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## INFORMATION BULLETIN

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Ministry of Environment

### **Mount Polley fish-testing and water-quality results**

WILLIAMS LAKE – Testing continues on samples taken from Polley and Quesnel lakes.

Several fish have been tested and deep water-quality testing has occurred. The following results are to be expected, given the location and pose no human health risk.

On Aug. 8, 2014, provincial staff collected four lake trout and two whitefish from Quesnel Lake and two rainbow trout from Polley Lake. Upon visual inspection, none of the fish captured showed any signs of distress.

The fish tissue analyzed shows an elevated level of selenium in the livers and gonads – exceeding guidelines for human consumption. However, a person would need to consume about one cup of lake trout and rainbow trout livers and gonads in one day in order to exceed the high-consumption threshold. By comparison, consumption of one cup of lake trout or rainbow trout flesh (not including livers and gonads) per day does not exceed the guideline.

After consultation with Interior Health, the public is advised that the flesh of the fish remains safe to eat. However, those wishing to take extra precautionary measures may choose to remove the liver or gonads prior to consumption. The sampled fish also show slightly higher levels of arsenic, copper, manganese and zinc when compared to fish sampled from 54 other lakes throughout the province, but are still within human consumption guidelines.

These results are to be expected for fish from Quesnel and Polley lakes. When these results were compared to a 2013 report of fish flesh, gonad and liver data, similar levels of selenium in excess of the guideline for human consumption were found.

The local geology where mines are located often have elevated levels of metals, meaning naturally occurring metal concentrations in local water bodies could be much greater in this region than elsewhere in the province. Additional fish have been collected from Quesnel Lake and are currently being analysed at an independent lab.

To determine potential impacts on aquatic life, water quality samples were also taken from Quesnel and Polley lakes at the following depths and locations:

- Quesnel Lake southeast corner of Mitchell Bay – 0.5m and 25m depths.
- Quesnel Lake Cariboo Island Shelf – 0.5m and 30m depths.
- Quesnel Lake upstream Island North Shore – 0.5m and 8m depths.
- Quesnel Lake near Hazeltine Creek Deep Station – 0.5m, 36m, 45m and 60m depths.
- Quesnel Lake at Hazeltine Creek – 0.5 and 10m depths.
- Discharge of Polley Lake water into Hazeltine Creek.

The review, which analyzed pH, conductivity, turbidity, total suspended and dissolved solids, total organic carbon, hardness, alkalinity, nutrients, general ions, total and dissolved metals, as well as E.coli, found that concentrations were below aquatic life guidelines in most of the sampled sites.

Copper levels did exceed chronic aquatic life guidelines at the 30-metre depth in the Quesnel Lake Cariboo Island Shelf site. Acute aquatic life guidelines were slightly exceeded at the surface in the Quesnel Lake upstream Island North Shore site.

Samples taken below 30 metres in Quesnel Lake near Hazeltine Creek Deep Station show a slight increase in the levels of phosphorus, chronic dissolved aluminum and total cobalt, chromium, copper, silver, vanadium and zinc over the set guidelines. Acute copper and iron guidelines were significantly exceeded at both the 45-metre and 60-metre levels.

The discharge of Polley Lake water into Hazeltine Creek shows a slight exceedance over the guideline for pH and chronic guideline for copper.

High dissolved aluminum values and significant exceedances of acute copper and iron guidelines may result in impacts to aquatic life at a 45-metre depth and below in Quesnel Lake at Hazeltine Creek Deep Station. Higher aluminum values are expected as aluminum concentrations are generally higher in water bodies in this area.

Interior Health continues to assess sample results provided by the Ministry of Environment for any potential human health risks, including the most recent results related to deep water and fish. At this time, the water “Do Not Use” order for the impact zone involving Polley Lake, Hazeltine Creek and a small part of Quesnel Lake remains in place. In addition, the recent fish testing reaffirms Interior Health’s position that fish consumption is safe, but long-term monitoring will continue.

Samples that continue to exceed chronic guidelines do not automatically indicate impacts to aquatic life. Potential impacts may be seen after long-term increased exposure.

More information regarding response to the Mount Polley mine incident can be viewed here: <http://www.env.gov.bc.ca/eemp/incidents/2014/mount-polley.htm>

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