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## EPA moves to protect wild rice waters

Lake Vermilion added to list of waters impaired by sulfate pollution



(/uploads/original/20210505-170330-5.7 wildriceboat.tif.jpg)

## Marshall Helmberger

REGIONAL— The Environmental Protection Agency has added Lake Vermilion, the Pike River, and 28 other water bodies in northern Minnesota to the state's list of impaired waters, due to sulfate pollution. The federal agency took that unusual step after the Minnesota Pollution Control Agency refused to add lakes and streams impacted by sulfate to the list of waters requiring plans to improve their water quality. Sulfate at levels above 10 milligrams per liter is known to harm wild rice— Minnesota's state grain which has long been nutritionally and culturally important to native tribes in the state.

The EPA challenged the MPCA's most recent update of its list of impaired waters last month because it did not include wild rice waters, which the federal agency contends violates federal law. EPA had informed the state that it would be issuing its own list of impaired wild rice waters, and it followed through on that promise late last week.

Minnesota has the nation's strictest sulfate limit for wild rice waters, at 10 mg/l, but the state has not enforced that law since its passage in the early 1970s. Environmental groups and tribes have pressured the MPCA and EPA for years to take action to address sulfate pollution, which is primarily discharged from taconite mines and some wastewater treatment facilities. Mining companies have lobbied lawmakers in St. Paul to relax the sulfate limit. Weakening the standard, without scientific evidence to support the change, isn't possible under federal law, however, and efforts by the Legislature to commission new studies of the issue have only confirmed the sensitivity of wild rice to sulfate. While sulfate itself isn't toxic to wild rice, the chemical is often converted in aquatic systems to sulfide, which is deadly to the wild grain. High levels of sulfate downstream from mining operations has had documented impact on former wild rice beds. Without a scientific basis for weakening the sulfate standard, the Legislature passed a law in 2015 that prohibits the MPCA from regulating sulfate discharges. The MPCA has repeatedly cited that law as rationale for failure to regulate sulfate pollution.

Sulfate discharge from the Minntac tailings basin, north of Virginia, into the Pike River watershed has left elevated levels of the chemical in the river's water. The Pike River, which flows into Lake Vermilion, adds tons of sulfate to the lake every day. In addition to impacting wild rice, sulfate is known to facilitate the conversion of elemental mercury to methyl mercury, a toxin known to accumulate in fish.

Lake Vermilion is the largest water body to be included on the list of 30 lakes and streams impacted by sulfates. In the case of Vermilion, the EPA lists both the lake as a whole, and East Lake Vermilion as a separate water body. East Lake Vermilion has a higher overall concentration of sulfate, likely reflecting the proximity of the Pike River to that portion of the lake. The mean level of sulfate in East Vermilion was 12.38 mg/l, with a maximum reading of 14.6. The lake as a whole shows a mean sulfate level of 9.97 mg/l, but that increases to 10.71 mg/l if a single reading that the EPA believes was erroneous is eliminated from the calculation.

The Pike River showed considerably higher levels of sulfate, with a mean of 22.19 mg/l, and a maximum reading of 42.5 mg/l. The Sand River, which is a tributary of the Pike River, drains an area just downstream from the Minntac tailings basin, and maintains a mean sulfate level of 104.08 mg/l, with a maximum reading of 286 mg/l.

Other local waters impacted by sulfate include the Embarrass River (mean 26.1 mg/l), the Partridge River (mean 92.8 mg/l), Lake Esquagama (mean 16.11 mg/l), and Wynne Lake (mean 19.6 mg/l).

In northeastern Minnesota, natural levels of sulfate are very low, typically running 1-2 mg/l, according to sampling done by the MPCA and other agencies.

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