

## **Mining Impacts to the Lake Superior Basin<sup>1</sup>**



Mining pollution, particularly pollution from mining in sulfide-bearing rock threatens clean water, clean air, tribal resources and human health throughout the Lake Superior Basin. Wetlands destruction may impair habitats and contribute to climate change. Release of sulfates can adversely impact downstream wild rice. Release of sulfates and mercury, along with hydrologic changes to wetlands, can create a “perfect storm” of factors increasing mercury methylation and bioaccumulation in the food chain.

### **PolyMet NorthMet Sulfide Mine – Mercury Risks and Inadequate Assessment**

International mercury expert, Dr. Brian Branfireun, reviewed the PolyMet sulfide mine plan (SDEIS) for WaterLegacy and concluded that the PolyMet sulfide mine could increase methylmercury in the St. Louis River: “Discharges of sulfate and total mercury and hydrologic changes to peatlands at the project site have the potential to significantly increase methylmercury in downstream wetlands and surface waters.”<sup>2</sup> The U.S. Environmental Protection Agency (EPA) agreed that mercury modeling for the PolyMet project was insufficient and “further consideration of mercury impacts is needed.”<sup>3</sup>

### **Unsafe Levels of Mercury in Lake Superior Region, Particularly Minnesota**

A recent study measuring mercury in blood from nearly 1,500 infants born to mothers living on the U.S. side of the Lake Superior basin, found 8% had levels above the safe dose limit set by the EPA. In Minnesota, 1 out of 10 infants had unsafe levels of mercury in their blood, and mercury concentrations were higher in specimens from Minnesota infants. Study results suggested that elevated mercury levels were due to consumption of contaminated fish.<sup>4</sup>

### **Stalled St. Louis River Mercury TMDL Study**

The St. Louis River -- the largest U.S. tributary to Lake Superior -- was identified as an area of concern in 1992. Minnesota Pollution Control Agency (MPCA) sampling has found higher concentrations of mercury in fish in the lower reaches of the St. Louis River than in other water bodies in the region.<sup>5</sup> Two years ago, the EPA, MPCA, Fond du Lac Band and Wisconsin Department of Natural Resources (DNR) began a mercury TMDL study to analyze sources and limit mercury contamination in the St. Louis River, with \$1,000,000 committed by EPA. In February 2013, MPCA abruptly halted the TMDL process, raising concerns about a model it had previously approved, resulting in the loss of EPA funds and cancellation of significant field sampling.<sup>6</sup>

### **Lake Superior Binational Forum – Mining Pollution Concerns**

The Lake Superior Binational Forum is concerned about toxic pollution and mining in the Lake Superior Basin: “Pollutants which do not degrade easily through natural processes, such as mercury and toxaphene, remain for a very long time in Lake Superior because of the lake’s large size and other unique characteristics. This long retention time means that pollution prevention is extremely important for Lake Superior. The largest source of mercury from within the Lake Superior basin is the mining sector, at 63% of total emissions.” (Lake Superior Lakewide Management Plan, 2012 Annual Report.)<sup>7</sup>



### **Great Lakes Restoration Initiative (2010 to 2015)**

\$488 million total commitment

\$214 million from EPA

\$18 million for Minnesota, \$17 million of which is for the St. Louis River and Bay.<sup>8</sup>

### **59 Groups Say EPA Must Study of Mining Impacts in the Lake Superior Basin**

This December, 59 conservation, business, faith-based and tribal groups in Minnesota, Wisconsin and Michigan jointly submitted a letter asking EPA to prepare a Cumulative Effects Assessment of the adverse impacts of mining across the Lake Superior Basin

Citing Great Lakes Water Quality treaties with Canada, legal obligations to tribes on lands ceded to the United States, and a history of mercury contamination and other pollution, the 59 groups requested a comprehensive analysis of mining impacts on one of the most important fresh water resources on the face of the earth.

In addition to the widely-criticized PolyMet sulfide mine proposal in Minnesota, mine projects that could affect air and water across the Lake Superior Basin include the Twin Metals proposed sulfide mine in Minnesota, the recently permitted Eagle Mine and Copperwood mine in Michigan, the proposed Gogebic mine in Wisconsin and the proposed Marathon mine and operating Lac des Isles mine in Ontario.

Congresswoman Betty McCollum and Congressman Keith Ellison have both sent letters to EPA Region 5 supporting the request that EPA prepare a cumulative effects assessment of impacts of mining on the Lake Superior Basin.<sup>9</sup>

### **EPA Great Lakes Advisory Board - Suggested Advice to EPA**

- EPA should study cumulative effects of mining on clean air, clean water, habitats, human health and tribal resources throughout the Lake Superior Basin.
- EPA should urge and support Minnesota to resume the St. Louis River mercury TMDL study in partnership with the Fond du Lac Band and the Wisconsin DNR.
- EPA should ensure that upstream pollution and hydrological impacts to wetlands from sulfide mining do not undermine restoration of beneficial uses in areas of concern.

<sup>1</sup> Prepared May 2014 by Paula Maccabee, Advocacy Director/Counsel for WaterLegacy.

<sup>2</sup> Dr. Brian Branfireun Opinion on the PolyMet SDEIS

[http://waterlegacy.org/sites/default/files/PolyMet\\_SuppEIS/WLExpert/Branfireun\\_ExpertOpinion\\_PolyMetSDEIS\(3-10-14\).pdf](http://waterlegacy.org/sites/default/files/PolyMet_SuppEIS/WLExpert/Branfireun_ExpertOpinion_PolyMetSDEIS(3-10-14).pdf)

<sup>3</sup> EPA Comments on the PolyMet SDEIS, [http://waterlegacy.org/sites/default/files/PolyMet\\_SuppEIS/EPA-NorthMetSDEIS\\_CommentLetter.pdf](http://waterlegacy.org/sites/default/files/PolyMet_SuppEIS/EPA-NorthMetSDEIS_CommentLetter.pdf)

<sup>4</sup> Minnesota Department of Health (MDH), Mercury Levels in Blood from Newborns in the Lake Superior Basin, <http://www.health.state.mn.us/divs/eh/hazardous/topics/studies/glnpo.pdf>. MDH on-line summary, Mercury in Newborns in the Lake Superior Basin, [www.health.state.mn.us/divs/eh/hazardous/topics/studies/newbornhgisp.html](http://www.health.state.mn.us/divs/eh/hazardous/topics/studies/newbornhgisp.html)

<sup>5</sup> B. Monson, MPCA, St. Louis River Fish Mercury,

[http://waterlegacy.org/sites/default/files/PolyMet\\_SuppEIS/WL\\_Ex50\\_Monson\\_SLRFishMercury.pdf](http://waterlegacy.org/sites/default/files/PolyMet_SuppEIS/WL_Ex50_Monson_SLRFishMercury.pdf)

<sup>6</sup> See e.g. Letter of Fond du Lac Chairwoman Karen Diver to MPCA Commissioner (March 12, 2013). We are in the process of posting this letter and other TMDL resources on line.

<sup>7</sup> Lake Superior Lakewide Management Plan Annual Report 2012, [http://www.binational.net/pdfs/20121214-lamp\\_superior\\_e.pdf](http://www.binational.net/pdfs/20121214-lamp_superior_e.pdf)

<sup>8</sup> Great Lakes Restoration Initiative Accountability, [https://restore.glnpo.net/glas\\_pub/qareport.htm](https://restore.glnpo.net/glas_pub/qareport.htm)

<sup>9</sup> Cumulative Effects Assessment letter to EPA, see <http://waterlegacy.org/CumulativeEffects-Mining>



December 16, 2013

Susan Hedman, Regional Administrator (hedman.susan@epa.gov)  
US EPA Region 5  
Ralph Metcalfe Federal Building  
77 West Jackson Blvd.  
Chicago, IL 60604-3590

Dear Dr. Hedman:

We the undersigned, representing fifty-nine non-governmental conservation organizations, tribal, faith-based and civic groups, businesses, and recreation interests from Minnesota, Wisconsin and Michigan, request that the United States Environmental Protection Agency Region 5 (EPA) prepare a Cumulative Effects Assessment (CEA) of impacts of mining activities, including mining in sulfur-bearing rock, upon the Lake Superior Basin.

There are compelling legal, policy and factual grounds for EPA to undertake this CEA, and prior work by EPA Region 5 as well as by other parties demonstrates the feasibility of implementing this cumulative impacts analysis. Discrepancies in state level permitting requirements and agency implementation underscore the need for the EPA to undertake a regional assessment.

#### Legal and Policy Support for a Lake Superior Basin CEA

The Lake Superior Basin has a unique status in terms of the obligation of the United States government to protect rights assured in treaties with Indian tribes. The expansion of sulfide mining brings particular risks to territories ceded by tribes to the federal government, which encompass the entire United States portion of the Lake Superior Basin. Mining pollution and wetlands destruction threaten wild rice, subsistence fishing, habitats for plants and animals, and cultural resources. As citizens of the United States, we believe that the EPA, acting on our behalf, has a fiduciary responsibility to protect the treaty rights and resources of Indian tribes in territories ceded to our federal government.

In addition, provisions of the Great Lakes Water Quality Protocol of 2012, an international treaty with Canada that the EPA Administrator signed on September 7, 2012 on behalf of the United States, support the obligation of the EPA to assess cumulative environmental impacts of mining on the Lake Superior Basin. The 2012 Protocol states that the United States should apply an ecosystem approach to the management of water quality that addresses individually and cumulatively all sources of stress to Great Lakes Basin ecosystems and that the United States should address environmental stressors for water quality, native species and habitat on a lakewide basis. (Great Lakes Water Quality Protocol of 2012, Preamble p. 6, Annex 2, Parts A, B. 2, C. 1 and 2, Annex 7, Parts A, B.1 and B.2).

The Lake Superior Basin mining CEA requested by the undersigned would also serve to support EPA's responsibilities under the National Environmental Policy Act (NEPA). A basin-wide CEA would build upon the CEA done in September 2013 by tribal cooperating agencies for the PolyMet NorthMet sulfide mine proposal in Minnesota. In addition, a Lake Superior Basin CEA could assist the federal government in completing environmental review for future mining proposals where NEPA is applicable and bring much-needed natural resources contextual information to state regulatory agencies across the Basin.

#### Factual Basis for a Lake Superior Basin CEA

A CEA is needed to evaluate the effects of historic, existing, expanding and reasonably foreseeable mining activities throughout the Lake Superior Basin.

The water resources of the Lake Superior Basin are critical to the healthy functioning of their ecosystems, to the economies of the region, to human and wildlife health, to cultural values, to preservation of the rights and resources of tribes and to the many recreational uses enjoyed by people throughout the Lake Superior region. Historical, existing, expanding and reasonably foreseeable mining activities threaten the quality of drinking water, the productivity of recreational and commercial fishing, the survival of species that are threatened, endangered or of special concern, the natural resources vital to tribal culture and subsistence, and the health of infants, children and adults throughout the region.

The Lake Superior Basin has had extensive historic and existing mining activities. In addition, in recent years the lands surrounding Lake Superior in Minnesota, Wisconsin, Michigan and Ontario have experienced increasing mineral exploration and development, much of which has been conducted in sulfide-bearing rock. Mine projects include the proposed PolyMet NorthMet and Twin Metals mines in Minnesota, the recently permitted Eagle Mine and Copperwood mine in Michigan, the proposed Gogebic mine in Wisconsin, and the proposed Marathon mine and the operating Lac des Isles mine in Ontario. Widespread prospecting for non-ferrous metals is occurring across the region in Minnesota, Wisconsin, Michigan and Ontario.

Despite the risk to national and international waters posed by the expansion of mining and sulfide mining in particular, there has been no comprehensive assessment of the cumulative effects of mining on the singular water resources and ecological values of the Lake Superior Basin.

#### Practical Implementation of a Lake Superior Basin CEA

Implementation of a Lake Superior Basin CEA is feasible as well as necessary to fulfill EPA responsibilities and protect natural resources. A protocol to assess cumulative impacts has been developed by Booz Allen Hamilton for EPA Region 5. (May 31, 2007) (REPA3-5803-151v3) The CEA submitted by tribal cooperating agencies for the PolyMet proposal earlier this year demonstrates how this protocol may be effectively used to prepare an assessment.

The undersigned groups request that EPA Region 5 prepare a Lake Superior Basin CEA evaluating the impacts of historic, existing, expanding and reasonably foreseeable mining activities, consistent with the protocol and tribal CEA described above. Particular issues that our groups would highlight for your attention include:

1. Assessment of the resource value of various wetlands, headwaters, streams, lakes, floodplains, aquifers, estuaries and rivers of the Lake Superior Basin as aquatic resources of national and international importance.
2. The cumulative effects of dredge and fill activities, dewatering and inundation, air emissions and water discharges on water quality in the Lake Superior Basin, including compliance with the Great Lakes Water Quality Agreement and 2012 Protocol and effects on drinking water, aquatic life, mercury contamination of fish, wild rice, wildlife, recreation, tribal resources, and public health.
3. The cumulative effects of mining activities on water quantity in the Lake Superior Basin, including long-term effects on surface and groundwater resources, including resources governed by the Great Lakes St. Lawrence River Basin Water Resources Compact, and the degree to which waters have been appropriated or diverted from the Lake Superior Basin.
4. The cumulative effects of mining activities on aquatic and boreal ecosystems, including effects on flora and fauna that are threatened, endangered or of special concern or that are of significance to tribal communities.

Many of our groups have participated in a process of dialogue with EPA Region 5 over the past several months. We appreciate your concern and the active role of your staff and counsel in protecting surface and groundwater water quality, aquatic life, wildlife, human health and tribal rights and resources in the Lake Superior Basin.

In preparation of the Lake Superior Basin CEA described above, we would request that EPA Region 5 communicate with our non-governmental organizations as to EPA's progress in undertaking this assessment, in addition to consulting with Lake Superior Basin tribes. Our groups have designated Paula Maccabee, Counsel/Advocacy Director, WaterLegacy ([pmaccabee@justchangelaw.com](mailto:pmaccabee@justchangelaw.com)) as the Minnesota point of contact; Emily Whittaker, Policy Specialist, Freshwater Future ([emily@freshwaterfuture.org](mailto:emily@freshwaterfuture.org)) as the Michigan point of contact and Elizabeth Wheeler, Staff Attorney, Clean Wisconsin ([ewheeler@cleanwisconsin.org](mailto:ewheeler@cleanwisconsin.org)) as the Wisconsin point of contact. We would request that any communications pertinent to our request for a CEA be sent to the contact persons for each of these states.

We look forward to your response to our request for a Lake Superior Basin CEA evaluating the impacts of mining activities, and trust that EPA will play a vital role in assessment and protection of vital resources in the Lake Superior Basin.

Sincerely yours (in alphabetical order),

Bad River Watershed Association

Baptism River Inn Bed & Breakfast

Big Bay Outfitters

Center for Biological Diversity

Clean Wisconsin

CR-Building Performance Specialists, Inc.

ElyMinnesota.com

Ely Outfitting Company

Environmental Law & Policy Center

Food and Water Watch

Friends of the Boundary Waters Wilderness

Friends of the Cloquet Valley State Forest

Friends of the Land of the Keweenaw

Freshwater Future

Front 40 Environmental Fight

Honor the Earth

Howard's Farmers Market

Huron Mountain Club

Idle No More Duluth

Indigenous Environmental Network

Institute for a Sustainable Future

Izaak Walton League of America - W. J. McCabe Chapter

League of Women Voters of Michigan

League of Women Voters of Minnesota

League of Women Voters of Wisconsin

Lutefisk Technologies

Michigan Environmental Council

Michigan League of Conservation Voters

Midwest Environmental Advocates, Inc.

Milwaukee Riverkeeper

Minnesota Center for Environmental Advocacy

Minnesota Public Interest Research Group

National Forest Lodge

National Parks Conservation Association

National Wildlife Federation

Natural Resources Defense Council

North Cape Fisheries

Northeastern Minnesotans for Wilderness

Northwoods Wolf Alliance

Organic Consumers Association

Peace United Church of Christ Food Energy and Environment Team

Piragis Northwoods Company

Protect Our Manoomin

River Point Resort & Outfitting Co.

Round River Farm

Round River Renewables, LLC

Save Our Sky Blue Waters

Save the Wild U. P.

Sierra Club - John Muir Chapter

Sierra Club- North Star Chapter

Sled Dogs to Saint Paul

Trout Unlimited

Upper Peninsula Environmental Coalition

Voyageurs National Park Association

WaterLegacy

Whole Foods Community Co-op Duluth

Wisconsin League of Conservation Voters

Wisconsin Resources Protection Council

Yellow Dog Watershed Preserve



U. S. EPA Great Lakes Advisory Board  
c/o Acting Designated Federal Officer Taylor Fiscus  
Fiscus.Taylor@epa.gov  
77 West Jackson Boulevard  
Mail Code R-19J  
Chicago, IL 60604-3507

RE: Great Lakes Advisory Board Meeting – Written Statement

Dear Members of the Great Lakes Advisory Board:

This letter is submitted on behalf of WaterLegacy, a Minnesota non-profit organization formed to protect Minnesota's water resources and the communities that rely on them. Thank you for providing members of the public an opportunity to submit our comments to the Advisory Board.

We would like to bring to your attention the attached letter submitted by 59 non-governmental conservation, tribal, faith-based groups, business and recreation interests in Minnesota, Wisconsin and Michigan requesting that the Environmental Protection Agency (EPA) conduct a cumulative effects assessment (CEA) of the impacts of mining on the Lake Superior Basin.

There are many compelling legal, policy and scientific grounds for EPA to undertake this CEA. One important consideration is that mining activities may undermine the effectiveness of Great Lakes Restoration Initiative (GLRI) investments. Restoration of areas of concern may be undermined by upstream pollution from mining, particularly sulfide mining. States may lack sufficient capacity or political will to conduct the scientific analysis on which appropriately protective controls of pollution would be based.

In Minnesota, these concerns have been brought to the fore by the environmental review process for the PolyMet NorthMet sulfide mine. Even the most recent version of the PolyMet environmental review failed to model mercury bioaccumulation and denied the need for any cumulative impacts analysis of the PolyMet project on the St. Louis River.

The concern that upstream mining pollution may undermine GLRI investments is also highlighted in Minnesota by the collapse of the Total Maximum Daily Load (TMDL) process for mercury in the St. Louis River area of concern (AOC). Although EPA had provided funding for the St. Louis River mercury TMDL study, Minnesota's Pollution Control Agency withdrew from the study, derailing the scientific analysis that would have evaluated the impacts of upstream mining, among other factors, to determine the causes and most effective controls of mercury contamination in the St. Louis River AOC. Our Lake Superior Basin fact sheet is attached.

Based on the attached documents and the discussion above, we would respectfully request that the Great Lakes Advisory Board make the following recommendations to the EPA:

Comments –Great Lakes Advisory Board

May 23, 2014

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- EPA should prepare a cumulative effects assessment of mining in the Lake Superior Basin to protect clean water, clean air, habitats, tribal resources and GLRI investments.
- EPA should urge and support Minnesota to resume the St. Louis River mercury TMDL study in partnership with the Fond du Lac Band and the Wisconsin DNR.
- EPA should ensure that upstream pollution and hydrological impacts to wetlands from mining, particularly sulfide mining, do not undermine restoration of beneficial uses in areas of concern.

Please feel free to contact me (651-646-8890, pmaccabee@justchangelaw.com) with any questions. We would ask that this letter and its attachments be posted to the GLRI web page.

Thank you for your consideration of our comments and of the request made by 59 groups for a cumulative effects assessment of mining in the Lake Superior Basin.

Sincerely yours,

Paula Goodman Maccabee  
Advocacy Director/Counsel for WaterLegacy

Enclosures