Wild Rice and Sulfates - Sept 2009

My name is Leonard Anderson. I am writing with regards to the adequacy of the PolyMet CPDEIS. My concern is about wild rice and sulfates. I have harvested wild rice and hunted waterfowl continuously since 1954.

John B. Moyle established the relationship between wild rice and sulfates back in the 1940's. In 1944 he wrote in the Journal of Wildlife Management "No large stands of rice occur in waters having a SO4 content greater than 10 p.p.m., and rice generally is absent from water with more than 50 p.p.m." Also in Wild Rice in Wisconsin by Fannucchi, Fannucchi and Carven we read, "wild rice requirements: sulfates—less than 10 p.p.m.". Minnesota has established a Wild Rice Standard that is appropriately 10 mg/L.

On page 4.1-96 of the July 2009 version of the PolyMet CPDEIS we see a concerted effort to discredit the State Wild Rice Standard and an effort to cast doubt on the existence of wild rice stands in the Embarrass and Partridge River. In spite of the heroic efforts of that page, the State Wild Rice Standard still stands and must be honored if there are wild rice stands in those rivers or immediately down stream in the St Louis River.

To address these deficiencies in the CPDEIS, four of us paddled the lower Partridge and adjacent St Louis River reaches on 9-16-09. Above the junction with the Partridge Rive at river mile 161, the St Louis River was full of high quality rice with several hundred waterfowl feeding and resting in the rice. As shown in photo #1 the rice immediately above the junction is tall and healthy with viable rice kernels in the heads. This is to be expected in this sulfate poor region of the world. According to the DNR Study of the St Louis River (John Lindgren and Nancy Schuldt) released August 29, 2006, at river mile 17l which is above the junction with the Partridge, the St Louis River has a sulfate concentration of only 2 mg/L and "Wild rice dominates this reach".

Next, we entered the lower Partridge River and searched for wild rice. As you can see in photo #2 there are stands here but they were in such poor health that even though we were there to harvest wild rice, the plants were so stunted that you could not bend the stalks over the side of a canoe to harvest the grain. The plants averaged about 10 inches in height and the color was more reddish than green. Most plants had no viable seed, but obviously with perfect substrate conditions they were able to perpetuate the stand and not surprisingly we saw no waterfowl there.

Fortunately we have good data on the sulfate concentration of this river. Moyle found in DNR Fisheries Report No 69, April 2, 1944, sulfate concentrations of only .3 mg/L in the Partridge. The Partridge had a sulfate concentration of as high as 77.42 in 2008 and at SW-114 has averaged 10 mg/L for the last 4 years. So what has clearly happened here is the recent impact of mining has raised the sulfate levels to the point that natural wild rice beds are no longer productive, but are still alive. Actual, in the field observations clearly show the validity of the State Wild Rice Standard with tall productive rice teeming with waterfowl where sulfates were normal and stunted unproductive rice in water contaminated with sulfates. Wild rice can survive above 10 mg/L but not thrive.

The legacy of sulfate contamination of these water bodies should warn us about the will of the agencies to enforce the Wild Rice Standard after a proposal is permitted. One rice stand on the lower Partridge river was about 70 meters long by 10 meters wide. That is not some recent stand of rice. It has been struggling to exist there for years while our governmental agencies continue to allow industry to try to kill it.

The lead agencies working on the PolyMet EIS have been asked to do a cumulative sulfate analysis of impact on both mercury methylation and wild rice. That has not been done. Instead, the CPDEIS has done individual sulfate analysis on the Partridge by itself and the Embarrass River by itself. That is hardly cumulative. A cumulative analysis would involve the St Louis River. Here is what we found on the St Louis River. After noting the abundance of productive rice above river mile 161, we paddled on down the St Louis River to a take out at the highway 100 bridge. Downstream from the Partridge River the wild rice in the St Louis had the stunted and reddish and thin appearance of the rice in the Partridge. See photo #3 of rice on the St Louis River near the bridge at river mile 160. As reported by Mike Bernd and Travis Bavin of MN DNR in 2009, this reach of the St Louis River is consistently above the Wild Rice Standard of 10mg/L.

The 1997 CEQ document, "Considering Cumulative Effects Under theNational Environmental Policy Act" delineates the process to determine geographic areas that will be appropriate boundaries for a cumulative effects analysis. This is referred to as "area of interest". It states "One way to evaluate geographic boundaries is to consider the distance an effect can travel." With concentrations of sulfate projected to be as high as 31.7 mg/L in the Partridge and 63.4 in the Embarrass River at closure of the PolyMet operation, the area of influence will definitely extend considerable distance down the St Louis River. In fact because of the many other sources of anthropogenic sulfates along the St Louis River, the "area of interest" for sulfates must go all the way down to Lake Superior. In fact in November 2007, in the matter of: United States Steel Corporation, Schedule of Compliance agreement with the MPCA, it stipulates on page 6 that the Regulated Party shall model sulfate concentrations in the West Two as well as the St Louis River. It notes "Modeling shall be done to the St Louis Bay." Since the St Louis Bay is the site of a well documented decline in wild rice production, it only makes sense that PolyMet, the biggest sulfate generator ever considered for this watershed should also be required to model cumulative sulfate impacts all the way to the bay.

The remnant stands of wild rice in the Partridge, Embarrass and entire St Louis must be protected and with enforcement of the State Wild Rice Standard they would flourish again. Anything less would be a betrayal of the rights of us that harvest and eat this valued wild grain and the waterfowl that depend on it.

I agree that this document reflects my actual observations.
Signed

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