Act* application process. Impacts to SaRs from development activities are not adequately monitored or addressed.

Natural heritage systems

- There is no comprehensive watershed-wide mapping of natural feature systems (identifying corridors and linkages as well as the natural features).

Natural System & Land Conservation Strategic Actions

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
NS1	Develop a Land Conservation Strategy to mitigate flood, erosion and other natural hazards, and to support the ecological services provided by natural systems.	<ul style="list-style-type: none"> • MVCA(L) • MNRF • MUNIC • AGRICULTURE, DEVELOPMENT & FORESTRY COMMUNITIES • INDIGENOUS PEOPLES • LAND TRUSTS • OTHER CONSERVATION GROUPS 	<ul style="list-style-type: none"> • Work with the province, municipalities, agricultural community, development & forestry communities, and other owners of large land holdings in maintaining and improving climate and ecosystem resilience through: <ul style="list-style-type: none"> ◦ programs and incentives (including tax incentives) for woodland protection and reforestation, ◦ wetland protection and creation, and ◦ low impact development, with a focus on enhancing on-site retention and infiltration of water. • Work with municipalities and stewardship groups to improve and increase the recognition and protection of natural heritage (woodlots, waterways and wetlands) within the watershed, with special attention to agricultural and high growth areas. • Assist municipalities by preparing comprehensive Natural Heritage Systems Mapping of Ecoregion 6E to address Provincial Policy Statement (PPS, 2020) requirements, on a fee for service basis. • Adopt a Natural Heritage Strategy for the east Lowlands area to achieve minimum targets: wetland cover of >30%, forest cover of >30%, and forest interior >10%. • Work with MNRF to identify crown holdings within the watershed that are flagged for potential sale, and develop strategies to ensure the protection of crown natural assets. • Support the promotion of land trusts as a means of protecting natural features and systems. • Actively pursue ownership, either by MVCA, the municipality, or other appropriate body, of suitable corridor holdings, where the opportunity arises.
NS2	Encourage and support studies to determine environmental valuations for the ecosystem services and climate	<ul style="list-style-type: none"> • MVCA • UNIVERSITIES • PROVINCIAL & FEDERAL AGENCIES 	<ul style="list-style-type: none"> • Environmental valuations can take many forms including: <ul style="list-style-type: none"> • watershed modelling assessments to quantify water storage services provided by wetlands; • nutrient modelling to quantify nutrient assimilation services provided by wetlands, riparian buffers and different land uses;

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
	resiliency provided by natural asset features and functions (wetlands, woodlands, etc.).		<ul style="list-style-type: none"> forest cover assessments to quantify carbon sequestering services.
NS3	Work with municipalities and public agencies to improve the application and coordination of regulatory tools for the protection of wetlands, woodlands and natural systems.	<ul style="list-style-type: none"> MVCA MUNCI MNRF MECP OMAFRA Shared leadership roles relative to legislative responsibilities 	<ul style="list-style-type: none"> Support counties and municipalities in fulfilling Provincial Policy Statement (PPS 2020) requirements for Natural Heritage Systems. This could entail collaboration on a mapping product. Encourage municipalities, through their Official Plans, to set measurable environmental targets for environmental features based on Environment Canada "<i>How Much Habitat is Enough, 2013</i>" guidelines. Work with municipalities to determine and implement strategies, policies and measures that support stronger implementation and compliance with the 30 metre water setback and shoreline vegetated buffers, for the protection of a natural riparian area and aquatic habitat.

Education & Outreach

STRATEGIC GOAL

"To support learning and environmental stewardship."

Objectives:

- Quantify the social, economic and ecological value of watershed resources and processes.
- Communicate and educate about the values of the watershed.
- Demonstrate best management and stewardship practices and inspire and enable people to be stewards of the watershed.

Overview

As watershed managers, MVCA is well positioned to act as stewards of the environment and to encourage and support others in doing the same. The earlier sections of this Plan have highlighted the fact that watershed features and functions need to be understood and protected in order to improve resiliency to the stresses of changes in climate and inevitable changes in land use. In reviewing the challenges presented throughout this document, it is also clear that in protecting watershed features and functions, we must endeavor to strike a balance between voluntary stewardship and regulatory compliance. When we provide people with the right information and knowledge, they better understand the connections between their actions and the potential impacts, and they are better equipped to adopt best practices outside of a regulatory framework.

MVCA's primary responsibility in environmental stewardship is to improve knowledge and understanding about public safety associated with natural hazards and water quality. This includes improving understanding of the watershed; the interactions between climate, water and the land; and the value of natural features and systems in keeping us healthy and making us more resilient to the impacts of climate change. Understanding and awareness can only be achieved through clear communication and positive engagement. This requires support and collaboration whether through formal education and stewardship programs, or through day to day interactions. Teaching opportunities include positive community engagement through social media, workshops and other special events. Stewardship incentives such as grants and tax reductions (like the Conservation Land Tax Incentive Program), are also effective tools.

Stewardship

While MVCA has no formal Stewardship Program or Strategy, stewardship initiatives have been delivered through a number of separate services that are either MVCA driven or are shared with other partners. They include:

- **MVCA's Shoreline Naturalization Program:** a small scale program that offers native plants and planting of riparian areas on private properties. Tree/plant giveaways are provided in coordination with lake associations.
- **Special Projects :** "one-off" projects that are generally funded through grants from various government and non-government sources. They range from large shoreline plantings on public properties to in-stream restorations and fish habitat projects.
- **The Rural Clean Water Program (RCWP):** a collaboration between Mississippi, Rideau and South Nation CAs, and the City of Ottawa, that delivers grants to rural property owners for a variety of stewardship activities primarily aimed at protecting water quality, with a focus on agriculture. This program is currently available only in Ottawa.
- **City Stream Watch Program:** enlists volunteers to help monitor environmental conditions in streams within the City of Ottawa. It includes an education and stewardship component implemented through special volunteer engagement events (i.e. stream clean ups, invasive species removals, etc.)
- **Green Acres Program:** a City of Ottawa program managed by RVCA, provides large scale tree planting on rural properties (>1 acre). MVCA supports its implementation in the Ottawa part of the watershed.

MVCA also actively promotes other groups that carry out stewardship activities in the watershed including: Watersheds Canada, the Lanark County Stewardship Council, Lake Associations, and others.

Communications and Education

As watershed managers we share information that is often quite complex, scientific and fact based. The messaging must be clear and understandable; it must paint the picture, make the connections, and tell the story. MVCA has used a variety of communication tools to share information and knowledge for a range of audiences. Some communications have been quite effective and others less so. Each of these tools provides the opportunity to raise awareness, provided the message resonates:

- **MVCA website** – the first place many look to learn about MVCA and the watershed
- **Social Media** – regular MVCA messaging through Facebook, Instagram and Twitter.
- **Water Level Advisories** - issued regularly to disseminate information about water level conditions (both high and low water levels) using a standardized format and protocol.
- **MVCA video series** - produced and released in 2019/2020 to raise awareness about the watershed and watershed management.
- **Watershed Report Card** - released every 5 years, uses a grading system to quantify and report on several key indicators of watershed health, and **Subwatershed Reports** presented annually, but also on a 5 year cycle.
- **Special events** – workshops, trade show displays, and stewardship initiatives, often in collaboration with other partners.

CHALLENGES

Funding

- MVCA delivery of stewardship has suffered from a lack of dedicated staff and funding.
- A reliance on external grants makes it difficult to provide consistent programming and support from year to year.
- Without staff specifically dedicated to stewardship programming, reliance on summer students and temporary placements has made it difficult to provide the continuity needed to establish and build strong working relationships with the various communities.

Effective Delivery

- In delivering stewardship programs for private landowners there is a chronic difficulty in engaging participation by the properties that would benefit most. Uptake is often with properties where the owner is already working to implement good practices.
- Similarly, educational initiatives (i.e. workshops and special events) often result in a “preaching to the choir” scenario and can tend to miss the target audience.
- There is limited follow-up monitoring and reporting after the stewardship project/program has been delivered to determine effectiveness.

Education & Outreach Strategic Actions

Action No.	Actions/Strategic Directions	Partners (L: Lead)	Implementation Considerations & Options
EO1	Develop and implement a 3 Year MVCA Stewardship Program Pilot for protection of water quality, wetland cover, forest cover, and other environmental features.	<ul style="list-style-type: none"> • MVCA • STWDSHP GPS • SECTOR CONTACTS • INDIGENOUS PEOPLES • AGRICULTURE, 	<ul style="list-style-type: none"> • Formalize MVCA's role and direction in delivering a stewardship program, that includes both MVCA's own stewardship programming and promotes participation in existing stewardship initiatives delivered by other groups; and update every 5 years to redirect stewardship efforts where needed, based on water quality, wetland and forest cover target reporting

		DEVELOPMENT & FORESTRY COMMUNITIES	<ul style="list-style-type: none"> • Work with Stewardship Council(s) to review current stewardship programs, to determine stewardship needs, and to identify programming overlap and gaps. • Work with the Indigenous Communities to understand and educate the greater public the interconnectedness of the Indigenous Communities and this land and importance of their inclusion in protecting and preserving it. • Find and work with champions in the agriculture community to develop an Agricultural Outreach strategy focused on supporting farmers in implementing stewardship best practices for climate change adaptation and the protection of water quality. • Promote participation in land conservation incentive programs such as the RVCA Tree planting Program, Conservation Land Tax Incentive Program (CLTIP), the Managed Forest Tax Incentive Program (MFTIP) and the Alternative Land Use Services (ALUS) program.
EO2	Develop and implement an MVCA Education Strategy.	<ul style="list-style-type: none"> • MVCA • ALL PARTNERS 	<ul style="list-style-type: none"> • Develop and implement innovative approaches to communicating the fundamentals of Mississippi River water management for a broad audience. (a possible example- computerized graphic representations of the impact of different water level/flow and weather scenarios). • Include a Communications Strategy to raise awareness and understanding about watershed values, functions, issues and solutions, through enhanced communications and messaging. • Consult with specific communities (agriculture, development industry, Indigenous community, lake communities, etc.) to determine tailored strategies for effective communication and messaging • Investigate opportunities to create Stewardship/Best Management Demonstration Projects at MVCA properties (Administration Centre and Conservation Areas) or other public properties (i.e. municipal lands).

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Appendix A: Record of Engagement

In Feb/Mar 2021 the following communications tools were used to engage community and stakeholder engagement, using the Discussion Papers described on Page 5 as the basis for discussions. The list of groups and community reached is provided below.

- Direct Emails
- Advertisements and Articles in local newspapers
- Social Media Campaign
- Promotional Videos
 - Agriculture
 - Forestry
 - Waterfront Property
 - Tourism
- Targeted Forums (for):
 - Municipal Planners – 10 participants
 - Municipal Public Works - 7 participants
 - MVCA Staff
- Webinars (4 in total, open to public)
 - Water Management – 25 participants
 - Waterfront Property - 37 participants
 - Natural Systems - 17 participants
 - Land Development – 21 participants
- Public Survey -62 participants

Existing and Potential Partners

Government Organizations and CAs

Environment Canada - Canadian Wildlife Service
Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
Ministry of Environment, Conservation and Parks (MECP)
Ministry of Municipal Affairs and Housing (MMAH)
Ministry of Natural Resources and Forestry (MNRF)
Local Health Units
Quinte Conservation
Rideau Valley Conservation Authority
South Nation Conservation

Municipalities

County of Lanark
County of Frontenac
County of Lenox & Addington
Renfrew County
City of Ottawa
Township of Addington Highlands
Township of Beckwith Township
Town of Carleton Place
Township of Central Frontenac
Township of Drummond/North Elmsley
Township of Greater Madawaska
Township of Lanark Highlands
Town of Mississippi Mills
Township of North Frontenac
Tay Valley Township

Non-Government (organizations and individuals)

Lake Associations & Lake Networking Groups

Agricultural Groups

- Arnprior Federation of Agriculture
- Dairy Farmers of Ontario
- Food Core LGL
- Gerry Rook, Christian Farmers of Ontario
- Grain Farmers of Ontario Lanark
- Lanark County 4H
- Lanark County Cattlemen's Assoc.
- Lanark County Holstein Club
- Lanark Federation of Agriculture
- National Farmers Union
- North Lanark Agricultural Society
- Ontario Landowners Association
- Ontario Sheep Farmers
- Ontario Soil & Crop Assoc. Lanark

Conservation & Environment Groups

- Algonquin to Adirondacks Collaborative A2A
- Climate Network Lanark
- Climate Network Lanark

- Lanark Stewardship Council
- Mississippi Madawaska Land Trust
- Mississippi Valley Field Naturalists
- Watersheds Canada
- Ducks Unlimited Canada
- Lanark & District Fish and Game Club
- Ontario Heritage Trust

Forestry Groups

- Eastern Ontario Model Forest
- Mazinaw -Lanark Sustainable License
- Canadian Institute of Forestry
- Regional Forest Health Network (under EOMF).
- Lanark Maple Syrup Producers
- Ontario Woodlot Association (OWA)

Hydro Producers

- Enerdu
- Mississippi River Power Corp.
- Ontario Power Generation (OPG)
- TransAlta

Appendix B: Agencies & Legislation

DRAFT

Table 1: Key Legislation Related to Water Quantity/Water Management

Legislation	Administering Agency	Description	Implementing Agency
Provincial Legislation			
Conservation Authorities Act	MNRF	<ul style="list-style-type: none"> • Authorizes Conservation Authorities to prohibit or regulate fill, construction and watercourse alteration • Allows for construction and maintenance of flood and erosion control structures • Authorizes Conservation Authorities to regulate, and appoint officers to enforce regulation of, water use, development, and interference with watercourses or wetlands within their jurisdiction 	CAs
Drainage Act	OMAFRA	<ul style="list-style-type: none"> • Facilitates construction, operation and maintenance of rural drainage works • Provides legal mechanism where riparian landowners can drain their lands and divide the costs among themselves 	OMAFRA, municipalities
Lakes and River Improvement Act	MNRF	<ul style="list-style-type: none"> • Empowers MNRF to regulate the construction and operation of water works • Requires that new water works be approved 	MNRF
Public Lands Act	MNRF	<ul style="list-style-type: none"> • Authorizes MNRF to construct and operate dams and acquire land for their purposes • Authorizes power generation projects on crown land 	MNRF
Municipal Act	MMAH	<ul style="list-style-type: none"> • Allows municipalities to enact bylaws for the construction, repair and maintenance of drains • Prohibits the injury or fouling of drains in rivers • Empowers municipalities to pass bylaws governing the construction and maintenance of dams and the straightening of water courses for flood protection 	Municipalities, MMAH
Public Utilities Act	MMAH	<ul style="list-style-type: none"> • Empowers municipalities to acquire and operate water works and divert a lake on river for their purposes 	Municipalities, MMAH
Ontario Water Resources Act	MECP	<ul style="list-style-type: none"> • Requires the issuance of a permit for the taking of more than a total of 50,000 liters of water in a day from a ground or surface source of supply • Allows the MECP Director to refuse to issue, cancel, impose terms and conditions in issuing a permit or alter the terms and conditions of a permit after it is issued • Requires the issuance of a permit for the construction of a well • Allows municipalities to establish or replace water works with ministerial approval 	MECP
Tile Drainage Act	OMAFRA	<ul style="list-style-type: none"> • Provides for low interest loans to farmers from municipalities for tile draining their properties 	Municipalities, MMAH
Federal Legislation			
Fisheries Act	DFO	<ul style="list-style-type: none"> • Protects fish habitat by prohibiting habitat disturbance • Ensures construction of a fishway around any obstruction in a waterway 	DFO, MNRF

Navigable Waters Protection Act	DFO	<ul style="list-style-type: none"> Prohibits dumping wastes that may interfere with navigation Prohibits construction in navigable waters 	DFO
Canada Water Act	EC	<ul style="list-style-type: none"> Authorizes agreements with provinces for the delineation of flood plains and hazardous shorelines for flood and erosion control 	EC
International River Improvement Act	External Affairs EC	<ul style="list-style-type: none"> Prohibits damming or changing the flow of a river flowing out of Canada 	EC

Table 2: Key Legislation Related to Water Quality

Legislation	Administering Agency	Description	Implementing Agency
Provincial Legislation			
Conservation Authorities Act	MNRF MECP	<ul style="list-style-type: none"> Establishes Conservation Authorities with the mandate to operate dams for the water quality enhancement, undertake water quality surveys, and comment on planning documents, and to regulate, and appoint officers to enforce regulation of, water use, development, and interference with water courses or wetlands within their jurisdiction. 	CAs
Ontario Water Resources Act	MECP	<ul style="list-style-type: none"> Allows for the regulation of water supply Allows surveillance and monitoring of all surface and ground water in Ontario Regulates sewage disposal and controls water pollution Allows MECP to construct and operate wastewater facilities or require it be done by an industry or municipality 	MECP
Environmental Protection Act	MECP	<ul style="list-style-type: none"> Forbids discharge of any contaminant to the environment in amounts exceeding regulations Prohibits discharge of any substance likely to impair the environment Requires spills of pollutants be reported and cleaned up promptly and establishes a liability on the party at fault 	MECP
Environmental Assessment Act	MECP	<ul style="list-style-type: none"> Requires environmental assessment of any major public or designated private undertaking 	MECP
Clean Water Act, 2006 (and Source Protection Plans)	MECP	<ul style="list-style-type: none"> Result of the Walkerton Inquiry to address drinking water safety Ensures communities protect their drinking water supplies through prevention - by developing collaborative, watershed-based source protection plans Established source protection areas, source protection regions Created a source protection committee for each area, required to identify significant existing and future risks to their municipal drinking water sources and develop plans to address the risks. Identifies municipalities as the implementers and enforcers of the plans. 	CAs (technical support) Municipalities (Source Protection Plan Implementation)

Legislation	Administering Agency	Description	Implementing Agency
Lakes and Rivers Improvement Act	MNRF	<ul style="list-style-type: none"> Ensures proposed water works do not adversely affect water quality or cause undue erosion and silting 	MNRF
Planning Act	MMAH	<ul style="list-style-type: none"> Guides municipal planning activities (e.g. requires local governments to assess the impact of a proposed subdivision on existing water supplies) 	Municipalities, MMAH
Municipal Act	MMAH	<ul style="list-style-type: none"> Grants municipalities the power to pass by laws that prohibit the injuring or fouling of drains and sewer connections 	Municipalities, MMAH
Pesticides Act	MECP	<ul style="list-style-type: none"> Controls use of chemicals for the destruction of plant and animal pests and investigates possible harmful effects of pesticides on the environment 	MECP
Federal Legislation			
Fisheries Act	DFO	<ul style="list-style-type: none"> Protects fish habitat by prohibiting habitat disturbance and disposition of deleterious substances in water frequented by fish 	DFO, MNRF
Canada Water Act	EC	<ul style="list-style-type: none"> Authorizes agreements with provinces for designation of water quality management areas and other projects 	EC
Canadian Environmental Protection Act	EC	<ul style="list-style-type: none"> Controls manufacture, transportation, use, disposal of chemicals and wastes not adequately regulated by other legislation 	EC
Pest Control Products Act	Agriculture Canada	<ul style="list-style-type: none"> Regulates products used to control pests via registration according to prescribed standards 	Agriculture Canada

Table 3: Key Legislation Related to Land Use Management and Conservation

Legislation	Administering Agency	Description	Implementing Agency
Provincial Legislation			
Endangered Species Act	MECP	<ul style="list-style-type: none"> Enables the establishment of the Committee on the Status of Species at Risk in Ontario (COSSARO) Provides COSSARO with the authority to identify and classify Species at Risk Allows the Minister to make regulations for the protection and recovery of Species at Risk 	MECP
Fish & Wildlife Conservation Act	MNRF	<ul style="list-style-type: none"> Provides for restrictions, licensing and safety requirements for hunting, trapping, fishing and other related activities. Provides for regulation of handling, sale and transport of live wildlife and fish. 	MNRF
Planning Act	MMAH	<ul style="list-style-type: none"> Provides for and governs land use planning Deals with provincial administration in land use planning and local planning 	Municipalities, MMAH

Legislation	Administering Agency	Description	Implementing Agency
		<ul style="list-style-type: none"> Requires that decision affecting planning matters be consistent with statements of provincial interest issued under the Act to be regarded in the planning process 	
Public Lands Act	MNRF	<ul style="list-style-type: none"> Authorizes MNRF to manage and control activities on crown land 	MNRF
Mining Act	MNDMF	<ul style="list-style-type: none"> Registers mining lands and lands forfeited to the crown Exempts lands and mining rights from taxes 	MNDMF, MNRF
Beds of Navigable Waters Act	MNRF	<ul style="list-style-type: none"> Declares the beds of navigable waters as the crown's responsibility 	MNRF
Public Transportation and Highway Improvement Act	MTO	<ul style="list-style-type: none"> Requires a permit for any work carried out within the right-of-way of a provincial highway 	MTO
Conservation Authorities Act	MNRF	<ul style="list-style-type: none"> Empowers Conservation Authorities to manage, regulate or acquire floodplains, hazardous shorelines and conservation lands 	
Environmental Assessment Act	MECP	<ul style="list-style-type: none"> Requires environmental assessment of any major public or designated private undertaking 	MECP
Federal Legislation			
Fisheries Act	DFO	<ul style="list-style-type: none"> Controls the erosion and sedimentation for the purpose of fish habitat preservation 	DFO, MNRF
Species at Risk Act	EC	<ul style="list-style-type: none"> Sets species assessment process to ensure the protection and recovery of species. Measures providing for sanctions for offences under SARA. Supports the public's habitat protection and species at risk recovery initiatives. Provides for the issuing of permits or the conclusion of agreements for certain scientific or educational activities and for the implementation of special emergency measures. 	EC DFO Parks Canada

EMERGENCY RELATED LEGISLATION

Legislation	Administering Agency	Description	Implementing Agency
Emergency Management and Civil Protection Act	EMO	<ul style="list-style-type: none"> May take action and make such orders as he or she considers necessary to implement the emergency plans to protect property and health, safety and welfare of inhabitants of the emergency area 	MNRF, Municipalities

REPORT

3134/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Sally McIntyre, General Manager
RE:	Conservation Ontario Initiative
DATE:	May 11, 2021

Recommendation:

That the Board endorse the actions proposed under the Conservation Ontario Governance Accountability and Transparency Initiative; and direct staff to participate and implement as appropriate.

At its meeting on April 12, 2021, the Board of Conservation Ontario (CO) approved a Governance Accountability and Transparency Initiative focused on 3 actions as set out below. The CO Board requests that all 36 conservation authorities endorse and support completion of this initiative. MVCA staff have already embarked on some of these actions, specifically items 1 and 3.

1. Updates to CA Administrative By-Laws

Ensure CA Administrative By-Laws are updated in fulfillment of legislative amendments to the Conservation Authorities Act being proclaimed over the course of 2021. This will be accomplished through the following activities:

- I. Notwithstanding that some CAs have already updated their bylaws further to the Feb 2nd proclamations; ASAP review understanding with MECP staff regarding sections to be proclaimed, scheduling, and the need for updates to CA administrative bylaws; and obtain any other confirmations as required.
- II. Subject to i), undertake a comprehensive update of the Conservation Authority Best Management Practices (BMP) and Administrative By-Law Model (Conservation Ontario, April 2018 as amended), obtain legal review of amendments as necessary, and provide training to CAOs as necessary
- III. Track all 36 CAs re: status of updated administrative bylaws
- IV. Provide ability for CAs to share sample policies in support of the new clauses.

2. Proactive Reporting on Governance Accountability and Transparency Priorities

Ensure proactive reporting on GAT priorities as initially identified as those governance-related clauses in the CAA that were proclaimed on February 2, 2021. This will be accomplished through the following activities:

- I. Identification and communication of Required Actions and BMP Actions for each of the newly proclaimed governance-related clauses.
- II. Implementation of a tracking system to enable easy reporting on the status of the Actions and for collection of information that will enable the analysis of CA issues/impacts raised in relation to implementation of the clauses.
- III. Bi-annual reports to Conservation Ontario Council on the status of priority Actions.

3. Promotion/Demonstration of Results

Evidence of governance accountability and transparency results will be promoted and demonstrated through advocacy materials and websites. This will be accomplished through the following activities:

- I. Promote the initiative and prepare analyses of results and appropriate advocacy materials, as necessary
- II. Develop QA/QC checklist of governance material that should be available on CA websites to permit ease of public access. The checklist is proposed to include:
 - a. Members (individuals and Member agreements)
 - b. Administrative by-laws
 - c. Annual Meeting Schedule with information on how to participate
 - d. Agendas – full package
 - e. Minutes (to be posted within 30 days of meeting)
 - f. Audited financial statement
 - g. Annual Fee schedule
 - h. Other corporate documentation as available including Strategic Plans, Annual Reports, Watershed Report Cards
- III. CO to track implementation of the QA/QC checklist and create CO webpage promoting Initiative and that this information can be found on CA webpages

REPORT

3135/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Sally McIntyre, General Manager
RE:	Eastern Ontario LiDAR Acquisition Project
DATE:	May 12, 2021

Recommendation:

That the Board of Directors direct staff to:

- a) enter into agreements with partner Conservation Authorities and Municipalities/ Counties for the Eastern Ontario LiDAR Acquisition Project, valued at approximately \$700,000 plus HST.
- b) issue a Purchase Order to the preferred vendor in the amount of approximately \$157,000 plus HST.

1.0 BACKGROUND

Further to Report 3088/20 regarding stimulus funding, MVCA and partner conservation authorities (CAs) applied to the National Disaster Mitigation Program (NDMP) for funding to support the acquisition of LiDAR (light detection and ranging) data, the development of a watershed model, and completion of a risk analysis. Unfortunately, only the risk analysis portion of the application was awarded a grant.

However, in developing the proposal, political and financial support for the LiDAR project was sought from area municipalities and counties. Collectively, sufficient funds have been committed by these partner organizations to allow the LiDAR project to proceed. While the total amount available is less than what would have been available under NDMP, we have been able to secure very competitive pricing as the contract will fly an area of approximately 12,846 km² that includes the Mississippi River watershed, South Nation Conservation (SNC), Raisin Region Conservation Authority, Rideau Valley Conservation Authority, and Cataraqui Region Conservation Authority.

2.0 PROCUREMENT & AGREEMENTS

In order to meet the project delivery timelines of the NDMP, South Nation Conservation issued a tender for quotes earlier this year on behalf of the CA collective. Four bids were received, with prices guaranteed until May 31st, 2021. Based upon the successful low bid and an all-in price of approximately \$700,000¹, the total cost to obtain and validate LiDAR data for the Mississippi watershed is \$157,000, of which MVCA's contribution is to be approximately \$40,100 plus HST. This is within the amount allocated within the 2021 MVCA Budget.

Given the size and complexity of the project, SNC is acting as project lead and will continue to coordinate with partners and the successful vendor throughout the project. SNC will recover staff time for this project management on behalf of the partners.

Following Board approval, project agreements will be signed between all the partners and will outline the financial contributions and project responsibilities of each party. Each Conservation Authority will be responsible issuing a PO to the vendor for their portion of the contract, and for invoicing partner municipalities within their respective areas.

This will be a multi-year project due to the size of the acquisition area, with contributions from partners in both 2021 and 2022. Currently, the plan is to fly the Mississippi, Rideau and South Nation watersheds this fall; and to complete the Raisin and Cataraqui watersheds in 2022.

¹ Includes field verification of data by each CA, and project administration by South Nation Conservation.

REPORT

3136/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Angela Millar, Treasurer and Sally McIntyre, GM
RE:	Budget Control Report – up to April 30, 2021
DATE:	May 10, 2021

Recommendations:

That the Board receive this Budget Control Report for information purposes.

1.0 PURPOSE

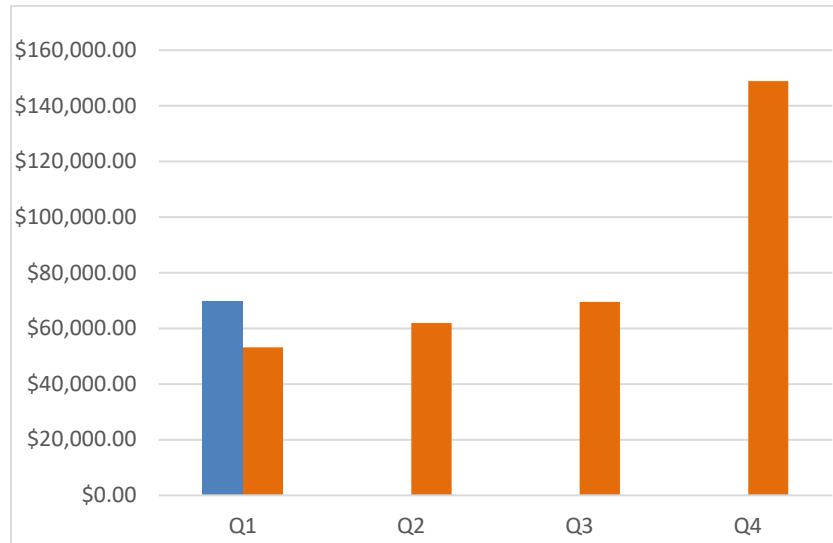
The purpose of this report is to provide a comparison of year-to-date expenditures and revenues to the approved 2021 Budget.

2.0 FINDINGS

As of April 30, 2021, revenues are continuing slightly above average for this time of year, and expenditures are tracking normally as shown in Table 1. Planning and permit revenues continued to be strong over the winter months for a second year.

Table 1: Operations Budget	2020 Actual	2021 Budget	Year-To-Date as at: April 30, 2021	%YTD
Expenditures				
Corporate Services	\$613,119	\$677,585	\$251,025	37%
Watershed Management	\$1312,603	\$1,786,562	\$466,931	27%
Flood and Erosion Control	\$680,940	\$679,853	\$231,253	34%
Conservation Services	\$646,407	\$647,662	\$178,964	28%
Total Operating	\$3,253,070	\$3,791,662	\$1,128,173	30%
Revenues				
Municipal Levy	\$2,293,523	\$2,741,317	\$979,440	36%
Provincial Transfer Payment	\$128,438	\$128,438	\$0	0%
Special Grants	\$37,318	\$25,419	\$15,220	60%
User Fees & Contract Revenue	\$490,259	\$403,500	\$125,653	32%
Special Reserves	\$84,281	\$146,703	\$0	0%
Other	\$219,254	\$346,285	\$7,860	3%
Total Revenues	\$3,253,070	\$3,791,662	\$1,128,173	30%

**Figure 1: 2021 Planning & Regulations Revenues
versus 5-year average (2016-2020) by Quarter**



The province has not yet confirmed whether MVCA will receive the same annual transfer payment of \$128,438 in 2021 as it did in 2019 and 2020 under Section 39 of the *Conservation Authorities Act*. The funding allocation continues to hold at that same rate without increasing with inflation.

MVCA received a one-time funding allocation of \$3,000 from the Community Museum Digital Capacity Fund to assist with expenses incurred to digitalize exhibits.

Corporate expenditures are often higher in the first quarter due to renewal of the annual insurance premium. Unspent compensation (due to vacancies) contribute to potential operational savings up to April 30, 2021. There are no other items of significance from Q1.

3.0 FINANCIAL OUTLOOK:

Table 2 illustrates how expenditures and revenues may be impacted this year based upon information available today. At present, no revenues are at risk as the 2021 budget allows for potential impacts of the pandemic on some business areas.

Table 2: Operations Budget	2021 Budget	At Risk Revenues	Projected Savings	Potential YE Position Surplus/Deficit
Expenditures				
Corporate Services	\$677,585		\$8,204	\$669,381
Watershed Management	\$1,786,562		\$28,250	\$1,758,312
Flood and Erosion Control	\$679,853			\$679,853
Conservation Services	\$647,662			\$647,662
Total Operating	\$3,791,662			\$3,755,208
Revenues				
Municipal Levy	\$2,741,317			\$2,741,317
Provincial Transfer Payment	\$128,438			\$128,438
Special Grants	\$25,419		\$3,000	\$28,419
User Fees & Contract Revenue	\$403,500			\$403,500
Special Reserves	\$146,703			\$146,703
Other	\$346,285			\$346,285
Total Operating	\$3,791,662			\$3,794,662
Potential YE Surplus/(Deficit)				\$39,454

4.0 RESERVES

Table 3 shows the 2020 year-end reserve balances and 2021 budgeted allocations.

TABLE 3: Reserves	Dec 31 2020 Balance	2021 Budget Allocations FROM Reserves	2021 Budget Allocations TO Reserves	Projected Dec 31 2021 Balance
Building Reserve	338,701	0	30,000	368,701
Information Technology Reserve	32,000	0		32,000
Museum Building & Art Reserve	6,751	0		6,751
Sick Leave Reserve	73,843	0		73,843
Vehicles & Equipment Reserve	89,437	0		89,437
Water Control Structure Reserve - MVCA	298,646	17,500	65,745	346,891
Water Control Structure Reserve - Glen Cairn	438,836	97,104		341,732
Conservation Areas Reserve	42,000	10,000		32,000
Operating Reserve	1,234,594	189,599		1,044,995
Total	2,554,808	314,203	95,745	2,336,350

MVCF REPORT

3/21

TO:	Board of Directors Mississippi Valley Conservation Foundation
FROM:	Angela Millar, Treasurer
RE:	2020 Audit Findings Letter & Draft Financial Statements
DATE:	May 7, 2021

Recommendation:

**That the Foundation receive the audit findings letter dated May 6th, 2021, and
That the Financial Statements for the period ending December 31, 2020 be adopted.**

Consistent with previous years, the annual audit for the period ending December 31, 2020 was completed by Glenn Street of Cross Street Professional Corporation.

1.0 FINDINGS

The audit findings letter dated May 6th, 2021, as provided by Glenn Street, provides a summary and identifies key items to assist the Board when reviewing the draft financial statements. The letter confirms there were no changes to the audit plan, accounting policies and that there were no concerning financial recording matters or internal control deficiencies identified.

The letter recommends that the Board consider developing an investment policy for funds held, particularly for restricted funds.

Table 1 summarizes the 2020 transactions that changed the cash balance:

Table 1 – Cash Balance

Balance at December 31, 2019	\$81,470
2020 Revenues	\$57,114
2020 Operating Expenses	-\$2,764
2019 Transfers to MVCA	-\$3,957
2020 Transfers to MVCA	-\$17,254
Balance at December 31, 2020	\$114,609

Table 2 provides a breakdown of the restricted and non-restricted balances as at December 31, 2020:

Table 2 – Breakdown of Restricted & Non-Restricted Balances

	December 31, 2020
Carp River Living Classroom	31,219
Conservation Areas (General)	1,909
Morris Island Conservation Area	1,780
Mill of Kintail Conservation Area	155
Night Sky	259
Purdon Conservation Area	3,165
Cavanagh Wetland Conserv. & Protection**	35,000
Shoreline Restoration	23,109
Spring Water Awareness	2,250
Watershed Watch	580
Unrestricted Funds	15,183
Total	\$114,609

**Cavanagh Wetland Conservation and Protection funds must be expended in accordance with a court order issued September 18, 2019: “to be used for the conservation and protection of wetlands consistent with the mission and objectives of the Foundation.” A second contribution of \$50,000 is to be received in 2021 per the court order.

REPORT

3137/21

TO:	Board of Directors, Mississippi Valley Conservation Authority
FROM:	Sally McIntyre, General Manager
RE:	GM Update
DATE:	May 11, 2021

For Information.

EXTERNAL

1. Ministerial Exemption

As of the writing of this report, no response had been received regarding the request to extend the current MVCA Chair for up to two more years. The request was sent to the Minister of Environment, Conservation and Parks on February 19, 2021. No update has been received in response to queries.

2. CA Act Regulations

As of the writing of this report, it is understood (unofficially) that draft regulations under the Act are to be released this week for comment. A further update will be provided at the Board meeting if they are released.

3. Grants

- a) MVCA was awarded \$58,862 under the National Disaster Mitigation Program (NDMP) to conduct a risk assessment in the watershed. However, the application to acquire LiDAR data was denied, as was funding for our watershed modeling project. Staff are examining option for how best to move forward with the modeling project. A more fulsome discussion of the LiDAR project is addressed in Report 3135/21.
- b) MVCA has heard (unofficially) that we have scored well and may receive funding under the provincial Water and Erosion Control Infrastructure (WECl) program for the Shabomeka Lake Dam project.
- c) MVCA was awarded \$18,036 under the Canada Summer Jobs program for four 8-week positions. We are still waiting to hear about funding for other summer student positions. Students approved to date will support the water resources group.
- d) MVCA was awarded \$3,000 from the provincial Community Museum Digital Capacity Fund to assist with expenses incurred to digitalize exhibits.

- e) MVCA was unsuccessful in its grant application to the Community Foundations of Canada (CFC) for repair of the K&P Bridge.

4. City of Ottawa

Ottawa City Council has given permission to City staff to enter into negotiations with MVCA to finance up to \$1,000,000 for the Shabomeka Lake Dam project. Staff will compare City terms against the Infrastructure Ontario term and pursue the best offer. This can only proceed once we have confirmation regarding the WECl grant.

5. Eastern Ontario Model Forest (EOMF)

In March, the EOMF merged with the Ontario Woodlot Association (OWA) to share in administrative costs and program delivery. Under the new service delivery model, the Rideau Valley Conservation Authority (RVCA) will be taking over administration of the Regional Forest Health Network (RFHN) previously delivered by the EOMF.

6. Source Water Protection

Conservation Ontario is convening a Drinking Water Source Protection Joint Advisory Committee meeting to discuss a recent letter submitted by the Town of Fort Erie to the Premier requesting that the province “consider legislative changes that would permit the expansion of source water protection to aquifers and private services.” Further updates will be provided as needed.

INTERNAL

7. Mill of Kintail Museum

A virtual Information Session was held April 29th with more than 100 registrants. The deadline for comments was May 7 with 37 submissions received. Staff will be soliciting official expressions of interest to aid in assessing the viability of the three options, and will report back in July with findings and recommendations. In the meantime, staff are monitoring directions from the province and local health unit regarding the timing of opening the museum this season.

8. K&P Trail

The counties of Lanark, Renfrew and Frontenac have expressed interest in assuming ownership of the trail from MVCA. Discussions have commenced and a report with findings and recommendations will be brought forward in June. This report will also address the funding gap presented by the failure to secure a grant from the CFC.

9. Casey Creek Flood Plain Mapping

The MVCA recently completed draft regulatory floodplain mapping for the Casey Creek watershed in the City of Ottawa. A virtual Public Open House is scheduled for June 9 at 7pm. The open house will be recorded and posted online. The final floodplain maps will incorporate public feedback and will be presented to the Board for approval in July.

10. Carp River Conservation Area (CRCA) Master Plan

Staff have drafted a workplan to prepare a Master Plan for MVCA's newest conservation area on the Carp River. The first stage of work will include documenting current state and reviewing the draft project scope and approach with City of Ottawa staff.

11. Parking at Morris Island Conservation Area

MVCA is working with the City of Ottawa to mitigate parking issues at the Morris Island Conservation Area. The City will be studying on-street parking safety hazards and options; and MVCA is limiting parking to one side of our driveway entry. Ottawa Police Services have been contacted to increase frequency of site surveillance and to carry out ticketing where appropriate.

12. Research at Morris Island Conservation Area

MVCA has entered into agreements for a second year with Carleton University and the Canadian Wildlife Federation to enable them to conduct research at Morris Island Conservation Area in accordance with applicable regulations:

- Conduct shoreline flights using drones to evaluate software that is used to automatically count and identify migratory shorebirds; and
- Conduct surveys and collect Northern Map Turtle and Snapping Turtle nests from along the causeway trail.