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Connie Cummins
Forest Service Supervisor
ATT: Minerals Withdrawal
Superior National Forest
8901 Grand Ave.
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May 8th, 2017

Dear U.S. Forest Service ("USFS") and Bureau of Land Management ("BLM") -

This letter is submitted on behalf of the undersigned Minnesota physicians and allied healthcare professionals, medical students, scientists, and groups. We strongly support the proposal by the U.S. Forest Service to withdraw approximately 234,328 acres of National Forest System lands for a 20-year period within the Rainy River Watershed in our state. The threats posed by sulfide-ore copper-nickel mining are unjustifiable in the water-rich environment throughout northeastern Minnesota. Many concerns, including concerns to human health, are posed by this form of mining in the Boundary Water Canoe Area (BWCA) watershed.

The World Health Organization lists the ten environmental toxins with greatest concern to human health. We know that sulfide ore mining releases at least six of these including mercury, lead, arsenic, asbestos, particulate air pollution and cadmium. These toxins have known

harmful effects to human health including cancer, lung disease, heart disease, and neurodevelopmental disease. This type of mining also releases sulfates that fuel the sulfate-reducing bacteria in the sediment to methylate mercury already present in the environment to its toxic form of methylmercury, a known neurodevelopmental toxin. Given the geology and chemistry involved with sulfide ore containing rock and the sulfide mineral oxidation that occurs as part of the mining process, we know that ongoing leaching of toxic metals from mine ore and waste rock will very likely continue for centuries and inevitably make their way into surrounding water, soil, fish, wildlife, and eventually humans.

Because of the toxic reality of this industry, we as healthcare professionals, scientist, and future physicians have strongly and collectively voiced our concern in relation to sulfide mining within our water-rich borders. The Minnesota Medical Association, Minnesota Academy of Family Physicians, Minnesota Nurses Association, Minnesota Public Health Organization along with dozens of individual providers, and non-profit groups with ties to human health all submitted letters in response to the one prior Environmental Impact Statement (EIS) done for sulfide ore mining in Minnesota. The consensus by all of these groups representing thousands of healthcare professionals in our state is that a comprehensive Health Risk Assessment (HRA) and Health Impact Assessment(HIA) be mandated as part of an EIS necessary for decisions regarding sulfide mining. In addition to this, the Minnesota Academy of Family Physician (the largest medical specialty organization in our state) passed a resolution which was brought to the state Environmental Quality Board as a petition for rulemaking to REQUIRE that an HIA be completed for all future sulfide mining projects in Minnesota. This petition is currently being considered by the EQB and is pending vote.

The National Environmental Policy Act (NEPA) requires that “all agencies of the Federal Government shall...include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official.” (NEPA Sec 102 [42 USC S 4332]). The Committee on Health Impact Assessment convened by the National Resource Council has declared that: “...the appropriate assessment of direct, indirect, and cumulative health effects in EIA under NEPA is a matter of law and not discretion...Because the steps and approaches of HIA and EIA are compatible, HIA offers an appropriate way to meet the requirement for health analysis under NEPA and related state laws...” (Improving Health In the United States: The Role of Health Impact Assessment The National Academies Press Washington, D.C. 2011 P.12)

We are asking that the Forest Service and Bureau of Land Management include an INDEPENDENT and scientifically RIGOROUS and COMPREHENSIVE Health Risk Assessment and Health Impact Assessment as part of an EIS for this project within the Rainy River watershed. We also ask that the HRA/HIA specifically look at health risks to:

- Those who live in downstream communities including Stony River, Morse and Fall Lake Townships.
- All individuals who will utilize the BWCA and surrounding wilderness, drinking unfiltered water straight out of the lakes downstream of these mining activities.

- Fetuses, infants and children, those most vulnerable to the deleterious effects of methylmercury.
- Low-income and tribal communities who rely on hunting, fishing and gathering of wild rice and other plants for their subsistence and cultural well-being.

We would also ask that the HRA/HIA:

- Assess cumulative mercury risks, including hazard levels in bodies of water that may already be impaired for mercury in fish.
- Assess cancer and non-cancer risks to future on-site workers including risks due to metals, dust, particulates and other emissions.
- Assess health risks resulting from fossil fuel combustion, including impacts of burning coal to meet energy demands.
- Assess cumulative risks of multiple chemicals.
- Assess noise pollution to surrounding wilderness.

Research suggests that 60% of our health is determined by environmental and social conditions and behaviors, referred to in public health as the social determinants of health. We thus also ask for analysis of the long-term potential costs of sulfide mining with a broadly scoped Health Impact Assessment that rigorously scrutinizes the social determinants of health in this sensitive and unique region of our state. These costs would include but would not be limited to:

- The cost for health care, special education, loss productivity resulting from potential human health impairments.
- The cost and capability of increasing mental health providers in this region to meet increasing needs, a region that currently has inadequate number of mental health professionals and facilities to meet even the current needs.
- The cost of potential loss of the pristine wilderness that serves as a source of mental and spiritual health not only for the local region, but for countless individuals across our state and nation.
- The cost of potential erosion of the pristine wilderness that has sustained an outdoor recreation industry in Minnesota that contributes to a stable tax base, jobs in a range of sectors, and the retention and talent and wealth in Minnesota.

We thank you for considering the concerns of Minnesota physicians and allied healthcare professionals, scientists, and future physicians as you continue to evaluate this issue. We hope that you share our commitment to using careful assessment and rigorous science to understand potential health risks as well as the affects to the social determinants of health. We have included a link as well as a copy of a recent medical article entitled: Sulfide Mining and Human Health in Minnesota.

<http://pubs.royle.com/publication/?i=352462> (p. 51-55)

We urge you to do everything in your power to help protect the health of current and future generations throughout Minnesota.

Sincerely,

Minnesota Academy of Family Physicians (MAFP)- *representing more than 3100 family physicians, residents and medical students, the MAFP is the largest medical specialty organization in Minnesota*

Individual signers:

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Kris Wegerson, MD; Family Practice, Duluth and Ashland

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Jeffrey D. Rome, MD; Rochester

David Daniels, MD PhD; Neurosurgery, Rochester

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