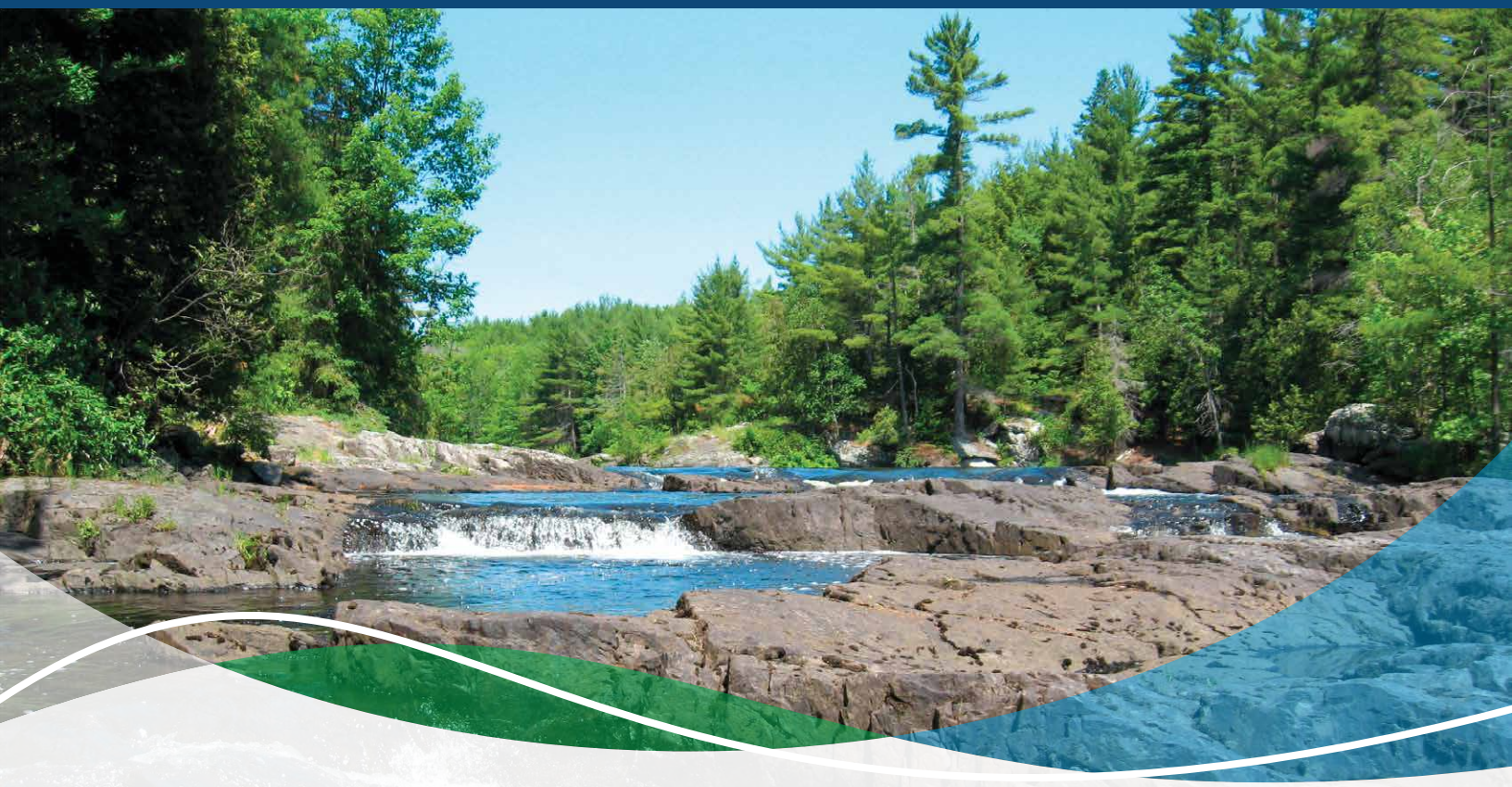
Mississippi Valley
Watershed Report Card 2023



Watershed Report Card

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

Mississippi Valley Conservation Authority

Member of Conservation Ontario

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.

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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.

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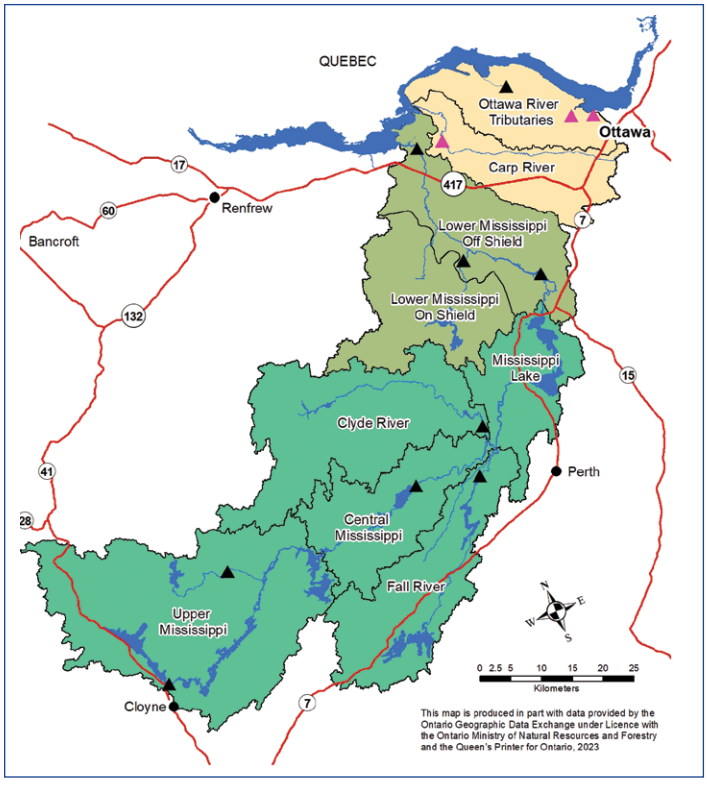

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FOREST CONDITIONS

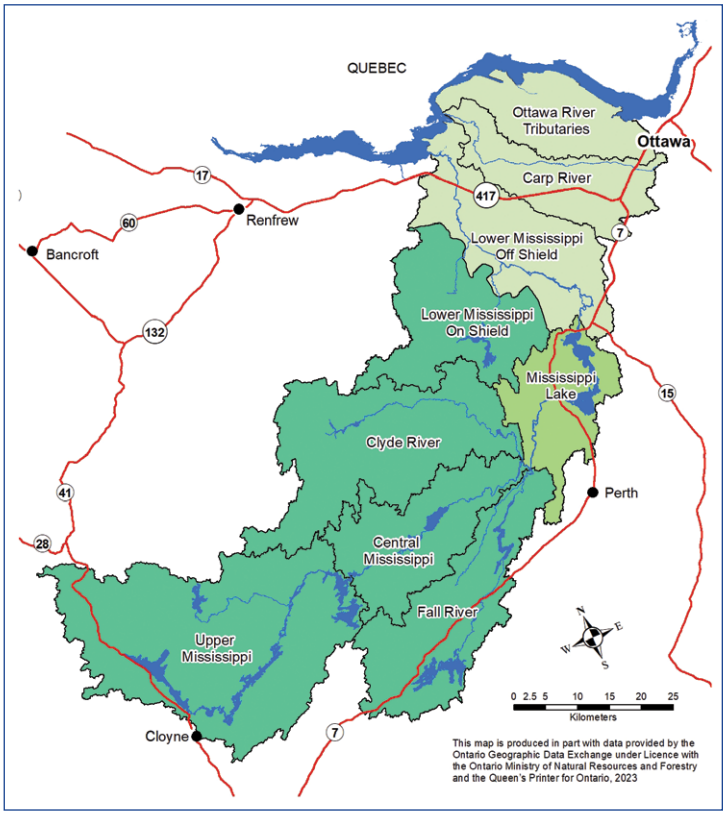
GRADE
A-C

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

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B	Good
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Mississippi Valley

WETLAND COVER

GRADE
A-B

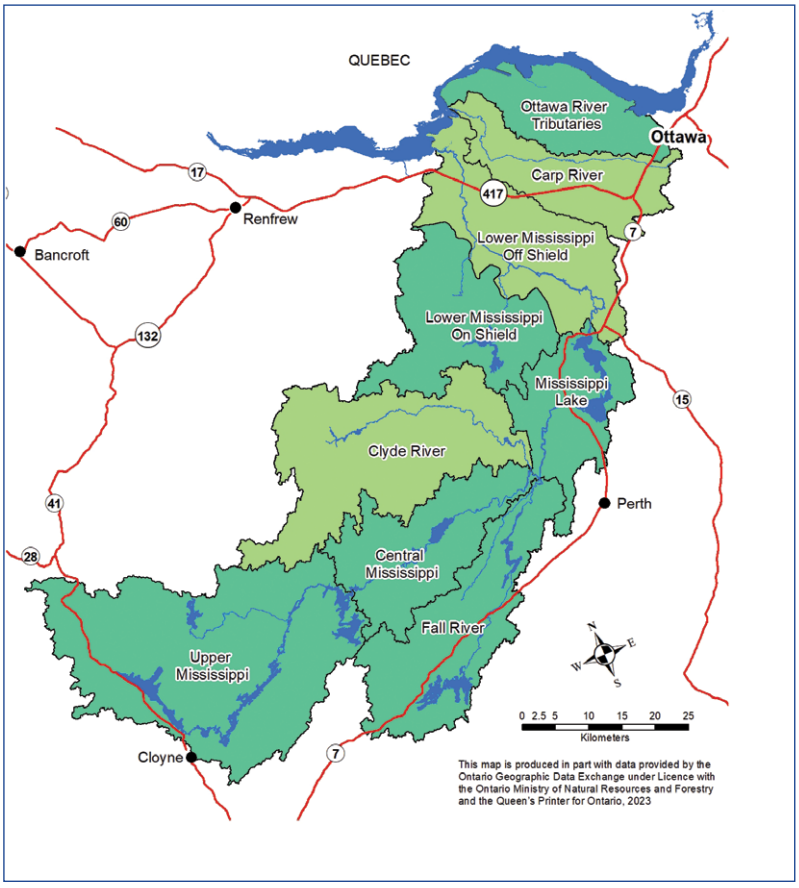
Wetlands are nature's flood control and water supply reservoirs. They store excess storm and meltwater to mitigate floods and release flows slowly to mitigate droughts and replenish groundwater. Wetlands also filter pollutants out of our lakes and rivers and are a critical habitat for many species. Wetland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



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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 WELL

Chloride ⊘ Nitrate

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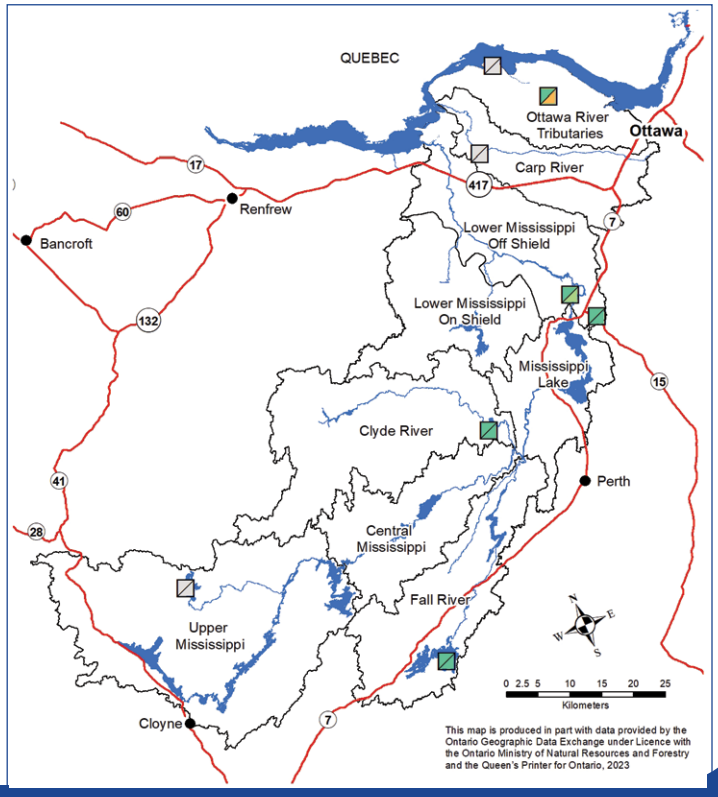


WHAT IS OUR WATERSHED'S KEY ISSUE?

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?

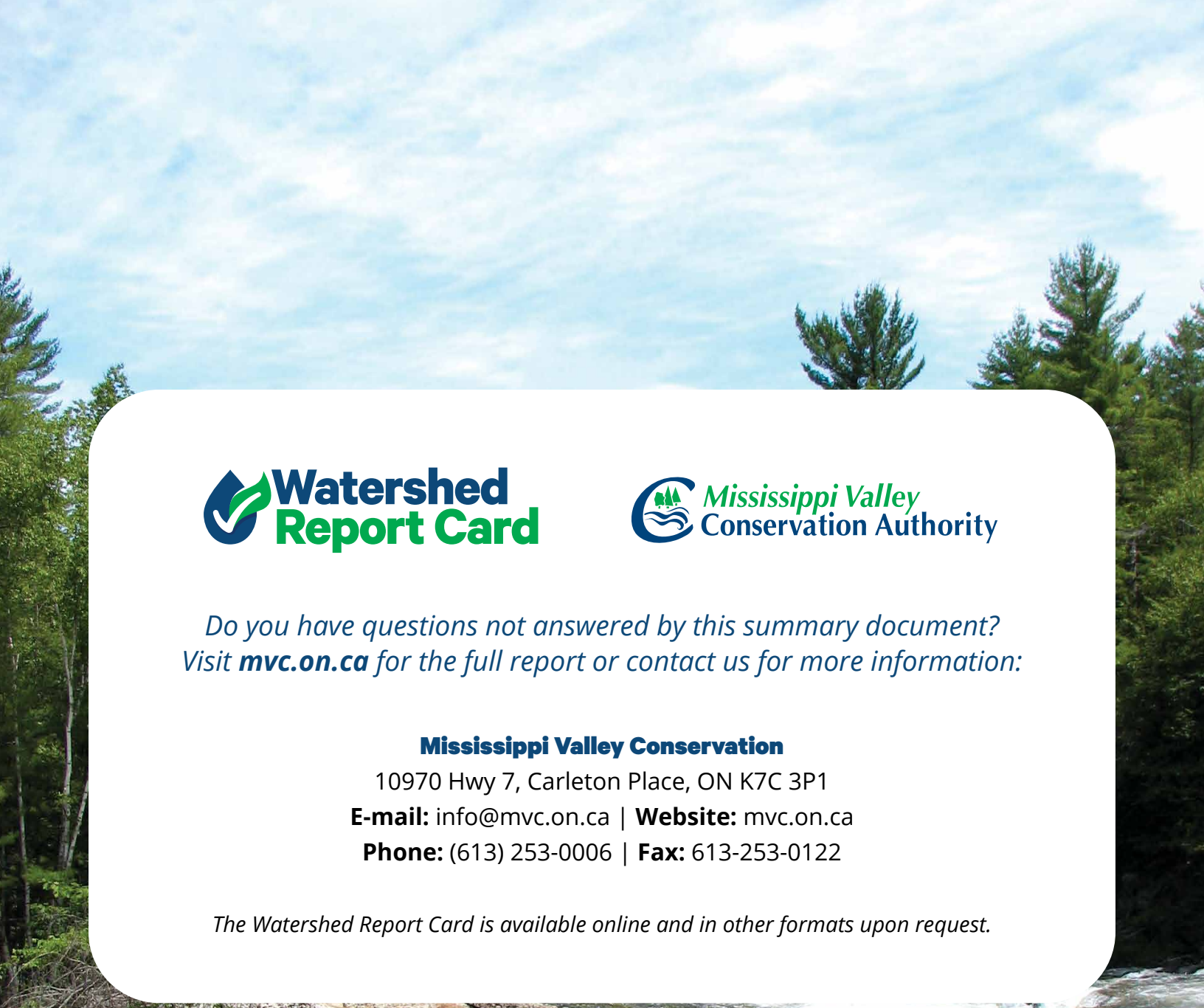
- Plant native trees and shrubs.
- Inspect and pump out your septic system every three to five years.
- Create or enhance natural buffers around wetlands and water features to help maintain water balance during wet and dry periods.
- Reduce the amount of household chemicals you use and store – such as 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.



Watershed Report Card

Mississippi Valley Conservation Authority

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

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