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Panel on Emerging Wastewater Issue: Wild Rice & Sulfate

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Thank you. It's a pleasure to be here to talk about one of the most interesting and complex environmental regulatory issues in Minnesota today. I know that Shannon is going to talk about the history of the sulfate wild rice rule and how the PCA is proceeding to implement a new scientific research plan and Lisa is going to focus on the potential treatment technologies. I would like to give you the view of the Minnesota Chamber of Commerce.

Minnesota Chamber members include about 2,600 businesses of all types and sizes from around the state. We have a very active Environment & Natural Resources Policy Committee that meets monthly to discuss legislative and regulatory policies. When the wild rice rule issue came up in 2010, we formed a special sulfate/wild rice task force to coordinate our work.

I have been involved in environmental policy and regulation for a long time; and as I think about the PCA wild rice rule, it's almost as if a "perfect storm" has been created by the rare combination of issues and circumstances that confront us today. Very briefly, here are those circumstances:

1. We have a standard that was adopted 38 years ago and was based on information gathered in the early 1940's---70 years ago.
2. The standard has never been reviewed for its basis in science.
3. Until last year, the standard has never been applied in a permit. It was addressed in a 1975 permit, but the permit did not impose the standard in the rule.
4. The standard is intended to protect wild rice---a valuable natural resource that has a profound religious, cultural and economic significance for the Native American communities for Minnesota.
5. The standard has become an issue as the mining industry seeks to expand in Northeastern Minnesota creating thousands of jobs and pumping billions of dollars into our economy and state treasury.

I will comment on the path forward to address this unique situation in a moment; but first I would like to correct the impression that some have that the sulfate wild rice rule only impacts the mining industry.

Naturally, most of the public focus on this issue has been in the context of mining. The US Steel Keetac permit, issued in June 2010, was the first to include the wild rice standard. Other taconite permits are expected before the PCA soon; and the sulfate wild rice issue has been raised in the PolyMet nonferrous mining EIS.

However, the rule does not only affect the mining industry. Any wastewater treatment facility that discharges sulfates to waters where wild rice is growing may be affected by the rule. As the Chamber began assessing the rule last year, we prepared a map showing permit discharge points where wild rice waters may exist. I say "may exist" because one of the deficiencies of the PCA rule is that it does not designate the waters of the state where the standard applies. We created the map using wild rice information from the DNR.

The map shows that there are 230 industrial facilities and 385 municipal wastewater treatment plants that could be impacted by the rule. So, this rule is not just a mining issue or an issue for private industry.

I also want to be very clear that the Minnesota Chamber of Commerce recognizes the importance and value of wild rice. We support water quality standards to protect wild rice that are based on current science. In December of last year, we asked PCA to bring interested parties together to develop a scientific protocol for research that would lead to a new rule to protect wild rice. Also in December we met with natural resource managers from tribal governments to discuss the rule and to express our desire to work with them to develop a plan for scientific research.

However, at the same time, the Chamber believes there are significant legal deficiencies in the 1973 rule. Although the PCA is applying the rule to waters where naturally grown stands of wild rice exist, we believe that the rule, on its face, applies only to waters used to irrigate wild rice in paddies. In addition, the standard applies only "during periods when the rice may be susceptible to damage by high sulfate levels", but the rule does not define that timeframe; and, as I mentioned earlier, it does not designate which waters are "used for the production of wild rice". In December of last year, the Chamber filed a lawsuit in Ramsey County asking the court to address these issues.

As is so often the case with controversial issues of state policy, the sulfate wild rice rule was the subject of much debate at the State Capitol in the 2011 session. However, there was no disagreement that the 1973 standard, which has never undergone a scientific review, should be the subject of an analysis using modern scientific methods. We appreciated the fact that Governor Dayton and the new PCA commissioner, Paul Aasen supported this review and included $1.5 million in the governor's budget to fund the research.

But the most critical and controversial question was what to do with the 1973 standard in the interim period until a new rule is adopted (or the existing rule is confirmed). A bill was introduced to change the 10 m/L standard to 50 m/L. Some argued that the existing rule should be repealed or that PCA should adopt an interim standard until a new permanent rule is adopted. In the end, the existing rule was not changed and the law provides specific directions for the research and rulemaking.

The PCA said that it would move quickly to develop a research protocol and suggested that significant research can be completed in two years. We thought then, and are more convinced now that we have reviewed the draft protocol, that two years is an optimistic estimate of the timeline. We believe that to complete all of the objectives in the draft protocol could take up to 10 years.

In the meantime, PCA will receive permit applications for new facilities or reissuance of expiring permits. What should permittees be required to do? How can they design and implement treatment technologies when they don't know what the final standard will be? Will it be a sulfate standard or will there be a different controlling parameter?

Lisa Andrews will have more information on this shortly, but in a preliminary review of potential treatment technologies, we found that the capital costs are in the range of $3 million to $4 million for a municipal treatment plant to tens of millions and up to a couple hundred million for large industrial discharges. Those estimates are for meeting the current 10 m/L standard.

The bottom line for the Minnesota Chamber is this: permittees should not be required to design and implement treatment technologies until the rule is revised after the research. It makes no sense to require huge expenditures of capital when the final standard is not known.

We were pleased that the law directing the wild rice research and rulemaking passed by the legislature in the special session and signed by Governor Dayton agreed with this position---however, with one major hitch.

Let me read to you the key sentences in the law:
"(e) From the date of enactment until the rule amendment under paragraph (a) is finally adopted, to the extent allowable under the federal Clean Water Act or other federal laws, the Pollution Control Agency shall exercise its authority under federal and state laws and regulations to ensure, to the fullest extent possible, that no permittee is required to expend funds for design and implementation of sulfate treatment technologies. Nothing shall prevent the Pollution Control Agency from including in a schedule of compliance a requirement to monitor sulfate concentrations in discharges and, if appropriate, based on site-specific conditions, a requirement to implement a sulfate minimization plan to avoid or minimize sulfate concentrations during periods when wild rice may be susceptible to damage."

Of course, the big hitch is the phrase, "to the extent allowable under the federal Clean Water Act or other federal laws". Those words are there because EPA told PCA that until the standard is changed in a valid rulemaking, under the Clean Water Act the 10 m/L must be appropriately enforced. So, it's possible that permittees will have to make large capital commitments to design and implement compliance technologies before a rulemaking that takes into account the new science. The US Steel Keetac permit includes a schedule that calls for compliance with the standard no later than 2019. Because it will take several years to design and test treatment technologies, we are only a few years away from major expenditures to comply with the existing standard.

I would like to conclude today with a few words about science even though I know that an adequate discussion takes more than "a few words". But I am not a scientist, so a few words is all I can muster!

The historical record of the 1973 rule, tells us that it was based solely on the work of Dr. John Moyle, a respected scientist with the Department of Conservation (which became the DNR). His research from the early 40's resulted in his 1944 paper, "Wild Rice in Minnesota".

Dr. Moyle conducted surveys of a limited number of lakes on which he observed larger stands of wild rice. His work cannot be considered a comprehensive study of wild rice lakes, or an adequate analysis of the potential effects of sulfate on wild rice populations. Rather, he identifies the conditions that are most conducive and correlate to the success of wild rice which, in addition to sulfate, include 4 other conditions (water levels and alkalinity, water movement, sediment conditions and absence of carp). Dr. Moyle also notes that wild rice can grow in water containing up to 50 ppm sulfate and testified to that during a contested case hearing on the Minnesota Power Clay Boswell permit in 1975.

Field surveys of wild rice populations and measurements of surface water sulfate concentrations have been carried out in the last several years. Wild Rice stands are present downstream from the Minnesota Power Clay Boswell facility in Cohasset with concentrations typically in the range of 40 to 60 mg/L (or ppm). Based on surveys conducted from 2009 to 2011, wild rice stands are present in Swan and Hay lakes near Pengilly. Wild rice stands are present on the Partridge River near Aurora with surface water sulfate concentrations of 200 mg/L or more. Wild rice has been found widely in Manitoba and Saskatchewan at concentrations approaching 1,000 mg/L sulfate.

Dr. Moyle was well respected during the time he carried out his research and his research methods were state-of-the-art in the 1930's and 1940's. However, his results would not be considered conclusive today. He observed *in situ* correlations between lake and river water quality conditions and the presence of wild rice stands. He did not identify a mechanism or likely pathway between a particular water quality or sediment condition, for example, and its effect on wild rice growth and production. *In situ* observations and correlations comprise a starting point for ecological research today. They do not, on their own, constitute an adequate assessment of the relationship between water quality and the growth and production of a particular species.

This is the starting point for the research that PCA will oversee in the years ahead. The Minnesota Chamber looks forward to participating in that process. It is imperative that a realistic plan for scientific research move forward so that the state objective of protecting the wild rice resource and growing our economy will be realized.