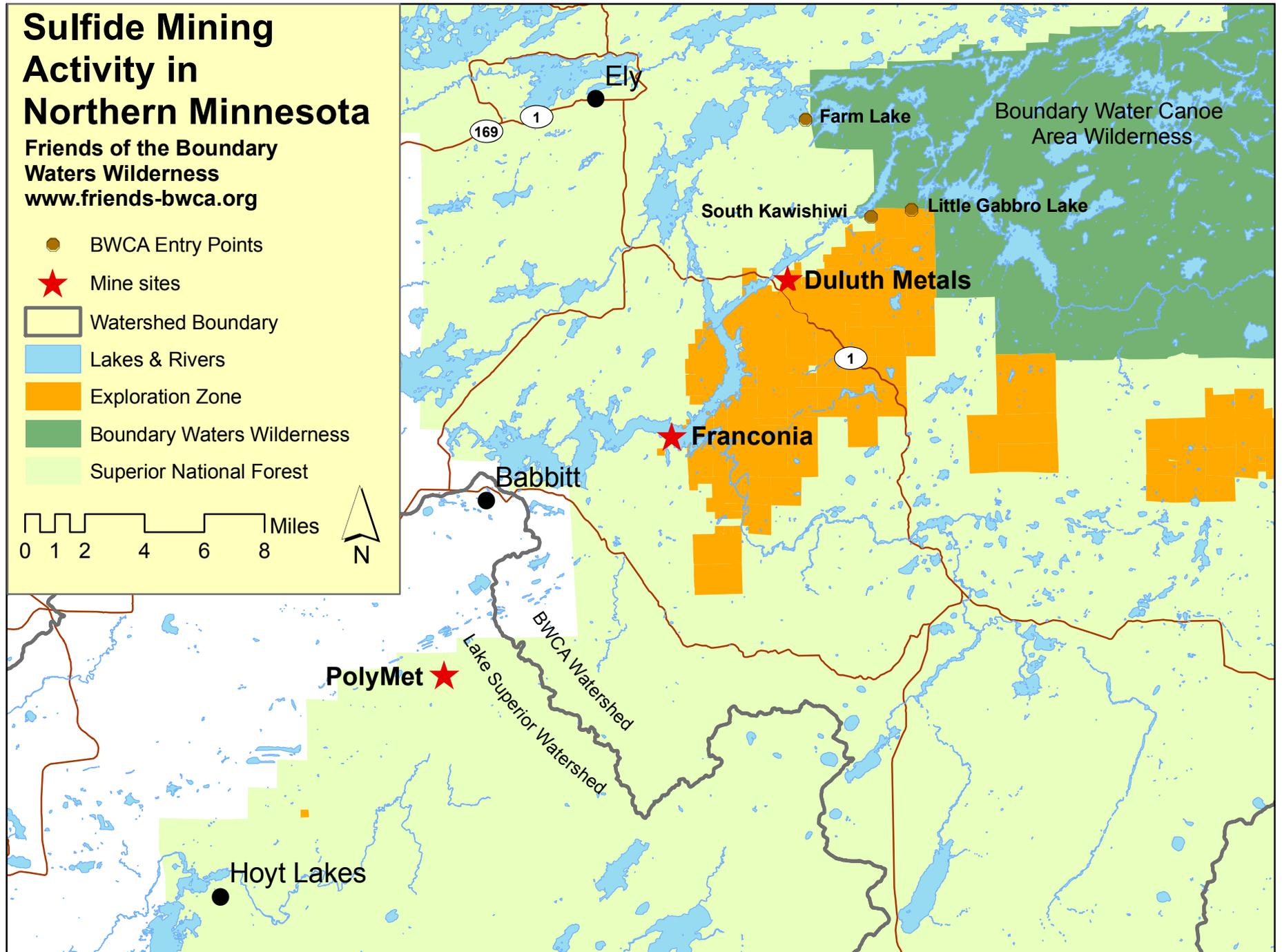


Sulfide Mining Activity in Northern Minnesota

Friends of the Boundary Waters Wilderness
www.friends-bwca.org

- BWCA Entry Points
- ★ Mine sites
- ▭ Watershed Boundary
- ▭ Lakes & Rivers
- ▭ Exploration Zone
- ▭ Boundary Waters Wilderness
- ▭ Superior National Forest

0 1 2 4 6 8 Miles



Sulfide Mining in Northeastern Minnesota

Toxic pollution from new mine proposals threaten our lakes, rivers, streams, and groundwater

What is sulfide mining?

Sulfide mining extracts copper, nickel, and other metals from sulfide ores, which is very different from Minnesota's traditional iron mining.

→ When rain falls on the waste from iron mining, it makes rust; when rain falls on sulfide waste, sulfuric acid is produced.

Sulfuric acid leaches out metals and chemicals from the waste and creates acid mine drainage:

- ◆ Contaminates lakes, rivers, and groundwater
- ◆ Harms human health, fish and wildlife, and damages entire ecosystems

Sulfide mining has caused environmental destruction all over the world:

- ◆ Drinking water supplies contaminated
- ◆ Destruction of fish and wildlife habitat from polluted lakes and rivers
- ◆ Predictions about environmental impacts are often wrong
- ◆ Pollution often occurs years or even decades after mine closure

→ Mining companies are often bankrupt or refuse to pay for clean-up when problems occur, leaving taxpayers with bills of tens of millions of dollars

What is being proposed in Minnesota?

There has never been a sulfide mine in Minnesota, but recent advances in processing technology means that our state's low-grade sulfide ore bodies could be mined profitably.

In a region stretching northeast from north of Lake Mille Lacs to the edge of the Boundary Waters Canoe Area Wilderness near Ely, several mining companies are exploring mineral deposits and putting together mine proposals.

What about the Boundary Waters?

In an area just outside the Boundary Waters Canoe Area Wilderness, on its southern edge, several mining companies are actively drilling to explore mineral deposits and developing mine proposals that will soon enter the environmental review phase.

Since 2008, mining companies have applied for over 100 permits to explore for minerals a few miles from the Boundary Waters on Superior National Forest land. These activities are centered on the South Kawishiwi River and Birch Lake area. Franconia Minerals and Duluth Metals are both actively developing mine proposals in the area.

PolyMet Mining: The snowplow

PolyMet Mining Corp. is a Canadian company that has never operated a mine before.

PolyMet's mine proposal is the furthest along in the development process of all the potential mines in the state.

Officials from other sulfide mining companies (see below) have repeatedly stated that PolyMet is paving the way for their mines.

In addition to PolyMet's serious and unacceptable pollution potential, the precedents it could set in the state are of great concern.

A failing grade

In February, 2010, the U.S. Environmental Protection Agency stated that the PolyMet Draft EIS describes unacceptable environmental impacts—particularly in regards to water quality—and was inadequate to fully assess the proposal.

The agency gave the proposal its lowest possible rating and told the company and the responsible government agencies to do more work on both data-collection and mitigation proposals before proceeding any further.

→ The failing grade the EPA gave PolyMet has been given to only 0.3 percent of the projects that the EPA has reviewed since 1987

Project details:

- ◆ Three open-pit mines totalling about 800 acres in size
- ◆ Near Hoyt Lakes in the St. Louis River and Lake Superior watershed
- ◆ Polluted runoff from waste piles for 2,000 years
- ◆ Elevated levels of mercury in fish and wildlife
- ◆ Contaminated mine pit overflow into an adjacent river 45 years after mine closure

→ In early 2010, mining company Duluth Metals signed a \$227 million deal with a Chilean firm to advance its mine proposal—three miles from the BWCAW.