2023-2024 ANNUAL REPORT

MACKENZIE RIVER BASIN BOARD

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"A **healthy and diverse aquatic ecosystem** for the **benefit of present** and **future generations**."
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Minister of Environment and Climate Change Canada
Minister Responsible for Canada Water Agency
Government of Canada
Ottawa, Ontario

The Honourable Rebecca Atly
Minister of Crown-Indigenous Relations
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The Honourable Rebecca Chartrand
Minister of Northern and Arctic Affairs
Government of Canada
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The Honourable Steven Guilbeault
Minister Responsible for Parks Canada Agency
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The Honourable Daryl Harrison
Minister Responsible for Saskatchewan Water Security Agency
Government of Saskatchewan
Regina, Saskatchewan

The Honourable Rebecca Schulz
Minister of Environment and Protected Areas
Government of Alberta
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The Honourable Randene Neill
Minister of Water, Land and Resource Stewardship
Government of British Columbia
Victoria, British Columbia

The Honourable Jay Macdonald
Minister of Environment and Climate Change
Government of Northwest Territories
Yellowknife, Northwest Territories

The Honourable Nils Clarke
Minister of Environment
Government of Yukon
Whitehorse, Yukon

Photo credit: eighty one images
Cover: Inuvik, NWT
Inside cover: Ice road, Mackenzie River, Inuvik, NWT

Letter of Transmittal

Honourable Ministers,

On behalf of the members of the Mackenzie River Basin Board (MRBB), it is my pleasure to submit the Annual Report of the MRBB for the fiscal year 2023-24.

The report summarizes the work of the MRBB and its committees and provides an update on the status of negotiation and implementation of Bilateral Water Management Agreements (BWMA) between individual provinces and territories. Notable highlights from the period covered in this report include:

MRBB members met over two days in Fort St. John, British Columbia, a city located in the Peace River sub-basin and traditional territory of Treaty 8 and the Dane-zaa (Beaver) speaking peoples. Much of the time together was spent laying the foundation for the next strategic plan and the following strategic themes emerged.

- Reconciliation: Advance reconciliation through meaningful work of the Board, by realigning and modernizing governance, and through braiding multiple knowledge systems.
- Climate Change: Develop an understanding of the impacts of current and future climate change at the basin scale for the purposes of adaptation.
- Communication, Education and Outreach: The Board will be a conduit for the voices of the basin so we can take action to amplify the issues at the basin scale, raise the profile of our work, and ensure ongoing relevancy.
- Strategic Investment and Partnerships: Strategically position the MRBB to shape and influence how funding and investments are distributed in the Mackenzie River Basin, including through partnerships.
- Social Health and Well Being: Build a better understanding and raise awareness of the risks to the social health and wellbeing of communities in the basin and recommend potential strategies to reduce or mitigate the risks.

Work to finalize a Strategic Plan will continue into next fiscal year.

An update to the 2021 online State of the Aquatic Ecosystem Report (SOAER) is planned for FY 2026-27. MRBB members approved a road map to guide the update, and the SOAER Committee launched several projects to address gaps and explore opportunities to better profile Indigenous Knowledge, BWMA reporting, and basin wide climate change in the next version of the SOAER.

Please do not hesitate to contact me if you have any questions about the report, the MRBB, or the work of its committees. I can be reached at Nadine.Stiller@ec.gc.ca, or through the MRBB Secretariat at MRBB-CMB@cwa-aec.gc.ca.

Sincerely,

Nadine Stiller
Chair, Mackenzie River Basin Board

Message from the Chair

Fiscal year 2023-24 was a year of water extremes. Much of the Mackenzie River Basin experienced significant drought conditions that led to low water levels and dry conditions on land. Record breaking wildfire activity was a major concern and resulted in the evacuation of numerous Indigenous communities and municipalities, including Fort Nelson and the city of Yellowknife. The impact of this prolonged drought on the aquatic environment in the Mackenzie River Basin will take years to fully understand.

The work in front of the Mackenzie River Basin Board (MRBB) in fiscal year 2023-24 was primarily focused on planning and preparing for the future. MRBB members met over two days in Fort St. John, British Columbia, a city located in the Peace River sub-basin and traditional territory of Treaty 8 and the Dane-zaa (Beaver) speaking peoples. Much of the time together was spent laying the foundation for the next strategic plan and the following strategic themes emerged:

- Reconciliation: Advance reconciliation through meaningful work of the Board, by realigning and modernizing governance, and through braiding multiple knowledge systems.
- Climate Change: Develop an understanding of the impacts of current and future climate change at the basin scale for the purposes of adaptation.
- Communication, Education and Outreach: The Board will be a conduit for the voices of the basin so we can take action to amplify the issues at the basin scale, raise the profile of our work, and ensure ongoing relevancy.
- Strategic Investment and Partnerships: Strategically position the MRBB to shape and influence how funding and investments are distributed in the Mackenzie River Basin, including through partnerships.
- Social Health and Well Being: Build a better understanding and raise awareness of the risks to the social health and wellbeing of communities in the basin and recommend potential strategies to reduce or mitigate the risks.

Strategic Plan discussions will continue with the goal of finalizing a plan in fiscal year 2024-25.

MRBB members dedicated time to learning about actions that support reconciliation. The Centre for Indigenous Environmental Resources (CIER) shared an overview of the Collaborative Leadership Initiative (CLI; at Collaborative Leadership Initiative (CLI) – yourcier.) with MRBB members at Meeting 79 (December 2023; virtual). The CLI process is focused on supporting collaboration, good working relationships and good governance. MRBB members will embark on a two-year CLI process with CIER.

This year was also an exciting step forward in the creation of the Canada Water Agency as legislation was introduced to establish the stand-alone Agency under the Minister of Environment and Climate Change. The Canada Water Agency will improve freshwater management in Canada by providing leadership, and improved coordination and collaboration with provinces, territories, and Indigenous Peoples to address freshwater challenges and opportunities.

As the MRBB positions itself to respond to future challenges and opportunities, MRBB members will consider how to approach work strategically in a time where relationships are being redefined, and climate change demands an adaptive approach.

Sincerely,

Nadine Stiller
Chair, Mackenzie River Basin Board

Message from the Executive Director

The fiscal year 2023-24 was a year of looking ahead. MRBB members initiated work on development of a Strategic Plan, the State of the Aquatic Ecosystem Report (SOAER) Committee shared a road map that will guide development of the next SOAER and the Water Quality Task Team completed work on recommendations for water quality trend assessments in the basin. I am grateful for the time and effort MRBB members, MRBB committee members and partners have dedicated to the work of the MRBB and the Mackenzie River Basin.

MRBB members approved additional funds to augment the MRBB Secretariat in 2023-24 to support the development of foundational elements for an update of the SOAER. Two individuals joined the Secretariat in 2023-24; C. Gorzitza joined as an Environment and Climate Change Canada term employee in August 2023, and N. Pysh joined the Secretariat on an Interchange from the Government of Alberta in November 2023.

The SOAER Committee continued to advance the objectives outlined in the 5-year roadmap. As part of this work, the Committee produced a SOAER Operations Document that articulates a forward-looking vision for the SOAER and establishes protocols for presenting Indigenous Knowledge and publishing updates to the online report. Several projects were initiated to address gaps and explore opportunities to better profile Indigenous Knowledge, Bilateral Water Management Agreement reporting and basin wide climate change and make recommendations to enhance future iterations of the online report.

The Traditional Knowledge and Strengthening Partnerships (TKSP) Committee focused efforts on updating the committee terms of reference and finalizing the content for a newsletter designed to share the work of the committee, and to support MRBB outreach and connection to communities in the basin. The TKSP Committee held a hybrid (virtual/in-person) meeting in the Sahtu Region (Norman Wells, NT) in February 2024. The meeting was an opportunity to reconnect and allowed meeting attendees to observe the record low water levels in the Mackenzie River.

The MRBB continued it's Knowledge Sharing series by hosting a third webinar in June 2023 with support from Environment & Climate Change Canada. This webinar focused on Research and Community based Monitoring in the Great Slave Sub-basin and is accessible via the MRBB's Youtube account: Mackenzie River Basin Board – YouTube.

In 2024-25, the MRBB Secretariat will dedicate time to supporting MRBB members in finalizing a Strategic Plan, strengthening partnerships with individuals and organizations to advance shared priorities, and advancing the development of a Statement of Work for an update to the SOAER.

Paula Siwik
Executive Director,
Mackenzie River Basin Board

Photo credit: eighty one images
Ice road to Aklavik, Mackenzie River, NWT

The Mackenzie River Basin Transboundary Waters Master Agreement

The Mackenzie River Basin Board (MRBB) acknowledges the Indigenous Peoples who live and have lived in the Mackenzie River Basin for thousands of years, since time immemorial, from the headwaters in the mountains, through the boreal forest and tundra, to the outlet at the Arctic Ocean. This report summarizes the activities of the MRBB, MRBB Committees, and MRBB Secretariat for the fiscal year from April 1, 2023 to March 31, 2024. Submission of this report fulfills one of the duties of the MRBB as outlined in the Mackenzie River Basin Transboundary Waters Master Agreement.

Background

The waters of the Mackenzie River Basin have many names. Many of the original place names of the Mackenzie River Basin have been changed. Other place names retain a connection to their root, but the meaning, spelling or pronunciation have changed. The MRBB Secretariat has included Indigenous place names, found in the public realm, as one way to start to acknowledge the rich history of the basin. The sources used are listed in Appendix I. Including Indigenous place names in MRBB documents is a work in progress, and there are many place names missing from this report. MRBB members are aware that some Indigenous place names may refer to a specific location, and not an entire river, and that there are often names in multiple languages for the same features. Going forward, the MRBB will endeavor to include more Indigenous place names in MRBB reports. Please send comments edits and corrections to the MRBB Secretariat (mrbb-cmb@cwa-aec.gc.ca).

The Mackenzie River is Dehcho in Dene Zhatıé, Deho in Dene Kədə́, Fleuve Mackenzie or Grande Rivière in French, Kuukpak in Inuinnaqtun, and Nagwichoonjik in the Gwich'in language. Much of the water in that mighty river starts in the mountains. The headwaters of the Unchaga (Dane-Zaa language; Méwicitón (Cree language); Ta'che'ko (Dene language), Peace), and atihpaskwow ((Cree language), Athabasca) rivers flow northeast from the Rocky Mountains toward the Peace-Athabasca Delta (PAD). The PAD consists of the convergence of the Peace River delta from the north and the Athabasca River delta from the south that come together between the western end of sakahian atih paskwaw (Cree language; Kaí taile tué (Dene language), Lake Athabasca), and Lake Claire to form the delta's myriad of lakes, wetlands and distributaries. Water generally flows north out of the PAD to the Peace River and, at the confluence of the Rivière des Rochers and the Peace River, the water continues its journey north as the Slave River. The Slave River then flows into Tu Nedhé ((Dënesųłıné Yatıé), Tucho (Dene Zhatıé) Great Slave Lake), North America's deepest lake, where it mixes with other tributaries such as the Hay River, Lockhart River (Ts'ąkuı Thedá Dezé in the Dënesųłıné Yatıé from the Thaıdene Nëné area), and Taltson River. The Mackenzie River flows out of Great Slave Lake and the water continues its journey north towards the Arctic Ocean. On the way, it is joined by the Liard River (Nêt'il Tué refers to a narrow spot near the headwaters of the Liard River in the Kaska language), the Teetł'it Gwinjik ((Gwich'in language), Peel River), and water from Sahtú ((Sahtúǫt'ı̨ne Kədə́), Great Bear Lake), the largest lake entirely in Canada. The water of the Mackenzie River ends its journey at the Mackenzie River Delta (Ehdiitat (Gwich'in language)), where it meets the Beaufort Sea.

The governments of Canada, British Columbia, Alberta, Saskatchewan, Northwest Territories and Yukon (the Parties) signed the Mackenzie River Basin Transboundary Waters Master Agreement (the Master Agreement) to address the fundamental issue of water management cooperation. The Master Agreement came into effect on July 24, 1997. The purpose of the Master Agreement is to establish common principles for the cooperative management of the Aquatic Ecosystem of the Mackenzie River Basin (Figure 1), to establish an administrative mechanism to facilitate the application of the principles set forth in the Master Agreement, and to make provisions for Bilateral Water Management Agreements that address inter-jurisdictional water quality, quantity and related issues.

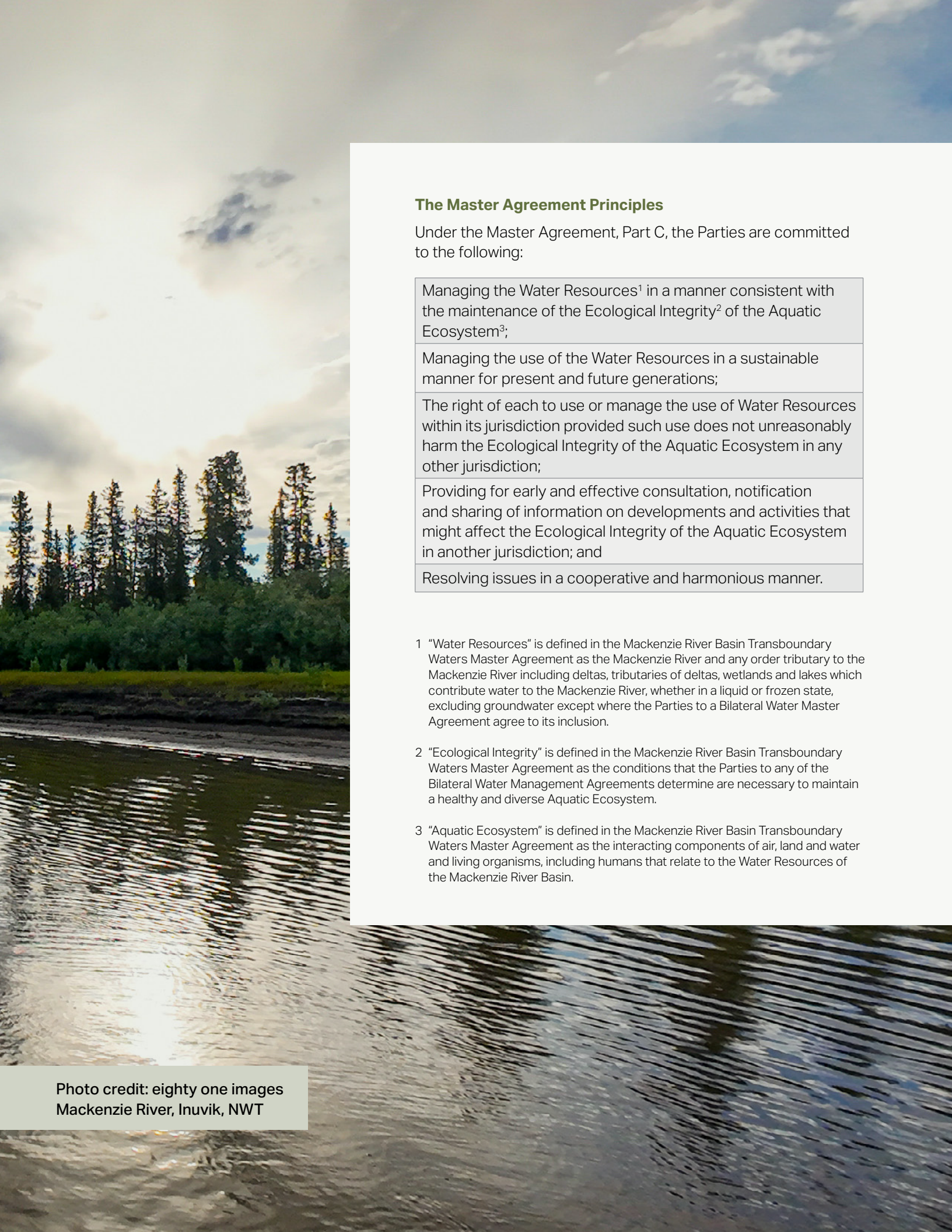


Photo credit: eighty one images
Mackenzie River, Inuvik, NWT

The Master Agreement Principles

Under the Master Agreement, Part C, the Parties are committed to the following:

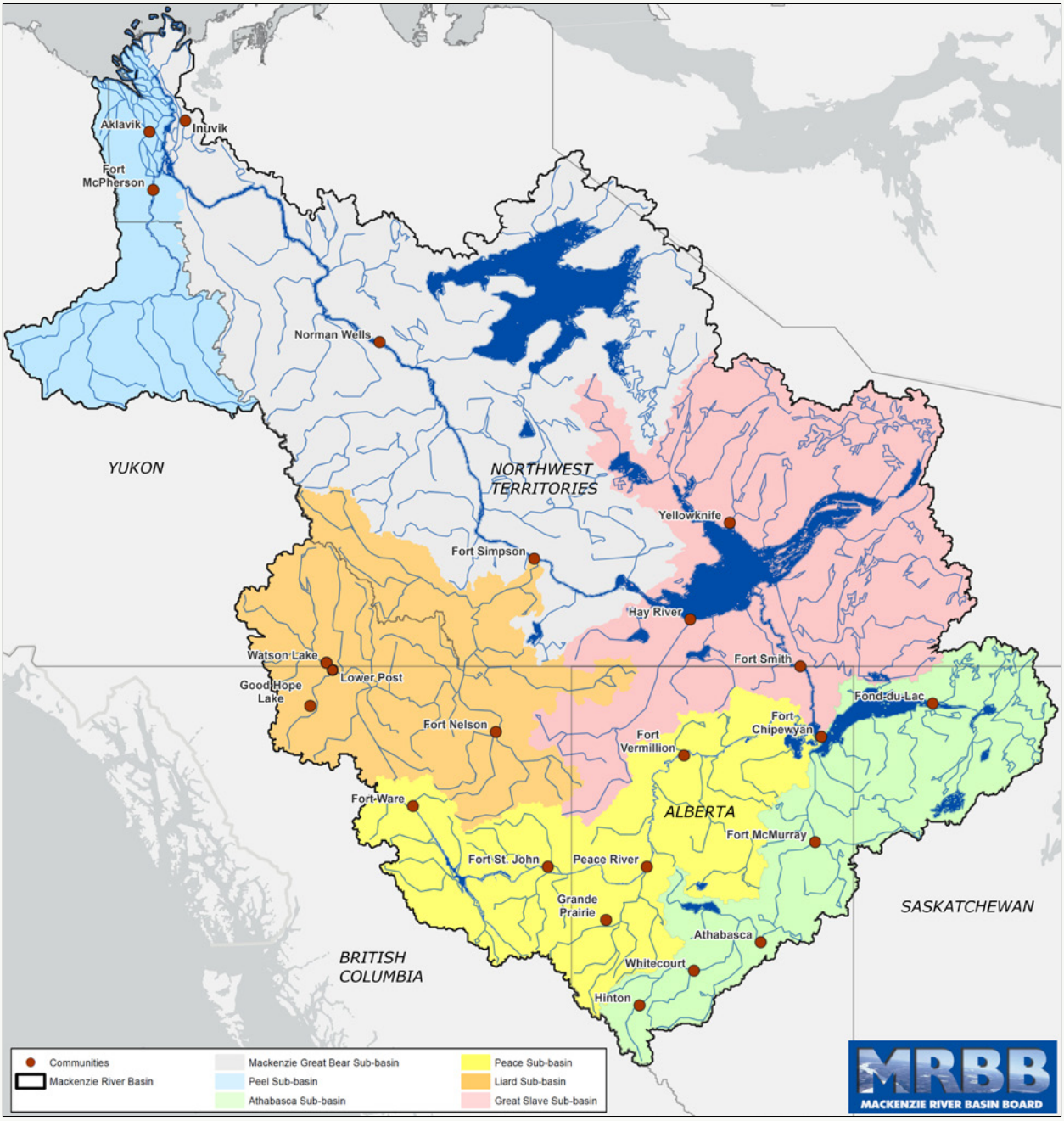
Managing the Water Resources[1] in a manner consistent with the maintenance of the Ecological Integrity[2] of the Aquatic Ecosystem[3];
Managing the use of the Water Resources in a sustainable manner for present and future generations;
The right of each to use or manage the use of Water Resources within its jurisdiction provided such use does not unreasonably harm the Ecological Integrity of the Aquatic Ecosystem in any other jurisdiction;
Providing for early and effective consultation, notification and sharing of information on developments and activities that might affect the Ecological Integrity of the Aquatic Ecosystem in another jurisdiction; and
Resolving issues in a cooperative and harmonious manner.

1 "Water Resources" is defined in the Mackenzie River Basin Transboundary Waters Master Agreement as the Mackenzie River and any order tributary to the Mackenzie River including deltas, tributaries of deltas, wetlands and lakes which contribute water to the Mackenzie River, whether in a liquid or frozen state, excluding groundwater except where the Parties to a Bilateral Water Master Agreement agree to its inclusion.

2 "Ecological Integrity" is defined in the Mackenzie River Basin Transboundary Waters Master Agreement as the conditions that the Parties to any of the Bilateral Water Management Agreements determine are necessary to maintain a healthy and diverse Aquatic Ecosystem.

3 "Aquatic Ecosystem" is defined in the Mackenzie River Basin Transboundary Waters Master Agreement as the interacting components of air, land and water and living organisms, including humans that relate to the Water Resources of the Mackenzie River Basin.

Figure 1: The Mackenzie River Basin



The Mackenzie River Basin Board

Structure and Operations

The Mackenzie River Basin Board (MRBB) was established under Part D Section 1.a of the Master Agreement. The MRBB is assigned to administer the terms of the Master Agreement and to serve as a forum where all participating governments can cooperate in an effort to maintain ecological integrity.

The MRBB has no more than thirteen members. Three members, one each from Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Environment and Climate Change Canada (ECCC), and Parks Canada Agency (Parks), represent the Government of Canada. Each of the 5 provincial and territorial governments in the basin appoints one Indigenous member and one government member. This inter-jurisdictional partnership, the presence of members representing Indigenous interests alongside representatives of the governments, and the commitment by all Parties to maintain ecological integrity make the MRBB unique.

Part D Section 2.d of the Master Agreement establishes an administrative arm for the MRBB called the Secretariat. The Secretariat is tasked to carry out the programs, administrative duties, and investigations required by the MRBB. Currently, the MRBB Secretariat consists of one permanent staff member housed within ECCC.

The MRBB is not a regulatory or licensing board and has no legal or policy basis to regulate resource use in any of the jurisdictions. However, the MRBB may inform regulatory decisions made in the various jurisdictions by providing factual material, such as the State of the Aquatic Ecosystem Report (SOAER), or by participating in and influencing pre- or post-regulatory processes, such as planning, regional or cumulative environmental impact assessment processes. The work of the MRBB is directed by the 19 duties outlined in the Master Agreement and the nine goals adopted by the MRBB in 2010 (Appendix II).

The MRBB conducts business, shares information, and provides guidance to committees and the Secretariat through a series of formal meetings. The ECCC Board Member has chaired MRBB meetings by consensus of the other Parties since the Board's inception. In fiscal year 2022-23, MRBB members voted to change the number of in person meetings from two per year to one (meeting 74). In 2023-24, virtual meetings were held in May, June and December, and an in person/virtual hybrid meeting was held in Fort St. John in September, 2023.

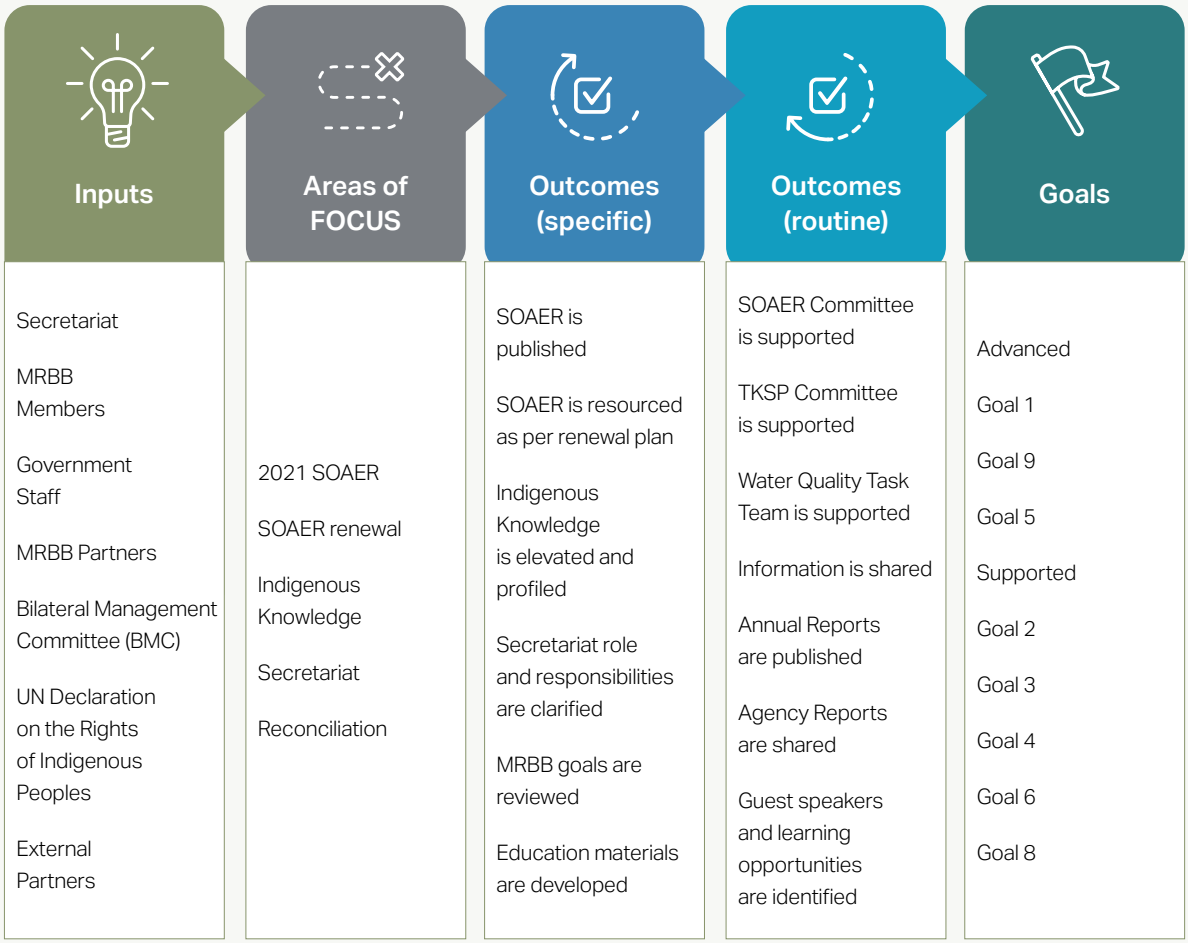
Finances

Under the Master Agreement, ECCC is responsible for managing the expenditures of the Board, the costs of which are shared equally by the signatories to the agreement. MRBB costs include staffing and operation of the Secretariat, ensuring effective Indigenous participation by paying MRBB-related expenses of Indigenous members, and tendering and managing contracts that progress MRBB business when required. The MRBB is currently in a strong financial position. Please refer to Appendix III for the 2023-24 budget summary.

2021-23 Interim Strategic Plan

In 2019-20, the MRBB directed that an independent strategic and operational review of the MRBB be undertaken to ensure that the Board is fulfilling its duties in an effective and efficient manner. The Secretariat received the report entitled "Strategic and Operational Review of the Mackenzie River Basin Board" on March 31, 2020 and used surveys, small group discussion and dedicated time during meetings to prioritize report recommendations. MRBB members prioritized recommendations that touched on the work and duties of the Secretariat, State of the Aquatic Ecosystem reporting, and the sharing and inclusion of Indigenous knowledge. These themes formed the foundation of a two-year interim Strategic Plan that was approved at the fall 2021 meeting.

Figure 2: Logic model for 2021-23 Interim Strategic Plan



The plan is founded on high priority recommendations from the 2020 Strategic and Operational Review Report, and an interest in advancing reconciliation at the MRBB table.

2023 – 24 Highlights

Climate change is intensifying drought cycling in the Mackenzie Rivers Basin with many rivers experiencing record low water levels combined with dry conditions on the land.

In the fiscal year 2022-23, MRBB members and committees supported many of the outcomes of the interim 2021-23 Strategic Plan. Details of committee activity are included in the committee summaries later in the report.

In fiscal year 2023-24, MRBB members dedicated time to considering the future of the MRBB and laid the foundations for a robust, forward looking Strategic Plan at an in-person meeting in Fort St. John, British Columbia, a city located in the Peace River sub-basin and traditional territory of Treaty 8 and the Dane-zaa (Beaver) speaking peoples. The meeting included brainstorming activities and moderated discussion. The following strategic themes emerged:

- **Reconciliation:** Advance reconciliation through meaningful work of the Board, by realigning and modernizing governance, and through braiding multiple knowledge systems.
- **Climate Change:** Develop an understanding of the impacts of current and future climate change at the basin scale for the purposes of adaptation.
- **Communication, Education and Outreach:** The Board will be a conduit for the voices of the basin so we can take action to amplify the issues at the basin scale, raise the profile of our work, and ensure ongoing relevancy.
- **Strategic Investment and Partnerships:** Strategically position the MRBB to shape and influence how funding and investments are distributed in the Mackenzie River Basin, including through partnerships.
- **Social Health and Well Being:** Build a better understanding and raise awareness of the risks to the social health and wellbeing of communities in the basin and recommend potential strategies to reduce or mitigate the risks.

MRBB members plan to finalize the Strategic Plan text in fiscal year 2024-25 and then work to develop publicly available materials to be shared with decision makers in the basin.

MRBB members continued to dedicate time toward learning about actions that support reconciliation. The Centre for Indigenous Environmental Resources (CIER) shared an overview of the Collaborative Leadership Initiative (CLI; at Collaborative Leadership Initiative (CLI) - yourcier.) with MRBB members at Meeting 79 (December 2023; virtual). The CLI process is focused on supporting collaboration, good working relationships and good governance. MRBB members will embark on a Collaborative Leadership Initiative process with the centre.

Agency Reports and Information Sharing

Environment and Climate Change Canada supported one webinar in 2023-24 that focused on aquatic research and monitoring in the Mackenzie River Basin. The Knowledge Sharing Series topics are informed by information gaps in the 2021 SOAER. Recordings of the presentations are available on the MRBB YouTube Channel.

As per prior notification provisions within the Master Agreement, MRBB members shared information on issues and activities in the Mackenzie River Basin at both the spring and fall meetings. Written agency reports from government agencies were presented at the fall meeting. A common theme among all the 2023 agency reports is climate change with agencies focused on planning and resiliency. Links and notable highlights from the agency reports are shared below and copies of the 2023 Agency Reports can be found on the MRBB website under the resources tab (Agency Reports – Mackenzie River Basin Board (mrbb.ca)).

Government of British Columbia

- Watershed Security Fund: The Province and the Water Table announced an unprecedented $100 million investment in healthy watersheds. Funding has been transferred to the Real Estate Foundation of B.C. (REFBC). REFBC will work with the Water Caucus, First Nations delegates to the Water Table, to co-develop the long-term operation of the Watershed Security Fund: https://watershedsecurityfund.ca/
- BC experienced unprecedented, severe drought levels in 2023 that required a regional response to level 4 and 5 drought conditions, which are persisting in parts of the province: BC Drought Information Portal
- Progress towards a B.C. Flood Strategy and Flood Resilience Plan continued through meaningful and collaborative input from Indigenous communities, local governments and various other stakeholders. B.C. Flood Strategy - Province of British Columbia
- BC Hydro Site "C" Project update: Home page | Site C

Government of Yukon

- The Yukon-British Columbia BMC has been working alongside the British Columbia-Northwest Territories BMC to develop a learning plan for the Liard River. The committees jointly decided to develop the learning plan following the Land and People's Relationship model developed by Elder Copper Joe Jack. As part of the model process, in May 2023 the BMCs gathered 13 Elders from across the Liard Basin to share knowledge and concerns about the Liard River. This event was seen as a historic event and resulted in a "What We Heard" report of Indigenous Knowledge shared. This knowledge will provide a foundation for the next steps in the learning plan process: Liard River Basin Elders Circle What We Heard Report | Mackenzie River Basin Board
- The 2023 Yukon State of the Environment Report is available online: Yukon state of the environment report 2023 | Yukon.ca
- Flood hazard mapping in high-risk communities continues including a study planned to begin in 2026 for the community of Upper Liard.
- Implementation of the Peel Watershed Regional Land Use Plan continues and 55% of the watershed, including four tributaries to the Peel River, now has the highest level of protection as Special Management Areas: Peel Watershed Regional Land Use Plan | Yukon.ca
- In the Liard Watershed, three new groundwater monitoring wells around Watson Lake were added to Yukon Observation Well Network in 2022 as part of a collaborative project between the Government of Yukon, Liard First Nation, Dena Kayeh Institute, Town of Watson Lake, Geological Survey of Canada, Yukon University and WSP-Golder Associates that builds on the 2020 Liard River Basin Transboundary Aquifer Assessment: Yukon Observation Well Network: an overview | Yukon.ca

Government of Northwest Territories

- Annual progress reviews of the NWT Water Stewardship Strategy (WSS) Action Plan 2021-2025 can be found here: NWT Water Stewardship
- The GNWT continues to work closely with the WSS Indigenous Steering Committee (ISC) to guide the implementation of WSS Action Plan and share information on implementation on bilateral water management agreements. The ISC consists of representatives of NWT Indigenous governments and Indigenous organisations.
- The GNWT developed a five year plan to establish, implement, and strengthen protected areas and conservation areas across the NWT. Healthy Land, Healthy People: GNWT Priorities for Advancement of Conservation Network Planning 2023-2028 outlines GNWT's priorities for developing and managing protected and conserved areas and supporting broader conservation and stewardship initiatives.
- Implementation of the 2030 NWT Climate Change Strategic Framework and associated 2019-2024 Action Plan are underway and a fourth annual report will be released in winter of 2023/24. The first NWT Climate Risks and Opportunities assessment is underway and will help inform water related priorities in the NWT in the context of a changing climate.
- The GNWT is working with 21 communities to monitor water quality at over 40 sites on 24 NWT rivers and lakes. Data collected through the Community-based Monitoring Program is available online on Mackenzie DataStream.
- The GNWT is working with six of the ten NWT communities at highest risk of flooding to update their flood inundation and flood hazard maps.
- The 14th Annual Water Stewardship Strategy Implementation Workshop occurred October 25-26, 2023, at the Chief Drygeese Centre in Dettah. The theme of the workshop, "Inspiring Our Future Water Leaders", focused on NWT future water leaders' engagement and capacity building by bringing water partners together for a collaborative approach and knowledge sharing for the 14th time since the release of the Water Strategy.

Government of Alberta

- Development of the Environment and Protected Areas (EPA) Digital Regulatory Assurance system continues with the fall 2023 release of an incident response management component to support the compliance assurance program: Digital Regulatory Assurance System | Alberta.ca
- The Alberta Energy Regulatory continues to investigate and respond to two incidents at the Imperial Oil Kearl Oil Sands Project. Ongoing Investigations | Alberta Energy Regulator and Tailings Management | Alberta Energy Regulator
- Alberta recently completed two new surface water quality management frameworks for the North Saskatchewan and Upper Athabasca regions and continues to develop biodiversity indicators and implement the Lower Athabasca Regional Plan and the South Saskatchewan Regional Plan: Upper Athabasca Region surface water quality management framework for the Upper Athabasca River - Open Government
- Major initiatives underway include Alberta Irrigation Modernization, capital rehabilitation and maintenance of $10.5 billion of provincially owned water management infrastructure, Alberta Innovates Water Innovation Program, Environmental Impact Assessments for numerous projects, the Climate Resilience Capacity Building Program, Adaptation Resilience Training, Provincial Flood Damage Assessments and Flood Hazard mapping, and the work of the Alberta Water Council, Watershed Planning and Advisory Councils, and Water Management Partnerships.

Environment and Climate Change Canada

- Implementation of the Wood Buffalo National Park Action Plan continued through the design of proposed control structures to restore ecological integrity to the Peace Athabasca Delta, and progress was made towards a Strategic Flow Release Protocol and Environmental Flows Framework: Wood Buffalo National Park World Heritage Site Action Plan - Wood Buffalo National Park.
- ECCC Freshwater Quality Monitoring and Surveillance program provides water quality monitoring through a risk based adaptive management program. Data relevant to the MRBB are published for the Lower Mackenzie River Basin, the Peace Athabasca River Basin, Canada-BC and the Oil Sands Region: Water: Freshwater quality | Canada.ca
- ECCC has liaised and reviewed protocols with Alberta in response to the ongoing risk of Whirling disease; the Whirling Disease Risk Zone map lists the Athabasca and Peace River watersheds as High to moderate risk for Whirling disease.
- ECCC continues to monitor water level and/or flow at 338 hydrometric stations in the Mackenzie River Basin through the Water Survey of Canada (WSC). Real- time hydrometric data and historical hydrometric data are available online. ECCC currently operates 28 stations throughout the Mackenzie River Basin as part of the national long term water quality network: Water Level and Flow | Environment Canada

Photo credit: eighty one images
Mackenzie River, Inuvik, NWT

Bilateral Water Management Agreements

The Master Agreement makes provisions for provinces and territories to complete Bilateral Water Management Agreements (BWMAs). The BWMAs guide how the jurisdictions work together to identify risks to water quality, quantity, and aquatic ecosystem health, and facilitate joint learning that informs bilateral water management in the Mackenzie River Basin.

British Columbia and Northwest Territories completed a BWMA in October 2015.

- British Columbia and Northwest Territories' Bilateral Management Committee (BMC), which includes territorial and provincial government members and Indigenous members, administers the British Columbia/Northwest Territories BWMA.
- The focus in 2023-24 has been to work on a multilateral approach with the governments of BC, Yukon and NWT and the Indigenous governments in the Liard Watershed to develop a Learning Plan for the Liard Watershed. An Elders Circle was held in May 2023 as the first step in this process, and a What We Heard Report can be accessed from the MRBB website (Liard River Basin Elders Circle What We Heard Report | Mackenzie River Basin Board).
- The British Columbia/Northwest Territories BWMA applies to all transboundary waters shared directly between British Columbia and Northwest Territories in the Mackenzie River Basin, primarily the Liard Watershed.

Alberta and Northwest Territories completed a BWMA in March 2015.

- Alberta and Northwest Territories are implementing the terms of the BWMA. The Parties have established a Bilateral Management Committee to administer the agreement, as well as technical committees to support the agreement. Annual implementation reports and other bilateral technical reports are available on the MRBB website.
- The GNWT is working with the Government of Alberta and the Alberta Geological Survey to gain a better understanding of the aquifer systems in the Alberta-NWT transboundary region. In the past year, an improved and unified geological model of the Alberta-NWT transboundary region was completed, and regional geological cross sections through the AB-NWT border showing sediment thickness and bedrock geometry were developed.
- A biological monitoring program is being undertaken as part of the implementation of the Alberta/Northwest Territories BWMA. In 2023, small-bodied fish were collected on the Slave River and benthic invertebrates were collected on the Slave and Hay rivers.
- An Alberta/Northwest Territories BMC Advisory Circle was established to guide the co-development of a draft Traditional Knowledge (TK) framework that will chart a course for meaningful and respectful inclusion of TK into the BWMA implementation (Appendix C). The Advisory Circle met several times in 2023-24 to advance the development of a Wayfinding Guide and signed a "Declaration" as a statement of intention towards the development of the Guide.
- Additional projects taking place under the Alberta/Northwest Territories BWMA include a multiyear water quality monitoring in the Hay River watershed in partnership with UofA and and a Kátł'odeh/Hay River Basin Indigenous community-based monitoring program focused on building capacity and addressing questions about the health of the aquatic ecosystem in the basin.
- The Alberta/Northwest Territories BWMA applies to all transboundary waters shared by Northwest Territories and Alberta in the Mackenzie River Basin.

Northwest Territories and Yukon updated a BWMA for the Peel River/Mackenzie Delta watersheds in 2022 and signed a new BWMA for their shared portion of the Liard River Basin in 2022.

- The original Yukon/ Northwest Territories Transboundary Water Management Agreement was signed in 2002 and focused solely on the Peel/ Mackenzie Delta sub-basin. This was the first Bilateral Agreement completed under the Mackenzie River Basin Transboundary Waters Master Agreement.
- In 2022, the governments of Yukon and Northwest Territories signed an updated Agreement for the Peel/Mackenzie Delta sub-basin, and a new Agreement for the 64km^2 of the Liard Watershed, which is not covered by either of the British Columbia/ Yukon or British Columbia/ Northwest Territories BWMAs.
- The first Bilateral Management Committee (BMC) meeting for the Peel/Mackenzie Delta was held virtually in June 2023, followed by an in-person meeting in Inuvik in October 2023.

British Columbia and Yukon signed a BWMA for the Liard Watershed in March 2017.

- British Columbia and Yukon have established a Bilateral Management Committee (BMC), which includes territorial and provincial government members and Indigenous members, to administer the agreement. A Terms of Reference has been finalized, the methodology used for classification has been updated, and the BMC has prioritized the development of a Learning Plan for the Liard Watershed.
- The focus in 2023-24 has been to work on a multilateral approach with the governments of BC, Yukon and NWT and the Indigenous governments in the Liard Watershed to develop a Learning Plan for the Liard Watershed. An Elders Circle was held in May 2023 as the first step in this process, and a What We Heard Report can be accessed from the MRBB website (Liard River Basin Elders Circle What We Heard Report).
- The British Columbia/Yukon BWMA applies to all transboundary waters shared between British Columbia and Yukon in the Mackenzie River Basin, primarily the Liard Watershed.

British Columbia and Alberta BWMA negotiations are ongoing.

- British Columbia and Alberta have negotiated a BWMA in principle and intend to coordinate engagement on the draft prior to ratifying it. BWMA engagement has been postponed pending the outcomes of British Columbia internal engagement work on water management with First Nations in British Columbia. Regular bilateral discussions are on-going.
- The British Columbia/Alberta BWMA applies to all transboundary waters shared between British Columbia and Alberta in the Mackenzie River Basin.

Alberta and Saskatchewan BWMA negotiations are ongoing.

- Alberta and Saskatchewan have shared information, discussed their respective interests, and discussed the components for each section of the BWMA. More detailed discussions on the BWMA contents began in September of 2022.
- The Alberta/Saskatchewan BWMA will apply to all transboundary waters shared by Saskatchewan and Alberta in the Mackenzie River Basin.

Saskatchewan and Northwest Territories BWMA negotiations are ongoing.

- Saskatchewan and the Northwest Territories have shared information, discussed their respective interests, and discussed the components for each section of the BWMA. Technical teams are reviewing the draft appendices.
- The Saskatchewan/Northwest Territories BWMA will apply to all transboundary waters shared by Saskatchewan and the Northwest Territories in the Mackenzie River Basin.

Looking Forward

- The MRBB will look for linkages between its work and the work completed for the BWMAs. Information collected under the BWMAs could support State of the Aquatic Ecosystem Reporting.

MRBB Committees

Table 1: MRBB Committees

Committees	Responsibilities
State of the Aquatic Ecosystem Report (SOAER) Steering Committee	Prepare and review SOAER reports
	Determine options for the format of the SOAER
	Establish process for the report preparation and subsequent updates
	Make recommendations on the report content
Traditional Knowledge and Strengthening Partnerships (TKSP) Steering Committee	Assist the MRBB in establishing common principals for the cooperative management of the aquatic ecosystem in the Mackenzie River Basin
	Recognize the inherent value of Indigenous Knowledge and governance in MRBB activities and encourage the meaningful integration of Indigenous Knowledge and effective governance practices into the MRBB's activities
	Provide an advisory function to the MRBB with respect to Indigenous partnership functions and activities
Water Quality Task Team (WQTT)	Provide a forum for communication and information exchange on water quality
	Recommend basin-wide agreed to approaches to assess water quality
	Develop reporting tools that support the SOAER and BWMA annual reporting requirements

State of the Aquatic Ecosystem Report Committee

In the 2023-24 fiscal year, the State of the Aquatic Ecosystem Report (SOAER) Steering Committee continued to advance the objectives outlined in the 5-year roadmap. The Roadmap outlines, at a high level, the groundwork and process for updating the online SOAER and enhancing the next iteration of the report, thereby ensuring it remains an effective and representative resource for the people of the basin and decision-makers.

To achieve several of the initial objectives, the committee developed a SOAER Operations Document. This document articulates a forward-looking vision for the SOAER, establishes protocols and guidance for including and presenting Indigenous Knowledge within the report and establishes approval protocols for publishing different updates to the online report.

Beginning in September 2023, committee meetings shifted from roughly quarterly to every two months. Committee members discussed progress, shared updates, and refined their approach to advancing the 5-year roadmap. The committee chair and the MRBB Secretariat provided updates to MRBB members, ensuring alignment and transparency in their activities.

Looking Forward

Leveraging the 5-year roadmap, the Operations document, direction from the Board, and feedback from previous in-person meetings and workshops, the committee initiated several projects to address gaps in our reporting and to enhance future iterations of the online report. These projects aim to explore:

- Integrating reporting and data from the different ongoing Bilateral Water Management Agreements.
- Increase Indigenous Knowledge sources through publishing support for Indigenous communities and organizations and improved methodologies.
- Exploring methodologies for collaborative summary authorship between science and Indigenous Knowledge experts.
- Increasing the presence of climate-specific reporting in the SOAER.

Photo credit: eighty one images
Inuvik, NWT

Traditional Knowledge and Strengthening Partnerships (TKSP) Steering Committee

The TKSP Committee was able to meet once virtually in November of 2023, and organized an in-person/virtual hybrid meeting in Norman Wells in February 2024. This meeting was the first of what could become regular visits to the home communities of committee members. While some members were unable to travel, the value of being in community, being hosted by a committee member, and having an opportunity to connect with community members about our work was immeasurable.

Key Activities

After working through the previous year to develop a workplan, the TKSP Committee spent this year activating key activities related to our two work streams: Policy & Administrative Guidance and Communication & Awareness.

Policy & Administrative Guidance

At the February meeting, members discussed the idea of a declaration or statement on reconciliation for the committee and the MRBB. Committee members gave direction to the MRBB Secretariat to draft some content based on desktop research and the discussion notes. This activity is planned for 2024-25.

Communication & Awareness

A committee bulletin was finalized in March of 2024. The newsletter describes the purpose of the MRBB, the TKSP Committee and the SOAER and is intended to be a resource for communities across the Mackenzie River Basin. It includes thoughts from our committee members and a description of the work we are undertaking over the coming year. We hope to publish a newsletter annually. Committee members hosted an open house in Norman Wells for people to learn more about the work of the committee and the MRBB. The open house was attended by several interested community members and as a result the group was invited to meet with the town Mayor. This is a great example of knowledge sharing and was a great opportunity to connect with basin constituents who might not normally engage with the work of the MRBB.

Looking Ahead

2023-2024 was a challenging year logistically but the committee succeeded in making good progress on several key objectives. With the bulletin now available, the committee looks forward to identifying other opportunities to share the work of the committee and the MRBB across the basin, and to continue work on reconciliation actions for the Board.

Water Quality Task Team

The mandate of the Mackenzie River Basin Board (MRBB) Water Quality Task Team (WQTT) is to promote greater coordination and efficiency of tasks related to water quality to achieve the principles of the Mackenzie River Basin Transboundary Waters Master Agreement. The current tasks undertaken by the WQTT include 1) providing a forum for communication and information exchange on water quality, 2) recommending basin-wide agreed-to approaches to assess water quality, and 3) developing reporting tools that support the SOAER and bilateral water management agreement annual reporting requirements.

Following a successful inaugural face-to-face meeting of the team, the committee used the early portion of the fiscal year to revise and refine the document outputs from their sessions together. The committee developed consolidated drafts of trend analysis guidance and consulted with water quality monitoring and trend reporting expertise from Environment and Climate Change Canada (ECCC). The committee also hosted a presenter from British Columbia and learned about the development of water quality objectives with Indigenous partners in BC watersheds. Finally, the group explored emerging contaminants and the impacts they may have on water quality within the basin. This work supported committee members as they worked towards a consensus on water quality trend analyses guidance.

Looking Ahead

The Water Quality Task team work plan and terms of reference have been refreshed and are now used in practice with the team. The water quality trend guidance will be finalized soon, and the team is actively planning a new basin-wide project where the guidance will be applied on a selection of sites within the Mackenzie River Basin, with the overall goal of contributing to the next SOAER. That project is being led by the Governments of the Northwest Territories and Alberta and is funded through the Alberta/Northwest Territories BWMA funds. The committee is planning a second face-to-face meeting, where the team will explore emerging water quality issues in the basin, such as water temperature analyses. The WQTT is now receiving frequent updates on the planning process for the next SOAER and is also preparing to deliver its annual update to board members in the fall of 2024. We look forward to organizing a meeting with the Traditional Knowledge and Strengthening Partnerships Committee in the upcoming year and will devote time at our next face-to-face meeting and draft a proposed agenda for that meeting.

Appendix I: Publicly available Places Names included in the report

Table 2: Indigeous Place Name Sources

Location (Sub-basin)	River Names – based on publicly available information	Sources
Athabasca sub-basin	1) Athabasca River, Rivière Athabasca 2) Athabasca River, Aeapaskā (possible origin of the common name) 3) Atihpaskwow (Cree language), sakitawa (Cree language), Athabasca zahe' (Dene language) 4) Lake Athabasca, sakahian atih paskwaw (Cree language), Kaí taile tué (Dene language),	1) Canadian Geographical Names Database 2) Traditional Knowledge Overview for the Athabasca River Watershed (Parlee 2011) 3) Treaty 8 Atlas: Treaty8 Place Names 4) Treaty 8 Atlas: Treaty8 Place Names
Peace sub-basin	5) Peace River, Rivière de la Paix 6) Peace River, Unjigah, Thû-tcî-Kah, isetaieka, Unchagah, Unchaga 7) Peace River, Méwicitón (Cree language), Ta'che'ko (Dene language)	5) Canadian Geographical Names Database 6) BC Geographical Names (note: names were not attributed to a language) 7) Treaty 8 Atlas: Treaty8 Place Names
Liard sub-basin	8) Nêt'il Tué refers to a narrow spot near the headwaters of the Liard River (Kaska Language)	8) BC geographical names
Great Slave sub-basin	9) Lockhart River, Ts'ąkuı Thedá Dezé (Dënesųłıné Yatıé) 10) Great Slave Lake, Tu Nedhé (Dënesųłıné Yatıé) 11) Great Slave Lake, Tucho (Dene Zhatıé)	9) Thaıdene Nëné badı xá (Working with Thaıdene Nëné): Thaıdene Nëné Relationship Plan, the management plan for Thaıdene Nëné – Draft 10) Land of the Ancestors - Land of the Ancestors 11) Yellowknife hotel with 'slave' in name stokes conversation on reclaiming Indigenous names | CBC News
Great Bear Mackenzie sub-basin	12) Mackenzie River, Dehcho (Dene Zhatıé), Deho (Dene Kədá), Fleuve Mackenzie, Grande Rivière, Kuukpak (Inuinnaqtun), Nagwichoonjik (Gwich'in language) 13) Nagwichoonjik (Gwich'in language)	12) Canadian Geographical Names Database 13) Gwich'in Place Names Atlas (Gwich'in Place Names Atlas).
Peel sub-basin	14) Peel River, Teetł'it Gwinjik (Gwich'in language)	14) Gwich'in Place Names Atlas and Yukon Tourism and Culture, Yukon Gazetter 2022
Great Bear Lake	15) Sahtú (Sahtúǫt'ı̨nę Kədá)	15) History, Culture and Language of Délı̨nę | Délı̨nę
Mackenzie Delta	16) Ehdiitat	16) Gwich'in Place Names Atlas (Gwich'in Place Names Atlas).

The MRBB Secretariat has shared some Indigenous place names, found in the public realm, as one way to acknowledge the rich history of the basin. Including Indigenous place names in MRBB documents is a work in progress, and there are many place names missing from this report. MRBB members are aware that some Indigenous place names may refer to a specific location, and not an entire river. Going forward, the MRBB will endeavor to include more Indigenous place names in MRBB reports. Please send comments edits and corrections to the MRBB Secretariat (mrbb-cbm@cwa-aec.gc.ca).

Thank you to the Gwich'in Department of Cultural Heritage for the work that went into developing the Gwich'in Place Names Atlas (Gwich'in Place Names Atlas), advice and corrections, and permission to include some the place names on that site in this report.

Thank you to K. Ahkimnachie for the work that went into developing the Treaty 8 Atlas (Treaty8 Place Names) and permission to include some place names on that site in this report.

Thank you to the Thaıdene Nëné Department, Łutsël K'é Dene First Nation for the work that went into Thaıdene Nëné badı xá (Working with Thaıdene Nëné): Thaıdene Nëné Relationship Plan, the management plan for Thaıdene Nëné – Draft, and The Land of the Ancestors website, and the advice, corrections and permission to use place names from those sources in this report.

Thank you to the Délįnę Got'įnę Government for the work that went into developing the History, Culture and Language of Délįnę website, and for permission to use a place name from that site in this report.

Appendix II: MRBB Duties and Goals

Table 3: MRBB Duties

Duty	As per the Mackenzie River Basin Transboundary Waters Master Agreement
	The Board shall act to carry out the purposes of this Agreement in accordance with the principles stated herein by:
a	providing a forum for communication, coordination, information exchange, notification and consultation
b	identifying, recommending and implementing such studies, investigations, programs and activities as are required to carry out this Agreement
c	considering the needs and concerns of Indigenous peoples through: (i) the provision of culturally appropriate communication, and; (ii) the incorporation of their Traditional Knowledge and values
d	establishing and directing the activities of the Secretariat, which shall carry out the programs approved by the Board and shall comprise such personnel as the Board may direct
e	recommending uniform objectives or guidelines for the quality and quantity of the Water Resources
f	establishing and directing technical committees which may be required to support the work of the Board
g	encouraging consistent monitoring programs
h	monitoring the progress of implementing the Bilateral Water Management Agreements
i	administering the dispute resolution process set out in Part E
j	meeting at least annually
k	reviewing this Agreement at least once every three years and proposing amendments to the Parties
l	creating a budget which shall include: (i) within two years of the signing of this Agreement, developing a five-year expenditure plan; (ii) establishing the annual Board budget within the limits approved by the Parties, and (iii) authorizing expenditures within the limits of approved budgets including, inter alia, expenditures for the staffing and operation of the Secretariat
m	as required, engaging agencies of the Parties, Indigenous organizations, or consultants, to undertake such assignments as the Board requires

n	submitting to the Ministers an annual report, within six months after the end of the Fiscal Year
o	submitting to the Ministers a report on the state of the Aquatic Ecosystem within 5 years after the end of the first Fiscal Year and every 5 years thereafter
p	keeping complete records of all expenditures made pursuant to this Agreement, supporting such expenditures with proper documentation, and making these records and documents available to auditors appointed by the Board or any Party hereto requesting the same
q	enacting, amending or repealing by-laws for the conduct of the Board and the Secretariat
r	establishing standards and procedures required for maintenance of order at its meetings
s	carrying out such other related duties as all the Parties may request in writing

The MRBB adopted nine goals to help guide the work of the Board. They are listed below.

Table 4: MRBB Goals

Goal 1	Evaluate the health of the whole basin.
Goal 2	Investigate matters concerning the ecological health of the whole basin.
Goal 3	Advocate for the maintenance and improvement of the ecological health of the whole basin.
Goal 4	Educate the public, share information, and learn from others about matters concerning the ecological health of the whole basin.
Goal 5	Support and facilitate the increased participation of Indigenous Peoples in MRBB activities.
Goal 6	Encourage the development and implementation of Bilateral Water Management Agreements.
Goal 7	Ministers, Indigenous leaders, and appropriate staff of jurisdictions are informed of and engaged in MRBB activities.
Goal 8	Information, knowledge, and research are shared among jurisdictions – written reports.
Goal 9	MRBB affairs are administered effectively.

Appendix III: 2023-24 Financial Report

Table 5: 2023-24 Approved Budget Summary

Driver	Approved Budget	Notes
Secretariat	$286,818.05	Augment Secretariat with determinate staff to support planning for SOAER update.
MRBB and Committee Meetings	$66,000.00	Travel, Participation expenses, meeting room rentals, hospitality and misc. expenses
Strategic Plan	$64,000.00	Strategic Plan workshop, Water Governance contract, Annual Report layout, website hosting and maintenance, TKSP Co-chair contract
	$416,818.05	

To support timely publication of the annual report, MRBB members passed a motion to include a summary of the approved budget instead of the final approved financial statements in annual reports (November 2024). The approved financial statements will be shared with MRBB members once available. Should final approved financial statements be available at the time of annual report publication, they will be included instead of the approve budget.

Appendix IV: MRBB Membership on March 30, 2024

Alberta

Government Member: Morna Hussey
Government Alternate: Carmen de la Chevrotière
Indigenous Member: Alden Armstrong*

*Alden Armstrong replaces Gerry Cheezie as member.

British Columbia

Government Member: Ted Zimmerman
Government Alternate: Sean Moore
Indigenous Member: Vacant

Northwest Territories

Government Member: Julian Kanigan
Government Alternate: Meghan Beveridge*
Indigenous Member: Leon Andrew

*Meghan Beveridge replaces Nathen Richea as alternate government member.

Crown-Indigenous Relations and Northern Affairs Canada

Government Member: Vacant
Government Alternate: Nicholas Mitchell

Saskatchewan

Government Member: Thon Phommavong
Government Alternate: Vacant
Indigenous Member: Vice Chief Joseph Tsannie

Yukon

Government Member: Heather Jirousek
Government Alternate: Ella Parker*
Indigenous Member: Stan Njootli*

*Stan Njootli replaces Corrine Porter as member. Ella Parker replaces Amelie Janin as alternate government member.

Environment and Climate Change Canada

Government Member: Nadine Stiller
Government Alternate: Patrick Cherneski

Parks Canada Agency

Government Member: Jonah Mitchell
Government Alternate: Laurie Wein

*denotes a change in membership from April 1 2023 to March 2024

Photo credit: eighty one images
Ice road on the Mackenzie River, Inuvik, NWT

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MRBB