

PolyMet mine's destruction of peatlands would significantly increase Minnesota's carbon emissions

A report by the Friends of the Boundary Waters Wilderness

Destruction of 1,000 acres of peatland by the proposed PolyMet Mining Corp. NorthMet mine would *increase Minnesota's overall CO₂ emissions by two percent.*

The NorthMet mine would be situated on a wetland called the “100 Mile Swamp ([see previous Friends report](#)).” The entire spruce and tamarack bog is over 3,000 acres in size. The mine would occupy and destroy over 1,000 acres of that peatland.

What Is a Peatland?

Peatlands are places that accumulate layers of “peat” at the surface. Peat is formed when plant material, usually in wet areas with poor drainage and low oxygen content, is inhibited from fully decaying. Over many years, the organic materials accumulate, forming the dark brown, partially decomposed material we call peat. Bogs are a type of peatland that receive water solely from rain and snow falling onto the surface.

Peatlands have been identified as crucial ecosystems in storing carbon that would otherwise contribute to global warming. The destruction of peatlands can release large quantities of previously sequestered CO₂ into the atmosphere.

PolyMet's Impacts

Destruction of the more than 1,000 acres of peatland by PolyMet's proposed mine would release approximately 2.7 million metric tons of CO₂ to the atmosphere. This would increase Minnesota's *total* annual emissions of CO₂ by two percent (above 2005 levels) (Anderson et al., 2008). A single acre of peatland contains, on average, 750 metric tons of carbon.

Minnesota's Peatlands Critical for Carbon Sequestration

In 2007, the Minnesota State Legislature requested that the University of Minnesota produce an assessment of the potential capacity for carbon sequestration in Minnesota's terrestrial ecosystems. The Minnesota Terrestrial Carbon Sequestration Project, an interdisciplinary research group, was organized to produce that assessment. The team analyzed existing scientific literature, land existing in broad land use categories, and the role of current state policies and programs on carbon sequestration potentials. In February 2008, the Project produced a report titled, “*The Potential for Terrestrial Carbon Sequestration in Minnesota.*” Some of the key findings and recommendations of that team of researchers are:

- Peatlands in Minnesota contain the largest carbon stocks in the state, in excess of 4 billion metric tons

- Release of this carbon to the atmosphere as CO₂ can result from peatland drainage and conversion
- Release of this carbon to the atmosphere would accelerate global warming and require greater reductions in CO₂ emissions elsewhere
- Destruction of 1,000 acres of peatland in Minnesota from mining or other activities would increase the state's total CO₂ emissions by 2% over 2005 levels
- ***The Number One Recommendation:*** “*Preserve the existing large carbon stocks in peatlands and forests by identifying and protecting peatlands and forests vulnerable to conversion, fire, and other preventable threats.*”

In December 2006, Governor Tim Pawlenty announced the state's “Next Generation Energy Initiative,” including the development of a comprehensive plan to reduce Minnesota's emissions of greenhouse gases. The Minnesota Climate Change Advisory Group, a broad-based group of Minnesota citizens and leaders, was created to develop state-level policy recommendations to the Governor. In April 2008, the Advisory Group released its report titled, “*Minnesota Climate Change Advisory Group Final Report: A Report to the Minnesota Legislature.*” Some of its key findings and recommendations include:

- “Wetlands have among the highest potential carbon-sequestration capacities for any type of land cover in Minnesota. Peatlands are likely Minnesota's largest single carbon sink, containing 37% of all carbon stored in the state...”
- Recommendation: “Protecting these enormous carbon reservoirs (peatlands)...is critical.”
- Policy Goals:
 1. Protect and restore northern peatlands.
 2. By 2015, identify peatlands at risk of releasing greenhouse gases because of lowered water table or industrial uses such as mining.
 3. Design policies to protect peatlands and wetlands from drainage and other carbon-releasing land uses.

For more information on PolyMet and other sulfide mining proposals in Minnesota, visit the Friends' website:

www.friends-bwca.org/issues/sulfide-mining/

Sources:

1. Anderson, Jim. et. al. February 2008. The Potential for Terrestrial Carbon Sequestration in Minnesota: A Report to the Department of Natural Resources from the Minnesota Terrestrial Carbon Sequestration Initiative. University of Minnesota.
2. Minnesota Climate Change Advisory Group. April 2008. Minnesota Climate Change Advisory Group Final Report: A Report to the Minnesota Legislature.