

NORTHEASTERN MINNESOTANS FOR WILDERNESS, AMERICAN CANOE ASSOCIATION, BLACK HILLS CLEAN WATER ALLIANCE, CENTER FOR BIOLOGICAL DIVERSITY, EARTHJUSTICE, EARTHWORKS, ENVIRONMENT AMERICA, ENVIRONMENTAL ACTION, FAIR MINING COLLABORATIVE, GREAT OLD BROADS FOR WILDERNESS, LEAD AGENCY, INC., LEAGUE OF CONSERVATION VOTERS, MINNESOTA WILDWATERS CHAPTER – GREAT OLD BROADS FOR WILDERNESS, NATIONAL PARKS CONSERVATION ASSOCIATION, NATURAL RESOURCES DEFENSE COUNCIL, OUTDOOR ALLIANCE, THE SIERRA CLUB, THE WILDERNESS SOCIETY, VOYAGEURS CONSERVANCY, WATERLEGACY, WILDERNESS WATCH, WINTER WILDLANDS ALLIANCE

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**RE: Comments in Support of the Superior National Forest Withdrawal Application**

Dear Mr. Radford, Ms. Owens, and Ms. Cummins:

The Boundary Waters Canoe Area Wilderness (BWCAW) is a unique state and national treasure. It is the United States' most-visited wilderness area, the largest one east of the Rockies and north of the Everglades, and the only significant lake-land wilderness in the National Wilderness Preservation System. The BWCAW is Minnesota's crown jewel, the most pristine natural area remaining in the state, and is one of the last and largest remaining forested areas in the United States where waters and ecosystems remain virtually unaffected by human industry and habitation. Its lakes and streams are some of the most beautiful and highly valued waters in Minnesota and indeed, in the country and the world. The BWCAW and Voyageurs National Park

(VNP), with Quetico Provincial Park (Quetico) in Ontario, form a 2.5 million-acre international canoe country and the protected core of the Quetico-Superior ecosystem.

The water resources within the BWCAW watershed are vast and massively interconnected. The Superior National Forest, which contains the BWCAW, represents just 1.6% the acres in the National Forest System, but holds 20% of all the system's freshwater resources. The water is some of the cleanest in the nation; one can dip a cup and drink straight from the lakes.

The quality, ubiquity, interconnectedness, and naturally low acid-buffering capacity leaves these waters highly vulnerable to pollution. The outstanding ecological, recreational, cultural, and economic values of the BWCAW and VNP are irreplaceable. The BWCAW receives pure water from almost every quarter of the Rainy River-Headwaters upstream. Damage the Rainy River-Headwaters upstream, and the BWCAW and VNP will be damaged. "Any damage to this fragile and unique ecosystem of interconnected waterways would be catastrophic."<sup>1</sup>

The proposed withdrawal of the Rainy River-Headwaters watershed upstream from the BWCAW and VNP (Withdrawal Area) is necessary to protect this state and national treasure from sulfide-ore copper mining which, by its very nature and scale would cause significant harm and irrevocable changes to the landscape and ecosystem.<sup>2,3</sup> The Federal Land Policy and Management Act (FLPMA) gives the Interior Secretary broad discretion to make the proposed withdrawal of 225,378 acres of Superior National Forest land in the Rainy River Watershed.<sup>4</sup> Given the inherent risks of pollution associated with sulfide-ore mining, the withdrawal is amply justified and supported here as the surest means of protecting the high-quality water and air, ecosystems, wildlife and wildlife habitat, quietude, and other recreational, wilderness, and scenic and aesthetic resources of the BWCAW and its headwaters. The proposed withdrawal to increase protection of the BWCAW and its headwaters on the Superior National Forest would be a signature accomplishment of the Biden Administration and major step forward in its America the Beautiful initiative.<sup>5</sup>

The federal government and the state of Minnesota have a long history of actions taken to protect this special place. One such action was the passage of the Boundary Waters Canoe Area Wilderness Act of 1978,<sup>6</sup> which withdrew from exploration and mining a 222,000-acre Mining Protection Area (MPA) covering Superior National Forest lands along roads approaching the Wilderness.<sup>7</sup> The 1978 Act directs the Forest Service to maintain high water quality in the MPA as in the BWCAW, to protect the BWCAW from harm, and to "minimiz[e] to the maximum extent possible the environmental impacts associated with mineral development affecting" the MPA and Boundary Waters.<sup>8</sup>

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<sup>1</sup> Gov. Dayton, M.B. (2021, Dec. 1). Declaration of Mark B. Dayton, 40th Governor of the State of Minnesota

<sup>2</sup> *Id.*

<sup>3</sup> Eger, P., & Ongaro, F. (2014). *Successful Non-Ferrous Mining: Promise or reality?* [PowerPoint presentation].

<sup>4</sup> 43 U.S.C. §§ 1702(j), 1714.

<sup>5</sup> U.S. Department of Agriculture (2021, May 6). Biden-Harris Administration outlines "America the Beautiful" initiative. [Press Release]. Retrieved December 30, 2021 from <https://www.usda.gov/media/press-releases/2021/05/06/biden-harris-administration-outlines-america-beautiful-initiative>

<sup>6</sup> Public Law 95-495; 92 Stat. 1649

<sup>7</sup> Public Law 95-495 § 11(a)

<sup>8</sup> Public Law 95-495 § 2

Unfortunately, however, the Rainy River Watershed upstream from the BWCAW, while not designated for mining, is nonetheless open to and at risk of the irremediable consequences of a sulfide-ore copper mining development, a worrisome gap in the BWCAW's and MPA's protection from mining in other upstream and upwind areas of the Rainy River-Headwaters. In light of what is now known about the impacts of mining sulfide ores, particularly at the scale being considered for the Rainy River-Headwaters, it has become clear that withdrawal of the upstream headwaters of the BWCAW in the Rainy River-Headwaters watershed is critical to implement the policies that the federal and state governments have long held for the BWCAW.

The U.S. Forest Service has examined the scientific evidence and determined that sulfide-ore copper mining in the Rainy River-Headwaters would pose unacceptable risks to the BWCAW, its character, and the purposes for which it was designated, the recreation experiences and other uses outside of the wilderness, and the existing amenities-based economy. This was the basis of its decision to withhold consent to the renewal of Twin Metals Minnesota's two mineral leases in 2016,<sup>9</sup> and the basis for the federal mineral withdrawal application in 2021.<sup>10</sup> We agree emphatically with that assessment and commend the U.S. Forest Service for the proposed federal mineral withdrawal.

The proposed Withdrawal Area, which as noted elsewhere is almost entirely intact and marked by outstanding natural resources, is located within the 1854 Treaty of LaPointe Ceded Territory, over which the 1854 Treaty Tribes (Grand Portage, Fond du Lac, and Bois Forte Bands of Lake Superior Chippewa) retain treaty rights.<sup>11,12,13,14</sup> The U.S. Department of Agriculture and U.S. Department of the Interior have a duty to protect the 1854 Treaty area including the Withdrawal Area,<sup>15</sup> and must engage in meaningful government-to-government consultation with the Tribes.

The Withdrawal Area upstream of the BWCAW is ~99% undeveloped. It has high biodiversity significance, serves as critical wildlife habitat, and delivers exceptionally pure water to the MPA and BWCAW downstream. Unavoidable damage to water and ecosystems in nearby proposed mining areas upstream would in turn affect wildlife and ecosystems in the Wilderness itself. The Minnesota Pollution Control Agency (MPCA) has recognized that development in headwaters results in lower quality water and aquatic habitat downstream.<sup>16</sup> Whether from spills or seepage

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<sup>9</sup> U.S. Forest Service (2016, Dec. 14). Letter from Tidwell, T., Chief, to Kornze, N., Director, Bureau of Land Management. U.S. Dept. of Agriculture.

<sup>10</sup> U.S. Forest Service (2021). Application for Withdrawal. U.S. Dept. of Agriculture

<sup>11</sup> Treaty with the Chippewa, 1854, 10 Stat. 1109, in Charles J. Kappler, ed., *Indian Affairs- Laws & Treaties*, Vol. II (Washington- Government Printing Office, 1904), Art. 1. Retrieved December 31, 2021 via: <https://dc.library.okstate.edu/digital/collection/kapplers/id/29627/rec/1>

<sup>12</sup> See 1854 Treaty of LaPointe, MN Ceded Territory Map; and see 1854 Treaty Authority's 1854 Treaty Boundary map series in the Appendix, or at: <http://www.1854treatyauthority.org/management/biological-resources/fisheries/seasons.html?id=15&task=document.viewdoc>

<sup>13</sup> Dec. 14, 2016 Letter, USDA-Forest Service to Bureau of Land Management.

<sup>14</sup> U.S. Forest Service (2021b). Application for Withdrawal, Superior National Forest, Cook, Lake, and Saint Louis Counties. U.S. Dept. of Agriculture, at p. 4.

<sup>15</sup> Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, 65 Fed. Reg. 67249 (March 14, 2008).

<sup>16</sup> Minn. Pollution Control Agency (2017). *Rainy River-Headwaters Watershed Monitoring and Assessment Report*.

from mine facilities, increased runoff from land clearing, or a major mine accident, the BWCAW *would* be affected by sulfide-ore copper mining operations in its headwaters.

The potential impacts of sulfide-ore copper mining are magnified by the number of mines being considered for the Rainy River-Headwaters. Twin Metals alone hopes to mine four deposits in the Birch Lake area – the most popular recreational area in the watershed and outside the Wilderness – one of which would extend up to the BWCAW boundary and two of which would require mining or infrastructure under Birch Lake. In addition, Twin Metals and other companies have identified mineral deposits further upstream in the Dunka area. The U.S. Forest Service and Interior Department should consider the development not just of one mine, but potentially of a new mining district encompassing five or more mines within a twenty-mile-long area, stretching from the divide at the top of the watershed to the very edge of the BWCAW. There is simply no question that the extent of mining that could follow if the first mine is permitted would impact water quality and ecosystems in the BWCAW and protected areas downstream.

A programmatic assessment of the cumulative impacts and risks associated with exploitation of the Duluth Complex – the geologic formation in which smaller mineralized zones have been found, and from which sulfide ore would be extracted – in the Rainy Rivers-Headwaters is needed before the first mine is permitted. The standard practice of assessing cumulative impacts as individual projects are proposed would result in the incremental allowance of impacts that would not have been deemed acceptable had they been considered in total before the first mine was permitted. The withdrawal study presents a crucial opportunity to ask, analyze, and answer whether this type of mining is appropriate in Minnesota’s most pristine watershed.

If the U.S. Forest Service and Interior Department are going to prevent the transformation of a premier and water-rich recreation area in the headwaters of one of the most pristine watersheds in America into an industrial landscape with degraded water, now is the time to do it. The proposed mineral withdrawal covering this watershed is necessary to ensure that we do not lose another place of great enduring beauty and value to the resource extraction pressures that have already altered most of the country and world. This is particularly so where the Biden Administration has recognized the urgent need to protect and connect intact and undeveloped ecosystems in the face of catastrophic climate change.

Five primary factors make this watershed an inappropriate place for the mining of sulfide ores:

1. It is not possible to mine sulfide ores in the Rainy River-Headwaters Watershed without degrading water and air, both in the Birch Lake/South Kawishiwi River area and downstream and downwind in the MPA, BWCAW, Quetico, and VNP.

Incremental degradation of water quality is an inevitable consequence of mining sulfide ores. Even the mining industry acknowledges that non-degradation of water quality is not a realistic goal.<sup>17</sup> The water quality rules are often interpreted to allow pollution of water up to the point of exceedances of water quality standards. In the Rainy River-Headwaters watershed, which is

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<sup>17</sup> Eger, P., & Ongaro, F. (2014).

recognized for its “immaculate”<sup>18</sup> water quality, that would mean up to an order of magnitude or more of common mining pollutants.

BWCAW and VNP waters have been designated as “Prohibited Outstanding Resource Value Waters,” a designation that reflects the policy that no lowering of water quality is acceptable for any reason.<sup>19</sup> Studies of mining-influenced and other developed sites indicate that discharges to headwaters can influence water quality for many miles downstream. As all waters in the Rainy River-Headwaters flow into the BWCAW and VNP, siting a mine here is inherently problematic.

*Any* development of the size necessary for large-scale mining operations would result in degradation of downstream waters in this watershed. MPCA’s Draft Rainy River-Headwaters Watershed Restoration and Protection Strategy (WRAPS)<sup>20</sup> models the potential increased load of sediment, nitrogen, and phosphorus under development, forest disturbance, and climate change scenarios that would result regardless of the reasons for development. The results provide a clear indication that any land clearing of the size that would result from mining would increase loads of these pollutants to downstream waters. This is even without consideration of the additional impacts that ensue from mining itself, the industrial activity most responsible for the release of toxic materials into the nation’s environment.<sup>21</sup>

In addition to the pollutants modeled for the WRAPS Report, any sulfide-ore copper mining operation in the Rainy River-Headwaters would increase concentrations and loads of sulfate, mercury, other metals, and total dissolved solids in adjacent and downstream waters. Mercury in particular can harm aquatic resources, wildlife, and public health with very small increases in concentration.

Mining operations also produce large volumes of air pollution, particularly in the form of fugitive dust. Fugitive dust is a particular problem for drystack tailings facilities of the type proposed for the Twin Metals Maturi mine. sulfide-ore copper mines in the Rainy River-Headwaters would be close enough to the BWCAW and VNP that air pollution would affect the Class I airsheds, and deposition of dust and other air pollutants would affect BWCAW waters to the immediate northeast of proposed mining facilities, among other waters. Modeling done for the state Copper Nickel Study indicated that mines in some parts of the Duluth Complex might not be permissible because of impacts to the Class I BWCAW.<sup>22</sup>

2. Sulfide-ore copper mining in the Rainy River-Headwaters Watershed would present unacceptable risks of substantial pollution in the Birch Lake/South Kawishiwi River area and downstream and downwind in the BWCAW, Quetico, and VNP.

In addition to incremental degradation of water quality, mining sulfide ores always presents significant risks of severe water quality standard exceedances. With the Rainy River-

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<sup>18</sup> MPCA (2017, June). Rainy River-Headwaters Watershed Monitoring and Assessment Report. Exec. Summary.

<sup>19</sup> Minn. R. 7050.0265 subp. 7 and .0335 subp. 3.A.

<sup>20</sup> MPCA (2021, Aug.). *Draft Rainy River-Headwaters Watershed Restoration and Protection Strategy Report*.

<sup>21</sup> See Environmental Protection Agency (EPA) Toxic Release Inventory. <https://www.epa.gov/toxics-release-inventory-tri-program/find-understand-and-use-tri>

<sup>22</sup> Ashbrook, Peter (1979). *Impacts of fugitive dust emissions from a model copper-nickel mine and mill*. [Draft report]. Minn. Dept. of Environmental Quality.

Headwaters' abundant, interconnected, and vulnerable surface and groundwater and related social and ecosystem values, the risks of substantial water pollution presented by sulfide-ore copper mining are not appropriate.

The risks from large-scale mining of sulfide ores cannot be completely foreclosed. No matter what precautions are taken, science and technology have not reached the point of being able to guarantee that a mine will not pollute downstream waters. Risks arise from the unknowns and uncertainties of the geochemistry and hydrogeology of a mine site, and the uncertainties relating to materials and methods used to control water. The risks stemming from uncertainties are multiplied by risks of accidents and other unforeseen events, often caused or exacerbated by human error. The enormous scale of mining operations, the amount of polluted water that must be contained and managed, and the long timeframes involved virtually guarantee that at some point, something significant will go wrong. Even Twin Metals, when asked by the StarTribune whether Twin Metals could say there's zero risk to the BWCA, responded: "That's not a fair question."<sup>23</sup> Hardly a response to inspire confidence, yet a rare example of mining company candor; of course it can't promise the BWCAW won't be harmed. The mining industry has not yet proven that it can operate even a very small mine without polluting water; the chances that it could operate several large mines in a landscape like that of the Rainy River-Headwaters is vanishingly small.

While all human endeavor involves risk, the risk that sulfide-ore copper mining operations pose to the environment is unmatched by any other industry. The question here is whether the Rainy River-Headwaters and BWCAW are an appropriate environment to bear such risk.

3. Sulfide-ore copper mining in the Rainy River-Headwaters watershed would result in several large contaminated waste sites spread throughout the watershed, threatening downstream waters.

Every sulfide-ore mine that intercepts groundwater leaves behind what is essentially a contaminated waste site, either as contaminated groundwater in the underground workings or backfilled pit, or as a contaminated pit lake. Unless it is pumped and treated, contaminated water will eventually make its way into surrounding groundwater. For many mines, pumping and treating will need to continue for hundreds or thousands of years. Unidentified pathways to surface water, errors in predictions of likely water quality, and failure of water containment and collection systems often result in unanticipated impacts to surface waters. In addition, many mining operations result in contaminated groundwater below and downgradient of waste rock stockpiles, tailings disposal facilities, and processing and transport facilities. If sulfide-ore copper mining were allowed in the Rainy River-Headwaters, multiple contaminated sites would eventually be spread throughout the watershed upstream of the BWCAW.

4. Industrial-scale mining is incompatible with wilderness, nature-based recreation, and an economy that is dependent on them

It is folly to believe that industrial-scale mining and nature-based recreation can exist side-by-side on the same lake-land landscape, where sightlines, industrial noise, and air and water

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<sup>23</sup> StarTribune. (2019, November 24). Editorial- Not this mine. Not this location.

pollution would be unimpeded. Wilderness and nature-based recreation in the BWCAW and surrounding canoe country are dependent on a natural landscape, quiet, clean air, clean water, natural ecosystems, and presence of wildlife. Siting even one mine here, as Twin Metals has proposed, would destroy the area for its current use.

The BWCAW is cherished as a uniquely accessible wilderness oasis by hundreds of thousands of people. The Birch Lake/South Kawishiwi River area is a beloved near-wilderness scenic recreation area in its own right. Pursuant to the Boundary Waters Canoe Area Wilderness Act, the U.S. Forest Service has designated the area just upstream from the BWCAW for scenic recreation, and it is managed and used as a place where wilderness-like recreation is accessible to people using motorized as well as traditional means of travel.

In addition, because of the pristine waters, the BWCAW and Rainy River-Headwaters provide other highly important ecological values. They provide a core refuge of critical habitat for endemic wildlife species with declining populations such as moose and lynx, which in the face of climate change may be essential to the continued existence of these species in Minnesota. This is true of threatened and imperiled plant communities as well. The high quality of the area's ecosystems and the presence of wildlife are key components of wilderness character, and both would inevitably be degraded by sulfide-ore copper mining operations.

The BWCAW is at the heart of a diverse, stable and growing amenity-based regional economy. This includes supporting a large portion of the region's healthy recreation industry, and extends to retaining and attracting new residents and the construction, professional services, and retail/manufacturing jobs and income that the local population supports. The attractiveness of the BWCAW is a main reason for the region's resistance to the population declines seen in other rural and mostly-rural Minnesota counties in the last several decades. Opening the watershed to sulfide-ore copper mining would destroy wilderness-edge areas that host significant recreation businesses and activity, inject destabilizing boom-bust dynamics into the area's economy, and cause the greater Ely area a net loss in both jobs and income within a few years of a mine opening.<sup>24</sup> The common assumption that the addition of mining jobs would have a net positive economic effect ignores the nature of the region's existing amenity-based economy and the ubiquitous boom-and-bust nature of the mining industry.

5. No industrial discharges or emissions that increase mercury in fish tissue should be permitted in the Rainy River-Headwaters Watershed.

Mercury and sulfate are likely to increase in wetlands and lakes in the Rainy River-Headwaters if sulfide-ore copper mining is permitted in the watershed. In the waters and wetlands of northeastern Minnesota, sulfate plays a key role in mercury methylation, so even slight increases of either pollutant can significantly increase the amount of methylmercury in aquatic organisms and the larger food web. Methylmercury is already present in the environment at levels affecting public health and wildlife; any industrial use that would increase those pollutants in the Rainy River-Headwaters should not be permitted.

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<sup>24</sup> Stock, J.H. & Bradt, J.T. (2020). Analysis of proposed 20-year mineral leasing withdrawal in Superior National Forest. *Ecological Economics*, 174, 106663.

Although this is not currently reflected in water quality standards outside the Lake Superior basin, an appropriate benchmark to protect wildlife (as determined by the U.S. EPA) is 1.3 ng/L mercury.<sup>25</sup> An appropriate benchmark to protect developing fetuses whose mothers eat fish is the Fond du Lac Band of Lake Superior Chippewa standard of 0.77 ng/L.<sup>26</sup>

No surface waters in the Rainy River-Headwaters or BWCAW have average mercury levels as low as 1.3 ng/L, much less 0.77 ng/L. According to Twin Metals data, 2018 mercury concentrations averaged as high as 6.05 ng/L in the South Kawishiwi River/Birch Lake area.<sup>27</sup> All of the surface waters in the area have methylmercury levels that are already above levels understood to have impacts on wildlife and human health, as reflected in the high fish tissue mercury levels in all of the lakes in the area that have been tested.

A 2011 study by the Minnesota Department of Health found that 10% of newborns in the Minnesota portion of the Lake Superior basin have blood methylmercury levels high enough to affect neurological development.<sup>28</sup> While a similar study has not been done of the Rainy River watershed, the geography, geology, ecology, and cultural practices of these adjacent watersheds are quite similar, and thus similar findings would be expected.

Many visitors to the BWCAW, VNP, and Quetico – including children and women of child-bearing age – rely on the fish they catch during their wilderness trip. The shore lunch/dinner is an iconic experience of the Quetico-Superior ecosystem for many people. It is unacceptable now that people should not eat the fish they catch while traveling in the Parks and Wilderness. Government allowance of sulfide-ore copper mining projects that would worsen the situation would be unconscionable.

In closing, the minerals that have been identified in the Rainy River-Headwaters are not so rare or in such short supply that we need allow degradation of one of our nation's greatest treasures to obtain them. Protecting the BWCAW and its watershed will not stand in the way of the U.S.' progress in the clean energy transition. To the contrary, preserving the BWCAW and its watershed – two of the most pristine natural areas we have left – is the real investment in Minnesota's and America's future.

For the above reasons we, the undersigned organizations, wholeheartedly support the Superior National Forest mineral withdrawal. Thank you for the opportunity to submit comments.

Sincerely,

Northeastern Minnesotans for Wilderness  
(*founder & lead organization, Save The Boundary Waters*)

American Canoe Association

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<sup>25</sup> U.S. EPA (1995a). *Great Lakes Water Quality Initiative criteria documents for the protection of wildlife* (EPA/820/B-95/008).

<sup>26</sup> Fond du Lac Band of Lake Superior Chippewa Ordinance 12/98, App. 1

<sup>27</sup> Twin Metals Minnesota (2019a), line 3056 and Table 6-7.

<sup>28</sup> McCann, P. (2011). *Mercury Levels in Blood from Newborns in the Lake Superior Basin*. Minnesota Department of Health.

Black Hills Clean Water Alliance  
Center for Biological Diversity  
Earthjustice  
Earthworks  
Environment America  
Environmental Action  
Fair Mining Collaborative  
Great Old Broads for Wilderness  
LEAD Agency, Inc.  
League of Conservation Voters  
Minnesota Wildwaters Chapter of the  
Great Old Broads for Wilderness  
National Parks Conservation Association  
Natural Resources Defense Council  
Outdoor Alliance  
The Sierra Club  
The Wilderness Society  
Voyageurs Conservancy  
WaterLegacy  
Wilderness Watch  
Winter Wildlands Alliance