



Human Health Risk Assessment of Sediment, Surface Water and Fish from Barry's Run, Halifax Regional Municipality

Questions & Answers:

What kind of study was conducted in Barry's Run?

- A human health risk assessment study was conducted to examine whether people using the area for swimming, wading, hiking or fishing could be exposed to levels of arsenic that could be of concern from a human health perspective. Arsenic is a naturally occurring mineral and is naturally elevated in this area due to the underlying geology, but historic mining activities have increased arsenic levels above what is typically found in the environment.
- While mercury wasn't identified as a concern in earlier studies, it was included in this risk assessment out of an abundance of caution, as it is associated with historic mining activities.
- Risk assessment studies are often conducted when measured levels of chemicals are higher than standards set by the Province. The study's methods followed Health Canada guidelines using conservative high-exposure scenarios to look at potential impacts on health.

What did the study find in Barry's Run?

- While there are no immediate health concerns related to undisturbed sediments of Barry's Run, risks related to arsenic exposures could exceed Provincially acceptable levels if they were to have frequent, prolonged contact with sediments—such as wading in the water—or eat large numbers of fish from the Barry's Run area. The study's results indicate the risks related to arsenic associated with occasional swimming are insignificant, as long as sediment contact is minimized.
- Exposures related to mercury from swimming, sediment contact, hiking or fish consumption were estimated to be insignificant if current provincial fish consumption advisories are followed. The current provincial fish consumption advisory is a province-wide guideline which was issued due to elevated mercury found in many lakes and streams.
- It's recommended that swimming and fishing remain restricted in Barry's Run until the Montague Mines closure/reclamation work is complete and changes to the environment are evaluated.



- Based on what is understood now, Barry's Run appears to act as a sink for sediments from upstream areas. This means that sediments tend to get trapped in Barry's Run. The Province is conducting a water and sediment transport study at the former mine site to better understand this process. Sediment movements are likely caused by human disturbance and/or high-flow and storm events.
- Reducing or eliminating ground-disturbing activities such as ATV and dirt-bike use, and stabilizing exposed mine tailings at the former mine area will help to reduce sediment transportation and improve the situation in Mitchell's Brook and Barry's Run immediately and in the future.

Is there a study also going on in Lake Charles?

- An additional study is underway in Lake Charles. Sampling of sediment, surface waters and fish tissues took place in the fall of 2019. This study is still underway, and the findings will be announced to the community once it is completed.