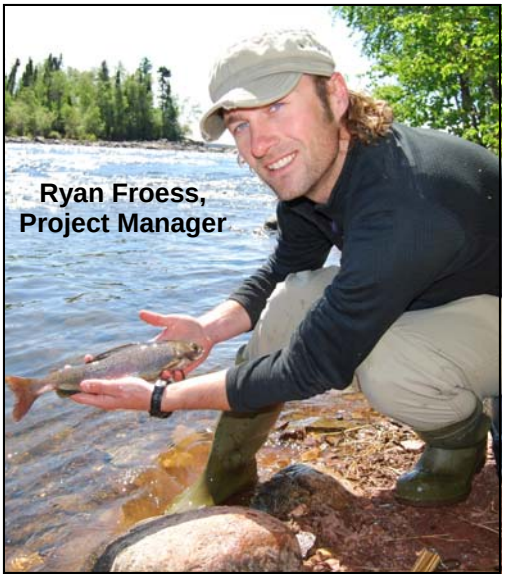
Fond-du-Lac 2012

Athabasca Working Group Environmental Monitoring Program

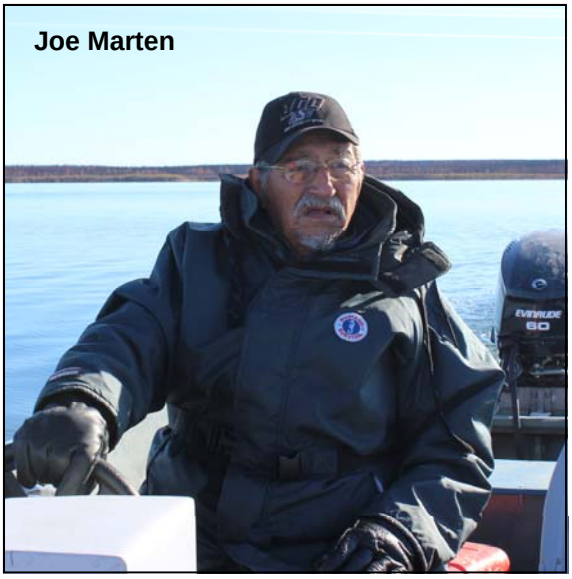
The Athabasca Working Group (AWG) environmental monitoring program has been going on since the year 2000 and provides residents with the opportunity to test the environment around their communities for parameters that could come from active uranium mining and milling operations. The parameters can potentially be spread by water flowing from lakes near the uranium operations, and small amounts may also be spread through the air. In order to address public concerns, lakes, rivers, plants, wildlife, and air quality are tested in northern Saskatchewan near the communities of Fond-du-Lac, Black Lake, Camsell Portage, Stony Rapids, Uranium City, and Wollaston Lake/Hatchet Lake.

Selection of the types of plants and animals sampled, the locations sampled, and the sample collections were carried out by, or with the help of, northern community members. The purpose of this brochure is to inform the public of the results from the 2012 AWG environmental sampling program that was completed in the Fond-du-Lac area.

Peary caribou



Ryan Froess, Project Manager



Joe Marten

STUDY AREA

Water, sediment, and fish are sampled from reference and potential exposure sites. Grease Bay is referred to as the reference site because it is not influenced by uranium operations. The Fond du Lac River is referred to as the potential exposure waterbody due to the possibility that it may receive parameters from active uranium operations located upstream.

Air quality is monitored at two locations near the community of Fond-du-Lac. Similarly, plant and wildlife samples are collected each year near the

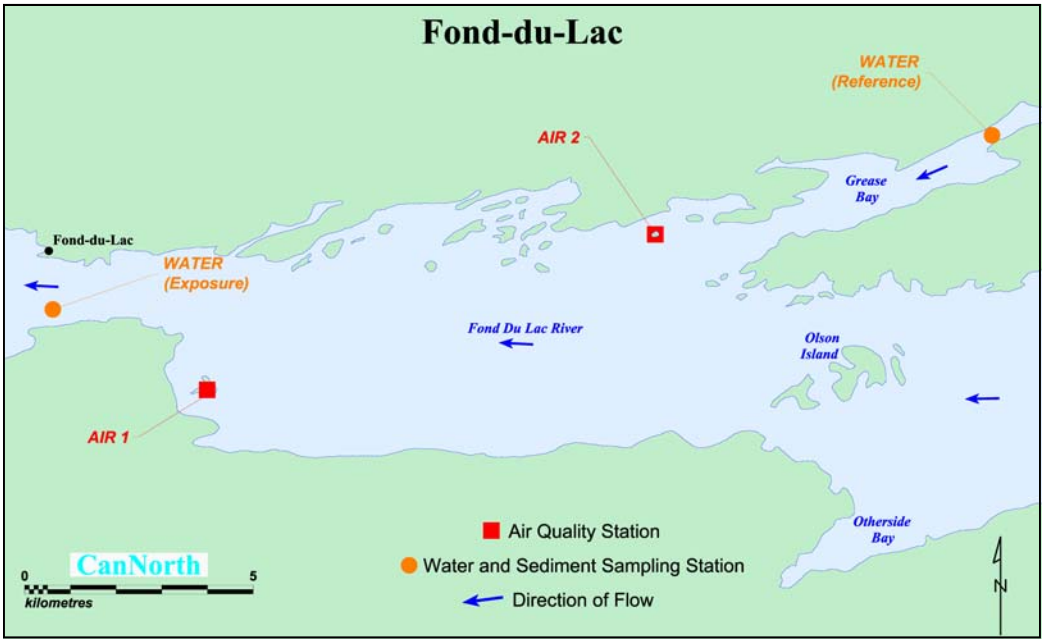


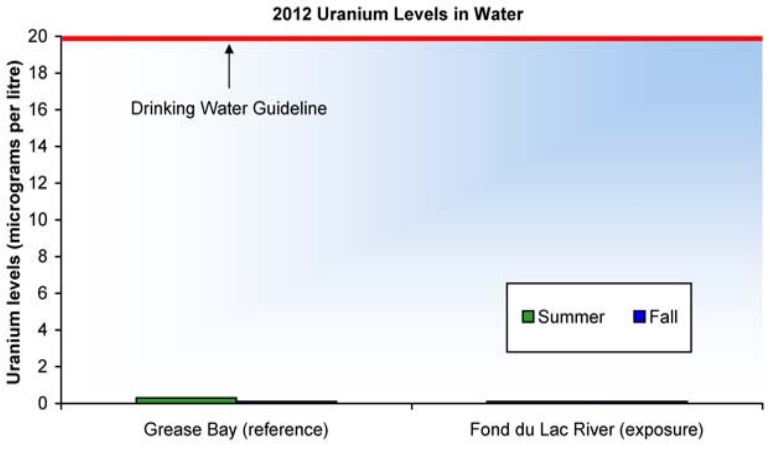

Photo credit: Doug Chisholm

KEY PARAMETERS

The focus is on certain parameters related to uranium operations that are of concern to human and environmental health. These include: copper, lead, nickel, molybdenum, zinc, radium-226, uranium, selenium, and arsenic. All of these parameters occur naturally in the environment and in parts of northern Saskatchewan they can sometimes be found in high amounts. To help establish whether the key parameters found in samples are naturally occurring or whether they are from uranium operations, the amounts measured are compared: 1) between reference and potential exposure sites, 2) between years, and 3) to available guidelines.

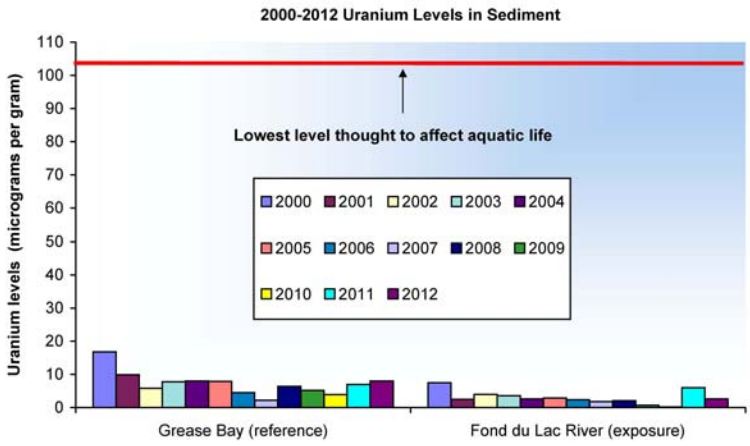
WATER

Water samples were collected in the summer and fall of 2012 in the Fond-du-Lac reference site of Grease Bay and the potential exposure site of the Fond du Lac River. The samples contained key parameter levels that were below the provincial guidelines for the protection of aquatic life and drinking water quality standards. They were often lower than the lowest amount measurable by the laboratory. The 2012 results for uranium are displayed in the graph.



SEDIMENT

Sediment is the mud on the lake bottom. Parameters from mine sites can potentially be carried by flowing water to lakes where they can be left in the sediment. It is important to sample the sediment because many different types of small animals that live there are often eaten by fish. Sediment was collected from the same locations used for water sampling.



The key parameter levels in the reference site of Grease Bay and the potential exposure site of the Fond du Lac River were below available guideline levels in 2012. Therefore, no effects to aquatic life are expected to occur. Sediment uranium levels since the year 2000 are shown in the graph.

FISH

Samples of lake whitefish and northern pike were collected from the reference site of Grease Bay and the potential exposure site of the Fond du Lac River in 2012. Levels of key parameters were similar to the levels recorded in previous years, and several of them were too low to be measured by the laboratory. Mercury is the only parameter in fish for which there is a consumption guideline. Mercury is widespread in the environment globally and can be found in soil, water, plants, and animals. It can be transported through the atmosphere and accumulates in predatory species (fish species such as northern pike, walleye, and lake trout) because they are higher up the food chain. Natural deposits in northern Saskatchewan are likely the cause of higher mercury levels in fish in some lakes (Saskatchewan Environment 2011). Mercury is not related to uranium mining and milling, but is an important parameter for human health. The fish from Fond-du-Lac did not fall into any category requiring restricted consumption. It is recommended that residents consult the provincial document, Mercury in Saskatchewan Fish: Guidelines for Consumption for more information. It can be found at the following website: http://www.environment.gov.sk.ca/.

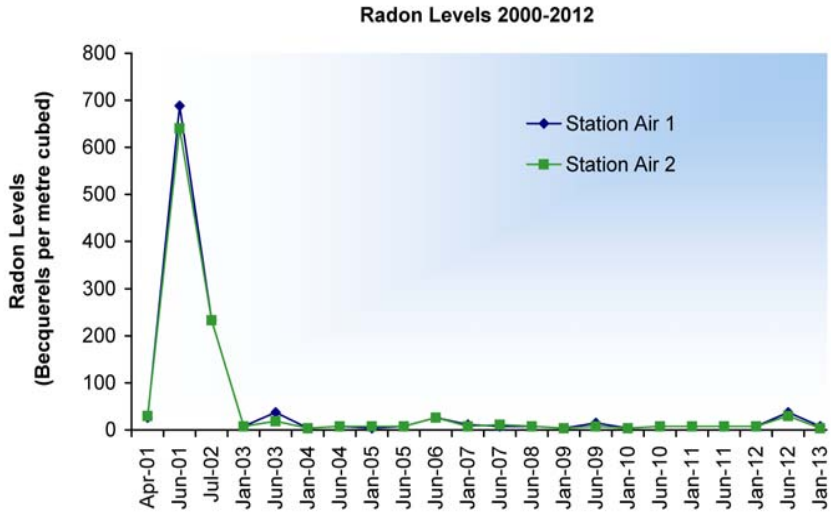
WILDLIFE

Samples of moose, barren-ground caribou, and lynx were obtained from the Fond-du-Lac area in 2012. Key parameter levels in the flesh samples were as expected because the results were similar to previous sampling years. Therefore, there is currently no reason to suspect human health or environmental concerns in the wildlife found in the Fond-du-Lac area.

PLANTS

Samples of blueberries, bog cranberries, and Labrador tea were collected from the Fond-du-Lac area in 2012. All of the measured parameters were similar to the levels found previously during the AWG monitoring program in Fond-du-Lac since 2000. Furthermore, the 2012 results were similar to the results from other AWG communities.

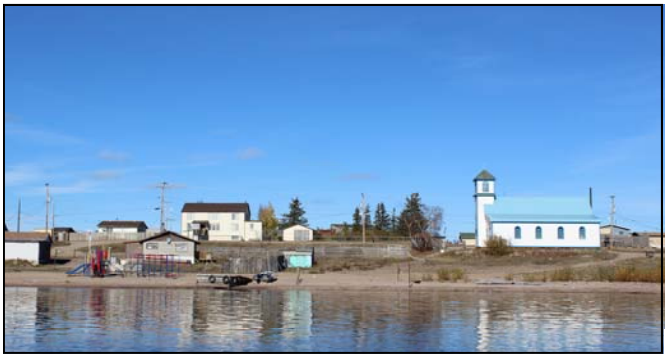
AIR



Radon levels were monitored at two air quality monitoring locations near the community of Fond-du-Lac in 2012. Radon is an odourless, tasteless gas produced naturally by the breakdown of uranium and radium-226 in the soil and water. As a result, radon levels are naturally higher in areas where uranium is found in the ground, especially in the summer months when the ground thaws and releases the gas into the air. The graph shows that radon levels have been very low since 2003.

CONCLUSION

Levels of key parameters measured in water and sediment samples continued to be below guideline levels in the Fond-du-Lac area in 2012, with the exception of copper in sediment. Generally, fish, wildlife, and plant samples contained key parameter levels similar to previous sampling years. Radon levels in the air also continued to be low in 2012. In conclusion, the results of the 2012 AWG monitoring program did not raise environmental or human health concerns for the community of Fond-du-Lac due to active uranium mining and milling projects in northern Saskatchewan.



ACKNOWLEDGEMENTS

The AWG program would not be possible without the involvement of northern residents who participate in the sampling program each year. Special thanks to Joe Marten who continues to do a great job collecting AWG samples from the Fond-du-Lac area. Thank you to the AWG members, who include representatives from the seven northern communities and the industrial partners, Cameco Corporation and AREVA Resources Canada Inc. Thank you to Doug Chisholm for photo permission.

This project was managed by CanNorth, an aboriginal environmental services company owned by Kitsaki Management. If you have any questions or comments please contact Peter Vanriel at (306) 652-4432 or awg@cannorth.com.