



Improving water quality in the Yellow Medicine River



Clean Water Funds: 2012

Clean Water Grant	\$30,595
Leveraged Funds*	\$8,100
Total Project Budget	\$38,695

- Leveraged Funds include required 25% local match
- Actual Budget:**
Clean Water Grant= \$15,724.38
Leveraged Funds = \$8,851.74

Target Water:

Lower Yellow Medicine River Sub-watershed

Project Sponsor:

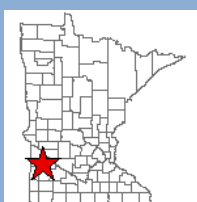
Yellow Medicine Soil and Water Conservation District

Grant Period:

January 2012 — December 2013
 Amended to December 2015

Project Contact:

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C12-65 - Conservation Drainage

Project Narrative

Agricultural drain tiles with surface intakes are considered a significant delivery mechanism of nutrients to Minnesota River. Protecting those surface water inlets can reduce the direct path those nutrients have to the river. In addition, in agricultural fields with subsurface drainage, leached nitrate creates elevated nitrate levels in tile drainage water.

These high nitrate concentrations can cause algae blooms that remove oxygen. To help remove nitrates leached into tile drains, wood chip bioreactors can be installed to remove nitrate from the tile water before it enters surface water. The goal of this project is to install 20 alternative intakes, 12 control drainage structures and one woodchip bioreactor.



Proposed Outcomes:

Project Outputs:

Install a wood chip bioreactor - Lower Yellow Medicine River Sub-watershed

Install 12 control drainage structures - Lower Yellow Medicine River Sub-watershed

Replace 20 open intakes with alternative intakes - Lower Yellow Medicine River Sub-watershed

Proposed Reductions:

- 766 lbs/year Nitrogen
- 43 lbs/year Phosphorus
- 20 tons/year Sediment

Actual Outcomes:

Installed one bioreactor affecting 21.5 acres resulted in a reduction in nitrogen of 163 lbs/year and a reduction of phosphorus of 1.7 lbs/year.

1 CAP130 plan was developed for landowner who installed bioreactor and control structures.

One open intakes was replaced by alternative intake resulting in a reduction of phosphorus of 1.5 tons/year and 1.0 tons/year of sediment.

A Conservation Drainage Field Day and a Drainage Workshop was held. Approximately 114 people attended the field day and 80 people attended the workshop.

Unfortunately, the SWCD could not convince any other landowners in the minor watersheds to adopt these drainage practices.

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2012 CWF Application Map Lower Yellow Medicine Sub-Watershed

