

Copper-Nickel Sulfide Ore Mining: Toxic Experiment for Minnesota Waters & Wetlands

THERE ARE STILL NO SULFIDE ORE MINES IN MINNESOTA.

- PolyMet's Permit to Mine and Water Pollution Permit were **REVERSED** by the Minnesota Supreme Court. PolyMet's federal permit to destroy wetlands was **REVOKED**.
- NewRange is a joint venture of Glencore and Teck Resources subsidiaries that now control both the PolyMet/NorthMet and Mesaba deposits. This NewRange **MEGA-MINE** would have many times more ore and sulfate than the PolyMet proposal and would threaten both the Lake Superior and Rainy River (Boundary Waters) watersheds.
- **No permits** have been issued for a Twin Metals/Antofagasta mine (Boundary Waters watershed) or Talon Metals/Rio Tinto mine (Mississippi River and St. Croix River watersheds).



MINNESOTA IS THE WORST PLACE TO EXPERIMENT WITH SULFIDE ORE MINING

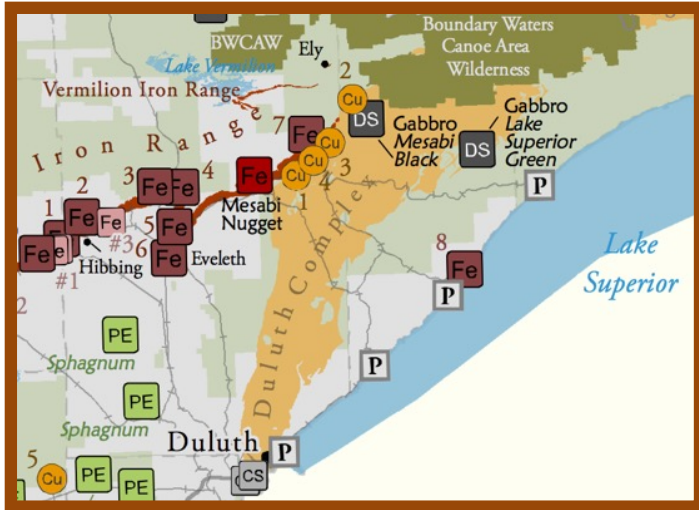
1. Minnesota copper-nickel and platinum group ores are located in **high sulfur rock**, which creates higher pollution risk. The majority of the world's nickel deposits are in laterite ores.
2. Minnesota sulfide ores are located in **wetlands and peatlands in the headwaters** of the Rainy River, Lake Superior, and Mississippi River basins. Most of the world's largest copper mines are in arid regions where impacts can be contained.
3. Minnesota has a long history of **failure to regulate ferrous mining pollution** and has allowed construction of unstable "upstream" tailings dams banned in other countries.
4. The very companies **internationally notorious for bribery, toxic pollution, and violation of labor & Indigenous rights** (Glencore, Rio Tinto, Antofagasta) want to mine in Minnesota.



Every sulfide mine (100%) in a water-rich environment has polluted surface and/or groundwater with acid mine drainage and/or toxic metals.

Sulfide Ore Mining Poses New & Unnecessary Dangers to Minnesota's Water, Health, and Climate

MASSIVE POTENTIAL FOR DESTRUCTION & FEW JOBS



- **Duluth Complex** stretches from within the Boundary Waters Canoe Area Wilderness to Duluth.
- **Tamarack Intrusive Complex:** Talon Metals controls 31,000 acres in the Mississippi and St. Croix River watersheds of what it calls a “district scale” resource like the Norilsk mining district in Russia.
- Mining and logging combined make up only **1/5 of 1% of Minnesota employment.** (MN DEED & U.S. Bureau of Statistics)
- Recycling Minnesota's e-waste for metals could generate 1,700 direct jobs.

TOXIC HARM TO WATER & HEALTH



- Sulfide mining of either the Duluth Complex or the Tamarack Intrusive Complex would increase **toxic methylmercury contamination of fish** downstream, whether in the Boundary Waters, Lake Superior, or Mississippi and St. Croix River watersheds.
- Methylmercury in fish can be 1,000,000 times higher than in water itself. The Minnesota Department of Health found **1 in 10 infants in the Lake Superior region are already born with unsafe levels of mercury** in their blood.
- Sulfide ore mining also releases **toxic metals, including nickel, copper, cobalt, arsenic, lead, and manganese** to surface water and/or groundwater.

MAKE BETTER CHOICES FOR MINNESOTA



- Destroying wetlands and peatlands for mining **increases Minnesota's carbon footprint and climate crisis.**
- Copper and nickel recycling uses only **10-15% of the fossil fuel energy** used to mine and process metals.
- Minnesota recycles only 24% of its e-waste, though this waste contains **\$3 billion per year** of valuable metals.
- Since 2020, electric vehicle (EV) batteries with less toxic **iron and phosphate (LFP), not nickel and cobalt,** have increased from 10% to 40% of the global market.

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