

CANADA WATER AGENCY

FRESHWATER INITIATIVES

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Canada
Water Agency

Agence de l'eau
du Canada

Canada



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FRESHWATER ECOSYSTEM INITIATIVES



Mackenzie River:

Knowledge gaps on water quality and ecosystem health and the effects of **climate change**

Fraser River:

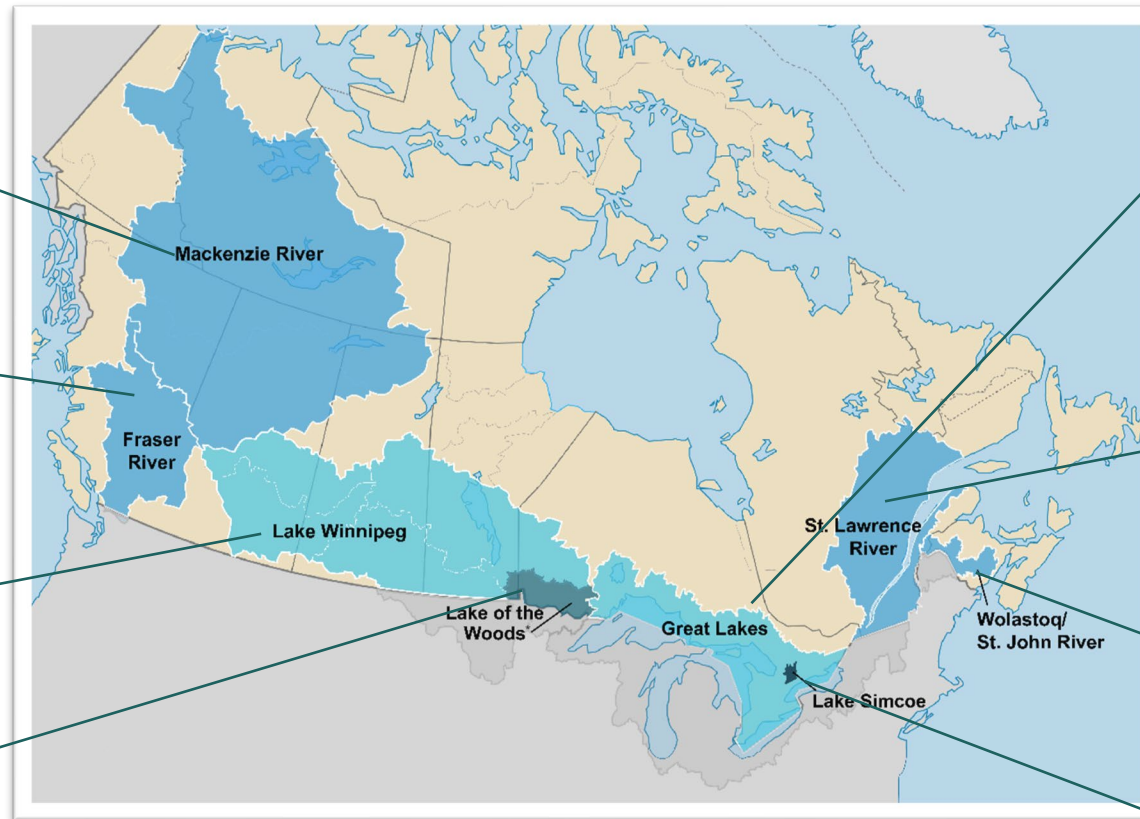
Impacts from toxins, **nutrients**, sediment pollution and habitat loss

Lake Winnipeg:

Toxic and nuisance **algae** caused by **nutrient pollution**; **climate change** impacts

Lake of the Woods:

Nutrient pollution and the impacts of toxic and nuisance **algae**



Great Lakes:

Toxic and nuisance **algae** caused by **nutrient pollution**; contaminated and degraded Areas of Concern; Great Lakes coastal wetlands and nearshore health is under threat due to the impacts of **climate change**, other stressors including toxic chemicals.

St. Lawrence River:

Nutrient pollution and the impacts of toxic and nuisance **algae**; biodiversity loss, including loss of coastal wetlands; contaminated sediment and toxic chemicals.

Wolastoq/Saint John River:

Nutrient pollution and the impacts of toxic and nuisance **algae**.

Lake Simcoe:

Nutrient pollution and the impacts of toxic and nuisance **algae**.

FRESHWATER ECOSYSTEM INITIATIVES

The Canada Water Agency will lead the delivery of eight **Freshwater Ecosystem Initiatives**

Great Lakes, Lake Winnipeg, Lake of the Woods, St. Lawrence River, Fraser River, Wolastoq | Saint John River, Mackenzie River, Lake Simcoe

\$650 million investment over 10 years in the Freshwater Action Plan through Budget 2023

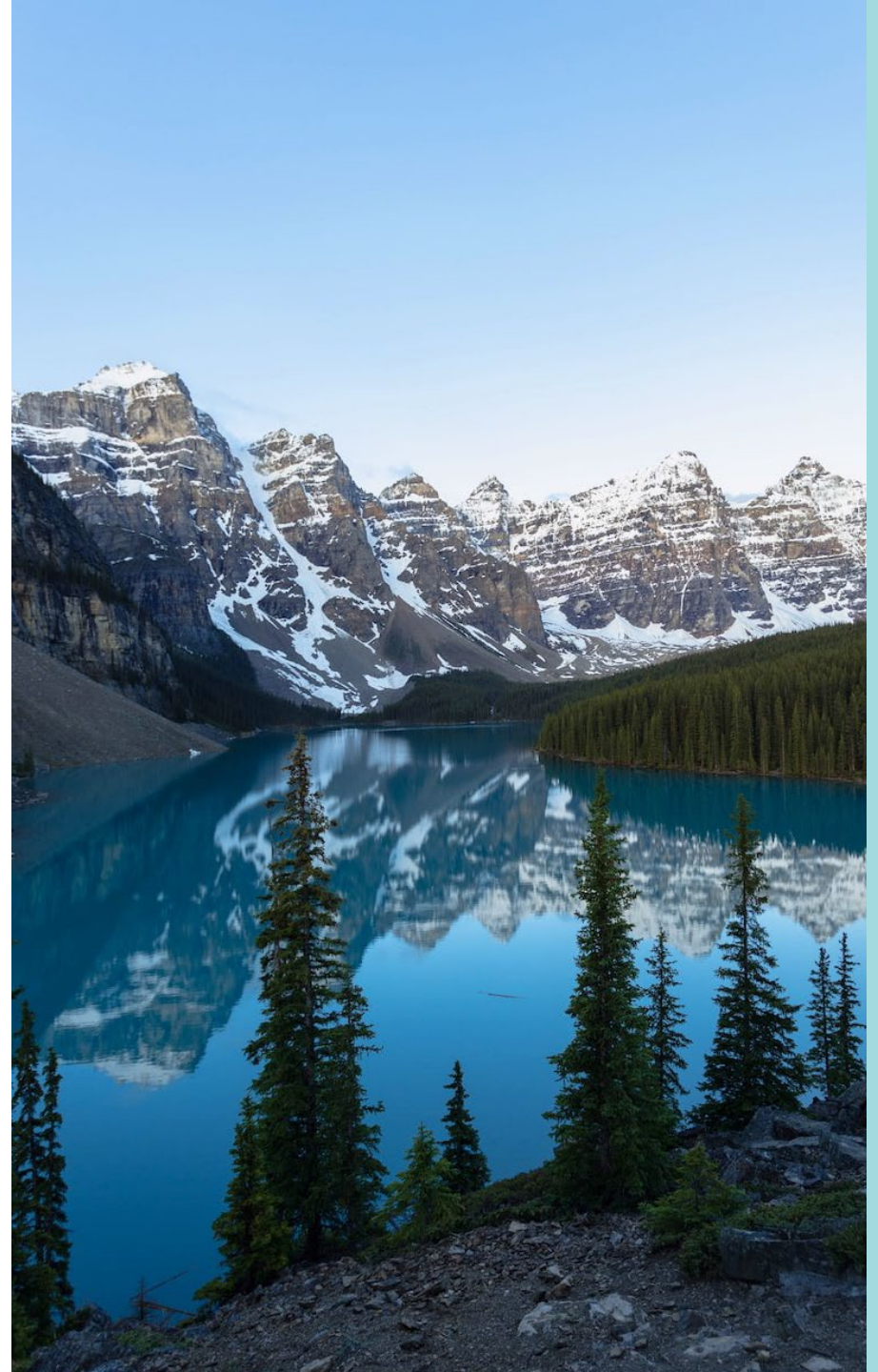


To respond to regional challenges and priorities, a variety of ecosystem-based management tools and approaches will be applied:

- **Action to restore and protect** water quality and aquatic ecosystem health.
- Advancement of **science, monitoring** (including supporting community-based monitoring) and the use of **Indigenous knowledge** to support decision-making and effective action.
- Enhanced **governance** to support improved collaboration with Indigenous partners, provinces and territories, and stakeholders.
- **Knowledge mobilization and freshwater reporting** to measure progress towards results.
- **Climate change resiliency** through on the-ground-action.

FRESHWATER ECOSYSTEM INITIATIVES

- Focused on the restoration and protection of **transboundary water bodies of national significance**, tailored to **regional needs** of the waterbodies.
- Support partner-led projects that support **decision-making** and **on-the-ground action**.
- Enables **collaboration** with provinces and territories, Indigenous Peoples, and other stakeholders on common priorities.



LAKE WINNIPEG BASIN

- The Lake Winnipeg Basin Freshwater Ecosystem Initiative supports:
 - federal-led science and monitoring
 - partner-led actions to improve water quality and ecological health of Lake Winnipeg and its basin
- Funding through the Lake Winnipeg Basin Program has focused on ***nutrient reduction, collaboration*** and ***Indigenous engagement***
- In 2024/25, Canada is investing \$3.5 M in 21 projects over the next two years through the Lake Winnipeg Basin Program
- The **Canada Manitoba Memorandum of Understanding (MOU) Respecting Lake Winnipeg and its Basin (renewed in 2021)** facilitates cooperation and coordination to improve water quality and the ecosystem health of the Lake, now and into the future.
- Additionally, various binational and domestic boards also facilitate cooperation on water within the Basin

RESULTS THROUGH PARTNER-LED ACTION (2017-2023)

- Over \$10.8 million invested in 93 projects involving over 660 partners
- Leveraging \$2.44 for every \$1 in federal investments
- 3200 hectares of wetlands/aquatic habitat restored
- 3900 cattle removed from waterways
- 12 Community-Based Monitoring Programs

SCIENCE HIGHLIGHTS

- 2nd Edition **State of Lake Report** (2016)
- Journal of Great Lakes Science Research 2021 Special Edition – Lake Wpg - emerging view after 15 years of whole-lake, whole ecosystem science
- **EO LakeWatch** – near real-time satellite earth observations algal bloom monitoring
- Lake Winnipeg Basin Program **Science Highlights 2017-2022** (plain language summary)

LAKE WINNIPEG BASIN PROGRAM: INNOVATIVE APPROACHES FOR MANAGING NUTRIENTS IN WASTEWATER

FUNDED PROJECT:

Reducing Lake Winnipeg's Phosphorus Load through Wastewater Phosphorus Capture and Agricultural Runoff Minimization

This project:

- uses InnoCyclone technology to capture and remove phosphorus from a wastewater lagoon
- evaluates the effectiveness of using phosphorus, recovered through composted waste sludge, as a nutrient source and soil health amendment on agricultural cropland

PROPONENT: Innovantage Inc.

OTHER WASTEWATER-RELATED PROJECTS:

- Application of Floating Treatment Wetland: Duckweed Phosphorus Treatment Systems in Manitoba's Lake Winnipeg Watershed - *International Institute for Sustainable Development (IISD)*
- Rural Wetland Treatment for Carbon, Nutrient, Sediment Capture Demonstration Project - *Pembina Valley Watershed District*
- Duckweed Phosphorus treatment systems in Manitoba's Lake Winnipeg watershed – *IISD*
- Floating Treatment Wetland platform and duckweed nutrient capture demonstration in a Manitoba municipal lagoon - *Village of Dunnottar*





LAKE WINNIPEG BASIN PROGRAM: SUPPORTING COLLABORATION AND INDIGENOUS-LED EFFORTS

- Supported the establishment of a **Collaborative Leadership Engagement Initiative** with 26 Mayors, Reeves, and Chiefs signing a historic MOU in 2019 to facilitate governance and reconciliation, providing a mechanism for collective discussion and action on common priorities including Lake Winnipeg
- **Other MOUs and declarations include:**
 - Grand Council Treaty #3 Nibi Declaration
 - MOU between Southern Chiefs' Organization and Red River Basin Commission
- **Enabling local Indigenous-led knowledge gathering and action:**
 - Manitoba Métis Federation community-based monitoring of water and weather, along with traditional knowledge to inform decision making



The Swan Lake Community-Based Restoration Youth Program educates future Indigenous and non-Indigenous land stewards on watershed health, wetland restoration and effective land care practices combining Indigenous and Western knowledge systems.

PATH AHEAD: LAKE WINNIPEG BASIN PROGRAM

- Looking forward, the Program will continue to support **science advancements** and **partner-led actions** to improve the water quality and ecological health of Lake Winnipeg and its basin
- In particular, the program aims to:
 - Accelerate nutrient reduction, leveraging science and knowledge to target action
 - Advance knowledge mobilization from diverse knowledge systems to support decision making
 - Continue collaboration through the Canada-Manitoba MOU, including enhanced engagement with Indigenous Peoples



COLLABORATION ON TRANSBOUNDARY WATER MANAGEMENT

Many key waterbodies/watersheds cross provincial/territorial or national borders. The CWA is supporting (e.g., leadership and secretariat support, technical committee involvement, etc.) longstanding transboundary water governance mechanisms, such as:



Prairie Provinces Water Board (PPWB) facilitates sound, collaborative management of shared waters between the Governments of Canada, Alberta, Saskatchewan and Manitoba through the Master Agreement on Apportionment (1969) to share water equitably and to protect transboundary surface water quality and groundwater aquifers. The PPWB serves as a successful intergovernmental framework.



Mackenzie River Basin Board (MRBB) facilitates cooperation through the Transboundary Waters Master Agreement (1997) between the Governments of Canada, Saskatchewan, Alberta, British Columbia, Yukon and Northwest Territories on managing water resources in the basin with the goal of ensuring a healthy and diverse aquatic ecosystem for the benefit of present and future generations.



Various boards of the **International Joint Commission (IJC)** guided by the Boundary Waters Treaty of 1909 (e.g., International Red River Watershed Board, International Rainy River/Lake of the Woods Watershed Board).

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COLLABORATION ON TRANSBOUNDARY WATER MANAGEMENT

The Great Lakes Water Quality Agreement:

- an agreement between Canada and the United States, designed to identify shared priorities and coordinating actions to restore and protect the chemical, physical and biological integrity of the waters of the Great Lakes.
- Objectives for the Great Lakes through this agreement include:
 - being a source of safe, high-quality drinking water;
 - allowing for swimming and other recreational use, unrestricted by environmental quality concerns; and
 - allowing for human consumption of fish and wildlife unrestricted by concerns due to harmful pollutants.

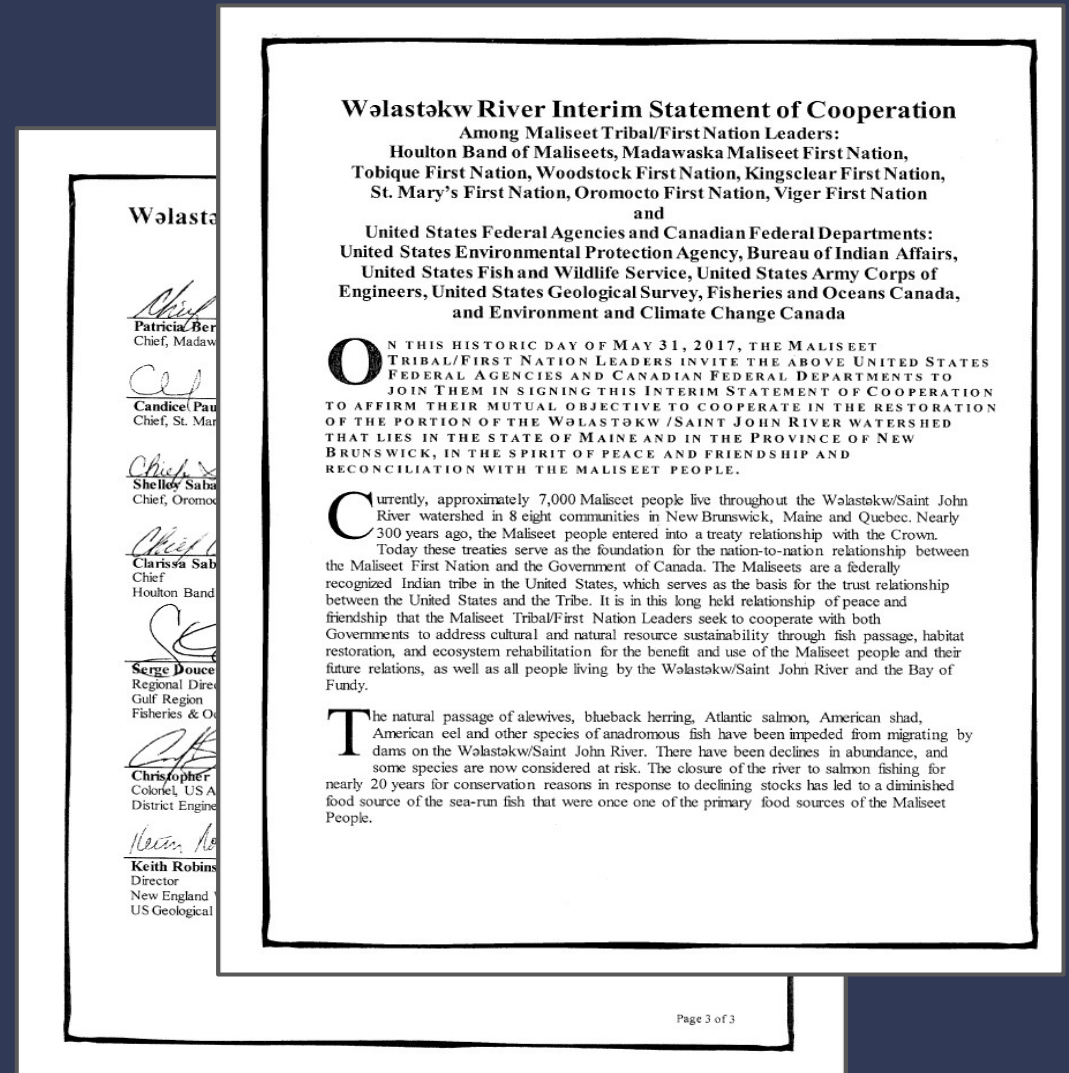
Other binational collaboration mechanisms:

- *Welastakw River Interim Statement of Cooperation*, Poplar River Bilateral Monitoring Committee



WOLASTOQ INTERIM STATEMENT OF COOPERATION (2017)

- **Nation-to-Nation partnership:**
 - ❖ Environment and Climate Change Canada & Fisheries and Oceans Canada
 - ❖ 5 United States Federal Agencies
 - ❖ 7 Wolastoqey Nations (6 Canada, 1 United States)
- **Aspirational agreement**
- Builds on foundation of Peace and Friendship Treaty from 1700s



ECOACTION COMMUNITY FUNDING PROGRAM



Provides support to community groups for taking concrete actions that improve freshwater quality and ecosystem health with the goal to improve the environment and increase environmental awareness and capacity in the community.

Key Environmental Priority is Fresh Water

All projects must demonstrate strong community involvement and support.

- EcoAction provides Canadians with a way to become involved in creating more sustainable communities by taking actions that yield measurable environmental results.
- Projects equip Canadians with the tools they need to act on their knowledge and values as individuals and members of communities in support of environmental sustainability.

ECOACTION ELIGIBILITY

- Maximum EcoAction funding is **\$100,000 per project**
- Minimum funding request is **\$25,000 per project**
- Maximum length of project is **36 consecutive months**
- **Minimum of 50%** matching funding: Cash and In-kind Contribution

PRIORITIES

Engage Indigenous Peoples

Engage Youth

Partner with Small Businesses

APPLICANT ELIGIBILITY

ELIGIBLE APPLICANTS

- Environmental groups
- Indigenous organizations
- Service clubs
- Community-based associations
- Youth and senior groups
- Community Groups

INELIGIBLE APPLICANTS

- Businesses
- Educational Institutions
- Government or Crown corporations
- Individuals

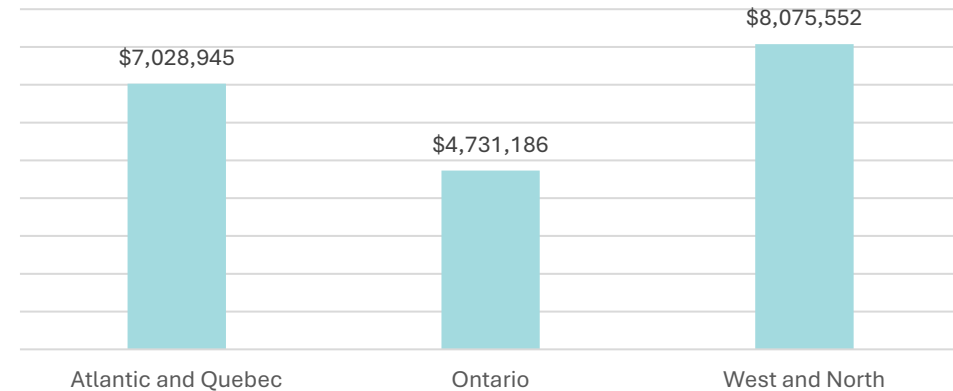
ECOACTION: FUNDING & RESULTS

In 2024/25, Canada is investing **\$4.9 M** in **55 projects** over the next **three years** through EcoAction

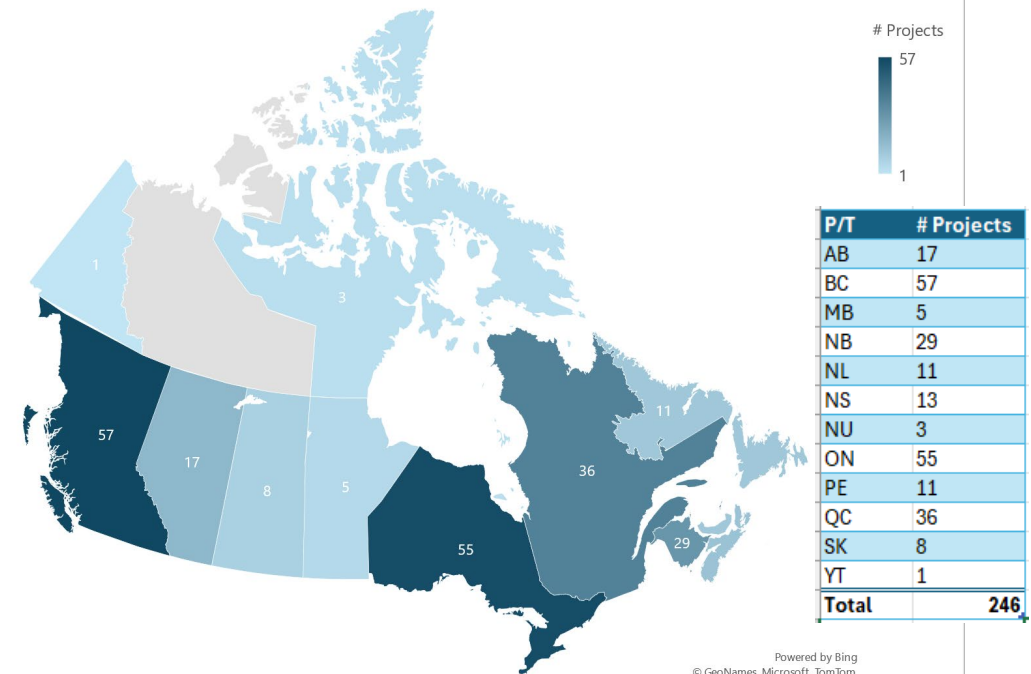
SINCE 2019/2020:

- Over **\$19.4 M** invested in **246 projects** being implemented in every province/territory except the Northwest Territories
- **\$2.31 leveraged for every \$1** in program funding
- Over **19,000,000 kg of waste** reduced or diverted
- **93,000 participants** engaged in activities
- **3,680 hectares** of habitat protected
- **16,104 hectares** of shoreline protected, stabilized, and/or improved

EcoAction Funding per Region
(Since 2019/2020)



of EcoAction Projects per Province/Territory, since 2019-2020



PATH FORWARD

- Continue to build the capacity of the CWA to deliver its mandate of providing leadership and coordinating federal action on freshwater.
- Engage partners on new and renewed actions to restore and protect water quality and ecosystem health through transboundary collaboration, Freshwater Ecosystem Initiatives and EcoAction.
- 2025/2026 Call for Applications anticipated in the coming months
 - [Funding opportunities - Canada.ca](https://www.canada.ca/en/canadian-heritage/2025/02/funding-opportunities.html)



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