Mining Information Sheet

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Cumulative Impacts of Metallic Mining Development in Northern Wisconsin

Introduction

It has been suggested that the Department of Natural Resources prepare an environmental impact statement on the cumulative impacts of mining before permitting any additional mines in Wisconsin. The assumptions are that there will be numerous mines constructed across northern Wisconsin and their development would result in cumulative impacts to the region. This mining information sheet defines and evaluates potential cumulative mining impacts and addresses the usefulness of preparing a cumulative impact analysis on mining impacts in northern Wisconsin.

What are the Cumulative Impacts of Mining?

The cumulative impacts concern focuses on the ultimate extent of negative impacts from successive, permitted mines. The assumption is that there would be cumulative impacts due to overlapping effects of nearby mines, and the total negative impacts might be greater than the sum of the impacts from individual mines. Related to the cumulative impact concern is an unfounded belief that mining could develop all over northern Wisconsin and become a dominant economic activity. To address the cumulative impact concerns, let's first consider the maximum mining impact scenario and then address the resultant cumulative negative impacts.

Maximum Impacts of Mining

Over the past twenty-five years of metallic mineral exploration in northern Wisconsin, four orebodies (areas of mineralization that may be economically feasible to mine) have been located and defined. One, the Flambeau Mine near Ladysmith has been successfully reclaimed. Reclamation of the pit began in early 1997 and was completed in late 1998. Therefore, the maximum impact mining scenario that can currently be foreseen would occur if all three remaining orebodies were mined simultaneously. However, since exploration is continuing, it is possible that one or more additional orebodies could be found, although to speculate that a certain number of orebodies might be discovered in the future would be without basis. Also, the Department's experience demonstrates that even if another ore body were found today, it could not become operative for a minimum of seven to ten years.

Therefore, the maximum impact scenario we will use assumes three mines (Crandon, Noranda and Bend) could be in operation simultaneously.

The four known orebodies (areas of mineralization of commercial value) shown on Figure 1 (p. 7) are located across 100 miles of northern Wisconsin in Forest, Taylor, Rusk and Oneida Counties. If all were developed, no mine would be closer than 30 miles to the next nearest mine.

Natural Resource Impacts: Air quality (dust) impacts from a mine would be limited to the mining site by permit conditions. Surface water impacts from a wastewater discharge to a local body of water would be limited by permit conditions to that which would, at the very least, protect the most sensitive fish and aquatic life. Downstream water quality impacts, therefore, should be negligible. Groundwater effects from mining facilities would have to meet drinking water (primary) or secondary standards within 1,200 feet of the facility. Other impacts, such as those to wetlands, woodlands, wildlife habitat and aesthetics also would be limited to each mining site. Therefore, the natural resource impacts from simultaneous mining of the four known orebodies would not overlap those of the nearest mine.

Total acreage potentially disturbed by mining development at the four known orebodies is an estimated 1,400 acres. Natural habitat, including forests, swamps, wetlands and other types would be destroyed during the mining projects. Wisconsin's mining law requires reclamation of the mining site and waste disposal areas, thus land disturbance would not be permanent. Following mining, if no other better use of the project area would be approved, the mining facilities would be dismantled and the land graded, vegetated and restored to an environmentally stabilized condition. An integral part of reclamation is habitat restoration on mining sites.

Two of the underground mines (Nicolet Minerals Company (NMC) Crandon Mine and the Bend Project) and one of the open pit mines (Kennecott's Flambeau Mine) would be completely reclaimed following mining. The fourth mine (Noranda's Lynne Project) would be an open pit mine. Its final use probably would be a lake, although no reclamation plan has been developed for the project. Therefore, with reclamation, long-term landscape impacts from mining would be very small.

The total natural resource impacts from the maximum mining impact situation would be addressed by individual environmental reviews as required by law. Because there would be negligible cumulative natural resource impacts under this scenario, there is no apparent need for a cumulative environmental impacts statement.

Presence of Uranium: No uranium in quantities above natural background levels occurs in or around the Flambeau, Bend or Crandon orebodies. This has been confirmed either by extensive groundwater studies, waste characterization or drill core analyses. Although the Department has not yet gathered or examined data from the Lynne Project cores, no significant uranium concentrations would be expected based on the geological setting and preliminary groundwater studies. Therefore, there should be no radioactivity impacts from the maximum mining impact scenario.

Socioeconomic Impacts: For the most part, social and economic impacts from the mines would

accrue to different local municipalities, counties, taxing districts and school districts. Mandatory payments from the Mining Investment and Local Impact Fund during a mining project would be directed to the various municipalities (tribes, cities, towns or villages, and counties) where the orebodies were located. Labor pools, shopping areas and raw material suppliers for the mines would be mostly separate and distinct with one exception. The Rhinelander vicinity would be affected by both NMC's Crandon Mine 30 miles to the east and Noranda's Lynne Mine 40 miles to the west. However, the Lynne Mine also would draw from the labor supply available from Park Falls, Phillips, Prentice, Tomahawk, Woodruff-Minocqua and Merrill. Therefore, we anticipate minimal negative cumulative social or economic impacts from a maximum mining impact scenario.

Critics of the mining industry point out that mining is subject to cumulative impacts because of the cyclical changes in metals prices. Thus, critics are fearful that employees in northern Wisconsin mines would be vulnerable to layoffs should metals prices fall. Historically this has often happened, but mining is little different in that respect than the auto manufacturers, the steel industry, defense contractors or wood products manufacturers that lay off employees during tough economic periods. Each project-specific environmental impact statement, however, could evaluate such potential socioeconomic concerns. In addition, industrial stability is not one of the criteria available to the Department in regulating mining. This and other disadvantages and advantages of the industry were considered by the legislature when it determined state policy on mining.

In the absence of apparent significant cumulative negative impacts to the natural environment, there is no need for a cumulative impact study. Even if there were a significant level of social and economic impacts forecast from a maximum mining impact scenario, these types of impacts are insufficient to trigger preparation of an environmental impact statement. Moreover, project-specific impact analyses are required to examine cumulative impacts.

Cumulative Mining Impacts: There are three sectors in which one could hypothesize there could be cumulative impacts from mining: transportation, tourism and net proceeds tax collection by the state. Because mining involves rail transportation of ore or concentrates during the operations period, we expect the regional rail systems in northern Wisconsin to benefit from hauling for the mining companies. In some instances, the increased rail traffic could be significant to haulers with marginal traffic volume. Overall, we expect the increased freight haulage to have a slight positive economic effect.

In regard to tourism, if the mining experience in Wisconsin is similar to those in nearby states, there should be a slight net positive impact on tourism in the local areas. Mines attract some visitors and tour groups, geologists and sightseers, although the overall effects are expected to be small. Therefore, again we expect small positive impacts to local tourism impacts from the maximum mining scenario. We have no evidence which suggests that potential visitors to the state would avoid the state or an area because of mining. In fact, while there are unreclaimed mining pits, shafts and tailings piles in the state, particularly in southwestern Wisconsin, the area's long mining history has been successfully utilized to attract visitors to Mineral Point,

Platteville and other areas. The impacts of mining on tourism and transportation systems could be adequately described by project-specific analyses rather than in a cumulative impact study.

Operating mines pay an annual net proceeds tax to the State of Wisconsin. The estimated net proceeds tax collections from the Flambeau Mine are $6.6-11.3 million over its operations period, depending on transportation costs and metals prices. Nicolet Minerals Company estimates that it could pay $119 million in net proceeds tax, and the Department is reviewing this estimate. No reliable estimates of net proceeds tax collections are available for the other two potential mining projects because we have insufficient information on the projects to make useful predictions. Of the total eventually collected in net proceeds taxes, 60% would be placed in the Mining Investment and Local Impact Fund, and 40% would be deposited in the Badger Fund (which is not earmarked for addressing mining-related impacts).

The 'Domino Effect' of Mine Permitting

Some observers of mining in Wisconsin have speculated that once the first mine is permitted the precedent would be set and other mines would be permitted in rapid succession. It is true that now that the first mine has been permitted, mining companies would observe that mining is indeed possible in the state, and therefore could be encouraged to submit mining permit applications. However, there are only three known orebodies remaining in the state, and thus a limited number of possible mines in the foreseeable future.

In addition, the mine permitting process in Wisconsin is relatively long and complex, requiring at lest 4 years to complete the regulatory review and environmental impact processes. The Department is required to evaluate each mining permit application individually. The fact that one mine might be approved does not alter the timetable for reviewing another proposed mine or increase its likelihood of approval. In other words, there will be no domino effect from approving the first or any one mining permit application.

How Could the Maximum Mining Impact Scenario be Analyzed?

In order to predict in detail the natural resource impacts of a mine, we would need basic information describing these aspects of a potential mine:

-size, position and content of the orebody;
-proposed method of mining;
-types of mine waste;
-mine waste disposal methods and facility location;
-proposed wastewater treatment facilities;
-ore concentration method;
-environmental protection techniques;
-inventory of the project area environmental features.

At a minimum, this additional information is needed to evaluate the potential social and economic impacts of a mine:

-mineral content of the orebody;
-project costs;
-work force size and percent hired locally;
-metals prices predictions during operations.

For a few of these information categories, we could predict ranges, values or processes, while most others are unknown to us and we would have to speculate in order to project impacts. In addition, different mining companies have different ways of solving the same problems. For example, one company might choose to guarantee minimum payments to municipalities or to hire most workers locally, while another would not. The resultant impacts would be very different depending upon which course the mining company followed. Therefore, many of our projections would be riddled with speculation, based on tentative assumptions, and with little verifiable meaning. They also would be rightfully vulnerable to challenge. In summary, it is impossible to accurately predict the impacts of future mining projects for which no specific proposals have been developed.

Who Could Benefit from a Cumulative Mining Impact Study

A cumulative mining impact study would have little predictive value in describing impacts because of its speculative nature, and might be immediately outdated by exploration discoveries. In addition, it would have little to no value to the Department, which is responsible for regulating mining. Hypothetical impacts of a mining project which has not yet been proposed to the Department have no bearing on the regulatory decisions for a proposed mine. A regional impact analysis would not contribute to the required review because the Department must separately evaluate each application to mine to determine if mining could be approved in a safe and environmentally protective manner at each proposed site.

However, some members of the public, regional planning commissions and local and state policy makers might have a better understanding of certain aspects of mining in Wisconsin if a cumulative mining impact study were prepared. On the other hand, if the stated goal were to educate these individuals about mining, a cumulative environmental impact analysis is not the best way to accomplish that. In summary, there appears to be little or no value to the Department of Natural Resources or the general public in preparing a cumulative mining impact analysis.

For More Information

If you would like additional information or want to discuss any mining-related issues, please contact:

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This mining information sheet is one in a series prepared by the Department of Natural Resources to explain how metallic mining in Wisconsin is regulated and to explore other aspects of mining. Copies of the following mining information sheets are available from Department offices in Madison and Rhinelander, and the Internet:

- *The Permitting Process for a Metallic Mineral Mine*
- *How the Department of Natural Resources Regulates Metallic Mining*
- *Protecting Groundwater at Metallic Mining Sites*
- *Reclamation and Long-Term Care Requirements for Metallic Mining Sites in Wisconsin*
- *Local Decisions in Metallic Mining Projects*
- *Addressing Public Concerns With Wisconsin's Laws Governing Metallic Mining*
- *Wisconsin's Net Proceeds Tax on Metallic Mining and Distribution of Funds to Municipalities*
- *Cumulative Impacts of Metallic Mining Development in Northern Wisconsin*
- *Potential Metallic Mining Development in Northern Wisconsin*

The Mining Regulations (Administrative Code) can be viewed at the Department's Mining Web site: http://www.dnr.state.wi.us/org/aw/wm/mining/metallic/index.htm.

Figure 1. Four Known Wisconsin Orebodies for which Mining Companies Have Expressed Serious Interest in Seeking Permits to Mine

NOTE: This map is not currently available electronically

ASARCO, Inc. and Cyprus Gold Exploration Corp.
Bend Project
(north of Perkinstown)
Exploratory Drilling Continues

Flambeau Mining Co.
Flambeau Mine
(at Ladysmith)
Reclamation Complete

Noranda Minerals, Inc.
Lynne Project
(north of Tripoli)
Permitting Process Suspended

Nicolet Minerals Co.
Crandon Project
(south of Crandon)
Permit Application under Review