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Local and Traditional Knowledge in Watershed Governance

Water Security in Alberta and Northwest Territories

Drinking Water and Kátł'odeeche First Nation

Many First Nations across Canada face challenges in ensuring the drinking water they have from the land and in their communities is safe to drink. In the Northwest Territories, communities and the government are working together in a variety of ways to ensure drinking water is safe and drinking water sources are protected. A research team was sent out to find out what are the perspectives of **Kátl'odeeche First Nation**? Do people feel the water they drink in their homes is safe? How concerned are people about the water they drink from the land (lakes, rivers, streams)?

Water Security can be defined as the sustainable use and protection of water resources that integrates acceptable levels of water risk to ecosystems and humans, while providing access to water of proper quantity and quality that can support livelihoods, economic development, human and ecosystem health, national security and protection against water-related hazards (Wheater and Gober, 2013; Bakker and Morinville, 2013).

Research Activities

Research was carried out by Neal Spicer and Doug Lamalice in April 2017. Brenda Parlee supervised the project at the University of Alberta.

Under the guidance of the Band Council, 50 residents of **Hay River Dene Reserve** were interviewed about a variety of questions about their drinking water including water from the land and water people drink while traveling on the land.

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How do residents of Kátł'odeeche First Nation understand drinking water quality in their region?

In general, most community members told us that their drinking water is safe and are confident in both quality and access to water in their community and on the land. All interviewed people receive their drinking water from water cisterns in their homes.

Many community members travel on the land to hunt, fish, pick berries or to just to relax. Many people travel on Great Slave Lake. When traveling on the land, people more often bring tap water than buy bottled water.

The research showed that:

- The majority of community members typically drink tap water within their home and while on the land;
- Women are typically more concerned about the quality of water while on the land and are more likely to drink bottled water while on the land;
- People are very concerned about oil and gas contamination and pollution for natural sources of water;
- Younger people are less likely to drink bottled water within the home than older people;
- Women are typically more likely to drink tap water within the home then men.



Boil Water Advisories

From time to time, "Boil Water Advisories (BWAs)" are issued by the Government of the NWT to protect residents from potential illness. The last boil water advisory was in May 2018 and was issued due to "muddier water" conditions associated with spring flood conditions.



Drinking Water for Kátł'odeeche First Nation

Kátľodeeche First Nations use drinking water resources from the land (e.g., lakes rivers and streams) and from their own home. Bottled water is also purchased by some residents.

Traveling on the land is important to the subsistence economy and culture of the community. Most people traveling on the land reported feeling safe when drinking water from Great Slave Lake but were concerned about drinking water from rivers flowing from Alberta as well as slower moving water in streams.

Concerns about drinking water on the land

Many people in the community are concerned about upstream contamination of water including oil and gas activity in Alberta which flows downstream to Hay River Dene Reserve through the Hay River Watershed.





Pipeline Oil Spill near Zama City Alberta https://www.theglobeandmail.com/report-onbusiness/industry-news/energy-and-resources/northernalberta-pipeline-was-only-five-years-old-before-toxicspill/article12536856/

Resource development in the Hay River Basin is a major concern for many communities living in this sub-basin of the Mackenzie River Watershed. In addition to pipelines and associated pipeline spills, forestry and mining activities have changed the quality and flow of water in the region (Wray 2016). These cumulative effects have had additional implications for the First Nation's economy, culture and relationship to the land (Wray 2016).



Are people switching to bottled water?

Safe drinking water is important to the health, economy and culture of the community. Although bottled water is commonly used in some regions such as northern Alberta, residents of the Hay River Dene Reserve do not depend heavily on bottled water either in their community or on the land.

| The set Home: | Male | Female |
|------------------------------|------|--------|
| Normally Drinks at Home: | | |
| KFN | 7 | 10 |
| Bottled water | 6 | 17 |
| Tap water | 4 | 5 |
| Both Tap/Bottled water | 1 | 0 |
| Other | 18 | 32 |
| Total Respondents | 10 | |
| Normally Drinks On Land | | |
| KFN | 9 | 25 |
| Bottled | | 0 |
| Bottled/Natural Source Water | 2 | 0 |
| Bring Tap Water | | 5 |
| Natural Source Water | 1 | 30 |
| Total respondents | 18 | 50 |



The Hay River is identified as a very poor source of drinking water by most residents.

While traveling on the Hay River, many people will drink bottled water.

Why do people drink bottled water when on the land?

- Pollution
- Water is dirty
- Oil and Gas
- Water is murky
- "Beaver fever"
- Garbage and dumping in Hay River
- Arsenic from the mine in Yellowknife and other mines

Great Slave Lake water is considered safe by the majority of community members of Kátł'odeeche First Nation.

References

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Wheater, H. & Gober, P. (2013). Water security in the Canadian Prairies: science and management challenges. Philosophical Transactions of the Royal Society A, 371:20120409. doi:10.1098/rsta.2012.0409



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