



Supplementary Information

Presentation from Canada North Environmental Services (CanNorth)

In the Matter of the

Cameco Corporation, McArthur River, Key Lake and Rabbit Lake Operations

Applications for the renewal of uranium
mine/mill licences for McArthur River,
Key Lake and Rabbit Lake Operations

Commission Public Hearings

June 7-8, 2023

Renseignements supplémentaires

Présentation de Canada North Environmental Services (CanNorth)

À l'égard de

Cameco Corporation, établissements de McArthur River, Key Lake et Rabbit Lake

Demandes visant le renouvellement des permis
d'exploitation de mines et d'usines de
concentration d'uranium pour les établissements
de McArthur River, Key Lake et Rabbit Lake

Audiences publiques de la Commission

7-8 juin 2023



EASTERN ATHABASCA
REGIONAL MONITORING
PROGRAM

Eastern Athabasca Regional Monitoring Program

10-YEAR SUMMARY

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Canada North Environmental Services



CanNorth

CERTIFIED
Aboriginal Business

Canadian Council for
Aboriginal Business 

Eastern Athabasca Regional Monitoring Program (EARMP)



What is EARMP?

- EARMP was established in 2011 under the Saskatchewan Boreal Watershed Initiative
- EARMP is co-funded by industry partners, the Government of Saskatchewan, and the CNSC
- EARMP was designed to monitor potential cumulative effects downstream of uranium operations in northern SK
- Community Program was developed to address concerns about the safety of traditionally harvested foods

**“We live off the land and waters, birds,
animals, fish, berries; we have to
respect and preserve them”**

- Joe Beavereye

Elder from

Black Lake Denesuline First Nation



Cameco



orano



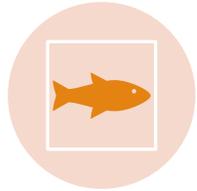
CanNorth

Who is CanNorth?



- CanNorth is a consulting company that provides environmental, heritage, and community services
- CanNorth has been 100% owned by the Lac La Ronge Indian Band for >20 years
 - Owned by Kitsaki Management Limited Partnership, the economic development arm of the LLRIB
- We have ~80 staff with our head office located in Saskatoon, a second office in Markham ON, and staff that work remotely

EARMP Objectives



DETERMINE THE
SAFETY OF
TRADITIONALLY
HARVESTED FOODS



ESTABLISH LONG-TERM
MONITORING AT KEY
LOCATIONS TO ASSESS
CHANGES OVER TIME



BUILD RELATIONSHIPS
AND ENGAGE WITH
NATIONS AND
COMMUNITIES



COMMUNICATE
MONITORING RESULTS



PROVIDE PUBLIC
ACCESS TO ALL DATA AT
EARMP.CA

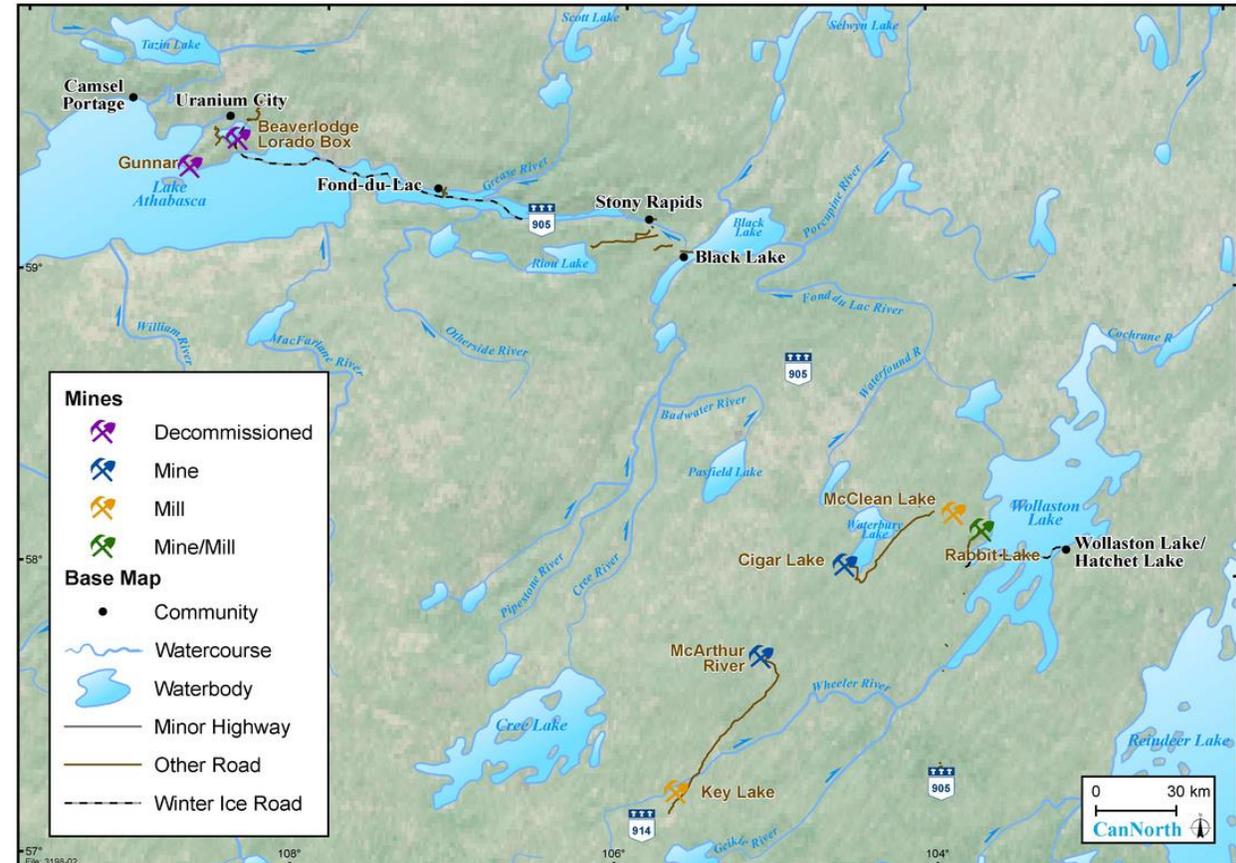


Sandy Powder of Uranium City collecting water data.

Community Involvement

Thank you to the following community members

Black Lake	Boniface Robillard		
Camsell Portage	Dennis Larocque	Claire Larocque	Lawrence Larocque
Fond du Lac	Joe Marten	Bruce Martin	
Stony Rapids	Billy-Joe Mercredi		
Uranium City	Wayne Powder	Sandy Powder	Kevin Mercredi
Wollaston Lake	George St. Pierre	Noah St. Pierre	Adam Benonie



Sampling Components

Samples collected over the years include:

- Water
- Fish (lake trout, lake whitefish, northern pike)
- Berries (blueberries, bog cranberries)
- Small game/birds (spruce grouse, snowshoe hare)
- Large game (moose/barren-ground caribou flesh)
- Large game organs (liver, kidney, heart etc.)



Samples Collected 2011 to 2021

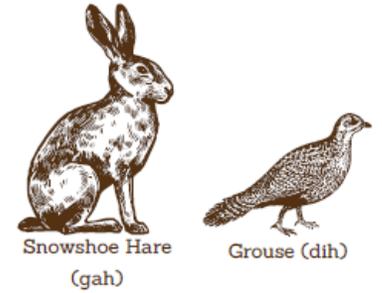
Sample Type	Species	Number of Samples
Water	n/a	47
Large mammals	Moose/caribou/organs	155
Small game	Snowshoe hare	28
Fish	Lake trout, lake whitefish, northern pike	431
Birds	Spruce grouse	16
Berries	Blueberry/cranberry	192
Total		869

10-year Data Evaluation

- Samples tested for chemical endpoints that are naturally occurring in the environment but can become elevated as a result of industrial activities
- To determine if each sample type is safe to eat, the results are then compared to:
 - Available Guidelines
 - Available Regional Reference Data
 - Available Literature and Human Health Risk Assessment
- EARMP has highlighted that water and traditional foods are safe and do not pose health risks to members of the Athabasca Basin communities

Chemical Endpoints Selected for EARMP	
Aluminum	Mercury**
Ammonia as N*	Molybdenum
Arsenic	Nickel
Cadmium	Polonium-210
Cobalt	Radium-226
Copper	Selenium
Iron	Thorium-230
Lead	Uranium
Lead-210	Vanadium
Zinc	
*For water only.	
**Mercury is not associated with uranium mining and milling	

Additional Samples Requested by Community Members



- Beginning in 2014, the EARMP community program started collecting additional samples requested by community members
- In total, 34 organ samples, 28 snowshoe hare, and 16 spruce grouse have been collected and tested
- Based on the available HHRA, the consumption of moose and barren-ground caribou organs, and snowshoe hare and spruce ground do not present health risks to Athabasca residents
- Elevated levels of lead were found in some spruce ground samples, especially in earlier sampling event, highlighting the importance of using steel shot rather than lead shot for hunting
 - The reporting of these instances of elevated levels to the communities is thought to have reduced the number of samples showing lead shot contamination in more recent sampling years

10 Year Summary of EARMP



10-year levels to date are similar to the baseline study



10-year levels to date are similar to the regional reference range.



Monitoring traditional foods and water



EARMP shows that water and traditional foods continue to be safe to consume and are part of a healthy diet for Athabasca Residents

Final Thoughts

- Community involvement and engagement from the beginning; with objectives driven by the community
- Adaptability to address changing concerns from community members
- A core, consistent program that is funded for the long-term
- An ability to put the data into meaningful context for the community

“We, the people of the north rely on the animals, birds, fish, and berries to provide us with country foods. That’s why it’s good to have EARMP to monitor everything from animals, air, plants, fish and birds. It is important for us to keep our traditional ways alive, but at the same time respecting the land, water and the wildlife.”

- Dennis Larocque of Camsell Portage



Thank you!
