

Impact of gold mine contamination in N.S. understudied, research finds | CBC News

Frances Willick · CBC News · Posted: Feb 25, 2020 10:37 AM AT | Last Updated: February 25

Only a fraction of the province's hundreds of old gold mines have been studied for accumulation of mercury and arsenic in living things.



A new study shows that only a few of the province's many historical gold mines have been studied for the accumulation of mercury and arsenic in living things. Montague Gold Mines, pictured above, was one of the

largest historical gold mines in the province. (Frances Willick/CBC)

There are "significant gaps" in knowledge about the impacts of contamination at historical gold mines in Nova Scotia, a new study has found.

The study, published Tuesday in the journal *Environmental Reviews*, examined all the previous scientific literature about accumulation of mercury and arsenic in living organisms due to contamination at old gold mine sites in the province.

Of 64 historical gold mine districts — each of which can contain dozens of individual mines — only 18 districts have been analyzed for mercury and arsenic accumulation in living things, the study found. There are more than 360 individual mines across the 64 districts.

"There's really been not very much work that's been done to study the environmental effects of all of this leftover waste and potentially the human health concerns," said Molly LeBlanc, the lead author of the study and a recent master's graduate in applied sciences at Saint Mary's University.

Those information gaps mean the health of living organisms, including plants, fungi, invertebrates, amphibians, fish and mammals — including humans — could unknowingly be at risk.



The health of living organisms such as amphibians, fish and mammals could be at risk due to elevated levels of mercury and arsenic at former gold mine sites. (Craig Paisley/CBC)

The studies LeBlanc and her co-authors examined found "really strong evidence" that historical gold mine waste is affecting species living nearby, and levels of mercury and arsenic often exceed designated standards.

"If people are fishing near the sites or ... foraging food near the sites, then it definitely could be a concern," LeBlanc said.

Hunted game, fish, shellfish, seaweed, berries and mushrooms could be affected.

Seal Harbour in Guysborough County is the only location in the province where harvesting of wild food is prohibited due to gold mine contamination.

The Canadian Food Inspection Agency has no guidelines for mercury or arsenic levels in shellfish, but levels found in mussels, clams and periwinkles in Seal Harbour — located near a large former mine — were well above maximum levels

set by other countries, such as New Zealand, Hong Kong and Australia.

More research needed

LeBlanc's study points out research should be done at other locations to assess the risks there.

"It seems surprising that more studies haven't been done to assess this risk but I'm definitely hoping this might shed some more light on this issue," she said.

The province experienced waves of gold rushes dating back to the 1860s that left a legacy of mercury and arsenic contamination.

Mercury was used to separate gold from crushed ore, and the waste from that process was usually dumped in nearby bodies of water. Arsenic, a naturally occurring mineral, was released into the environment as part of the mining process.

The province is now grappling with [how to deal with that contamination](#), and has [committed to containing contamination](#) at two historical gold mines.