



Great Lakes-St. Lawrence
Legislative Caucus

2020 Virtual Meetings of the Great Lakes-St. Lawrence Legislative Caucus

September 11-October 9

The Risk Posed to Great Lakes Basin Water Resources and the Health of Residents by Sulfide-Ore Copper Mining

- WHEREAS,** restoration and protection of the Great Lakes requires maintenance of healthy watersheds and clean water in the tributaries to the Great Lakes; and
- WHEREAS,** sulfide-ore copper mining is a type of hardrock mining; and
- WHEREAS,** data from the U.S. Environmental Protection Agency (EPA) Toxics Release Inventory show hardrock mining, including sulfide-ore copper mining, is the nation's largest toxic polluter¹ and has contaminated streams in the headwaters of more than 40% of watersheds in the western United States;² and
- WHEREAS,** even in arid places, sulfide-ore copper mining has a record of long-lasting water pollution, despite environmental review document predictions to the contrary;^{3, 4, 5, 6, 7, 8, 9} and
- WHEREAS,** no sulfide-ore copper mine has operated and closed without polluting surrounding surface waters and groundwater;^{10, 11, 12, 13} and
- WHEREAS,** sulfide-ore copper mining water pollution in the Duluth Complex contains sulfates and heavy metals such as cadmium, lead, arsenic, copper, nickel, and mercury, which are toxic to aquatic life and harmful to human health; and
- WHEREAS,** sulfate pollution contributes to the formation and bioaccumulation of methylmercury in aquatic food chains,¹⁴ such that, though concentrations of total mercury and methylmercury in water may be deemed safe for human consumption as drinking water, methylmercury concentration levels in fish – especially sought-after game fish species such as bass, walleye, northern pike, and lake trout – may reach levels up to 106 times greater than in the water column;¹⁵ and
- WHEREAS,** aquatic wildlife and human adults whose diet is heavy in fish also are likely to receive harmful levels of methylmercury;¹⁶ and
- WHEREAS,** nursing infants who have never eaten fish still receive methylmercury through their mothers' breast milk;¹⁷ and



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- WHEREAS,** fetal blood appears to concentrate methylmercury to levels 1.7 times higher than maternal blood;¹⁸ and
- WHEREAS,** methylmercury is a potent developmental neurotoxin to which the human fetus, nursing babies, and young children are most at risk, such that even small amounts of mercury damage developing brains;¹⁹ and
- WHEREAS,** a Minnesota Department of Health study found that 10% of newborns in the Minnesota portion of the Lake Superior basin have blood methylmercury levels greater than 5.8 µg/L (the U.S. EPA Reference Dose for methylmercury), a level associated with loss of IQ;²⁰ and
- WHEREAS,** sulfate and other pollutants generated by sulfide-ore copper mining is projected to continue for centuries;²¹ now therefore be it
- RESOLVED,** that the Great Lakes-St. Lawrence Legislative Caucus recognizes the environmental challenges posed by proposed sulfide-ore copper mining in the St. Louis River Watershed and elsewhere in the Great Lakes Basin to human health and the restoration and protection of the Great Lakes; and be it further
- RESOLVED,** that this resolution be submitted to appropriate state, provincial, and federal officials.

Adopted on October 9, 2020.

¹ EPA. 2010 Toxics Release Inventory National Analysis Overview. In 2010, the industry was responsible for 1.6 billion pounds of toxics disposed of or released, which amounted to 41 percent of the total for all U.S. industries for the year. Retrieved at https://www.epa.gov/sites/production/files/documents/2010_national_analysis_overview_document.pdf.

² EPA Office of Water. Liquid Assets 2000: America's Water Resources at a Turning Point. EPA-840-B-00-001.

³ *Id.*

⁴ Earthworks. "U.S. Copper Porphyry Mines: The Track Record of Water Quality Impacts Resulting from Pipeline Spills, Tailings Failures and Water Collection and Treatment Failures." July 2012.

⁵ Earthworks. "Predicting Water Quality Problems at Hardrock Mines: A Failure of Science, Oversight, and Good Practice." December 2006.

⁶ Robertson, A. M. 2011. Mine Waste Management in the 21st Century: Challenges & Solutions Beyond Incremental Changes.

⁷ Earthworks. "False Promises: Water Quality Predictions Gone Wrong; Large Mines and Water Pollution. 6 pp.

⁸ Earthworks. 2004. "Hardrock Mining: Risks to Community Health. 47 pp.

⁹ Earthworks. 2013. "Polluting the Future: How mining companies are contaminating our nation's waters in perpetuity. 52 pp.

¹⁰ Wisconsin DNR. April 2012. Surface Water Quality Assessment of the Flambeau Mine Site.

¹¹ EPA 6-25-2014 approval letter of Wisconsin's 2012 303d list. See p. 66, at bottom.

¹² Kuipers & Maest. 2006. Comparison of Predicted and Actual Water Quality at Hardrock Mines. 228 pp.

¹³ Stillwater Mining Company form 10-K Feb. 2-2011 and Stillwater Mining Company form 10-K Feb. 16-2017.

¹⁴ EPA. 2006. Final Report_Hg Transport & Fate Throughout a Watershed.

¹⁵ Scudder Eikenberry, B. C., K. Rive-Murray, C. D. Knightes, C. A. Hourney, L. C. Chasar, M. E. Brigham and P. M. Bradley. 2015. Optimizing fisher sampling for fish-mercury bioaccumulation factors. *Chemosphere* 135: 467-473.

¹⁶ Minnesota Department of Health: Health Risks of Eating Contaminated Fish. Via <http://www.health.state.mn.us/divs/eh/fish/faq.html>.

¹⁷ Mead, M. N. Contaminants in Human Milk; Weighing the Risks against the Benefits of Breastfeeding. *Environmental Health Perspectives* 2008 116:10 pp. 427-434.

¹⁸ Stern AH, Smith AE. 2003. An assessment of the cord blood- maternal blood methylmercury ratio: implications for risk assessment. *Environ Health Perspectives* 111:1465-1470.

¹⁹ Trasande, L., et al., Public Health and Economic Consequences of Mercury Toxicity to the Developing Brain. *Environ. Health Perspectives*. 2005 May.

²⁰ Minnesota Department of Health. Mercury Levels in Blood from Newborns in the Lake Superior Basin. Final Report. Nov. 2011.

²¹ MN DNR (PolyMet/NorthMet SDEIS), page 166 [a.k.a. 3-5]; and FEIS, page 101 [a.k.a. ES-35].