



EXECUTIVE SUMMARY

Working Together to Manage Our Shared Waters

Alberta-Northwest Territories Bilateral Management Committee
Annual Report to Ministers, 2015-2016

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On March 18, 2015, the governments of Alberta and the Northwest Territories (NWT) signed an historic transboundary water management agreement that provides a long-term framework to manage shared water resources in the Mackenzie River Basin in a sustainable manner for current and future generations.

With the signing of the Agreement, the Bilateral Management Committee (BMC) was established to implement the Agreement. The current BMC is made up of representatives from the governments of Alberta and the NWT, as well as an NWT Aboriginal member.

Working Together to Manage Our Shared Waters is the BMC's first annual report to the responsible ministers from the governments of Alberta and NWT. The report highlights the governments' efforts to manage their transboundary waters in a way that protects the ecological integrity of the aquatic ecosystem. It focuses on the activities and accomplishments towards implementing the Alberta-NWT Bilateral Water Management Agreement for the April 2015 to March 2016 period.

Some of the achievements involved establishing decision making mechanisms, such as an emergency notification mechanism, and others involved research and learning. Highlights included:

- The *Hay River Basin State of the Aquatic Knowledge (2016)* report which informs the learning plan for the Hay River.
- The *Preliminary State of Groundwater Knowledge in the Transboundary Regions of the Mackenzie River Basin, NWT (2016)*

report which contributes to learning plans and informs the classification of transboundary groundwater.

- *The Slave River and Delta State of Knowledge (2016)* and *Vulnerability Assessment (2016)* reports which contribute to biological indicator development for the Slave River.
- A literature review of traditional knowledge research for the Slave and Hay river sub-basins through the Tracking Change research project, which contributes to learning plan development.
- A technical workshop held with Mackenzie River Basin (MRB) jurisdictional representatives and subject matter experts to advance discussions on methods to derive site-specific water quality triggers and objectives.
- An update to the Mackenzie River Basin Hydraulic Model with recent water quantity monitoring data to help increase understanding of the influence of climate on flows and water levels versus the impact of water use throughout the basin (in progress).
- Implementation of Alberta's Lower Athabasca Regional Plan which contributes to the Slave River learning plan and informs the classification of transboundary waters.



Working Together to Manage Our Shared Waters highlights the efforts of the governments of Alberta and the Northwest Territories to manage their transboundary waters in a way that protects the ecological integrity of the aquatic ecosystem.

Assessment of the 2015 water quantity data for the Hay and Slave rivers determined that no triggers were reached on either river and annual flows were within the range of natural variability. However, new minimum water level values were recorded on the Hay River near the Alberta-NWT border on days in May, June, July, and August, while new minimum flows were recorded on days in July, August, and September on the Slave River.

Assessment of the 2015 water quality data for the Hay and Slave rivers determined that the majority of the water quality parameters had values lower than the interim triggers and were within their historical range of natural variability. Only one parameter for the Slave River and two for the Hay River were out of their historical range, likely because of low flows during the fall in both rivers. Special attention will be given to these parameters and any trending parameters in the following year's assessment as they can indicate potential changes in water quality due to climate change and/or upstream land uses.

In addition to outlining the work that has been undertaken and introducing the members of the BMC, the report provides some of the future activities, presents relevant data from monitoring efforts, and offers insight into how the BMC is addressing issues like climate change and how traditional and local knowledge is being incorporated into the BMC's work.

To further pursue commitments in the Agreement, the BMC has drafted a three-to-five-year work plan. Some of the work planned over the next few years includes:

- Review and address knowledge gaps to advance the development of learning plans for the Hay and Slave river basins.
- Monitor surface water quantity by tracking, and reporting on, the triggers as well as refining calculation methods as required.

- Establish tracking metrics for the Hay and Slave rivers—for example, to track consumptive water use, water allocations, and river flow, including during low flow conditions.
- Monitor and report on surface water quality by jointly reviewing and assessing the Slave and Hay river water quality data. Address methodological questions about interim water quality triggers. Review all mercury data from the Slave and Hay rivers to establish interim triggers for mercury.
- Work towards consistency on methods to derive water quality objectives.
- Refine biological indicators and develop a biological monitoring, evaluation, and reporting plan for the Hay and Slave rivers.
- Conduct a scoping study to consider the effects of climate change in setting and monitoring transboundary objectives.
- Collect information on how aquifers are commonly identified and develop best practices to determine groundwater flow and groundwater monitoring.
- Identify and implement ways to synthesize and blend traditional and local knowledge, western science and social science, and other forms of knowledge relevant to setting and assessing transboundary water objectives.

As the BMC continues to cooperate in good faith, it is taking all reasonable actions to not only ensure Agreement commitments are met, but also to sustain the spirit under which it was signed.

Overall, Alberta and the NWT have accomplished much in the first year of implementation. These two jurisdictions have created a partnership that is both collaborative and cooperative. Now with year two (2016-17) wrapped up and data analysis under way, the second annual report is being compiled.

For further detailed information,
please read the full 2015-16 annual report.



Acknowledgements

A special thank you to Environment and Climate Change Canada for their continued, long-term operation of the important water quality and hydrometric sites on the Slave and Hay rivers, and throughout the Mackenzie River Basin.

