

Board of Directors Committee Meeting

MVCA Administration Building

1:00 pm

May 8, 2023

AGENDA**ROLL CALL****Declarations of Interest (written)****Agenda Review****MAIN BUSINESS**

1. Approval of Minutes: Board of Directors Committee Meeting, April 17, 2023, Page 2
 - a) Receipt of Minutes: Policy and Planning Advisory Committee Meeting, November 21, 2022, Page 10
2. Staff Presentation, Planning Technician Role (B. Moy & J. Perkins)
3. State of the Watershed Update, Report 3325/23 (J. North), Page 16
4. Election of 2023 Officers (S. McIntyre)
5. 2023 Committee Appointments (S. McIntyre)
6. Appointment to Conservation Ontario Council (S. McIntyre)
7. Appointment of the Auditor, Report 3326/23 (S. Millard), Page 17
8. Budget Control Report, Report 3327/23 (S. Millard), Page 18
- Rising from Policy and Planning Advisory Committee*
 9. Natural Systems Monitoring & Reporting Program Review, Report 3322/23 (K. Stiles & M. Craig), Page 20
 10. Section 28 Compliance Strategy, Report 3323/23 (A. Perrin & M. Craig), Page 64
 11. Conservation Strategy; Scope & Methodology, Report 3324/23 (S. McIntyre), Page 72
12. Analysis of Programs and Services for MOUs, Report 3328/23 (S. McIntyre & S. Millard), Page 81
13. GM Update, Report 3329/23 (S. McIntyre), Page 89

ADJOURNMENT



MINUTES

Via Zoom and In Person

Board of Directors Meeting

April 17, 2023

MEMBERS PRESENT

J. Atkinson, Chair
 J. Mason, Vice-Chair
 B. Holmes
 J. Karau
 P. Kehoe
 C. Kelly
 S. Lewis
 M. Souter
 H. Yanch
 A. Vereyken
 C. Curry
 R. Huetl
 C. Kelsey (remote)
 A. Kendrick
 T. Popkie

MEMBERS ABSENT

D. Comley
 R. Kidd
 G. Gower

STAFF PRESENT

S. McIntyre, General Manager
 J. Cunderlik, Director of Engineering
 J. North, Engineering Technologist
 S. Lawryk, Property Manager
 A. Broadbent, Manager of Information, Communications and Technology
 D. Post, Full Stack Developer
 C. Watson, Legal Counsel (remote)
 K. Stiles, Biologist
 M. Craig, Manager of Planning and Regulations
 R. Clouthier, Recording Secretary

J. Atkinson called the meeting to order at 1:03 pm.

Declarations of Interest (written)

Members were asked to declare any conflicts of interest and informed that they may declare a conflict at any time during the session. No declarations were received.

Agenda Review

Board members had no comments on the agenda for the April 17, 2023 meeting. No consent agenda items were pulled and no comments received.

B23/04/17-1

MOVED BY: P. Kehoe
SECONDED BY: M. Souter

Resolved, That the agenda for the April 17, 2023 Board of Directors Meeting be adopted as presented.

“CARRIED”

MAIN BUSINESS

1. Approval of Minutes: Board of Directors Meeting March 13, 2023

B23/04/17-2

MOVED BY: J. Karau
SECONDED BY: H. Yanch

Resolved, That the minutes of the Mississippi Valley Conservation Authority Board of Directors Meeting held on March 13, 2023 be received and approved as printed.

“CARRIED”

- a) Receipt of Finance and Administration Advisory Committee Meeting Minutes, November 21, 2022

B23/04/17-3

MOVED BY: J. Mason
SECONDED BY: T. Popkie

Resolved, That the minutes of the Mississippi Valley Conservation Authority Finance and Administration Advisory Committee Meeting held on November 21, 2022 be received as printed.

“CARRIED”

2. Fiduciary Responsibility, Report 3306/23 (C. Watson)

C. Watson (Bell Baker LLP) gave a presentation to Board members on the fiduciary responsibilities related to being a member of MVCA's Board of Directors. No questions were received after the presentation. See Attachment 1 for presentation slides.

3. State of the Watershed Update, Report 3307/23 (J. North)

J. North confirmed that a flood warning is still in effect for Dalhousie Lake and Clyde Rivers. MVCA mitigated flooding by replacing logs in the upper watershed and releasing water in the lower watershed. There was above average flooding on the Mississippi River but it could have been much worse. Flows and water levels should drop in the next few weeks.

The Ottawa River is just beginning its freshet with water levels and flows increasing due to snowmelt over the southern part of the basin. Levels and flows are expected to increase gradually over the next few weeks.

4. STAFF PRESENTATION: Daily Planning Cycle (DPC), Report 3308/23 (D. Post)

D. Post displayed a new flood forecasting and warning web tool to Board members developed and now in use by MVCA's Flood Forecasting and Warning team. The Daily Planning Cycle (DPC) tool allows for easy checking of water levels, flows, weather (observed and forecasted), snowpack and other parameters on a daily basis.

R. Huetl asked how the tool would be maintained if D. Post were to leave MVCA. D. Post replied that meticulous documentation and notes were recorded throughout the development of the tool.

J. Mason asked if the tool could be useful to other conservation authorities. D. Post replied that he believes it can be, it is very customizable and easy to use while providing a lot of data visualization and manipulation. A presentation to Conservation Ontario may be pursued further.

J. Karau commented that as we can no longer truly rely on historical data and the DPC tool is very useful. MVCA should consider publishing results and the tool.

M. Souter asked if any copyright or trademark has been applied to the tool as an intellectual right. S. McIntyre noted that MVCA has ownership of the tool and that we are looking to present a paper at Latonell. Monetization has not been a top priority however we will still investigate.

***ITEMS ARISING FROM THE FINANCE AND ADMINISTRATION ADVISORY COMMITTEE
MEETING, MARCH 28, 2023***

5. Update to 10-Year Capital Plan, Report 3309/23 (S. McIntyre)

S. McIntyre overviewed Report 3309/23 detailing proposed updates to the 10-year Capital Plan and planned capital levy increases.

C. Kelly asked S. McIntyre to clarify when the plan does not have an estimate beside the project. For example, the Glen Cairn Detention Basin and more. S. McIntyre replied that the structures have ambiguous ownership or operations. We need to resolve these issues before providing an estimate as we do not have clear ownership or operation.

S. Lewis asked if we have generators for the EV vehicles if the power goes out and cautioned against moving to EV too quickly. S. McIntyre noted that MVCA agrees and we are taking a measured approach to the ownership of the vehicles and we will be returning to the Board about this at a later date.

S. McIntyre noted that the proposed capital increases are not as high as previous proposals.

A. Kendrick asked S. McIntyre to explain how the conservation authorities deal with borrowing and also how the reserves build up during times of inflation. S. McIntyre replied that conservation authorities are not allowed to directly take out loans; we have to be sponsored by a member municipality, or a municipality may provide a loan themselves.

S. Millard noted that we are behind the ball with our reserves and have grandfathered accounts that earn a higher interest rate. We do not pursue risky investments and only invest in GICs. We are not keeping up with inflation, mainly due to inflation related to construction.

S. McIntyre noted that the HQ Building Sewer and Water Connection estimate does not include the cost of bringing water and sewer service to the property line. It is unclear how those costs are to be addressed and the people who originally negotiated the agreement between MVCA and the Town are no longer with their organizations. The original agreement stipulated that we must connect to water and sewer within 10 years.

B23/04/17-4

MOVED BY: J. Mason

SECONDED BY: P. Kehoe

Resolved, That the Board of Directors approve the 10-year Capital Plan update and schedule of capital levy increases.

“CARRIED”

6. Tangible Capital Asset Policy Amendment, Report 3310/23 (S. Millard)

S. Millard presented Report 3310/23 pertaining to amendments proposed to the Tangible Capital Asset Policy. The report suggests to update the schedule of assets classes, capitalization

thresholds and authorization periods. Key changes are proposed to items 2, 3 and 4 of the original policy.

B23/04/17-5

MOVED BY: J. Mason
SECONDED BY: B. Holmes

Resolved, That the Board of Directors approve amendment of Appendix 6 Accounting for Tangible Capital Assets of MVCA's Administrative By-law as set out in this report.

"CARRIED"

7. **City of Ottawa Flood Plain Mapping Contract, Report 3311/23 (S. McIntyre)**

S. McIntyre gave a presentation on Report 3311/23 and offered her support for the Flood Plain Mapping project with the City of Ottawa. City provides 50% funding to map within their jurisdiction to mitigate costs.

B23/04/17-6

MOVED BY: J. Mason
SECONDED BY: P. Kehoe

Resolved, That the Board of Directors approve execution of a five-year Flood Plain Mapping agreement with the City of Ottawa.

"CARRIED"

8. **Sale of K&P Trail, Report 3312/23 (S. Lawryk)**

Report 3312/23 was tabled in open session at the direction of the Finance and Administration Advisory Committee meeting held on March 28, 2023.

S. McIntyre noted that there are provincial regulations on how conservation authorities divest and acquire land.

S. Lawryk added that currently the trail is maintained to a "recreational" standard and that investment at the county level will be needed to bring the trail to the same standard as other sections of the trail.

B. Holmes asked if the trail was used by logging. S. Lawryk confirmed that the trail is still used for logging.

B23/04/17-7

MOVED BY: J. Mason
SECONDED BY: H. Yanch

Resolved, That the Board of Directors:

- 1. Reconfirm authorization to sell the K&P Trail to the counties of Lanark, Renfrew, and Frontenac for a nominal sum; and**
- 2. Direct staff to:**
 - (a) Seek coordinated disposal of the asset to the three counties; and**
 - (b) Propose terms and conditions if there are cost implications to MVCA in excess of \$5,000; and**
 - (c) Fulfil mandatory notification requirements.**

“CARRIED”

9. Long-Term Disability Benefit Amendment (Discussion in Camera), Report 3313/23 (S. Millard)

B23/04/17-8

MOVED BY: P. Kehoe
SECONDED BY: B. Holmes

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

☒ Personal matters about an identifiable individual, including employees of the Authority;

And further Resolved, That:

MVCA staff remain in the room (including in person and/or virtual attendance).

“CARRIED”

B23/04/17-9

MOVED BY: P. Kehoe
SECONDED BY: C. Kelly

Resolved, That the committee move out of in-camera discussions.

“CARRIED”

B23/04/17-10

MOVED BY: J. Mason
SECONDED BY: B. Holmes

Resolved, That the Board of Directors approve amendment of Section 8.2.1 Long Term Disability of the Employee Manual as set out in this report.

“CARRIED”

10. Psycho-Stress Assessment Results, Report 3314/23 (S. McIntyre)

S. McIntyre provided background regarding a previous psycho-social stress assessment undertaken in 2021 with the results identifying many problems and changes required in the workplace. Since that time, concerted effort was made to improve working conditions and the survey was re-issued in March 2023 to gauge progress. Survey results indicate improvement in almost all areas compared to 2021 results. MVCA still has many improvements to make but are working to address issues.

A. Kendrick asked S. McIntyre if she knows of other indicators that might help ground some of the self-perceptions. S. McIntyre noted that overtime is a considerable stress indicator. A small number of employees took a period of stress leave over the period 2021 to date.

J. Karau commented that the report provides a very clear journey and he is pleased with the progress and the significant changes, and that we are acknowledging additional changes that we need to make.

C. Curry noted that the Board and management should be clearer and that communications from the top down should be solidified.

C. Kelly asked if S. McIntyre has a sense of productivity change compared to the original survey year. S. McIntyre noted that while the first assessment was carried out during the pandemic the issue had been identified pre-pandemic. Permitting and applications have started to decrease and our senior staff have a lot of involvement in day to day tasks and projects.

11. Wetland Overview and Regulations, Report 3315/23 (K. Stiles & M. Craig)

K. Stiles presented on wetlands, the provincial and federal differences in definitions and how they are evaluated. Some types of wetlands include: swamps, marshes, bogs, fens and vernal pools. Regardless of type, wetlands are significant water control features that can mitigate the impacts of flood and drought.

M. Craig outlined changes to the Ontario Wetland Evaluation System (OWES) methodology and how the changes and reduced provincial oversight may impact the administration and protection of wetlands. Specifically, with the enactment of Bill 23, the province will no longer require for the “complexing” of wetlands or include scoring and evaluation of endangered and threatened species.

J. Karau asked K. Stiles and M. Craig what are the trends for wetland health and coverage. K. Stiles noted that it is difficult to tease out that information our data set, but that climate change will likely impact the water regime and create drought conditions that will change the local ecosystem.

J. Karau commented that the provincial and federal governments are not necessarily in agreement with each other on wetland management policy.

C. Curry asked S. McIntyre if there is any advocacy from all conservation authorities or opportunities for federal intervention. S. McIntyre explained that these are matters of provincial jurisdiction and there is limited ability for the federal government to intervene. However, some allies have approached the federal government. Conservation authorities are being cautious in their response due to further regulatory changes for CAs anticipated later this year.

C. Curry requested that a list of supporters be shared with Board members. S. McIntyre took this direction.

S. McIntyre noted that most changes under Bill 23 directly impact the member municipalities and their staff to assess applications. MVCA is looking into the option of providing “peer review” services to offset municipal consultant costs. C. Curry indicated support for the peer review idea as many organizations and planners respect the conservation authority’s expertise.

12. Conservation Ontario AGM Briefing, Report 3316/23 (S. McIntyre)

S. McIntyre summarized the Conservation Ontario Annual General Meeting that she attended and outlined the type of support CAs receive from Conservation Ontario.

BY CONSENT

No consent agenda items were pulled out by Board members and no comments received. Report 3317/23 and Report 3318/23 were carried.

13. Kashwakamak Lake Dam Funding Motion, Report 3317/23 (J. Cunderlik)

14. Registered Use of the K&P, Lanark Highlands Township, Report 3318/23 (S. Lawryk)

15. GM Update, Report 3319/23 (S. McIntyre)

ADJOURNMENT

The meeting was adjourned at 3:09 pm.

B23/04/17-11

MOVED BY: P. Kehoe

SECONDED BY: R. Huetl

Resolved, That the Board of Directors meeting be adjourned.

“CARRIED”

R. Clouthier, Recording Secretary

J. Atkinson, Chair



POLICY AND PRIORITIES ADVISORY COMMITTEE

Via Zoom

MINUTES

February 17, 2022

MEMBERS PRESENT:

F. Campbell, Chair
J. Inglis, Vice-Chair
B. Holmes
J. Karau
C. Kelsey
J. Mason
K. Thompson

MEMBERS ABSENT:

J. Atkinson
R. Darling
C. Ridgelhof

STAFF PRESENT:

S. McIntyre, General Manager
E. Levi, Recording Secretary

OTHERS PRESENT:

F. Campbell called the meeting to order at 10:05 a.m.

PPAC02/17/22-1

MOVED BY: J. Mason

SECONDED BY: K. Thompson

Resolved, That the Agenda for the February 17, 2022 Policy and Priorities Advisory Committee meeting be adopted as presented.

"CARRIED"

BUSINESS:

1. Minutes – Policy & Priorities Advisory Committee Meeting – October 19, 2021

PPAC02/17/22-2

MOVED BY: J. Karau

SECONDED BY: B. Holmes

Resolved, That the Minutes of the Policy & Priorities Advisory Committee meeting held

on October 19, 2021 be received and approved as printed.

“CARRIED”

2. Election of 2021 Officers

PPAC02/17/22-3

MOVED BY: G. Gower

SECONDED BY: K. Thompson

Resolved, That Sally McIntyre be appointed as Chair for the Election of Chair for 2021.

“CARRIED”

S. McIntyre declared all offices vacant. B. Holmes nominated Faye Campbell for the position of Chair of the Policy & Priorities Committee for 2022. S. McIntyre asked three times for further nominations. No further nominations were received.

PPAC02/17/22-4

MOVED BY: K. Thompson

SECONDED BY: J. Karau

Resolved, That nominations for the position of Chair be closed.

“CARRIED”

F. Campbell agreed to let her name stand for the position of Chair. She was duly elected by acclamation.

F. Campbell nominated John Inglis for the position of Vice-Chair of the Policy & Priorities Committee for 2022. F. Campbell asked three times for any further nominations. No further nominations were received.

PPAC02/17/22-5

MOVED BY: G. Gower

SECONDED BY: B. Holmes

Resolved, That nominations for the position of Vice-Chair be closed.

“CARRIED”

J. Inglis agreed to let his name stand for the position of Vice-Chair. He was duly elected by acclamation.

3. Review of Committee Structures

S. McIntyre presented Staff Report 3204/22 that identifies options for amending MVCA committee structures and recommends potential amendments. Table 2 was reviewed proposing clarifications to existing committee mandates, and the scope of a new Public Advisory Committee for watershed planning and implementation was also discussed.

The committee discussed the Executive Committee role and how it should be used moving forward outside of emergency operations. J. Karau expressed concern over having the legislative agenda terminology used for the executive function.

J. Mason commented that she found the Executive Committee to be extremely valuable, however doesn't see the need to meet quarterly.

Staff was directed to change the first recommended role to indicate that the executive committee would hold meetings "as needed" to review items on the horizon and to support the GM in managing upcoming Committee and Board workloads.

Discussion was held regarding the Public Advisory Committee and the possibility of having two: one for the Mississippi watershed and one for the Carp watershed, however there are not currently resources to proceed two separate groups. J. Karau noted that two PACs would be preferable but understands there are different needs and different stages of development, so staged process is necessary. He commented that the Carp River needs ongoing monitoring and support and the PAC should be revisited within 2 years to see if Carp could benefit.

There was discussion regarding removal of the requirement to have the Committee Chair live within the watershed boundaries.

Staff took direction to form a Mississippi River PAC now, with a MVCA Board Member serving as Chair. A Carp River PAC will be considered at a later date, possibly following completion of new floodplain mapping and prior to completion of a new subwatershed plan.

G. Gower commented that the Terms of Reference and membership need to be completed and it made clear that the PAC is for advice and support only. S. McIntyre indicated that the proposed motion directs staff to return to the Board with proposed Administrative By-law amendments which would include a Terms of Reference for a Mississippi R. Watershed Plan PAC.

PPAC02/17/22-6

MOVED BY:

J. Mason

SECONDED BY: G. Gower

Resolved, That the Policy & Priorities Committee recommend that the Board of Directors direct staff to draft and table amendments to MVCA's Administrative By-law to address the recommendations contained in Report 3204/22, as amended.

"CARRIED"

4. Carp River Conservation Area Master Plan

S. McIntyre summarized Staff Report 3205/22. The report includes the *Carp River Conservation Area Background Report* which summarizes the history and current state of the Carp River Conservation Area (CRCA) as well as opportunities for future use and enhancements. City staff have received the report and have been asked to provide comment so that the document can be finalized and shared with the public. Significant delays with the plan were noted and in order to mitigate further delays it is recommended that the Board direct staff to finalize the *Background Report*, and to finalize and implement a public engagement plan in partnership with the City and report back with details.

J. Karau commented on the importance of clarifying expectations of parties involved and to provide clear objectives for public consultation. Extra clarity should be provided in the workplan to aid in implementation focus. He also advised that there is likely to be heightened expectations associated with Ottawa's new official plan.

There was a discussion regarding Natural Heritage Systems within the City of Ottawa. G. Gower offered to reach out to Kanata North Councillor Cathy Curry to see if there is a way to assist in moving the plan along.

J. Mason acknowledged the efforts of MVCA staff working on the report, namely Erica Ogden, Julie Falsetti and Alyson Symon.

PPAC02/17/22-7

MOVED BY: J. Mason

SECONDED BY: G. Gower

Resolved, That the Policy and Priority Committee recommend that the Board approve finalization of the Background Report in partnership with the City of Ottawa and release to the public as part of a coordinated public engagement process; and to report back to the Board with details.

"CARRIED"

5. Corporate Strategic Plan

S. McIntyre discussed Report 3206/22 which provides an implementation plan with specific actions for assessing progress towards achieving goals and objectives set out in the Corporate Strategic Plan. Discussion included a review of new requirements per O. Reg. 686/21, and how cost recovery of Category 2 and 3 and associated agreements will need to be considered each term of council and the potential impacts on workforce planning.

J. Mason commented that most dates in the “output” column reference are 2022 and 2023. S, McIntyre agreed that the next two years would be busy in part because of the timelines of specific grants, and the need to complete works already in progress.

J. Karau commented that the document provides examination and better appreciation for how busy the MVCA agenda is. He also expressed concern as J. Mason did about timelines seeming ambitious. He suggested some items may need further review to determine if they are actually time sensitive, citing completion of the Indigenous Engagement Plan as an item that may necessitate more time.

J. Karau commented on the value of annual reports as a record and legacy of accomplishments which help outline corporate cycles and trends. Staff took direction to continue to implement annually using a simplified format.

PPAC02/17/22-8

MOVED BY: B. Holmes

SECONDED BY: C. Kelsey

Resolved, That the Policy & Priorities Advisory Committee recommend that the Board of Directors approve the Draft Implementation Plan as set out in Report 3206/22.

“CARRIED”

J. Karau suggested that changes should be at the discretion of the GM and that any issues can be further addressed at the Board level.

ADJOURNMENT

The meeting was adjourned at 11:40 a.m.

PPAC02/17/22-9

MOVED BY: K. Thompson

SECONDED BY: J. Karau

Resolved, That the meeting be adjourned.

“CARRIED”

“E. Levi, Recording Secretary

F. Campbell, Chair”

REPORT
3325/23

TO:	The Chair and Members of the Mississippi Valley Conservation Authority Board of Directors
FROM:	Jennifer North, Water Resources Technologist
RE:	State of Mississippi Watershed
DATE:	May 4, 2023

For Information.

As spring freshet was finishing up in the Mississippi River and levels and flows were settling back down and being held at targets for summer recreation and fish spawning, the Ottawa River was in full swing with its freshet. We received significant rainfall for 5 days straight across the entire watershed. With an average total of 140 mm of rain for the watershed. (average monthly rainfall for May is 72 mm) This drove up levels and flows in both the Ottawa and Mississippi River. MVCA issued a Flood Warning Update for the Ottawa River and a Flood Watch for the Mississippi Watershed for on May 2nd.

The system is at its most vulnerable at this time of year, due to the lack of storage and an already saturated landscape. All the water in the upper watershed posed a concern on Dalhousie Lake as it is a flood damage center and the bottleneck of the entire upper system. MVCA issued a Flood Warning for the Mississippi River for Dalhousie Lake, Clyde river and Mazinaw/ Little Marble and Marble Lakes on May 3rd. Levels for those areas are now stable and are expected to peak in the next few days. MVCA staff noticed a gauge malfunction at the Lanark dam once reports came in of highwater above the dam in the village of Lanark, the gauge has since been decommissioned until it can be replaced and the dam was operated to remove the excess water.

Mississippi Lake and the lower reach of the river has been steadily increasing as water comes down through the system, it is expected to peak below the spring peak earlier this year.

This event was very similar to what we saw in 2017 but a lot less severe. Both years had a significant rain event right after/during (Ottawa river) the freshet causing a secondary flood peak. MVCA staff will continue to monitor the situation very carefully and manage the system according.

No additional flooding this spring is expected at this time and levels should be at or slightly above summer target levels for the long weekend in May. Long range forecasts have indicated a normal summer with both average summer temperatures and precipitation.

REPORT
3326/23

TO:	The Chair and Members of the Mississippi Valley Conservation Authority Board of Directors
FROM:	Stacy Millard, Treasurer
RE:	Appointment of 2023 Auditor
DATE:	May 8, 2023

RECOMMENDATION

That the Board of Directors appoint the firm of KPMG as the Authority's Auditor for the year 2023.

BACKGROUND

MVCA'S *Administrative By-law* states the General Membership shall appoint an auditor for the coming year at the Annual General Meeting (AGM) in accordance with Section 38 of the Act. Shortly before the February AGM, MVCA received notice that the current auditor would no longer be available to provide this service and we would need to seek a new auditor. Consequently, the Board deferred appointment until a new auditor could be secured.

PROCUREMENT

A request for proposal was issued to three firms who were identified through discussions with member municipalities and other conservation authorities. One firm was unable to provide a quote and the other two were comparable in cost. However, the level of service and support offered were better in the quote from KPMG. Based on this the recommendation is to retain KPMG as the new auditor for the Authority at a cost of \$20,500 plus taxes. This represents a significant increase over historic costs but appears to be the current market rate.

REPORT**3327/23**

TO:	The Chair and Members of the Board of Directors, Mississippi Valley Conservation Authority
FROM:	Stacy Millard, Treasurer and Sally McIntyre, GM
RE:	Budget Control Report – up to March 31, 2023
DATE:	May 4, 2023

RECOMMENDATION**That the Board of Directors:**

- a) receive this Budget Control Report for information purposes; and**
- b) approve an Interim 2024 Fee increase for Mill of Kintail rentals as set out in this report.**

1.0 PURPOSE

The purpose of this report is to report on year-to-date expenditures and revenues as compared to the approved 2023 Budget. And, to address a projected revenue loss arising from early bookings at the Mill of Kintail for 2024 events.

2.0 YEAR TO DATE FINDINGS

As of March 31, 2023, both expenditures and revenues are slightly below projected for this time of year, as shown in Table 1. Planning and permit revenues remain higher than the 5-year average but are comparable to the same period last year. We anticipate a decline in Planning & Regulations revenues in 2023 arising from a general slowing in the housing market and the impacts of Bill 23. There are no other significant variances.

3.0 MILL OF KINTAIL RENTALS

Staff have begun to receive booking requests for 2024 for the Mill of Kintail. There is currently no mechanism in place to address CPI increases to these early bookings. Given fiscal constraints facing the Authority, it is recommended that Interim 2024 Rates be approved in advance of the more comprehensive fee study to be carried out later this year. As shown in Table 2, it is recommended that the March 2023 CPI rate of 4.3% be applied, rounded to nearest \$5. There would be no change in discounts given to community groups.

Table 1: Operations Budget	2022 Actual	2023 Budget	Year-To-Date as at: March 31, 2023	%YTD
Expenditures				
Corporate Services	\$795,489	\$907,312	\$195,281	22%
Watershed Management	\$1,709,050	\$2,110,572	\$ 443,592	21%
Flood and Erosion Control	\$751,106	\$508,167	\$ 109,828	22%
Conservation Services	\$700,317	\$989,911	\$ 209,159	21%
Total Operating	\$3,955,961	\$4,524,962	\$957,860	21%
Revenues				
Municipal Levy	\$2,840,876	\$3,033,950	\$646,212	21%
Provincial Transfer Payment	\$128,436	\$128,436	\$0	0%
Special Grants	\$200,666	\$275,226	\$ 12,700	5%
User Fees & Contract Revenue	\$554,276	\$605,890	\$ 259,850	43%
Special Reserves	\$117,584	\$336,191	\$0	0%
Other	\$114,123	\$145,269	\$39,098	27%
Total Revenues	\$3,955,961	\$4,571,874	\$ 957,860	21%

Figure 1: 2023 Planning & Regulations Revenues

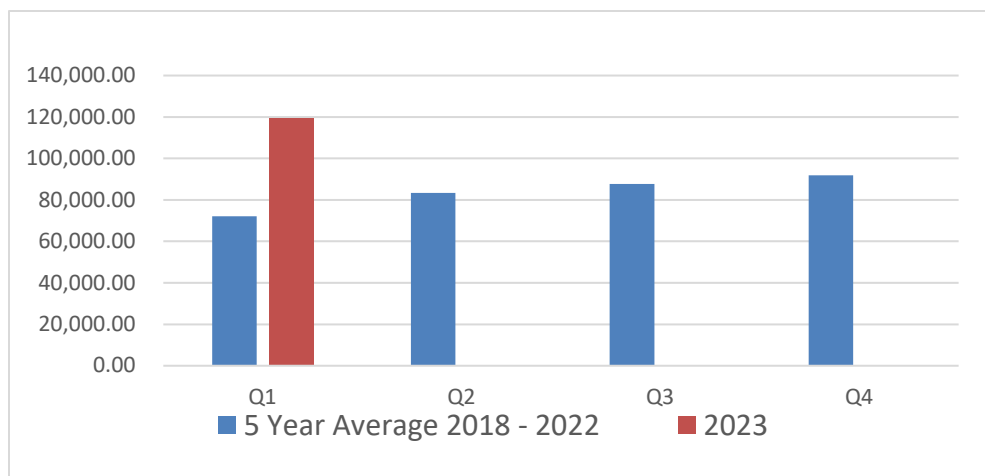


Table 2: Mill of Kintail Rentals	2023 rate	Proposed 2024
Cloister Area (Weddings)	\$ 780	\$ 815
Picnic Shelter		
Per Day	\$ 133	\$ 140
Hourly	\$ 24	\$ 25
Education Centre		
Per Day	\$ 133	\$ 140
Hourly	\$ 24	\$ 25
Gatehouse		
Per Day	\$ 212	\$ 225
Hourly	\$ 38	\$ 40

REPORT

3322/23

TO:	MVCA Policy & Planning Advisory Committee
FROM:	Kelly Stiles, Biologist & Matt Craig, Manager of Planning and Regulations
RE:	Program Review: Natural Systems Monitoring & Reporting
DATE:	April 21, 2023

Recommendation of Policy and Planning Advisory Committee May 1, 2023:

That the Board approve continuation of MVCA's monitoring and reporting program with the recommended changes set out in this report and the attached Program Review document.

1.0 PURPOSE

The purpose of the report is to present findings of a recent review of MVCA's natural system monitoring and reporting program; and to confirm the proposed scope and cost allocation of services to be delivered per O.Reg. 686/21 and O.Reg. 687/21 under the *Conservation Authorities Act*.

2.0 BACKGROUND

MVCA's natural system monitoring and reporting program supports local and provincial decision-making by providing science-based data and analysis. Much of the program is mandatory under the new regulatory framework and supports the protection of people and property. The balance of the program was designed to support municipal decision-making, inform targeted actions on the ground, and sustainable resource management. Specifically, tracking natural system conditions allows for:

- Assessment of the current conditions
- Identification of areas of concern and trends
- Determination of potential impacts when considering permit and planning applications

- Informed municipal planning and infrastructure design
- Targeted mitigation and adaptation strategies
- Targeted stewardship programs

Investment in these programs allows for proper resource management, protection of lakes and rivers, community sustainability.

Review and update of the program was carried out to ensure that it continues to address priority issues within MVCA's jurisdiction, that resources are being targeted efficiently to meet the evolving needs of users, and to confirm program categorization per the new regulations for upcoming discussions with municipalities.

3.0 PROGRAM REVIEW SUMMARY

A review of existing programs determined that the scope and type of monitoring being carried out is appropriate and should continue for the following reasons:

- Two data collection programs are mandated by the province.
- The data is used by municipalities and consultants to carry out studies, and fulfil responsibilities under the *Planning Act* and *Provincial Policy Statement*.
- In some cases, the data sets exceed 20 years and support trend analysis.
- Some of the smaller ad hoc programs have negligible incremental costs.

Review of the program identified the following key challenges:

- Lack of clarity with the province regarding responsibilities for effects monitoring.
- Not all sites can be monitored annually and a review of priorities is needed.
- Resources to ensure timely data entry, QA/AC, analytics, sharing, and reporting.
- No redundancy in field leadership during the spring, summer, and fall.
- Reliance on grants to hire summer monitoring staff.

The Review includes recommendations to address these and other issues. Most recommendations can be accomplished with existing resources. The main exception to this is the funding of summer students, which is addressed in the following section.

Refer to Attachment 1 for a comprehensive discussion of program review findings and how the program will be improved to better meet user needs.

4.0 FINANCIAL ANALYSIS

Over the past three years the province made amendments to the *Conservation Authorities Act* that require CA's to distinguish between mandatory, municipal and other programs and services, and to enter into agreements with participating municipalities to fund non-mandatory programs. The Natural Systems Monitoring & Reporting program review included consideration of which components of the program fell into which category.

As shown in Table 1, two of our programs are mandatory Category 1 services delivered on behalf of the province. Most other programs delivered by MVCA are designed to support municipal planning Category 2 services by providing the baseline data used to determine the impact of proposed developments and to inform studies prepared by consultants. Category 3 programs are limited in size, are only carried out on an opportunistic basis, and have negligible incremental costs. Table 3 shows the distribution costs from the 2023 Budget for Category 2 monitoring services.

Table 1: Monitoring Program Categorization & Costs (2023)

Program Allocation	Category 1	Category 2	Category 3
Prov. Water Quality (PWQMN)	\$32,700		
Prov. Groundwater (PGWMN)			
Program Materials & Supplies	\$1,000		
Stream & Lake Water Quality Monitoring		\$119,100 ¹	
Stream & Lake Temperature Monitoring			
Stream Shoreline Monitoring			
Algae Monitoring			n/a
Invasive Specie Monitoring			n/a
Seine Netting			n/a
Laboratory analytics		\$19,500	-
Mileage	\$5,000	\$13,500	n/a
TOTAL	\$38,700	\$152,100	n/a

¹ Includes funding of three students to ensure annual delivery on a go-forward basis. These positions were made grant dependent as a cost saving measure resulting from provincial funding cuts in 2019. This represents a \$42k pressure commencing 2024.

Table 2: Category 2 Cost Distribution (2023)

Municipality	Assessment	Cost
North Frontenac	0.9283	\$1,412
Central Frontenac	0.4357	\$663
Tay Valley	0.6295	\$957
Beckwith	0.6784	\$1,032
Carleton Place	2.5368	\$3,859
Drummond/North Elmsley	0.4880	\$742
Lanark Highlands	1.1218	\$1,706
Mississippi Mills	2.7352	\$4,160
Addington Highlands	0.1578	\$240
Ottawa	90.2534	\$137,275
Greater Madawaska	0.0350	\$53
	100	\$152,100

5.0 CORPORATE STRATEGIC PLAN

Delivery of the monitoring program will support achievement of:

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 an 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.



Natural Systems Monitoring & Reporting: Program Review and Update



May 2023

“What gets measured gets managed.”

Peter Drucker, management educator and consultant

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“No one steps in the same river twice, for it is not the same river and they are not the same person.”

Heraclitus of Ephesus, philosopher



Abbreviations

CA: Conservation Authority

CBLWQ: City Baseline Water Quality monitoring program

CSW: City Stream Watch

FWIS: Flowing Waters Information System

MECP: Ministry of the Environment Conservation and Parks

MNR/MNRF: Ministry of Natural Resources and Forestry

MOU: Memorandum of Understanding

MVCA: Mississippi Valley Conservation Authority

MRWP: Mississippi River Watershed Plan

MRWMP: Mississippi River Water Management Plan

OFAH: Ontario Federation of Anglers and Hunters

OSAP: Ontario Stream Assessment Protocol

PGMN: Provincial Groundwater Monitoring Network

PSW: Provincially Significant Wetland

PWQMN: Provincial Water Quality Monitoring Network

1.0 Why We Monitor Natural Systems

The monitoring and analysis of data and identification of trends are fundamental business practices across multiple sectors, including the field of resource management. Tracking natural system conditions allows for achievement of several objectives including:

- Assessment of the current health of the watershed
- Identification of trends and predictive analysis of changes in natural systems
- Use of local field data when considering permit and planning applications
- Information sharing with municipal planners, engineers, and decision-makers
- Information sharing with residents, businesses, and funders
- Planning, design, and targeting of mitigation and adaptation strategies
- Assessment of the efficacy of those strategies over time

The purpose of this report is to present findings of a recent review of the natural system monitoring and reporting program at Mississippi Valley Conservation Authority (MVCA) and to present changes for implementation over the next five-year period. The monitoring plan covers the entirety of MVCA's jurisdiction: the Mississippi River watershed (~3,750 km²), Carp River watershed (~306 km²), and approximately 263 km² of land that drains directly to the Ottawa River between Marshall's Bay and Shirley's Bay.

Note, the scope of this review does not include water quantity monitoring (water levels and flows), which is conducted per the *Mississippi River Water Management Plan (MRWMP)*.

2.0 Updating Monitoring Programs

Periodic review of monitoring programs is needed to ensure they keep abreast of current standards and meet the evolving need of users. Consideration should be given to the following matters when reviewing a natural system monitoring program, including:

- Who needs the data and for what purposes? For example:
 - Water quality monitoring for protection of public health and safety
 - Baseline conditions for use in environmental impact assessments and trend analysis
 - Environmental effects monitoring for mitigating impacts
 - Targeted monitoring to address specific locations, species, or pollutants.
- What sample collection and analytical methods and protocols are required?
- Are other data sources available to avoid duplication and consolidate data sets?
- How will geographic, seasonal and other variability be addressed?
- What skills and expertise and specific training and equipment are required?
- Are there site accessibility or health and safety issues to be addressed?
- What frequency of reporting is needed by the end users?

3.0 Local Geography

A general understanding of MVCA's local geography is needed to understand and review the current monitoring program.

3.1 Geology

MVCA jurisdiction is comprised of two diverse physiographic regions: the Canadian Shield in the west and the St. Lawrence lowlands in the east, with a transition area between that combines the characteristics of the two regions (Figure 1).

The Western Shield Area:

- Comprises the upper two thirds of the Mississippi River, it's headwaters and three main tributaries: the Clyde River, the Indian River and the upper part of the Fall River.
- Has a hummocky topography with shallow soils and rocky outcroppings that limits agricultural use.
- Predominately consists of contiguous expanses of natural areas with abundant forest cover (about 70%), hundreds of lakes and numerous small wetlands.
- Has a rural character with development scattered across rural holdings, concentrated in small villages and hamlets, and around the lakes.

The Eastern Lowlands Area:

- Includes the lower reach of the Mississippi River, the entire Carp River watershed (CRW), and the watersheds of several small tributaries to the Ottawa river to the east of the CRW.
- Is flatter with deeper fertile soils more suited to agricultural land use.
- Has smaller, fragmented pockets of natural areas (small forest patches, larger but fewer wetlands) within a mix of rural and urban land use.
- Urban development is concentrated in and around the City of Ottawa, Carleton Place, and Almonte, with rural estate-lot growth and severances in the surrounding municipalities.

3.2 Land Use

MVCA's jurisdiction encompasses portions of eleven municipalities. Each has a distinct character and economy, but with similarities within geographic regions (Figure 2).

The Upper Watershed is comprised of portions of Addington Highlands, Greater Madawaska, North Frontenac and Central Frontenac townships. This area has:

- large tracts of heavily forested Crown Land with a history of logging and mining.
- a wilderness character with growing recreational tourism.
- settlement concentrated in Sharbot Lake, small hamlets, and around some lakes.

The Middle Watershed is comprised of portions of Lanark Highlands, Tay Valley, and Drummond North

Elmsley townships. This area:

- is a transition zone between forest and farming, with farms interspersed between lakes, forests and wetlands.
- has significant lake and riverfront development with a growing year-round population and recreational tourism sector.
- also has population settlements in Lanark Village, small hamlets and along roads in areas with concentrations of rural severances.

The Lower Watershed is comprised of the Town of Carleton Place and portions of the municipality of Mississippi Mills, Beckwith Township, and City of Ottawa. This area:

- has a mix of urban and rural settlements, farmland, and lake and riverfront development interspersed by remnant forests and wetlands.
- comprises some of the fastest growing communities in Canada. The 2021 Statistics Canada Census marked Carleton Place as having the highest growth rate in the country between 2016 and 2021.
- has extensive artificial drainage systems and growing pressures on surface and ground water supplies.

3.3 Drainage Areas / Subwatersheds

Numerous smaller rivers and streams (tributaries) feed the Mississippi, Carp, and Ottawa rivers, and have significant influence on the health and functioning and the larger systems. Figures 2 and 3 illustrate key subwatersheds within MVCA's jurisdiction.

Figure 1: Division between On-Shield and Off-Shield

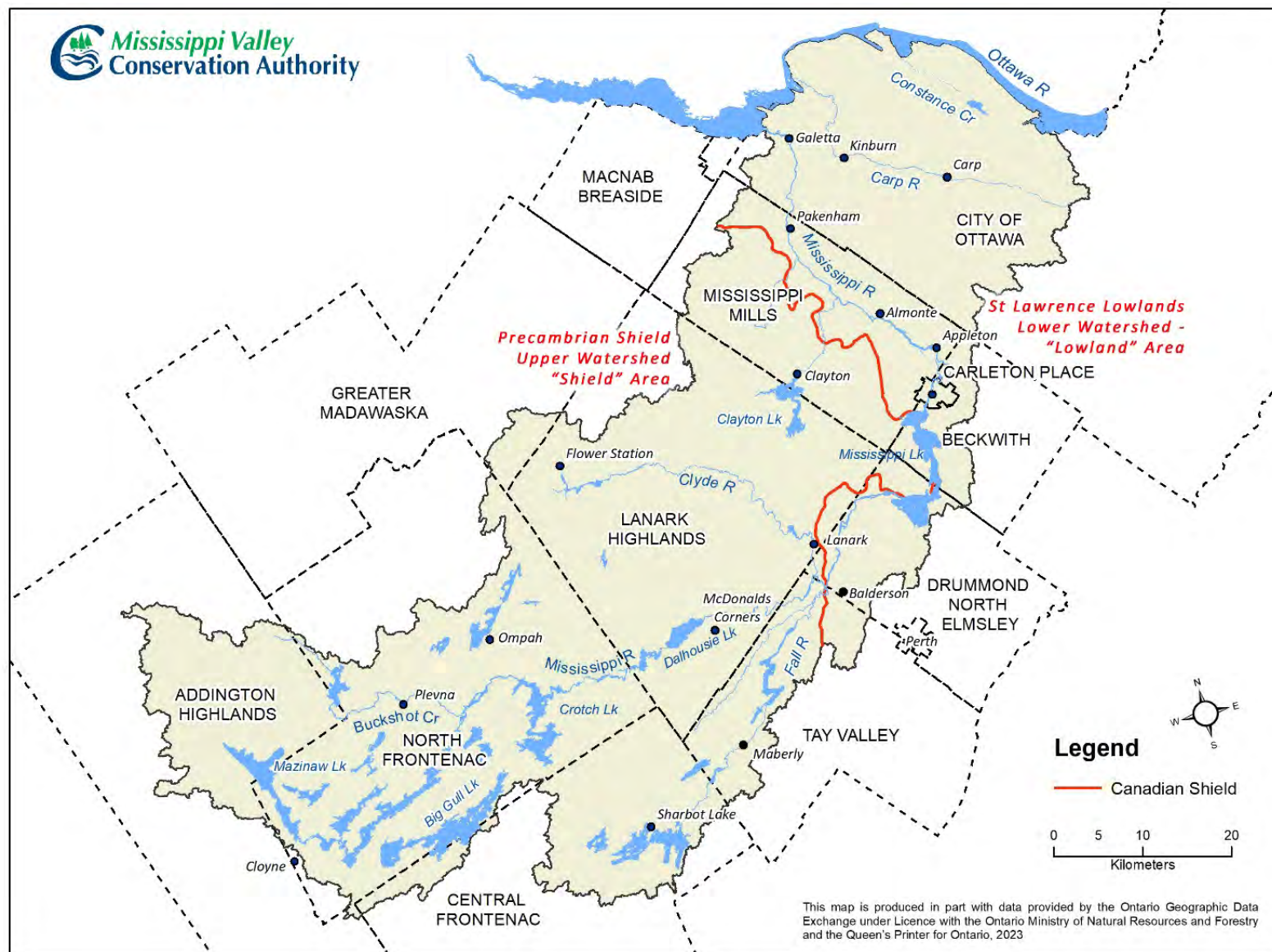


Figure 2: Upper, Middle and Lower Watershed with Major Subwatersheds

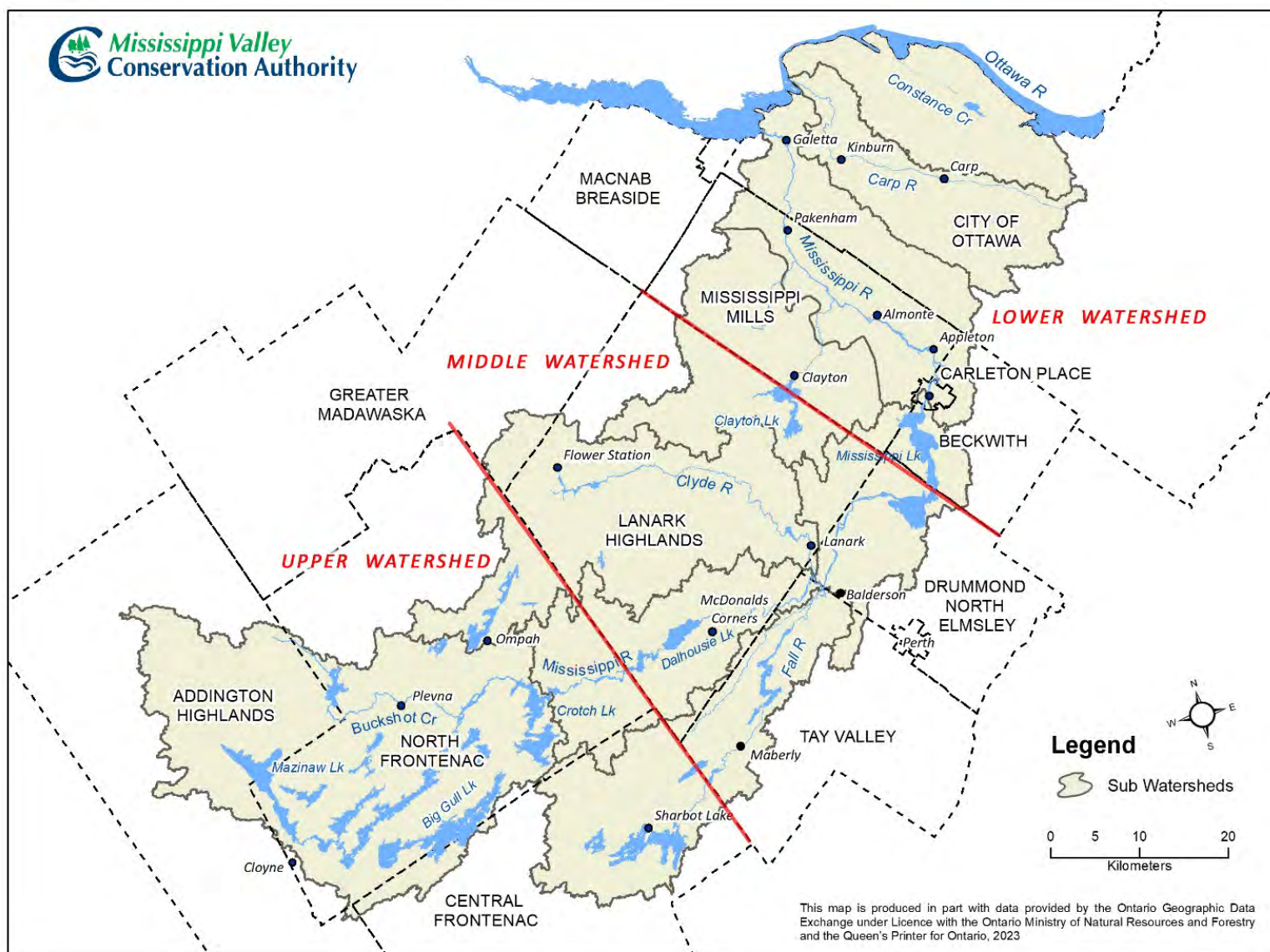
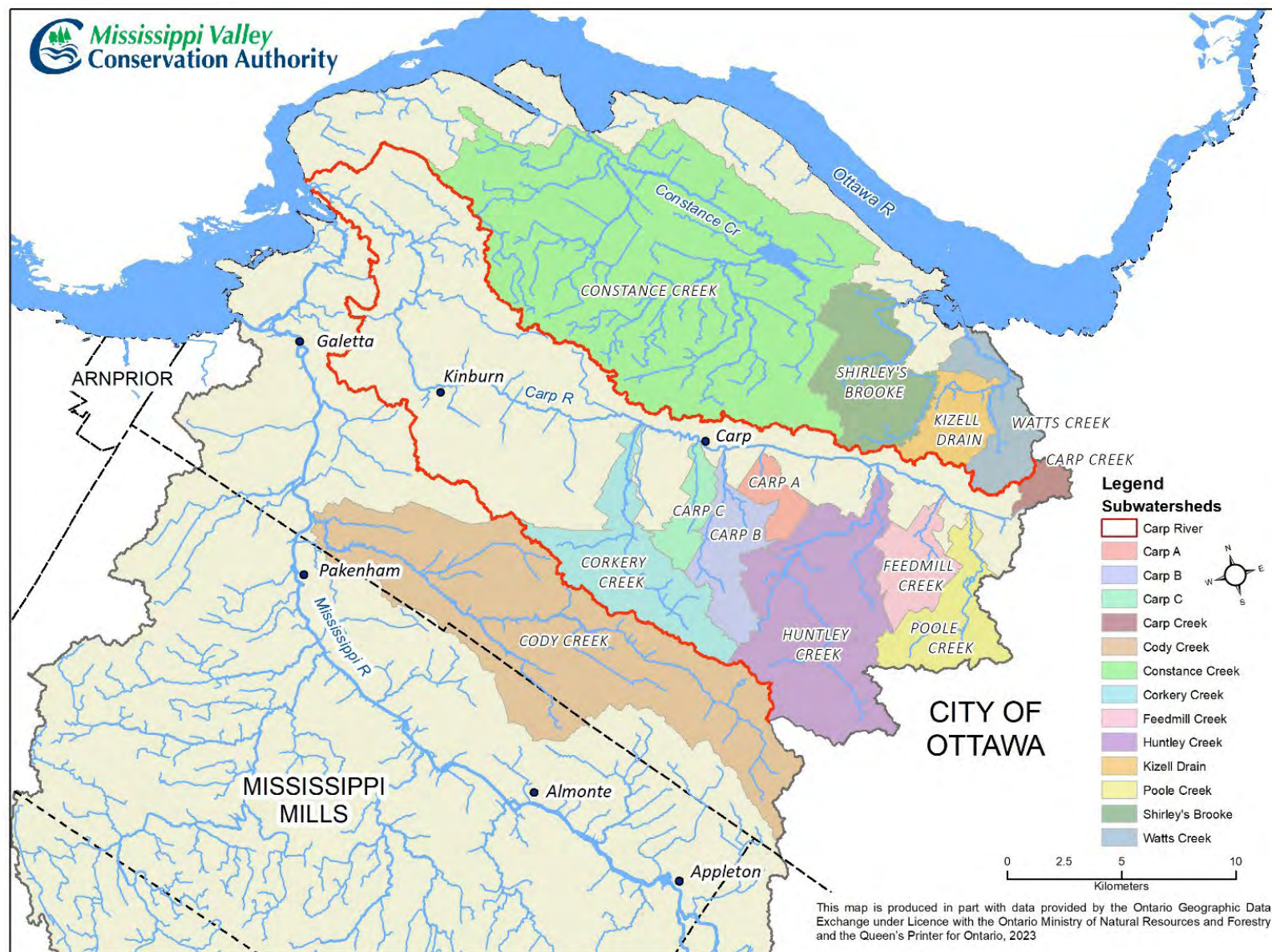


Figure 3: Subwatersheds on the Carp and Ottawa Rivers



4.0 Regulatory and Policy Context

Before reviewing opportunities to improve the existing monitoring program, it is important to understand the regulatory and policy context.

4.1 Conservation Authorities Act, 1990

The *Conservation Authorities Act* (CAA) provides for the “delivery of programs and services that further the conservation, restoration, development and management of natural resources...” To facilitate this, Section 21 of the CAA states that conservation authorities (CA) may “research, study and investigate the watershed to support the development and implementation of programs and services...” and Section 28 provides for the permitting of all development within regulated areas (hazard lands and wetlands). MVCA’s current monitoring program was developed within this context.

More recently, *Ontario Regulation 686/21* under the CAA prescribes activities that all CAs must undertake, which includes:

- **collecting and submitting samples for analysis** from wells, streams, and groundwater sites that are part of the Ministry of Environment Conservation & Parks (MECP) provincial groundwater and stream monitoring programs.
- **acting on behalf of the Ministry** of Natural Resources and Forestry (MNRF) to help ensure that planning decisions are consistent with natural hazards policies contained in the Provincial Policy Statement.

MVCA has been providing field service support to provincial monitoring programs since 1964 and compliance monitoring services since 2001. In order to fulfil these responsibilities, MVCA must ensure that it has the knowledge required to conduct reviews, which is obtained in part through monitoring, assessing, and mapping key attributes of the watershed.

The above activities are considered mandatory “Category 1” services.

4.2 Legislative Responsibility of Municipalities

Bill 26 and subsequent changes to the CAA and O.Reg. 596/22 place responsibility for reviewing and commenting on the natural heritage impacts of applications under the *Planning Act* exclusively with municipalities. Previously, CAs were permitted to provide comments to member municipalities using data collected via our natural systems monitoring programs.¹ As of January 1, 2023, it is the responsibility of municipalities to ensure that they have the data required to review and ensure compliance with natural heritage policies of the *Provincial Policy Statement, 2020* specifically:

- Section 2.1.2 “The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”

¹ If not directly, then to the consultants of applicants.

- Section 2.2.1 That “planning authorities shall protect the quality and quantity of water” through a number of measures including: using the watershed scale to measure cumulative impacts of development, evaluating and preparing for the impacts of a changing climate to water resources, ensuring consideration of environmental lake capacity, etc.

At present, natural system monitoring programs that support the review of applications under the *Planning Act* are the following:

- Lake monitoring
- City Stream Watch inventories
- Ontario Stream Assessment Protocol (OSAP) monitoring
- Headwater monitoring
- Stream temperature monitoring
- Benthic and fish community monitoring

MVCA also integrates monitoring data that is received via Environmental Impact Studies (EIS) into its database. These reports include natural heritage data (wetland information, species present, other natural features present) and observational data on species and features on site. The data is spatially referenced in MVCA’s GIS system, with point data linked to attribute tables and is used to inform planning and regulations reviews.

Currently, these data collection and management services are funded using the General Levy. As they are used to support mandatory planning review functions of municipalities they will be considered “Category 2” programs going forward.

4.3 Mississippi River Water Management Plan (MRWMP)

The *Mississippi River Water Management Plan* is a provincially approved document that sets water management objectives and the operational and monitoring obligations of those who own water control structures in the Mississippi River basin. Under the MRWMP, MVCA is required to work with MNRF and MECP to:

- Monitor and maintain spring spawning opportunities for pike, walleye and bass.²
- Monitor Walleye spawning to ensure that fisheries on Crotch Lake and at the inlet to Dalhousie Lake are protected, as much as possible, during spring operations.
- Monitor Lake Trout spawning to assess long-term impact of operating regime on populations.
- Assess spawning shoal assessment annually or bi-annually in the fall using the standard provincial Spring Littoral Index Netting (SLIN) protocol.
- Monitor the assimilative capacity of the lower river system during low flow conditions.³
- Enhance hydrometric monitoring across the watershed.⁴

² Spawning opportunities are managed at the dams by providing a consistent flow during spawning season. MVCA monitors for spawning periods using water temperature at gauge stations.

³ This work is largely carried out by local municipalities discharging to the river, with MVCA providing review and comment on technical studies.

⁴ Hydrometric monitoring is carried out by the Engineering Unit and was not addressed in this program review.

- Monitor socio-economic variables particularly as they relate to recreational tourism.⁵
- Track water-taking permits in the watershed.⁶
- Engage with First Nations and review impacts of fluctuating water levels wild rice beds.
- Conduct shoreline surveys to identify areas of potential damage.

All the above activities are considered mandatory “Category 1” services, however, they are largely led by the province, with MVCA activities occurring at intervals.⁷ Clearer delineation of roles and responsibilities given the resource limitations of all three agencies is needed.

4.4 MVCA Corporate Strategic Plan

MVCA’s 2021-2025 *Corporate Strategic Plan*⁸ identifies several objectives that should influence the review and any changes to existing monitoring programs:

- Strengthen our risk analysis and management capacity to include climate change and development impacts.
- Implement priority actions identified in the *Mississippi River Watershed Plan*.
- Plan for the next phase of asset development and management.
- Demonstrate MVCA to be a trusted, client-centered, resourceful, and helpful partner.
- Strengthen relationships with municipalities and community stakeholders, First Nations, the agricultural sector, developers, not-for-profits, and academia.

4.5 Mississippi River Watershed Plan

The 2021 *Mississippi River Watershed Plan* (MRWP)⁹ was developed through extensive consultation with other levels of government and a cross-section of groups and individuals representing a broad range of interests. The Plan identifies growing concern over:

- current and future impacts of climate change
- more frequent and severe floods and droughts
- development pressure in waterfront areas
- rapid urbanization in the west end of the watershed
- impairment of water quality (i.e. warming, algae blooms, invasive species)
- impacts to natural features and systems (i.e. drying wetlands, changes in forest composition).

These stressors can have undesirable impacts on water quality, wetlands, forests and both aquatic and terrestrial ecosystems, which can impact drinking water supplies and recreational tourism.

The Watershed Plan highlighted the role that wetlands, certain forested areas, and groundwater recharge areas have in mitigating floods and droughts and building resiliency to climate change and

⁵ This work was carried out during update of the *Mississippi River Watershed Plan* (MRWP) and will be updated with subsequent updates of the Plan.

⁶ MECP issues and tracks these permits. MVCA used available information when updating the *Mississippi River Watershed Plan* (MRWP).

⁷ Fish assessments such as SLIN and BsM are done by MNRF on a rotational basis.

⁸ <https://mvc.on.ca/wp-content/uploads/2021/07/2021-2025-Corporate-Strategic-Plan.pdf>

⁹ https://mvc.on.ca/wp-content/uploads/2022/03/MVCA-MississippiWatershedPlan_Final.pdf

development impacts. It also recognized the value of environmental monitoring in tracking and assessing those changes and their impact on the watershed environment and communities. Appendix A - Table A of the Watershed Plan provides a list of MRWP recommended actions pertaining to natural system monitoring efforts.

4.6 Mississippi-Rideau Source Protection Plan

The *Mississippi-Rideau Source Protection Plan*¹⁰ (MRSP) identifies several risks to municipal (and other) drinking water supplies. These can be generally divided into two types as shown in Table 1:

Point Source: usually site specific with a designated point of discharge that can be monitored by the owner/operator for environmental compliance and effects.

Non-point Source: associated with a variety of land uses where discharges are not discrete and focused, but occur over a broad area and are less easily traced and monitored.

While designed to protect municipal drinking water supplies, the MRSP risk analysis can also be applied to private individual wells and surface water intakes. Not listed above are toxicity risks to water used for consumption, bathing, and recreation arising from blue-green algae¹¹ die-off.

Table 1: Threats to Drinking Water¹²

Point Source	Non-point Source
<ul style="list-style-type: none"> • Waste Disposal Sites • Sewage Works¹³ • Road Salt and Storage of Snow • Dense Non-aqueous Phase Liquids (DNAPLs) and Organic Solvents • Fuel • Aircraft De-icing • Aquaculture 	<ul style="list-style-type: none"> • Commercial Fertilizer • Pesticide • Outdoor Livestock Areas (<i>e coli</i>) • Agricultural Source Material (ASM) • Non-agricultural Source Material (NASM) • Transportation Corridors

¹⁰ https://www.mrsourcewater.ca/images/Documents/Mississippi-Rideau-Source-Protection-Plan/Text/Mississippi-Rideau_SPP.pdf

¹¹ Cyanobacteria.

¹² These pollutants can be released at a single point or over wide areas. This table is intended to show the most likely source within the watershed.

¹³ This could include septic systems and pit latrines.

5.0 MVCA's Current Monitoring Program

MVCA's monitoring, reporting and stewardship programs currently focus on water quality. The current monitoring program collects data on lake, stream and river surface water quality indicators through a variety of standardized programs. In the west shield area, the focus is largely on lake monitoring, and in the eastern lowlands the focus is on stream monitoring, with additional monitoring occurring within the City of Ottawa under a special levy. The remainder of the programs are applied throughout MVCA's jurisdiction.

Existing monitoring and reporting services are summarized in Tables 2 and 3, with existing sites illustrated in Figure 4. The information collected through MVCA's monitoring program is shared with provincial, federal, academic and public partners.

5.1 Staff Expertise and Resources

MVCA has a full-time Aquatic Biologist who designs, oversees, and leads delivery of the Natural Systems Monitoring Program. Our biologist is certified to conduct wetland evaluations, electrofishing, benthic collections, and has an Ontario Boating License.

Each year, at least two summer students are hired from May to August to support seasonal data collection. When available, MVCA planning and regulations technicians provide monitoring program support, particularly during the shoulder seasons. For health and safety reasons, all monitoring site visits are carried out by two people (except to download PGMN dataloggers, or when meeting with lake steward volunteers).

MVCA has a canoe as well as a boat with outboard motor to collect lake samples, and regularly uses the following field sampling and analysis equipment:

- Digital probes: to assess basic surface water chemistry variables (pH, Dissolved Oxygen, Temperature, Conductivity, Turbidity)
- Digital dissolved oxygen and water temperature sensor: assess lake fish habitat conditions
- Secchi disk: determine lake water clarity and colour
- Kremmer bottle: collecting deep water discrete lake samples
- Backpack electrofisher: assess fish communities in wadable streams
- D-nets: collect benthic community samples

The Authority also has a lab that is capable of storing water samples before they are sent to accredited chemistry labs for analysis. Biotic samples (fish and invertebrates) can be stored until the off season for inhouse analysis.

Testing for the following water chemistry parameters must be sent to a private lab:

- Total Phosphorus
- Chlorides
- Metals

MECP pays for analysis of water samples collected from 14 sites (12 within MVCA and 2 that are outside of CA jurisdiction but near existing MVCA sites) under the PWQMN, and 9 sites under the PGMN programs. MVCA pays for all other analyses. In 2022, annual laboratory fees for external analyses was \$28604.24.

MVCA has also purchased 5 Water Ranger Water Testing Kits that are distributed each year to participating lake association volunteers. These kits allow for more regular analysis of the following parameters:

- Secchi depth
- Surface dissolved oxygen concentrations
- Temperature
- Conductivity
- Taking notes on invasive species or potential algae blooms

Table 2: Current Monitoring Programs

Type	Program <i>Data collected</i>	Program Partners	Reg. Cat. ¹⁴	Benefits
Stream	Provincial Water Quality Monitoring Network (PWQMN) <i>Water Chemistry</i>	MECP	1	<ul style="list-style-type: none"> Long term record of robust, consistent data at key locations across watershed. Consistent protocol across province. Data useful for tracking long term changes, scientific research and modelling, and is widely used. Province pays for chemical analyses, shipping and supplies the YSI sensor.
	City Baseline Water Quality (CBLWQ) <i>Water Chemistry</i>	City of Ottawa	2	<ul style="list-style-type: none"> Long term record of robust, consistent data at key locations in City of Ottawa. Consistent protocol across the City. Data useful for tracking long term changes, scientific research and modelling. The City pays for staff time, mileage and lab fees.
	MVCA WQ <i>Water Chemistry</i>	None	1	<ul style="list-style-type: none"> Long term, continuous record of data that is easily merged with PWQMN data. Locations chosen to fill gaps in PWQMN. Data useful for tracking long term changes, scientific research and modelling, and is widely used. Cost effective as an add-on to PWQMN (MVCA covers lab fees).
	Ontario Stream Assessment Protocol (OSAP) <i>Aquatic vegetation, fish, benthic macroinvertebrates and land use</i>	MNRF, FWIS	2	<ul style="list-style-type: none"> Level of detail provides for stream characterization. Data useful for long term monitoring of trends, and informing planning and regulations reviews. Standardized protocol allowing assessment within a broad provincial context.

¹⁴ Regulatory Category per Section 21 of the *Conservation Authorities Act* and *O.Reg 686/21*.

Type	Program Data collected	Program Partners	Reg. Cat. ¹⁴	Benefits
	City Stream Watch <i>Land use, riparian and stream characteristics</i>	RVCA, SNCA	2	<ul style="list-style-type: none"> Provides for detailed record and assessment of stream conditions within urban areas. Associated reporting useful for planning/development review. Excellent information to target stewardship efforts. Cost effective to implement if done with community volunteers.
	Headwaters <i>Morphology and flow characteristics</i>	RVCA, FWIS	2	<ul style="list-style-type: none"> Provides seasonal details for habitat classification of stream reaches. Supports the implementation of management recommendations through the development process. Informs planning and regulations reviews.
	Stream Temperature Monitoring	MRNF, FWIS	2	<ul style="list-style-type: none"> Easy and cost effective to implement. Data needed for stream classification of cool and cold-water systems and supports the protection of sensitive habitats. Potential indicator of changes in water quality and/or climate change impacts. Informs planning and regulations reviews.
Lake	Lake Monitoring <i>Parameters related to trophic status</i>	Lake Stewards (volunteers)	2	<ul style="list-style-type: none"> Focus is on populated main stem lakes, secondary lakes are representative of sub catchments, and highly sensitivity lakes. Beneficial for observing general trends in lake trophic status. Program and data are greatly valued by lake communities. A primary tool to support lake community education and outreach. Informs planning and regulations reviews.
	Seine Netting <i>Near shore fish population</i>	Lake Stewards	3	<ul style="list-style-type: none"> Fills data gaps on the presence of nearshore non-sport fish species. Program and data are valued by lake communities. A tool to support lake community education and outreach.
	Lake Water Temperature	None	1	<ul style="list-style-type: none"> Easy and cost effective to implement. Potential indicator of changes in water quality and/or climate change impacts. Program and data are greatly valued by lake communities.

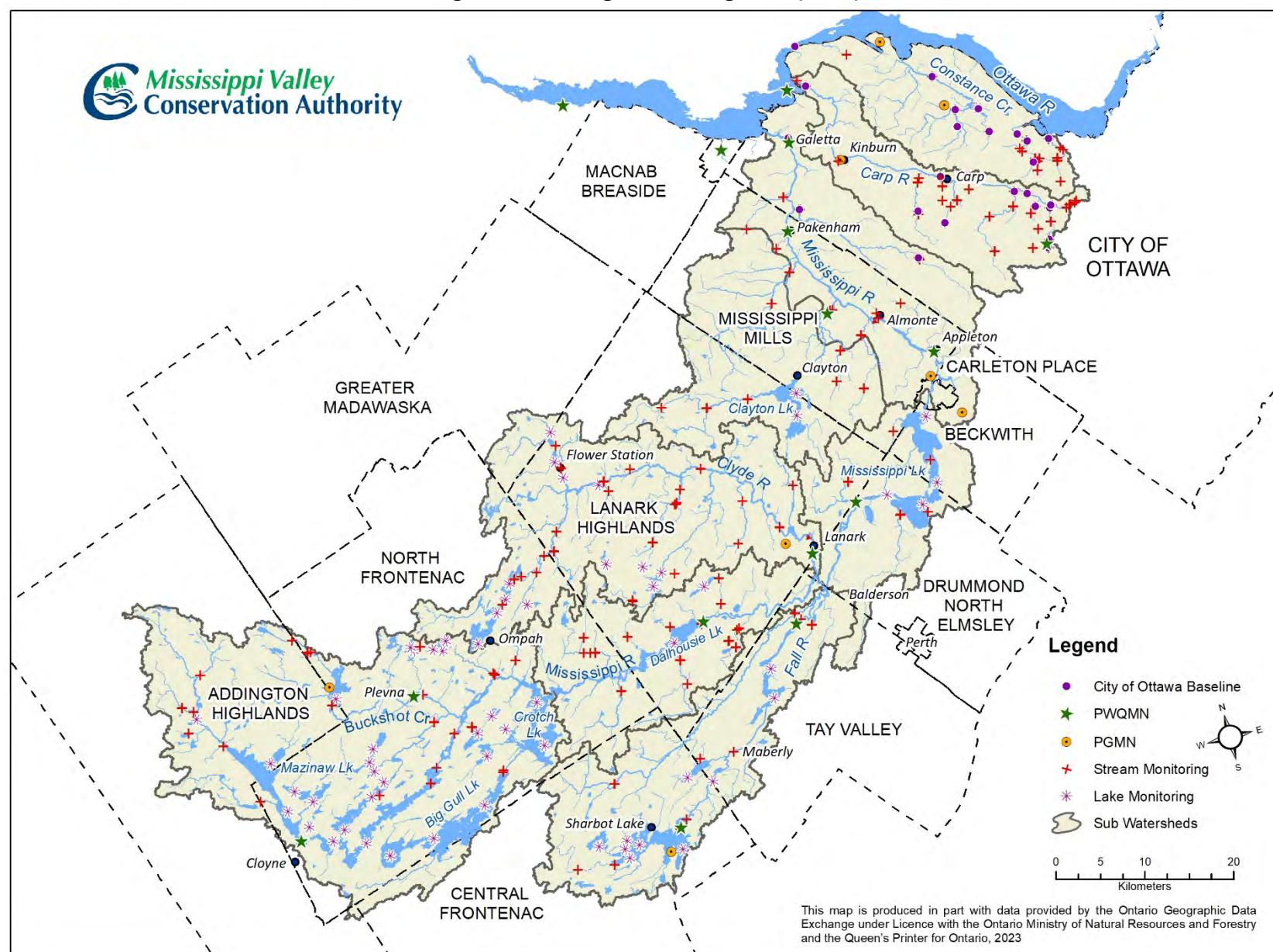
Type	Program <i>Data collected</i>	Program Partners	Reg. Cat. ¹⁴	Benefits
	Algae Monitoring <i>Incidental observations</i>	None	3	<ul style="list-style-type: none"> • Important information where there is little current or historic documentation of algae. • Potential indicator of changes in water quality and/or climate change impacts. • Information of interest to waterfront communities/ residents. • Easy and cost effective to implement.
Groundwater	Provincial Groundwater Monitoring Network (PGMN) <i>Water level and chemistry</i>	MECP	1	<ul style="list-style-type: none"> • Developing a long-term record at key locations across watershed. • Consistent protocol across province. • Data useful for tracking long term changes, and scientific research and modelling. • Province funded (except MVCA staff time). • Potential indicator of changes in water quality and/or climate change impacts. • Provides some data where there is an overall lack of groundwater information.
Invasive Species	Invasive Species Hit Squad <i>Incidental observations</i>	OFAH	3	<ul style="list-style-type: none"> • Incorporates community education/outreach events. • Potential indicator of changes in water quality and/or climate change impacts. • Information of interest to waterfront communities/residents. • OFAH funds summer student wages.

Table 3: Current Reporting Programs

	Frequency	Data Reported	Source of Information	Scale	Product Format and Benefits
Watershed Report Card	Every five years	Surface Water Quality	PWQMN, CBLWQ	Entire watershed area presented by subwatershed	<ul style="list-style-type: none"> • A watershed scale report produced every 5 years that grades the state of the watershed using five key indicators (surface water quality, wetland cover, forest cover, riparian cover and lake health) using a province-wide template and grading system. • Summary pamphlet plus a full report (approx. 40 pg.) using standardized Conservation Ontario template. • Useful for broadly raising awareness with an easy to read document that is well promoted through Conservation Ontario and all of the CAs. • Standardized grading allows for all 36 CAs to measure watershed conditions relative to each other.
		Groundwater Quality	PGMN		
		Forest Cover	ArcMap GIS Data		
		Riparian Cover	ArcMap GIS Data		
		Wetlands	ArcMap GIS Data		
		Lake Conditions	Lake Monitoring		
Integrated Monitoring Reports (Mississippi River Subwatersheds)	One report per year on a five-year rotation	Water Quantity	Stream flow and staff gauges, rain gauges, snow course data	Subwatershed (usually report on 2 subwatersheds per year)	<ul style="list-style-type: none"> • Sub-watershed scale reports produced annually that are monitored on a 5-year rotation • Reports report on lake and stream data with each year focusing on a single subwatershed. Presented as ~40-page report. • Provides a good snapshot of both overall subwatershed conditions as well as lake level results. • Provides some additional assessment of other conditions, such as seasonal weather and flow conditions that may have influenced data results.
		Water Quality	Lake Monitoring		
		Stream Assessments	OSAP		

City Stream Watch Reports (City of Ottawa Subwatersheds)	One report per catchment on a five-year rotation	Stream Morphology	Macro Stream Assessment Data	Report by stream catchment	<ul style="list-style-type: none"> • Subwatershed condition assessments of stream conditions in urban areas and future expansion areas, which are monitored on a 5-year rotation • Presented as 15 – 20-page report/catchment. • Provides information used to support review of planning applications. • Excellent tool for targeting stewardship efforts within the City of Ottawa. • Designed so that volunteers can be recruited to assist in monitoring, providing for education and outreach opportunities.
		Fish	Fish Sampling Data, OSAP		
		Benthics	OBBN Protocol		
		Temperature	OSAP		

Figure 4: Existing Monitoring Sites (2022)



6.0 Other Natural System Monitoring in the Watershed

The following sections summarize monitoring programs of other organizations.

6.1 Facilities Monitoring

Point source water and air withdrawals and discharges are monitored by facility¹⁵ owners and operators in accordance with their provincial licenses. Monitoring programs usually focus on planned withdrawals from ground and surface water, and discharges to ground or surface following a prescribed treatment process. They are intended to track compliance, identify incidents of non-compliance, and assess short and long-term environmental impacts. These data are not usually made available to the public unless prescribed by a license or part of a Corporate Environmental, Social and Governance (ESG) program. Water quality data is available from the Town of Carleton Place, Mississippi Mills, and City of Ottawa to support delivery of its mandate. These data provide detailed point-source bio-chemistry and other analyses on an almost continuous basis, but are not representative of the watershed.

6.2 Natural System Inventories and Monitoring for Land Development

Most approval agencies require Environmental Impact Statements (EIS) or Environmental Assessments (EAs) to be completed as part of their planning and review processes. Inventory data are largely obtained by specialists under contract to the applicant, provide a snapshot in time, and do not always capture seasonal differences and variations over time. Some consultants contact local CAs for more detailed and longitudinal data. Data contained in EIS and EAs are provided to approval agencies review, but are not always consolidated into a comprehensive data based for use by others. MVCA records key EIS findings to help build a composite understanding of proposals, mitigating measures, and impacts in areas of growth.¹⁶

6.3 Other Conservation Authority Programs

As noted previously, all 36 CAs participate in MECP's Provincial Water Quality Monitoring Network and the Provincial Groundwater Monitoring Network programs. Table 4 summarizes the scope of other monitoring programs carried out by a selection of CAs surveyed for this report.

MVCA consults with other CAs for program expertise and support as needed. By using similar protocols, CAs are able to provide their municipalities with comparable data and information. CA programs vary in the scope and focus due to differences in local landscapes, priorities, and resources.

¹⁵ For example, a sewage treatment plant, lumber mill, gravel pit, and plant manufacturing plant.

¹⁶ The file number and report author are recorded so more detail can be obtained if required.

Table 4: Scope of CA Monitoring Programs

Eastern Ontario Conservation Authorities	PWQMN	PGWN	City Baseline	Other W. Qual	Lakes	Shorelines	City Stream Watch	Stream Benthics	Stream Fish	Invasive Species
Rideau Valley	Y	Y	Y		Y		Y	Y	Y	Y
South Nation	Y	Y	Y				Y	Y	Y	Y
MVCA	Y	Y	Y		Y		Y	Y	Y	Y

6.4 Provincial and Federal Agency Programs

Natural resource management is a provincial responsibility under Canada's *Constitution Act*, with primary responsibility for resource monitoring and assessment in Ontario residing with the Ministry of Natural Resources & Forestry (MNR). In addition to the PGMN and PWQMN programs delivered by conservation authorities, the province directly¹⁷ and indirectly¹⁸ monitors fish¹⁹, wildlife and habitats for the purpose of setting harvest limits and land management objectives.^{20,21}

Provincial broad-scale fish (BsM) monitoring is to be carried out at a selection of lakes once every five years, however, coverage is sparse in MVCA's jurisdiction.²² The province also prepares Forest Management Plans²³ for crown lands including the Mazinaw-Lanark forest.²⁴ These plans provide data regarding the condition of a forest and how it will be harvested and replanted over time.

At the federal level, monitoring and research are used to inform the drafting and update of federal policies and regulations to protect and conserve Canadian species and habitats from toxic substances, diseases, unsustainable commercial practices, climate change and other threats.²⁵ Environment & Climate Change Canada (ECCC) has primary responsibility, with other federal departments and agencies often responsible for self-monitoring.

¹⁷ <https://www.ontario.ca/page/broad-scale-monitoring-program#section-1>

¹⁸ E.g. <https://www.livestockapplications.lrc.gov.on.ca/fishonline/Index.html?viewer=FishONLine.FishONLine&locale=en-CA>

¹⁹ E.g. https://www.publicdocs.mnr.gov.on.ca/fwsb/BsM/BsM-EN-Mississippi_Lake-FMZ18-Cyc03-18-4082-49908/BsM-EN-Mississippi_Lake-FMZ18-Cyc03-18-4082-49908.html

²⁰ <https://www.ontario.ca/page/natural-resources-science-and-research>

²¹ <https://www.ontario.ca/page/natural-heritage-information-centre>

²² This project considers the largest of MVCA's lakes.

²³ https://nrp.mnr.gov.on.ca/s/fmp-online?language=en_US

²⁴ https://nrp.mnr.gov.on.ca/s/published-submission?language=en_US&recordId=a0z3g000000ofS9AAI

²⁵ <https://www.canada.ca/en/environment-climate-change/services/wildlife-research-landscape-science/research-topics.html>

The Mississippi Lake National Wildlife Area & Bird Sanctuary is the only federal site in MVCA's jurisdiction where monitoring is known to occur.²⁶ In 2022, Agriculture & Agri-food Canada carried out a herbarium inventory at MVCA's Morris Island Conservation Area.

6.5 Indigenous Knowledge

The Indigenous Peoples of Ontario hold valuable knowledge about the Watershed and may be able to help enhance the data we have collected and to assist in data interpretation. For example, in 2009 Plenty Canada assisted with an American Eel assessment by providing traditional knowledge and local insights. Plenty Canada has also recently undertaken projects to map Wild Rice in parts of the watershed.

When work began on the MRWP, MVCA undertook to prepare an Indigenous Engagement Plan (IEP) under the guidance of Cambium Indigenous Professional Services (CIPS). MVCA, through CIPS, will engage with Indigenous Communities/groups to discover any information sharing and potential collaborations in monitoring of environmental conditions. As initiatives are identified, MVCA will recommend amendments to the Natural Systems Monitoring Plan to the Board as well as seek funding to support these initiatives.

6.6 Other Organizations

6.6.1 Local universities

Both Carleton University and L'Université d'Ottawa have carried out short-term studies of specific species/habitats at MVCA properties, including migratory shorebirds, trilliums, dragonflies and turtles in recent years. There is occasionally a challenge obtaining final reports due to the timeframes involved to finalize projects.

6.6.2 Ontario Power Generation (OPG)

OPG sponsors bio-inventories at its sites, which in 2022 included initiating a yearlong bio-blitz at the Morris Island Conservation Area. This program was overseen by a professional biologist, as well as by other field specialists and volunteers. These data represent the current condition of the site, noting the presence of invasive species or species at risk, and can act as a benchmark to compare future site assessments to. The results from this project will be valuable to expanding our understanding of the site as well as nearby ecosystems. Events related to this bio-blitz will continue until the end of summer 2023.

6.6.3 Nature Conservancy of Canada, Ducks Unlimited, Ottawa River Keeper

The following is a summary of programs known to occur within MVCA's jurisdiction.

²⁶ They will be monitoring the amphibian populations and other habitat variables in 2023. This is a follow up to the 2021 season of their Protected Areas Wetland Monitoring Program.

- Nature Conservancy of Canada provides resources of pollinator habitat creation/restoration.
- Canadian Wildlife Federation also provides pollinator habitat resources, as well as turtle monitoring and habitat creation support. We are working with them to create two pollinator gardens at our properties.
- Ducks Unlimited provides wetland restoration/creation advice and funding programs. They often work directly with private landowners in our area.
- Ottawa River Keeper focuses on citizen science collection of data along the full Ottawa River Catchment. Recently, we have partnered on sharing water temperature monitoring efforts and share data where our zones overlap. Our monitoring programs do not overlap as we do not monitor the sites they do.

6.6.4 Volunteer Monitoring Programs

The following is a summary of volunteer programs known to occur within MVCA's jurisdiction.

- Water Rangers is a citizen science-based program focused on monitoring surface water quality (streams and lakes) with simple parameters that can be done by volunteers onsite. MVCA promotes the program to lake communities and lends out equipment each season. Where in place, volunteers are able to gather data at more frequent intervals than MVCA staff.²⁷ Water Rangers has been adopted by several but not all lake associations.
- MECP's Lake Partner Program²⁸ works with lake stewards who take an annual spring water sample for total phosphorus analysis at the MECP lab. The volunteers also take monthly Secchi depth readings. This program includes lakes that fall outside of MVCA's lake program, but has gaps in that it only samples nutrients in the spring and does not include a dissolved oxygen-water temperature profile analysis.
- Watersheds Canada's volunteer "Love Your Lake" programs provides waterfront property owners with shoreline assessments and stewardship recommendations.

The risk of becoming reliant on volunteer programs is a lack of year over year consistency due to waning interest, variable capacity, and volunteers aging out or burning out.

6.6.5 i-Naturalist, eBird, Eddmaps

Professional and amateur naturalists are encouraged to share their observations on websites such as I-Naturalist, eBird, Eddmaps etc. These data are generally *ad hoc*, variable in data quality, geographic and temporal representation, can show strong geographic and specie bias, and are limited by the skills of the participants. For these reasons they can be good to expand on a baseline program, but cannot be relied upon for providing broad geographical results over prolonged periods.

²⁷ MVCA staff monitor sites on a rotating basis, i.e. not every year; and will visit the site 3 times/year to support seasonal analysis.

²⁸ <https://www.ontario.ca/document/lakeshore-capacity-assessment-handbook-protecting-water-quality-inland-lakes/monitoring-lake-water-quality>

To make the most use of these data sets, search and filter functions can be applied to screen for quality and applicability. As well, where a citizen science program is implemented, programs can be designed that mitigate the limitations set out above.

7.0 Program Needs, Goals and Objectives

Based upon a review of the regulatory and operational needs of MVCA, municipal partners²⁹ and the information requested by residents and consultants over time, the following is a summary of the questions to be answered by MVCA's Natural System Monitoring and Reporting Program.

- What impacts are water control structures having on natural heritage features and functions and are mitigation measures working?
- What are baseline natural heritage conditions across the three watersheds, and how are conditions changing over time?
 - Water quality (surface and ground water for domestic and recreational use)³⁰
 - Aquatic and hydrophilic species (native and invasive)
 - Lakes and tributaries (headwaters and those experiencing growth pressures)
 - Forests and wetlands
- What are the potential causes of impairment where observed?
- How is climate change affecting natural heritage features and functions?
- What areas require targeted stewardship support and educational outreach?
 - To protect valued natural heritage features and functions.
 - To rehabilitate and restore degraded habitats.
- What impact do mitigation, stewardship, and compensation measures have in protecting existing landscapes, restoring impaired habitats, and replacing destroyed habitats?

Appendix 1 identifies how MVCA's current program and other monitoring programs address these requirements. This analysis distinguishes between (P)rimarily reliable data sources, and (S)econdary incidental data sources. Review of this table demonstrates the need for MVCA to continue its monitoring and reporting program, and to consider enhancing efforts to address information gaps.

7.1 Program Goals

Recommended goals of the Natural System Monitoring & Reporting Program are the following:

1. Provide municipal planners, MVCA staff, and other user groups with reliable and geographically representative baseline natural system data to support short and long-term

²⁹ To administer approvals under the *Planning Act*, 1990 in accordance with the *Provincial Policy Statement*, 2020

³⁰ Testing of individual supplies is the responsibility of Public Health. MVCA's role is confined to identification of trends in water quality and potential risks to the supply.

decision-making.

2. Identify and monitor the condition of sensitive natural features and functions, and vulnerable waterbodies.
3. Identify gaps in data sets and address gaps where resources allow.
4. Conduct specialized studies to address questions of concern (re: specific locations, species, or pollutants) where resources allow or on a cost recovery basis.
5. Analyze and report on current conditions, trends, threats, and opportunities to mitigate negative impacts on natural heritage features and functions.
6. Assess the efficacy of mitigation, stewardship and compensation measures.
7. Consolidate MVCA data with data from other sources to serve as the repository for natural heritage information within our jurisdiction.
8. Make data, meta data, and analyses easily accessible for all audiences and user groups.

7.2 Program Objectives

Recommended objectives of the Natural System Monitoring & Reporting Program are the following:

1. Use standardized protocols for monitoring, data management, and reporting that are consistent with partner agencies.
2. Deliver mandatory monitoring under the *Conservation Authorities Act*, namely the PWQMN and PGMN programs of MECP and tracking of wetland³¹ to fulfill Section 28 requirements.
3. Review monitoring requirements of the *Mississippi River Water Management Plan* with the province to confirm roles and responsibilities and expectations for effects monitoring of MVCA and other water control infrastructure. Adjust monitoring program, if required to address program gaps.
4. Optimize delivery of baseline water quality, habitat, and species monitoring programs to address geographic and temporal variability, include sensitive and vulnerable areas, and identify changes and trends over time.
5. Identify and determine means for addressing data gaps.
6. Develop a program for assessing the effectiveness of mitigation and compensation measures and MVCA's stewardship program, and integrate into annual workplans as resources permit.
7. Review and prioritize monitoring needs of the *Mississippi River Watershed Plan*, and integrate

³¹ Aerial photography is used to verify the presence, evolving shape, and destruction of wetlands over time.

into annual workplans as resources permit.

8. Conduct analysis and reporting at the watershed, subwatershed and stream levels, and across geographic regions: upper, middle and lower watershed.
9. Share MVCA data, and obtain partner organization data including provincial and federal agencies, academia, and non-government organizations (e.g. lake associations).
10. Collaborate monitoring efforts with other organizations to strengthen collective capacity, and leverage funding and cost-sharing opportunities.
11. Encourage community participation and use citizen science-based volunteer monitoring to increase MVCA's monitoring capacity, and maintain and enhance community relationships, stewardship, education and outreach.
12. Continue and enhance public education and the health of the watershed and what they can do as stewards of the watershed.

8.0 Current Program Challenges and Opportunities

A number of challenges have influenced delivery of the monitoring program in recent years. This section reviews the challenges, opportunities to address them and discusses ways to optimize monitoring across the watershed to ensure efficient use of limited resources to the areas of greatest need. Key challenges can be grouped into the following themes, which are reviewed in Tables 5, 6 and 7 below.

- Watershed size and diversity
- Limited staff and other resources
- Data management and use

Table 5: Watershed Size and Diversity

Key Considerations & Challenges	Objectives	Opportunities & Solutions
<p>Resources spread over a large and geographically diverse watershed.</p> <p>Development pressures concentrated in urban areas in the east, and waterfront areas in the west.</p> <p>Limited current monitoring within urban/developed areas outside of the City, (i.e. Carleton Place, Mississippi Mills and Beckwith).</p> <p>Hundreds of lakes in west – need to be strategic in determining which to monitor and the frequency.</p> <p>Overall lack of surface water quality and other monitoring in agricultural areas.</p> <p>Overall lack of groundwater quality data – implications in built up areas relying on private wells and septic systems.</p> <p>Carp Watershed and tributaries to the east show poor water quality results compared to the rest of the watershed.</p> <p>Forest cover (overall cover and interior forest cover) meets environmental targets³² in the west watershed but are at or below targets in the east.</p>	<p>Provide <u>long term</u> data sets from core representative sites.</p> <p>Focus monitoring to where it is most needed.</p> <p>Use standardized protocols.</p> <p>Collaborate with other organizations.</p> <p>Fill monitoring gaps where needed and reduce duplication/redundancy.</p>	<p>Priority on PWQMN, CBLWQ, and MVCA's Lake Monitoring to: provide a long-term record of data from core sites, enable collaboration, and use standardized protocols (on-going).</p> <p>Assess monitoring needs specific to differing geography (new, Appendix A Figure 1 and Table 2).</p> <p>Lake monitoring was already revised to optimize sampling frequency concentrating on larger more developed lakes. There may be scope for further revision (on-going).</p> <p>Assess viability of additional water quality monitoring focused in agricultural areas (new).</p> <p>Assess groundwater data needs and solutions to augment data where need is identified (new).</p> <p>Support frequent updates to mapping/GIS products to enable assessment of forest and wetland cover, through partnerships and external funding opportunities (on-going).</p>

³² Based on Environment Canada "How Much Habitat is Enough" environmental targets.

Table 6: Staff and Resources

Challenges & Considerations	Objectives	Opportunities & Solutions
<p>Monitoring is coordinated by the staff biologist and carried out with the help of 1 to 2 summer students, and other staff as needed based on availability.</p> <p>Reliance on external funding to hire summer students – amount is not guaranteed from year to year.</p> <p>Reliance on sufficient core staff to complete the spring and fall work when students are not available (min. two required) with limited full-time staff trained in monitoring protocols.</p> <p>Wetland, Forest, and Riparian cover components of the Watershed Report Card are dependent on availability of updated mapping which is expensive to produce and analysis requires GIS time/expertise.</p>	<p>Efficient and cost-effective delivery of programs.</p> <p>Collaboration and partnerships to share resources.</p>	<p>Cross-train one or more full-time staff on monitoring protocols to provide assistance during peak periods and support data management during the off-season.</p> <p>At times, MVCA's budget has supported hiring a monitoring technician to provide support to both monitoring and planning and regulations (periodic).</p> <p>Seek additional external funding/grants to support existing and new monitoring initiatives (on-going/new).</p> <p>Seek additional partnership arrangements to offset costs (new).</p>

Table 7: Data Management and Use

Challenges & Limitations	Objectives	Opportunities & Solutions
<p>Focus has been on the collection of data, with less time spent on the analysis, reporting and sharing of the data.</p> <p>Data is managed through MVCA's WISKI system (program shared with other CAs). Requires significant staff training and ongoing use to be used efficiently.</p> <p>Continued loss of in-house WISKI expertise through staff turn-over.</p>	<p>Support land use planning and decision making.</p> <p>Support the actions of the Mississippi River Watershed Plan.</p> <p>Enable effective targeting of stewardship and restoration efforts.</p> <p>Support public education and outreach.</p> <p>Share data with broad range of partners (listed under 3.3).</p>	<p>Increased emphasis on the analysis, use, sharing and reporting of the data collected (ongoing/new).</p> <p>Standardize data storage formats and ensure staff training in use of WISKI (ongoing, through use of WISKI?).</p> <p>Make monitoring data publicly accessible through suitable formats (new).</p> <p>Standardized reporting formats to provide the public and other agencies with easily comparable data (on-going).</p> <p>More emphasis on volunteer-based citizen science programs, to heighten community interest and broaden the collection of baseline information (new).</p>

8.1 Geographic Priorities

As described previously, MVCA's watersheds have marked physiographic differences in landform and associated ecosystems. This means that it is neither beneficial nor practical to have all monitoring programs applied equally across the MVCA's jurisdiction. To help address this, a geographic assessment of the pressures, monitoring priorities and identified gaps in monitoring is presented in Appendix 2. The assessment is based on dividing the watershed into the upper, middle, and lower watershed as described in Section 3.

Monitoring priorities in each area should be determined according to the local landscape, pressures and needs. Sites are selected based on program applicability, property access permission, proximity to the road network and providing representation across the subwatersheds.

8.2 Partnerships and Funding

Funding for MVCA's monitoring programs and initiatives comes from the following sources:

- MVCA general budget (municipal levy).
- Federal Government – Canada Summer Jobs grant to cover summer student wages (not guaranteed, variable from year to year).
- Ontario Federation of Anglers and Hunters (OFAH) – funds hiring of summer student through Invasive Species Hit Squad program.

- Other special grants and funding opportunities are also periodically sought to support specific projects (ex. updated mapping products such as DRAPE air photography and more recently LiDAR).

Several monitoring programs are carried out by MVCA with financial, technical and other in-kind support from partner agencies such as the Province of Ontario (PWQMN, PGMN) and the City of Ottawa (CBLWQ). MVCA has also had 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.

Enhanced partnering opportunities to be explored include the following:

- **Conservation Authorities:**
 - Review management of volunteer programs
 - Review approach to determining lake carrying capacity thresholds
 - Review data management and reporting tools
- **Municipalities:**
 - Identify preferred methods of obtaining baseline data for plan reviews
 - Provide regular reporting of findings for each municipality
 - Identify particular issues of concern for potential targeted study
- **Environmental Organizations and Citizen Science Programs:**
 - Continue to promote and facilitate participation in 3rd party programs
 - Enhance feedback loops to volunteers
- **Academia:**
 - Identify information gaps and approach local universities regarding specific study needs and partnering opportunities, such as:
 - Lakes at greatest risk due to climate change
 - Invasive species presence and management
 - Algae risks and management

9.0 Program Recommendations

9.1 Monitoring Activities

MVCA will continue to place priority and focus on surface water quality monitoring through the implementation of existing program based on their value in providing robust long-term data that supports municipal planning work support of related studies and other research. Groundwater monitoring will be limited to participation in provincially managed program in support of MVCA's Source Protection responsibilities.

Category 1

- **Provincial Water Quality Monitoring Network – PWQMN**
- **Provincial Groundwater Monitoring Network - PGMN**

Category 2

- **Stream and Lake Monitoring Program³³**, recognizing its primary value in identifying general trends over time and supporting municipal planning, consultant studies, and public education and outreach. It would be beneficial to assess data usage and undertake another review of the number and frequency of lakes being sampled.
- **Stream Watch Program³⁴** recognizing its value in providing detailed stream condition data in areas experiencing growth and urban pressures in support of municipal planning, consultant studies, public education and outreach, and design of MVCA stewardship programs.

Category 3

The following are monitoring activities are carried out on an opportunistic basis, have negligible incremental costs, and provide enhanced information regarding changes occurring in the watershed, and support the interests and work of lake associations.

- Continue **Stream Temperature** and **Lake Temperature Monitoring** programs as easy and cost-effective means of providing data that is relevant to assessing climate change impacts.
- Continue to implement the **Invasive Species Hit Squad** subject to funding from OFAH.
- Continue **Algae Monitoring** on an opportunistic basis in partnership with lake associations.
- **Seine Netting** Program is considered low priority and will only continue when resources

³³ This includes the existing City Baseline Monitoring Program, which is already subject to an MOU.

³⁴ This program is branded as the City Stream Watch program but occurs both within and outside of the City.

permit.

9.2 Monitoring Approach and Tools

The following actions are recommended to enhance the quality of the program:

- Review monitoring requirements set out in the **Mississippi River Water Management Plan** with provincial agencies and confirm scope of monitoring to be carried out by MVCA.
- Undertake a program priority assessment of the **Ontario Stream Assessment Protocol - OSAP** to review data use, resources requirements (staff time, incidental costs, etc.) and overall benefits. Implement as resources permit with possible refocusing towards urban, urban fringe and agricultural areas.
- Undertake a program priority assessment of the **Headwater Drainage Feature Protocol**. Implement as resources permit with a limited number of sites surveyed per year in line with the City Stream Watch rotation.
- Actively pursue partnerships and external funding opportunities to support frequent updates to mapping/GIS products to enable assessment of forest and wetland cover.
- Continue to use the three standardized reporting formats listed in Table 2 to provide the public and other agencies with easily comparable data.
- Continue to standardize data storage formats and ensure a minimum of two full time employees within the Planning Department are fully trained in the use of WISKI.
- Budget for a part-time Monitoring Technician to support work on monitoring protocols and provide assistance during peak periods. Work and objectives as outlined in this document require seasonal support from additional staff resources.

9.3 Potential New Initiatives

The following have been identified, primarily through the Mississippi River Watershed Plan, as potential further actions and/or initiatives:

- Reassess monitoring program allocations based on local indicators and pressures (development and results). Considerations to include:
 - Viability of additional water quality monitoring focused in agricultural areas and urban/urbanizing areas outside of the City of Ottawa (Carleton Place, Mississippi Mills and surrounding areas).
 - Potential expansion of City Stream Watch and/or refocusing of OSAP into urban and agricultural areas that aren't currently being monitored.
- Assess groundwater data needs and identify solutions to augment data as needed to support MVCA responsibilities in Source Protection (Cat 1). This may include tracking and warehousing

of data already collected through other means, such as monitoring wells for development proposals, or through periodic sampling of private wells in strategic locations.

- Seek additional external funding/grants and partnership arrangements to support existing and new monitoring initiatives.
- Work with MVCA Water Management Department to increase the analysis/use, sharing and reporting of the data collected through the following:
 - Tracking of data requests (who is using the data and for what purpose).
 - Consider use of Open Data
- Increase emphasis on volunteer-based citizen science activities and programs, to heighten community interest and broaden the collection of baseline information.

Appendix 1: Data Needs versus Availability (primary and supplemental sources)

Primary vs. Secondary	MVCA					Province						Feds	Municipal health units	NGOs incl. lake associations				
Parameter / Program	Lake	Stream Watch	Fish	Benthics	Water Temperature	PWQMN	PGMN	Fish (BsM, SLIN, Creel)	Managed Forests	Habitat Classification	Lake Capacity (nutrient model)	Site Specific	Drinking water (surface intakes, wells, beach safety)	Ontario Anglers and Hunters	Ducks Unlimited	Watersheds Canada	Lake Associations	Water Rangers
1. Water Quality											P	Enviro. Canada standards	P				X	X
a. Drinking Water						S	S						P				X	
b. Nutrients	P					P	P				X						X	
c. Aquatic life	P		P	P	P			P				DFO					X	X
2. Habitat	P	P	P	P	P							DFO			P	P	X	
a. Shorelines		P								X					S	P	X	
b. Tributaries		P	P	P	P													X
c. Lakes					P			P		X		DFO					X	X
d. Forests									P	X								
e. Wetlands		M				M				P					P			
3. Species		P	P	P	P			P	P	P		DFO/Enviro Can			P			

Primary vs. Secondary	MVCA					Province						Feds	Municipal health units	NGOs incl. lake associations				
Parameter / Program	Lake	Stream Watch	Fish	Benthics	Water Temperature	PWQMN	PGMN	Fish (BsM, SLIN, Creel)	Managed Forests	Habitat Classification	Lake Capacity (nutrient model)	Site Specific	Drinking water (surface intakes, wells, beach safety)	Ontario Anglers and Hunters	Ducks Unlimited	Watersheds Canada	Lake Associations	Water Rangers
a. Species at Risk										P		X						
b. Invasive species	S	S						S	S			X		P			X	
4. Lake Capacity											P						X	

Appendix 2: Monitoring Program Details

Program	Program Partners	Data Collected	No. of Sites, Frequency & Months Sampled
Provincial Water Quality Monitoring Network (PWQMN)	MECP	Water Chemistry	14 sites 8 times/year Spring – fall
City Baseline Water Quality (CBLWQ)	City of Ottawa	Water Chemistry	17 sites 8 times/year Spring – fall
MVCA WQ	None	Water Chemistry	2 sites 8 times/year Spring – fall
Ontario Stream Assessment Protocol (OSAP)	MNR, FWIS	Fish, aquatic vegetation, surrounding land use	25 – 30 sites per year May, July, August
City Stream Watch	RVCA, SNCA	Land use, riparian & bank conditions, fish/wildlife, pollution, max. water temp.	2 - 3 streams per year Summer
Headwaters	RVCA	Morphology and flow	15 to 20 sites per year Early spring, August
Stream Temperature Monitoring	MNR, FWIS	Water temp.	20 sites, 15 mins intervals May, July, August
Lake Monitoring	Lake Stewards (volunteers)	Phosphorus, pH, Dissolved Oxygen, Temp Profiles	44 lakes/62 sites 2-8 yr. cycle 10 to 12 sites 3 times/yr. Spring, Summer, Fall
Seine Netting	Lake Stewards	Near shore fish population	3-5 sites 1 day/year Summer
Lake Water Temperature	None	Near surface water temp.	6 sites, 15 min intervals Spring – fall
Algae Monitoring	None	Incidental observations about occurrences	Throughout watershed Continuous Ice off period
Provincial Groundwater Monitoring Network (PGMN)	MECP	Water level, water chemistry	9 sites - well checks 2-3/year, chemistry 1/year Spring – fall
Invasive Species Hit Squad	OFAH	Incidental observation occurrences Community education events.	Throughout watershed. Stream and lake focused. Continuous Ice off period

Appendix 3: Geographic Assessment of Program Delivery

	Key Pressures Identified	Current Priorities	Gaps and Additional Needs
Upper Watershed	<ul style="list-style-type: none"> • Lake/waterfront development • Invasive aquatic species 	<ul style="list-style-type: none"> • Monitoring of large highly developed lakes, cold water lakes, and lakes representative of each of the main rivers (water quality and invasive species) • Stream sites – cool and cold water 	<ul style="list-style-type: none"> • None identified
Middle Watershed	<ul style="list-style-type: none"> • Lake/waterfront development • Rural development (mostly lot creation) – impacts to natural systems (wetlands and forested areas). • Some agricultural activity, mostly in south and east 		<ul style="list-style-type: none"> • Lack of monitoring in agricultural areas for surface water quality impacts • Lack of monitoring of rural development impacts to natural heritage systems (wetlands, forested areas) • Lack of groundwater data to support and assess potential impacts of rural development
Lower Watershed	<ul style="list-style-type: none"> • Urban and urban expansion area development • Mississippi Lake development • Waterfront properties along rivers • Agricultural activity • Development impacts to natural systems (wetlands and forested areas). 	<ul style="list-style-type: none"> • Stream sites within or adjacent to urban boundary • Mississippi Lake water quality and invasive species monitoring 	

This table presents a general overview and geographic assessment of the pressures, monitoring priorities and identified gaps in monitoring based on the three areas shown in Figure 2. The **Upper Watershed** represents the Canadian Shield area, the **Middle Watershed**, is the transition area between the Canadian Shield and St. Lawrence Lowlands and the **Lower Watershed** is the Lowlands area.

REPORT**3323/23**

TO:	MVCA Policy & Priorities Advisory Committee
FROM:	Alexis Perrin, Regulations Officer & Matt Craig, Manager of Planning and Regulations
RE:	Section 28 Compliance Strategy
DATE:	April 21, 2023

For information.

1.0 BACKGROUND

A principal mandate of the Conservation Authority is to protect life and property from natural hazards such as flooding and erosion as required under Section 28 of the Act. Compliance activities play a pivotal role in achieving this goal by ensuring the requirements of approvals under Ontario Regulation 153/06 are enforced. Application of the permitting system ensures that development does not impact natural hazard lands or interfere with wetlands or watercourses within the Mississippi Valley watershed.

Regulations staff are designated under the *Conservation Authorities Act* for the purpose of enforcing Section 28 of the Act as Provincial Offences Officers. They inspect and ensure compliance of the terms and conditions of permits that have been issued. They also inspect, investigate and report on complaints of non-compliant development activities within the Mississippi Valley watershed.

2.0 COMPLIANCE STRATEGY

MVCA's Compliance Strategy sets out program objectives and approach to compliance promotion and enforcement. See Attachment 1.

A critical step in the compliance process is ranking permits for compliance inspections. This Strategy directs that new structures and projects with significant site alteration undergo compliance inspections. These types of projects also require the submission of final topographic plans and flood proofing requirements where applicable. The Strategy requires that consideration be given to the risk, scale and scope of each project in determining the

requirement for final topographic plans. Other types of activities and compliance requirements are discussed in the attached Strategy.

3.0 CORPORATE STRATEGIC PLAN

Implementation of the Compliance Strategy will support the achievement of:

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.

Attachment 1: Section 28 Compliance Strategy

Section 28 Compliance Strategy

Mississippi Valley Conservation Authority

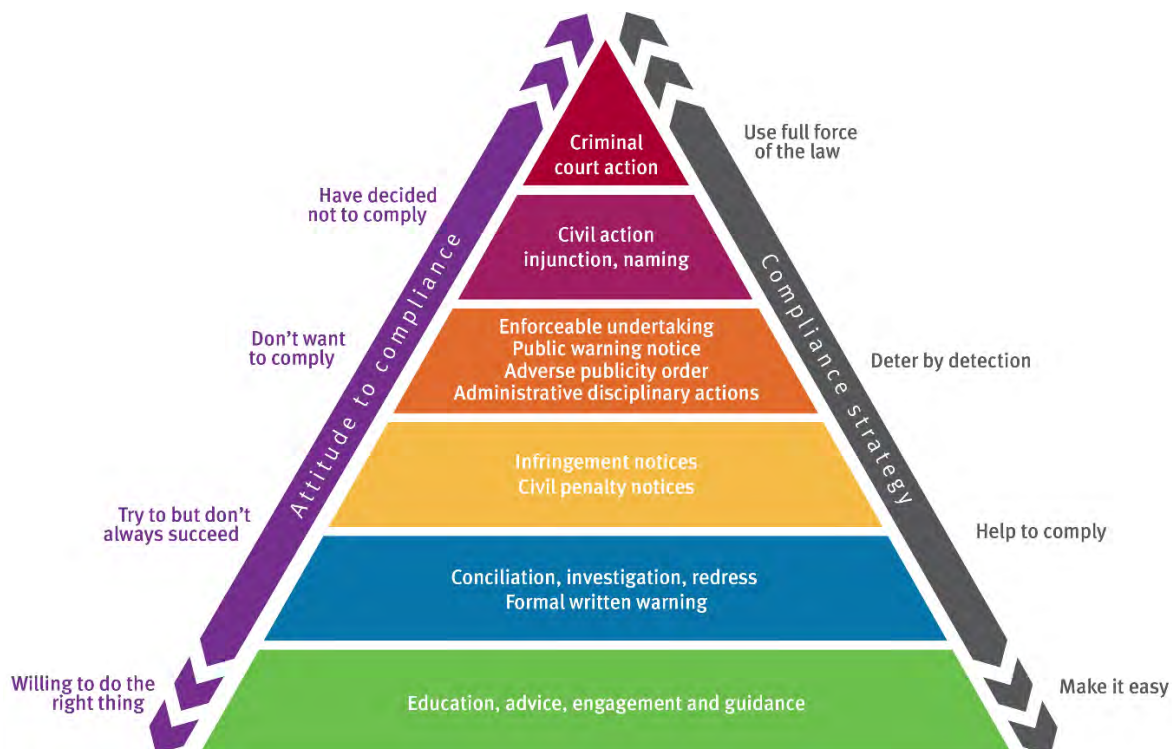
1. Background and Purpose

Conservation Authorities (CA) are required to administer a permit system for regulated areas within their jurisdiction, promote compliance, and enforce regulations made under Sections 28 and 29 of the *Conservation Authorities Act* R.S.O. (1990).

Section 28 activities govern development in regulated areas defined as river and stream valleys, hazardous lands, alterations to shorelines and watercourses, and interference with wetlands. The regulations also extend to other areas where development could interfere with the hydrologic function of a wetland, such as areas within 120 metres of all Provincially Significant Wetlands and areas within 30 metres of other wetlands.

Figure 1 illustrates the approach taken by most regulatory agencies to promoting and ensuring compliance.¹ The purpose of this strategy is to outline the Section 28 regulatory compliance program at the Mississippi Valley Conservation Authority (MVCA).

Figure 1: Typical Enforcement Continuum



¹ Source: <https://www.qld.gov.au/law/laws-regulated-industries-and-accountability>

2. Goals

The goals of Section 28 of the *Conservation Authorities Act* (CAA) and of this Strategy are to protect people and property from natural hazards, and to limit interference with and impacts to wetlands. Specifically, it is MVCA's goal to ensure compliance with O. Reg. 153/06 under the CAA and the terms and conditions of permits issued by the Authority.

3. Objectives

The objectives of this strategy are the following:

- Ensure regulatory staff competency and accreditation.
- Provide information and promote awareness of Section 28 regulations, regulatory requirements, and development restrictions.
- Provide regulatory training and support to municipalities and key stakeholders.
- Make application and approval processes easy to understand and timely.
- Support applicants in finding solutions at difficult sites.
- Monitor for compliance with requirements set out in permits issued.
- Respond to complaints regarding non-compliance.
- Inspect and investigate potential violations.
- Resolve minor infractions in cooperation with landowners.
- Work with landowners to successfully resolve cases of non-compliance.
- Support the Regulations Committee in the consideration of appeals.
- Pursue egregious cases of non-compliance using the legal tools available.

The regulations team uses a combination of activities to achieve these objectives that include public communication, investigative fieldwork, conflict resolution and legal responsibilities.

4. Employee Training and Accreditation

Staff engaged in regulatory compliance and enforcement receive in-house training on Section 28 regulations and policies; and are required to obtain officer designation through a Level 1 Provincial Offences Officer training. Thereafter, refresher training and participation in the Conservation Ontario Regulations Committee are used to ensure that staff keep abreast of regulatory changes, evolving practices, and case law.

5. Stakeholder Awareness Raising and Training

There is a continual need to inform/educate landowners, developers, real estate agents, lawyers, and municipal partners about regulatory requirements. While stakeholders are required to exercise their own due diligence concerning work on their property, it is incumbent

upon MVCA to publicize and inform the public of current regulation and policies, and any changes thereto. Compliance promotion activities at the MVCA include the following:

- Meetings with member municipality staff (ongoing since 2012);
- Information sessions targeting developers, consultants and real estate agents (ongoing since 2012 and in partnership with the RVCA since 2019);
- Provision of Property Clearance Letters (ongoing; typically, at the time of property purchase; currently not required in any real estate laws); and
- Social media posts to raise awareness at key times of the year.

6. Permit application and processing

MVCA makes regulatory information easily visible on the landing page of the corporate website. All required information is available on the website, including:

- Interactive regulations map
- Property enquiry form
- Fillable PDF permit application form
- Permit process flow chart
- Permit policies for different application types
- Flood proofing requirements for specific waterbodies

MVCA strives to achieve the voluntary Conservation Ontario target timeline as shown in Table 1. MVCA reports on its processing times to the Board of Directors at least twice annually.

Table 1: Permit Processing Time Standard and Target

Application Type	Conserv. Ontario Target
Major	49 days
Minor	35 days
Routine	24 days

When an application cannot be approved by staff due to contravention of MVCA policies, regulations staff inform landowners of the option to put their application before MVCA's Regulations Committee. Committee hearings allow applicants and staff to submit evidence for and against the policy exemption. Committee decisions are final and cannot be appealed.

7. Compliance Monitoring and Management

MVCA uses four primary means for monitoring and bringing landowners into compliance:

- Document reviews and inspection
- Responding to public complaints

- Investigations
- Prosecutions

a. Document reviews and inspections

Due to limited resources, MVCA prioritizes spot checks and the submission of as-built drawings and grading plans using the following priority setting criteria:

1. Risk to life, safety and property.
2. Risk of erosion and pollution of the watershed's natural features.
3. Environmental vulnerability and project's potential impact of failure.
4. Regulatory responsibility.
5. The complexity of the project.
6. The compliance history of the applicant.
7. Complaints from the public/surrounding residents.

The priority setting system is presented in more detail in Table 2.

b. Public Complaints and Communication

Members of the public are actively involved in the MVCA compliance and enforcement process. They remain key contacts in reporting activities related to development, unauthorized work, and/ or permit non-compliance within the watershed. Individuals can report their concern through the "Report a Concern" form found on the MVCA website, mail in letters, or call the office and report what they have seen. All concerns received by the MVCA are confidential and are triaged based on the scale, scope, sensitivity and potential impact. When requested, staff will discuss complaints with the public (often concerns are submitted anonymously). Staff use discretion in regard to the release of information as not to jeopardize any investigation. When appropriate MVCA issues a media release in regard to the outcome of any legal proceedings.

c. Investigations

Investigations are carried out in response to incidents of non-conformance with a permit, and contravention with the CA Act. The primary objectives of investigations are to collect information and assess impacts. The following steps are required as part of any investigation:

- Issue a letter notifying them of the non-compliance or infraction under the Act.
- Visit the site with the applicant or their representatives to:
 - identify and discuss options to conform with their permit; or
 - identify what works would be required in order to obtain a permit.
- Engage with municipal planning and by-law enforcement offices to allow for a coordinated and consistent response.
- Provide reasonable timelines to permit holders and landowners to carry out remedial works and conform with or to obtain a permit.

d. Prosecutions

Only the most egregious cases are pursued through the courts.

Table 2: MVCA Risk-Based Prioritization Categories, Ranking, and Descriptions

Order of Priority	Description/Criteria	Inspection Required?	As-built/ Final Grading Plan Required?
1. Floodplain	All residential rebuilds, redevelopments, additions or new development within a Regulatory Floodplain are to be inspected for confirmation that floodproofing elevations have been achieved, excess fill has not been placed and approved site plan and/or grading and drainage plans have been adhered to.	Yes	Yes
2. Cut & Fill	Fill placement/cut & fill where control of flooding could be impacted. Submission of final as-builts and shape files are required and need to be documented (i.e. process developed for changing flood plain mapping after work completed).	Yes	Yes
3. Wetlands	Development within unevaluated wetlands and the regulation limit of a PSW and/or other wetlands.	Yes- if within wetlands; within 30m of a PSW; or 15 m of non-evaluated	Case-by-Case
4. Municipal Infrastructure	Major municipal/residential infrastructure projects (i.e. replacement ? culverts over 1 metre in diameter, new culverts, watermain extensions, watercourse alterations/relocations) where complex ESC measures, by-pass pumping or dewatering is required with an emphasis on those projects being conducted within highly sensitive areas or inherent risk of pollution. Private watercourse realignments are also included in this category.	Case-by-Case	Case-by-Case
5. Slope Stability	Erosion control works where slope stability is required to protect existing development.	As needed basis.	Case-by-Case
6. Shorelines & Docks	Shoreline permits within flood plain areas to ensure excess fill has not been placed as a part of the project.	No (applicant to submit documentation) Case by case (random selection) in some situations	No
7. Other	Development in regulation limit (FP, MB, SH), development in the regulation limit of PSWs (greater than 50m), like-for-like culvert replacements under 1-meter diameter, culvert repairs, attached decks, most development in slope hazard.	As needed basis. But typically, not required.	No

REPORT

3324/23

TO:	MVCA Policy & Planning Advisory Committee
FROM:	Sally McIntyre, General Manager
RE:	Conservation Strategy: Scope & Methodology
DATE:	April 24, 2023 (amended May 3, 2023)

For information (amended per comments of Policy & Planning Committee May 1, 2023)

1.0 BACKGROUND & APPROACH

MVCA owns four conservation areas and operates a further two sites in partnership with the City of Ottawa. As well, the Authority operates eleven water control structures with variable land ownership of the dams and points of access. And, MVCA owns the lands of 14 former residential properties that were expropriated in the 1980s due to persistent flooding¹. Over the past two years several key undertakings at the local, provincial, and federal levels have prompted the need for MVCA to prepare a strategy to guide management of CA properties now and in future. They include:

- completion of the *Mississippi River Watershed Plan*,
- changes to the *Conservation Authorities Act* with new regulations, and
- federal commitment to meet United Nations goals for conservation.

1.1 Mississippi River Watershed Plan

In June 2021, the MVCA Board approved the *Mississippi River Watershed Plan*² to document the current and projected state of the watershed, identify issues and challenges, and present recommended actions. Climate change, urban growth, aging or inadequate infrastructure, and related challenges with flooding and droughts, impairment of water quality, and impacts natural features and systems, were identified as key issues. Recognizing the importance of natural systems and functions in mitigating and building resiliency to those impacts, Action NS1 of the

¹ These sites were acquired by the Authority with funding previously available from the Province.

² While the Mississippi River Watershed Plan (2021) focused specifically on the catchment area of the Mississippi River, many themes and recommendations of the Plan are relevant to MVCA's entire jurisdiction which also includes the watersheds of the Carp River and several other small watercourses that outlet directly into the Ottawa River.

Plan recommends that MVCA “*Develop a Land Conservation Strategy to mitigate flood, erosion and other natural hazards, and to support the ecological services provided by natural systems.*”

1.2 O. Reg. 686/21

Also in 2021, the Province adopted *Ontario Regulation 686/21* to implement changes that were made to the *Conservation Authorities Act* in 2020. It prescribes the mandatory programs and services that CA’s are responsible for, which include requiring each CA to prepare a Conservation Area Strategy for lands owned and controlled by the authority. The Strategy is to include:

- Objectives to inform decision-making related to the lands it owns and controls, including decisions related to policies governing the acquisition and disposition of such lands.
- Identification of the mandatory and non-mandatory programs and services on those lands.
- Where needed, an assessment of how those lands
 - augment any natural heritage located within the authority’s area of jurisdiction, and
 - integrate with other provincially or municipally owned lands or other publicly accessible lands and trails within the authority’s area of jurisdiction.

The strategy is to be completed by the end of 2024 and has specific requirements for consultation, the preparation of an inventory of all CA owned and managed lands, and public posting and periodic updated of the strategy.

1.3 UN Biodiversity Agreement Target “30 by 30”

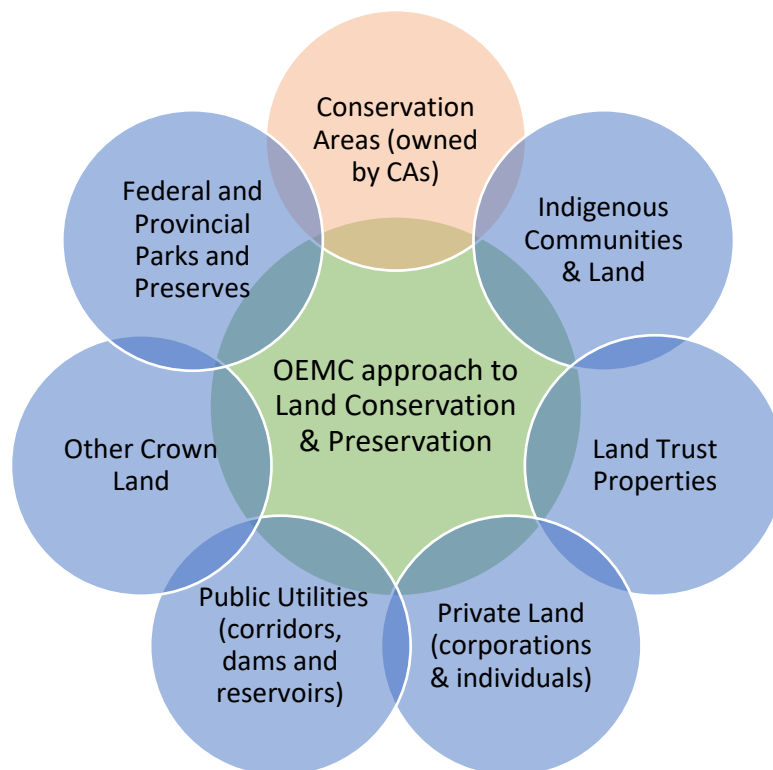
In December 2022, Canada presented its conservation goals at the 15th Conference of the Parties (COP15) to the United Nations Convention on Biological Diversity. In support of the UN Biodiversity Agreement’s “30 by 30” target to protect at least 30 percent of the world’s lands and waters by 2030, Canada has pledged to conserve a quarter of its lands and a quarter of its oceans by 2025, and to work toward conserving 30% by 2030.³ The federal government is using an internationally recognized mechanism to manage and track performance towards this target called “Other Effective area-based Conservation Measures” (OECM).⁴

³<https://www.canada.ca/en/environment-climate-change/news/2022/12/government-of-canada-recognizing-federal-land-and-water-to-contribute-to-30-by-30-nature-conservation-goals.html>

⁴ Established by the [International Union for the Conservation of Nature](#).

OEMCs are a means of “recognizing the conservation efforts of others”⁵ and are intended to achieve biodiversity conservation even when the land is managed for different purposes (i.e. outside of protected areas). They are described as “a model for how people can manage and steward the land sustainably, in ways that allow nature to thrive, achieving the same biodiversity results as a protected area”. As illustrated by Figure 1, OEMCs offer “significant opportunity to increase recognition and support for de facto effective long-term conservation that is taking place outside currently designated protected areas under a range of governance and management regimes, implemented by a diverse set of actors, including by Indigenous peoples and local communities, the private sector and government agencies.”³

Figure 1: Integrated Approach to Land and Water Conservation & Preservation



1.4 Approach

An OEMC approach will be used to consider the entirety of MVCA’s jurisdiction but with a focus on land owned or controlled by MVCA per O.Reg. 686/21. Actions will be identified to enhance conservation and preservation such as stewardship program delivery in targeted areas. The

⁵<https://www.canada.ca/en/environment-climate-change/services/nature-legacy/other-effective-area-based-measures.html>

Strategy will also consider future hazard management needs and opportunities within MVCA's jurisdiction, including the impacts of climate change and growing water demands.

2.0 METHODOLOGY

A five-step approach is proposed for the development of an MVCA Conservation Land Strategy:

Step 1. Current State document to outline:

- CAs mandate and why are we preparing the Strategy
- The scope of the strategy and the difference between conservation and preservation
- Dams and reservoirs, their catchment areas, and the wetlands and waterbodies within that provide reservoir capacity
- Core Natural Areas (forests and wetlands of a minimum size)
- Other areas that support water management and biodiversity objectives
- Lands owned and protected for water management, conservation, and preservation
- Role of public utilities and private land owners in land conservation and preservation
- Example initiatives in Eastern Ontario (Frontenac Reserve, A2A...)

Refer to Figures 1, 2, and 3 for some preliminary work that illustrate the following:

- Land that is already in designated for conservation or preservation purposes including MVCA properties.
- Core natural areas within MVCA's jurisdiction are which are crown-owned.
- Location of all water control structures owned or operated by MVCA and associated drainage areas.

Step 2. Needs Assessment that identifies and discusses in greater detail:

- Areas of natural hazards
- Existing and future water demands and impacts of climate change
- Areas at potential risk of climate and growth impacts
- Habitat needs of key indicator species over their lifecycle with a focus on wetland and aquatic habitats and species

Step 3. Goals and Objectives for land acquisition, conservation, and preservation in our jurisdiction (all 3 watersheds), opportunities and constraints, and the scope of MVCA's role and where it should focus its resources.

Step 4. CA Land Inventory – providing more detail of each CA property with opportunities and barriers analysis, and proposals for next 10-20 years.

Step 5. Draft a Conservation Strategy that sets out:

- Goals and objectives for our jurisdiction
- MVCA's role, and plan for existing CA properties (including dams.)
- Criteria for CA acquisitions and disposals
- Implementation Plan including recommended programs and services

Figures 1, 2, and 3 illustrate a selection of information collected to date.

3.0 PROJECT TEAM

The following staff will be participating in this project:

- Project Director: Sally McIntyre, General Manager
- Project Manager: Alyson Symon, Watershed Planner
- Data Collection and GIS for Natural Systems: Alex Broadbent, I&CT Manager
- GIS for Natural Hazards and Natural Reservoirs: Lauren Shupe, GIS Specialist
- Natural Systems Expertise: Kelly Stiles, Biologist
- CA Lands and Land Ownership: Scott Lawryk (and team), Property Manager
- Natural Hazards and Reservoirs: Juraj Cunderlik, Director of Engineering (and team)
- Peer Review: Matt Craig, Manager of Planning & Regulations

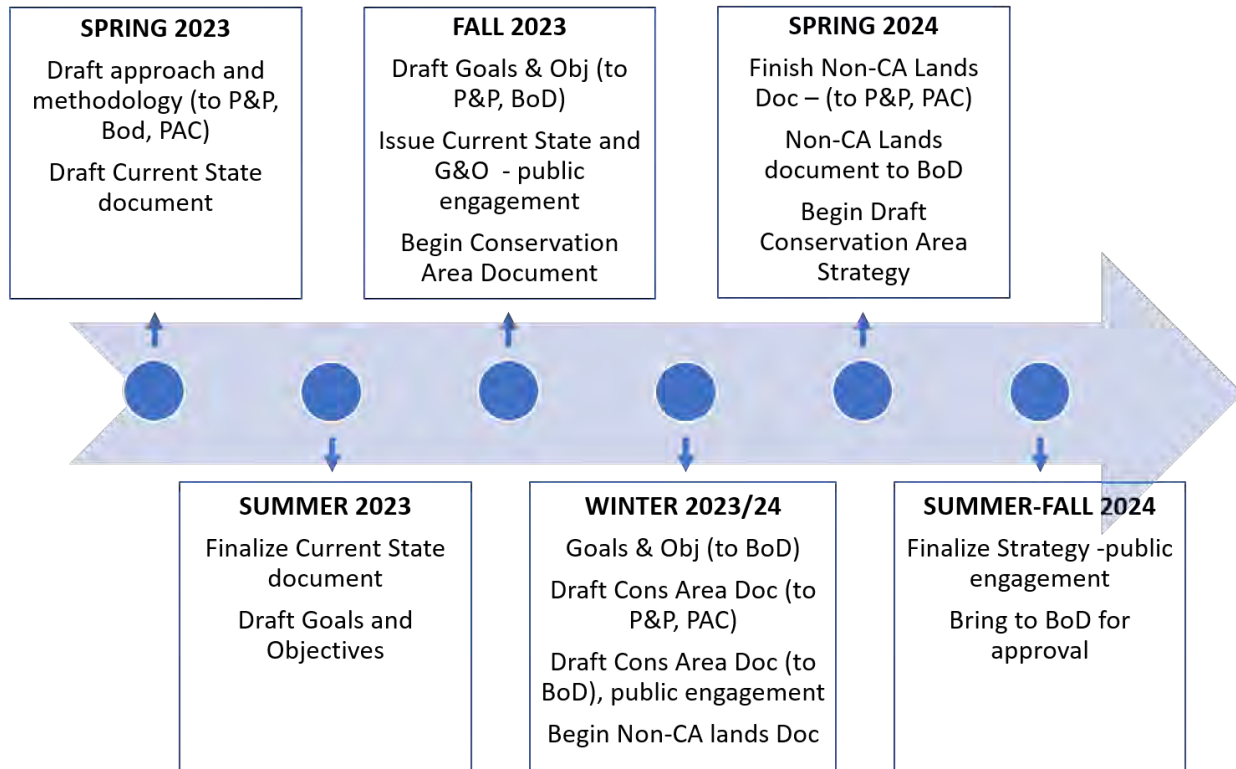
Ecologist Cathy Keddy was retained in 2022 to support identification of core natural areas.

Sadly, Cathy died unexpectedly in the Fall, and the team is looking at options for replacing her expertise.

Other conservation organizations have expressed an interest in this work and will participate as resources allow to help build a strategy that is useful for all.

4.0 PROPOSED TIMELINES

Refer to Figure 4 for the proposed project timeline. In summary, the project will begin in the Spring of 2023 and be completed in the Fall of 2024.

Figure 4: Conservation Strategy Project Timelines

5.0 CORPORATE STRATEGIC PLAN

Completion of the Conservation Strategy will support achievement of:

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

- 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*.
- 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.

Figure 1

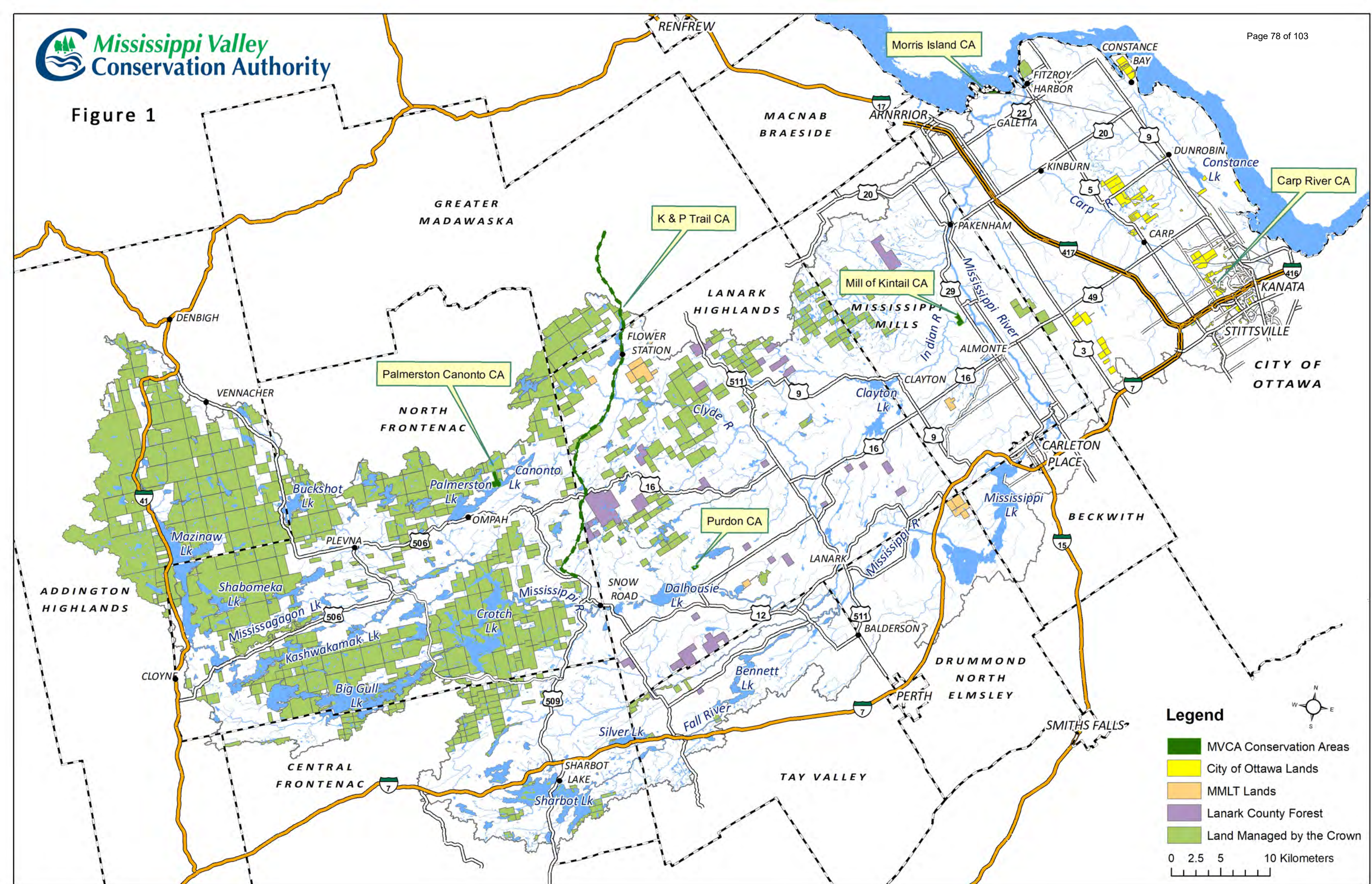


Figure 2

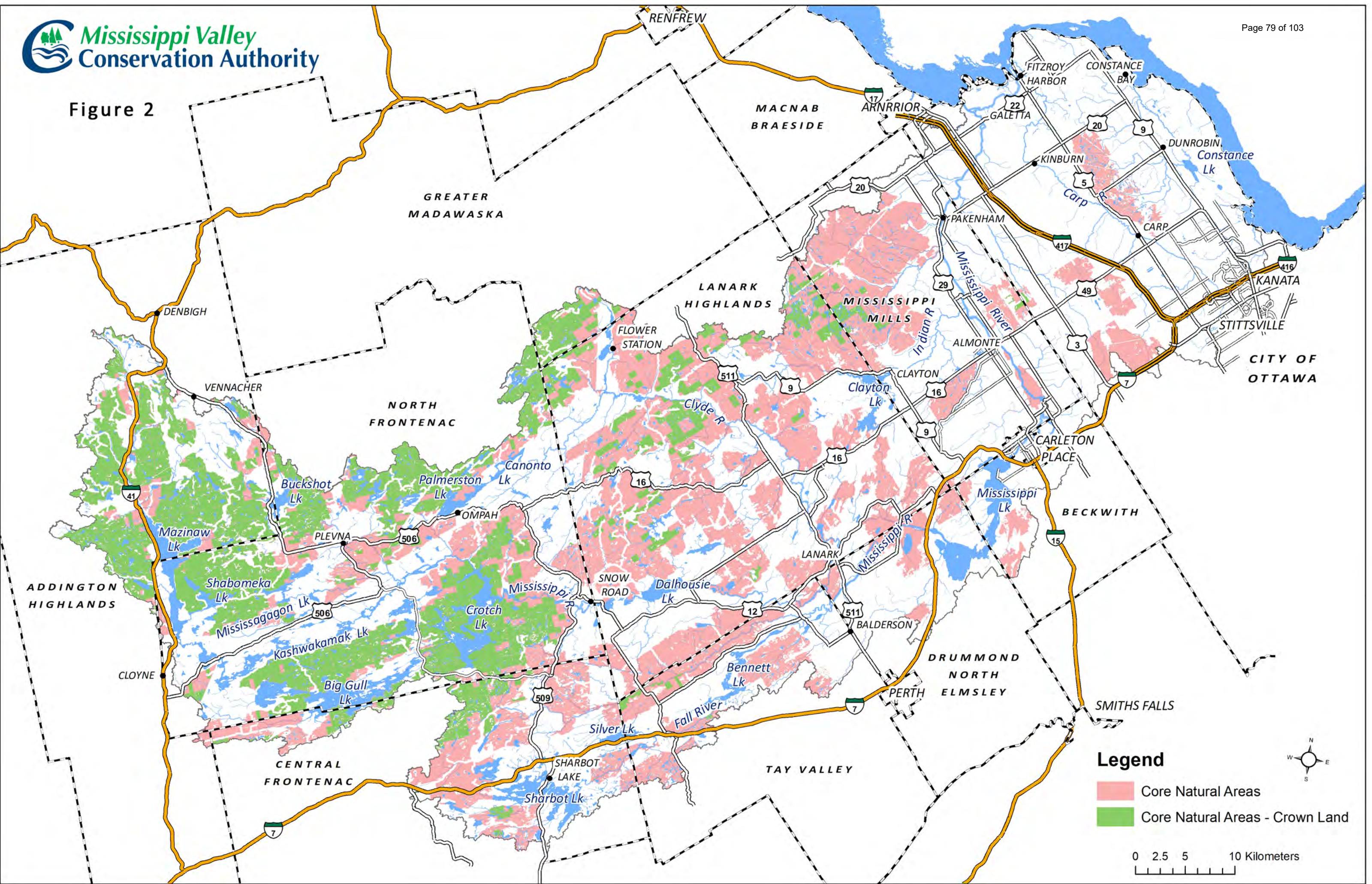
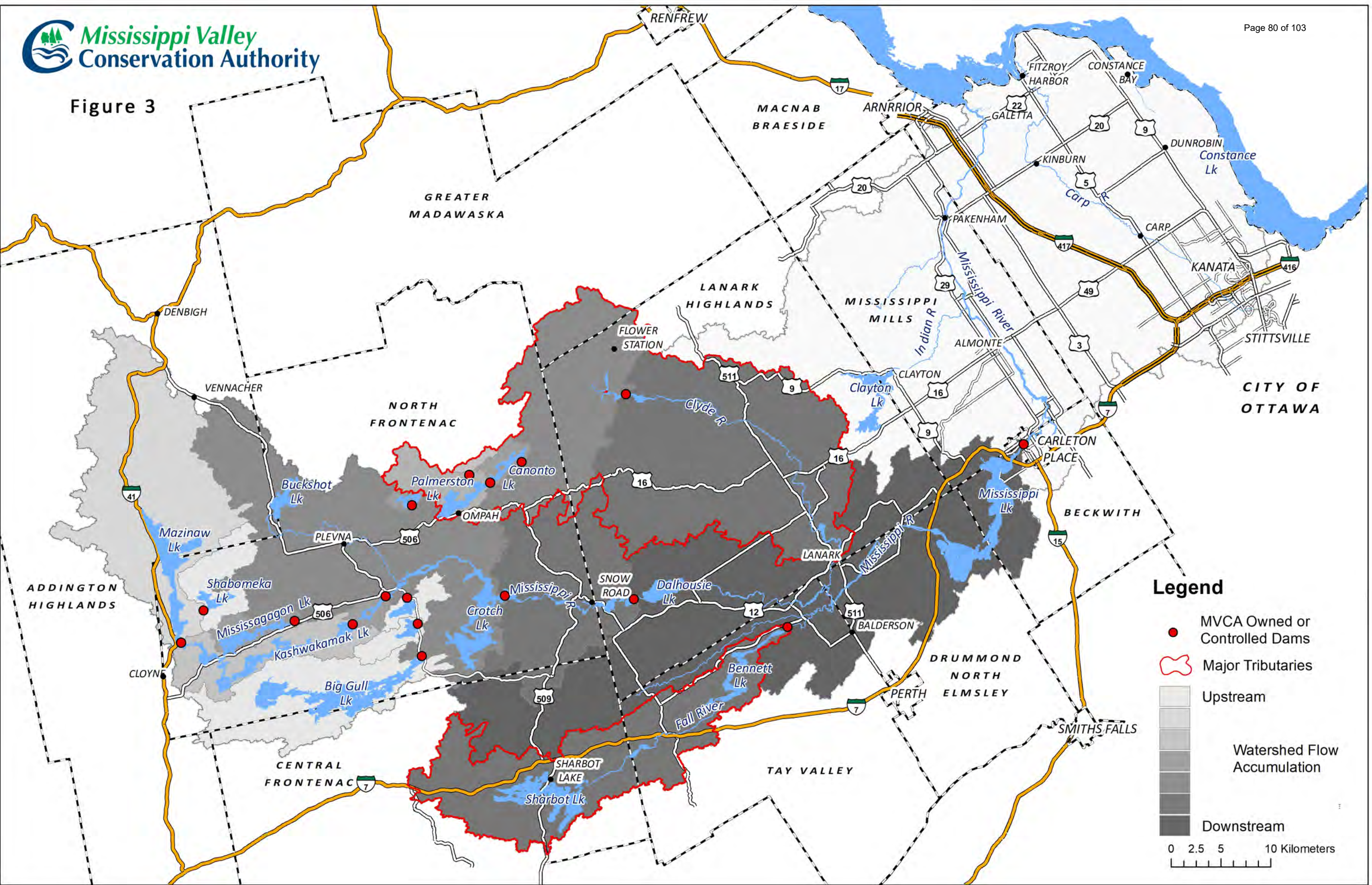


Figure 3



REPORT

3328 /23

TO:	MVCA Board of Directors
FROM:	Sally McIntyre, General Manager
RE:	Programs & Services Update & Approach
DATE:	May 3, 2023

RECOMMENDATION

That the Board of Directors:

- a) Approve reinstatement of a Nature Education Program in 2024 at an estimated annual cost of \$20,000 as a Category 3 Program; and
- b) Direct staff to prepare a business case and draft agreement to seek municipal support to continue to fund existing Category 2 and 3 programs and services and reinstatement of the education program with up to 14% of MVCA's Operating Levy and 2% of the Capital Levy.

1.0 PURPOSE

To seek direction regarding municipal cost sharing agreements per changes to the *Conservation Authorities Act*.

2.0 BACKGROUND

Amendments made to the *Conservation Authorities Act* in 2020 divided conservation authority (CA) programs and services into three categories and amended the funding mechanism for carrying out those activities, as shown in Table 1.¹

Table 1: Program & Service Categories and Municipal Funding

Category	Description	New Funding Mechanism
1	Prescribed "Mandatory" services	No change – General Levy
2	Services to support Municipalities	Agreement required and Special levy
3	CA recommended Services	Agreement required and Special levy

¹ Attachment 1 summarizes other deliverables required to implement all 2020 amendments to the Conservation Authorities Act.

In order to implement this new approach, O.Reg. 687/21² under the CA Act required CAs to:

- ✓ Complete a *Transition Plan* by December 31, 2021³
- ✓ Complete a *Program Inventory* by February 28, 2022⁴
- Complete municipal agreements for Category 2 and 3 programs and services by January 1, 2024

The first two steps have been completed, and the last step is in progress and must be completed by the end of September to allow for timely development of the 2024 budget.

3.0 UPDATED CATEGORY 2 AND 3 ANALYSIS

The February 2022 inventory of programs and services has been updated to reflect the impacts of Bill 23 and the downloading of responsibilities to municipalities for administration of wetlands; and for assessment of natural heritage values and processes during consideration of planning applications. Table 2 summarizes Category 2 and 3 programs and services and funding based upon the new regulatory environment. (Note, the current cost apportionment method is Modified Current Value Assessment.)

Table 2: Revised MVCA Category 2 and 3 Programs & Services

Category 2	Sec. of CA Act	Municipality(ies)	Value ^{5,6} (\$)	Status of Agreement
Natural System Monitoring	21.1.1	All, by MCV Assessment	\$70,516	WIP
Enhanced Nat. Sys. Monitoring	21.1.1	City of Ottawa, Special levy	\$71,500	Completed ⁷
Watershed & Lake Planning	21.1.1	All, by MCV Assessment	\$70,382	WIP
Septic Inspection and Re-inspection Programs	21.1.1	Tay, Lanark Highlands Mississippi Mills, Carleton Place	Varies	Completed
Category 3				
Visitor Services - Operating	21.1.2	All, by MCV Assessment	\$13,000	WIP
Visitor Services - Capital	21.1.2	All, by MCV Assessment	Per Capital Plan	WIP
Stewardship	21.1.2	All, by MCV Assessment	\$69,000	WIP
Enhanced Stewardship	21.1.2	City of Ottawa – Special levy	\$3,000	Completed ⁸
Lanark County Forest	21.1.2	County of Lanark - contract	\$7,000	Completed
Category 3 Opportunity				
Reinstate a Nature Education Program	21.1.2	All, by MCV Assessment	\$20,000	TBC
Municipal Levy Impact				
Total Existing Category 2 Apportionment			\$140,898	None
Total Existing Category 3 Apportionment			\$82,000	None
Proposed Additional Category 3 Apportionment			\$20,000	Yes

² <https://www.ontario.ca/laws/regulation/210687>

³ Refer to Staff Report 3182/21.

⁴ Refer to Staff Report 3198/22.

⁵ All costs are per the 2023 Budgeted Municipal General Levy, with the exception of the Education Program.

⁶ Assumes annuals grants and donations for the different programs summing to \$65,445.

⁷ Approved by City annually by Special Levy.

⁸ Approved by City through agreements with SNC and RVCA who administer programs on behalf of MVCA.

In total, existing Category 2 and 3 programs constitute 13% of the 2023 General Levy, as shown in Figure 1, or 14% if the proposed Education Program is included. Figure 2 shows current revenues by category.

Figure 1: 2023 Budget Cost Allocation

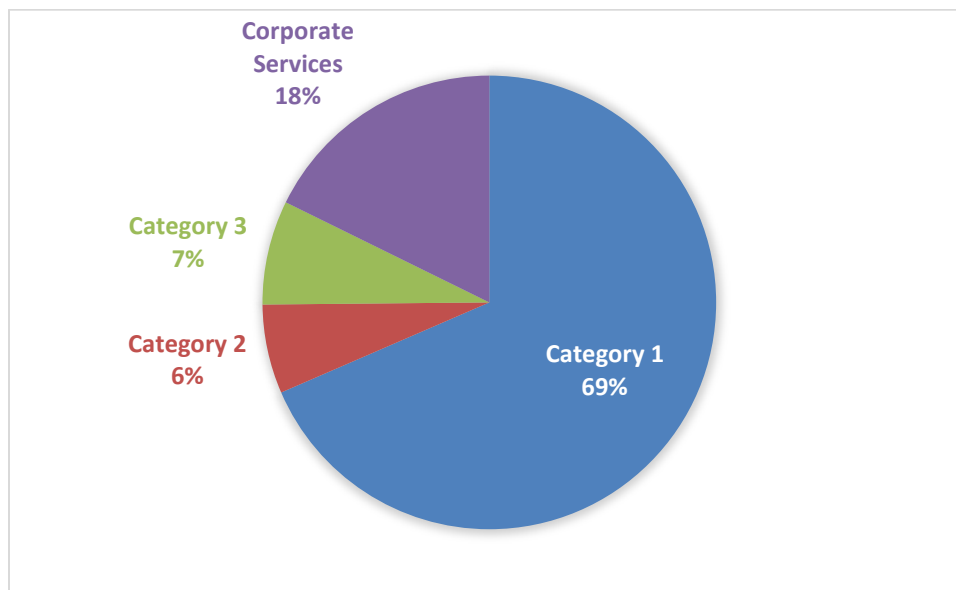
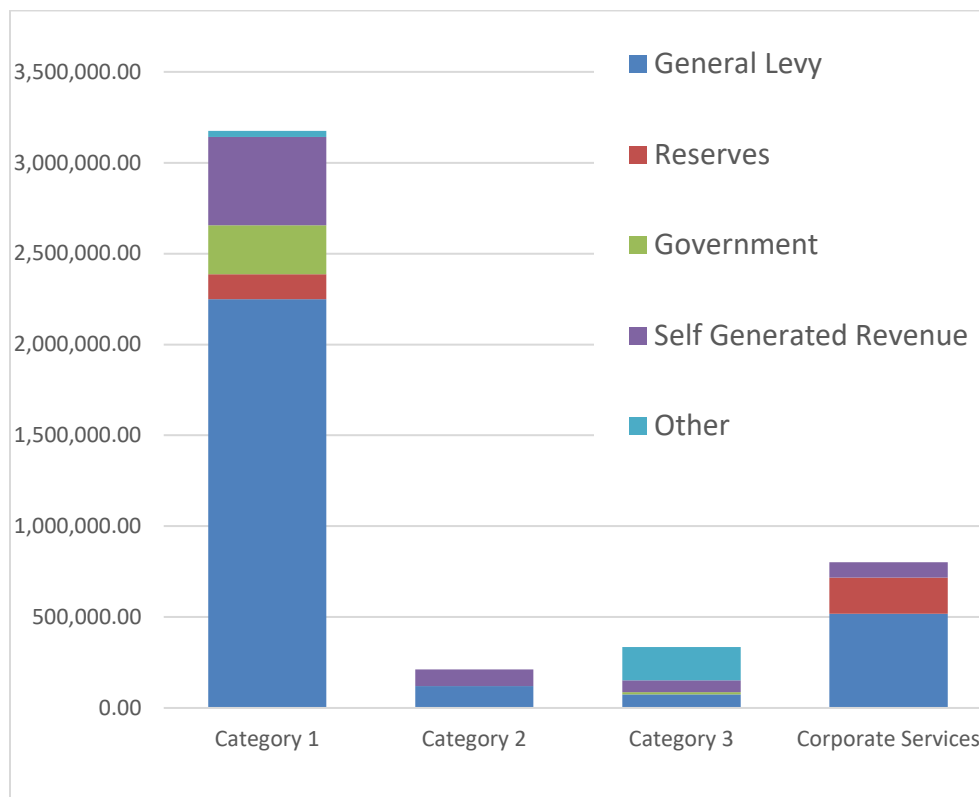


Figure 2: 2023 Current Revenues All Sources



4.0 DISCUSSION

The following are summary descriptions of each of the existing and proposed Category 2 and 3 programs and services.

EXISTING - Natural System Monitoring & Peer Review – As described in Staff Report 3322/23, MVCA has been undertaking monitoring for decades and used that data to support municipalities in preparing plans and the review of planning applications. Since adoption of Bill 23, member municipalities have requested MVCA to support municipal staff in assuming their new roles through the provision of guidance documents, data, and other resources needed to inform plan review functions. This MOU would enable MVCA to continue to support municipal staff through the provision of data and peer review of technical documents (e.g. wetland assessments, EIS) without comment on planning applications. This service can continue with no impact on municipal budgets.

EXISTING - Enhanced Monitoring for the City of Ottawa – For several years the City has paid a Special Levy to have an enhanced level of monitoring carried out within its jurisdiction. This service can continue with no impact on the municipal levy.

EXISTING - Watershed & Lake Planning – Per Attachment 1, MVCA is required to prepare a Watershed-Based Resource Management Strategy for the entirety of its jurisdiction. The Strategy will be similar to the Watershed Plan prepared for the Mississippi River, but will need to cover the Carp watershed and areas draining directly to the Ottawa River.

Watershed and lake planning differ from the above Strategy in that they provide information and analysis that support not only conservation authority decision-making but also local decision-making. As with natural system monitoring, information found in watershed plans, lake plans, and related studies are used by member municipalities in infrastructure planning, the drafting of Official Plans, and the assessment of applications under the *Planning Act*. Continued provision of this information will support municipal staff in fulfilling their legislative responsibilities. This service can continue with no impact on the municipal levy.

EXISTING - Septic Programs – This is a combination of voluntary and mandatory inspection programs that are subject to bilateral agreements between the Mississippi-Rideau Septic Office and each municipality. Delivery of these programs have no impact on the municipal levy.

EXISTING - Visitor Services (Operating) – This program includes administration of site rentals at the Mill of Kintail, the hosting of special events, as well as operation of the museum. MVCA has been successful in obtaining grants and making other budget adjustments to reduce the net costs to the Municipal General Levy in 2023 to \$13,000. This service can continue with no impact on the municipal levy.

EXISTING - Visitor Services (Capital) – This refers to the maintenance and renewal of buildings used to delivery “active” programming, i.e. requiring staff to organize and deliver. Three buildings located at the Mill of Kintail property will require periodic capital investment to ensure their continued safety and value. These assets are owned by the Authority and any investment in them in an investment in the corporation as a whole. The updated 10-year Capital Plan⁹ and projected capital levies include these investments, which are projected to account for 2% of the average annual capital budget.

EXISTING – Stewardship Program – This program provides on-the-ground programming to residents and community groups and includes delivery of tree planting, shoreline restoration, agricultural stewardship, and rural clean water programming as well as outreach to lake associations. This program is implemented in accordance with MVCA’s *Stewardship Plan* approved by the Board in 2022.¹⁰ This service can continue with no impact on the municipal levy.

EXISTING – Enhance Stewardship for the City of Ottawa – For many years the City has provided supplementary funds to enhance grants available to City of Ottawa residents participating in MVCA stewardship programs. This service can continue with no impact on the municipal levy.

EXISTING – Lanark County Forest Management – For many years MVCA has provided forest management services to the County of Lanark on a full-cost recovery basis. This service can continue with no impact on the municipal levy.

NEW – Reinstate a Nature Education Program – Shortly after its establishment in 1968, MVCA developed an education program for school age children. The program ran through to 2020 when the pandemic caused the program to be shuttered. Rather than reinstating a year-round program, it is recommended that a seasonal program be introduced at significantly reduced cost. Our initial goal would be for the program to be at least 50% self-funded through fees, and 100% self-funded by year four of the program. The proposed budget of \$20,000 would allow for hiring of a program coordinator and cover out-of-pocket expenses, with all other staff costs recovered through registration fees. O.Reg. 687/21 requires CAs to disclose any recommended changes in Category 3 programming or costs prior to execution of the agreements.

5.0 RECOMMENDED APPROACH TO MUNICIPAL AGREEMENTS

As noted in Section 2, MVCA must enter into agreements with member municipalities in order to continue to deliver the above programs and services in 2024 and beyond. While O.Reg. 687/21 sets a deadline of January 1, 2024, MVCA should aim to have agreements in place no

⁹ Refer to Staff Report 3309/23.

¹⁰ Refer to Staff Report 3267/22.

later than the end of September to enable timely preparation of the 2024 Budget, and before the October 1st provincial deadline in order to confirm if an extension is required.

MVCA has been working with SNC, RVCA and CRCA to ensure a common approach across shared municipalities, especially within the City of Ottawa. The following is a summary of the recommended approach to enable MVCA to continue delivering its current and recommended programs and services.

1. Cost recovery under existing MOUs and other agreements will continue as is (i.e. no change in funding mechanism for the septic programs, City of Ottawa program enhancements, and County of Lanark program.)
2. Cost recovery for jurisdiction-wide Category 2 and 3 programs and services will continue to be apportioned to municipalities using the modified current value assessment (MCVA) method as they benefit all municipalities and residents. This would be consistent with how the Category 1 programs and Corporate Services will be apportioned.
3. To minimize paperwork and streamline approvals, one agreement will be prepared that addresses both Category 2 and 3 programs. This agreement will be used for discussion with MVCA's eleven municipalities, with each signing its own agreement.¹¹
4. To ease financial administration, the agreement will set a maximum percentage of levy that can be allocated to Category 2 and 3 programs and services annually.
 - a. As indicated in Figures 1 and 2, Category 2 and 3 programs at MVCA constituted 6% and 7%, respectively, or 13% of the 2023 Operating Budget. This would increase to 14% if a nature education program is reinstated.
 - b. Approximately 2% of MVCA's 10-year Capital Plan provides for asset renewal of structures that serve an "active" recreational purpose.

6.0 NEXT STEPS

If the Board is supportive of the approach outlined above, staff will:

- Prepare a business case for municipal engagement that provides background information on MVCA and its category 2 and 3 programs and services. This will be helpful for new municipal staff and council members.
- Staff will also prepare a draft agreement for municipal consideration.

¹¹ Note, one agreement is being sought with the City of Ottawa with a schedule of programs and costs for each conservation authority.

7.0 CORPORATE STRATEGIC PLAN

Execution of municipal agreements to allow for continued delivery of Category 2 and 3 programs and services will support achievement of the following 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 an 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.

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.

Attachment 1: Implementation Status of CA Act Amendment Requirements

Item	Deadline	Status
Submit Quarterly Progress Reports to Province	July 1 2022 October 1, 2022 January 1, 2023 April 1, 2023 July 1, 2023 October 1, 2023	All submitted to date.
DEADLINE to request extension for municipal agreements	October 1, 2023	
Municipal Agreements	January 1, 2024	In progress
Final Inventory of Programs & Services	January 30, 2024	
Watershed-Based Resource Management Strategy	December 31, 2024	
Conservation Area Strategy	December 31, 2024	In progress
Land Inventory	December 31, 2024	In progress
Ice Management Plan	December 31, 2024	In progress
Infrastructure Operational Plan	December 31, 2024	In progress
Asset Management Plan	December 31, 2024	

REPORT

3329/23

TO:	The Chair and Members of the Mississippi Valley Conservation Authority Board of Directors
FROM:	Sally McIntyre, General Manager
RE:	GM Update
DATE:	May 4, 2023

For Information.**EXTERNAL**

- 1. Commissioner of Environment Climate Change Reports**, Friday, May 5, 2023, 2 pm -
A seminar is being hosted by Sustainability Networks to welcome Canada's Commissioner of the Environment and Sustainable Development to discuss five climate change-focused [reports](#) tabled in Parliament on April 20, 2023. Attendees include Commissioner Jerry V. DeMarco and Principals Kimberley Leach, Philippe Le Goff, James McKenzie and Nicholas Swales from the Office of the Auditor General of Canada. [Register today](#)
- 2. May 2023 Ecological Gifts Program Appraisal Workshops**, Tuesday, May 23, 2023 in Manotick – Environment and Climate Change Canada will coordinate [Ecological Gifts Program](#) (EGP) Appraisal Workshops in May. Participants will review EGP elements, appraisal standards and requirements, and discuss appraisal challenges. Register by May 5, 2023 by emailing laura.kucey@ec.gc.ca and include the following information: attendee name, affiliation, location (Manotick, Newmarket, or London), accessibility or dietary considerations and, appraisal topics you would like to learn more about.
- 3. Conservation Ontario Draft Response to Draft Regulations Regarding Site Plan Control** - see attachment 1 for draft response.

INTERNAL

- 4. MVCA 2023 Watershed Report Card** – See attachment 2 for our 5-year update on the health of the watershed.
- 5. Monitoring Summer Students** – MVCA and the monitoring department welcomed Sam King and Ben Bezaire to the team. Sam and Ben will spend their summer delivering the lake and

stream monitoring programs alongside Biologist, Kelly Stiles, as well as helping the stewardship program when needed.

6. **Stewardship Summer Student** – The Stewardship Program is happy to welcome Kayla Cuddy to the team. Kayla will assist the program by being MVCA's Invasive Species Hit Squad coordinator and will help with the re-launching of the City Stream Watch Program.
7. **Engineering Summer Students** – The Engineering department is thrilled to onboard two Water Resources Engineering Interns: Andrew Kuhn and Callum Anderson. Andrew and Callum will be assisting with maintaining, updating and expanding the hydrometric gauge network and assist with surveying and other capital project (floodplain mapping, data collection, management and interpretation).
8. **Mill of Kintail Roof** – The contract for the roof replacement at the Mill of Kintail Museum was awarded to *Remember Me Roofing*. Work is scheduled to start early next week (weather permitting) and is expected to be completed prior to the Victoria Day Long Weekend.
9. **Mill of Kintail 50th Anniversary Celebration** – The Mill of Kintail's 50th Anniversary Celebration is scheduled to take place on Sunday, August 20th. Staff are currently working on a plan that includes a full day of fun activities, attractions and entertainment for visitors of all ages.
10. **CP Dam Update** – MVCA is currently undertaking actions arising from the Carleton Place Dam Safety Review (DSR). The DSR identified critical public safety measures to be implemented in the next phase of the capital project including new public safety signs, railings, and fencing around the structure. A conceptual boom design was completed as part of the current project that identified the need to replace and relocate the existing safety boom. We are currently undertaking the completion of the final design phase of the new fencing, railing and boom so that the project is shovel ready for construction in July- August. New public safety signs were installed on the upstream side of the bridge. Additional signs will also be installed after the completion of the new fencing and railings.
11. **Insurance** – See Attachment 3 for a summary of MVCA's insurance coverage and deductibles.

Attachments

1. **Conservation Ontario Draft Response to Draft Regulations Regarding Site Plan Control**
2. **MVCA 2023 Watershed Report Card**
3. **MVCA 2023 Insurance Coverage and Deductibles**



PLEASE PROVIDE YOUR NAME AND CA IN ANY COMMENTS ON THIS DRAFT
CA COMMENTS DUE: THURSDAY, MAY 11, 2023

April ##, 2023

Submitted via email: PlanningConsultation@ontario.ca

Re: Conservation Ontario's Comments on "Site Plan for Residential Developments of 10 or Fewer Units – Two Proposed new Minister's Regulations under the Planning Act and the City of Toronto Act, 2006" (ERO #019-6822)

MMAH Staff:

Thank you for the opportunity to provide comments on "Site Plan for Residential Developments of 10 or Fewer Units – Two Proposed new Minister's Regulations under the Planning Act and the City of Toronto Act, 2006". Conservation Ontario is the network for Ontario's 36 Conservation Authorities (CAs). These comments are not intended to limit the comments submitted by individual CAs.

As part of the "Helping Homebuyers, Protecting Tenants: Ontario's Housing Supply Action Plan April 2023" the Province has introduced Bill 97, the *Helping Homebuyers, Protecting Tenants Act, 2023*. If passed, Schedule 6 of the Bill proposes various amendments to the *Planning Act* to provide measures to increase housing supply to reach the goal of building 1.5 million homes by 2031.

One of the proposed legislative amendments to the *Planning Act* would provide the Minister of Municipal Affairs and Housing (MMAH) with new regulation-making authority to permit Municipalities to use site plan control for residential developments of 10 or fewer units on a single lot in specific circumstances. As outlined in the proposal, these specific circumstances would include where any part of a parcel of land is located within 120 metres of a shoreline or within 300 metres of a railway line.

Conservation Ontario is supportive of the proposed changes to provide the Minister with regulation-making authority to permit the use of site plan control in the specific circumstances referenced above. In our comments previously submitted in response to the proposed *Planning Act* and *City of Toronto Act* changes proposed through Bill 23 (ERO#019-6163) we noted that use of site plan control provides Municipalities greater ability to receive expert input from CAs on detailed design items such as setbacks and the location of buildings as they relate to

hazardous lands and hazardous sites, as well as protection of sources of drinking water. Early engagement enables the Municipality, proponent, and CA to work through the process to address any limitations with the application. The proposed legislative amendments (and subsequent regulations) would ensure that planning authorities could consider site plan components relating to natural hazards, including flooding, and other natural features in specific circumstances.

It is acknowledged that no draft regulatory text was included as part of the proposal, and it is unknown if future consultation opportunity(ies) will occur. Further to this, Conservation Ontario recommends that the Province include a definition of “shoreline” in the regulation. For consistency, the definition of “shoreline” referenced in the regulation should include that of a lake, river or stream, as outlined in section 34(1)(3.2)(ii) of the *Planning Act* and the Provincial Policy Statement (PPS, 2020). The PPS provides that development shall generally be directed to areas outside of hazardous lands adjacent to the shorelines of the Great Lakes – St. Lawrence River System and large inland lakes, as well as river, stream and small inland lake systems impacted by hazards including flooding and erosion. As previously mentioned, site plan control is a useful tool to ensure planning authorities can receive feedback and evaluate certain site design elements, including building setbacks from potentially hazardous lands (e.g., flooding hazards). As such, it is recommended that the definition of “shoreline” included in the future regulation apply broadly to shorelines of a lake, river, or stream, consistent with the current PPS and the *Planning Act*.

Once again, thank you for the opportunity to provide comments on “Site Plan for Residential Developments of 10 or Fewer Units – Two Proposed new Minister’s Regulations under the Planning Act and the City of Toronto Act, 2006”. Conservation Authorities and the government of Ontario have a strong track record working in partnership to safely direct development outside of areas at risk due to natural hazards and to protect sources of drinking water. Conservation Ontario and the CAs remain committed to working with the Province, Municipalities, and other partners in support of increasing the overall supply and diversity of housing types in Ontario while maintaining strong protections for public health, safety and the environment. Please contact Leslie Rich, Policy and Planning Specialist should this letter require any clarification.

Mississippi Valley

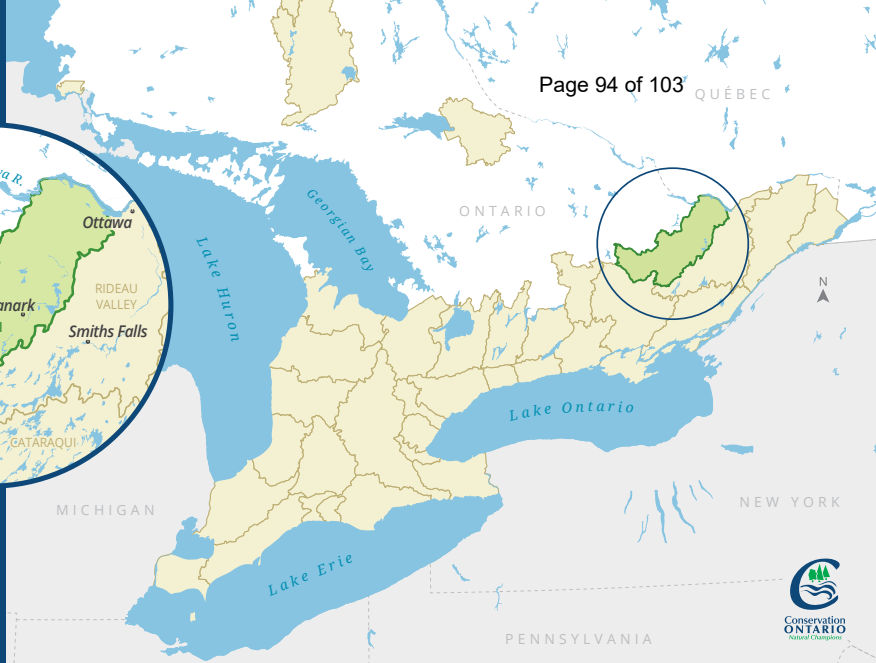
Watershed Report Card 2023



Mississippi Valley Conservation has prepared this report card as a summary of the state of your forests, wetlands, and water resources.



WHERE ARE WE?



What is a Watershed?

A watershed is an area of land drained by a creek or stream into a river which then drains into a body of water such as a lake or pond. Everything in a watershed is connected. Our actions upstream can affect conditions downstream.

Why Measure?

Measuring helps us better understand our watershed. We can target our work where it is needed and track progress. We measured:



Surface Water Quality



Forest Conditions



Wetland Conditions



Groundwater Quality

GRADING

A Excellent

B Good

C Fair

D Poor

F Very Poor

Insufficient Data

What is a watershed report card?

Ontario's Conservation Authorities report on watershed conditions every five years. The watershed report cards use Conservation Ontario guidelines and standards developed by Conservation Authorities and their partners.



Mississippi Valley

SURFACE WATER QUALITY

GRADE
A-D

Grades are based on the concentration of phosphorus at long term monitoring stations throughout the Mississippi Valley jurisdiction. Chloride (i.e., winter salt) concentrations are assessed as either above (pink triangles) or below (black triangles) the Canadian Water Quality Guideline for long-term exposure.

What did we find?

- Grades range from A to D across the 9 subwatersheds.
- Subwatersheds with higher grades tend to have more natural cover, and areas with lower grades have experienced more clearing and alterations (ie. building coverage, pavement, etc) for rural and urban uses.
- Most subwatersheds have had no change in their phosphorous concentration grade level over the past 4 report cards (2002-2021). In that same time period two of the subwatersheds (Lower Mississippi and Constance Creek) have fluctuating grades with no clear increasing/decreasing trend over time. One catchment (Watts Creek) within the Ottawa Tributaries subwatershed has shown slow continual reduction in the concentration of total phosphorus since 2002 and has now improved into a C grade.
- While two of the catchments that make up the Ottawa Tributaries subwatershed routinely have higher than the recommended long-term exposure level for chlorides, there was also one early spring sampling event that exceeded the short-term Chloride exposure guideline within this Reports Card's timeframe.

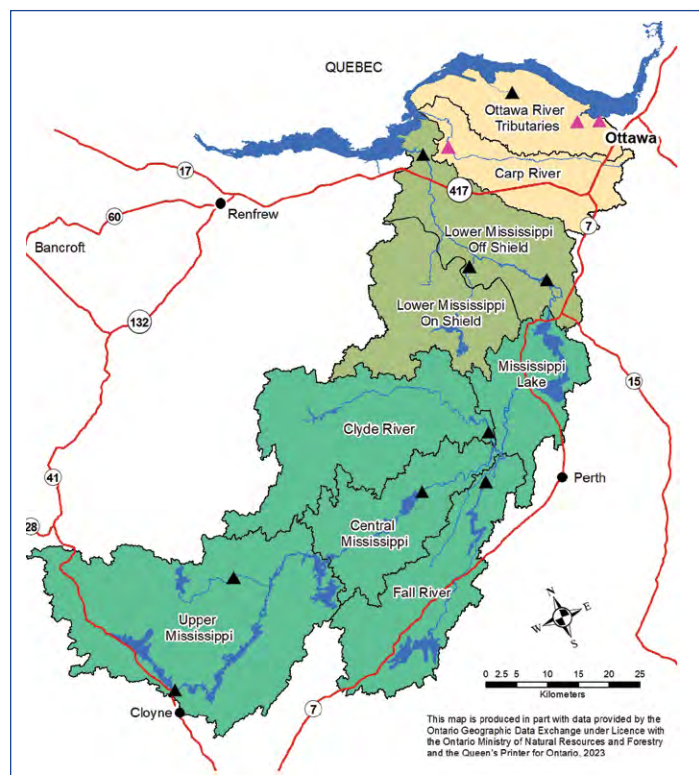
What can we do?

- Protecting and enhancing natural areas and using practices that can help to mitigate the effects of land use change will become increasingly important as development pressures and climate change continue to threaten the watershed.

GRADING

A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor

Insufficient Data





Mississippi Valley FOREST CONDITIONS

GRADE
A-C

Forests are an essential part of a healthy watershed. Forests slow down and soak up stormwater runoff, making our watershed more resilient to increasing heavy rainfall, irregular storms and unseasonal precipitation. They also filter water as it soaks into the ground where it supplies drinking water. Forests are also critical habitat for many species. Forest condition grades are calculated using the percentages of forest cover, forest interior and forest riparian cover in each catchment.

What did we find?

The grades in the watershed range from A to C and have not changed since the last report card.

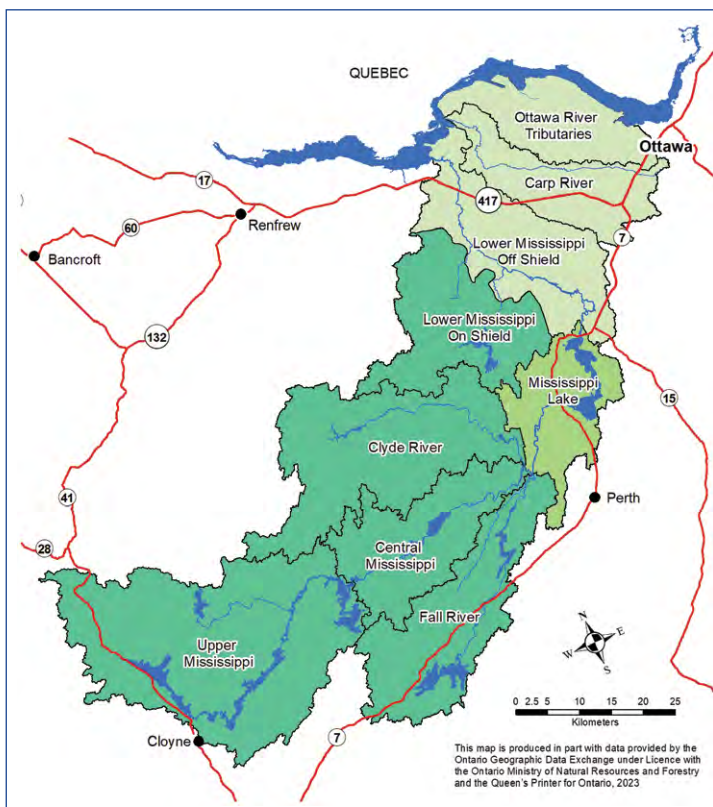
- The Canadian Shield portions of our western watershed continue to have the best forest conditions grades. While the more agricultural and urban areas in the central and eastern areas have lower grades.
- Natural succession and various planting programs that assist in the restoration of lands that were previously cleared are the driving factor for improving forest cover. However, it takes a long time for a fallow or restoration site to mature into a forest so it will take patience and perseverance to see improvements in areas with lower grades.

What can we do?

- Preserve the forest cover types that we have so we do not see decreases in cover and ecosystem services.
- Help start the restoration process for disturbed sites by contacting us for more information on the various planting assistance programs available in our area.
- Choose to plant locally native tree and shrub species suitable for your site conditions.

GRADING

A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
	Insufficient Data





Mississippi Valley WETLAND COVER

GRADE
A-B

Wetlands are nature's flood control and water supply reservoirs. They store excess storm and meltwater to mitigate floods and release flows slowly to mitigate droughts and replenish groundwater. Wetlands also filter pollutants out of our lakes and rivers and are a critical habitat for many species. Wetland grades are calculated using the percentage of wetland cover in each catchment.

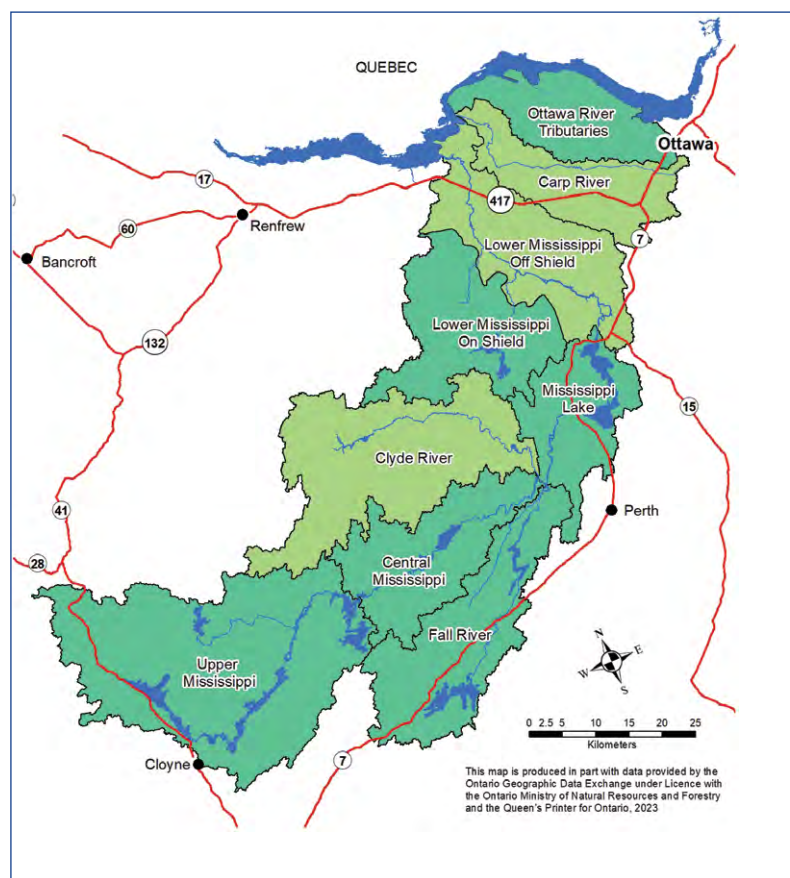
What did we find?

- Grades range from A to B across the 9 catchments, with three of the more agricultural dominated subwatersheds receiving the B grade.
- There have been no changes in wetland cover within the MVCA jurisdiction significant enough to result in a grade change over the timeframe of the four Report Cards (2002-2021).
- While there is good news about the current state of wetland cover in our area, there needs to be continued efforts to educate the public on the environmental and social benefits of maintaining or enhancing wetland habitat functions and abundance. This will help prevent future losses.

What can you do?

- Protect/enhance remaining wetlands and the adjacent habitat beside them.

GRADING	
A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
	Insufficient Data





Mississippi Valley

GROUNDWATER QUALITY

GRADE

A-B

Concentrations of nitrite, nitrate and chloride have been measured, amongst many other parameters, at Provincial Groundwater Monitoring Network (PGMN) Program locations in the Mississippi Valley since 2003. Learn more about local groundwater at www.mrsourcewater.ca and more about the PGMN Program from Ontario's Data Catalogue.

**It should be noted these results are not intended to reflect public or private drinking water conditions. If you have questions about testing your drinking water contact your health unit. Concentrations of nitrate + nitrite and chloride are measured at 9 ground water monitoring wells. However, three of our wells have not been sampled for enough years to contribute to a full analysis for this report card.*

What did we find?

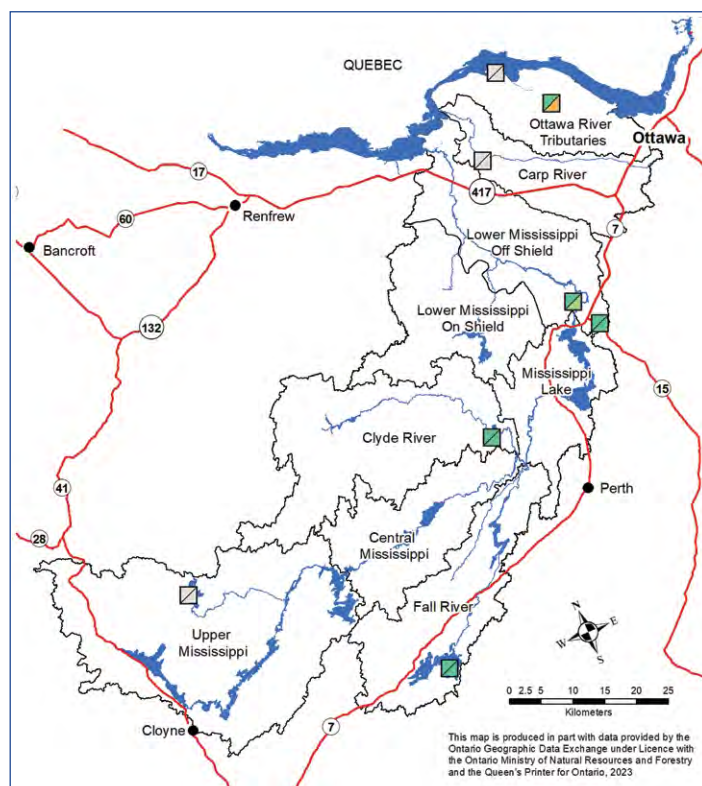
- Groundwater quality is excellent across the watershed, with three of the well sites receiving an A Grade and one received a B.
- Nitrite and nitrate levels were excellent at all locations. Nitrite and nitrate are more complex ions that are usually present as contaminants from the disposal of human sewage, originating from agricultural use, or landscape sources.
- Chloride levels ranged from excellent (3) to good (1) and very poor (1) depending on the location. Chloride can be naturally present in groundwater from its host rocks or due to the area's geological history (Dunrobin); or it can be a contaminant from road salting operations, septic bed or landfill effluent etc.

What can we do?

- Maintain and inspect your well and septic system.

MONITORING WELLChloride ☒ Nitrate**GRADING**

A	Excellent
B	Good
C	Fair
D	Poor
F	Very Poor
	Insufficient Data



WHAT IS OUR WATERSHED'S KEY ISSUE?



Non-point source pollution:

- Occurs when rain or snowmelt runs off fields.
- Carries soil particles.
- Comes from many sources.

What actions could you take to reduce non-point source pollution?

- Create natural landscapes to filter stormwater.
- Maintain and improve natural areas to filter stormwater.
- Control soil erosion through the use of grassed waterways, berms, cover crops, and crop residue.
- Apply nutrients at rates and times that optimize crop uptake.
- Dispose of chemicals properly through household hazardous waste days or drop-off locations.
- Conserve and create connection corridors between existing woodlands.
- Find alternatives and limit use of road salt, fertilizers, home chemicals and hazardous materials.

What is MVCA doing?

- Offering technical and financial support to landowners to plant trees, naturalize shorelines, adopt agricultural best management practices and undertake projects to improve water quality.
- Directing development away from wetlands and shorelines so these critical features can continue to mitigate flooding and droughts, filter contaminants and recharge groundwater.
- Continued monitoring of the watershed to understand changing conditions to inform future actions and decisions.
- Created the Mississippi River Watershed Plan and formed a Public Advisory Committee to move the actions in the plan forward. mvc.on.ca/watershedplan.

HOW CAN WE ENHANCE THE WATERSHED?



What Can You Do?

- Plant native trees and shrubs.
- Inspect and pump out your septic system every three to five years.
- Create or enhance natural buffers around wetlands and water features to help maintain water balance during wet and dry periods.
- Reduce the amount of household chemicals you use and store – such as antifreeze, paint, lawn chemicals, detergents, and cleaners.
- Ensure manure storage facilities are adequate.

What Can Your Community Do?

- Support ongoing improvements to municipal infrastructure.
- Direct development away from areas of environmental significance.
- Support local initiatives to monitor water quality and quantity.

What Can Agencies Do?

- Protect wetlands.
- Green their operations.
- Evaluate the effectiveness of environmental programs.
- Provide incentives at the local scale for green infrastructure and initiatives.



*Do you have questions not answered by this summary document?
Visit **mvc.on.ca** for the full report or contact us for more information:*

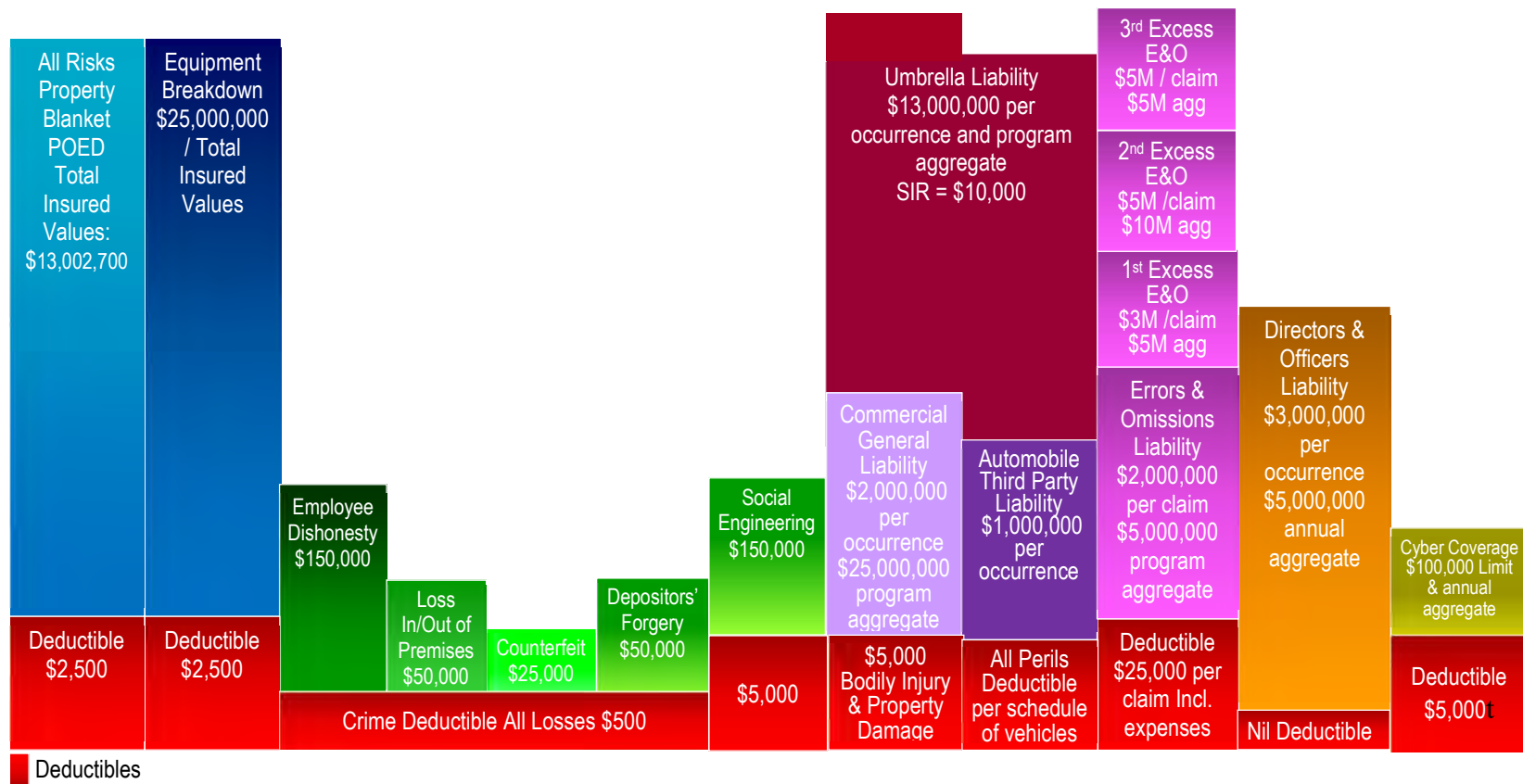
Mississippi Valley Conservation

10970 Hwy 7, Carleton Place, ON K7C 3P1

E-mail: info@mvc.on.ca | **Website:** mvc.on.ca

Phone: (613) 253-0006 | **Fax:** 613-253-0122

The Watershed Report Card is available online and in other formats upon request.



Mississippi Valley Conservation Authority

Current Coverage Overview

Coverage	Limit	Deductible
Property - All Risk	Blanket POED, Total Insured Values: \$13,002,700	\$2,500
Equipment Breakdown	\$13,002,700	\$2,500
Crime - Employee Dishonesty	\$150,000	Crime Deductible All Losses \$500
Crime - Loss In/Out of Premises	\$50,000	Crime Deductible All Losses \$500
Crime - Counterfeit	\$25,000	Crime Deductible All Losses \$500
Crime - Depositors' Forgery	\$50,000	Crime Deductible All Losses \$500
Crime - Social Engineering	\$150,000	\$5,000 Deductible
Commercial General Liability	\$2,000,000 per occurrence \$25,000,000 program aggregate	Bodily Injury & Property Damage Deductible \$5,000 excluding expenses
Automobile Third Party Liability	\$1,000,000 per occurrence	All Perils Deductible: As per Schedule of Vehicles Buses \$2,500
Errors & Omissions (E&O) Liability	\$2M per claim/\$5M program aggregate incl.expenses	Deductible \$25,000 per claim including expenses
1st Excess E&O	\$3M per claim/\$5M program aggregate incl.expenses	
2nd Excess E&O	\$5M per claim/\$10M program aggregate incl.expenses	
3rd Excess E&O	\$5M per claim/\$5M program aggregate incl.expenses	
Umbrella Liability	\$13,000,000 per occurrence and program aggregate. SIR = \$10,000	
Directors & Officers Liability	\$3,000,000 per occurrence \$5,000,000 annual aggregate	\$Nil for non-indemnifiable losses against Insured Persons \$Nil Employment Practices Liability losses including expenses \$Nil All other losses including expenses
Cyber Coverage	\$100,000 Policy Limit \$100,000 Annual Aggregate \$10,000,000 program aggregate	Deductible \$5,000