

Proposed Policy Action for the Twin Metals Mine Plan

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Executive Summary: The proposed Twin Metals mine located in the Superior National Forest near Babbitt, Minnesota will produce highly toxic tailings that could leach contaminants into the Rainy River watershed. This could potentially cause environmental harm to the Boundary Waters Canoe Area Wilderness (BWCAW). However, the mine would provide long-looked-for jobs in a local economy beleaguered by a decline in iron ore production. It would also provide a domestic source of highly in-demand raw materials that are currently being supplied to the United States by foreign countries. After discussing the projected outcomes of four alternatives, this memorandum recommends the following actions: (1) The Minnesota Department of Natural Resources (DNR) should convene a group of stakeholders to discuss methods for balancing mining and preservation. (2) The DNR should request that the United States Forest Service conduct a full, regional Environmental Impact Statement (EIS) to determine the effects of mining adjacent to a Wilderness Area.

I. The problem

Copper-nickel mining would bring much-needed economic investment and jobs to the mining communities of Northwest Minnesota (the Iron Range), which have been slowly declining for the past half-century (Forgrave 2017). The proposed Twin Metals mine is projected to supply an estimated 700 jobs in a region that directly employs about 4,500 people in the mining trade (Bjorhus 2019). Creation of additional jobs in construction, food service, hospitality, and transportation (among others) are expected to follow (Fleming and Measham 2014).

Unlike the legacy iron ore and taconite mines that dominate the Iron Range today, copper, nickel, platinum, and cobalt (the primary minerals to be extracted at Twin Metals) are contained within sulfur-bearing rocks known as sulfides. Mining sulfides, extracting the metals, and then storing the tailings produces acid waste and sulfates that cause the release of heavy metals, including lead and mercury. Long-term storage of mine tailings may decrease water quality due to continuous acid mine drainage (Great Lakes Indian Fish & Wildlife Commission, 1995).

Twin Metals would be within the Rainy River watershed, which leads directly into the Boundary Waters Canoe Area Wilderness (BWCAW), which was first singled out for preservation in 1902 due to its pristine forests, lakes, rivers, and habitats. The final protections surrounding the BWCAW were solidified in the 1978 BWCA Wilderness Act. Because of this legacy of preservation, the BWCAW is the nation's most-visited wilderness area with over 250,000 visitors annually (Minnesota Historical Society 2019). It drives a robust outdoor economy in northern Minnesota by supporting hotels, resorts, guide services, outfitters, and more. Should the Twin Metals mine fail to contain its toxic wastes, these businesses would be in danger.

II. Current policies, conditions, and public opinion

i. Background on current policies

In 1966, the federal government granted preference mineral rights leases to the International Nickel Company (INCO) near Babbitt. In 1974, amid increasing interest in developing these resources, the

Minnesota Environmental Quality Council commissioned a regional study to examine the impacts of sulfide mining (Minnesota Legislative Reference Library 2019). Published in 1979, the study concluded that open-pit mines with on-site smelters located within fifteen to twenty miles of the BWCAW would create noise, air, and potentially water pollution within the BWCAW (Minnesota Environmental Quality Board 1979).

The U.S. Bureau of Land Management renewed the leases in 1989 and 2004, which were then sold to Antofagasta PLC in 2012. In 2016, the Obama Administration declined to renew the leases and imposed a two-year mining moratorium on 234,000 acres of the Superior National Forest until a federal Environmental Impact Statement (EIS) on potential impacts of mining in the region could be completed. In 2017, the Trump Administration reversed that ruling and granted lease renewals to Twin Metals. The Administration also lifted the mining moratorium and suspended the EIS indefinitely, saying that they had uncovered no new information pertaining to the impacts of mining in the region (Minnesota Legislative Reference Library 2019).

With these federal hurdles cleared, Twin Metals is developing a mine plan for its site. This plan will be submitted to the Minnesota Department of Natural Resources (DNR) and other agencies for review and permitting. These agencies will then prepare a site-specific EIS which will provide context for agency permit considerations, including DNR permits for water use and quality (Twin Metals Minnesota 2019).

ii. Details of the Twin Metals mine

Twin Metals is well aware of the environmental hazards presented by its potential mining operations and has taken steps to address them in its mine plan. These steps include:

- Mining underground to minimize surface impacts and pollution from dust and noise.
- Storing 50% of the mine tailings as backfill in finished portions of the mine.
- Employing the 'dry-stack' tailings method (purported to be non-acid generating) to reduce water quality issues associated with tailings dams (Lovrien 2019).
- Combining mine access and processing on one, compact site.

- Utilizing existing roads to access mine processing site.
- Minimizing traffic by bussing employees from Ely and Babbitt, the closest towns to the Twin Metals mine site (Twin Metals Minnesota 2019).

Located north of the Laurentian Divide, the mine is inherently more prone to causing environmental damage. This is due to the greater quantity of surface water (affected by both runoff and atmospheric deposition) and shallower soils (leading to less filtration of runoff). The mine is also located within the buffer of the BWCWA that could lead to air and noise pollution impacts on the wilderness area (Minnesota Environmental Quality Board 1979).

iii. Public opinion

Pro-mining sentiment is strong within the local communities of the Iron Range, especially in Ely and Babbitt. Mining forms the backbone of the local economy, and most other industries are reliant upon the jobs it provides. Furthermore, the recent volatility of steel markets due to foreign steel dumping and other factors has impacted iron ore mining, straining the already vulnerable local economy. Copper-nickel mining could help stabilize the local economy (Forgrave 2017).

Locals opposed to mining in the BWCAW watershed are mostly involved in the outdoor recreation economy. Resort owners, fishing guides, backpacking outfitters, and bait shops provide nearly year-round employment for a self-sustaining industry. Stakeholders outside the region mostly fall into the anti-mining camp. Environmental organizations, recreationists, and others who value the wilderness designation of the BWCAW are loath to see a mining-related environmental disaster on the doorstep of a treasured wilderness area (Forgrave 2017; Lien 2019).

II. Policy alternatives

Four policy alternatives are examined below. They were chosen to span the spectrum of options from development to preservation, and include:

i. Fully permit mine plan as submitted

Twin Metals has taken its environmental responsibility seriously and has taken a series of steps to minimize its potential for environmental

impact. Any further regulation would be a burden on an already struggling regional economy.

ii. Convene stakeholders to discuss balance of mining and preservation

This alternative would bring together local and non-local stakeholders, potentially fostering understanding among the groups and leading to compromises and solutions that all can agree on. Outcomes of the discussion may be additional or more stringent regulatory requirements for DNR permit approval, assurances of payment by the mining company to cover costs of environmental damage and reclamation or a no-impact requirement on the BWCAW for permit approval.

iii. Delay DNR action and request full, regional EIS from the United States Forest Service

This EIS will need to be completed for the DNR to fully weigh the risks and benefits of granting a permit to mine. It will provide updated information on existing ecosystems, mining technologies, and local economies that were unavailable during the environmental reviews of the 1970s, and it will provide a greater breadth of scope than the site-specific EIS required for permitting of the mine plan.

iv. Impose a mining moratorium on the BWCAW watershed

Any risks to the pristine nature of the wilderness and its ecosystems are unacceptable, and preservation of its natural wonders is the paramount obligation of land managers. The BWCAW was designated as a wilderness area for its unique properties. Once it is tarnished, the BWCAW cannot be repaired or replicated and is therefore wholly unparalleled. Copper, nickel, and other metals found in the region can be obtained from other areas that do not endanger a designated wilderness area.

III. Evaluation criteria

Four criteria were chosen to select a policy that provides the greatest benefit at the least cost by balancing environmental and economic concerns:

- *Environmental conditions:* How will the physical environment, including ecosystem health, air quality, water quality, and wilderness designations be impacted by the proposed mining development?

- *Economic conditions:* How will the regional economy be affected in terms of job creation and longevity of economic stimuli?
- *Equity:* How will social and economic groups be affected, and how much input will all stakeholder groups be allowed?
- *Political feasibility:* At present, how likely are the governmental bodies involved to undertake the recommended policy alternative?

IV. Projected outcomes

This section analyzes all four alternatives based on the given evaluation criteria. These evaluations are also summarized in the Evaluation Matrix shown in Appendix A.

i. Fully permit mine plan as submitted

This is likely **the most politically feasible** option as the DNR relies on no other entities to make this decision. While **economic conditions may improve**, mining jobs could come **at the cost of outdoor industry jobs**. In addition, mining jobs are “boom-and-bust” in nature and will not last forever. **Equity is low** in this alternative since there may be limited opportunities for meaningful engagement with all stakeholder groups. **Environmental conditions will most likely degrade** in this scenario, though the extent of this is unknowable.

ii. Convene stakeholders to discuss balance of mining and preservation

This is one of the **more equitable options**, as it allows for public discourse among groups and provides back-and-forth dialogue with regulating agencies. **Political feasibility for this alternative would be high** as there would be no reliance upon outside entities to enact it. **Environmental conditions and economic conditions are dependent upon the outcome of the discussions.** It is likely that a better balance between greater numbers of short-term jobs and smaller numbers of long-term jobs could be struck, and it is also likely that greater environmental protections could be secured.

iii. Delay DNR action and request full, regional EIS from the United States Forest Service

This could lead to **better decisions in terms of environmental conditions**, where targeted

restrictions could be placed upon mining operations that would maximize environmental protections while **minimizing economic drawbacks**. An additional opportunity for public input would be **beneficial in terms of equity** but would be bolstered by the inclusion of iterative commenting. Although **political feasibility under the current administration is low**, this option could be on the front of the agency's options should a change in administration occur.

iv. Impose a Mining Moratorium on the BWCWA watershed

This opinion would provide the **greatest protection for the environmental conditions** out of these four alternatives. **Economic conditions, however, would suffer** from the loss of potential mining jobs – not just the Twin Metals jobs, but of any future mining endeavors that might occur within the watershed. This loss would be somewhat mitigated by the **protection of the growing outdoor recreation**

industry and its longer-term, sustainable job market. Without some form of additional public input, this would **not be a very equitable** solution. **Political feasibility is low**, as it is likely to meet stiff legal challenges and could face an injunction.

V. Selected policy alternative

Based on the maximization of stakeholder involvement, knowledge available for decision-making, and balance of economic and environmental outcomes, **this memorandum recommends a combination of policy alternatives 2 and 3**. Alternative 3 would provide up-to-date and holistic information to stakeholders and decision-makers. Upon finalization of the EIS, Alternative 2 would allow stakeholders to better develop conditions that could minimize environmental impact without unnecessarily restricting economic growth. Taken together, these policies would aid the policy-making process and would lead to a better decision.

Appendix: Evaluation matrix

	Approve Permits	Convene Stakeholders	Request Regional EIS	Mining Moratorium
Environmental Conditions	Current regulations may not be able to protect BWCWA Score: 1	Stakeholders may be able to find additional restrictions to protect the environment Score: 3	Updated, regional environmental information may lead to more protections Score: 3	Would protect BWCWA in perpetuity Score: 5
Economic Conditions	Would allow for the creation of 700+ mining jobs; may come at the expense of some outdoor industry jobs Score: 4	Stakeholders may be able to balance restrictions with economic impacts Score: 3	May allow for targeted restrictions, minimizes the economic impact Score: 3	Would eliminate the possibility of mining jobs, but may preserve some outdoor jobs Score: 2
Equity	Would minimize public input and favor some groups over others Score: 1	Would provide for groups to work together, as well as iterative commenting with agencies Score: 5	Would provide additional commenting, but could use iterative commenting component Score: 3	Would minimize public input and favor some groups over others Score: 1
Political Feasibility	No outside entity input needed Score: 5	No outside entity input needed; not a conventional approach Score: 4	The current administration is opposed, may change with the administration Score: 3	Would likely meet legal disputes, but victory is not precluded Score: 2

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