

North

Arsenic in lake sediment has Ndilo residents concerned about swimming safety

'Unless somebody was actually eating the mud...there is no public health concern' says N.W.T.'s top doctor

[Curtis Mandeville](#) · CBC News · Posted: Mar 30, 2016 6:25 AM CT | Last Updated: March 30, 2016



William Lines, community liaison and technical advisor with the Yellowknives Dene First Nation, is concerned the territorial government isn't taking the issue of arsenic contamination in lake sediments near Ndilo seriously enough. (CBC)

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comments

For decades, residents living in Ndilo, N.W.T., have had concerns about possible arsenic contamination in and around their community from nearby Giant Mine.

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During a community update on the Giant Mine Remediation project earlier this month, a seven-year-old boy asked the panel if it was safe to go swimming in the water around the community.

The federal representative from Indigenous and Northern Affairs passed on answering the question and referred it over to an N.W.T. Environment and Natural Resources official, who told the boy "I can't answer that question."

Responses like that that have William Lines, community liaison and technical advisor with the Yellowknives Dene First Nation, wondering if the territorial government is taking this issue seriously.

"They should be able to answer that question ... they represent the people," said Lines.

Lines said studies show levels of arsenic trioxide, a poisonous and carcinogenic byproduct of processing gold at Giant Mine, are high in lake sediment in some of the popular swimming areas frequented by children during the summer, and this might have serious health consequences for them.

Arsenic in lake sediments

For the last two years, researchers through the N.W.T. Cumulative Impacts Monitoring Program have been measuring arsenic levels in the water and sediment around Yellowknife Bay.

The work is headed by Environment Canada and is done in co-ordination with the Yellowknives Dene First Nation. The N.W.T. Department of Environment and Natural Resources has provided assistance in the project by supplying equipment, and monitoring resources.



Alice Evans of Ndilo says that in the late 1960s, she and other children from the community used to flock to the tip of Latham Island to swim. Now, she refuses to allow her grandchildren to swim there. (CBC)

Core sediment samples were collected from various locations around Yellowknife Bay, specifically near the communities of Ndilo and Dettah. They showed that arsenic levels near the mouth of Yellowknife Bay and Dettah were much lower than for sites close to Ndilo.

Arsenic was detected in every sample site around the community but some sites on the east shores showed higher levels.

The samples also showed that the highest concentrations of arsenic were in the top five-centimetre layer of the sediment. That concerns Lines.

"It does seem that there is arsenic in the sediment, and there's an oxygen layer that essentially keeps that arsenic capped there. But when the kids ... play and they dig around on that arsenic, it releases it all back into the surface water."

The federal government is handling the cleanup of the mine. The territorial government is responsible for the management of contaminated sites outside the mine lease area.

Lines said the Yellowknives Dene First Nation has told territorial officials about its concerns. He said he was told that there are plans to set up a committee to look at contaminated sites but they could not give him a timeline on when that will happen.

"If the people are concerned about the contaminants in the lake, then they should be looking at the contaminants in the lake and they should be on it with their highest priority," said Lines.

CBC has contacted the N.W.T. Department of Environment and Natural Resources, but it has not yet provided a comment.

Giant Mine's toxic legacy

Over its 56 years of operation, Giant Mine produced hundreds of thousands of tonnes of arsenic trioxide. About 237,000 tonnes were captured and stored in underground mine shafts.

But in its early years, in the late 1940s and 1950s, about 20,000 tonnes of the deadly waste was released into the air from its roaster stacks, and it settled on the surrounding lands. Contaminated mine waste water and tailings also seeped into the bay.



Dr. Andre Corriveau, N.W.T.'s Chief Public Health Officer, says despite there being high arsenic concentrations in the lake sediment, residents in Ndilo should not be deterred from swimming in the lake. (CBC)

Ndilo resident Alice Evans says that in the late 1960s, she and other children from the community used to flock to the tip of Latham Island to swim.

She said no one from the community knew about the arsenic contamination in those days. But she recalls, in the late 1970s, someone collecting hair samples for arsenic testing. She said she never did find out what the results of those tests were.

Since that time her opinion of the water's safety has changed.

"I still don't think it's safe," Evans said.

Today, she refuses to allow her four grandchildren to swim there. They go to Yellowknife's indoor pool instead. She said she would like the government to test residents for arsenic.

Top doctor says no public health concern

But Dr. Andre Corriveau, N.W.T.'s Chief Public Health Officer, said despite there being high arsenic concentrations in the lake sediment, residents in Ndilo should not be deterred from swimming in the lake.

"The arsenic is poorly absorbed through the skin," he said. "The skin is a very good barrier to these forms of arsenic.

"Unless somebody was actually eating the mud ... there is really no public health concern. Even with the fact we know there's high arsenic levels inside some of the mud."

Corriveau said taking a few gulps of muddy water once in a while over a period of several years would also not be an issue. He said the body clears some of the arsenic as time passes.

However, he also said theoretically children who play in the water in stirred-up sediments every day and ingest some of it on a regular basis may be at risk for high levels of arsenic and should get tested.

He said the levels are probably not high enough to cause acute poisoning, where a person would immediately get sick. But anyone who is exposed for prolonged periods may be at risk of other health problems.

"We know that arsenic at those kinds of levels, if you're exposed on a regular basis, you can develop some health problems. It's known as a carcinogen for example for the intestines, the kidneys," said Corriveau.

Corriveau said his department will keep an eye on further test results as they come in but that he is not prepared at this point to put a ban on swimming in the lake around the community.

He said he is looking at issuing a public advisory sometime this spring that will map out the level of arsenic contamination in certain areas and whether or not it is safe to use those areas recreationally.

He also said that through the Giant Mine Remediation project there are plans for a bio-monitoring study that will look at arsenic levels and exposure on residents.