

Lars Sander-Green
Mining Lead
Wildsight
#2-495 Wallinger Ave
Kimberley, BC
250 427 9325

October 9, 2020

Dear Senators and Representatives of the Water Policy Interim Committee,

We urge you to allow DEQ rulemaking to proceed without delay to set a selenium standard for Lake Kooacanusa.

Over the last five years, the cross-border Lake Kooacanusa process has developed a solid base of data and science, culminating in the recent peer-reviewed USGS model for selenium ecological protection. The proposed DEQ selenium limit of 0.8µg/L for Kooacanusa is a sound consensus value based on input from scientists from the State of Montana, the US EPA and USGS, the Province of British Columbia, the Ktunaxa Nation in Canada, the Confederated Salish and Kootenai Tribes and the Kootenai Tribe of Idaho, all of whom have concluded that a limit between 0.6-0.9µg/L is needed to protect fish.

With three new mines in the Elk Valley and Teck's massive Castle expansion, which would allow coal mining to continue until 2060, all in environmental assessment processes in Canada right now, it's crucial that Montana move forward to adopt this standard immediately. Otherwise, Montana will leave it up to B.C. and Canada to determine how they will meet their obligations under the Boundary Waters Treaty of 1909 and as good neighbours in these environmental assessment processes. Though we would rather not have to write this as British Columbians, the evidence to date makes it very clear that B.C. and Canada will not act to protect our shared waterways and that Montana needs to draw a clear line in the sand to motivate our country to do better by our neighbours. B.C. and Teck need to hear clearly from Montana that enough is enough and things have to change—and they need to hear it now.

Both Montana and B.C. have agreed to adopt a shared standard based on the best available science in 2020. If Montana moves ahead to adopt this standard in 2020, we expect that B.C. will follow suit and adopt the shared 'one lake, one number' standard for Lake Kooacanusa as planned. If Montana delays now, we fear that B.C. will use any sign of uncertainty as an excuse to delay or weaken a provincial standard for Lake Kooacanusa. B.C.'s current unenforceable guideline for selenium pollution is 2.0µg/L and B.C. has already allowed selenium levels to peak at more than 2.5µg/L in the Canadian portion of the reservoir. If Montana doesn't move forward to adopt this selenium limit, we fear B.C. will continue to allow selenium levels to rise over the long term. With current mining practices, every tonne of waste rock that Teck dumps today will keep leaching selenium into our waterways for centuries.

Teck is a very well politically connected company in B.C. who have been remarkably successful in their lobbying efforts to avoid regulation and enforcement in the province, so we urge Montana to act now to protect Montana's clean water, fish and people. Do not expect British Columbia to protect Lake Koochanusa if Montana doesn't act.

A slow motion environmental disaster

Wildsight is a conservation organisation in southeastern British Columbia and we've been working on issues related to the Elk Valley coal mines for decades. The selenium pollution problem has been steadily growing since open pit mining began in the Elk Valley in the 1970s. The problem has been well known for a long time, with the first provincial task force looking at the problem set up in the late 90s. Since then, with increases in mine production and the ever-growing waste rock piles, the pollution problem has become much worse and little has been done. Long-term selenium levels will continue to increase in the Elk Valley and Lake Koochanusa as mining continues. Selenium builds up in fish tissue, causing birth defects, growth problems and complete reproductive failure. Humans can also suffer health effects from excess selenium if they drink contaminated water or eat fish from contaminated waterbodies.

Now, fish populations in some of the most heavily contaminated rivers in the Elk Valley have collapsed. Meanwhile, in Lake Koochanusa, where the still water allows selenium to build up in fish to a much greater extent relative to the concentration in the water, many species have been found with selenium in their bodies at levels high enough to cause reproductive problems. Selenium is a difficult pollutant to see the effects of directly and also a pollutant that quickly goes from merely risky to highly dangerous as concentrations increase. Even if pollution is causing reproductive failure for a certain proportion of a fish population, the effects might not be seen until they reach a tipping point where populations collapse. That's why the Lake Koochanusa process between Montana and BC took five years to end up with the best possible science for a selenium level that keeps fish safe by keeping their selenium levels in fish tissue away from the tipping point.

Teck is under federal investigation under the Fisheries Act in Canada for their selenium pollution, with the potential for federal charges at any time. The company has also repeatedly violated provincial pollution limits, even when those limits were suggested by the company themselves at levels far above those considered safe for fish.

The long-term problem

Teck will no doubt tell you about their big plans for water treatment at their mines. So far, their results have been poor, with treatment years behind schedule after a fish kill downstream of a treatment plant and a biological issue that made the treated water even worse for fish directly downstream. Now Teck is trying a new technology called saturated rock fill, but very little detail is publicly known about this technology. Even with plans to build more than a dozen water

treatment facilities in the Elk Valley, Teck still is planning for selenium in Lake Koochanusa to reach roughly 1.5µg/L every year indefinitely. It's crucial that Montana adopt a standard that keeps fish safe now, while Teck's treatment facility plans can still be changed or alternate plans can be made.

Regardless of what might happen with water treatment, the biggest challenge is the long term. Selenium leaching from the Elk Valley waste rock dumps will continue for an unknown length of time. Even waste rock from the 1970s is still leaching just as much selenium as it always has. Selenium will keep flowing from the Elk Valley for many centuries, perhaps longer. It's clear that Teck, who estimate their long-term water treatment operating costs at \$72 million per year, can't keep treating water for centuries. So far, the company has not made any plans to deal with the pollution problem beyond their short-term treatment facilities—and that leaves our waterways facing a ticking time bomb of water pollution that will go off as soon as water treatments ends. Once BC and Montana adopt a shared standard, crucial discussions to push Teck and B.C.'s to develop a plan to meet that standard over the coming centuries can begin.

There has been a lot of discussion about alternative waste rock dump construction techniques for the Elk Valley coal mines. In theory, by preventing air and water from travelling through the waste rock dumps, selenium leaching would be prevented. These alternative techniques have the potential to solve the selenium problem before it even begins, which is the only real long-term solution. Despite billions in annual profits, Teck has not even tested these techniques because of their additional cost. A strong Koochanusa selenium standard would push Teck to at least attempt these techniques at scale in order to meet the standard, potentially reducing long-term selenium pollution very significantly.

Decades more of mining

Three mines from other companies are currently in the federal and provincial environment assessment processes, while Teck has also proposed a massive expansion of their biggest mine, which would be Canada's largest coal mine. Existing mine permits for Teck mines allow mining to continue for roughly two more decades, while Castle would approve mining until 2060. Currently permitted and proposed mining would double or triple current selenium levels in Lake Koochanusa. Castle alone would add more than 1µg/L of selenium to Lake Koochanusa, exceeding the DEQ standard just from one mine. Even if Teck's water treatment facilities remove some of this selenium in the short term, once water treatment stops, selenium levels would immediately rebound to very high levels.

A strong shared standard (or even just a Montana standard) will be an important factor in these environmental assessments. We expect significant steps in at least two of these environmental assessments in 2020 and 2021. Canada's ability to meet a 0.8µg/L standard will be considered carefully in these environmental assessments, especially at the federal level, where the government has responsibilities under the Boundary Waters Treaty and to protect fish and fish

habitat. Without this standard in place, it is likely that environmental assessments will proceed based on B.C.'s current 2µg/L guideline, leading to much more long-term water pollution in Montana. Once these environmental assessment processes have concluded, it will be much more difficult to limit water pollution.

Federal issues

We also want to emphasize the importance of the Canadian federal government's role in regulating selenium pollution. Despite their ongoing investigation, the federal government has been largely absent as a regulator in the Elk Valley over the past decades. With a Montana standard in place for Koochanusa, we expect the Canadian federal government will come to the table given their responsibilities under the Boundary Waters Treaty and for international relations in general. The federal government is significantly less susceptible to lobbying from Teck than the B.C. government and significantly more likely to set protective limits and enforce them. The federal government is also developing specific water pollution limits for coal mining on a national level, though those draft regulations currently have exemptions specifically written into them for Teck. We hope that a DEQ standard will force the federal government to revise and strengthen these Teck-specific regulations and we will push the Canadian government to do so as soon as the DEQ standard is adopted.

Solid science

We have been impressed with the solid work done by USGS scientists for selenium modelling, with the help of the many experts from the Lake Koochanusa Monitoring and Research Working Group. While there will never be as much data as we'd all like, we are certain that after five years of work, there are solid conclusions to be found in this modelling that should be adopted into regulation without further delay. These modelling results show very clearly that the EPA national standard is not protective of fish in Lake Koochanusa and that the site specific standard must be adopted to avoid reproductive failures for fish. We note that the USGS modelling for Lake Koochanusa is far stronger than the modelling undertaken by Teck and their consultants to set selenium pollution limits in B.C. We question Teck's sincerity in their attempts to call into question the USGS modelling on this basis, especially as Teck has been part of the Koochanusa process since it began. It was only after it became clear that the results weren't to Teck's liking that their complaints began.

Downstream impacts

As many will note, this decision will not only impact Montana waterways and fish, but also the entirety of the Kootenai River in Idaho. Additionally, the Kootenai River returns to Canada from Idaho and flows into Kootenay Lake. Water quality sampling from Montana, Idaho and B.C. has shown that selenium pollution levels are roughly constant throughout the length of the river between Koochanusa and Kootenay Lake. We have serious concerns about the impacts on fish of this selenium pollution downstream in the Kootenay River in B.C. as well.

In Kootenay Lake, selenium levels have been recorded as high as 0.7µg/L. If selenium levels are allowed to continue to rise in Kooconusa, risk to fish in B.C.'s Kootenay Lake will increase.

In particular, white sturgeon, an endangered species in the Kootenai system in the US and Canada, live in Montana, Idaho and B.C., travelling between these jurisdictions. White sturgeon, who are the most sensitive fish species known to the EPA, are already suffering from reproductive difficulties because of flow changes due to Libby Dam. The additional reproductive effects of selenium pollution on this endangered species is only beginning to be studied in detail. A strong selenium standard for Lake Kooconusa will help protect the endangered sturgeon downstream in both of our countries.

Conclusion: A strong limit is best for all

Just as good fences make good neighbours, a safe, strong shared pollution limit for Lake Kooconusa will make better neighbours of British Columbia and Canada. Fundamentally, the billions of dollars of profits that Teck makes annually in the Elk Valley and the significant revenue the coal mines bring in to the provincial government have made the province far too willing to accept pollution of our shared waterways. A strong selenium standard for Kooconusa, as proposed by the DEQ, will push B.C. to adopt a parallel standard as promised, will bring the Canadian federal government to the table, and will be an important factor in upcoming environmental assessments, leading to better outcomes for clean water, fish and people in both our countries.

Teck is building a centuries-long legacy of pollution in the Kootenai River system. It's high time Montana does something about it, instead of just letting the company build up a toxic mess that will flow into Montana waters for generations.

Sincerely,

Lars Sander-Green