In the St. Louis River watershed, tributaries’ sulfate levels vary widely

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It collects water from old mine pits and stockpiles of waste rock and the continually flowing former LTV Steel taconite tailings basin. That’s the same tailings basin that the proposed PolyMet copper mine plans to use for its waste. It’s also where runoff from a Mesabi Nugget plant expansion might go, which has critics worried that additional mining waste will pump even more sulfate into the system.

Most Northeastern Minnesota waters are naturally low in sulfate. Indeed, on the St. Louis River upstream of the Partridge River, sulfate levels average about 4.9 parts per million, according to a 2007 Minnesota Department of Natural Resources analysis.

Below that, the St. Louis varies from 24.7, below where the Partridge comes in, to 93 near the confluence of the Swan River, the last tributary to the St. Louis that runs through Iron Range mining drainage.

Other tributaries across the Range add more sulfate. The East Two River near Mountain Iron sat at 127 in the DNR analysis, up from 66.4 in 1961.

In contrast, rivers in the region that have little or no mining runoff — such as the Cloquet, Floodwood and Whiteface — have sulfate levels well below 10, the current state limit for sulfates in wild rice waters.