

The Boundary Waters, Giants Ridge, and the Hoyt Lakes drinking water supply are all downstream of proposed sulfide mines.



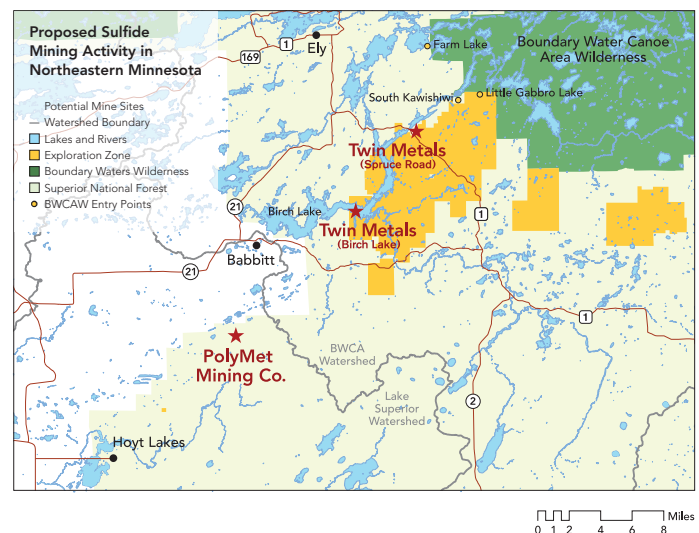
Question #1: Will Minnesota's water stay safe and clean?

Why is this an important question? Let's look at a real-life example:

In 2007, the copper-zinc Formosa Mine in Oregon was added to the Environmental Protection Agency's National Priorities List as a Superfund site due to acid mine drainage flowing from the mine into the headwaters of Middle Creek. Water quality and fisheries were significantly impaired 18 miles downstream. The pollution resulted when systems designed to treat acid mine drainage failed.

If the PolyMet and Twin Metals mines proposed for Minnesota experienced 18 miles of pollution spills into their waterways...

- pollution in the Partridge River from the PolyMet mine site would reach Colby Lake, the source of drinking water for over 2,000 residents of the City of Hoyt Lakes.
- pollution in the Embarrass River from the PolyMet tailings basin would reach Sabin and Wynne Lakes. Giants Ridge Resort sits on the shores of these lakes, which are known for fishing for walleye, northern pike, crappies and bass, and for canoeing and kayaking.
- pollution from the Spruce Road ore deposit for Twin Metals would reach the South Kawishiwi River, Birch Lake, White Iron Lake, Farm Lake, South Farm Lake, Clear Lake, Garden Lake, Cedar Lake, Browns Lake and Fall Lake. Three of these lakes are in the Boundary Waters Canoe Area Wilderness. The remaining lakes are bordered by campgrounds, resorts and guide businesses, seasonal cabins, and year-round homes. Many of these lakes have excellent recreational fishing.



Learn more at miningtruth.org

SOURCES:

Earthworks. July 2012. U.S. Copper Porphyry Mines: The track record of water quality impacts resulting from pipeline spills, tailings failures and water collection and treatment failures. http://www.earthworksaction.org/files/publications/Porphyry_Copper_Mines_Track_Record_-_8-2012.pdf

The Pew Campaign for Responsible Mining. January, 2009. Hardrock Mining in the West: The pollution persists. <http://www.pewenvironment.org/news-room/other-resources/hardrock-mining-in-the-west-the-pollution-persists-85899366301>

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Water treatment plants, pipelines, and tailings dams can all break at sulfide mines. We need to consider what's at stake if that happens in Minnesota.



Question #2:

Are there strong safeguards in place for when things go wrong?

Why is this an important question? Let's look at some real-life examples:

The Pinto Valley mine, a copper and gold mine in Arizona, has been plagued by tailings dam failures, pipeline breaks, seepage flows, conveyance blockages and storm water overflows from 1989 to the present. In 1997, a tailings dam failed, and 3.4 million gallons of heavy-metal tainted water were released into Pinto Creek, a water body that flows into Roosevelt Lake, one of the area's largest sources of drinking water. In 2010, a storm event caused 5,362 tons of contaminated tailings to spill into Pinto Creek. That same year, heavy rains resulted in another release of mine tailings. In 2001, over 1,000 pounds of sulfuric acid were released when a pipeline broke. The events have led to extensive impacts to surface water quality and fish habitat.

An Earthworks analysis of 14 modern copper mines in five states found that 100% of these mines experienced pipeline spills or other accidental releases. 92% had failures of water collection and treatment systems that resulted in releases of contaminated mine seepage that significantly impacted water quality. 64% had tailings basin spills.

The Tulsequah Chief Mine, a copper mine in British Columbia Canada, closed its water treatment plants in June 2012, citing increasing costs, safety concerns, and unanticipated technical challenges. The action put the mine in violation of its water discharge permit.

If the two PolyMet water treatment plants were to break down and cease working...

- during mining operations: over 6.2 million gallons of polluted water a day will not be treated — and risk being discharged to the surrounding environment. That is the equivalent to the amount of water used by the population of the City of Eden Prairie every day.
- after the mine closes: between 1.5 and 3.5 million gallons of polluted water a day will not be treated — and risk being discharged to the surrounding environment. That is equivalent to the amount of water used by the populations of cities like Red Wing or Roseville every day.

If pipelines carrying polluted waste rock drainage break at the PolyMet mine site...

- water containing high concentrations of metals and sulfates would be released into the environment.

If the PolyMet tailings basin dam fails, or if the water collection system for the tailings basin does not work 100% of the time...

- metals, sulfates and other contaminants would be released into surface waters and groundwater.

Learn more at miningtruth.org

SOURCES:

Earthworks. July 2012. U.S. Copper Porphyry Mines: The track record of water quality impacts resulting from pipeline spills, tailings failures and water collection and treatment failures. http://www.earthworksaction.org/files/publications/Porphyry_Copper_Mines_Track_Record_-_8-2012.pdf

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Yahoo Finance. June 2012. Closure of Water Treatment Plant Latest Setback for Tulsequah Chief Mine Proposal. <http://finance.yahoo.com/news/closure-water-treatment-plant-latest-150000208.html>

Minnesota rules require mine sites to be maintenance free when they close. Too often, the task of maintaining old mine sites falls to taxpayers.



Question #3:

Will the company leave the site clean and maintenance free?

Why is this an important question? Let's look at a real-life example:

In 2000, the Gilt Edge Mine, a gold mine in South Dakota, was added to the Superfund list after the Brohm Mining Company became insolvent and the state spent \$1.3 million to prevent the overflow of acidic waste water. Brohm Mining left behind 150 million gallons of acidic waters contaminated with heavy metals and millions of cubic yards of acid-generating waste rock. The site now requires long-term treatment that includes a water treatment plant, drainage collection systems, water diversion structures, the installment of synthetic liners and soil covers, and ongoing monitoring. Emerging problems continue to demand new actions. In 2004, leaks in the diversion ditches were discovered, and new efforts to repair the system had to be undertaken.

If Minnesota's government ignores its own rules that call for mines to be maintenance free at closure, the PolyMet mine project will leave Minnesota with...

- two waste water treatment plants that will need to run and be maintained for hundreds of years.
- 526 acres and over 167 million tons of reactive waste rock left on the surface. Surrounding this is a system to collect contaminated water seepage that must be monitored and maintained. A synthetic and soil cover will be placed over the waste rock requiring annual maintenance, repairing of erosion, and removal of deep-rooted woody plants that might perforate the synthetic material.
- a pit "lake" whose water levels will need to be maintained through pumping to prevent contaminated overflows into the nearby Partridge River.
- a tailings basin pond whose water levels will need to be maintained through pumping to prevent contamination over-topping the dams and entering the nearby Embarrass River. Surrounding the tailings basin is a seepage water collection system that will need to be monitored and maintained.
- a lengthy network of pipelines at the mine and tailings basin sites, conveying untreated and treated water that will need to be monitored and maintained.

Learn more at miningtruth.org

SOURCES:

Minnesota Administrative Rules 6132.3200. Closure and Postclosure Maintenance. <https://www.revisor.leg.state.mn.us/rules/?id=6132.3200>

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The Pew Campaign for Responsible Mining. January, 2009. Hardrock Mining in the West: The pollution persists. <http://www.pewenvironment.org/news-room/other-resources/hardrock-mining-in-the-west-the-pollution-persists-85899366301>

U.S. EPA. Updated July 2012. Gilt Edge Mine. <http://www2.epa.gov/region8/gilt-edge-mine>

Sulfide mines in other states have left taxpayers with hundreds of millions of dollars in cleanup costs. Minnesota could do a lot with \$234 million.



Question #4: Will Minnesota taxpayers be protected?

Why is this an important question? Let's look at some real-life examples:

When Grouse Creek gold and silver mine in Idaho began operations in 1994, it was touted as a “state of the art” mine. Three years later, the mine closed, leaving a leaking tailings basin, over 250 water quality violations for toxic pollutants, and the need for long-term water treatment. In 2001, the Forest Service calculated reclamation costs for the site at \$60 million. The mining company’s own reclamation bond covered only \$7 million of that cost, leaving taxpayers with roughly \$53 million in costs to try to contain the pollution. Today, the site continues to have costly water quality problems that the government seeks to address and for which taxpayers are paying.

In 1998, the mining company for the Zortman Landusky mine in Montana abandoned the site, filed for bankruptcy, and left Montana’s taxpayers liable for \$33 to \$95 million. The mining company for the Summitville Gold Mine in Colorado filed for bankruptcy in 1992, leaving \$234 million in clean-up costs to the public.

If sulfide mining companies leave Minnesota with \$234 million in mine clean-up costs, that is the same amount of money as...

- five times more than the Minnesota Legislature’s 2013 allocation for Head Start early learning scholarships.
- nearly **twenty-five times** the state general fund allocation for the Minnesota Pollution Control Agency in 2014–2015.
- almost three years of the annual general fund allocations for Duluth Public Schools.
- four times the proposed costs to expand civic centers in Rochester, Mankato and St. Cloud.

Learn more at miningtruth.org

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