



# Water Quantity

The area encompassing the proposed NorthMet Mining Project (mine, transportation and utility corridor, and processing plant) is located in northeastern Minnesota near the Partridge and Embarrass rivers, which flow into the St. Louis River and ultimately Lake Superior. The potential effects of the proposed project on water quantity have been modeled and analyzed to determine their severity and to develop measures to avoid or minimize these effects.

The Partridge and Embarrass rivers are not located within the Hudson Bay Basin; as a result, the project would not affect the Boundary Waters Canoe Area Wilderness.

## **How would PolyMet acquire water for processing, and how much will they use?**

The water needed for processing at the Plant Site is primarily met by reusing water from the Tailings Basin pond. As a contingency measure, any shortfall in water requirements would be made up by withdrawing raw water from Colby Lake using an existing pump station and pipeline. Throughout operations, the average annual makeup water drawn from Colby Lake would vary between 20 and 810 gallons per minute (gpm), with an average annual demand of 275 gpm. This would be the total potential raw water demand for the processing plants. A permit from the Minnesota Department of Natural Resources is required for the project water use.

## **Where would they discharge their wastewater?**

The project includes construction and operation of wastewater treatment facilities at both the mine and plant sites for active treatment of water captured on-site for as long as required to meet water quality standards. The mine site facility discharges to the Partridge River while the plant site facility discharges to the Embarrass River. A permit from the Minnesota Pollution Control Agency is required for discharge to waters of the state.

## **How could the NorthMet Mining Project affect water quantity?**

The proposed project would not have any substantial effect on water quantity or stream flow.

## **How were the effects determined?**

The potential effects of the NorthMet project on groundwater and surface water quantity in the area were assessed using accepted computer models. These software programs estimated the most likely effects of the project on water flow in the area, taking into account the uncertainty around many of the model input assumptions.

## **What would be done to avoid or minimize effects?**

PolyMet would install and operate a system to capture at least 90 percent of the groundwater seepage at the proposed tailings basin and the permanent waste rock stockpile. PolyMet would discharge treated water or water pumped from Colby Lake to augment the decrease in flows in several tributary streams to the Embarrass River, as well as at Second Creek in the Partridge River watershed.

PolyMet would also monitor for potential effects on water quantity to help refine modeling to better predict how the project may affect surface water and groundwater in the future.

**For more information about how water quantity in the area would be affected by the NorthMet Mining Project and Land Exchange, see the Executive Summary, Sections 4.2.2 and 4.3.2 (Affected Environment, Water Resources), Sections 5.2.2 and 5.3.2 (Environmental Consequences, Water Resources), and Chapter 6 (Cumulative Effects) of the SDEIS. Also, refer to additional Fact Sheets about the NorthMet Mining Project and Land Exchange SDEIS:**

- 1. What is the Environmental Review Process?**
- 2. Effective Commenting**
- 3. A Guide to the SDEIS Document**
- 4. What's Changed Since the DEIS?**
- 5. Project & Land Exchange Overview**
- 6. Land Exchange**
- 7. Reclamation and Financial Assurance**
- 8. Water Quality**
- 9. Wetlands**
- 10. Air Quality**
- 11. Wild Rice**
- 12. Mercury**
- 13. Threatened & Endangered Species**
- 14. Cumulative Effects**
- 15. Cultural Resources**
- 16. Water Quantity**