



2024 ANNUAL MONITORING PLAN

2024

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1.0 INTRODUCTION AND BACKGROUND

1.1 Morice Water Management Area

Morice Water Management Area (MWMA) was created through the Morice Land and Resource Management Plan (LRMP). Its goal is to protect the vital aspects of the upper Morice River watershed within Wet'suwet'en territory, including water quality, quantity, and fish populations (MAL 2007). The MWMA established two main objectives: developing a dedicated water management plan for the area and implementing a water monitoring program.

A framework for monitoring and assessing water quality within the MWMA was created in June 2008. Later that summer, the Office of the Wet'suwet'en conducted the initial monitoring activities. Finally, the MWMA Multi-Year Operational Plan for water monitoring was established in 2009 (Gordon and Associates Ltd. 2009).

Since 2008, independent monitoring efforts have been undertaken in the watershed by the provincial government, the Wet'suwet'en people, and industry. These programs have primarily focused on monitoring potential impacts from past activities and gathering baseline water quality data. While valuable, these efforts lacked a long-term vision. A more sustainable program was needed, one that could be scaled up and adapted to incorporate future partnerships and potential additional resources.

1.2 Morice Water Monitoring Trust

In 2012, the Morice Water Monitoring Trust (MWMT) ensures long-term monitoring of the MWMA. It also sets a course for achieving the established objectives and guidelines. The Trust Agreement, a groundbreaking governance document, with Wet'suwet'en Hereditary Chiefs as Settlers of the Trust. This agreement directs the MWMT to monitor the implementation and effectiveness of government-to-government agreements between British Columbia and the Wet'suwet'en Nation. Additionally, it focuses on natural resource management activities, plans, and policies within the MWMA (known as the 'Morice Plans').

The MWMT prioritizes collaborative, long-term, and science-based monitoring and management of the watershed. We recognize that our work takes place on unceded Wet'suwet'en territory. The Trust acknowledges the essential support and guidance provided by the Office of the Wet'suwet'en, and we value our relationship and look forward to future collaborations on the land.

In 2015, MWMT developed a Strategic Direction Plan that focused on five Core Values: Water Quantity, Water Quality, Sediment Quality, Fish and Habitat Productivity, and Information Sharing (MWMT 2015).



Figure 1. The MWMT's five core values

The primary aim of the watershed monitoring program initially was to establish a scientifically robust baseline of water quality data that encompasses natural fluctuations. This baseline data encompasses various aspects of aquatic health crucial for supporting salmon and other fish, including water quality, quantity, biological composition, geomorphology, and connectivity. This collective data serves as a basis for determining indicators of natural resource sustainability and ecosystem well-being as outlined in the Morice Plans.

The MWMT is tasked with gathering information aligned with the objectives and goals set for the Morice Water Management Area. It is responsible for conveying this information to trustees, decision-makers, and relevant stakeholders. Annually, we devise and execute a program aimed at:

- Collect water science information,
- Identify where water-related issues exist,
- Fill data gaps,
- Provide information to others for decision-making, and
- Most recently, to plan, implement and promote watershed restoration.

Our initial geographic scope was the MWMA (upper Morice) designated in the 2007 Morice LRMP. In 2021, the Trustees passed a motion to formally expand the geographic scope of the MWMT activities outside the MWMA initially to include the Upper Bulkley and all the Morice basins. The MWMT intends to operate on this basis until the change is legally made.

1.3 Summary of Previous MWMT Field Programs

The following briefly summarizes MWMT field programs and core values conducted to date:

<i>Year</i>	<i>Core Activities & Activities</i>
2015-2017	Water Quality: Sampling was conducted at five MWMA sites. For more information on pre-trust activities refer to the Morice Water Management Area – Multi-Year Operational Plan .
2018	Water Quality: Expanded winter data representation and released reports summarizing MWMA water quality using data from MWMT and BC Environmental Monitoring System (EMS) database (Oliver 2018).
2019	Water Quality: The Trust expanded the summer seasonal representation of water quality data. Water Quantity: Hydrology stations were established at Maxan Creek and Gosnell Creek for water quantity monitoring. Fish and Habitat Productivity: The Trust collaborated with the OW and Ministry of Environment and Climate Change Strategy (MOE) to collect benthic macroinvertebrate samples for the STREAM (Sequencing the Rivers for Environmental Assessment and Monitoring) program. This program provides a better understanding of aquatic ecosystem health through DNA metabarcoding.
2020	Water Quality: The Trust conducted further water quality sampling to fill data gaps during the summer low flow period. An updated report on MWMA water quality was released with data summaries and recommendations for future work. Water Quantity: The water quantity (hydrology) program developed a rating curve by monitoring both stage and discharge at Gosnell and Maxan stations. A discharge-discharge relationship between the Maxan (MWMT) and Topley (OW) hydrology stations was successfully determined. Fish Habitat and Productivity: The Trust funded a collaborative OW and University of Victoria research program that collects water samples at historically-known spawning grounds and nursery lakes of sockeye salmon populations in Wet'suwet'en Territory for eDNA analysis. The results of this project, combined with additional years of sampling will fulfill a key recommendation in the Upper Bulkley Salmon Habitat Report (Price 2014).
2021	Fish Habitat and Productivity: Through the Healthy Watersheds Initiative, the MWMT completed phase one of a multi-year process-based restoration project in the Upper Bulkley and Upper Morice basins. Ten sites along Upper Bulkley and Maxan Creek were selected for restoration through live-staking and low-technology riparian restoration techniques. The Trust additionally funded the OW and University of Victoria research program analyzing eDNA at historically known spawning grounds and nursery lakes for sockeye salmon populations in Wet'suwet'en Territory.
2022	Water Quality/Information Sharing: To support the Wet'suwet'en, the Trust participated in outreach activities and provided training in drinking water monitoring. Six sites were selected on Lamprey Creek and the Morice River for water quality monitoring. OW technical staff assisted the project lead in sampling and training. Hydrocarbon monitoring was added to testing at the request of the OW to monitor for adverse effects of industrial activity in the area. Water Quantity: MWMT's water hydrology stations, data, and program were assessed this year. Long-term planning for future hydrometric monitoring and integration with the work of other organizations is required to continue this project. Fish Habitat and Productivity: The Trust continued to fund the collaborative OW and University of Victoria research program. The multi-year process-based restoration project continued through effectiveness monitoring and site touch-ups.

1.4 Summary of Previous Years' Activities 2023/2024

In the 2023/2024 season, the MWMT achieved significant milestones:

The establishment of a comprehensive plan repository (information repository). This repository, managed through a tracking spreadsheet, systematically catalogs all relevant policies, agreements, and plans impacting natural resources within the MWMT's geographic scope. By March 31, 2024, the repository was majority completed, encompassing priority documents identified by Trustees and older plans affecting the MWMA. Future steps involve expanding the repository to encompass recent MWMA documents and those specific to newly incorporated geographical areas.

In tandem with this repository, the MWMT managed a knowledge base to oversee both internal and external data pertinent to our mandate. A notable development was the creation of an "MWMT Collection" tag within the Skeena Knowledge Trust. This tag serves as a centralized repository for all data relevant to the MWMT's scope, including publicly available information sourced from external organizations.

Strategic planning efforts in 2023 focused on the development of a Monitoring Priority Decision Model. This formal model aims to prioritize monitoring and watershed management activities within the constraints of available budgets. It aligns MWMT values such as aquatic ecosystems/fish habitat, water quality, hydrology, wetlands, and forest biodiversity with legal and non-legal objectives and watershed indicators. Moving forward, the model will integrate with ongoing monitoring initiatives and peer-reviewed literature to establish a prioritized list of projects based on risk assessments linked to each indicator. The long-term objective is to support government-to-government land use planning and enhance Provincial Timber Supply Review and Forest Level planning.

Throughout the year, the MWMT continued its Annual Monitoring Program, which focuses on establishing baseline data time series through collaborative efforts with partners. These ongoing efforts ensure a comprehensive understanding of environmental trends and changes within the MWMA. Water quality sampling focused on specific sites and included various activities such as a 'Spring' 5-in-30 program, monthly sampling, and prioritized sampling in the 'Fall' and 'Winter'. New sites were added with baseline data collected toward later inclusion in watershed-specific Water Quality Objectives (WQOs).

Research on hydrocarbon monitoring expanded, focusing on petroleum spill tracking and assessing impacts. Despite challenges like labor strikes and budget cuts, progress was made, including adding PAH analysis to water quality sampling at high industrial sites. Efforts were made to explore low-budget sediment analysis options for future monitoring. The MWMT addressed Fish and Habitat Productivity concerns through eDNA analysis, focusing on sockeye salmon distribution. Sampling efforts were extensive across various locations, and collaboration with stakeholders was emphasized. Watershed Restoration activities continued, including fish survival assessments at designated sites and financial support for habitat restoration projects.

Collaboration through ongoing consultations and workshops with organizations like the Pacific Salmon Foundation (PSF) and the province yielded positive outcomes, including continued development of best practices for water temperature and hydrology monitoring, and fostering connections for integrating water monitoring efforts among communities and governments in the region. This included sending representatives to a PSF water monitoring workshop in Vancouver and leading a regional virtual hydrology workshop. As a result of this work, PSF will be looking to contribute additional funding for ongoing collaboration in 2024/25. For further details on activities taken place during the 2023/2024 season see the 2023 Annual Monitoring Report.

1.5 MWMT Collaborations

The MWMT presently engages in collaborative efforts with various organizations to develop and execute our AMP. Our collaborative network includes partners such as the Unist'ot'en Healing Centre, Dze L K'ant Friendship Centre Society, Skeena Knowledge Trust, Skeena Fisheries Commission, A Rocha Canada, Northwest Research and Monitoring, Simon Fraser University, Coast Mountain College, and the Pacific Salmon Foundation and federal and provincial government agencies. These partnerships enrich our collective capacity to address water-related issues effectively and sustainably.

2.0 ANNUAL MONITORING PROGRAM 2024

Each year an Annual Monitoring Plan (AMP) is developed to set out the year's proposed activities and budget. The AMP is informed by the MWMT Agreement, the MWMT Strategic Plan, the previous year's AMP, and advice from our technical advisory group (see section 2.3.1). The 2024 AMP documents generally describe monitoring programs that will be implemented by the MWMT, either independently or through partnerships. The Plan also contains considerations regarding integration between disciplines, and annual reporting recommendations. The MWMT Technical Director and Director of Operations approved the AMP in consultation with the other Trustees.

The following subsections describe the components of the 2024 monitoring program. A detailed budget is provided in Section 3.0 and a schedule is provided in Section 4.0.

2.1 Task 1: Program Management

Program 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. (NWRM).

2.1.1 Trust Project Management and Coordination

Program management and coordination tasks include:

- Prepare and update Trust management documents as directed by Trustees (present bank balance, budget, variance and expense reporting – as requested and at relevant Trustee meetings)
- Facilitate Trust meetings
- Manage Trust expenditures as defined by the AMP
- Develop the AMP in collaboration with the Trustees:
 - Provide an initial description of projects and cost estimates
 - Facilitate discussion in relation to project selection
- Advise Trustees as necessary on strategic and operational planning
- The Project Manager will continue to find new opportunities to fulfill the purposes of the Trust. Research grant and partnership opportunities, and coordinate and write funding proposals
- Liaise and collaborate with relevant stakeholders to strengthen existing and build new relationships
- Prepare Trustee meeting agendas and take minutes
- Coordinate MWMT programs with other programs occurring in 2024

2.2 Task 3: Agreement Monitoring

2.2.1. Land Use Scoping

As mentioned in Section 1.2 above, one of the purposes of the MWMT, as outlined in the MWMT Strategic Direction report, is to monitor the implementation and the effectiveness of any British Columbia/Wet'suwet'en government-to-government agreements, and related natural resources management activities, plans, and policies in the Morice Water Management Area (the "Morice Plans").

This year, significant progress was made in the plan repository (information repository), with the majority completed by March 2024, our next steps involve expanding the repository to include recent MWMA documents and newly incorporated geographical areas.

In the knowledge base, ongoing management of internal and external MWMT data will continue through the "MWMT Collection" tag on SKT. Ongoing funds will be needed to ensure documents and data are uploaded periodically to SKT.

Additionally, strategic planning efforts have been focused on developing a Monitoring Priority Decision Model aimed at prioritizing monitoring and watershed management activities within budget constraints, with long-term goals including supporting government-to-government land use planning and enhancing Provincial Timber Supply Review and Forest Level planning.

2.3 Task 3: Field Programs

The 2024 field programs align with the Water Quality, Water Quantity, and Fish and Habitat Productivity Core Values.

2.3.1. Technical Advisors

Each year, the Trust secures trusted advisors to provide expertise for our research and monitoring programs. The technical advisors assist with:

- Long and short-range planning of field programs.
- Providing technical advice, such as, but not limited to:
 - General technical reviews,
 - Annually reviewing all MWMA/MWMT literature and supporting documents and updating as necessary,
 - Ensuring project objectives and goals are being pursued and/or achieved,
 - Ensuring all data and procedures are up to provincial standards, and
 - Adaptively managing the program to respond to varying data, budget, and stakeholder influence

Limitations in the number of key technical consultants had the potential of impacting past AMP schedules and budgets. This year, the Trust will invest time and resources into increasing

our technical consultant capacity to ensure that the MWMT's research and monitoring program remains resilient.

2.3.2 Water Quality/Quantity Monitoring

The MWMT remains committed to addressing the Core Value of Water Quality, as outlined in the MWMT Strategic Direction report, through ongoing monitoring activities planned for 2024. NWRM, in its role as MWMT administration, will continue to support logistical needs related to field activities within the MWMA. Coordination of projects will be conducted in collaboration with OW staff whenever feasible. Additionally, there will be ongoing efforts to enhance, adapt, and implement safety protocols and procedures.

2.3.2.1 Water Quality Objectives: Attainment Monitoring

The final draft of the Water Quality Objectives Technical Assessment Report, completed in March 2023, will guide the upcoming year's water quality monitoring efforts. The aim is to enhance Water Quality Objectives (WQOs) by increasing available data, monitoring for attainment of selected WQOs', and assessing ongoing compliance with Water Quality Guidelines (WQGs) guidelines. Typically, attainment monitoring is advised every three to five years in each relevant area, depending on observed and anticipated changes. This marks the second year of the attainment monitoring sample design.

Continuing with our current monitoring program and the MWMA WQOs technical assessment report, sites considered for monitoring include Nanika River, Morice River, Cutthroat Creek, McBride Creek, Gosnell River, Shea Creek and Crystal Creek. Gosnell Creek, Shea Creek and Crystal Creek continue to be the highest priority for sampling as these areas have the highest amount of human activity.

A full program of attainment monitoring would include monthly sampling plus five-in-thirty sampling during seasonal events: spring and fall high flows and summer and winter low flows. Monthly sampling is planned from April 2024 to March 2025 at Nanika River, Morice River, Cutthroat Creek, McBride Creek, Gosnell Creek, Shea Creek and Crystal Creek, to coincide with previous years' prescriptions. Last year concerns with budget and capacity limited the scope of the attainment monitoring five-in-thirty program, with samples collected at Gosnell Creek, Shea Creek, and Crystal Creek during spring and fall high-flow. This year to fill these gaps we will be completing a five-in-thirty of all seven sites during spring and fall high-flow, with the ambition to capture summer and winter low flows for next year's AMP. Winter conditions continue to be a barrier for monthly sampling at McBride, Cutthroat, and Nanika River and will likely continue to limit sampling for 2024. The Owen Creek will be added to the site list as discussed in the 2024 AMP trustees meeting, the existing EMS location will be

In previous years, the MWMT has focused monitoring on rivers and streams. Morice Lake is a large waterbody within the MWMA. A lake monitoring plan will be designed in 2024 and will include collaboration with the Skeena Fisheries Commission (SFC). SFC obtained and

analyzed triplicate samples from three zones on Morice Lake August 2023, the plan will use this, and other baseline data as a planning starting point for summer WQO attainment monitoring.

2.3.2.2 Equipment Acquisition

MWMT's increased sampling program following the Water Quality Objectives Technical Assessment Report has identified a vulnerability in our field program and presented an opportunity to strengthen our capacity. Conducting sampling requires the use of a YSI Multi-meter, which has been issued through loan agreements from the Ministry of Environment and Climate Change Strategies Office. Relying solely on government-loaned equipment has introduced uncertainties and delays, impacting our ability to conduct timely and thorough research in the watershed. To mitigate this, we will collaborate with the Office of the Wet'suwet'en to access their YSI meter with a contribution for each year of use to cover regular maintenance and sensor replacements.

2.3.2.3 Hydrology

After an assessment of the two MWMT hydrology stations located at Gosnell Creek and Maxan Creek in 2022, it was decided that the equipment should be pulled from the field until a long-term hydrology plan is created. With the collaboration fostered with PSF through the Hydrology Workshop conducted in 2023 we are now working towards this plan, with the budget reflecting a collaborative initiative to increase hydrometric stations in the watershed.

2.3.2.4 Petroleum Product Aquatic Detection and Impact Assessment

Hydrocarbon monitoring will continue to be researched as a new aspect of MWMT monitoring. This includes petroleum product spill tracking and impact assessment monitoring at locations in the Upper Morice basin where quantities of petroleum products are transported, stored and/or used (e.g., storage at stationary or mobile tanks, areas where there are industrial equipment and activities).

The funds will be allotted to implement hydrocarbon monitoring using SPMD's (or other passive sampler devices) and if funds allow relevant methods such as sediment samples. The aim is to place two passive samplers to address the significant fuel spill from the RCMP camp which occurred in 2020 on Wet'suwet'en territory within 100 meters of the Morice River. The locations proposed are at Chisholm Bridge as this is downstream of the initial spill site and one monitor directly adjacent to the spill as both prove to be good areas to capture any residual hydrocarbons in the water.

2.3.3 Outreach, Research, Monitoring and Training for Wet'suwet'en

As part of our primary goals, stated in the Strategic Direction document, the MWMT will continue to support the Wet'suwet'en living on the territories through outreach, research,

monitoring, and training. Upon inquiry, representatives were not interested in the continuation of the 2022 program's drinking water monitoring.

Outreach and communication will continue throughout the program to assess people's needs, interests, and capacity.

2.3.4 Fish and Habitat Productivity eDNA Analysis

The MWMT continues to prioritize Fish and Habitat Productivity, focusing on understanding the distribution of sockeye salmon within Wet'suwet'en traditional territory, including the upper Bulkley River and Morice River tributaries. In collaboration with OW, Michael Price, University of Victoria, and Simon Fraser University, sampling was conducted from 2020 to 2023.

This initiative complements the Sockeye Salmon tagging study at OW Fisheries, providing insights into spawning locations, distribution patterns, and population responses to climate change. The MWMT remains committed to supporting partners in collecting water samples for ongoing eDNA analysis in potential salmon habitats.

Expanding their efforts, there is an interest in assessing water and air temperatures at locations where salmon are beginning to appear. Initial assessments for deploying temperature data loggers this summer include the unnamed river flowing into Morice Lake's northern end and the upper Atna River flowing into Atna Lake. These measures aim to enhance forecasting capabilities regarding future salmon habitat suitability. MWMT will provide further funding to support the deployment of these temperature loggers.

2.3.5 Watershed Restoration

The Upper Bulkley River watershed has been identified as having degraded riparian conditions. Since 2021, the MWMT has been working on reducing streambank erosion along the Upper Bulkley River and Maxan Creek. This effort continues into 2024. Currently, MWMT is supporting a three-year (2023-2026) restoration project led by the Office of the Wet'suwet'en in the Upper Bulkley area.

Funds will be allocated for continued maintenance and effective monitoring of previously restored riparian areas in the Upper Bulkley River watershed.

2.4 Task 4: Data Management

The MWMT's data management strategy is guided by the Information Sharing Core Value, emphasizing adherence to FAIR principles (Findable, Accessible, Interoperable, and Re-useable) and OCAP principles (Ownership, Control, Access, and Possession). This approach ensures that all data is shared with the Office of the Wet'suwet'en (OW).

Three main tiers of data management have been established:

1. Local: Includes project working files that are internal and shared among technical partners.
2. Regional: Published files such as regional reports and data are made externally accessible and discoverable.
3. Provincial: Published files include large-scale monitoring systems that are connected to regional data and accessible at provincial or national levels.

Key functionalities, both internally and externally facing, include data importing, quality control, editing, transformation, analysis, archiving, and distribution. These processes are critical in supporting informed decision-making.

Spatial enablement is another crucial aspect of our data management principles. It involves linking geographic information to data, facilitating easier discovery, querying, interpretation, visualization, and downloading of data. This spatial context enhances the utility and accessibility of the data for stakeholders.

2.4.1 Annual Data Management - Internal

The MWMT is refining a standardized approach to long-term data archiving, analysis, interpretation, and reporting. Ongoing efforts include developing templates for data compilation and reporting, designed to accommodate changes in the monitoring program over time.

Following each survey, data undergoes scanning, uploading, and organization into a secure cloud-based project management platform. It is then processed and managed using standard quality assurance and quality control (QA/QC) procedures. These practices ensure data integrity and consistency throughout the analysis and reporting phases.

2.4.2 Annual Data Management - External

Public reports from the MWMT are accessible on the Trust's website, mwmt.ca, and through the Skeena Knowledge Trust's Skeena Salmon Data Center. Water quality data is systematically uploaded to the Environmental Monitoring System. Allocation of funds is earmarked for fees associated with preparing MWMT data for upload to external databases. These efforts are in line with the MWMT strategic direction document's objective of providing comprehensive data to enhance monitoring efforts and support future planning initiatives.

The SKT, headquartered in Smithers, BC, is a registered Canadian charitable organization facilitating these data dissemination efforts.

2.5 Task 5: Reporting

2.5.1 Water Quality Objectives: Assessment Report and 2024 Follow-Up Reporting

Water Quality Objectives (WQOs) serve as approved policy guidelines that help balance human use, values, and the health of aquatic environments. They provide essential direction for statutory decisions affecting specific waterbodies.

The completed report was submitted to the provincial government for final review in March 2023. However, progress has been hindered by staff changes and capacity challenges within the Ministry of the Environment, affecting the review timeline. Regular meetings with ministry representatives continue, with expectations to conclude the review by the end of 2024. The line item represented in the budget has been allocated to support the next steps in the acceptance of the technical report.

This reporting task aligns with the Information Sharing core value.

2.6 Task 6: Communication and Extension

2.6.1 Website Maintenance and Information Dissemination

An updated MWMT website has been launched— one that better meets our obligations for extension of our research, and to better communicate our results. The new website will continue to be refined this year.

A synthesis report will be established that can be distributed to relevant stakeholders to hold accountability in the watershed as well as, allow for greater outreach on current operations of the trust and resulting data collected on water quality objectives.

2.6.2 Charity Accounting and Annual Filings

The MWMT was registered as a charity with the Canada Revenue Agency (CRA) in 2020. Charitable status requires regular reporting, meetings, and filings with the CRA. By Trustee's request projections on the expected monthly/quarterly income and dividends the trust would be receiving from its investments will be distributed periodically, as well as a one-page summary of all financial accounts associated with the trust will be coalesced into a document for review. This aims to address any knowledge gaps by the Trustee on financial standings and to help plan and budget for the upcoming year.

2.6.3 Visualization for Water Quality and Temperature

The MWMT plans to develop a comprehensive dashboard to visually display water quality and temperature monitoring data collected in the MWMA. This initiative aims to enhance transparency and accessibility of environmental data for stakeholders and the public. The dashboard will integrate seamlessly with the Skeena Knowledge Trust, and the newly launched MWMT website. The MWMT seeks to provide robust tools for understanding and monitoring the health of the watershed, fostering informed decision-making and community engagement in environmental stewardship efforts.

2.6.4 Stakeholder/Funder Relations

This task provides funds for any relationship-building activities with funders, vital to the ongoing growth and sustainability of the MWMT and its research program.

2.6.5 Volunteer Incentives

Expansion of research programs and community outreach includes volunteer opportunities with the MWMT. Volunteer incentives include refreshments, lunches, and honorariums.

2.6.6 Hydrology Workshop

To develop a long-term monitoring plan for hydrology, the MWMT hosted a workshop with hydrologists and other relevant technical professionals in Northwest BC. This workshop worked to create a common understanding of current mainstem and tributary basin hydrology in Northwest BC. The budget reflects a follow-up meeting that was indicated as an action item for further discussion and information dissemination.

2.6.7 Governance Workshop

The proposed workshop aims to build on a previous MWMT session that highlighted ongoing watershed discussions. Effective water governance in the Skeena watershed is imperative due to the diverse array of agencies and stakeholders operating independently within the region. With numerous industrial, agricultural, recreational, and ecological interests at play, coordinated governance is essential to ensure sustainable water management. Such oversight can harmonize conflicting demands, mitigate pollution risks, and safeguard the watershed's ecological health.

By establishing clear regulatory frameworks, promoting stakeholder collaboration, and integrating Indigenous knowledge, comprehensive water governance can foster resilience against climate change impacts and ensure equitable access to water use. Ultimately, robust water governance in the Skeena watershed is crucial not only for its environmental integrity but also for supporting the livelihoods and well-being of the communities dependent on its waters.

3.0 BUDGET

Funding for the 2024 Annual Monitoring Program is provided by the MWMT Revenue Trust Account and external agencies (i.e., ENV) The budget provided below in **Table 1** is based on high-end projections for the field work and some programs may cost less.

Tasks		2024 Cost
Task 1 Program Management		
Trust Project Management and Coordination		\$25,000
MWMT Office Rent and Consumables		\$9,000
Task 2 Agreement Monitoring		
Land Use Scoping		\$7,500
Task 3 Field Programs		
Technical Advisors		\$25,000
Water Monitoring, Total		\$120,000
<i>Water Quality Objectives</i>	\$90,000	
<i>Equipment Acquisition</i>	\$5,000	
<i>Hydrology</i>	\$5,000	
<i>Hydrocarbon Monitoring</i>	\$20,000	
Outreach, Research, Monitoring and Training for Wet'suwet'en		\$5,000
Fish and Habitat Productivity		\$15,000
Watershed Restoration, Total*-		\$20,000
Task 4 Data Management		
Annual Data Management – Internal		\$3,000
Annual Data Management – External		\$3,000
Task 5 Reporting		
Water Quality Objectives		\$4,000
Technical Summary Reports		\$4,000
Task 6 Communication and Extension		
Website Maintenance and Information Dissemination		\$2,500
Charity Accounting and Annual Filings		\$4,000
Visualization for Water Quality and Temperature		\$2,500
Stakeholder/Funder Relations		\$10,000
Volunteer Incentives		\$2,500
Hydrology Workshop		\$2,500
Water Governance Workshop		\$2,500
Sub-total		\$267,000
BC Ministry of Environment Funding Contribution*		-\$10,000
Total		\$257,000

* B.C. MOE has historically supported water quality monitoring at ~\$10,000 per year

4.0 SCHEDULE

The following outlines the proposed schedule for the 2024 field program and associated reporting. Other 2023 tasks are ongoing throughout the year and not shown. The final field schedule will be developed in collaboration with the OW and we will make every effort to ensure the final schedule coordinates efficiently with the OW technical staff availability.

	Q1 - 2024			Q2			Q3			Q4			Q1 - 2025		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
WQOs Monitoring		■	■	■	■	■	■	■	■	■	■	■	■		
Hydrology					■	■									
Hydrocarbon Monitoring				■	■	■									
Fish and Habitat Productivity				■	■	■									
Watershed Restoration		■	■	■	■	■	■								

5.0 REFERENCES

- Gordon and Associates Ltd. 2009. Morice Water Management Area - Multi-Year Operational Plan.
- MAL. 2007. Morice Land & Resource Management Plan, Prepared by the Ministry of Agriculture and Lands (MAL) Integrated Land Management Bureau.
- MWMT. 2015. Morice Water Monitoring Trust (MWMT) Strategic Direction - Draft.
- MWMT. 2022. Annual Monitoring Plan.
- MWMT. 2023. Annual Monitoring Plan
- MWMT. 2023. Annual Monitoring Report
- Oliver, A. 2018. Analysis of water quality monitoring in the Morice Water Management Area. Prepared for the Morice Water Monitoring Trust.
- Price, M.H.H. 2014. Upper Bulkley floodplain habitat: modifications, physical barriers, and sites of potential importance to salmonids. Smithers, BC.
- Price, M.H.H., Finnegan, B., Carr-Harris, C., Doire, J., Oliver, A., Whitmore, R., Cox-Rogers, S. 2021. Rebuilding plan for the Morice sockeye recovery unit. Smithers, BC.
- Sinclair, Cora and Moats, Daniel. 2023. Hydrocarbon Monitoring Proposal for the Morice Watershed Monitoring Trust. Hatfield Environmental Consultants.