

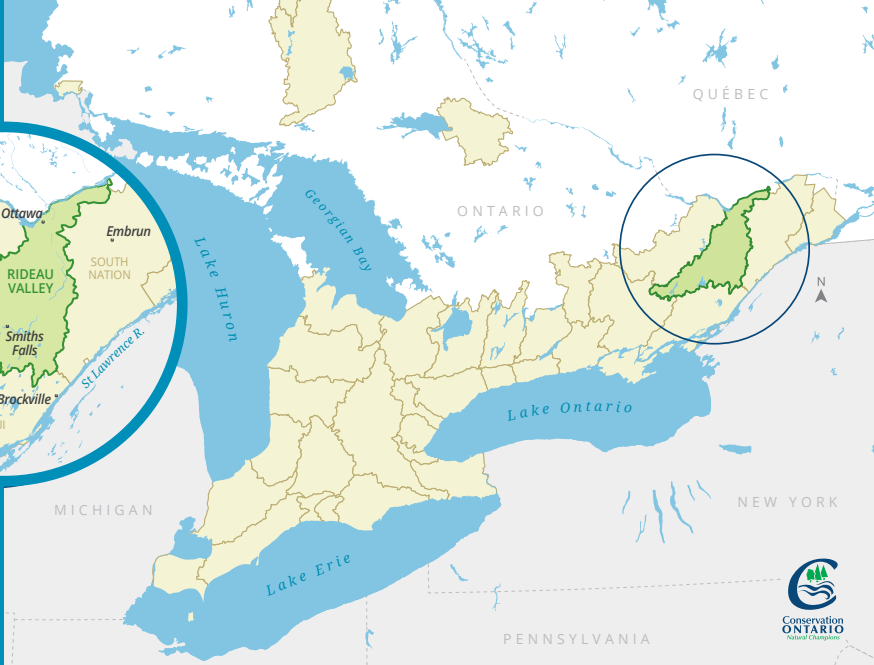
Rideau Valley Watershed Report Card 2023



Rideau Valley Conservation Authority has prepared this report card as a summary of the state of local 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 larger river system. 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



Groundwater Quality



Forest Conditions



Wetland Conditions

GRADING

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

What is a watershed report card?

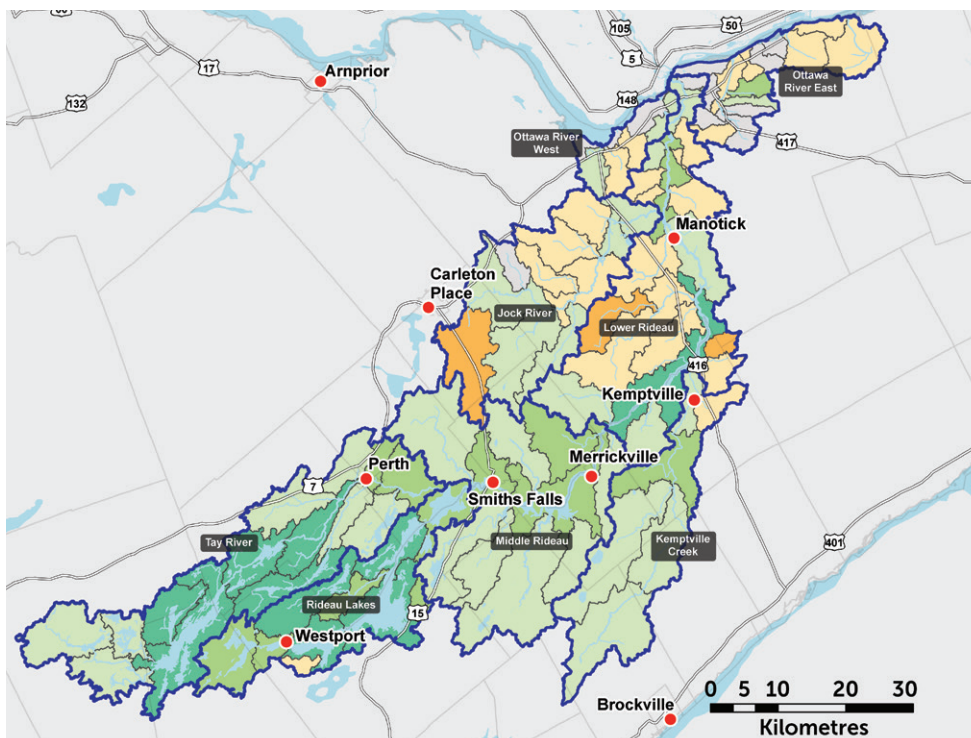
Ontario's Conservation Authorities report on watershed conditions every five years. The watershed report cards use Conservation Ontario guidelines and standards developed by Conservation Authorities and their partners.



Phosphorus concentrations and/or *Escherichia coli* (bacteria) counts were measured at locations throughout the Rideau Valley watershed. Benthic invertebrates (small aquatic animals living in the sediment) were also identified. The type and number of these animals are measures of water quality and aquatic habitat conditions.

What Did We Find?

- Grades range from A to F across the 92 catchments in the Rideau watershed
- Not all catchments have data available for all three parameters
- Our highest-scoring catchments are typically found in areas where urbanization is minimal
- Poorer-scoring catchments demonstrated high phosphorus concentrations and poor benthic (Family Biotic Index) scores. These catchments are often found in areas with intensive land uses, hardened surfaces and low levels of wetland, woodland and shoreline cover (i.e. highly urbanized areas and/or agriculturally dominated lands)
- 50% of catchments across the watershed demonstrated either no change or an improving trend between 2018 and 2023. Positive trends were primarily driven by improvements in Total Phosphorus and benthic scores
- Declining trends were a result of decreasing scores in two or three evaluated parameters



What Can We Do?

- Reduce runoff by conserving wetlands, forests, natural shorelines and buffers
- Limit fertilizer use
- Properly maintain and inspect your septic system

GRADING

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



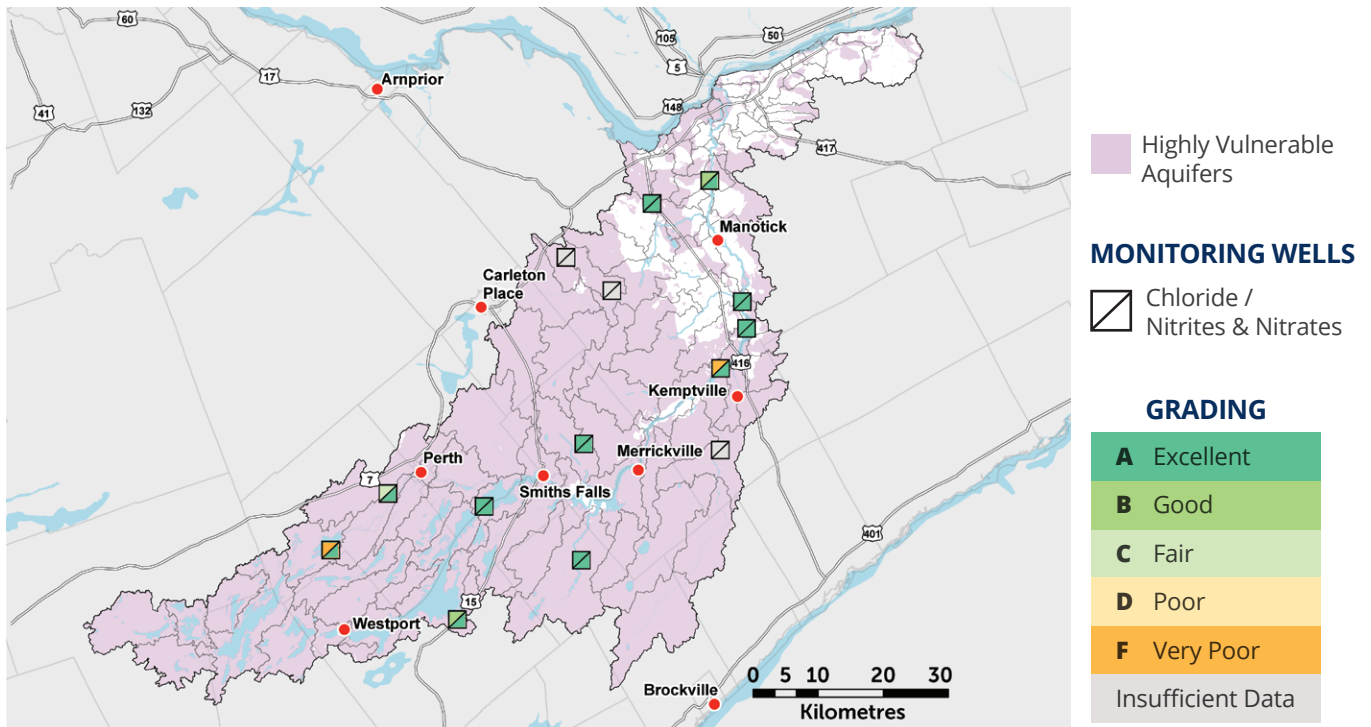
Concentrations of nitrite, nitrate and chloride have been measured, amongst many other parameters, at Provincial Groundwater Monitoring Network (PGMN) Program locations in the Rideau Valley since 2003. Learn more about local groundwater at www.mrsourcewater.ca and more about the PGMN Program from [Ontario's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

What Did We Find?

- Chloride levels ranged from very good to very poor depending on the location. Chloride can be naturally present in groundwater from its host rocks and sediments; or it can be a contaminant from road salting operations, septic bed and landfill effluent etc.
- Nitrite and nitrate levels were very good at all locations. Nitrite and nitrate are more complex ions that are usually present as contaminants, originating mainly from agricultural/landscaping practices and from the disposal of human sewage

What can we do?

- Maintain natural areas to encourage clean infiltration of water to aquifers
- Find alternatives and limit use of road salt, fertilizers, home chemicals and hazardous materials
- Maintain and inspect your well and septic system and decommission unused wells



**Note that grades do not reflect the presence or absence of pathogens; you should regularly test any groundwater you use for several types of common chemicals and bacteria, as recommended by the province.*



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?

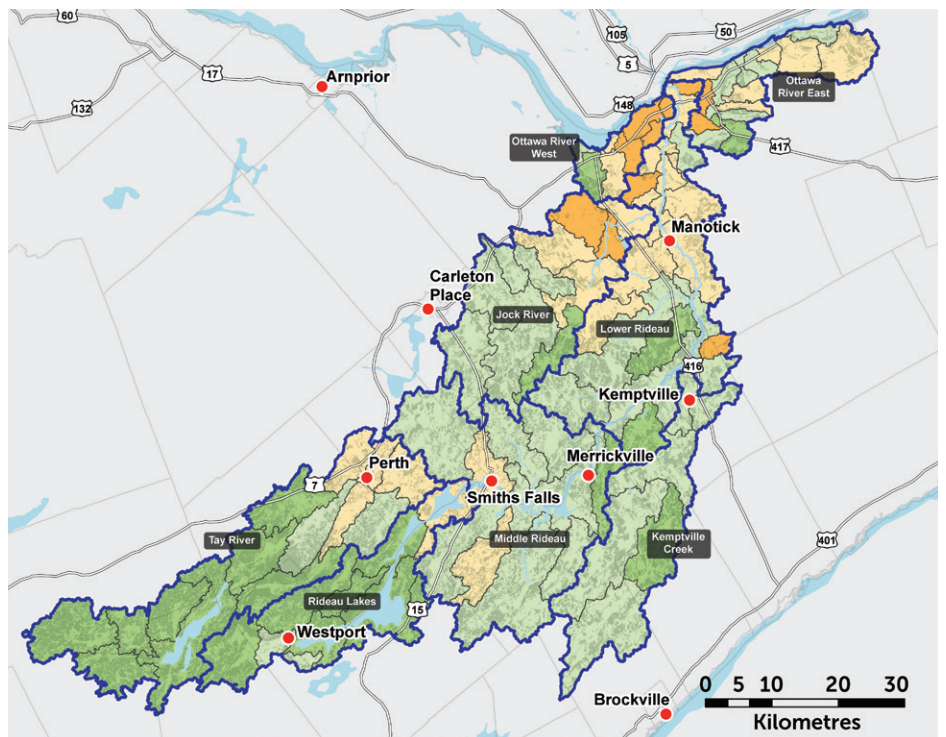
- Grades range from B to F across the 92 catchments , with C and D being the most common
- The majority of B graded catchments (15) are found in the upper watershed within the Tay River and Rideau Lakes subwatersheds
- Most C graded catchments (26) are equally distributed between the Middle/Lower Rideau, Kemptville Creek, Jock River and Ottawa East subwatersheds
- The majority of D grades (15) are found in the Lower Rideau and Ottawa East subwatersheds
- The ten catchments with an F are located in the urban area of the City of Ottawa and in intensively farmed agricultural areas of the Jock River and Lower Rideau subwatersheds

What Can We Do?

- Plant more trees and protect existing forests
- Let forests regenerate naturally

GRADING

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Rideau Valley WETLAND COVER

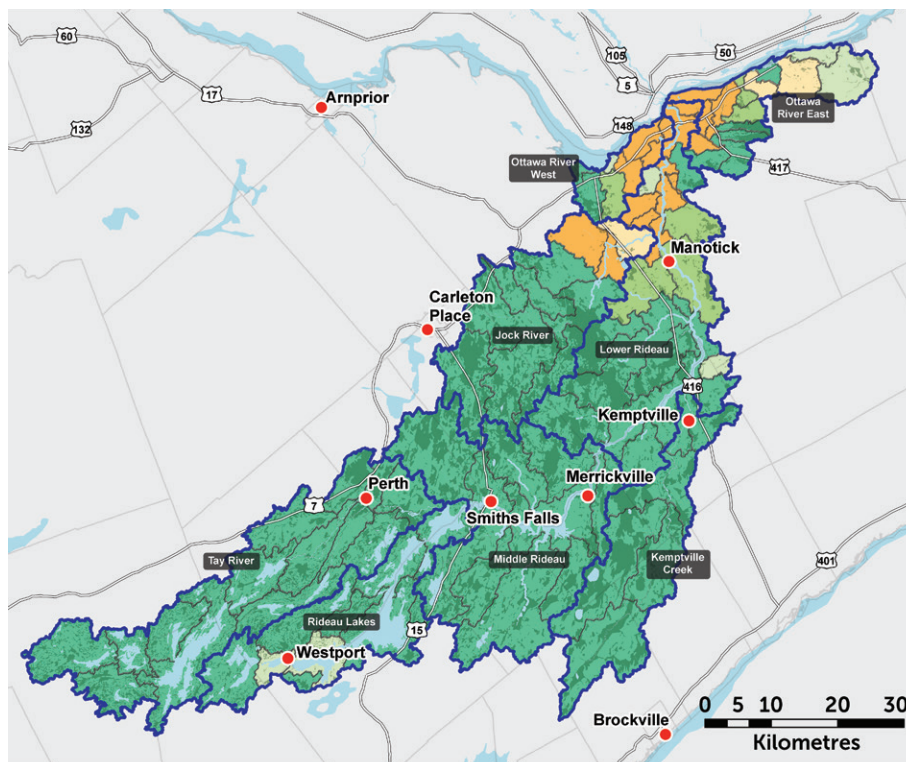


Wetlands are nature’s flood control and water supply reservoirs. They store excess storm and meltwater to mitigate floods and release flows slowly to mitigate droughts and replenish groundwater. Wetlands also filter pollutants out of our lakes and rivers and are a critical habitat for many species.

Wetland grades are calculated using the percentage of wetland cover in each catchment.

What Did We Find?

- Grades range from A to F across the 92 catchments in the Rideau watershed
- A grades (61) are the most common and are found throughout the Rideau Watershed, with the Tay River subwatershed having the most (14), closely followed by the Middle Rideau subwatershed (10)
- Eleven of 13 B and C graded catchments are found in the Lower Rideau and Ottawa river systems
- All D and F graded catchments are located within the urban area of the City of Ottawa and in intensively farmed agricultural areas of the Jock River, Lower Rideau and Ottawa East subwatersheds



What Can We Do?

- Protect remaining wetlands
- Restore and enhance existing wetlands
- Let wetlands regenerate naturally

GRADING

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

WHAT ARE OUR KEY WATERSHED ISSUES?



Loss of wetlands and forests:

- Significant loss of wetland and forest cover since European settlement across the watershed
- Ongoing wetland and forest loss is occurring in nearly every subwatershed
- Losses contribute to increased flooding and droughts, poor water quality, biodiversity loss and reduced hydrologic functions across the watershed

High levels of nutrients and contaminants in tributaries:

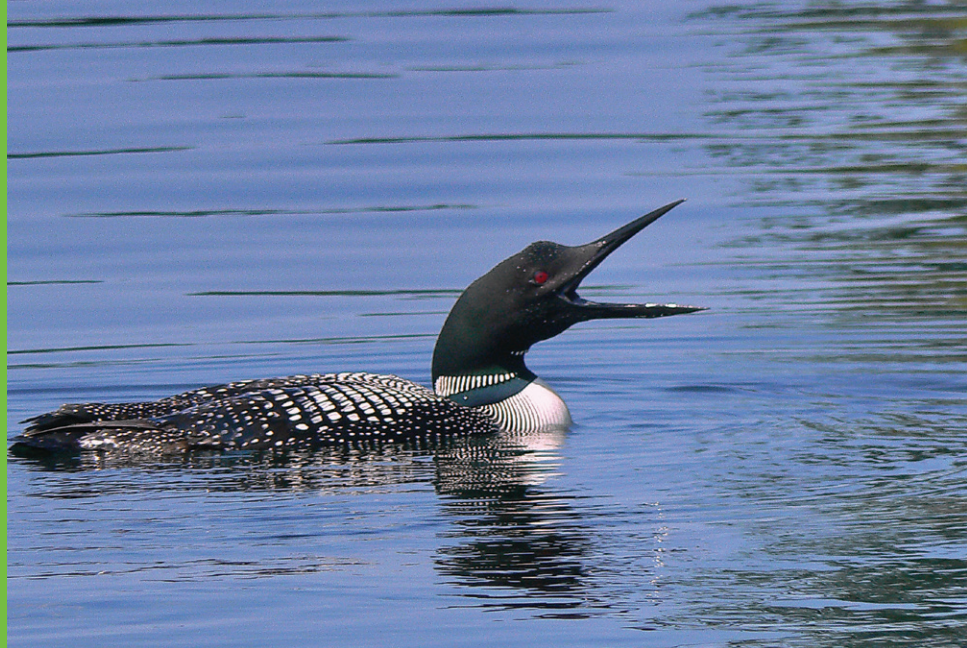
- Rising levels of chlorides due to road salt runoff
- Phosphorus and nitrates causing excessive weed growth and blue-green algae blooms in some lakes

What is RVCA doing about it?

- Offering technical and financial support to landowners to plant trees, naturalize shorelines, adopt agricultural best management practices and undertake projects to improve water quality

- Restoring impaired creeks and wetlands with help from volunteers, partner agencies, community groups and private landowners
- Directing development away from wetlands and shorelines so these critical features can continue to mitigate flooding and droughts, filter contaminants and recharge groundwater
- Providing septic system approval and reinspection services to ensure systems are constructed properly and continue to function effectively
- Accepting and protecting donated lands that are ecologically and hydrologically important such as wetlands, forests, floodplains, shorelines and significant wildlife habitats
- Developing a new hydrologic and hydraulic model of the watershed to assess how landscape changes and climate change may impact water levels and flooding
- Continued monitoring of the watershed to understand changing conditions and health to inform future actions and decisions

HOW CAN WE ENHANCE THE WATERSHED?



Municipalities

- Develop and implement environmental strategies and initiatives
- Ensure new development, re-development and site alterations support sustainable growth and adhere to development standards and best practices
- Monitor that conditions of planning and development approvals are implemented

Urban residents

- Reduce the use of road salt and lawn fertilizer
- Plant a rain garden or use a rain barrel to reduce runoff
- Pick up pet waste right away
- Use interlocking paving stones or crushed gravel instead of asphalt for driveways and walkways

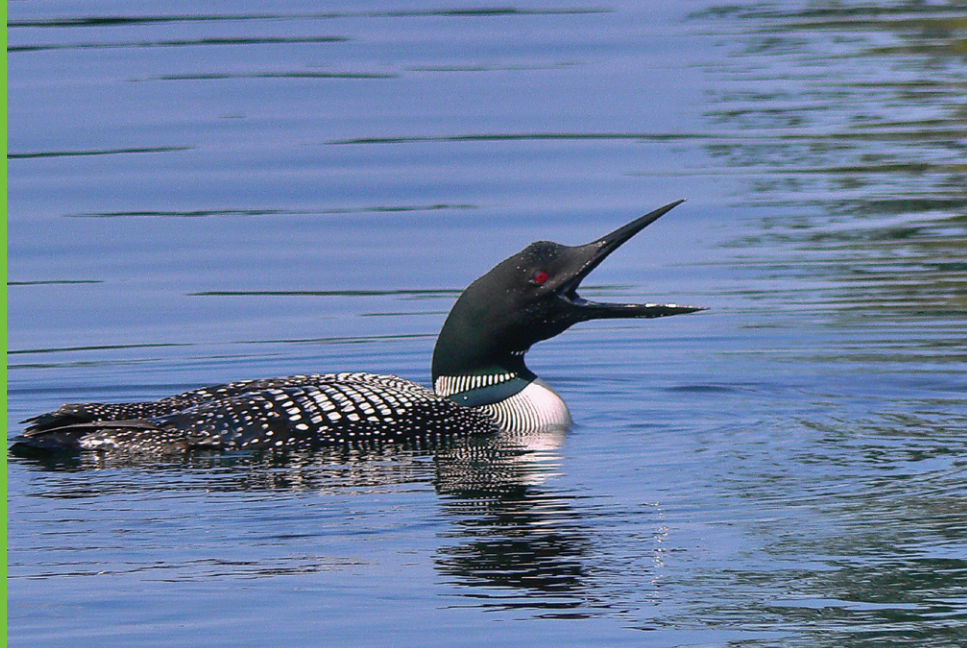
Rural residents

- Create natural landscapes through RVCA's stewardship programs for tree planting, shoreline naturalization and clean water projects



- Store hazardous materials properly to avoid spills and leaks and reduce their use
- Ensure septic systems and wells are properly constructed and maintained
- Properly decommission any unused wells
- Protect important natural features on properties like wetlands, forests and windbreaks
- Donate environmentally sensitive land to a land trust or other public body

HOW CAN WE ENHANCE THE WATERSHED?



Farmers:

- Implement agricultural best management practices through RVCA's stewardship programs such as constructing manure storage facilities, implementing a nutrient management plan, restricting livestock access to watercourses, retiring sensitive lands like stream buffers, controlling soil erosion and nutrient loss, maintaining soil moisture through tile drainage best practices and year-round cover crop management
- Plant trees, naturalize shorelines and create wetlands on marginal lands through RVCA's stewardship grant programs
- Handle and store chemicals, fertilizers and other potential contaminants safely and securely



Businesses:

- Reduce road salt use at facilities and parking lots
- Pile snow away from creeks and other waterways
- Implement low-impact development designs to increase infiltration and reduce runoff
- Support the Rideau Valley Conservation Foundation as a corporate partner to help fund conservation efforts in the watershed



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

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