**Mackenzie River Basin Board: State of the Aquatic Ecosystem Report**

Basin Wide Climate Summary ‘Stories of Change’

**Project Proposal**

The purpose of this proposal is to establish the project’s context, provide a summary and description of the project, outline the work plan, and identify applicable evaluation indicators and additional information needed to advance the project within the SOAER Committee.

Goal is to: *Explore and recommend how to collect basin-wide climate change information through story-telling by a focus group of experts that includes elders, knowledge holders & climate change modelers.*

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| Context |
| State of the Aquatic Ecosystem Report (SOAER) Vision | |
| The vision for the Mackenzie River Basin Board’s SOAER is as follows:   * To uphold the intention of the Master Agreement, by providing information about the aquatic health of the basin with the goal of informing action and decision-making. * To build on the previous efforts of the MRBB and its committees, such as the Traditional Knowledge Steering Committee and the Bilateral Water Management Agreements made between provincial and territorial member governments. * To recognize and affirm the inherent value of diverse knowledge systems in basin health assessment, offering a platform for equitable knowledge presentation. * To critically approach the power dynamics associated with presenting Indigenous knowledge and Western science. * To recognize the basin as a place of meaning for people and to tell the story of that place.     To pursue this vision, the SOAER will:   * Pursue the use of different information presentation mechanisms beyond conventional text-based reporting, acknowledging the accessibility and informational benefits. * Be a comprehensive assessment of the “State of” the basin, rather than a repository or platform for directly uploading knowledge – emphasizing the report's role in synthesis, analysis, and presentation over information hosting or accumulation. | |
| Background | |
| The Mackenzie River Basin Transboundary Waters Master Agreement sets out nineteen duties of the Board in carrying out the purposes of the Agreement. This project supports the following duties of the Master Agreement:   * 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; * Identifying, recommending and implementing such studies, investigations, programs and activities as are required to carry out this Agreement; and * Considering the needs and concerns of Aboriginal people through,   i. the provision of culturally appropriate communication, and  ii. the incorporation of their traditional knowledge and values;    The most recent [SOAER](https://soaer.ca/) was published online in August 2021. The report includes publicly available science and Indigenous Knowledge for four aquatic indicators in each of the six sub-basins of the Mackenzie River Basin: water quantity, water quality, habitat and species and health and well-being. The report also shares basin wide patterns of change.    The intent of the MRBB is to build off the 2021 SOAER as a model for future reports and attempt to fill information gaps in the 2026 SOAER. A [5-year Roadmap](https://007gc.sharepoint.com/:w:/r/sites/msteams_1d6c6a/Shared%20Documents/SOAER%202024%20Workplans%20and%20Roadmap/Roadmap%20and%20Workplans/RoadmapDocument.docx?d=w3cee8d38739f4f7990de775a5d83d034&csf=1&web=1&e=23AcCT) presents the portfolio of components and projects that have been identified to advance the next version of the SOAER. | |

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| Project Summary |
| Project Title: Basin Wide Climate Summary | | | |
| Please provide a summary description of your project:  The goal of this project is to explore and recommend how to collect basin-wide climate change information through story-telling by a focus group of experts that includes elders, knowledge holders & climate change modelers. | | | |
| Potential Project Partners:  Elders, knowledge holders, climate modelers and water scientists. | | | |
| Proposed Project Start and End Date:  Fall 2025 – Winter 2026 | | | |
| Project Location or Geographic Scope:  Mackenzie River Basin | | | |
| Project Description | |
| Provide a description of the project including outcomes and results, objectives, key elements, and implementation. | | |
| Outcomes (what is the desired end state of the project, i.e. goal(s), deliverable(s)?):  Narrative on Indigenous Knowledge and science of climate change will make the connection between the big picture and people’s local experience and concerns of climate change. The next iteration of the SOAER will report on past temperature, precipitation, and wind changes, as well as near-future projected changes to temperature and precipitation, and other signs and signals of climate change, e.g. seasonality, hydrology, drought cycling, water levels, wildfires, sea-level and ecosystem changes, and indigenous experiences and concerns related to these changes.    Results (what is the impact of the project on the organization?):  Stories have the power to transform complex subject matters into something that feels personal, local, relatable and solvable. But stories about the climate change impacts – for example, about how people are responding in real time and making a difference – are still few and far between.- [Powerful, local stories can inspire us to take action on climate change (theconversation.com)](https://theconversation.com/powerful-local-stories-can-inspire-us-to-take-action-on-climate-change-168177) The impact will be a better understanding of how climate change has and is expected affect the aquatic ecosystem and the people in the Mackenzie River basin, and the places they know, value, and depend on, whether it’s for jobs and livelihood, food and energy security, traditional practices, or safe and tolerable living conditions.    Objectives (What needs to be done to achieve the outcome?):  See workplan below.    Key Elements (resources, time, money, and scope):  Resources: Project team members and Contractor  Time: 0.3 – 0.5 FTE of CWA employee time plus contractor  Money: $95,000  Scope: How is climate change affecting the state of the aquatic ecosystem and what is the impact to ecosystem services and the health and well-being of the people who live there? Information seeks to be inclusive of Indigenous knowledge and science to present past, present, and near-future climate changes and impacts. An in-person workshop of Indigenous Knowledge holders and scientists will be held to gather bridged knowledge and to produce stories of change across the basin which can be publicly presented in the SOAER.    Implementation (how will the project be communicated, progress be evaluated, etc.):  A) Pre-SOAER Statement of Work: Project updates, as applicable, will be communicated for awareness to the:   * SOAER committee at regular meetings * MRBB at their meetings   B) Post SOAER SOW – SOAER review team will work directly with contractor and will provide regular updates to the SOAER committee and other teams listed above. | | |

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| Project Work Plan | |
| The following are examples to assist you in completing the work plan | | | | |
| Project Activity | **Activity Description and Result (performance measures)** | | **Timeframe** | **Assigned to** |
| *Create a clear understanding of climate change modelling, risk assessment and stories that are readily available basin-wide.* | * *Identify climate science modelling, risk assessments, and stories that are publicly available and additional information that is needed to fill gaps.* * *Identify the best modelling and risk information, stories, and tools to present in the next SOAER.* | | * *Fall 2025* | * *Contractor in consultation with the SOAER contract team.* |
| *Identify a group of experts to engage with that includes Elders, knowledge holders and climate modelers.* | * *Draft script for invitation request.* * *Request through Secretariat, MRBB, SOAER and BMC committee members to invite Elders and knowledge holders from across the MRB (representing the diversity of the basin) and climate modellers who may be interested, to share their stories about climate change.* * *Identify expert group based on responses.* * *Note: Canada Water Agency – Freshwater Ecosystem Initiatives may convene a virtual meeting of water and climate scientists and presents an opportunity to add Indigenous knowledge holders and Elders to day 2 for knowledge bridging across the basin.* | | * *Fall 2025* | * *Contractor in consultation with the SOAER contract team.* |
| *Develop and execute an engagement plan with expert group.* | * *Develop an engagement strategy, based on communication best practices, to collect stories of how people and their environment are being impacted by climate change and the risks they face.* * *Determine format/logistics of workshop and potential for story collection and audio/video recording.* * *Execute engagement strategy, host workshop and collect video and audio content for use in the SOAER (and transcriptions of recorded material).* | | * *Fall 2025*          * *Winter 2025* | * *Contractor in consultation with the SOAER Contract team and SOAER and TKSP Commitee.* * *Contractor with participation of expert group.* |
| *Communicate climate change projections and risks* | * *Present a climate change impacts and across the MRB and place-based impacts at important locations within the basin using both science and Indigenous knowledge* * *Present near future projections based on established scenarios.* * *Climate modelling information will include (but is not limited to) projections of temperature, precipitation, wind, metrics of seasonality (TBD), water levels, and ecosystem/ecozone changes. (wildfire and drought cycling to be included if available)* * *Present climate risks – how will climate change affect the health and well-being of people and their day to day living conditions? Translate modelling to tangible impacts, including impacts to ecosystem services. Summarize the climate change risks that can be expected for people on the land.* | | * *Spring 2026* | * *Contractor with participation of expert group.* |
| *Present climate change information and stories as a standalone sign/signal, show connection to other signs/signals, and integrate climate change information and stories into other signs/signals.* | * *Present climate change as a standalone indicator for a basin wide summary and include local examples within each subbasin. This is expected to include: measurements and IK of past and near-future temperature, precipitation, seasonality, and drought normals and extremes, and b) risks to other indicators/signs/signals and ecosystem services.* * *Climate change is expected to link to other Indicators and their signs/signals as a stressor (e.g. water levels, ice, health and wellbeing, etc)* * *Integrate climate change information into other signs/signals (see sign/signal descriptions revised from 2021 SOAER to address recommendations and include climate change). For example, add science and IK (and indigenous concerns) of past and near-future:*    + *wildfires and climate refugia under wetlands and forests;*   + *permafrost thaw under snow and ice;*   + *water scarcity under flows and levels*   + *inland and coastal flooding events under flows and levels* | | * *Spring 2026*                        * *Spring 2026* | * *Contractor* |
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| Project Evaluation Indicators | |
| KPIs or SMART objectives | | | |
|  | Creation of an MRBB information sharing agreement template. | Fall/ Winter 2025 |  |
|  | Workshop is held with representatives across the MRB | Spring 2026 |  |
|  | The organizing contractor submits a workshop report. Report should be validated and include appropriate permissions to allow information to be shared publicly. | Summer 2026 |  |
|  | The results of the workshop, including ‘Stories of Change’ are integrated into the SOAER update as a stand-alone climate change indicator and linked to other signs/signals | Fall 2026 |  |

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| Additional Information |
| Please provide any other relevant information not captured above, such as dependencies, activities that are out of scope, limitations, and assumptions. | |
| Dependencies: Interest and availability of Elders, knowledge holders and climate science modelers. Availability of climate information across other signs and signals that was not included in the 2021 SOAER, e.g. wildfires, permafrost thaw, flooding and water scarcity, etc. There is an opportunity for jurisdictions to support with their scientists to inform and support Indigenous knowledge holders within their jurisdictions.  Activities that are out of scope: Climate adaptation is out of scope for the SOAER. The goal is to build awareness of changes occurring in the basin and the climate impacts to the aquatic ecosystem and residents but stops short of presenting information or recommendations on adaptation action. The next SOAER will identify the risks but will not describe how the risks could be or are being managed.  Limitations: Cost of engagement for the collection of stories and audio and video content; Narrowing down the numerous climate models and results into a synthesis for the SOAER. Delays and time of federal government Canada Water Agency internal procurement and financial processes  Assumptions: Contractor has expertise or will solicit expertise to collect stories in audio and video formats. Contractor will obtain consent from participants to share information and validate materials with knowledge holders. Data will be managed in accordance with Information Sharing Agreements to be reached with members of the experts group. Indigenous and local responses to adapt to climate change may be included in a future iteration of the SOAER, SOAER 2031 and beyond. | |