

Summary Brief

BC COLLABORATIVE WATER MONITORING AND REPORTING INITIATIVE: Proposed Two-year Workplan

A joint initiative of the BC Water Funders Collaborative Working Group on Water Monitoring & Reporting and BC Ministry of Environment and Climate Change Strategy

About This Summary Brief

This document provides an overview of a proposed **two-year work plan** developed through the **Collaborative Water Monitoring and Reporting Initiative** (WMRI). The WMRI was an innovative 6-month partnership between the BC Ministry of Environment and Climate Change Strategy (ENV) and the BC Water Funders Collaborative (BCWFC)—a project on MakeWay's shared platform¹. Its aim was to address existing gaps in water monitoring and reporting in BC in order to facilitate data sharing, improve accessibility and support effective decision making across the province.

Building upon the broad knowledge base of research, recommendations, and initiatives already available²—by all levels of government (local, provincial, federal, First Nations), community-based monitoring groups, water purveyors, among others—this work plan provides a framework to:

- Improve quality of water data management and water monitoring in the province
- Work collaboratively on shared priorities for water monitoring and reporting and data management
- Enhance water monitoring and reporting efforts through strategic partnerships and alignment of funding initiatives
- Support and bring visibility to the work of First Nations and community-based monitoring and reporting initiatives with communication products

The proposed two-year work plan was developed based on an exhaustive needs/gaps analysis, and it also feeds into a five-year vision to move this initiative forward. **This summary brief is provided by the BCWFC for informative purposes while the workplan full report is reviewed and approved by ENV.**

Water Monitoring and Governance: *Why It Matters*

Water monitoring and reporting is the backbone of effective decision making in water management—reliable and timely information is essential for sound decisions. Now, more than ever, after recent years of flooding, drought, spills and forest fires in BC, accessible knowledge of water quality and quantity is key to the resiliency of the province's water resources, communities and ecosystems.

Coordinating water monitoring and reporting is a complex task for such a large and diverse province. Governments, First Nations, and community groups are mobilizing key monitoring and reporting initiatives and it is crucial to contribute to joint capacity building and resources to ensure their success.

Fostering joint stewardship and shared decision-making regarding water data holds the potential to engage communities, advance reconciliation, inform decision making and ultimately protect and improve the health of BC's water.

¹ MakeWay provides operational supports, governance, and charitable expertise for changemakers. The shared platform enables more time and money to go towards achieving greater impact. [MakeWay](#) is a national charity that builds partnerships and solutions to help nature and communities thrive together.

² The [BC Water Monitoring Landscape Scan](#) (2018), supported by the BCWFC, identified approximately 200 monitoring and reporting initiatives across the province, including major provincial monitoring networks and examples of local, regional and issue-specific monitoring and reporting.

BCWFC-ENV Partnership Overview

At a provincial roundtable in March 2019, water funders and provincial government representatives agreed that there are significant opportunities to improve collaboration and increase coordination across the province to address water data-gaps, facilitate data-sharing, improve accessibility and support effective decision-making.

Building upon a water monitoring scan and research report product in 2018, ENV representatives and members of the BC Water Funders Collaborative Working Group partnered to create the Collaborative Water Monitoring & Reporting Initiative (WMRI) supported by two temporary part-time Coordinators tasked with developing a multi-year work plan to address the current gaps in water monitoring and reporting in BC.

As a 6-month partnership, the coordinators were housed within ENV—reporting to the Water Quality Section Head—and with oversight from a Steering Committee comprised of members from Ministry of Environment & Climate Change Strategy, the BC Water Funders Collaborative, the Real Estate Foundation of BC, Environment and Climate Change Canada, and the First Nations Fisheries Council Water for Fish Program. The Coordinators were also supported by a network of key regional advisors.

Timeline: How the WMRI has been catalyzed (2017 – 2020)

2017

- BCWFC formed a working group to advance water monitoring and reporting, which focused on how to connect the work on-the-ground with decision-making in the province.
- A high-level inventory was commissioned to scan provincial, federal, and community and Indigenous-based monitoring and reporting initiatives, and it allowed identifying initial gaps and key champions.
- Series knowledge building webinars to profile some innovative initiatives.
- Roundtable of leaders from funders, government and on-the-ground initiatives.

2018

- BCWFC published a public version of the [inventory report](#)
- BCWFC convened a regional workshop with 12 regional collaborative water monitoring champions who provided recommendations on how funders and government could support the work they are doing on-the-ground

2019

- Provincial roundtable between BC water funders and representatives from several provincial government ministries, who agreed on the significant opportunities to improve collaboration and increase coordination to address data gaps, facilitate data sharing, improve accessibility and support effective decision-making.
- Creation and resourcing of a joint water monitoring and reporting initiative between water funders and provincial government: the WMRI.

2020

- Collaborative Water Monitoring and Reporting Initiative Two-year Workplan finalized by the Coordinators
- Collaborative Water Monitoring & Reporting Initiative Webinar with participants including BCWFC, ENV, FLNRO, EMPR, OGC and ECCC

WMRI Partnership Results & Recommendations

The proposed 2-year work plan can be implemented at provincial, regional or targeted project-level scale, building upon existing initiatives across agencies and creating the opportunities for peer-to-peer learning, capacity building, and learning from the success of regional collaborative initiatives.

The **main areas to focus on for the two-year plan** include:

1. Foster communication, relationships, and collaborations across sectors, governments, and regions
2. Improve understanding of Indigenous knowledge, law and governance around water
3. Resourcing staff and funding for training, equipment and supporting Indigenous governments and other governments, and community organizations
4. Understand expectations, roles and responsibilities, and capacities within government and between different groups and partners
5. Co-create process or criteria to determine where pilot-projects could occur
6. Develop and enhance online resources, data storage, databases, mapping and ensure monitoring and reporting tools are accessible and publically available and where appropriate aligned with ENV's technical standards

Work plan full report (under review and approval by ENV) includes:

- Strategies and deliverables (two-year work plan and five-year draft vision)
- Timeline of two-year work plan
- Needs/gaps analysis
- Strengths Weaknesses Opportunities Threats (SWOT) Analysis
- WMRI Coordinator position draft job description
- Draft case study/one-year regional pilot, and draft survey to collect specific watersheds needs
- Summary of Provincial Agency roles and responsibilities
- Summary of Federal and Provincial Government Capacities
- Evaluation of key learnings

Securing a full-time WMRI Coordinator position (and part-time positions) and defining a detailed budget for various work plan components are some of the critical first steps to building the momentum necessary for a decade of water monitoring and management transformation. Implementing the work plan on the ground requires supporting and building capacity for new and active community monitors and organizations to participate in all stages of water monitoring according to needs or expertise.

Implementing the workplan will require resourcing of a coordinator to implement the plan, who would be guided by a joint Steering Committee. Funding for the position could be cost shared by philanthropic funders and government. There are several options for positioning a coordinator:

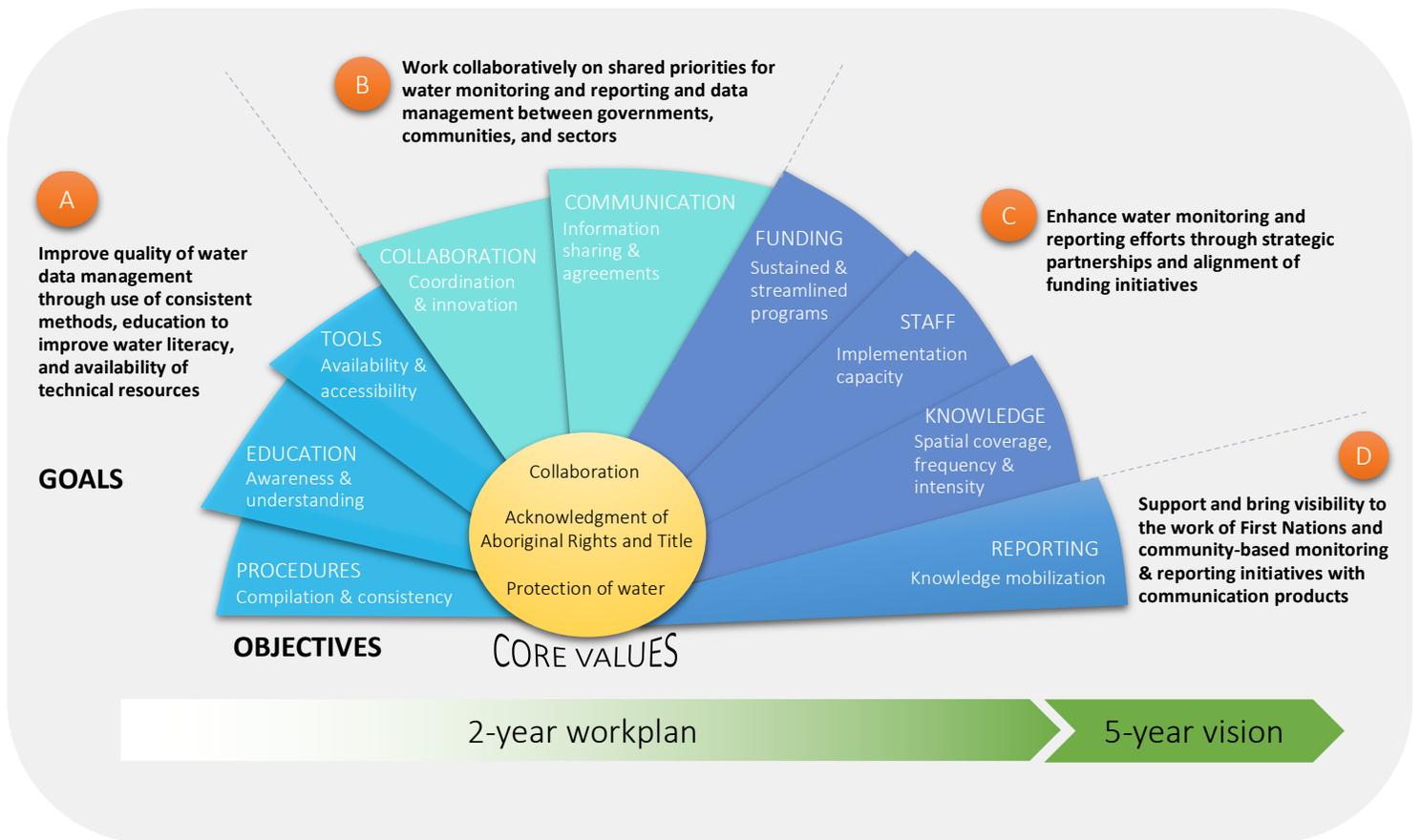
- Embedded within Provincial government (likely ENV, within the Environmental Sustainability and Strategic Policy Division or the Environmental Protection Division)
- Housed within a new organization which is a partnership of participating funders and government working together
- Embedded within one of the funder organizations
- Housed within an existing non-governmental organization with provincial scope.

Additional staff capacity will also be critical to the completion of this work plan. Other positions identified in the plan include:

- community-based monitoring liaison,
- First Nations liaison,
- data validation support,
- technical assistance,
- reporting and communications role.

The Coordinator will be responsible for ensuring a high degree of coordination among government branches, First Nations communities and regional monitoring initiatives. Coordination will serve as a catalyst for partnerships with First Nations and community groups, mobilizing key monitoring and reporting activities, and will make it possible for provincial staff to contribute to joint capacity building by contributing their experience and expertise.

WMRI Workplan: Goals, Objectives & Core values



Looking ahead: Where do we go from here

The Province and the BCWFC Working Group are currently exploring opportunities to resource and implement the Two-Year Workplan. Immediate funding is required to jointly resource a shared coordinator to engage in fundraising and develop a critical path to implementation. The work plan also includes several initiatives that could be funded independently.

Further discussion is required to identify emerging opportunities to integrate and align this plan with existing provincial and federal initiatives, including:

- BC Environmental Stewardship Initiative
- Government-to-Government partnerships to advance watershed governance (e.g. Nicola, Koksilah, Upper Bulkley-Morice)
- Climate Change Adaptation and Climate Ready BC
- Modernized Land Use Planning initiatives in BC
- Development of a Federal Canada Water Agency

The BCWFC staff will develop a 1-page options brief on opportunities for the funders to advance this initiative, and a Water Monitoring & Reporting Working Group meeting to discuss next steps will take place in the fall. To learn more about the WMRI, please contact Jennifer Archer (Program Manager, BC Water Funders Collaborative) at jennifer@bcwaterfunders.org.



Thank you to Rosie Barlak and Jillian Tamblyn—the WMRI part-time coordinators, Deb Epps—Water Quality Section Head, the steering committee and advisory committee members for their review of the draft documents, and agency staff who provided information on roles and responsibilities and gave valuable feedback on this work plan.

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Appendix A.

Summary 2-Year Workplan & Workplan Strategy 5-Year Vision

	2-YEAR WORKPLAN		WORKPLAN STRATEGY 5-YEAR VISION
	Main task	Key deliverables	
PROCEDURE	Compilation of key existing resources (coordination with agencies, First Nations and communities) & development/completion of new identified needs	<ul style="list-style-type: none"> All tools that are part of MAS Stewardship Framework Resources compiled and posted in online portal Collaborative business plan for data management Written commitments for data into gov't database Data collection protocols & promotional plan Planning procedure document: How plan a water monitoring and reporting program. 	<ul style="list-style-type: none"> Accreditation for data management & training Quality control procedures across gov't & communities Data sharing agreements (with stakeholders) Criteria for pilot projects Bridging function (e.g. "trust") to collate information dispersed across the various organizations (when provincial model does not work) New data topics, sources and collection methods Cumulative considerations in planning and data analysis.
EDUCATION	Development of educational materials to increase water literacy; water monitoring methods;	<ul style="list-style-type: none"> Water monitoring methods education plan Water monitoring methods/standards education Decision making factsheet(s) Education plan for improved understanding of Indigenous systems 	<ul style="list-style-type: none"> Educational materials Regular feedback to sampling partners on data collected and what it means Continued capacity building for community groups to collect, manage and apply data and information (e.g. educational materials are funded and operational, equipment loan programs)
TOOLS	Development of online resources, data storage databases, mapping and equipment	<ul style="list-style-type: none"> Repository of FNs information; protocols and guidance Water monitoring data storage database & guide Guidance document on roles and responsibilities of different agencies Health Stewardship Group Checklist Guide for information sharing protocols 	<ul style="list-style-type: none"> Data analysis tools/graphing/data visualization into water monitoring database. Cost estimate and funding plan for a comprehensive inventory of water monitoring initiatives in BC Compilation of links to external (non BC) water monitoring resources Guide for water monitoring and reporting leadership roles
COLLABORATION	Coordination, alignment and innovative approaches across water monitoring and reporting initiatives	<ul style="list-style-type: none"> Internal commitments for groups/agencies to participate Collaboration Framework document Written commitment to regular frequency of issue specific/themed webinars/workshops 	<ul style="list-style-type: none"> Internal agency/group commitment and funding for representatives to participate. A plan for recognition/promotion of successful collaborations.
FUNDING	Seeking and securing sustained and streamlined funding programs	<ul style="list-style-type: none"> Funding mechanism for staff positions, workplan components, and CBM and FN to increase capacity Funding flexibility options 	<ul style="list-style-type: none"> Reduce provincial lab fees for watershed groups Develop multi-year, core funding options Streamline and simplify gov't funding processes.
STAFF	Securing staff to implement the two-year work plan, with long term planning for completion of a five- year vision	<ul style="list-style-type: none"> Job descriptions as applicable Secure staff for completion of workplan components 	

KNOWLEDGE	Knowledge development	<ul style="list-style-type: none"> Needs in spatial coverage, frequency of data collection or intensity of monitoring (water and climate) 	<ul style="list-style-type: none"> Capture climate change impacts; higher elevation data; non-point source data; land use data; wetland data; water withdrawals data; Capture qualitative information, including sensitive cultural information
REPORTING	Communication products and incorporation into decision making	<ul style="list-style-type: none"> Reporting consideration in planning Guidance documents/templates Prioritization of waterbodies 	<ul style="list-style-type: none"> Integrated water quality "report card", "state of watersheds" or "watershed health" documents. Collaborative plan amongst ENV/FLRNO/others for improved efficiencies and regular frequency of reporting out on water related initiatives

Crosscutting objectives:

- Indigenous partnerships/alignment of communication resources
- Learn from and support local and traditional knowledge and needs in water monitoring collaborative planning
- Create and make available standardized, systematic, scientifically-rigorous data collection protocols/indicators/metrics
- Ensure there are champions with groups to lead any community based water monitoring groups and monitoring efforts
- Scale of monitoring built into planning procedures
- Seek a mechanism for funding in order to implement applicable components of the work plan
- Include government staff early in the design phase of community based water monitoring for strategic advice and/or monitoring coordination

Appendix B.

Summary SWOT analysis of potential two-year workplan components

	Strengths	Weaknesses	Opportunities	Threats
Outreach and hands-on extension service to organizations (First Nations, local governments, stewardship and monitoring groups, industry)	<ul style="list-style-type: none"> • Needed service • Well positioned to know what is out there and to work with partners 	<ul style="list-style-type: none"> • Labour intensive • Needs to be well defined to manage expectations with capacity • Maintenance of lists of resources 	<ul style="list-style-type: none"> • Utilizing existing clearing houses – e.g. Stewardship Centre, Columbia Basin Collaborative, Fraser Basin Council • Inviting people to use their creativity, and provide their resources and successful tools • Partnerships to fill gaps and needs 	<ul style="list-style-type: none"> • People will not look further if there is structure - may limit creativity • Ability to maintain initiative over the long term • Needs to be resourced and staffed consistently • Varying capacities
Knowledge-building, connections between communities, and training opportunities	<ul style="list-style-type: none"> • Existing programs to which to connect people • Provincial protocols & tools exist 	<ul style="list-style-type: none"> • Communicating preferred protocols • Changing over protocols might increase short-term monitoring requirements • Ability to provide training to remote areas • No coordinated training program now 	<ul style="list-style-type: none"> • Using existing training providers; training trainers; connecting groups for training • University extension, and private providers • Consistent funding from funders • Showcase the important of training • Resource information hub 	<ul style="list-style-type: none"> • People will not want to change methods due to existing data sets • Keeping new people trained • Monitors with training deviating from methods or reverting to old methods • People skip training and do monitoring
Shared-understanding of the use of water monitoring data across the province	<ul style="list-style-type: none"> • All working with the same data 	<ul style="list-style-type: none"> • Data grading, minimum detection limit and other metadata may not be looked at by less informed users 	<ul style="list-style-type: none"> • More data available to all decision makers • Helping others understand how to interpret the data, and decision makers using the information (different lenses and values) • Increased collaboration 	<ul style="list-style-type: none"> • More access to data increases potential for misinterpretation • More sources of errors • Proponents may have public watching them more closely • Time needs for increased collaboration

	Strengths	Weaknesses	Opportunities	Threats
Storage	<ul style="list-style-type: none"> • Funnel of qualified staff to do data QA/QC first - ensuring quality • Consistent format • Quality control 	<ul style="list-style-type: none"> • Resources to maintain format and quality control • Funnel will slow down getting data in • Current provincial storage requires updating to be user friendly • Incorporating other hubs—labour intensive • Historical data may not be compatible 	<ul style="list-style-type: none"> • Province is aware of the need and is working on addressing it • Other hubs experiences can inform what has and hasn't worked 	<ul style="list-style-type: none"> • People have developed regional hubs and storage in the vacuum, and they have committed to those programs • Province will need to set boundaries and data may be left out of that scope • Parallel structures
Indigenous and community-based WMR initiatives visibility	<ul style="list-style-type: none"> • Support is needed • Awareness helps with understanding • Visibility can attract more resources 	<ul style="list-style-type: none"> • Capacity on many sides • Views on data ownership and control vary, with some wanting more control than others • Different groups will have different amounts of tools to be able to be visible 	<ul style="list-style-type: none"> • People/groups who would want to have support • Capture or anticipate people's preferences for support-opportunity to understand • Understanding each other better to communicate the message 	<ul style="list-style-type: none"> • People might not want visibility (e.g. may limit willingness to have contact information available online) • Specific ways that people will want to communicate information and what they want to communicate e.g. Indigenous knowledge • Visibility may open things up to looking closely and causing more work • Communicating different messages
Partnerships, information sharing and agreements between Government and non-government organizations	<ul style="list-style-type: none"> • Partnerships create multipliers • Bring in local knowledge and different perspectives • Shared resources • Identify and meet common goals • Agreements help to articulate and prioritize • Agreements require adherence 	<ul style="list-style-type: none"> • Partnerships require a lot of time • Groups have different capacities to partner - may get overwhelmed • Differing opinions or goals taking upfront time to agree on commonalities to move forward on 	<ul style="list-style-type: none"> • Establish parameters, get on the same page, accept differences, address issues with acknowledging different needs and opinions • Opportunity to overcome roadblocks • Build relationships and trust 	<ul style="list-style-type: none"> • Changing legal frameworks

Appendix C.

Summary of Provincial Agency roles and responsibilities

Ministry of Environment and Climate Change Strategy

- Surface and groundwater science and policy, development of Water Quality Guidelines/Water Quality Objectives,
- Coordination and implementation of Provincial and Federal/Provincial water monitoring programs
- Work with health authorities, Indigenous and local governments, regional districts, stewardship groups and non-government organizations on monitoring, effectiveness evaluation programs, and reporting

Ministry of Forests, Lands and Natural Resource Operations

- Expert groundwater knowledge for permitting, and advice on groundwater monitoring programs
- Compliance, education and outreach *Groundwater Protection Regulation* and *Water Sustainability Act*
- Runoff forecasting and analysis of data including drought and flood. Develop and extend tools
- Cumulative effects & integrated monitoring

Ministry of Energy Mines and Petroleum Resources

- Support and research responsible development of water resources, and work on multidisciplinary water-related initiatives (including the Environmental Stewardship Initiative)

Oil & Gas Commission

- Support and/or technical review for Government-led water monitoring, and technical guidance initiatives of relevance to Northeast BC

Health Authorities

- Monitoring Beaches/ recreational water quality (bacteria, algae blooms), and related monitoring to drinking water protection

Environment and Climate Change Canada

- Standardized water monitoring data and information at 450 locations across BC (Province of British Columbia Hydrometric Agreement)
- Work closely with ENV to deliver the Provincial Biomonitoring Program (Canadian Aquatic Biomonitoring Network CABIN)

Fisheries and Oceans Canada

Hatchery and spawning channel work, Stream to Sea education program, Streamkeepers, public stewardship

