

**Yukon Territory/Canada
Department of Environment**

**Agency Report to the
Mackenzie River Basin Board**



**Meeting #57 of the
Mackenzie River Basin Board**
November 28-29, 2017
Vancouver, BC
(Date Prepared: November 6, 2017)

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1. Bilateral Water Management Agreements

Bilateral Water Management Agreement

- The governments of Yukon and NWT initiated a preliminary engagement to revise the Mackenzie River Basin Bilateral Water Management Agreement (BWMA) to reflect the updated BWMA template.
- Two conference calls were held in Oct/Nov 2017 to review draft BWMA wording.
- A face-to-face meeting is planned for early December.

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2. Water-Related Legislation / Policy / Regulations / Planning

Regional Land Use Planning

The process to finalize a regional land use plan for the Peel Watershed is on hold pending the outcome of the Supreme Court of Canada (SCC) hearing held on March 22, 2017.

While waiting for a final outcome to the court process, Yukon government will continue to work with First Nations on many important initiatives vital to Yukon's social and economic well-being. The Government of Yukon values the Final Agreements and is committed to upholding them.

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3. Science, Monitoring and Information

Monitoring Update

Peel Watershed

After several years of review, long-term monitoring in the Peel was approved. Funds received through the Yukon Water Strategy will be used to implement this work. A water quality monitoring station was reactivated on the Ogilvie River in 2016. This station is road accessible and serves as a reference site for the upper portion of the watershed. Cross-basin (synoptic) monitoring will occur as opportunities arise and basin activities dictate.

The Yukon government has been collecting baseline data in the Eagle Plains area since 2013 and has been working with the University of Calgary on a Natural Sciences and Engineering Research Council (NSERC) project to collect groundwater and surface water samples for the analysis of isotopes. One of the sample sites is located in the Peel watershed and includes a stream gauging station.

Six shallow baseline groundwater monitoring wells were added in the Eagle Plains area in September 2016. Three groundwater monitoring wells are located in the Peel watershed. A draft synthesis report entitled “Eagle Plains Baseline Water and Sediment Quality Characterization,” of all water data collected by Water Resources Branch in the Eagle Plains Basin, has been completed.

Southeast Yukon

There are several drivers to initiate and renew water monitoring in the Liard Basin. Trans-boundary MRBB/Liard discussions with B.C. are expected to prioritize monitoring at agreed location(s). Yukon has partnered with Environment Canada in the operation of the long-term water quality trend monitoring station ‘Liard River at Upper Crossing’. As part of the baseline monitoring program, the Yukon government is working with the University of Calgary on a NSERC project to collect groundwater and surface water samples for analysis of isotopes and dissolved gases. Six surface water quality sites were established in the region in 2014. A surface water (quality/quantity) site on the Beaver River site was chosen as a reference site due to its proximity to the La Biche River.

There are currently nine long-term groundwater monitoring wells in the Liard Basin, one of which resides in the Kotaneelee area. Six shallow groundwater wells were installed in the Kotaneelee area in 2015: two on the Beaver River and four on the La Biche River.

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Snow Survey Network Survey Bulletin and Water Supply Forecast

Environment Yukon operates 10 snow survey stations within the Yukon portion of the Mackenzie River Basin, with three stations in the Peel Basin and seven stations in the Liard Basin. The snowpack at these stations is sampled three times annually for depth, density, and snow water equivalent. Results are published in the [Yukon Snow Survey & Water Supply Forecast](#) on March 1st, April 1st and May 1st each year. Past editions of the bulletin can also be viewed at the website. The information collected is used to make projections of the total volume runoff for the summer period and estimate peak flow for the river basins and their respective sub-basins.

Hydrometric Network

Environment Yukon's current hydrometric network has two stations in the Liard Basin and one in the Peel Basin. Continuous water level measurements are recorded at each station using electronic data loggers deployed in stilling wells. Regular discharge measurements are taken seasonally (May through September) with a particular emphasis on capturing discharge during spring peak flow.

Environment Yukon also maintains a cost-sharing agreement with Environment Canada to operate four hydrometric stations within the Peel Basin and nine hydrometric stations within the Liard Basin.

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Yukon Water Online Information

The Yukon government maintains an online water information portal (YukonWater.ca), which is the primary source for information about water monitoring in Yukon. The website houses the [water data catalogue](#), a centralized database that provides water monitoring information through an interactive map (e.g., site location, period of record, type of data collected, etc.).

Additional monitoring locations continue to be added to the water data catalogue. The catalogue now contains over 2700 monitoring locations from 20 networks. In addition to the metadata that is provided through the catalogue, the long-term goal is to provide direct access to water data for certain networks.

As part of the long-term goal to make water data available online, a project is now underway to make water well records available in map-based web platform. The project aims to incorporate an ability to include more well records in the database as well as provide easier access. The target is to launch a new system within the next year.

YukonWater.ca also provides a range of educational material and information about Yukon's water resources including:

- water facts and information (e.g., water cycle, water use, etc.);
- water management;
- legislation that guides interactions with water ;
- news and updates related to water in Yukon.

The Yukon Water Board maintains an online public registry called [Waterline](#) that stores and disseminates information related to water licensing processes in Yukon. The system allows licence holders to submit reports and data as required by water licences and allows for public access to this information. Significant improvements to the registry's notification process allows regulators to track reports which are late or have not been submitted.

An additional source of information was recently launched called the 'Yukon Compendium of Current Research and Monitoring'. The [website](#) provides outlines of current science research and monitoring from across Yukon Government, including several water related activities.

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4. Major Projects

Regulatory Update

Mineral Exploration

No mineral exploration programs have been proposed in the Peel watershed this year. There are two current Class 3 (advanced exploration) Mining Land Use Approvals in the watershed, both in the southern portions of the basin.

There are twelve current Class 3 Mining Land Use Approvals in the Liard watershed. Four properties are located along the northern portion of the Nahanni Range Road, four in the northwest portion of the basin and the remaining four in the southern half.

Major Mines

Liard Watershed

Wolverine Mine: Yukon Zinc Corporation put the Wolverine Mine, located 180 km southeast of Ross River, into Temporary Closure on January 27, 2015. The company continues to work with regulators to secure the site related to closure.

Sä Dena Hes Mine: Teck Resources is working towards concluding closure/reclamation activities of the Sä Dena Hes lead-zinc mine.

Kudz Ze Kayah Mine: BMC Minerals has applied to the Yukon Environmental and Socio-economic Assessment Board for an Executive Committee screening of its mine plan, with permitting anticipated to be completed by 2020.

Oil and Gas

Kotaneelee Gas Project: The Kotaneelee gas field and plant are currently inactive and an assessment has been completed by the Yukon Environmental and Socio-economic Assessment Board for well abandonment and closure activities.

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