

RURAL SUBWATERSHED ASSESSMENT

The Soil & Water Conservation District has completed the process of assessing the rural portions of the Chisago Lakes Chain of Lakes Watershed for the best locations for water quality projects. This assessment is based on the protocol developed by the Washington Conservation District for their Top 50 P! Report. The assessment has identified potential Best Management Projects (BMPs) including water and sediment control basins, rock-lined channels, grassed waterways, filter strips, livestock management, and others. These projects were modeled to determine the amount of potential pollution reduction that may be gained by implementing the suggested BMP and the approximate cost to do so.

Partners:

Chisago Lakes Lake Improvement District
Chisago Soil & Water Conservation District

Targeted Water:

Little, North Center, South Center, Chisago, Green, Little Green, North Lindstrom, and South Lindstrom Lakes.

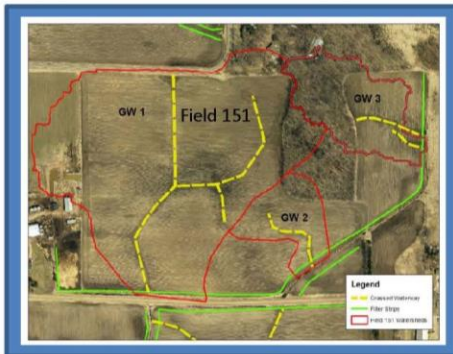
Example Project Profile

Project Description

This is a large agricultural field of about 46 acres. It is planted in a corn-soybean rotation. There is a large concentrated flow path running through the field and a drainage ditch runs alongside the field. The concentrated flow area drains to the ditch, which flows through more agricultural fields, pastures, and empties into Rush Lake.

BMP Recommendation

The concentrated flow areas should be converted to a grassed waterway. A 50-foot filter strip should be installed along the drainage ditch.



Catchment Summary	
Field Acres	45.6
Current Cover	Corn/Beans
# of Landowners	1
Removed TP (Lb/yr)	197
Removed TSS (Ton/yr)	182
Estimated Cost	\$23,911
Cost/Lb TP	\$121
Model Inputs	
Soil Type	346;292;75
Slopes >6%	No

Each identified BMP will be included in a Project Profile. This profile will include a map showing location of BMPs and watersheds, a project description, a BMP recommendation, a catchment summary chart, and a BMP practice chart.

The catchment summary chart includes information such as acres, current cover, number of landowners, soil type, slopes, and the total pollution reduction numbers.

The watershed size, slope, and pollution reduction numbers for each individual BMP is identified in the BMP practice chart.

The practices can be compared by pollution reduction and/or cost per pound of phosphorus reduction to prioritize the identified BMPs in the watershed.

Practice	Removed TP (Lb/yr)	Removed TSS (Ton/yr)	Watershed Size (Acres)	Average Watershed Slope	Distance to Surface Water (Feet)	Length (Feet)	Estimated Cost	Cost/Lb TP
GW 1	109	109	35.8	1.1	0'	2,525'	\$12,411	\$114
GW 2	27	27	4.3	2	0'	500'	\$3,805	\$141
GW 3	19	19	7.4	1.9	0'	576'	\$4,128	\$217
Practice	Removed TP (Lb/yr)	Removed TSS (Ton/yr)	Existing Filter Strip (Feet)			Area (Acres)	Estimated Cost	Cost/Lb TP
Filter Strip	42	27	<5'			3.7	\$3,567	\$85