# Wright County makes progress using Minnesota Filter

## January 2015 Snapshots

Ever seen a lake that's bright green in color, or covered in algae? Too much phosphorus is likely the culprit. Phosphorus is one of the problem pollutants when it comes to the quality of our lakes, and there's been a great deal of work done to try and minimize its impact on our water. One promising development involves the iron-enhanced sand filter or 'Minnesota Filter,' so nicknamed because it was developed by the University of Minnesota.

*The 'Minnesota Filter' catches runoff and captures phosphorus before it drains into Martha Lake.*

The filter works by combining small pieces of iron – iron filings – with sand – as a form of water treatment. The iron filings remove dissolve phosphorus from the water, a less complicated pollution reduction practice than other traditional phosphorus removal systems. Research estimates that iron filters can remove as much as 80% of phosphorus, one of the reasons this practice has been gaining popularity.

Wright Soil and Water Conservation District knew it needed to implement some form of conservation practice to protect Martha Lake near Hanover. The lake is a priority resource for the county because of its high water quality. That water quality was being threatened, however, by agricultural runoff. Agricultural drainage tiles are used in the region to move excess water off the land quickly, but don't have a process for removing excess nutrients., so the lake was experiencing increasing phosphorus. The sand filter is one of the best methods for treating dissolved phosphorus before it enters surface waters.

The district applied for, and received a Clean Water Fund grant of $32,000 from BWSR in 2012 to implement the practice. In conjunction with the University of Minnesota St. Anthony Fall Laboratory, Wright Soil and Water Conservation District is utilizing the Minnesota Filter to remove approximately 12 pounds of phosphorus annually and help protect Martha Lake's water quality. With an estimated lifespan of 25-30 years, the filter will continue to impact the lake for years to come.

"The results have been very encouraging," Joe Jacobs, Wright SWCD Water Resource Specialist, said. "While we will continue to work to keep phosphorus out of our water, for the State to realize its nutrient reduction goals, this type of passive removal system is key for pulling the phosphorus already in the lake, out. It's an important new tool in our water quality toolbox."