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My Turn: BC Mines and the Taku watershed

By [SARAH O'NEAL](#) FOR THE JUNEAU EMPIRE

In August, when British Columbia Minister of Energy and Mines Bill Bennett first laid eyes on the metals-laden acidic waste that's been flowing from the abandoned Tulsequah Chief Mine into the salmon rich Taku watershed for decades, his reaction was right on. He immediately indicated that BC has a responsibility to clean up the toxic mess, and he stated his intention to take swift action to do just that.

Unfortunately, Bennett quickly backtracked two weeks later when he said, "You've got a tremendous amount of data that shows that there isn't any impact on water from what's happening at Tulsequah Chief. There isn't any impact on the Tulsequah River and certainly no impact that has been noted in all the testing that's done in the Taku River." That assertion is dead wrong.

A mere five short-term water quality studies have been conducted in the nearly six decades since the mine stopped operating — several of them flawed, and none of them comprehensive. One of those studies concluded Tulsequah Chief mine is the major contributor of toxic heavy metals to the Tulsequah and Taku drainages during low flows. The most recent study, commissioned by the mine owner itself, Chieftain Metals, documents copper levels at the mine site exceeding BC standards by 1,000 times, with levels up to 13,000 parts per billion. Copper is one of the most toxic elements to aquatic life. At increases of just 2-20 parts per billion (equivalent to 2-20 drops in an Olympic-sized swimming pool), copper impacts a salmon's ability to smell. That ability facilitates locating spawning grounds, finding food and mates and detecting predators. In other words, sense of smell is essential to salmon survival.

Zinc, another byproduct of the defunct Tulsequah Chief mine, exceeds legal standards by over 2,000 times at the mine site. Zinc is also toxic to fish—inhibiting growth, breathing, heart function and spawning, ultimately decreasing survival. Although Bennett implies the impacts of toxic metals like copper and zinc don't extend beyond the mine site, mining company data proved otherwise. Scientists sampled the Tulsequah River 1.4 miles downstream of mining activity, where copper and zinc still exceeded BC water quality standards by more than five and six times, respectively. But they failed to sample any further downstream than that. Consequently, data delineating the full extent of impacts to water quality and the entire salmon food web simply do not exist.

The water quality in and around Tulsequah Chief is so degraded, Chieftain Metals is currently violating permit requirements, Canadian federal law and a Memorandum of Understanding with the Taku River Tlingit First Nation. In 2009, when a Senior Enforcement Officer for Environment Canada collected water from the mine site for analysis, it caused 100 percent fish mortality in less than three hours. That prompted the agency to order immediate cleanup of the site. In response, Chieftain invested millions in a wastewater treatment plant which operated for less than four months. Complaining of the high cost of operation, Chieftain Metals pulled the plug on the treatment plant in June 2012, and concentrations of heavy metals again skyrocketed to lethal levels. In a post-mortem analysis of the plant, Chieftain concluded that impacts from mine waste to fish cannot be prevented until waste rock from past mining is capped.

Although less shocking in appearance, the situation at Tulsequah Chief is as unconscionable as last year's tailings dam disaster at BC's Mount Polley Mine, which released billions of gallons of toxic tailings into the Fraser watershed. The uncontrolled, decades-long release of toxic metals into the Taku's world-class salmon watershed must end immediately — either with resumed water treatment or capping waste rock. During his recent visit, Minister Bennett was quick to assure Alaskans that Mount Polley was an exception and not part of a pattern in BC, and that British Columbians “care about the natural environment ... and are not going to take irresponsible chances.” But actions speak louder than words. In light of rapidly expanding mining activity in BC's transboundary region, Tulsequah Chief stands as the test of Minister Bennett's and the BC government's commitment to responsible mining. And so far, they are failing.

•Sarah O'Neal is a PhD student in salmon ecology at the University of Washington with 18 years of experience conducting research in salmon ecosystems in the Pacific Northwest, British Columbia and Alaska.

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