Future Mining in Minnesota: Effects on Communities and Environment

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Jayson Valek

Findings

Two major tributaries of the St. Louis River, the Partridge River and Embarrass River, cross the proposed mine in some way. These rivers are within the St. Louis River watershed as well. This watershed is home to 36 communities with a total population of 174,356. 7 of these communities sit on a vulnerable aquifer, a total population of 107,328. 10 communities are situated less than a mile from the St. Louis or its tributaries, with a total population of 20,226. The St. Louis River, the largest river entering Lake Superior, empties into Superior Bay. The river mouth splits the cities of Duluth, MN and Superior, WI, a combined population of 113,537. This sulfide mine has potential to jeopardize water supply for thousands of people, especially those along the St. Louis, its tributaries, and other vulnerable aquifers. The waste from sulfide mining could easily enter the St. Louis, its watershed and aquifers, and Lake Superior. In the case of an accident, aquatic ecosystems would be poisoned and the pollution could enter Lake Superior as well as the BWCA. The BWCA would suffer significantly, being the largest pollution-vulnerable aquifer in the state. The BWCA and Minnesota’s north shore could be polluted, driving away recreation and tourism, a large part of the state’s economy. If pollution were to happen, the cleanup of sulfuric acid from aquifers and waterways would take hundreds of years.

Abstract

This study explores the potential risks of the proposed PolyMet copper-nickel mine near Hoyt Lakes, Minnesota. The goals of the research were: 1) identify vulnerable communities and environmental features, 2) determine the mine’s potential damage, and 3) create maps to illustrate the vicinity of the mine to vulnerable areas. The interest of this project to determine the mine’s potential impact. This research is an observational study that involves analysis of maps compiled with environmental, population, and vulnerability data. The major findings of this research are that the proposed mine has great potential to pollute aquifers as well as nearby streams, rivers, and lakes, and potential pollution could have great impact on communities in the St. Louis River watershed, recreation in the BWCA, and terrestrial and aquatic ecosystems.

Introduction

PolyMet, a Minnesota based mining company, created a proposal in October of 2009 for a copper/nickel mine. PolyMet has been rewriting the plan for the past nine years after EPA criticism. Last month, the Minnesota DNR issued a draft permit to mine with a final decision forthcoming. PolyMet will use its old taconite plant as well as a mine site that is eight miles east. Historically, iron mining hasn’t been a significant environmental issue. This proposed mine however, involves heavy-metals, thus sulfide mining. This mining creates sulfuric acid as waste, a carcinogenic compound. With multiple streams passing near the mine site, tailings pond, and transportation routes, there is a risk for pollution. All of these waterways eventually reach the St. Louis River, the largest river to enter Lake Superior. The mine site is also in close proximity to the Boundary Waters Canoe Area.

Conclusion

The potential impact to communities and environment in the event of an accident are big factors that need to be reviewed. The mine’s boundaries should be redrawn to be farther from the Partridge River and the tailings pond should be relocated away from the Embarrass River. Historically, sulfide mining has resulted in some sort of spill or accident. The potential for this happening in Minnesota is not worth the risk, since it would negatively impact communities, economy, and environment. Thus, PolyMet should rethink their proposal due to the risks associated with sulfide mining in northern Minnesota.

Bibliography