

Conservation Partners Partenaires en conservation



A Business Case for

**Watershed Programs and Services:
2024 and Beyond**

July 2023

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1.0 INTRODUCTION

The Mississippi Valley, Rideau Valley and South Nation Conservation Authorities are seeking approval to continue delivering existing watershed programs and services that are now classified as “non-mandatory” by the province. These programs and services would continue to be funded with existing municipal levy and would not require any additional municipal funding.

Background

Provincial changes to the *Conservation Authorities Act* now require conservation authorities to classify all of their programs and services into the following three categories outlined in legislation:

- Category 1: Mandatory Programs and Services
These are programs undertaken by all conservation authorities and supported with municipal levy and other sources of revenue. They include programs related to:
 - The risk of natural hazards (e.g., flooding, erosion, unstable soils or bedrock, drought)
 - The conservation and management of lands owned or controlled by the authority
 - The authority’s duties, functions and responsibilities under the *Clean Water Act*
 - Other authority duties, functions and responsibilities prescribed by regulation
- Category 2: Municipal Programs and Services
These are programs provided at the request of a municipality and are usually funded through program revenue or municipal funding through an agreement with the municipality.
- Category 3: Other Programs and Services
These are programs that a conservation authority determines are advisable to further the conservation, restoration, development and management of natural resources in its watershed. They are often funded through a variety of revenue sources, but any use of municipal levy now requires an agreement to be signed with municipalities.

New Agreement Requirements

Conservation authorities are now required to have agreements with municipalities to continue delivering programs and services that fall into Category 2 or Category 3 when supported with municipal levy. These agreements must be in place by January 1, 2024.

This means the City of Ottawa will need to sign an agreement with each of its three conservation authorities if it would like the Conservation Authorities to continue delivering the watershed-benefiting programs and services outlined in Appendices A, B and C.

The Conservation Authorities are proposing that:

- Agreements set a maximum percentage of the Conservation Authorities’ annual municipal levy that can be allocated to these watershed programs and services.
- Agreements have a five-year review period with a clause enabling municipalities to amend or cancel their agreement with 6 months’ notice prior to July 31 in any given year.

Conservation Authorities will continue to apportion their general municipal levy amongst member municipalities based on modified current value assessment (CVA) data provided by the province.

Summary of Proposed Agreements

The following is a summary of the programs and services outlined in Appendices A, B and C and the proportion of annual municipal levy that supports them.

Mississippi Valley Conservation Authority is seeking approval to continue allocating up to 14% of its annual municipal levy towards the delivery of the following programs and services:

- Landowner Stewardship
(clean water and habitat grants, shoreline naturalization, restoration projects)
- Watershed Monitoring and Reporting
(water quality, benthic invertebrates, stream conditions)
- Watershed and Lake Planning (not *Planning Act* functions)
- Visitor Services at Conservation Areas
- Nature Education Program

Rideau Valley Conservation Authority is seeking approval to continue allocating up to 20% of its annual municipal levy towards the delivery of the following programs and services:

- Surface Water Monitoring and Reporting
(monitoring water quality indicators and stream conditions, producing data and reports showing changes and trends, completing stream and habitat restoration projects)
- Private Land Stewardship and Outreach
(planting trees, naturalizing shorelines, implementing best management practices, restoration and enhancement projects that address water quality and climate change)

South Nation Conservation is seeking approval to continue allocating up to 12% of its annual municipal levy towards the delivery of the following programs and services:

- Private Land Stewardship and Outreach
(tree planting, implementation of best management practices for water quality improvement, habitat restoration, community environmental grants and youth education)
- Conservation Land Securement
(purchase of ecologically significant lands and ancillary costs related to purchases and accepting land donations and EcoGifts)

Watershed	Percentage of General Municipal Levy Supporting Category 2 and 3 Programs	Estimated Amount of General Municipal Levy to be Apportioned to Ottawa in 2024 for Category 2 and 3 Programs
MVCA	14%	\$256,925
RVCA	20%	\$1,148,484
SNC	12%	\$382,025

2.0 OTTAWA'S CONSERVATION AUTHORITIES

Ontario's 36 conservation authorities are local watershed management agencies that are mandated to ensure the conservation, restoration, development and management of land, water and natural habitats through programs that balance human, environmental and economic needs.

Locally, Ottawa's three Conservation Authorities work closely with municipalities, Indigenous communities, government agencies, landowners and numerous key partners to promote an integrated watershed management approach to conservation.

Our Expertise

Conservation is our core competency with professional staff who have experience and expertise in a variety of fields and disciplines including water resources, slope stability, erosion, groundwater, land use planning, regulations, septic systems, biology, ecology, forestry, aquatics, restoration, outdoor education, GIS, community engagement and communications. These skill sets are available to our member municipalities and are used to deliver effective, cost-efficient programs and services across our watersheds on behalf of municipalities.

Our Boards

Conservation Authorities are governed by Boards of Directors appointed by member municipalities. The Board provides strategic direction and oversight and sets annual workplans and budgets. Draft budgets are circulated to member municipalities for review and comment each year and municipalities receive audited financial statements and Annual Reports.

- Councillors Gower, Curry, Kelly and Hubley represent the City on MVCA's Board.
- Councillors Brockington, Brown, Lo and Kavanagh and citizen appointee Anne Robinson represent the City on RVCA's Board.
- Councillors Darouze, Kitts and Luloff, represent the City on SNC's Board.



Figure 1. City of Ottawa and Conservation Authority Jurisdictions

3.0 IMPORTANCE OF WATERSHED MANAGEMENT

Conservation Authorities were created to address environmental issues that resulted from deforestation, biodiversity loss, poor land management practices, increased erosion, poor water quality and increased phosphorous loading to local watercourses. Today, this work is more important than ever with increasing development pressure, expanding agricultural production and the compounding effects of climate change.

Municipalities recognize the importance of understanding and protecting natural resources across watersheds including forests, wetlands, shorelines, lakes, rivers and streams, because these shared resources are relied on by residents, farmers, businesses and municipalities for:

- Drinking water
- Agricultural and commercial operations
- Recreation and tourism
- Erosion protection, flood control and drought mitigation
- Air and water filtration
- Carbon storage

These natural resources are also essential for continued economic growth and making communities more resilient to climate change.

Monitoring data shows that forest and wetland cover has declined across many parts of the City. In many urban streams and tributaries, water quality is also rated as poor or marginal and average concentrations of many parameters exceed water quality targets. Efforts to naturalize streambank buffers, control runoff, reduce erosion, increase forest cover and protect or enhance wetlands need to continue and these efforts are best focused along smaller tributaries within the City and across all watercourses in upstream municipalities as that will have a positive cumulative impact downstream in Ottawa.

For more than half a century, Ottawa's three Conservation Authorities have been delivering effective programs and completing on-the-ground projects that improve and protect the local environment. Conservation Authorities are one of the last remaining agencies who monitor watershed conditions and who have staff on the ground to work with landowners to complete projects that improve watershed health. With more than 80% of Eastern Ontario in private ownership, supporting landowner stewardship is essential to maintain healthy, ecologically functioning watersheds that in turn, support healthy communities.

Watershed programs and services offered by Conservation Authorities strongly compliment and support the goals and objectives of the Climate Resiliency Strategy being developed by the City of Ottawa.

1.0 Purpose

The purpose of this document is to provide the Business Case for Category 2 and 3 programs delivered by the MVCA with the financial support of its member municipalities. This business case does *not* address matters already subject to existing agreements and special levies between MVCA and its members (e.g. City of Ottawa septic approval and baseline monitoring programs.)

2.0 Who we are

Mississippi Valley Conservation Authority (MVCA) is a watershed-based agency established in 1968 to “further the conservation, restoration, development and management of natural resources” in the Mississippi River and Carp River watersheds, and portions of the Ottawa River watershed. Our jurisdiction is ~4,300km² and we serve eleven (11) municipalities as shown in Figure 1.

Figure 1: MVCA Jurisdiction Map



3.0 Scope

This business case provides the rationale for continued funding of the following programs by the City of Ottawa:

- Natural System Monitoring
- Watershed & Lake Planning
- Stewardship Program
- Nature Education Program
- Visitor Services

The Nature Education Program was suspended during the pandemic and is the only program that represents a budgetary pressure in this document (\$20,000.) All other program costs are already being paid by the City via the annual general levy, and this document recommends entering into an agreement that would allow for continued funding and delivery of these programs.

4.0 Financial Costs/Assumptions

The majority of MVCA staff are dedicated to the delivery of mandatory Category 1 programs related to the management of natural hazards and data collection in support of provincial programs. Accordingly, most staff associated with the delivery of Category 2 and 3 programs are paid in whole or part by the municipal levy. This enables MVCA to deliver Category 2 and 3 programs at affordable rates as each program is only charged the average amount of time dedicated to that specific program and directly associated expenses.

Table 1 shows the costs and funding method for programs that are subject to the proposed agreement with the City of Ottawa.

Table 1: 2023 Programs Costs and Allocation

Program	Sec. of CA Act	Municipal Funding	2023 Value ¹ (\$)
Natural System Monitoring	21.1.1	All 11, by municipal CVA	\$70,516
Watershed & Lake Planning	21.1.1	All 11, by municipal CVA	\$70,382
Stewardship	21.1.2	All 11, by municipal CVA	\$69,000
Nature Education Program	21.1.2	All 11, by municipal CVA	\$20,000
Visitor Services - Operating	21.1.2	All 11, by municipal CVA	\$13,000
Visitor Services - Capital	21.1.2	All 11, by municipal CVA	\$32,605

Based upon the most recent municipal current value assessment (CVA) received from the province, the City of Ottawa's contribution would be 90.103% in 2024. As noted above, the only budget pressure in Table 1 is \$20,000 for reinstatement of a Nature Education Program commencing 2024. All other costs are currently being paid by the City as part of its annual general levy.

The following sections describe the programs and their benefits.

¹ Net annual grants and contributions for these programs summing to \$65,445 in 2023. Capital amount equals one 10th of the 10-year capital plan requirement.

5.0 Watershed/Subwatershed Studies & Plans

Watershed planning services support informed municipal land use planning and engineering by identifying issues, opportunities, and constraints, setting goals and objectives, providing area-specific data and actions. They provide a framework for sustainable development and ongoing monitoring and assessment of watershed health including cumulative effects. The background studies underlying watershed planning and the resultant plans are referenced by City staff during the update of municipal plans and the review of planning applications.

Under this program, in 2021 MVCA completed an update of the [Mississippi River Watershed Plan](#). And, MVCA's [2021-2025 Corporate Strategic Plan](#) identifies "Update of the 2004 Carp River Watershed Plan" as a priority action to be carried out in partnership with the City of Ottawa.

Program staff engage with and support the City in the preparation and interpretation of documents, and provide input to the drafting of City policies, stormwater guidelines, and related program design and reviews. Over the years, MVCA staff have collaborated and supported city staff on a variety of matters of interest to the City. The following elements of this work are no longer eligible for municipal levy funding and require an agreement under section 21.1.1 of the *Conservation Authorities Act*:

- Completion of technical studies to inform preparation and update of a watershed plan;
- Review and assessment of watershed plan implementation and effectiveness;
- Quality assurance and quality control (QA/QC) reviews of natural heritage technical studies prepared by or submitted to the City (e.g. OWES reports); and
- Advisory support in the preparation and review of City documents, programs and services that are not subject to the *Planning Act*².

6.0 Stewardship Program

MVCA's 2021 *Stewardship Plan* divides our jurisdiction into three geographic areas, each with specific objectives and focus. Table 1 identifies objectives and services for the Lower Watershed Area that includes the City of Ottawa.

Table 1: Excerpt from MVCA Stewardship Plan, Lower Watershed

Lower Watershed Objectives	Program Focus
Enhance management of forested lands	<ul style="list-style-type: none"> • Promote the development of Forest Management Plans • Distribute educational material from Forest Health Network
Improve waterbody, watercourse, and wetland health Increase knowledge of lake health	<ul style="list-style-type: none"> • Participate in Lake Associations meetings • Support Lake Links annual meeting • Promotion and tracking of the Water Rangers water testing program • Promote and deliver Shoreline Naturalization Program • Promote and deliver Ottawa Rural Clean Water Program (per MOU) • Promote and deliver City Stream Watch Program (per MOU)

² Per O.Reg. 596/22.

	<ul style="list-style-type: none"> • Identify opportunities for river and stream restoration • Promote Low Impact Development and participation in water storage programs e.g., Rain Ready Ottawa • Promote and deliver stream clean-up events using volunteer efforts
Habitat enhancement	<ul style="list-style-type: none"> • Promote and deliver Shoreline Naturalization Program • Promote and deliver ALUS Lanark/Carp • Promote and deliver Ottawa Rural Clean Water Program • Identify, investigate, and facilitate habitat enhancement of public lands
Prevent and reduce the introduction and spread of invasive species	<ul style="list-style-type: none"> • Analyze City Stream Watch data and prioritize removal of invasives • Organize and deliver volunteer invasive removal events • Distribute educational materials e.g., <i>Grow Me Instead</i> publication (Ontario Invasive Plant Council, 2020). • Use EDDMapS mapping database and app and other tools to log sightings

The following elements of this work are no longer eligible for municipal levy funding and require an agreement under section 21.1.2 of the *Conservation Authorities Act*:

- City Stream Watch Program: enlists volunteers to help monitor environmental conditions in streams within the City of Ottawa. It includes an education and stewardship component implemented through special volunteer engagement events (i.e. stream clean ups, invasive species removals, etc.) Results of this program are provided to City staff to help inform planning and plan reviews, and the prioritization of City restoration projects. Between 2013-2019, MVCA staff and volunteers walked and surveyed 651 - 100 m sections of streams (65.1 kms) across 12 subwatersheds in areas of Kanata, Stittsville, and Carp experiencing growth pressures. (NOTE: this program is funded under MVCA’s Monitoring & Reporting Program but is considered part of our Stewardship program due to the engagement and involvement of citizens in carrying out this work.)
- Agricultural Land Management Support: This program delivers grants to rural property owners for a variety of stewardship activities including the restoration and creation of wetland habitat.
- Naturalization/Restoration Program: This small-scale program offers native plants and the planting of riparian areas on private land; and the restoration of shorelines and in-stream fish habitats on public lands. The objectives of these services are to restore damaged habitat, mitigate shoreline erosion and soil loss, and to increase public awareness and action. MVCA staff organize tree/plant giveaways in partnership with community and lake associations, and secures special grants to make habitat improvements with municipal partners. Over 13,000 plants have been distributed, and 500 shoreline projects carried out. Since 2012 MVCA has carried out 15 projects along Poole Creek in partnership with the City including installation of a LUNKER, invasive species removal, litter removal and rip rap installation.
- Forest Management Services: MVCA has a part-time forest technician that provides advisory support to landowners. At present, MVCA has a contract with the County of Lanark to manage

county forests. MVCA would like to expand this program to be more widely available to private landowners to protect and maintain the integrity of remnant forests in the lower watershed. This matter will be explored over the coming years and may be proposed in updates to the agreement.

7.0 Watershed Monitoring and Reporting Program

MVCA's monitoring program goals as set out in the 2023 [Natural Systems Monitoring & Reporting Strategy](#) 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 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.

MVCA manages thirteen distinct programs and a database, with surface water quality data going back to 1966, lakes studies to 1998, stream studies to 2005, and stream watch results to 2013. Table 2 summarizes MVCA's current monitoring and reporting program and the benefits they provide to the City of Ottawa and other municipalities within the watershed. Recent monitoring program results can be found on our website at: <https://mvc.on.ca/reports/>. MVCA recently used monitoring results to prepare and publish a [watershed report card](#).

Only the Provincial Surface Water and Provincial Groundwater Monitoring Network programs remain eligible for funding under the general levy. The balance of this program is no longer eligible for general levy funding and requires an agreement under section 21.1.1 of the *Conservation Authorities Act* to enable sustained long-term aquatic health monitoring across the three watersheds, and the sharing of that data with municipal planners, developers, property owners, land trusts, upper levels of government, and others with an interest in aquatic health and management.

**Table 2: Excerpt from MVCA Natural Systems
Monitoring & Reporting: Program Review and Update**

Location	Program Name <i>Data collected</i>	Program Partners	Benefits
Streams	Provincial Water Quality Monitoring Network (PWQMN) <i>Water Chemistry</i>	MECP	<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	<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. <p><i>NOTE: this service is already funded by the City of Ottawa via Special Levy and is NOT subject to the proposed agreement.</i></p>
	MVCA WQ <i>Water Chemistry</i>	None	<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	<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.
	City Stream Watch	RVCA, SNCA	<ul style="list-style-type: none"> • Provides for detailed record and assessment of stream conditions within urban areas.

Location	Program Name <i>Data collected</i>	Program Partners	Benefits
	<i>Land use, riparian and stream characteristics</i>		<ul style="list-style-type: none"> • 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	<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	<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.
Lakes	Lake Monitoring <i>Parameters related to trophic status</i>	Lake Stewards (volunteers)	<ul style="list-style-type: none"> • Focuses on populated main stem lakes, secondary lakes are representative of sub catchments, and highly sensitive 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	<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	<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.

Location	Program Name <i>Data collected</i>	Program Partners	Benefits
	Algae Monitoring <i>Incidental observations</i>	None	<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	<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	<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.

8.0 Visitor Services at Conservation Areas (CA)

Conservation areas help to preserve natural heritage features and functions while providing mental respite, wildlife viewing, and exercise opportunities for visitors. MVCA has six conservation areas—two in the City of Ottawa and four outside of Ottawa. Most conservation areas have a combination of forests, wetlands, shorelines and grasslands with walking trails and boardwalks, a parking lot, outhouses, and informational and direction signage.

The Mill of Kintail (MOK) Conservation Area is MVCA's flagship site with approximately 50% of visitors living in an Ottawa postal code district. This 154 ha. site also has two designated heritage structures: the Gate House and Grist Mill, an education centre, a small playground and some smaller structures. These facilities are used for educational purposes, to display historic exhibits, and for small events and group activities.

While passive recreational elements will remain eligible for general levy funding under new regulations, on-site programs and buildings at the MOK site will not. Currently, the majority of operating costs are recovered through site fees/rentals and grants. However, upkeep of the heritage and other structures and the balance of operating costs are currently born by the general levy. The 2023 Budget provided for ~\$13,000 (10%) of site operating costs and \$83,000 for roof works to be funded by the general levy.

It is important that buildings at the Mill of Kintail property are properly maintained over time to ensure their continued safety and value both as heritage structures and for program delivery. Projected capital works for these building constitute ~2% of the average annual capital budget set out in MVCA's 10-year Capital Plan. MVCA is seeking an agreement under section 21.1.2 of the *Conservation Authorities Act* to allow for continued upkeep of these structures in accordance with MVCA's Capital Plan and sustained support for ongoing operating costs.

9.0 Nature Education Program

MVCA's education program was shuttered during COVID and is proposed to resume in a more modest way starting in 2024. The proposed summer program would provide children with the opportunity to explore plants, wildlife, insects, habitats and aquatics and learn about conservation and stewardship.

MVCA's Foundation has sponsored a program review to support tailoring of the program to meet the objectives of the Authority. A budget pressure of \$20,000 is estimated for 2024 to be shared amongst the member municipalities via an agreement under section 21.1.2 of the *Conservation Authorities Act*.

10.0 Conclusion & Recommendation

Existing Category 2 and 3 programs constitute ~14% of the annual general levy, as shown in Figure 2.³ Figure 3 shows current revenues by category and the amount of general levy that is proposed to be collected by special agreement per sections 21.1.1 and 21.1.2 of the *Conservation Authorities Act*.

It is recommended that the City of Ottawa enter into an agreement with MVCA to provide for this same percentage level of funding going forward to support continuation of existing programs and reinstatement of a Nature Education Program. Commencing 2024, MVCA would allocate no more than

³ Excludes all programs already funded by special agreement with the City and other member municipalities.

14% of its operating budget to the delivery of the category 2 and 3 programs described above; and 2% of its capital budget to the upkeep of education and other category 3 structures at the Mill of Kintail Conservation Area.

Figure 2: 2023 Budget Cost Allocation

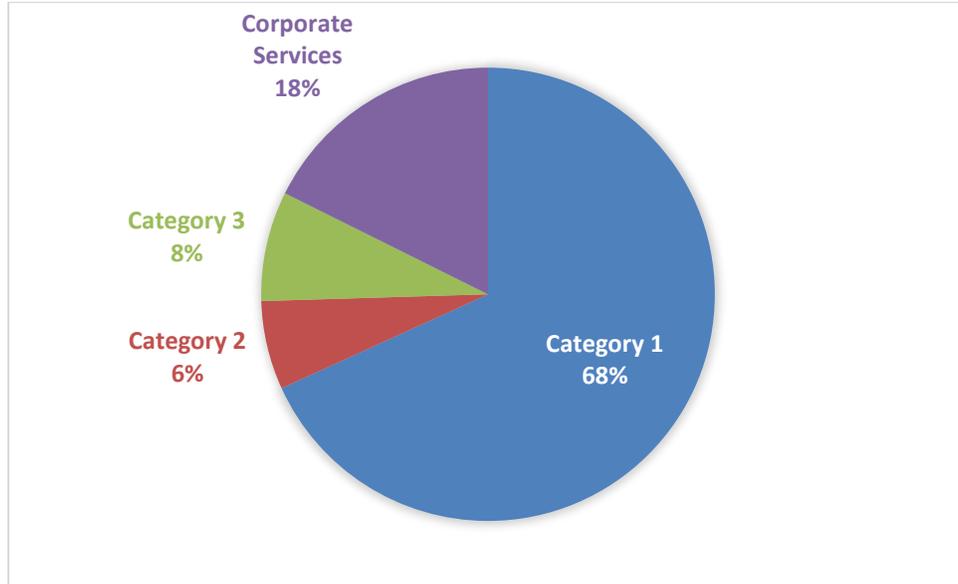
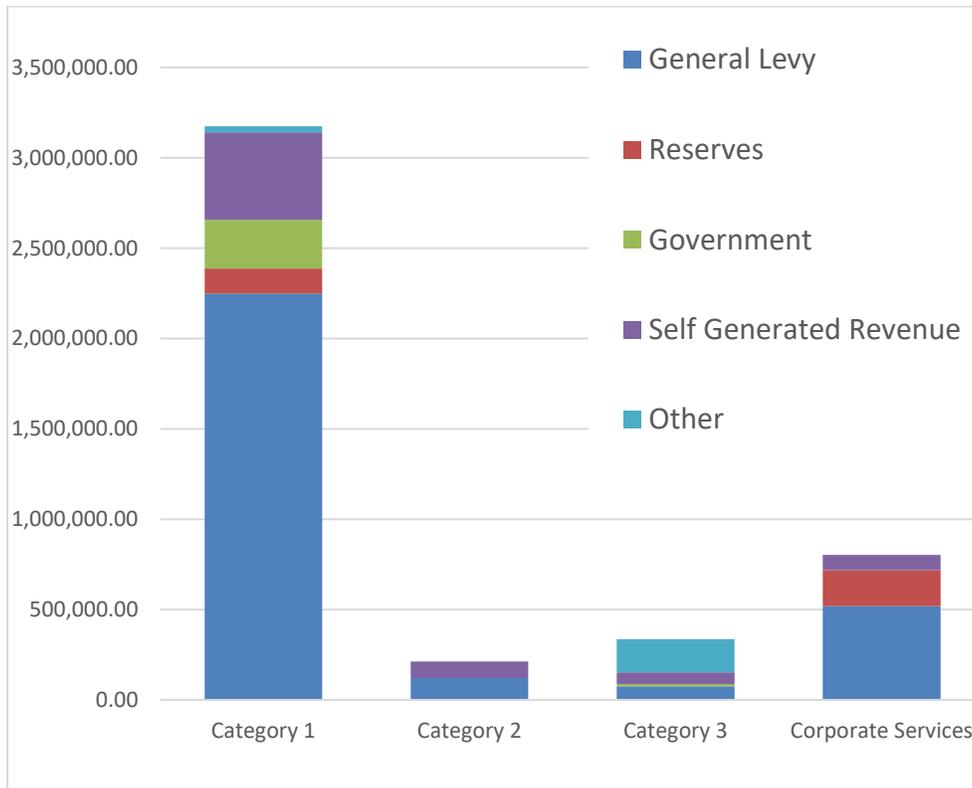


Figure 3: 2023 Current Revenues All Sources





**Watershed Programs and Services:
2024 and Beyond**

Appendix B

May 2023

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1.0 RIDEAU VALLEY WATERSHED

The Rideau Valley watershed is 4,241 km² (Figure 1) and is located in the counties of Frontenac; Lanark; Leeds and Grenville; Stormont, Dundas and Glengarry; Prescott-Russell and the City of Ottawa. It includes all land that drains into the Rideau River as well as several streams that flow directly into the Ottawa River upstream and downstream of the City of Ottawa. The Rideau flows north-east from its headwaters in the Frontenacs to the City of Ottawa where it discharges into the Ottawa River. The upper watershed is dominated by lakes, the middle watershed is dominated by agriculture and the lower watershed is highly urbanized.

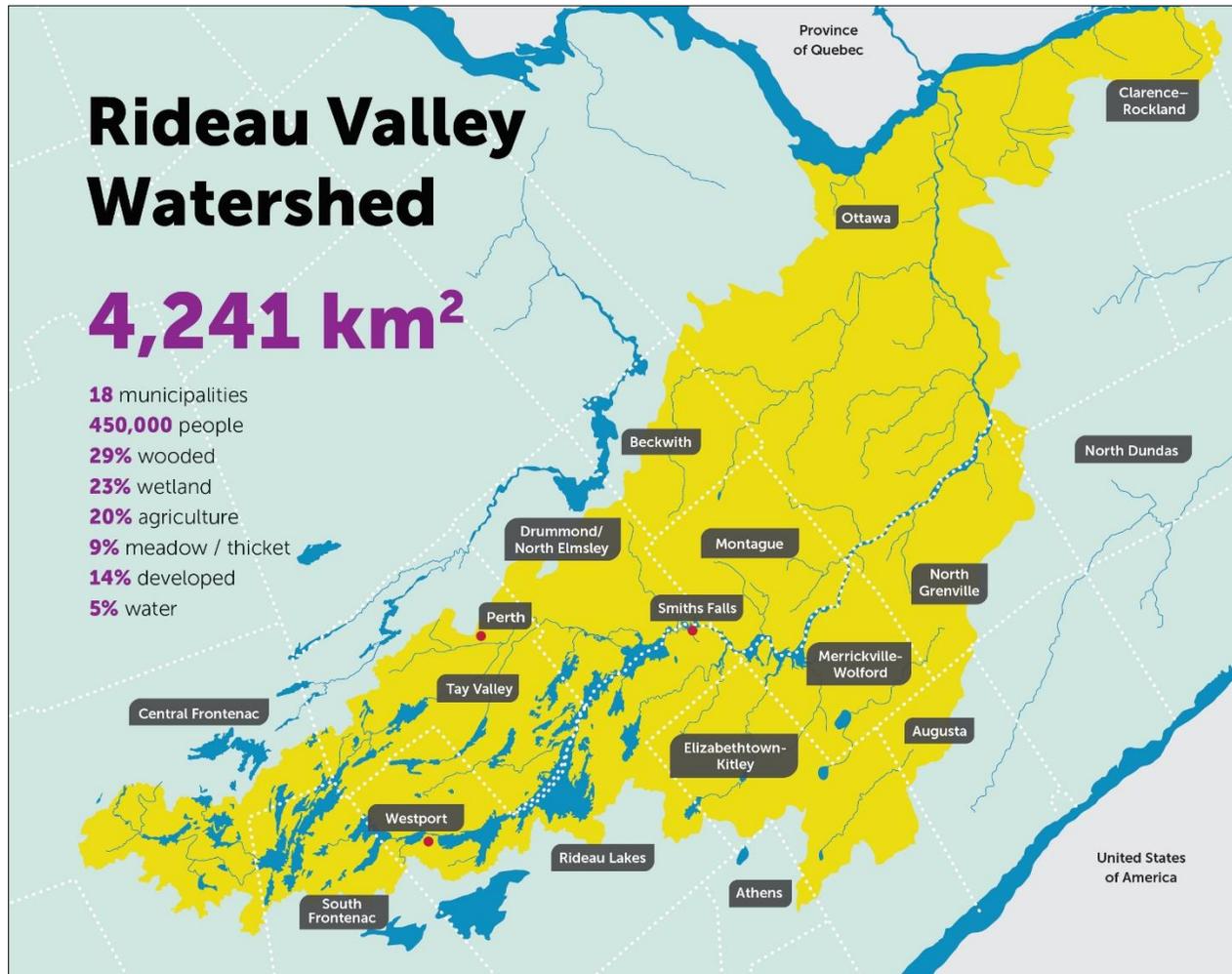


Figure 1. Rideau Valley Conservation Authority Jurisdiction

For more information about the RVCA please download our [2022 Annual Report](#)

2.0 WATERSHED CONDITIONS

Ontario saw a significant change in its landscape during the 19th century with widespread deforestation and wetland loss following European settlement. By the start of the 20th century, little old growth forest remained, and wetland cover was declining, contributing to severe flooding, drought, soil erosion and degraded water quality. These impacts led to the creation of conservation authorities.

Since 1966, RVCA's programs and services have continued to evolve to address current and emerging environmental issues including poor water quality, degraded streams, flooding and drought, erosion, and loss of habitat. These issues result from deforestation, hardening of shorelines, loss of wetlands and riparian buffers, increased runoff, and now a changing climate.

Below are results from RVCA's most recent Watershed Report Card published in March, 2023.

Water Quality

RVCA's most recent Watershed Report Card found that water quality scores ranged from A to F across the 92 catchments in the Rideau watershed (Figure 2). Not surprisingly:

- High scoring catchments were usually found in areas where urbanization is minimal.
- Poorer scoring catchments were often found in areas with intensive land uses, hardened surfaces and low levels of wetland, woodland and shoreline cover (highly urbanized areas and/or agriculturally dominated lands). These catchments demonstrated high phosphorus concentrations and poor benthic scores.
- The good news is 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.

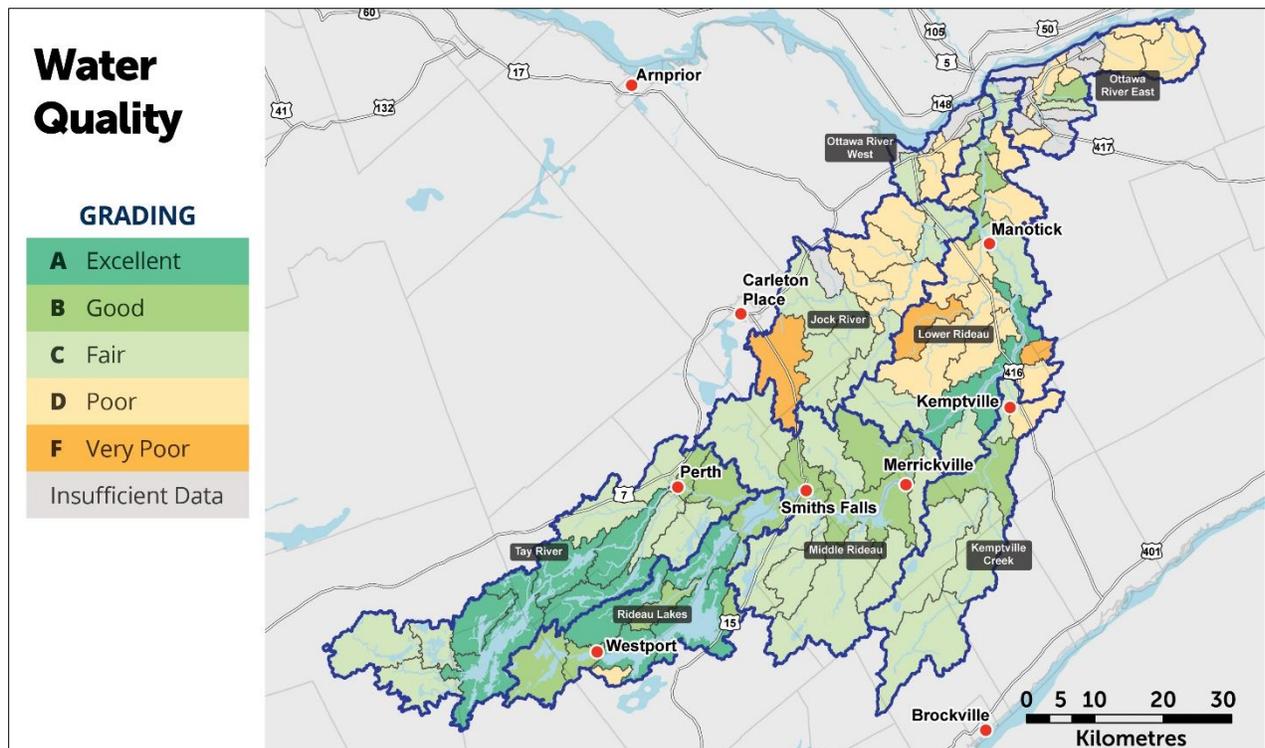


Figure 2. Surface Water Quality Grading in the RVCA

Forest Cover

RVCA's Watershed Report Card also found that forest cover scores ranged from B to F across RVCA's 92 catchments (Figure 3), with C and D being the most common. Also not surprisingly:

- 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.

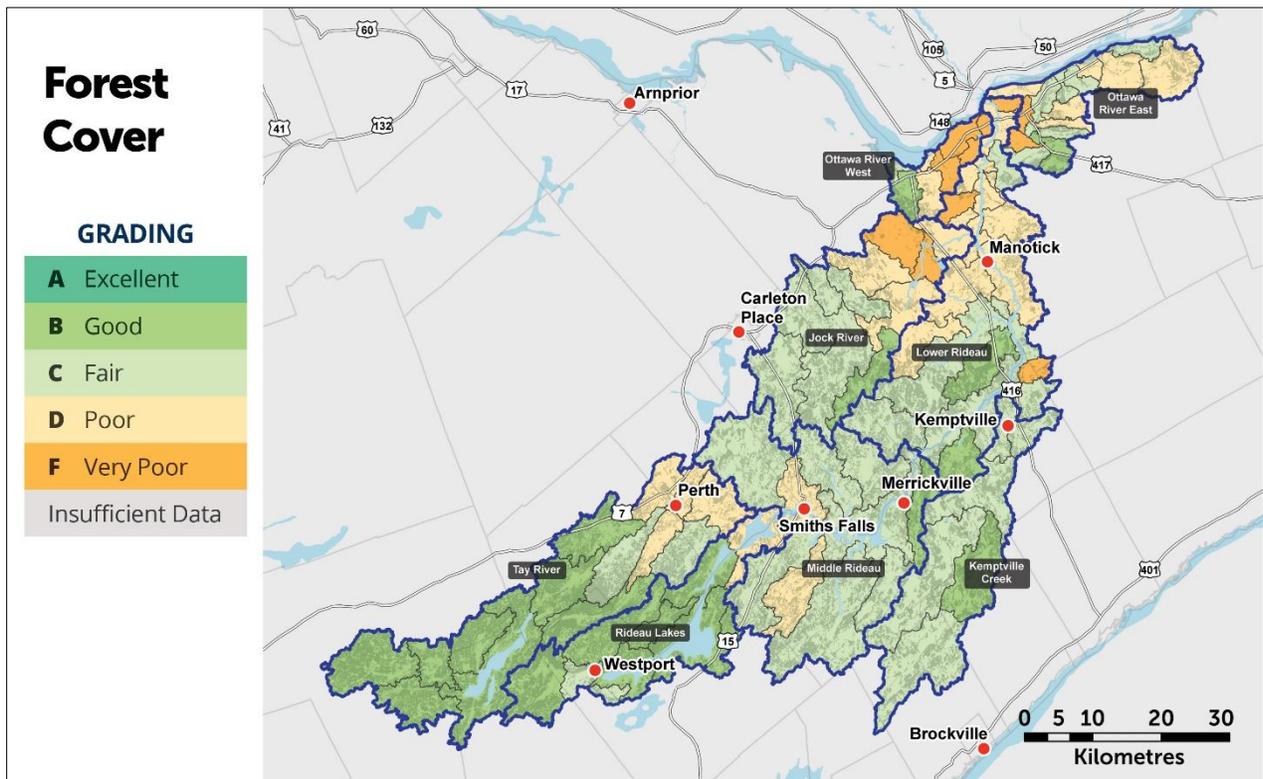


Figure 3. Forest Cover Grading in the RVCA

Wetland Cover

RVCA's Watershed Report Card also found wetland cover scores ranged from A to F (Figure 4).

- A graded catchments (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)
- Most B and C graded catchments (11 of 13) 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.

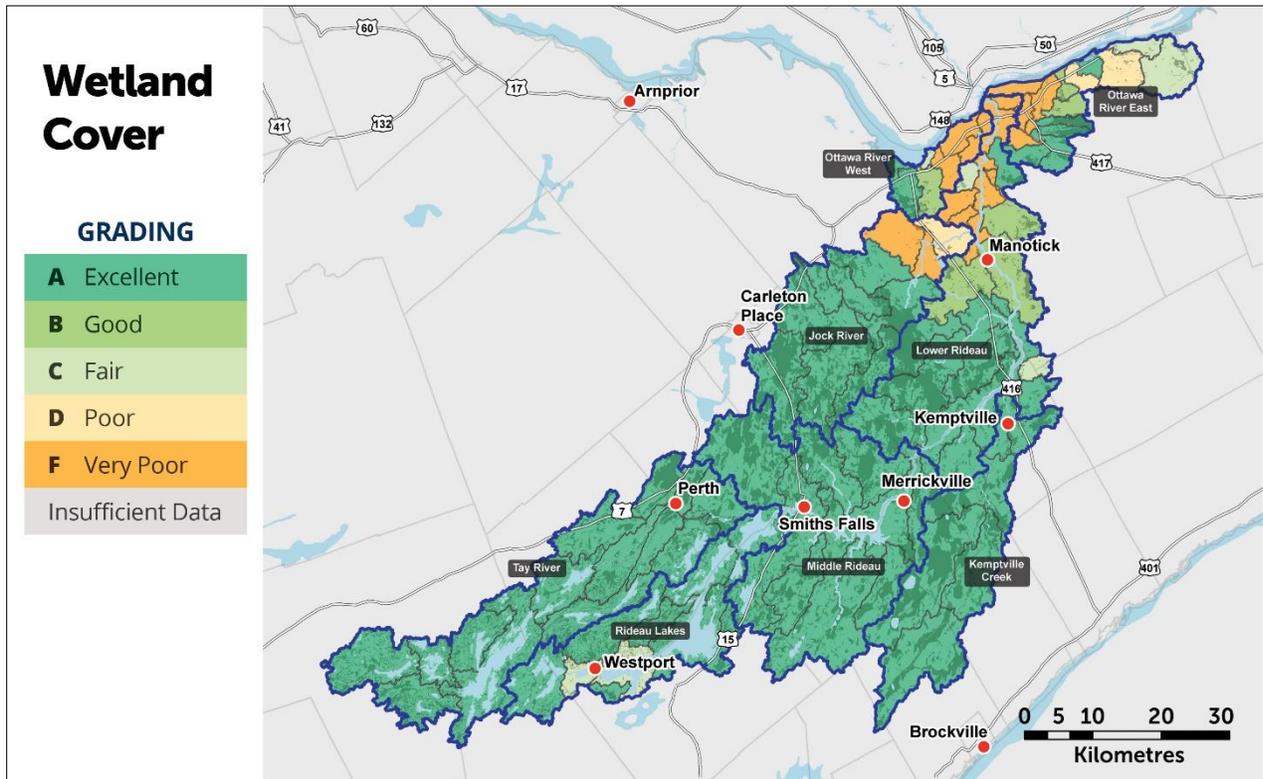


Figure 4. Wetland Cover Grading in the RVCA

Looking Forward

With more than 80% of Eastern Ontario’s land in private ownership, empowering and supporting landowner stewardship is essential to protect and improve watershed health. To ensure that stewardship programs target and support the highest priority and most effective actions and projects, ongoing monitoring of watershed health is needed. Monitoring enables staff to track changes in watershed conditions, identify trends, understand potential causes, and begin to predict future impacts. This information is critical to inform decision-making so that program design and resource allocation produce the best outcomes when it comes to conservation, management and protection of the Rideau watershed.

3.0 WATERSHED PROGRAMS AND SERVICES

4.1 Surface Water Monitoring and Reporting

The RVCA has been monitoring water chemistry since the 1970s and aquatic and terrestrial conditions since the 1990s. The purpose is to create a dataset and understanding of water quality and stream conditions across the watershed to be used by RVCA, municipalities and other stakeholders to make informed policy and land use decisions.

RVCA's water chemistry monitoring program collects data on:

- Smaller streams and tributaries across the watershed
 - Water samples are collected at 107 sites at least 6 times (April to November).
 - Temperature, pH, conductivity and dissolved oxygen are measured in the field.
 - Collected samples are then sent to a lab which measures 52 parameters looking at bacteria, nutrients, metals and ions.

- Lakes in the middle and upper watershed
 - Samples are collected in deep water on 39 lakes
 - Samples are taken 4 times a year (May, twice in the summer and October).
 - Temperature, pH, conductivity and dissolved oxygen are measured in the field.
 - Samples from different depths are then sent to a lab which measures total phosphorus, total kjeldahl nitrogen, dissolved organic carbon and calcium.
 - Nearshore sampling also occurs on 31 of the lakes annually with more intensive sampling occurring on each lake every 5 years.
 - These samples are tested for total phosphorus, total kjeldahl nitrogen and *E.coli*.
 - Temperature, pH, conductivity and dissolved oxygen are also measured.

RVCA's aquatic and terrestrial monitoring program collects data on:

- Benthic invertebrates
 - 44 stream sites are sampled spring and fall across the watershed.
 - Samples are analyzed by accredited staff who identify the presence of stream bottom (benthic) invertebrates which are indicators of stream conditions and pollution levels. Any invasive species or species at risk are also identified.
 - Temperature, pH, conductivity and dissolved oxygen are measured in the field.

- Stream conditions
 - 600 watercourse segments are surveyed each year between April and September
 - 100 m segments are surveyed and the following data collected: temperature, fish species, instream conditions (e.g., channel, morphology, substrate, vegetation, invasive species, fish migratory barriers, algae, dissolved oxygen, conductivity, pH) and riparian condition (e.g., human alterations, adjacent land use, stream buffer, erosion levels)

- Headwater drainage features
 - Each subwatershed is sampled every 6 years
 - Each site is sampled in the spring (freshet) and summer (low flow)
 - The following information is collected to measure zero, first and second order headwater drainage features: instream conditions (e.g., feature types, flow type, sediment transport, channel connectivity, feature vegetation, barriers and dams) and riparian conditions (e.g., vegetation, channel, best management practices)

The benefits and value of these programs are:

- Monitoring lakes and streams is necessary to provide a more complete picture of water quality as provincial monitoring (also completed by RVCA) only samples the four major rivers for chemistry (Rideau, Tay, Jock and Kemptville). This monitoring also shows if streams are contributing contaminants or nutrients to lakes and larger rivers including the Rideau.
- Producing a long-term data set enables staff to monitor changes in water quality and stream conditions, identify areas that are improving or declining, and identify potential reasons and opportunities for improvement.
- Sites or specialized monitoring can be added to address areas of concern.
- Monitoring data is made available on [RVCA's website](#) and reports are produced to provide analysis at the watershed, subwatershed and catchment scales.
- Established provincial and federal standards are followed to ensure data integrity and allow data to be uploaded to provincial and federal databases and be used by a variety of users.
- Municipalities use the data and reports to inform Official Plans and other policies and strategies. Municipal staff will also have to rely on this data when reviewing planning applications under Sections 2.1 (natural heritage) and 2.2 (water) of the Provincial Policy Statement now that conservation authorities can only provide comments on natural hazards and source protection.
- Consultants use the information when preparing planning or permitting submissions for clients, which can save clients time and money and speed up development approvals.
- Lake associations and other community groups use the information to inform lake management plans, education and outreach initiatives and local stewardship projects.
- Academia uses the data to advance the understanding of various areas of research including biomass production, lake dynamics, invasive species and water quality trends.
- Lastly, RVCA relies on this data and information for a number of important purposes:
 - Understanding the state of the watershed as surface water quality is one of four watershed health indicators reported on by conservation authorities across Ontario
 - Informing decisions when reviewing development applications.
 - Encouraging landowners and partners to implement best management practices.
 - Shaping and directing stewardship programs towards priority projects and areas.
 - Supporting funding applications for priority projects.
 - Assessing the vulnerability of the watershed to climate change.
 - Shaping future monitoring programs to better understand trends and causes.

Monitoring staff also:

- Work with municipalities, lake associations and other organizations to undertake special projects involving sampling, literature reviews or analysis.
- Work with community volunteers to undertake stream cleanups, remove invasive species and create fish habitat.
- Design and construct large scale fish habitat and wetland restoration projects on RVCA, municipal, provincial or federal property (with external funding).
- Attend events, guest speak, host workshops and work with other organizations to share information related to water quality, streams, aquatic habitat and watershed health.

RVCA's monitoring programs receive support from multiple partners:

- Province of Ontario supplies one YSI device to measure parameters in the field.
- City of Ottawa provides supplemental funding through special levy to augment monitoring within the City, including more frequent sampling and a higher density of sampling sites.

- Volunteers contribute 1,500 hours a year (over 20,000 hours to-date) to help with monitoring, garbage and invasive species removal, and habitat and restoration projects.
- Select property owners also provide staff with access to lakes and streams through their property and provide staff with on water transportation when sampling lakes.
- Anglers and hunters, community and lake associations, stewardship councils, National Capital Commission and other partners have also provided significant program support.

Budget summary:

- RVCA receives approximately \$200,000 a year in external funding to support monitoring, community volunteer events and large-scale fish habitat and wetland restoration projects.
- While annual program costs fluctuate depending on the number of sites, location of sites and site conditions:
 - Approximately 4.6% (\$307,000) of RVCA’s general municipal levy is required to keep monitoring and reporting on water chemistry conditions.
 - Approximately 5.3% (\$354,000) of RVCA’s general municipal levy is required to keep monitoring and reporting on aquatic and terrestrial conditions and undertake community stream cleanups and aquatic habitat and restoration projects.



Figure 5. Surface Water Quality Monitoring Sites in the Rideau Watershed.

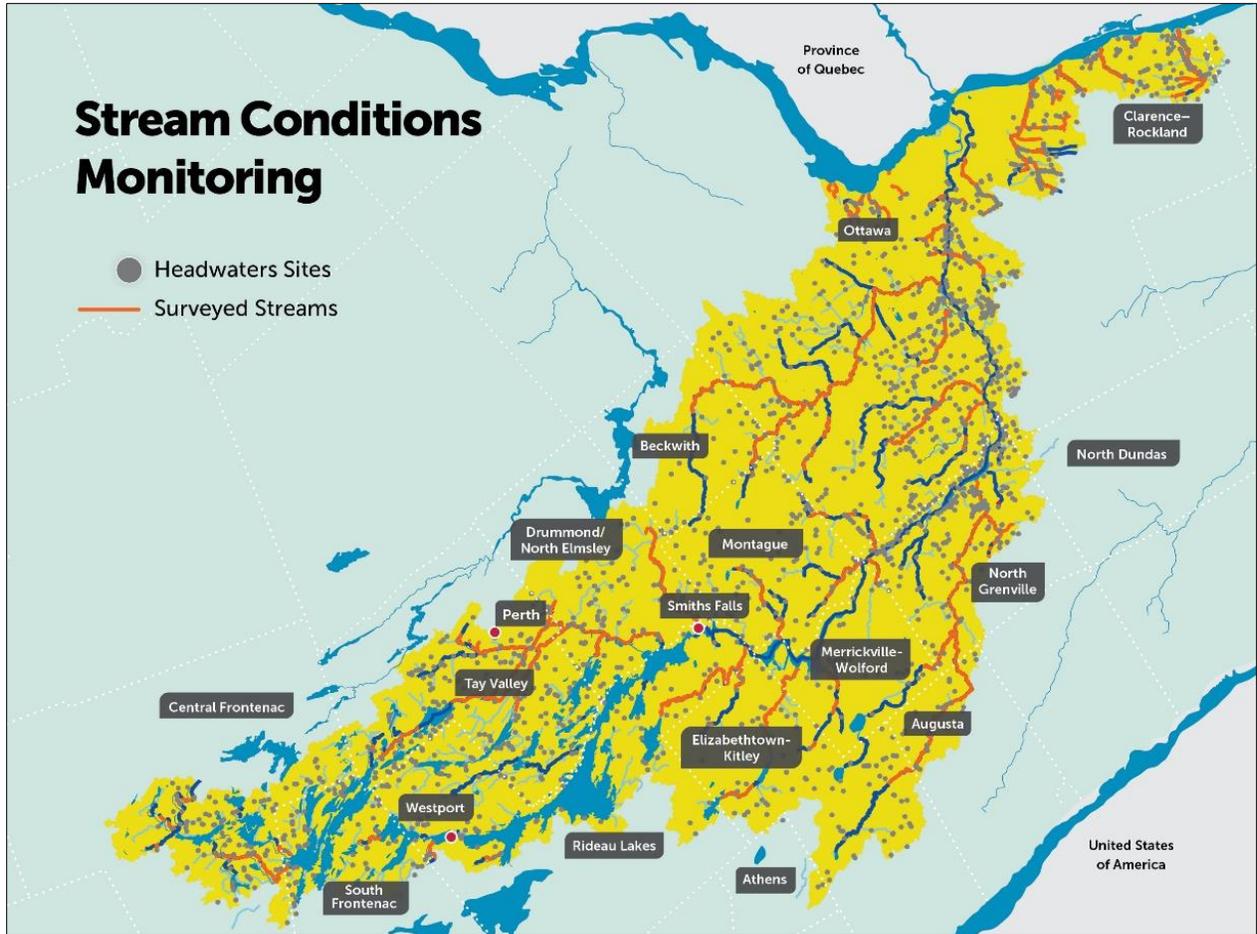


Figure 6. Stream Condition Monitoring Sites in the Rideau Watershed.

4.2 Tree Planting

The RVCA has been planting trees since 1984 and has planted over 7 million to-date. The purpose of the program is to provide technical and financial assistance to encourage landowners to reforest idle land and enhance riparian areas for the benefit of the watershed.

RVCA's reforestation program is available to anyone in the Rideau or Mississippi watershed with a minimum project size of 1,000 trees (1.25 acres).

RVCA oversees all aspects of the tree planting process including:

- Initial site visit to assess site conditions and discuss planting options with the landowner.
- Creation of a customized planting plan suitable to site conditions and landowner interests.
- Preparation of the site for spring planting.
- Planting of hearty native species (usually supplied by Ferguson Tree Nursery).
- Site tending where needed to control competing vegetation around seedlings.
- Survival assessment of the seedlings (3 years post-planting).
- Replanting of areas if necessary (up to five years after initial planting).

The benefits and value of the program are:

- More than seven million trees have been planted resulting in 1,327 hectares (3,279 acres) of new forest cover. An average of 200,000 trees are planted each year, creating more than 100 hectares (250 acres) of new forest cover annually.
- Trees are planted by professional planting contractors ensuring they are planted promptly and properly resulting in high survival rates.
- Survival assessments are undertaken at three years and trees replaced up to five years after initial planting to ensure tree planting translates into forest cover.
- Forest cover slows runoff, reduces flood peaks, reduces erosion, filters water, purifies air, stores carbon, creates habitat, provides wildlife corridors, increases biodiversity and helps address the impacts of climate change.
- Site visits also provide an opportunity to share information with landowners about the importance of forests and forest management as well as other best management practices they may wish to consider and incentive programs that are available.
- A [brief program video and client testimonial](#) is available for viewing.

RVCA's forestry staff also:

- Work with municipalities and other organizations to complete tree planting projects on public land such as parks, vacant municipal properties or along highways.
- Partner with municipalities and other organizations to host tree giveaways and community tree planting events to help increase urban and suburban tree cover while raising awareness of the importance of forest cover.
- Attend events, guest speak and work with other forestry organizations to share information and resources related to woodlots, tree planting and conservation.
- Maintain healthy forests on RVCA properties through active woodlot management and the completion of forest management plans which help reduce property taxes.
- Assist with RVCA's butternut recovery program which collects seed from healthy butternut trees, provides free seedlings to landowners and works with developers to complete compensation projects to help reestablish healthy Butternut populations.

RVCA's reforestation program receives funding from multiple partners:

- 50 Million Tree Program administered by Forests Ontario provides approximately \$1.85 / tree for program delivery, site preparation, seedlings, planting, tending and survival assessments. This program created in 2008 was originally funded by the Province of Ontario and now receives funding from the Government of Canada. For 2023 and 2024 the province is providing additional funds to increase the subsidy to \$2.50 / tree.
- City of Ottawa provides supplemental funding through special levy (Green Acres Program) to boost reforestation within the City, including higher subsidies for site tending.
- One Tree Planted, the Rideau Valley Conservation Foundation's Carbon Neutral and Memorial Tree Programs and many other donors also help improve program delivery, reduce costs for landowners and support special planting projects.
- Participating landowners also contribute approximately \$0.15 / seedling for tree planting on their property and sometimes undertake site preparation or tending themselves.

Budget summary:

- RVCA has generated \$7.3 million in external funding to support the planting of over 7 million trees, which have a project value of \$12 million.
- While annual program costs fluctuate depending on the number of trees, number of sites, site conditions and contractor costs:
 - Approximately 1.8% (\$122,000) of RVCA's general municipal levy is required to keep planting 200,000 trees / year.

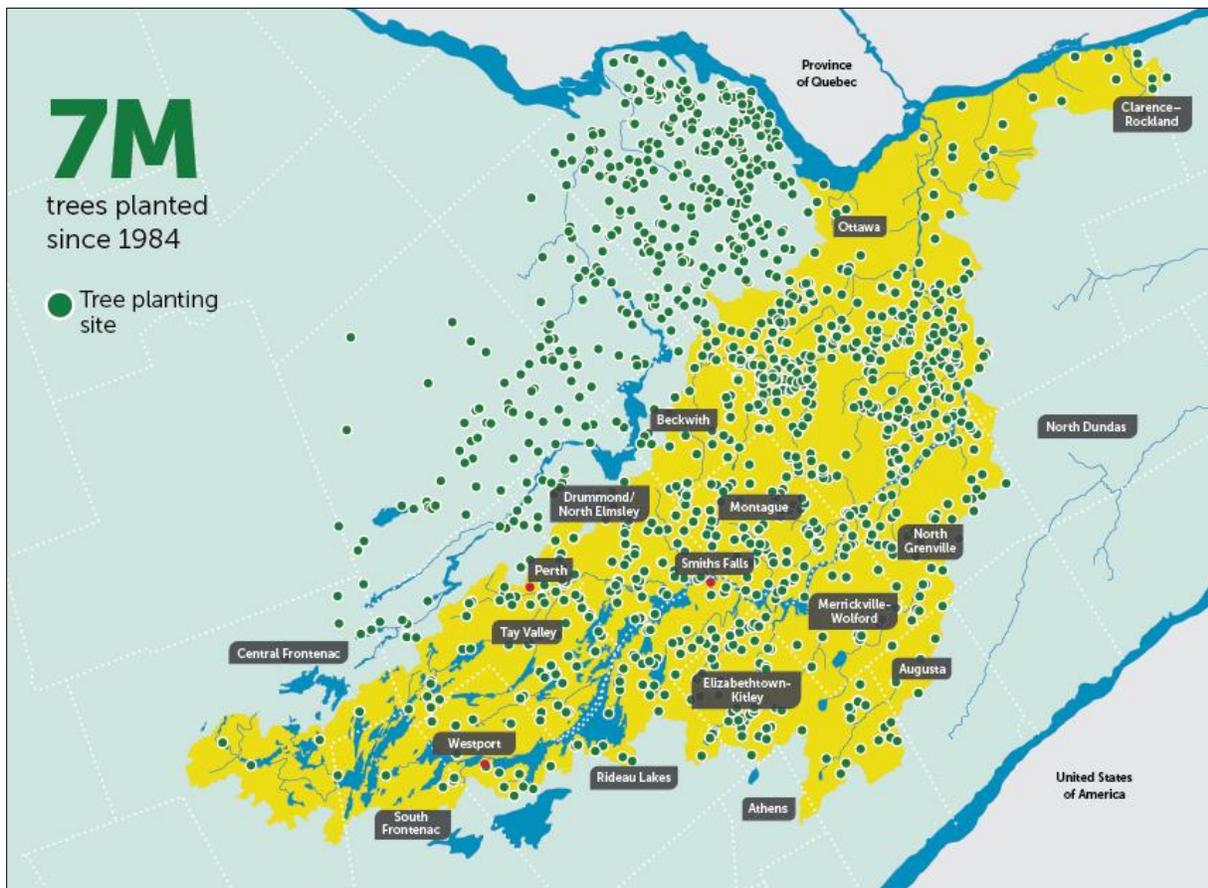


Figure 7. RVCA Tree Planting Sites (1984-2022).

4.3 Clean Water

The RVCA has provided clean water grants since 1992 and has now funded over 2,000 projects. The purpose of the program is to provide advice and financial assistance to encourage landowners to implement projects and practices that improve water quality for the benefit of the watershed.

RVCA's clean water program is available to anyone in the Rideau watershed but is best suited for farmers and rural property owners.

RVCA's program entails:

- Site visits to understand landowner needs and interests and identify potential projects.
- Assistance with project planning and the application process.
- Funding provided through cost-share grants which range from 50% to 90% of project costs (to a maximum of \$500 to \$15,000) or incentive payments which range from \$50 to \$150 / acre (to a maximum of \$1000 to \$1500 / year).
- Projects and practices eligible for funding include livestock fencing; chemical and fuel storage; manure storage and treatment; nutrient management and precision farming; controlled tile drainage; cover crops; wastewater treatment; wetland creation or enhancement; erosion control; well replacements, upgrades and decommissioning; septic repair; windbreaks, buffers, and grasslands; forest and wetland management plans; and annual payments for ecosystem services.
- Applications are reviewed and funding allocated by a multi-stakeholder committee made up of local farmers and agricultural agencies as the program is often oversubscribed.

The benefits and value of the program are:

- More than 2,000 projects have been completed that address erosion and reduce the amount of nutrients, bacteria and microorganisms entering groundwater and surface water. It is estimated that these projects reduce the amount of phosphorus entering watercourses by more than 10,000 Kg/year.
- The list of eligible projects and grant rates is reviewed and adjusted annually to ensure grant dollars are directed towards priority projects that benefit water quality the most.
- Most projects directly improve water quality such as erosion control and livestock restriction, while others prevent future water quality risks such as fuel storage.
- Completed projects protect drinking water, reduce beach closures, improve water quality for fishing, recreation, livestock watering and irrigation, improve aquatic habitat, reduce erosion, store carbon, and help address the impacts of climate change.
- Applicants are required to complete an Environmental Farm Plan or Healthy Home Guidebook to assess the environmental impact of all aspects of their property. This along with site visits raises awareness of the importance of land management practices and identifies other project opportunities and grants that are available.
- A brief [program video and client testimonial](#) is available for viewing.

RVCA's clean water staff also:

- Partner with municipalities and other organizations to complete special projects.
- Attend events, guest speak and work with other agricultural organizations to share information and resources related to land management and conservation efforts.
- Provide administrative support to MVCA and SNC by acting as the initial point of contact for applicants in the City of Ottawa as well as compiling program data and statistics.

RVCA's clean water program receives funding from multiple partners:

- Participating landowners contribute significantly to the projects undertaken on their property contributing an average of \$4 for every grant dollar received.
- ALUS Canada and the County of Lanark provide additional funding within the County to support additional projects and project types.
- Environment and Climate Change Canada currently provides funding through their Nature Smart Climate Solutions Fund through a joint partnership with MVCA.
- City of Ottawa provides supplemental funding through special levy (Rural Clean Water Program) to boost projects in the City, including higher grant rates for some project types.
- Partnerships with groups like Ontario Soil and Crop Improvement Association, Ducks Unlimited and Bobs and Crow Lake Foundation have helped reduce delivery costs, stretch grant dollars and support special projects over the years.
- The provincial government also funded the Ontario Drinking Water Stewardship Program from 2009 to 2011 which focused on projects that protected drinking water sources.

Budget summary:

- The RVCA has provided \$3.7 million in grants to support the completion of over 2,000 clean water projects that have a total project value of \$14.7 million.
- While annual program costs fluctuate depending on the number of projects, type of projects and number of sites:
 - Approximately 3.9% (\$261,000) of RVCA's general municipal levy is required to keep funding 100 clean water projects / year.

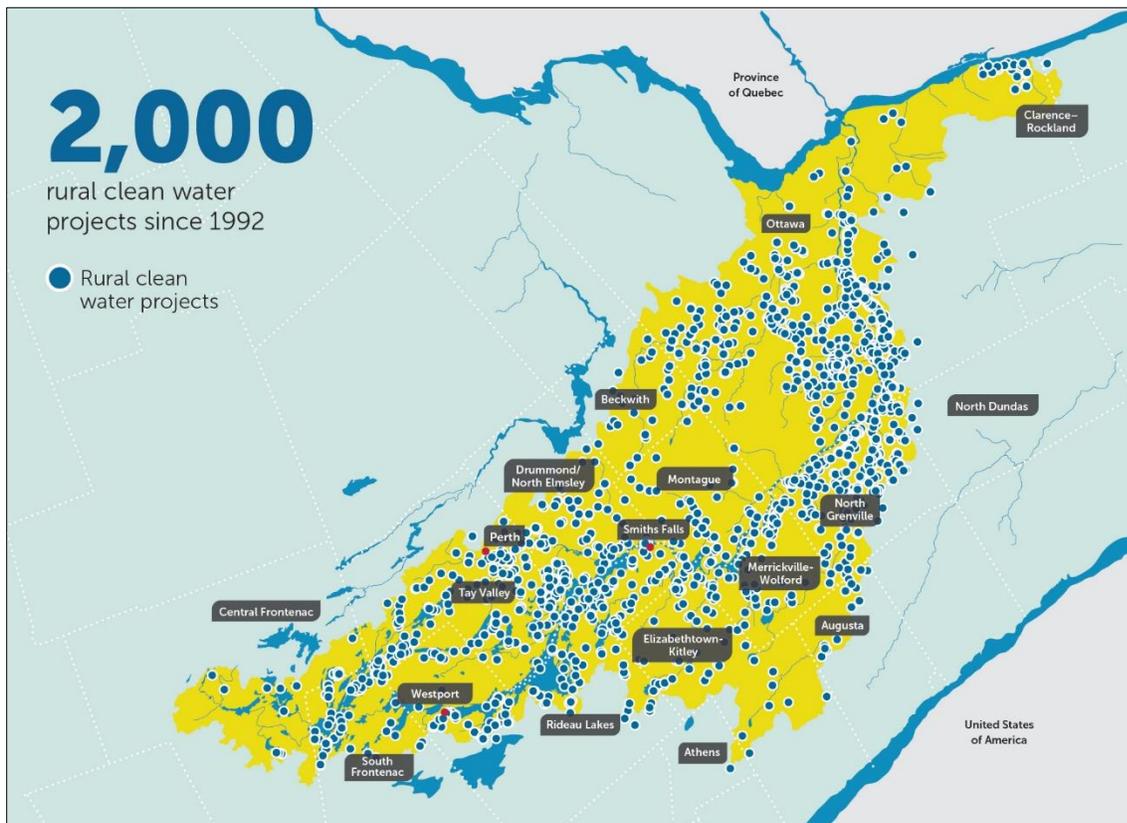


Figure 8. RVCA Clean Water Project Sites (1992-2022).

4.4 Shoreline Naturalization

The RVCA has been naturalizing shorelines since 2009 and has planted 800 sites to-date. The purpose of the program is to provide technical and financial assistance to encourage landowners to enhance riparian areas with trees and shrubs for the benefit of the watershed.

RVCA's shoreline naturalization program is available to anyone in the Rideau watershed that has property along a river, creek, stream or lake.

RVCA oversees all aspects of the shoreline planting process including:

- Initial site visit to assess site conditions and discuss planting options with the landowner.
- Creation of a customized planting plan suitable to site conditions and landowner interests.
- Planting of hearty native species (usually supplied by Ferguson Tree Nursery).
- Follow up survival assessments of planted stock.

The benefits and value of the program are:

- Over 800 sites have been naturalized with more than 138,000 native trees and shrubs. This has created new riparian buffer along 40 km of shoreline.
- An average of 70 shorelines are now planted each year, up from 40 a decade ago.
- Most stock is planted by staff, which ensures it is planted promptly and properly resulting in high survival rates. Larger potted stock is also used in combination with bare root seedlings which further improves survival rates and establishes the buffer and its benefits more quickly.
- In 2017, wildflowers were added and planted alongside trees and shrubs to support pollinators and improve program uptake.
- Riparian buffers reduce runoff and stabilize shorelines against erosion which improves water quality by keeping sediment and contaminants from washing into lakes and rivers. Natural shorelines also provide shade and cover improving nearshore breeding, feeding and rearing conditions for fish, birds and amphibians, and buffers store carbon, increase biodiversity and help address the impacts of climate change.
- Site visits also provide an opportunity to share information with landowners about the importance of shorelines and riparian buffers as well as other best management practices they may wish to consider and incentive programs that are available.
- A [brief program video and client testimonial](#) is available for viewing.

RVCA's shoreline staff also:

- Work with municipalities and other organizations to complete shoreline naturalization projects on public land including lock stations, public works yards and along pathways.
- Work with municipalities and other partners on special projects like rain gardens, pollinator plantings and larger restoration projects on sites like parks and hydro corridors.
- Work with lake associations, municipalities and other organizations to hold over-the-counter plant sales and community planting events to help improve riparian areas while raising awareness of the importance of shoreline buffers.
- Support lake associations with guidance, input and advice on lake management plans and provide guidance on implementing stewardship activities recommended in plans.
- Attend events, guest speak and work with other organizations (including Lake Links and the Lake Networking Group) to share information and resources related to riparian areas and conservation.

RVCA's shoreline naturalization program receives funding from multiple partners:

- EcoAction, Love Your Lake, Bobs and Crow Lake Foundation, the Rideau Valley Conservation Foundation along with other organizations, donors and levels of government have provided funding over the years to improve program delivery, reduce costs for landowners and support special projects.
- While project funding varies year-to-year, participating landowners usually contribute 25% of the cost of the project and may undertake planting themselves.

Budget summary:

- The RVCA has naturalized 800 shorelines which has a project value of \$1.5 million.
- While annual program costs fluctuate depending on the number of sites, number of plants and site conditions:
 - Approximately 2.6% (\$172,000) of RVCA's general municipal levy is required to keep naturalizing 70 properties / year.

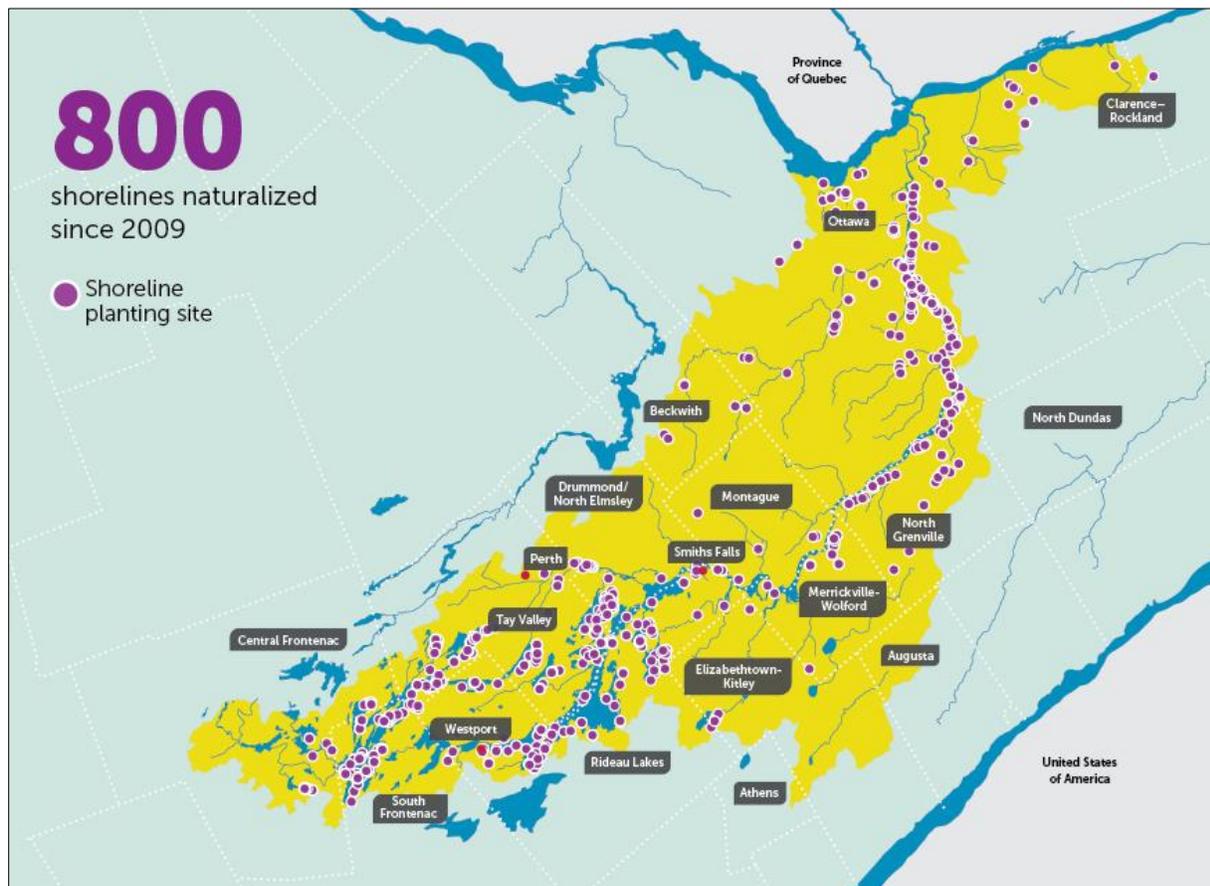


Figure 9. RVCA Shoreline Naturalization Sites (2009 to 2022)



SOUTH NATION
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**Watershed Programs and Services:
2024 and Beyond**

Appendix C

April 2023

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1.0 SNC JURISDICTION

South Nation Conservation's (SNC) jurisdiction is 4,480 km² (Figure 1) and is located within the Counties of Leeds and Grenville, Stormont, Dundas and Glengarry, Prescott-Russell, and the City of Ottawa. It includes all land that drains into the South Nation River as well as several streams that flow directly into the Ottawa River and St. Lawrence Rivers within the municipalities of Clarence-Rockland, Alfred-Plantagenet, South Dundas, Edwardsburgh Cardinal, and Augusta.

The South Nation River flows in a north-easterly direction from the headwaters near Brockville to Plantagenet before discharging into the Ottawa River. Agriculture is the dominant land use across the watershed; however, the watershed is experiencing increased urban growth in the City of Ottawa and neighboring municipalities.

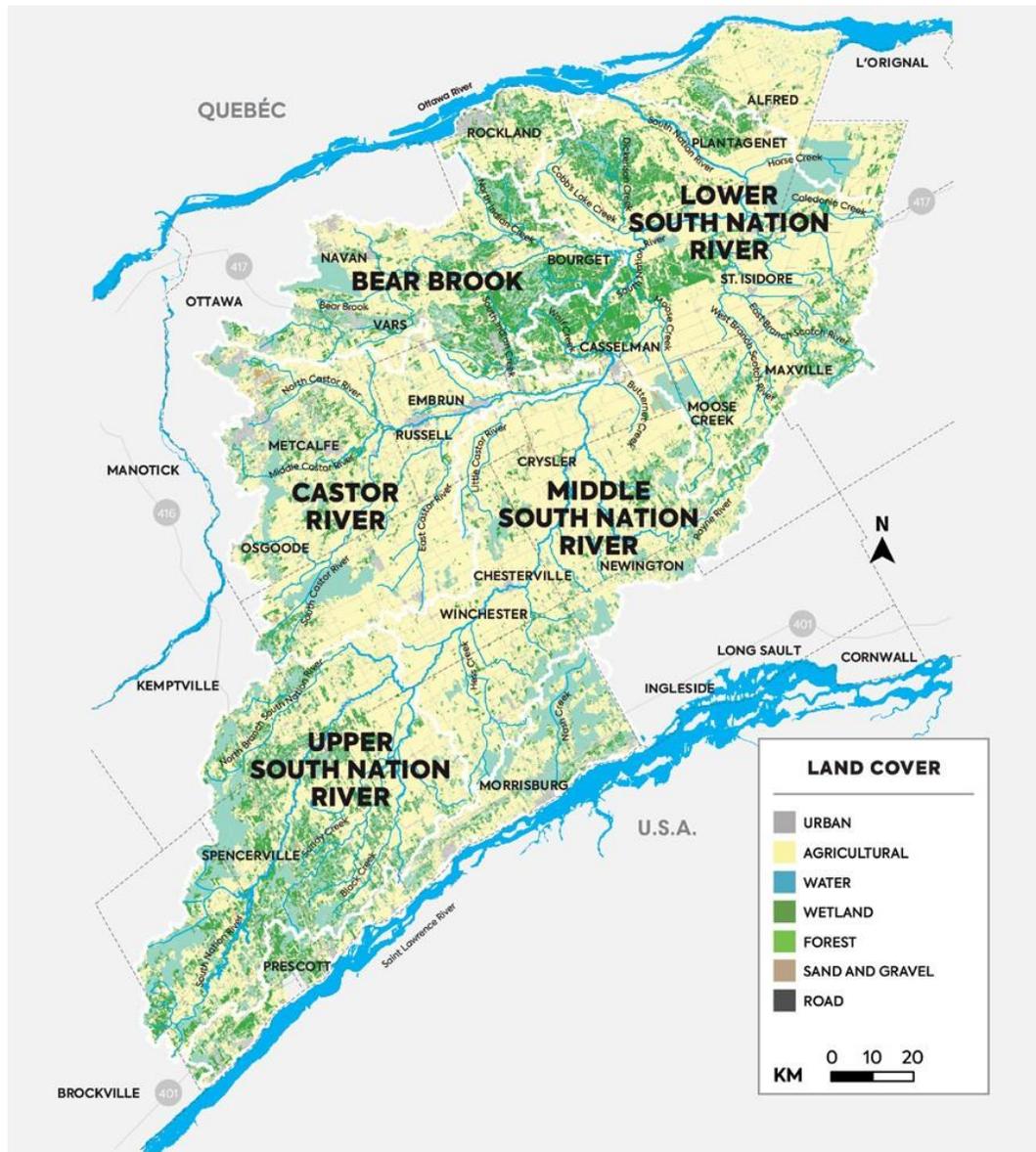


Figure 1. South Nation Conservation jurisdiction in Eastern Ontario.

2.0 WATERSHED CONDITIONS

Regional landscape changes occurred through the 19th century with forestry operations driving the economy from land clearing incentives for European settlement and with white pine, which accounted for 50% of the region’s old-growth forests, being the preferred timber for ship masts. By the start of the 20th century little old growth forests remained and municipalities were left with 10 - 30% forest cover, which contributed to severe flooding, droughts, erosion, and poor land management practices that led to the creation of South Nation Conservation (SNC) in 1947.

The region’s main economic driver transitioned to agriculture, which is well served in the fertile and productive clay plains found throughout the region. However, the flat, clay-based watershed, contributes to reduced water quality as overland flow from land use activities enters watercourses which lack vegetated buffers to help trap sediment and nutrients.

Water Quality Conditions

SNC’s State of the Nation Watershed Report Card (2023) concluded that phosphorus levels routinely exceed the Provincial Water Quality Objective (0.03 mg/L), while benthic invertebrate communities range from reference (unimpaired) condition to poor (impaired) condition depending on location. Sites in good stream health tend to have good forest cover, especially along the banks of the rivers (riparian area). Sites requiring improvement typically have low forest cover and are prone to erosion and sedimentation.

Increasing streambank buffers, controlling runoff, and repairing erosion helps reduce sediment loading and potential for slope failures. Implementation of residential and agricultural best management practices also provides essential protection to sources of drinking water.

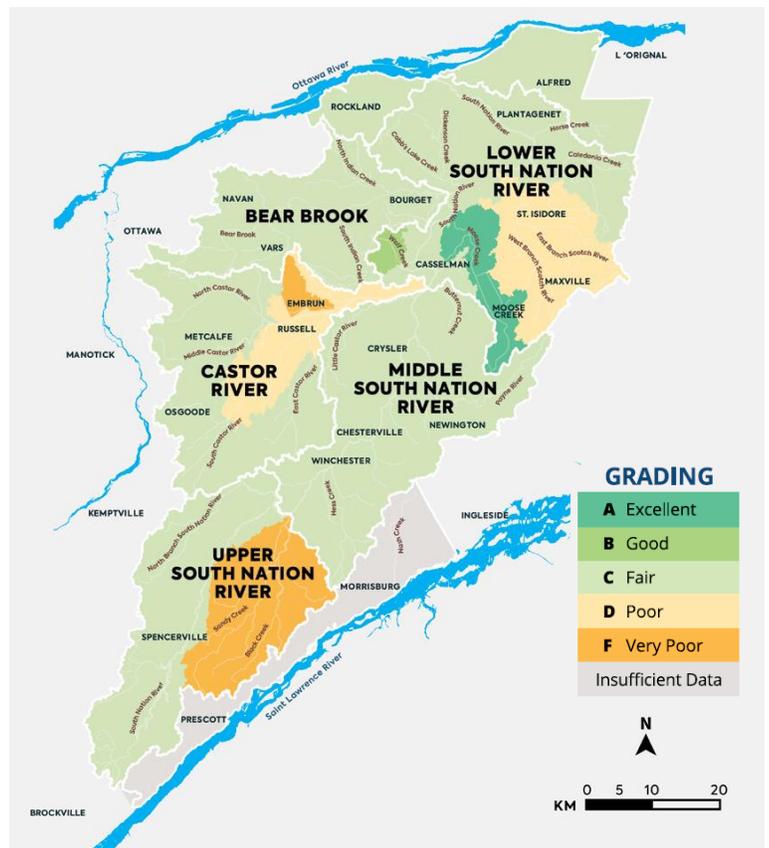


Figure 2: South Nation Watershed Report Card – Surface Water.

Forest Cover

Forest cover loss is an ongoing environmental concern, the watershed was found to have less than 28% forest cover, 8% interior forests and 22% riparian cover in 2014, with some municipalities containing less than 13% forest cover.

Environment and Climate Change Canada recommends a minimum of 30% forest cover, 10% forest interior, and that 75% of stream length should be naturally vegetated on both sides. These minimum forest cover thresholds are considered a high-risk approach necessary to support half of the potential species richness and marginally healthy aquatic systems in a watershed. (“How Much Habitat is Enough – 3rd Edition”, 2013).

Forest and wetland loss have continued to increase, with over 13,000 acres of forest lost between 2008 and 2014, and an approximate 1,000,000 trees being cut per year in the region (SNC’s “Forest Cover and Trends Analysis”, September 2016).

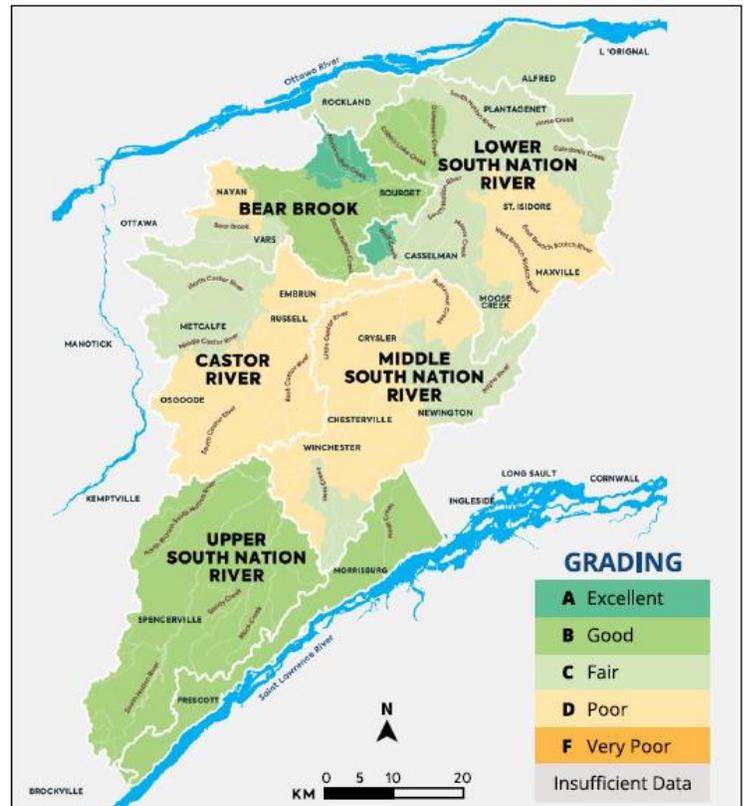


Figure 3: South Nation Watershed Report Card - Forest Cover

This loss not only diminishes habitat and natural heritage connectivity, it also removes natural infrastructure that is essential for mitigating flooding.

In response to studies on forest cover trends, SNC established a Forest Conservation Initiative, which included two years of review by local stakeholders and government representatives through public working groups to create a series of recommendations for the SNC Board and member municipalities. Discussion and debate were shared by groups of diverse and passionate people who came together with a goal of protecting and increasing forest cover.

Programs and services delivered by SNC advance recommendations from the SNC Report “Protecting and Increasing Forest Cover in the South Nation Conservation Jurisdiction”, approved by the Board of Directors in August 2018 (BD-130/18).

3.0 CURRENT WATERSHED PROGRAMS AND SERVICES

3.1 Tree Planting

SNC partners with Forests Ontario on tree planting programs (50 Million Tree Program, Highway of Heroes, etc.) to offer subsidies to landowners with at least 1 acre of idle land. A 15-year management agreement to maintain trees is required. This partnership has been in place since the inception of the 50 Million Tree Program in 2008.

SNC offers over-the-counter tree planting for smaller orders of trees that do not qualify for funding programs, minimum order of 100, cost ranges \$0.78 - \$1.75 per seedling plus 20% shipping and handling.

To further complement SNC and Forest Ontario Programs, the City of Ottawa offers additional subsidies and services through their Green Acres Program, making it easier for property owners to reforest idle land and enhance riparian areas.

As part of SNC’s Forest Conservation Initiative, SNC began partnering with municipalities in 2019 to deliver “Free Tree Days” each spring; approximately 500 seedlings per municipality are provided to residents to help increase urban tree cover and promote forest conservation efforts. Municipalities are encouraged to match SNC’s contribution to provide twice as many seedlings. To date, the program has been supported by donations with a small municipal levy requirement to support staff coordination.

Up until 2020, the program averaged around 78,000 seedlings per year for the Forests Ontario, Over-the-Counter, and Municipal Free Tree programs. Total number of annual trees planted increased significantly since 2021, with more than 140,000 seedlings planted per years. Figure 4 shows the annual tree planting numbers from 2015 – 2022 for Forests Ontario (including Ottawa Green Acres seedlings), Over-the Counter sales, and Municipal Free Tree Giveaways.

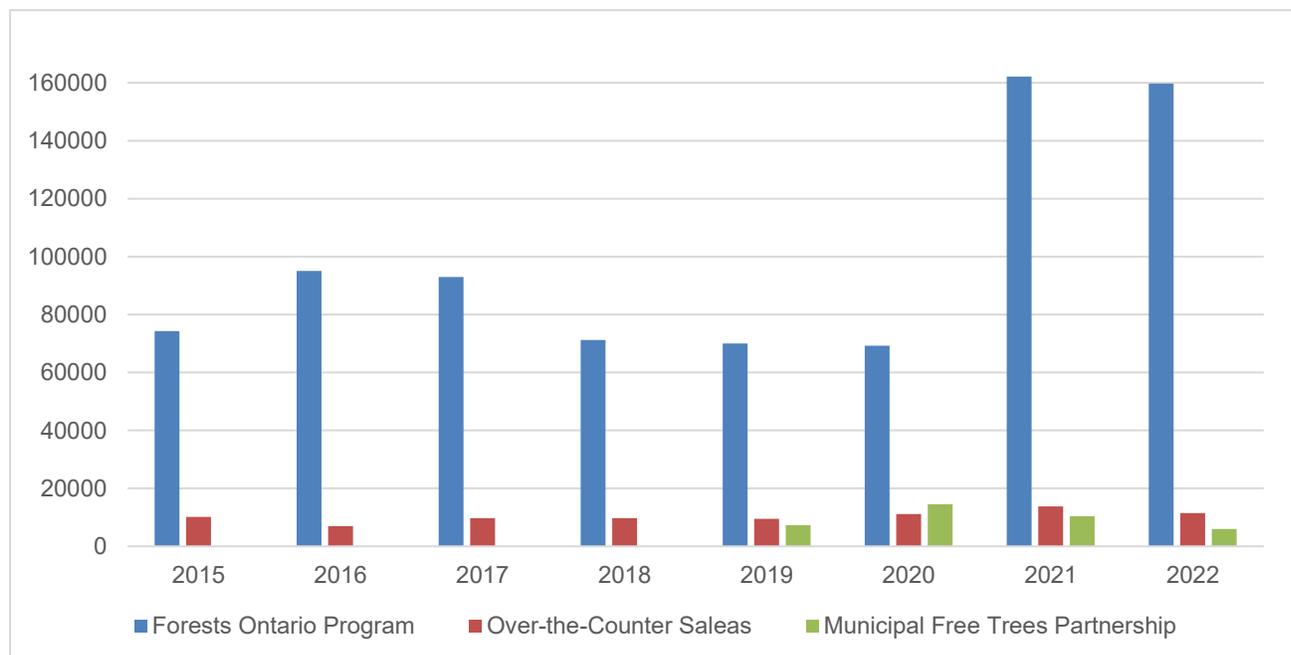


Figure 4: Annual number of trees planted through SNC Tree Planting Programs (2015-2022).

The majority of trees planted qualify for Federal Government funding through the 50 Million Tree Program which provides \$1.85/seedling in subsidy for program delivery, site preparation, seedlings, planting, tending (if required), and survival assessments. For 2023 and 2024, the Provincial Government has provided additional funds to increase the subsidy to \$2.50/seedling. Landowners contribute as per the Board approved annual tree planting fee schedule (2024 fees: \$1.05/conifer and \$1.58/hardwood).

While these revenues help to offset the program costs, they do not fully cover program delivery; it takes approximately 500-800 hours of staff time to deliver a complete tree planting program. This includes submitting annual allocation requests and reporting to Forests Ontario, landowner inquiries and site visits, preparing landowner site plans/agreements, sourcing stock, landowner invoicing, securing and coordinating contracted services, site preparation, sorting of stock at cold storage facilities, supervision of planting and tending, post-plant reporting, and survival assessments.

SNC's tree planting program is delivered by a highly experienced Forestry Team including Foresters and Forestry Technicians. This Team has more than 70 combined years of forestry experience and hold numerous certifications (tree marking, seed collection, hazard tree risk assessment, pesticide application license, etc.). This expertise ensures that tree species are matched to site conditions and landowners are provided with post-plant tending instructions.

3.2 Clean Water Program

The Clean Water Program has provided a proactive approach to the protection of water resources since 1993. Many residents rely on the South Nation River for drinking water, livestock watering, crop production, and recreation. The Clean Water Program offers cost-share grants from \$1,000 to \$8,000 depending on the type of water quality improvement project.

The Clean Water Program focuses on the following aspects:

- Local surface and ground water quality improvement through improved rural, urban, and agricultural land management techniques (best management practices);
- Education and technology transfer;
- Grants to landowners and community groups to complete projects and adopt practices which reduce nutrient, sediment, and bacteria contributions to surface watercourses, and reduce the potential impact to ground water resources, and
- Project's potential to improve water quality and cost effectiveness.

The Clean Water Program has funded more than \$2.8 million in grants to over 935 projects; adding about \$13 million to the local economy in construction projects. Grant applications are reviewed by a multi-stakeholder Clean Water Committee composed of farmers and agricultural agencies within the region. Applications are accepted year-round, though applicants are encouraged to apply early to help secure funding as the program is oversubscribed.

As of 2000, landowners in the City of Ottawa may also apply for Ottawa Rural Clean Water Program funding to support their water quality improvement projects. Eligible project types and grant rates vary from the SNC Clean Water Program and are set by the City of Ottawa based on recommendations from the Ottawa Rural Clean Water Program Committee.

A summary of grants paid by project types for both the Clean Water Program and Ottawa Rural Clean Water Program is provided in Figure 5.

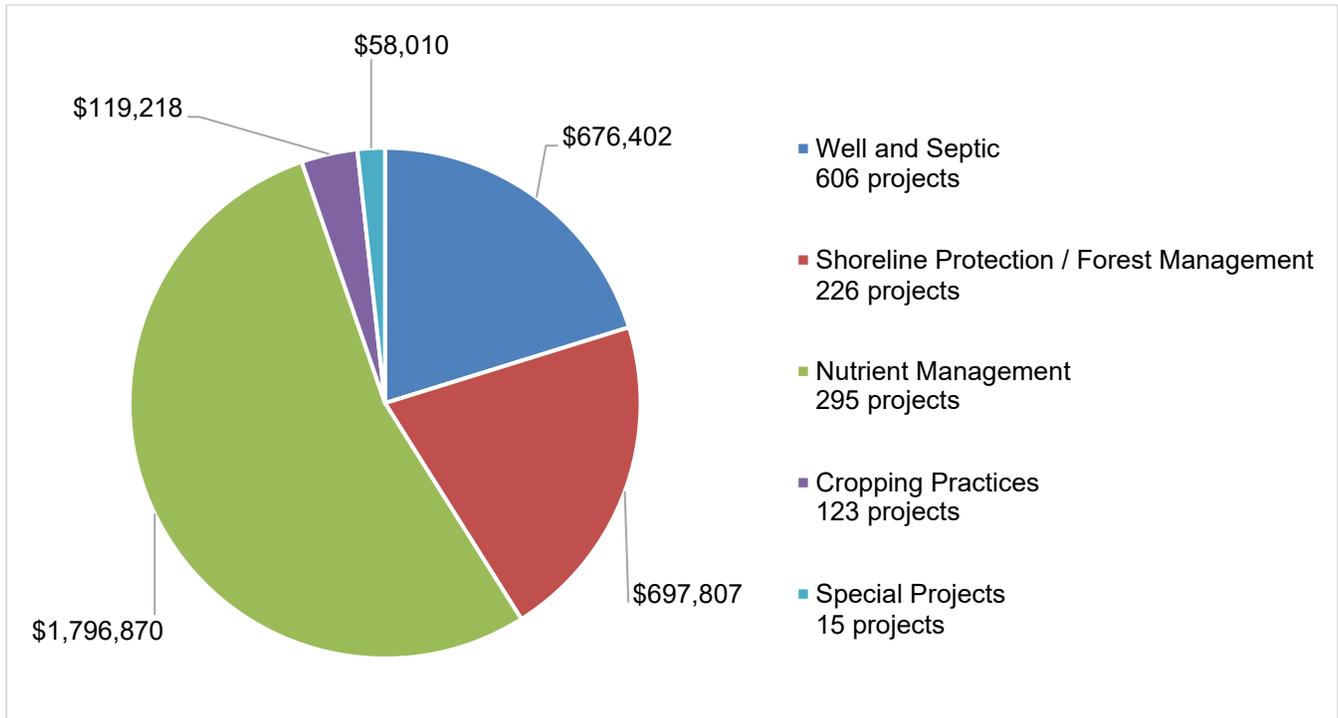


Figure 5. Summary of SNC Clean Water Program and Ottawa Rural Clean Water Program grants by project type (1993-2022).

The Clean Water Program is currently funded 100% through the municipal levy at an annual budget of approximately 2.39% (\$90,000) of the total municipal levy. Staff continue to review program delivery to find efficiencies and reduce annual programming costs where possible.

Staff will prioritize a review of the delivery framework for the Clean Water Program. This Program routinely sees more requests than available funding, resulting in additional delivery costs for staff time and program representatives to assess and rate applications for consideration by the Clean Water Committee. Staff will explore alternate delivery options in 2024 and transition the delivery framework for the 2025 program year.

3.3 Habitat Restoration

With external funding support, SNC partners with municipalities and property owners to complete habitat restoration and biodiversity improvement projects.

SNC staff have the experience and expertise to apply to external funding sources and have demonstrated an impressive rate of return on approvals from submitted applications. Since 2018, SNC has secured over \$525,000 in external funding to support habitat restoration on private properties; projects were completed in partnership with the property owners.

Recent projects include partnerships with Ducks Unlimited Canada and ALUS-Ontario East to restore wetland habitat on private property. SNC has also partnered on several grassland habitat restoration projects with property owners, with funding from the Grasslands Stewardship Initiative.

Projects with Environment and Climate Change Canada funding programs in 2018 and 2019 saw the implementation of two kilometres of shoreline buffer over four private agricultural operations. Focusing on edible trees and shrubs, this buffer project incorporated First Nation traditional knowledge and was delivered in partnership with local First Nation partners.

While SNC focuses restoration work on the 12,000+ acres of conservation land that it manages, these efforts are not enough to affect change at a watershed scale. SNC support for restoration work on private property helps provide technical support while enabling residents to do their individual part in protecting and enhancing their local environment.

SNC only completes projects on private property when external funding support is obtained. Municipal levy support is mainly staffing resources to secure funding and to support project management and reporting. This staffing contribution helps to match cost-share requirements with remaining cost-share (cash and/or in-kind) provided by the property owners and other partners.

Annual staffing resources vary depending on available funding opportunities and potential landowner projects.

SNC's Stewardship and Engineering Team include professional engineers, biologists, water resources specialists, geographical information specialists, and resource technicians. This diverse and experienced Team works with property owners to implement restoration projects that have a sound engineering and science-based design.

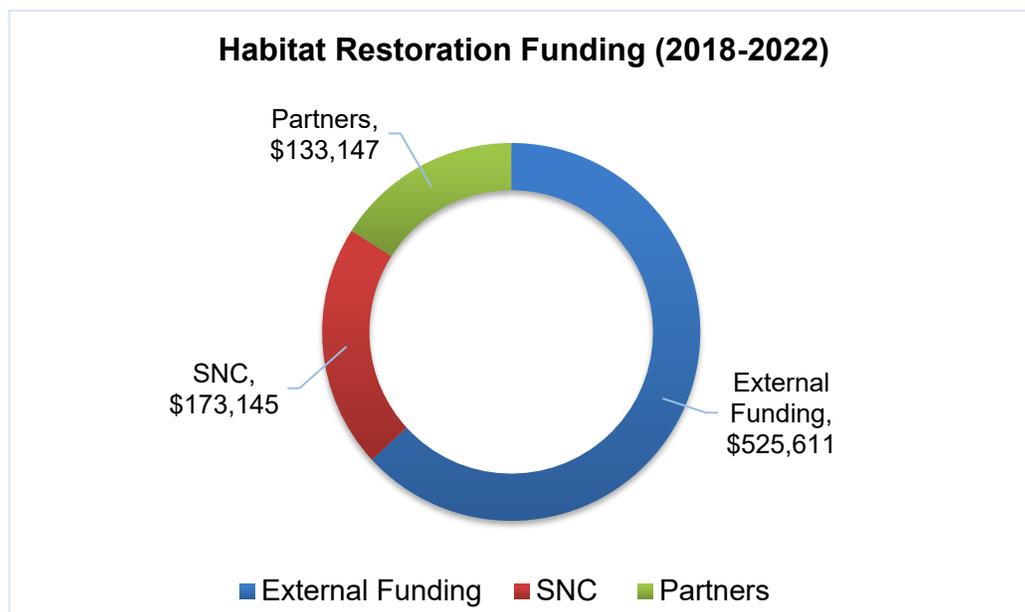


Figure 6. Summary of funding sources and SNC levy used to support habitat restoration projects completed on private property (2018-2022).

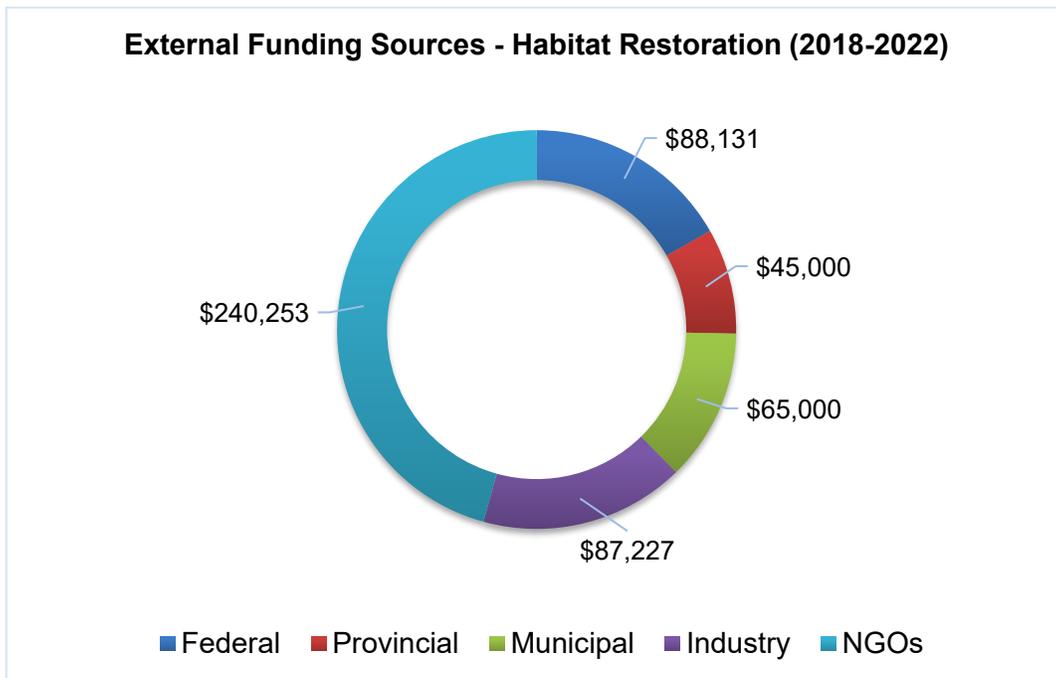


Figure 7. Summary of external funding received (not including partner fees and municipal levy) to support habitat restoration projects completed on private property (2018-2022).

3.4 Education and Outreach

SNC’s outreach work promotes environmental programs and services to help protect natural spaces, foster landowner stewardship, and engage the community on their local environment.

Activities help connect interested residents to SNC programs, which aim to provide cost-share funding, educational resources, and support; and education programs provide hands-on learning opportunities for students.

SNC budgets \$10,000 annually to provide \$300 grants to organizations for projects that protect and improve the environment in the following categories: Community Environmental Outreach, River, Agri-Environmental, and Heritage. Grant support is generally provided for tree planting, river and park clean ups, fishing derbies, river races, community garden and pollinator initiatives, youth education, and healthy hikes.

Through supporting public events and delivering educational programming SNC promotes the protection and proper management of natural resources. Education programs are delivered on a cost-recovered basis only and provide opportunities for students to obtain certifications and training by completing work at various project sites and monitoring stations.

Education programs and outreach work, which includes exhibitions and support at local events, are generally budgeted under \$50,000 annually, with an average annual municipal levy contribution of \$6,200 (2016-2023).

3.5 Conservation Land Securement

Natural heritage lands are essential for maintaining biodiversity and ecosystem services, increasing the adaptive capacity and resiliency of communities by reducing impacts associated with natural hazards and climate change, and providing quality recreation opportunities for surrounding communities.

In Eastern Ontario, most land is privately owned and managed. Education, stewardship, and land use planning are the primary methods used to protect natural heritage features. Given projected population growth and growing pressure to convert land from forest, grassland, wetland, and hazard lands for development and farming, land securement by public bodies is an effective way to preserve and enhance natural heritage for public benefit.

SNC conserves over 12,000 acres of land and has a history of land securement going back to the 1960s. The forests and wetlands preserved in SNC land holdings contribute to the sustainability of the jurisdiction and are a natural legacy for the future. Table 1 provides a summary of SNC land holdings by municipality.

Table 1. SNC land holdings by municipality.

Municipality	Area	
	(acres)	(hectares)
Alfred-Plantagenet	912.87	369.4
Augusta	8.50	3.4
Casselman	6.04	2.4
Clarence-Rockland	467.09	189.0
Edwardsburgh-Cardinal	662.25	268.0
Nation	3,113.71	1,260.1
North Dundas	1,263.87	511.5
North Glengarry	615.56	249.1
North Grenville	99.22	40.1
North Stormont	2,198.48	889.7
Ottawa	543.89	220.1
Russell	76.02	30.8
South Dundas	2,053.67	831.1
South Stormont	292.76	118.5
Total	12,313.93	4,983.2

The SNC Land Securement Strategy was developed in 2014 to help guide land purchase decisions and to establish a Forested Land Acquisition Special Levy, supported by 16 municipalities.

The Strategy was updated in 2023 to include guidance on natural hazard land securement, references to climate change resiliency, and the importance of land securement within the region's natural heritage system, which was defined in 2021.

SNC is a member of the Ontario Land Trust Alliance and works with willing property owners, partner municipalities, the province, the federal government, and funding partners to acquire the best possible land for conservation.

A case-by-case assessment is completed, based on the framework outlined in the Board-approved Land Securement Strategy, to determine the quality and significance of considered properties.

SNC prioritizes the protection of lands by holding title (fee simple) either through donation or purchase and may consider easements and covenants where they are desirable. Participants in land transactions are willing buyers and willing sellers.

SNC's land securement success is driven by government grants which require matching funds that SNC has contributed through the Forested Land Acquisition Special Levy. The annual special levy contribution is approximately \$347,000 (2023 contribution) and is supported by 16 member municipalities. In 2022-2023, SNC was able to secure over 1.5 million dollars in federal funding by using the municipal levy contribution as the matching funds.

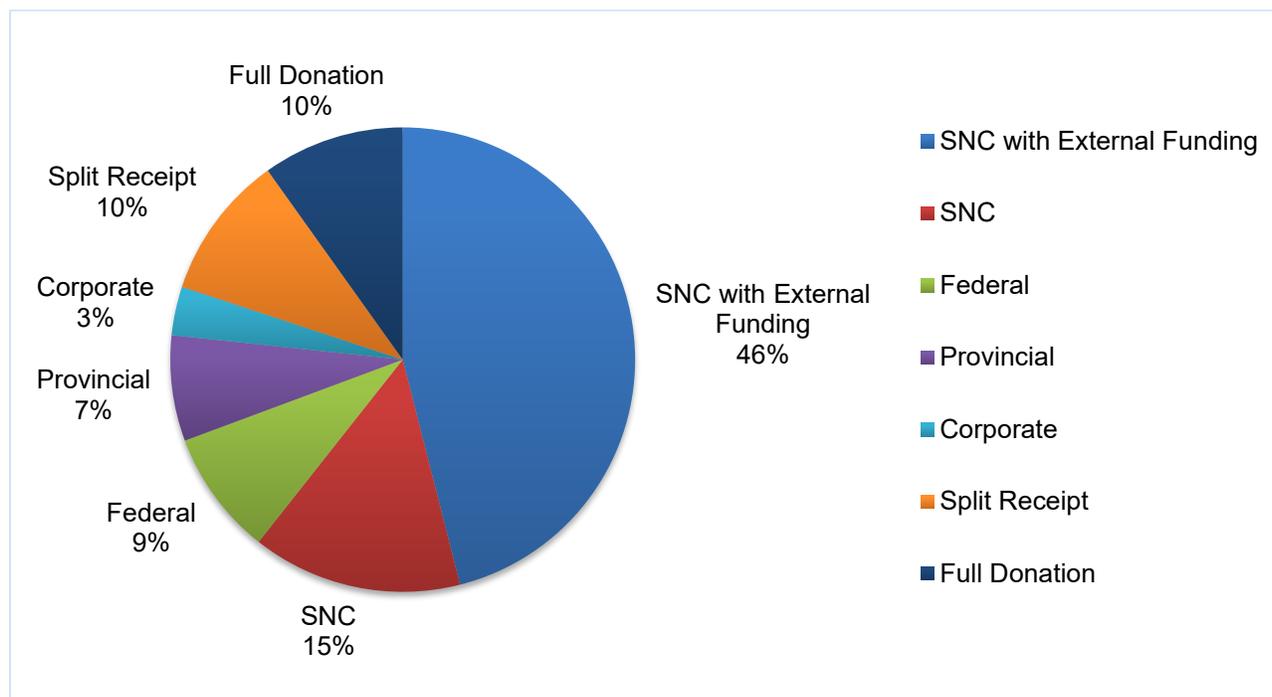


Figure 8. SNC land securement by funding source (2011 - 2021).

The Government of Canada made a commitment to secure 30% of Canada's land and water by 2030 to support biodiversity, tackle climate change and to maintain a strong, healthy, and sustainable economy. This commitment has already provided opportunities for SNC to secure land for conservation within the region and has helped secure an average of \$2 for every \$1 in municipal levy used in recent years.

4.0 WATERSHED PROGRAMS AND SERVICES: 2024 AND BEYOND

With more than 80% of Eastern Ontario's land in private ownership, empowering and supporting landowner stewardship is critical to maintaining healthy, ecologically functioning watersheds that, in turn, support healthy communities.

South Nation Conservation has a long history of delivering landowner stewardship programs and services, in partnership with its member municipalities and other environmental-based organizations, through various sources of funding.

As of January 1, 2024, Category 3 programs and services will require a signed agreement, between SNC and each member municipality to use municipal levy to support program delivery. For ease of administration, SNC has grouped similar Category 3 programs and services as follows:

- a) Private Land Stewardship and Outreach**
 - i. Tree Planting Programs
 - ii. Clean Water Program
 - iii. Habitat Restoration on Private Property
 - iv. Education and Outreach

- b) Conservation Land Securement**

4.1 Private Land Stewardship and Outreach

Private land stewardship and outreach would include the following programs: tree planting, clean water, habitat restoration, and education and outreach initiatives.

For 2024, no significant changes are proposed to the private land stewardship programs, however, staff continue to review program delivery to find efficiencies and reduce annual programming costs where possible. The proposed 2024 budget estimate reflects implementation of efficiencies and confirmed external funding commitments.

Private Land Stewardship and Outreach program would require an approximate 2024 levy contribution of \$135,000, which represents about 3.15% of the total municipal levy.

4.2 Conservation Land Securement

Land securement funding is proposed to remain status quo, with the municipal contribution being the current special levy adjusted per annual budget direction; this accounts for approximately 8.45% of the municipal levy in 2024 and beyond.

Land Securement funding commitments are imperative to secure external funds, especially with the recent increases in federal funding to help achieve Canada's target of 30% of land and water resources under public ownership.

The 2024 municipal contribution for SNC land securement would be approximately \$362,364, which represents about 8.45% of the total municipal levy.