



Annual Monitoring Plan 2019

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Morice Water Monitoring Trust
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Prepared by Northwest Research and Monitoring Ltd.



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1.0 Introduction

The Morice Water Monitoring Trust (MWMT) is directed through its Trust Agreement to be responsible for monitoring the implementation and effectiveness of British Columbia/Wet'suwet'en government-to-government agreements, and related natural resource management activities, plans, and policies in the Morice Water Management Area (the "Morice Plans"). Baseline data will be collected on habitat supporting salmon and other fish, including water quality and quantity data, and hydrologic integrity that would fill information gaps or reduce information uncertainty. This will provide credible monitoring research and baseline data results in support of environmental effects monitoring and assessment to enable continuous improvement of Morice Plans, resulting in better management of environmental values in the Morice Water Management Area (MWMA).

The MWMT Strategic Direction document outlines core issues in the watershed, including the Trust's scope, purpose, guiding principles, goals, and strategies for management and implementation. The MWMT Monitoring Framework provides operational guidance by defining and categorizing the anticipated risks/pressures in the watershed and sub-units, goals and objectives specific to each category, and tasks required to successfully address objectives. Both documents will assist the Trustees with setting direction and priorities.

One of the primary purposes of MWMT is to gather baseline data within the Morice Water Management Area to determine if water quality is sufficient to maintain the well-being of the Wet'suwet'en (in relation to fish and drinking water). In 2007 and 2008, MWMT developed and implemented a Monitoring Program, which led to the creation of the Morice Water Management Area—Multi-Year Operational Plan (Gordon

& Associates 2009). The Operational Plan provides a well-structured framework for water quality monitoring and was instrumental in developing the MWMT Monitoring Framework—a working document that serves as a 5-year plan for Trust activities. The current management questions (Gordon & Associates 2009) are:

- Is the water safe for drinking?
- Is the water and associated habitat capable of sustaining fish?
- Is the water quality getting better or worse?
- Is the water quality changing because of changes in land use or management practices?
- If water quality problems exist, what are the causes of those problems?
- Are regulatory requirements for water quality being met?

In October 2015, MWMT used the Monitoring Framework to implement a more refined water quality monitoring program and began baseline data collection at 5 sites in the MWMA. Baseline data collection will continue on a monthly basis until March 31, 2019 for the purpose of assessing stream health. The Water Quality Goals include reliable access to safe drinking water, water quality and quantity to sustain the health and well-being of the Wet'suwet'en and water quality that supports aquatic life at reference state. To meet these goals, the MWMA objectives are to:

1. Maintain water temperature within critical limits for salmonid species on all MWMA water bodies.
2. Maintain water quality (chemistry) at or below Provincial Water Quality guidelines for parameters of importance seasonally.

The role of the MWMT is to collect information related to the goals and objectives for the Morice Water Management Area and communicate this information to the Trustees, decision makers, and others as appropriate. MWMT welcomes continued input into key watershed issues in order to maintain a

monitoring program that addresses current objectives.

The Annual Monitoring Plan sets out the year's proposed activities and budget which are created from the MWMT Monitoring Framework and is consistent with the MWMT Agreement.

2.0 Budget

The Budget for the **2019/20 (Year 5) Annual Monitoring Program** consists of funding from the MWMT Revenue Trust Account and external agencies (Ministry of Environment). A summary of proposed activities and budgets is included in Table 1, and individual activities are described in greater detail in Section 3.

Table 1. 2019/20 MWMT Annual Monitoring Plan Budget

Activity/Task	Proposed Budget 2018/2019	Actual Spending 2018/2019	Proposed Budget 2019/2020
Program Management (Task 1)	\$10,000	\$13,188*	\$10,000
Trust Project Coordination	\$9,100		\$9,700
Rent to BVRC (\$75 per month prior to 2018, \$25 per month currently)	\$900		\$300
Research Program; Annual WQ Program (Task 2)	\$22,400	\$22,400	\$14,000
Annual reporting – WQ and Limnology (\$3,000 each)	\$22,400		\$6,000
Technical Manager (~100 hours at \$75/h)			\$7,500
Hydrometric Planning Report			\$500
Field Program (Task 3)	\$40,000	\$39,246	\$70,000
MWMA Stream [and Lake] Water Quality Monitoring (monthly and 5-in-30 summer low flow)	\$40,000	\$39,246	\$40,000
eDNA/CABIN Collaboration			\$3,000
Limnology Monitoring			\$12,000
Hydrometric Station			\$15,000
Communication (Task 4)	\$5,000	\$4,324	\$5,000
Website maintenance			\$2,000
Communication & Extension			\$2,000
SKT Online Maps and Data			\$1,000
Trust Agreement (Task 5)	N/A	N/A	\$3,000
Legal Fees	N/A	N/A	\$3,000
Total	\$77,400	\$76,944	\$102,000

1. Monitoring Year is from April 1 to March 31 annually to coincide with Budget Approval.
2. Endowment Trust Year is the Calendar Year.
3. Operating Account balance on March 31, 2019 is \$17,977.84
4. *BVRC Q4 Invoice under review

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3.0 Project Synopses for 2019

Program Management (Task 1)

Project management activities include those functions that are necessary for the effective delivery of MWMT projects. Administrative project management duties will be performed by Northwest Research and Monitoring Ltd. Document storage rent is provided by the BVRC.

Budget: \$10,000

Tasks:

- Prepare Trustee meeting agendas, facilitate meetings, and take minutes
- Prepare and update Trust Management documents as directed by Trustees (present bank balance, budget, etc.)
- Manage Trust expenditures as defined by the Annual Monitoring Plan
- Develop 2020 Annual Monitoring Plan on behalf of the Trustees:
 - Provide initial description of projects and cost estimates
 - Facilitate discussion in relation to project selection
- Advise Trustees as necessary on strategic and operational planning
- Coordinate MWMT programs with other programs known to take place in 2019
 - Research grant and partnership opportunities
- Liaise and collaborate with relevant stakeholders to strengthen existing and build new relationships
- Continue water quality monitoring in streams and lakes within the MWMA in partnership with the OW Fisheries staff
- Continually improve, adapt and implement the safety protocol and procedures. Operate as the Safety Manager
- Order required supplies and keep inventory
- Schedule sampling sessions with OW Fisheries staff and other stakeholders
- Coordinate shipping of samples to laboratory
- Upload and organize data in Basecamp (secure cloud-based project management platform)

Planning and Research Program (Task 2)

Task 2 includes any planning, data analysis or reporting by the MWMT.

Budget: \$14,000

Tasks:

Prepare a **water quality monitoring summary report** for 2019 including:

1. Maps (showing where monitoring activities have taken place)
2. Descriptions of monitoring activities
3. Water quality data
4. Data analyses
5. Interpretations

Prepare a **limnology monitoring summary report** for 2019 including:

1. Maps (showing where monitoring activities have taken place)
2. Descriptions of monitoring activities
3. Limnology lake and wetland data
4. Data analyses
5. Interpretations

The Technical Manager will assist NWRM in planning the field program, fill in as a backup field crewperson when required and provide technical advice by:

- Annually reviewing all MWMA/MWMT literature and supporting documents and update as necessary. Ensure project objectives and goals are being pursued and/or achieved.
- Ensuring all data and procedures are up to provincial standards.
- Adaptively managing the program to respond to varying water quality data, budget, and stakeholder influences.

The Hydrometric Planning Report will be contracted out to Geomorphic Consulting. They will assess possible locations for hydrometric stations.

Field Program (Task 3)

Budget: \$70,000

The baseline water quality monitoring activities directly respond to the MWMT Water Quality Objectives:

1. Determine if water quality at monitoring locations meets provincial water quality guidelines.
2. Define long-term water quality reference condition in MWMA assessment units.
3. Develop more detailed Water Quality Objectives for individual assessment units as necessary.

Tasks:

- Implement monthly water quality monitoring in streams and lakes within the MWMA via OW Fisheries staff
- Implement summer low-flow 5-in-30 water quality monitoring in streams and lakes within the MWMA via OW Fisheries staff
- Collaborate with upcoming efforts to add eDNA tools to existing CABIN biomonitoring activities. Funding for this project is provided via Genome Canada. The MWMT will fund shipping and laboratory fees
- Set up and enact a multi-year plan for stream, lake and wetland limnology monitoring in collaboration with funders, DFO and the OW
- Set up and monitor one hydrometric station with plans for adding two more in coming years

Communication (Task 4)

Budget: \$5,000

A key role of the MWMT is to collect, summarize, and communicate information in suitable format(s) to governments, the public, and industry to assist them with tracking progress towards goals and objectives and making resource management decisions.

MWMT Goals/Objectives:

- To communicate MWMT monitoring results to the appropriate organizations so they are informed of the available information and data.
- To communicate issues or problems that may lead to ecosystem impacts to the relevant parties in a timely manner.
- To meet communication commitments of the Trust.

Tasks:

- Continue to evolve the Communication Strategy that sets communication expectations for the MWMT
- Document information management requirements (how to identify information/data and make it accessible)
- Post reports, news, and updates regularly on MWMT website (moricestrust.ca)
- Present all reports and data to MWMT and other stakeholders as instructed by the board
- Communicate important events and findings to the board in appropriately timed manner
- Create written and visual presentations about the MWMT for information and marketing purposes
 - Provide updates to hereditary chiefs
 - Create informational documents and updates aimed at the general public
- Collaborate with the Skeena Knowledge Trust to post publicly available online maps and data that others can provide updated information to
- Explore field and data apps development

Trust Agreement (Task 5)

Budget: \$3,000

The MWMT trust agreement will be updated to reflect changes within the settlor's positions and contact information.