

CANADA-NEWFOUNDLAND and LABRADOR WATER QUALITY MONITORING AGREEMENT

Progress Report 2025-2026



Water Resources Management Division
Department of Environment, Conservation and Climate Change
St. John's, Newfoundland and Labrador

Atlantic Water Quality Monitoring - Surveillance de
la qualité de l'eau de l'Atlantique
Environment and Climate Change Canada -
Environnement et Changement climatique Canada
Dartmouth, Nova Scotia

Introduction

The following progress report was prepared by NL ECC staff to document progress made on all activities under the *Canada-Newfoundland and Labrador Water Quality Monitoring Agreement* during 2025-2026. This document is formatted to reflect the same layout as the 2025-2026 Annual Work Schedule. Additionally, a table has been added to include activities completed solely by WRMD staff.

Work Shared Activities for Fiscal Year 2025-2026

Activity	Responsible Agency	Remarks
Cost Shared and Work-Shared Ambient Water Quality Monitoring and Data Management Activities	Newfoundland and Labrador Department of Environment, Conservation and Climate Change <u>and</u> Environment and Climate Change Canada	Refer to Table 1 for sampling details in Newfoundland Refer to Table 2 for sampling details in Labrador Refer to Table 3 for laboratory analysis details Refer to Table 4 for Shared Activities
Additional Cost-Shared Core Activities	Newfoundland and Labrador Department of Environment, Conservation and Climate Change <u>and</u> Environment and Climate Change Canada	Refer to Table 5 for additional shared activities
Work-Shared Special Projects	Newfoundland and Labrador Department of Environment, Conservation and Climate Change <u>and</u> Environment and Climate Change Canada	Refer to Table 4 for shared activities related to ambient water quality monitoring and data management Special projects Refer to Table 5 for cost shared core activities Refer to Table 6 for work-shared special projects
WRMD Ambient Activities	Newfoundland and Labrador Department of Environment, Conservation and Climate Change	Refer to Appendix A for WRMD tasks/projects related to ambient water monitoring

Ambient Water Quality Sampling

During 2025-2026, the ambient water quality grab sampling proceeded as outlined in the corresponding Annual Work Schedule. A comparison of the number of samples scheduled vs. the number of samples collected can be seen in **Table 1** and **Table 2**. In the majority of cases, the number of samples actually collected reflected the number of samples scheduled. In some instances, helicopter issues and adverse weather or ice conditions some samples were missed. Helicopter access due to wildfires was limited in late summer and early fall.

Table 1: Provincial Samples Collected in 2025-2026 Fiscal Year in Newfoundland (Island Portion of the Province)

Station #	Description	Number of Samples Scheduled in 25-26	Number of Samples Collected in 25-26
<u>EASTERN REGION</u>			
NF02ZK0005	Northeast River near Placentia	4	4
NF02ZL0029	Goulds Brook near Makinsons	4	4
NF02ZM0004	Waterford River at Commonwealth Avenue	4	4
NF02ZM0009	Waterford River at Kilbride	4	4
NF02ZM0014	Virginia River at the Boulevard	4	4
NF02ZM0015	Quidi Vidi Lake at Outlet	4	4
NF02ZM0016	Rennie's River at Carnell Drive	4	4
NF02ZM0020	Broad Cove Brook near St. Phillips	4	4
NF02ZM0098	Virginia River at Headwaters	4	4
NF02ZM0109	Mundy Pond at Outlet	4	4
NF02ZM0175	Waterford River at Brookfield Road	4	4
NF02ZM0176	South Brook at Mouth	4	4
NF02ZM0177	Rennie's River at Portugal Cove Road	4	4
NF02ZM0178	Learys Brook at Prince Phillip Drive	4	4
NF02ZM0179	Tributary to Virginia River at Guzzwell Drive	4	4
NF02ZM0180	Virginia River at Newfoundland Drive	4	4

Station #	Description	Number of Samples Scheduled in 25-26	Number of Samples Collected in 25-26
NF02ZM0181	Waterford River at Blackhead Road	4	4
NF02ZM0182	Waterford River at Bremigans Pond Dam	4	4
NF02ZM0183	Kelligrews River at Kelliview Crescent	4	4
NF02ZM0185	South Brook at Headwaters	4	4
NF02ZM0294	Manuels River above Manuels Access Road	4	4
NF02ZM0359	Paddy's Pond at Outlet	4	3
NF02ZN0004	Salmonier River at St. Catherines	4	4
<u>CENTRAL REGION</u>			
NF02YO0001	Exploits River at Grand Falls	4	4
NF02YO0020	Exploits River at Aspen Brook	4	3
NF02YO0107	Exploits River near Millertown	4	4
NF02YO0128	Exploits River below Grand Falls	4	4
NF02YO0142	Corduoy Brook near Centennial Park	4	4
NF02YO0143	Exploits River at Bond Bridge	4	4
NF02YQ0030	Gander River at Appleton	4	4
NF02YQ0072	Careless Brook at Resource Road Steel Bridge	4	4
NF02YS0001	Terra Nova River at Terra Nova	4	4
NF02YS0011	Terra Nova River at Spencer Bridge	4	4
NF02YS0083	Northwest River at Terra Nova National Park	4	4
<u>WESTERN REGION</u>			
NF02YE0004	Portland Creek at Route 430	4	4
NF02YE0005	Western Brook at Route 430	4	4
NF02YG0001	Main River at Route 420	4	4
NF02YL0106	South Brook below TCH	4	4

Station #	Description	Number of Samples Scheduled in 25-26	Number of Samples Collected in 25-26
NF02YG0020	Eagle Mountain Brook below Eagle Mountain Pond	4	4
NF02YH0018	Lomond River at Route 431	4	4
NF02YJ0004	Pinchgut Brook at TCH	4	4
NF02YK0022	Humber Canal at Main Dam Road	4	4
NF02YL0011	Humber River at Little Falls Bridge	4	4
NF02YL0012	Humber River at Humber Village Bridge	4	4
NF02YL0013	Corner Brook at Margaret Bowater Park	4	4
NF02YL0029	Wild Cove Brook at Route 440	4	4
NF02YN0001	Lloyds River at Route 480	4	4
NF02ZA0006	Grand Codroy River below Overfall Brook	4	4

Notes:

1. Total number of samples collected in 2025-26 does include duplicate samples.
2. Total number of samples planned for 2025-26 for Eastern region was 92; 91 were sampled, plus 9 duplicates.
3. Total number of samples planned for 2025-26 for Central region was 44; 43 were sampled, plus 3 duplicates.
4. Total number of samples planned for 2025-26 for Western region was 56; 56 were sampled, plus 5 duplicates.

Table 2: Northern Samples Collected in 2025-2026 Fiscal Year in Labrador

Station #	Description	Number of Samples Scheduled in 25-26	Number of Samples Collected in 25-26
NF02XA0001	Little Mecatina River above Lac Fourmont	4	4
NF03NF0013	Ugjoktok River below Harp Lake	4	4
NF03OA0020	Ashuanipi River at Ferguson Bay	4	4
NF03OC0012	Atikonak River above Panchia Lake	4	3
NF03OD0011	East Metchin River at TLH	4	4
NF03OD0012	Wilson River East Branch	4	4
NF03OE0050	Churchill River 6.15kms below Lower Muskrat Falls	4	4
NF03OE0057	Muskrat Falls Reservoir at Lower Brook	4	4
NF03OE0029	Churchill River above Grizzle Rapids	4	3
NF03OE0030	Minipi River below Minipi Lake	4	4
NF03OE0032	Pinus River above TLH	4	4
NF03OE0035	Dominion Lake Outflow	4	4
NF03OE0037	Cache River at TLH	4	4
NF03PB0025	Naskaupi River below Naskaupi Lake	4	2
NF03PB0028	Cape Caribou River at Grand Lake	4	2
NF03PB0029	Grand Lake Outflow at North West River	4	3
NF03PB0030	Seal Lake at Narrows	4	2
NF03PB0032	Susan River North of Beaver River	4	2
NF03PB0037	Wuchusk Lake at Naskaupi River Inflow	4	2
NF03QA0044	Carter Basin Outflow	4	4
NF03QA0045	Kenamu River near Mouth	4	4
NF03QC0001	Eagle River above Falls	4	2
NF03QC0002	Alexis River near Port Hope Simpson	4	2
NF03XB0018	Tributary to St. Augustin River	4	2

Notes:

1. Total number of samples collected in 2025-26 does include duplicate samples.
2. Total number of samples planned for 2025-26 for Labrador region was 96; 77 were sampled, plus 3 duplicates.

Ambient Water Quality Analysis

During 2025-2026 analytical service for major ions, physic-chemical, and major ions analyses were conducted at ALET and metals analyses at NLET. All shipping/analysis were carried out as agreed upon in the Annual Work Schedule 2025-2026 as seen in **Table 3**.

Table 3: Analytical Parameters, Holding Times and Schemas for 2025-2026

Schema Name	Parameter	Holding Times (recommended by private laboratory)
MAJOR IONS		
M_Alkalinity	Alkalinity	14 days
M_Anions	Chloride	28 days
	Sulphate	28 days
	Bromide	28 days
	Fluoride	28 days
M_Cations	Calcium	180 days
	Magnesium	180 days
	Sodium	180 days
	Potassium	180 days
PHYSICAL		
M_pH auto	pH	48 hours
M_Conductivity	Conductivity	28 days
M_Colour	Colourv - apparent	2 days
M_Turbidity	Turbidity	2 days
NUTRIENTS		
M-Anions	Nitrate & Nitrite	48 hours
M_TN	Total Nitrogen	28 days
M_TP	Total Phosphorus	28 days
M_TOC	TOC	28 days
METALS		
B_Metals_TR_ICP-MS	Total Metals-28 elements*	6 months (analyzed at NLET)

*28 Metals include:

aluminum	bismuth	iron	nickel	uranium
antimony	cadmium	lanthanum	rubidium	vanadium
arsenic	cobalt	lead	selenium	zinc
barium	copper	lithium	silver	zirconium
beryllium	chromium	manganese	strontium	
boron	gallium	molybdenum	thallium	

Ambient Water Quality Monitoring and Data Management/Reporting

During 2025-2026, significant effort from both ECCC and NL ECC was put into ensuring the Agreement data was accessible in a timely manner to any potential end-users of this water quality information. Numerous products were developed to help make the water quality information more user-friendly. Status of each task can be seen in **Table 4 & 5**.

Table 4: Ambient Water Quality Monitoring and Data Management Activities (Cost-Shared and Work-Shared)

Management Activities		Lead Agency	Progress Evaluation
Water Quality Sampling and Analysis	Collection of water samples under WQMA program	NL ECC	See Table 1 and 2 for list of samples scheduled and collected.
	Entering field data onto field sheets and subsequent submission to laboratory	NL ECC	This has been completed and up to date for 2025-2026.
	Laboratory Analysis and Quality Control Processes	ECCC	All procedures remained the same in 2025-2026.
Data Management	Processing and Loading of WQ analytical data	ECCC	This has been completed and up to date for 2025-2026.
	Accessibility/Availability of NL WQMA Dataset	ECCC	ECCC provided complete data to NL ECC two times (fall and spring)
Data Management Special Projects	Data Verification and Validation of Sample/Measurement Data	ECCC _____ NL ECC	Data validation completed in 2025-2026. Automated data verification protocols worked on by WRMD in 2025-2026.
	Data extraction tools development and updates	ECCC _____ NL ECC	No advances or updates made due to upcoming new Data Management Solution.

Table 5: Additional Core Activities 2025-2026 (Cost-Shared)

Project	Activity	Responsible Agency	Progress Evaluation
Canadian Aquatic Biomonitoring Network (CABIN)	Monitoring of benthic invertebrates at selected water bodies (reference sites, core CESI sites and annual sites) for maintenance of the long-term reference network in support of the Atlantic Reference Approach Model	NL ECC	Three annual Newfoundland CABIN sites were sampled in 2025. One annual Labrador CABIN site was sampled in 2025. Two additional Newfoundland CABIN sites were sampled to cover the Eastern Hyper-Oceanic Barrens, a deficient area identified in the baseline study.
	Share spatial data with ECCC, for use in the reference model	NL ECC	This task is ongoing as new data becomes available each year.
	Field certification and training (as needed)	ECCC	No training delivered by NL ECC or ECCC in 2025-2026.
		NL ECC	
Canadian Environmental Sustainability Indicators (CESI)	Develop CABIN reference model and associated tools	ECCC	ECCC's Watershed Hydrology and Ecology Research Division – Updated Atlantic Reference Model and DNA model completed in 2025-2026. User guide to be developed in 2026-2027. ECCC completed the publication of the Atlantic Benthic Metrics Normal Ranges on the CABIN website in 2025-2026.
	Compile, analyse and interpret water quality data at core CESI stations according to CESI protocols	NL ECC	This has been completed and up to date for 2025-2026.
	Final report validating/contributing to CESI core stations review for longer term WQI national reporting	NL ECC	This was completed for 2025-2026.

	QA/QC of submitted data/results and report to the public on the web page	ECCC	This has been completed and up to date for 2025-2026.
Modifications/ Improvements to CESI WQI Calculator	Troubleshooting support and corresponding update in CESI Calculator coding.	NL ECC	Updates to CESI WQI calculator were documented in the ongoing Excel spreadsheet maintained and updated by WRMD.
	Investigate how Trends Analysis can be incorporated into the CESI calculator.	ECCC	The trend analysis method is being reviewed and should be validated by end of 2026-2027.
	Inclusion of French version of CESI Help Manual.	ECCC	This activity will be completed in 2025-2026.
Chemical Management Plan	Special water sampling at a select station on the Waterford River	NL ECC	CMP water samples were collected five times for PFAS, PAH, flame retardants, and metals from Waterford River from Apr. 1, 2025 to Mar. 31, 2026.
Labrador Remote Station Sampling	Labrador water samples are collected by both federal and provincial staff in support of CESI reporting (for more remote core sites).	ECCC _____ NL ECC	Northern sampling and analysis proceeded as outlined in the Annual Work Schedule 2025-2026. Helicopter access was limited late summer/early fall due to wildfire on the island. See Table 2.

Table 6: Special Projects (Work Shared)

Project	Activity	Responsible Agency	Progress Evaluation
Monitoring Network Evaluation and Optimization	This on-going project focuses on evaluating the network on a regular basis to ensure that the partner's monitoring objectives are being met and that the network will be sustainable in the long-term.	ECCC _____ NL ECC	<u>Environment and Climate Change Canada</u> - ECCC continued to provide guidance and advice as required and work with NL ECC to optimize approach for NL waters. - Sampling frequencies were evaluated on an on-going basis. - Sampling frequencies were reduced for 9 stations on the island, 2 stations were removed from the island and one station was removed from Labrador due to fiscal constraints within ECCC. Bottle blanks was also removed from the sample regime. <u>NL Department of Environment, Conservation and Climate Change</u> - Continued work on the R script to generate automated trend reports for WQMA stations with 2006-2020 data. Expected to be completed in 2026-2027.
Real-time instrumentation special projects	In-situ water quality/quantity/climate monitoring using a mobile environmental monitoring platform (MEMP) on a need-basis across the province.	ECCC _____ NL ECC	The MEMP was deployed at Hodge River near the Town of Whitbourne, May 30 – December 1, 2025. Report completed and available on the Department's webpage.
Extrapolation of non-measured data at select real-time stations	Development of regression models to extrapolate water quality parameters from real-time measurements of related parameters	ECCC _____ NL ECC	<u>NL Department of Environment, Conservation and Climate Change</u> - Compilation of real-time and grab water quality, flow and climate data for six Churchill River sites (3 new stations added) for validation of the model. <u>Environment and Climate Change Canada</u> - ECCC will continue to provide technical advice and review on the approach considering its national applicability.

Conclusion

A significant amount of work took place under the *Canada-Newfoundland and Labrador Water Quality Monitoring Agreement* for fiscal year 2025-2025. The number of available products from this program continues to grow annually.

NL ECC would like to take this opportunity to thank our federal counterparts (ECCC Atlantic Region) for their on-going support and commitment in ensuring the delivery of the outcomes/products under the *Canada-Newfoundland and Labrador Water Quality Monitoring Agreement*.



Appendix A
Additional WRMD Activities Related to Ambient Water Quality Monitoring 2025-2026

Project	Activity	Progress Evaluation
Ambient Monitoring Activities	Cyanobacteria Monitoring	Data is collected each summer on a “needs basis”, in response to public requests. Five sites were sampled due to reported blooms from April 1, 2024 – March 31, 2025. Additionally, 2 sites were sampled for baseline conditions. A BGA report was prepared for 2025. The report is on the NL ECC webpage.
	Buoy System Deployment	A data collection buoy with cyanobacteria sensors was deployed for monitoring of potential blooms and research from May until October 2025 in Forest Pond, Victoria.
	Pesticide Monitoring with PMRA	Pesticide water samples were collected throughout the year and sent to PMRA for analysis, 13 times at South Brook from April 1, 2025– March 31, 2026.
Technical Work	Updating of Water Quality Monitoring Sampling Manual	Updated as required.
	Updating of the Site Documentation Database	Updates to the Site Documentation Database are completed as needed.
	NL Provincial Quality/Quantity Index Calculator	Completed the final package for the Newfoundland and Labrador Provincial Water Quality/Quantity Index Calculator.
	CCME Calculator Development	Completed and submitted the non-R version of the CCME Calculator.
	Envirotrend Application Development	Developed and completed a non-R version of the Envirotrend application, eliminating the requirement for R programming knowledge among end users.