

Mackenzie River Basin Bilateral Water Management Agreement (Liard Basin)  
between the Government of British Columbia and the Government of Yukon:

# Annual Implementation Report 2021

May 2022



Photo: Liard River



Dena Kayeh Institute on  
behalf of Daylu Dena Council,  
Dease River First Nation and  
Kwadacha First Nation

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## About the BC-Yukon Bilateral Water Management Agreement

The end of 2021 marked the 5-year anniversary of the B.C.-Yukon [Bilateral Water Management Agreement](#) (BWMA) which was signed in 2017. Over the five-year period, B.C. and Yukon, along with Indigenous partners, have been proactively forming and maintaining positive, productive relationships that serve as the foundation for undertaking joint learning opportunities to help us understand and inform actions related to our transboundary waters. The BWMA identifies how the parties will work together to manage 19 Transboundary Waters within the Liard sub-basins, following a risk informed management (RIM) approach.

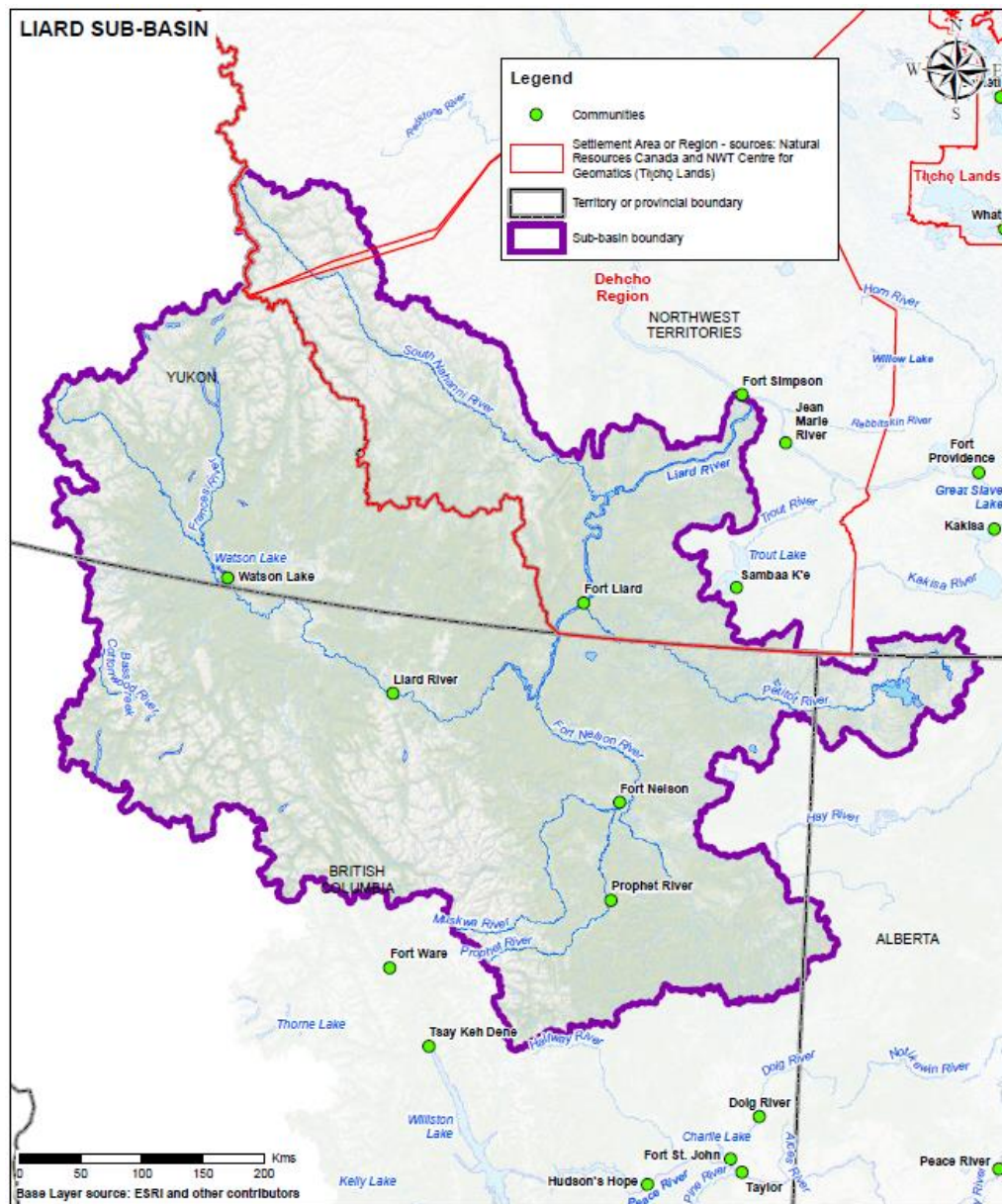


Figure 1. Map of the Liard River sub-basin (map source: mrbb.com).

Under the RIM approach, transboundary waters are classified according to the level of risk. Risks to Class 1 transboundary streams are assessed to be low, requiring mainly information sharing and reporting. On the other hand, transboundary waters set at Class 4 would require active measures to address unmet transboundary water objectives (objectives must be set for any Class 3 transboundary waters). Commitments to implement through the BWMA include:

- classifying transboundary waters based on the RIM approach to assess risks due to development and use in the contributing basin, as well as downstream needs,
- exchanging information on Class 1 transboundary waters,
- developing Learning Plans for Class 2 transboundary waters,
- setting transboundary objectives and triggers for Class 3 transboundary waters, and
- defining management actions when triggers are reached.

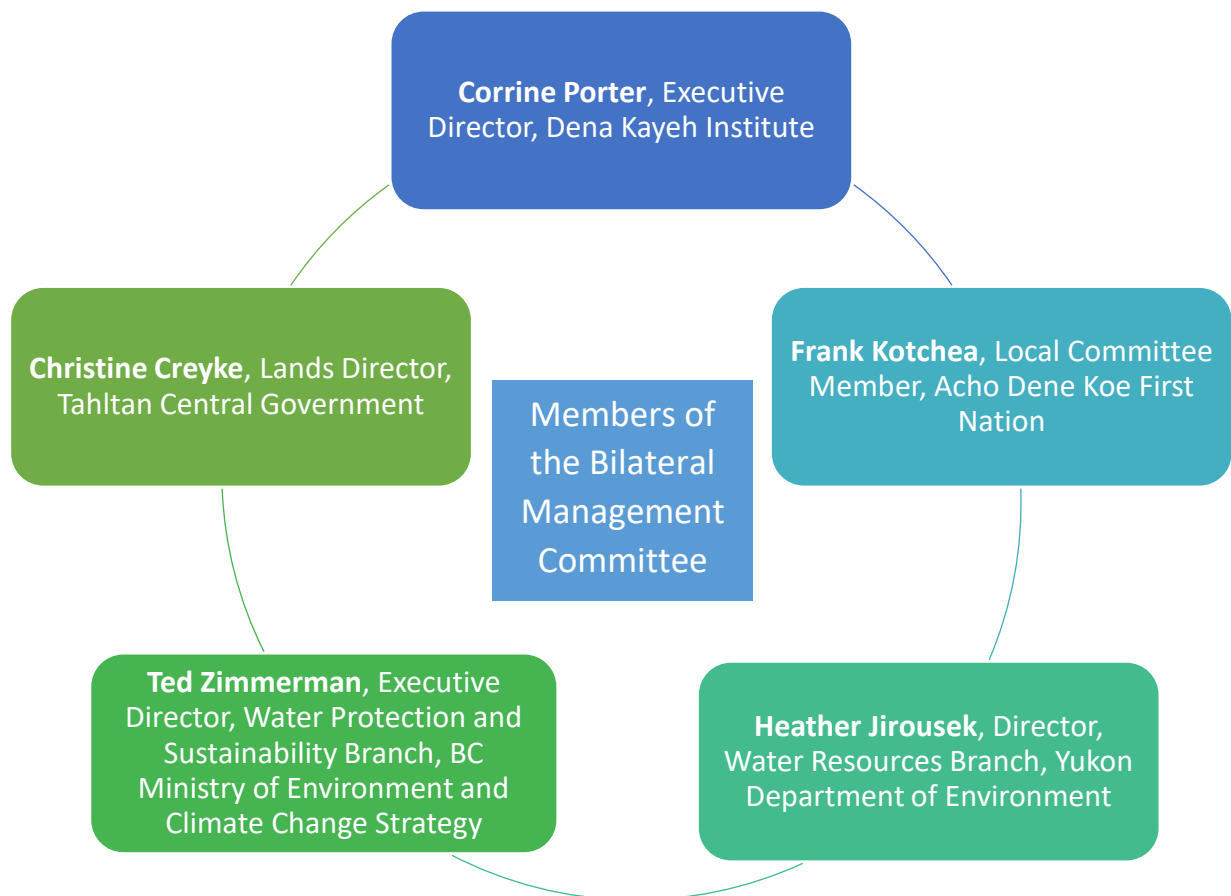
Currently, only the Liard, La Biche and Beaver Rivers are set at Class 2 for water quality, and the La Biche and Beaver Rivers are also set at Class 2 for water quantity. All other transboundary waters are set at Class 1. Gathering more information and undertaking shared learning to better understand the risks to Class 2 streams continues to be the priority. A full list of transboundary waters is available in Appendix A.

Technical details related to learning, transboundary objective setting, monitoring, and management actions are set out in the Appendices to the Agreement.

For more background information on the BWMA, see Appendix B.

## Meet the Bilateral Management Committee

The Bilateral Management Committee (BMC) was formed in early 2019 to administer the BWMA. Representatives from Acho Dene Koe First Nation, Dena Kayeh Institute and Tahltan Central Government confirmed their membership on the BMC. Teslin Tlingit Council indicated their interest in participating as a guest.



### Alternates, Guests and Support staff for the Bilateral Management Committee

Dorothy Cooley, Natural Resource Manager, Teslin Tlingit Council (guest)	Sean Moore, Director, B.C. Ministry of Environment and Climate Change Strategy	Mark MacDougall, Lands Manager, Acho Dene Koe First Nation	Shawn Ducharme, Lands and Resource Technician, Tahltan Central Government	Ella Parker, A/Program Advisor, Water Resources Branch Government of Yukon	Heike Lettrari and Meghan McKee, Water Policy Analysts, B.C. Ministry of Environment and Climate Change Strategy
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## Implementation Highlights from 2021

Since the last implementation report in 2020, the BMC members have continued to work collaboratively to implement the BWMA. The BMC is supported by a technical committee, which advances the priorities of the BMC. Highlights of work undertaken this past year include:

### Advancing collaboration

#### *cooperative watershed management*

- Three teleconference BMC meetings were held over the course of 2021: February, June and October.
- Jurisdictional updates are shared at every meeting.
- Additional technical working group meetings were held to advance project work.

### Transboundary waters classification methodology developed

#### *braiding knowledges*

- A methodology for classifying transboundary waters was developed to include both Indigenous Knowledge and Western science.
- The five-step methodology includes engagement with Indigenous Nations to better reflect input on values, uses, traditional knowledge and additional data when reviewing the classification for transboundary waters.

### Classification review undertaken for the Liard River

#### *protecting ecological integrity*

- The refined methodology for classifying transboundary waters was applied to the Liard River to test the refined framework.
- Indigenous Knowledge was gathered through a community survey with the three Kaska Nation communities in British Columbia over the spring/summer of 2021.
- With new knowledge gained, the Liard River was re-classified from Class 1 to Class 2 at the October 2021 BMC. The updated classification reflects an increase in risk to the water body from a variety of land use activities in recent years.
- The BMC has identified developing a learning plan for this Class 2 watercourse as a priority.

## Next Steps

- Teleconference meeting in February 2022.
- In-person meeting in May 2022.
- Developing a learning plan for the Liard River.
- Establishing a framework for Indigenous and local knowledge sharing.

## Updates from the Liard Sub-basin 2021



### Hydrometric station installed at Contact Creek

- Government of Yukon worked with DKI to set up a new station for hydrometric monitoring.



### Landslide observed on Liard\*

- A portion of a slope adjacent to the Liard River has slid into the watercourse, smoothing out the rapids.
- There is concern that permafrost thawing will trigger more landslides, resulting in adverse effects to water quality and aquatic ecosystems.

\*A picture of the Liard landslide was not available, instead this is a photo of a thaw slump on the Takhini River in the Yukon River Basin.

## Additional Resources

British Columbia	<p><b>Website:</b> <a href="https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-planning-strategies/water-management-agreements">https://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-planning-strategies/water-management-agreements</a></p> <p><b>Questions?</b> You can email: <a href="mailto:livingwatersmart@gov.bc.ca">livingwatersmart@gov.bc.ca</a></p> <p><b>Additional information:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Ecological Reports Catalogue (EcoCat)</a></li> <li>• <a href="#">Water Quality Guidelines and Objectives</a></li> <li>• <a href="#">B.C. Water Portal for Water Quality and Water Quality Monitoring</a></li> <li>• <a href="#">B.C. Provincial Groundwater Observation Well Network</a> <ul style="list-style-type: none"> <li>○ <a href="#">Groundwater Levels Open Data</a></li> </ul> </li> <li>• <a href="#">EMS Surface Water Quality Monitoring Sites</a></li> <li>• <a href="#">EMS Open Data Results</a></li> <li>• <a href="#">B.C. Lake Monitoring Program</a></li> <li>• <a href="#">B.C. Provincial Hydrology Program</a></li> <li>• <a href="#">Canada-B.C. Water Quality Monitoring Program</a> <ul style="list-style-type: none"> <li>○ <a href="#">Federal Open Data</a></li> </ul> </li> <li>• <a href="#">B.C. Biomonitoring</a></li> <li>• <a href="#">B.C. Groundwater Wells and Aquifers (GWELLS)</a></li> <li>• <a href="#">B.C. Groundwater Review Assistant</a></li> <li>• <a href="#">B.C. Aquifer Stress Tool</a></li> <li>• <a href="#">Provincial Snow Survey Program</a> <ul style="list-style-type: none"> <li>○ <a href="#">Open Snow Station Data</a> (automated)</li> <li>○ <a href="#">Open Snow Station Data</a> (manual)</li> </ul> </li> <li>• <a href="#">Northeast Water Tool</a></li> <li>• <a href="#">B.C. Climate Related Monitoring Program</a></li> <li>• <a href="#">B.C. Environmental Assessment Office</a></li> <li>• <a href="#">B.C. Groundwater Environmental Reporting Indicator</a></li> </ul>
Yukon	<p><b>Website:</b> <a href="https://yukon.ca/en/science-and-natural-resources/research-and-monitoring/water-research-and-assessments#projects">https://yukon.ca/en/science-and-natural-resources/research-and-monitoring/water-research-and-assessments#projects</a></p> <p><b>Questions:</b> You can email: <a href="mailto:water.resources@gov.yk.ca">water.resources@gov.yk.ca</a></p> <ul style="list-style-type: none"> <li>• <a href="#">Yukon Water Data Catalogue</a></li> <li>• <a href="#">Yukon Water Well Registry</a></li> <li>• <a href="#">Yukon Water Research and Assessments</a></li> </ul>
Tahltan Central Government	<a href="https://tahltan.org/">https://tahltan.org/</a>
Acho Dene Koe First Nation	<a href="http://www.adkfirstnation.ca/community/">http://www.adkfirstnation.ca/community/</a>
Dena Kayeh Institute	<a href="https://denakayeh.com/about-us/">https://denakayeh.com/about-us/</a>



## Appendix A

There are 19 transboundary waters under the B.C. Yukon BWMA. Figure 3 below shows them all. Transboundary waters are classified at the border between the Province and Territory.

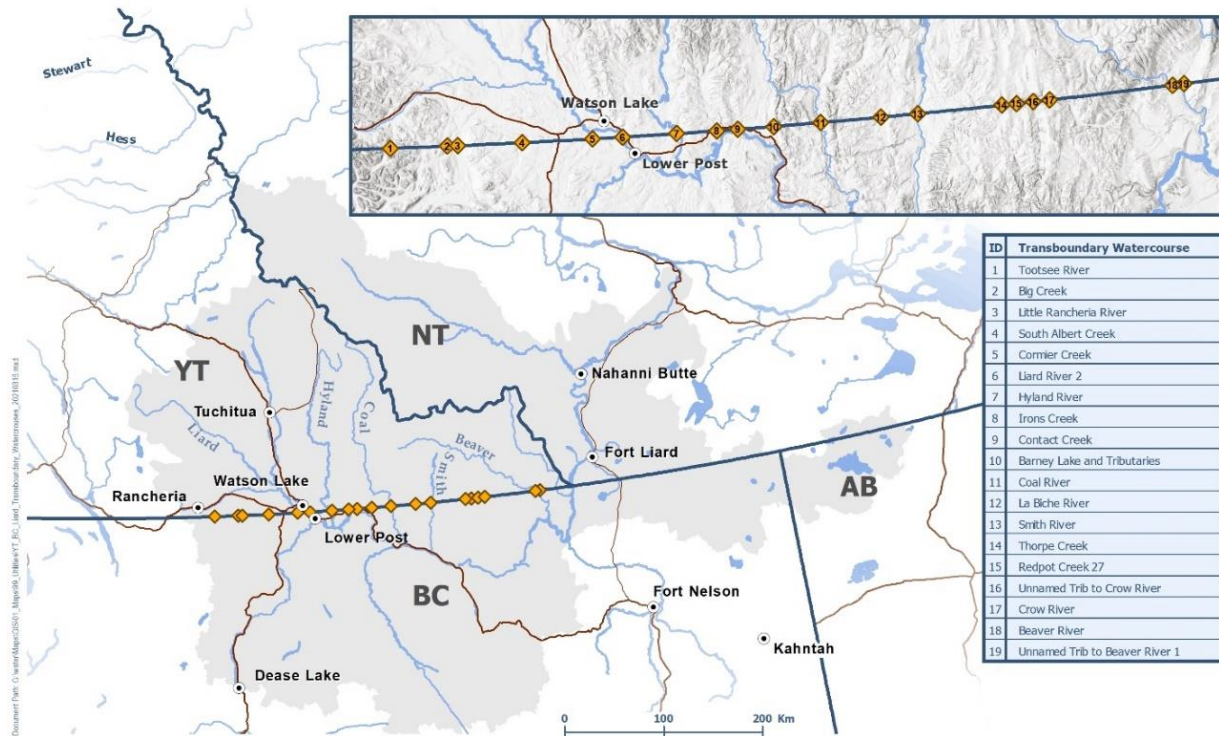


Figure 1: The BC-Yukon BWMA includes 19 different transboundary waters.

## Appendix B

### What are Bilateral Water Management Agreements?

The [Mackenzie River Basin Transboundary Waters Master Agreement](#), signed in 1997, commits the Governments of Canada, the NWT, Yukon, British Columbia, Alberta and Saskatchewan to work together to ensure cooperative management of the water resources of the Mackenzie River Basin. It also commits these jurisdictions to negotiate Bilateral Water Management Agreements (BWMA) for transboundary waters.

BWMA provide a framework for neighbouring jurisdictions to work together with other partners in order to maintain the ecological integrity of the aquatic ecosystem. While each BWMA is unique based on local contexts and interests, all have the same objectives to:

- ensure cooperative watershed management among the jurisdictions which share the water resources of the Mackenzie River Basin,
- sustain the ecological integrity of the aquatic ecosystems of the Mackenzie River Basin,
- facilitate equitable and sustainable use of shared water resources by establishing criteria and desired outcomes that address water consumption, flows, quality, ground water management and aquatic ecosystem health commitments.

Bilateral Management Committees are established to support administration and implementation of each BWMA.