



Mount Polley update for Lower Fraser First Nations

August 8, 2014

Since the Mount Polley tailing pond breach on August 4th, many people have raised concerns about the fate of migrating salmon and on how safe it is to eat Fraser River salmon. The short answer is: yes it is safe from the point of view of containing Mount Polley contamination. But that doesn't mean that you shouldn't be concerned about the disaster. Here is a quick update on what has happened and what impacts you can expect that the disaster will have on salmon this year.

Background on the mine

Mount Polley Mine is an open pit copper-gold mine located in Central British Columbia near Quesnel Lake which eventually drains into the Fraser River. Water is used during the metal extraction process, and the waste water which contains the non-valuable minerals and contaminants is stored in tailing ponds to allow for sedimentation (meaning separation of the solid materials from the water into the sediment). When you hear that Mount Polley has been allowed to release water in the past, they have indeed been releasing water that has less contaminants than the sediments at the bottom of the pond. The problem with this breach is that not only water was released (which the president of the company says is drinkable), but so was the toxic sludge. So far at least, the only samples that government officials have been taking are water samples, not sediment samples. This is unfortunate because this is where the highest concentration of contaminants will lie.

How will it impact salmon in the lower Fraser River?

By the time the contaminants in the water work down the system (including through Polley Lake, Hazeltine Creek, part of Quesnel Lake, Quesnel River, and finally into the Fraser River), they will be diluted and will likely pose little immediate threat to the migrating salmon. Those salmon would uptake contaminants through food (which they consume very little of while migrating upstream to spawn) and gills. While they might accumulate some contaminants, the level will be relatively low and should not pose a risk for people who eat salmon this year. This assessment is based on salmon migrating to spawn, not on resident trout. Those fish may have much higher concentrations and should be tested separately. We have heard reports of dying or injured fish lower in the river (Lillooet area, Yale, etc). We are pretty sure that these fish have not yet been analysed, but we would caution that something else is likely causing their deaths. Remember that we are experiencing higher than normal water temperatures in the river (20°C on August 7th at Qualark compared to the 1971-2000 historical average temperature of 17.8°C), which stress fish and can contribute to disease and death. We need to be concerned about this year's run for a number of reasons; the Mount Polley spill just one of them.

We should, however, be concerned with how the offspring of these migrating salmon will be impacted by the Mount Polley tailing pond breach. The contaminants, especially those in the soil that was

released, will pollute the fish spawning areas for many years since eggs, alevin, and juvenile salmon tend to hang out closer to the sediment and eat small organisms that may be contaminated. Long term impacts can range from higher mortality in these young salmon stages, lower reproductive success of those that survive, lesions and changes to behaviour (including impacting ability to return to spawning grounds). These impacts will be highest closer to the area where the bulk of the sediment are deposited, so fish spawning lower, as well as those passing by Quesnel River while migrating further up the Fraser system, will be less at risk.

Carl Walters, an expert on Fraser salmon, does not foresee much of an impact to the sockeye run, but does have concerns about how the sediment may impact chinook spawning grounds (<http://www.macleans.ca/news/canada/salmon-expert-tailings-pond-leak-wont-affect-sockeye-salmon-run/>). The public should also be concerned about impacts to Interior Fraser River Coho that spawn in the upper reaches of the Fraser, including in tributaries to Quesnel Lake. These fish are finally showing slight signs of recovery but contamination and over sedimentation of the spawning grounds may have important effects.

What can Lower Fraser First Nations do?

Don't get us wrong, we're not saying that we shouldn't be concerned. This is a huge breach of contaminants! But we don't need to panic and overharvest or stop eating salmon. Nations should be pushing Health Canada, the Province, and DFO to make sure that samples are taken from water, sediments, and salmon tissue now and over the next few years. These samples can be taken relatively cheaply and processed quickly.

Furthermore, this issue highlights gaps in our government regulation of industry. The company had warnings in the past that the structure was not adequate, but the government did not force the company to do anything about it. Instead the problem got worse until the breach. The company may be fined up to \$1 million, according to BC Minister of Energy and Mines Bill Bennett, but that will do little to compensate for the loss to fish habitat and water quality. First Nations in BC have an important role to play in strengthening the protection of the environment. Industrial development can occur if proper protections are in place. But that is a separate conversation.

For more information, see

- <https://www.facebook.com/pages/FRAFS-Fraser-River-Aboriginal-Fisheries-Secretariat/150376608485259>
- <https://www.facebook.com/hashtag/mountpolley>
- <http://www.cbc.ca/news>
- www.mining.com/web/some-facts-about-the-mount-polley-mine/
- <http://www.fnha.ca/about/news-and-events/news/mount-polley-mine-communique>
- <http://www.cariboord.bc.ca/>
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