Wetlands

Wetlands are characterized by inundation and/or soil saturation, either permanently or seasonally, creating distinct ecosystems. Wetlands are found in and around the proposed NorthMet project area. Most wetlands in this area are regulated and protected under Section 404 of the federal Clean Water Act, which is administered by the U.S. Army Corps of Engineers (USACE), or the State of Minnesota's Wetland Conservation Act, which is administered by the Minnesota Department of Natural Resources (MDNR) for mining projects. The USACE decision under Section 404 is dependent in part on the Minnesota Pollution Control Agency's water quality certification under Section 401 of the federal Clean Water Act.

How would the proposed NorthMet project affect wetlands?

There are 1,579.6 acres of wetlands that have been identified in the proposed NorthMet project area, of which about 913 acres would be directly affected and permanently impacted by activities related to the proposed NorthMet project. Activities that would directly affect wetlands include filling, excavation, and construction and operation of the proposed NorthMet project.

Some wetlands also have the potential to be indirectly affected by: 1) wetland fragmentation; 2) changes in wetland hydrology resulting from changes in watershed area; 3) changes in wetland hydrology due to groundwater drawdown resulting from open pit mine dewatering; 4) changes in wetland hydrology from groundwater drawdown resulting from operation of the Plant Site, including groundwater seepage containment; 5) changes in stream flow near the Mine Site and Plant Site, as well as associated effects on wetlands abutting the streams; and 6) changes in wetland water quality related to atmospheric deposition of dust and rail car spillage associated with Mine Site and Plant Site operations. Wetland monitoring would be conducted to determine if wetlands are being indirectly affected.

How were the potential effects determined?

Assessment of wetland effects relied on methods approved by the USACE and MDNR. Wetland types and acreages were identified during wetland mapping and characterization. Direct effects were determined by overlaying the proposed NorthMet project's construction and operations on the mapped wetlands to determine the wetland areas that would be permanently impacted. Potential indirect effects were estimated using a distance from the mine pit (i.e., zone-based) analog method, a variety of modeling techniques, and GIS analysis. In addition, the Final Environmental Impact Statement contains what is considered to be a more conservative approach for assessing potential indirect effects from mine dewatering to address concerns raised by the Tribal Cooperating Agencies.

What would be done to avoid, minimize, or mitigate these effects?

PolyMet proposes to avoid and minimize wetland effects by optimizing the placement of mining features such as the mine pits, waste rock and overburden stockpiles, haul roads, water management systems, and supporting infrastructure. Additionally, the processing plant and the transportation and utility corridor would be located on land previously used for industrial purposes. This reuse would avoid the need to disturb additional lands (including wetlands) and would further reduce environmental effects.

The total acreage of replaced wetlands as mitigation to offset direct impacts would depend on the compensation ratios determined during the state and federal permitting process, but would range from a minimum of about 913 acres up to 1,828 acres. Wetlands not directly impacted by the proposed NorthMet project would be monitored for potential indirect effects. Wetland mitigation for potential indirect wetland effects would be determined by state and federal agencies during permitting. If the proposed NorthMet project were to be permitted, wetland monitoring for hydrology and vegetation would be conducted to identify if future indirect effects to wetlands occur. In the event that the required wetland monitoring identified additional indirect effects, permit conditions would likely include a plan for adaptive management practices to be implemented, such as expanded monitoring and/or hydrologic controls. If indirect wetland impacts cannot be avoided or restored, additional compensatory mitigation would be required.

After the mine closes, PolyMet would be required to reclaim the proposed NorthMet project area and some wetland areas could be recreated at reclaimed parts of the site. Financial assurance would be in place to ensure that money would be available for reclamation at that time.

For more information about how wetlands in the area would be affected by the NorthMet Mining Project and Land Exchange, see the Executive Summary, Sections 4.2.3 and 4.3.3 (Affected Environment, Wetlands), Sections 5.2.3 and 5.3.3 (Environmental Consequences, Wetlands), and Chapter 6 (Cumulative Effects) of the Final EIS. Also, refer to additional Fact Sheets about the NorthMet Mining Project and Land Exchange Final EIS:

1. **Project and Land Exchange Overview**
2. **What is the Environmental Review Process?**
3. **What's Changed since the Draft EIS?**
4. **What's Changed since the Supplemental Draft EIS?**
5. **Supplemental Draft EIS Comment Response Process**
6. **Effective Commenting on the Final EIS**
7. **A Guide to the Final EIS Document**
8. **Air Quality**
9. **Water Quantity**
10. **Wetlands**
11. **Water Quality**
12. **Wild Rice**
13. **Mercury**
14. **Threatened & Endangered Species**
15. **Cultural Resources**
16. **Land Exchange**

17. **Reclamation & Financial Assurance**
18. **Cumulative Effects**
19. **Tailings Basin Stability**
20. **Water Modeling**
21. **Northward Flowpath**
22. **Duration of Treatment & Financial Assurance**
23. **Human Health**