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IMPACT OF ACID PRECIPITATION FROM PACWEST SMELTER ON SANDPOINT, ID, MUNICIPAL WATER SUPPLY

The City of Sandpoint, ID, has excellent quality drinking water, with no current state or federal compliance issues. It has two major surface water sources of its drinking water: Little Sand Creek and Lake Pend Oreille. Both are close enough to PacWest's proposed smelter site to potentially be impacted by smelter air emissions. The City of Sandpoint met and exceeded all standards for drinking water quality in 2017. See the 2017 consumer confidence reports (links in next paragraph) for specific parameters and levels.

"The City of Sandpoint produces potable water at two separate facilities: The Sand Creek Plant treats water from Little Sand Creek, and the Lake Plant treats water from Lake Pend Oreille. The Sand Creek plant is a conventional plant that uses coagulation, flocculation, sedimentation, and filtration to physically remove contaminants. The water is then disinfected with chlorine to protect against pathogenic microorganisms. The Lake Plant is a membrane filtration plant, after coagulation and flocculation, the water at the Lake Plant is filtered through microfiltration membranes, it is then disinfected with chlorine. In 2017, 51.9% of production was from the Sand Creek Plant, and the remaining 48.1% was produced at the Lake Plant." <http://www.sandpointidaho.gov/home/showdocument?id=9007> For flow diagrams of the two plants see: <http://www.sandpointidaho.gov/home/showdocument?id=6351>

The Idaho Department of Environmental Quality had a surface water susceptibility analysis done for Little Sand Creek in 2000. It was rated for fairly low susceptibility for manmade contaminants. See: <http://www2.deq.idaho.gov/water/swaOnline/SurfaceWaterSusceptibilityScoringResults?PwsId=ID1090121&SourceTagNumber=E0005129> However, Little Sand Creek's water is acidic; a basic chemical is added at the treatment plant to adjust its pH. With the proposed PacWest smelter and expected emissions that create acidic precipitation, this susceptibility analysis needs to be updated.

In October and November, 2017, the Lake Pend Oreille Waterkeepers collected data on Little Sand Creek (Little Sand Creek Watershed and Sand Creek Water Quality Monitoring report). "The primary goal of the project was to collect water quality information from 3 locations in the Little Sand Creek Watershed with the intention of creating a baseline dataset." While most parameters showed excellent results, but "Alternatively, pH measurements across all sites were surprising. With the exception of one measurement from Watershed #3, all pH readings were 6.5 or below (Figure 4). On the pH scale, 7 is neutral, so the vast majority of Watershed samples were on the acidic side. This is in stark contrast to the pH of lake samples which demonstrate elevated pH above 7. Lake samples are basic due to the presence of limestone. The pH of the Watershed samples reflects a more granitic geology."

Clearly, the Little Sand Creek watershed is the more vulnerable of Sandpoint's water sources to acidic precipitation, which would not only lower the pH of its water, but also could increase levels of inorganic elements such as metals. This would increase treatment costs for the City of Sandpoint in terms of adjusting the pH to lessen impacts such as corrosion and leaching of lead in its distribution system. If contamination becomes too extreme, the City of Sandpoint might have to cease using its major source of drinking water.

Lake Pend Oreille has a more basic pH confirmed by sampling at various locations. While it has some buffering capacity, will acid precipitation affect it over decades of operation? Will metals and other contaminants enter the Lake and bioaccumulate in its ecosystem?

What will the DOE require of PacWest to lessen the air quality impacts on Sandpoint's two drinking water sources? Who is responsible for the costs of any additional treatment?