Fillmore Soil and Water Conservation District

Project Title: Root River Grazing Management Initiative

Water of Concern
Root River—Lower Mississippi Basin in Minnesota

Impairment
Fecal Coliform Bacteria

CWL Funding by Category	
Technical Assistance Funds	
SSTS Funds	$0
Professional Development	$0
Hired Positions	$110,000
Total TA Funds	$0
Implementation Funds	
AgBMP Loans	$0
CWAG Funds	$0
Leveraged Dollars	$0
Total Imp. Funding	$0
Total CWL Funding	**$110,000**

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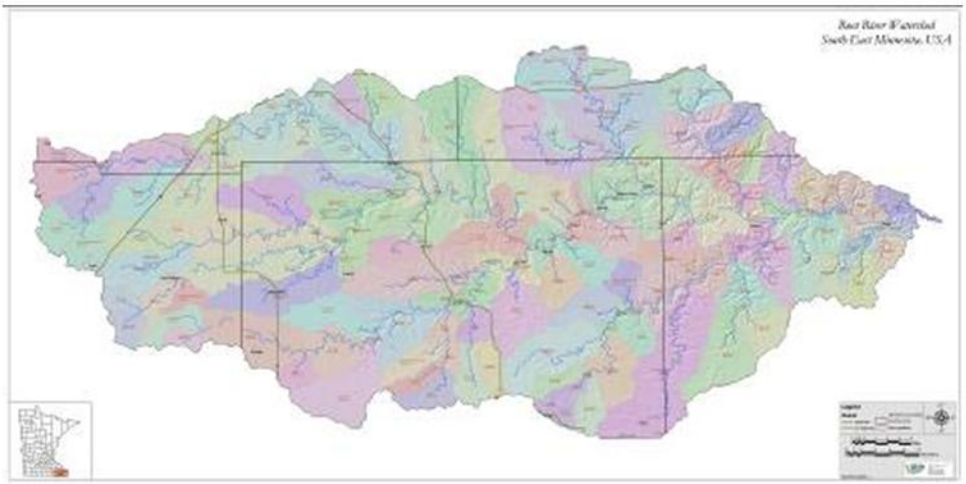
Project Number:
18089



Overall Project Description (abstract)

The five SWCDs in the counties in the Root River watershed agreed that there was a need for technical assistance for managed grazing in the watershed. Poorly managed pastures can be a source of runoff that carries fecal coliform bacteria into streams and, where karst features are present, into ground water. Fillmore County agreed to be the fiscal agent on a CWL grant proposal to hire a Grazing Land Management Specialist to work with livestock producers in the Root River watershed to develop managed grazing plans and to assist them with implementing the plans. The Grazing Specialist was hired in March 2007 but resigned in January 2009 leaving a short gap in services until the new Grazing Specialist was hired in April 2009. The goals were to: 1) develop up to 160 multi-phased grazing plans that meet the NRCS Standard 528, and to follow up on about 60 existing plans that can be implemented utilizing funding from the federal EQIP funds, 2) prioritize work areas in the watershed, 3) provide technical assistance to help cooperators locate funding for implementation, and 4) hold 3 field days for producers to learn about new techniques and management guidelines. Forty-six plans have been completed on 3,138 acres plus 5 plans are in progress. Follow up visits are in progress with all EQIP cooperators with grazing plans. Grazing stubble height checks were conducted for 18 contracts. A BWSR Challenge Grant was written and awarded to the Fillmore SWCD to provide cost share to producers in the watershed to implement grazing practices, which has benefited 9 producers to date. A MDA Sustainable Ag Grant was written and awarded to the SWCD to study the use of cover crops and unharvested hay as means to extend the grazing season. The Grazing Specialist assisted NRCS, Hiawatha Valley RC&D, and other SWCDs in the watershed and Area 7 with organizing and presenting 5 grazing tours, 12 workshops, 2 pasture walks, and 1 feedlot field day. Monitoring stations are being maintained on 3 fields to compare runoff rates from conventional pasture, managed pasture, and a manured crop field in cooperation with MDA and The Nature Conservancy. CWL funds have been approved for continuation of the position until 2011.

Prepared by Board of Water and Soil Resources

Conservation Practices Implemented

Name of Conservation Practice(s) Installed	Number or Linear Feet Installed	Estimated Pollutant Load Reduction (include units)	Total Cost
Fencing (EQIP)	152,457 ft		*
Pipeline (EQIP)	37,531 ft		*
Watering Facility (EQIP)	53		*
Heavy Use Protection (EQIP)	1.7 acres		*
Pasture and Hay Planting (EQIP)	214 acres		*
Prescribed Grazing (EQIP)	1268.4		*
Fencing (Challenge Grant)	33,923 ft		$20,354
Crossing (Challenge Grant)	1		$8,600

*federal dollar amts not available

Conservation Planning Activities

Name of Plan(s) Written	Number of Landowners Contacted	Number of Plans Written	Total Cost	Types of Practices Identified	Number of Practices Identified	Number of Practices Implemented
Grazing Mgmt	107	46		Fencing, watering systems, forage mgmt		3,138 acres in managed grazing plan

Contributing Partners: (List or copy from restoration implementation plan)

Partner	Description	Project Contribution	Leveraged Funds
USDA NRCS	Training, EQIP contracts	In-kind staff time	EQIP
U of M Extension	Assists with workshops, pasture walks, and other education	In-kind staff time	
Root River SWCDs	Producer contacts	In-kind staff time	
Hiawatha Valley RC&D	Organized Grazing Schools	In-kind staff time, costs for schools	Driftless Area Initiative

Project Informational/Educational Activities

Type of Activity	Newsletters, Brochures, Posters, Etc.	Work with Kid Groups	Tours, Demos, Etc.	Presentations Given	Presentations by guest speakers	Other
	1 poster 2 newsletter articles, 2 newspaper articles		5 grazing tours, 2 pasture walks	12 workshops, 1 feedlot field day		

If this project included an education component, please include brief education narrative here: The Grazing Specialist assisted NRCS, Extension, Hiawatha Valley RC&D, and other SWCDs in the watershed and Area 7 with organizing and presenting 5 grazing tours, 12 workshops, 2 pasture walks, and 1 feedlot field day. Two newspaper articles on grazing included pictures and information about the programs being offered through the SWCD. He and the Nutrient Management Specialist developed a poster about each of the programs for display at the fair, field days, pasture walks, etc. The SWCD newsletter goes out twice a year, which has had articles each time about grazing plan development, cost share that is available, and the benefits of managed grazing as well as publicizing education opportunities for learning about managed grazing. By cooperating with the other agencies, more topics were covered in more locations and drew from a larger audience. For example, the marketing workshop drew over 100 people.

Project Outcomes: detail specific project outcomes that work towards meeting Restoration (total maximum daily load studies) and Protection (local water plans) water quality goals

For restoration project, please include overall Overall TMDL Point Source Reductions Needed (% & Pounds) Overall TMDL Non-Point Source Reductions Needed (% & Pounds) Estimated Total TMDL Non-Point Source Reduction (% & Pounds) from Project(s)

For the entire Lower Mississippi Basin, a 65% reduction in fecal coliform bacteria is the goal for the regional TMDL. Studies are limited on the reductions in bacteria transport when continuously grazed pastures are replaced with pastures that are managed for grazing. Preliminary results from studies conducted by the MDA show that pastures provide a "dramatic water quality benefit compared to row crops and newly established alfalfa." ("The Effect of Pastures on Water Quality in SE Minnesota", Mark Zumwinkle and Adam Herges, MDA) From this study, water infiltration is the key to keeping E. coli from moving to streams. Pastures will reduce sediment and nutrient transport in overland flow by 90-99% compared to cropland. However, E. coli transport moves readily with overland flow once it begins. Well vegetated pastures increase water infiltration and reduce runoff which delays overland flow and E. coli movement. If there is no overland flow, E. coli transport can be reduced by 100%, emphasizing the benefits of managing pastures in a way that increases infiltration and reduces runoff. Results from this study showed in riparian areas timing of grazing during times when runoff is least likely can reduce or eliminate E. coli transport even when cattle graze in the stream corridor. If sufficient biomass is present in the riparian zone, flash grazing can be done with minimal water quality impacts. A study by Sovell in 2000 found similar results in riparian areas.

This project helped develop grazing management plans on over 3,100 acres in addition to implementation of EQIP plans on 1,268 acres. Some of these acres are cropland that was converted to pasture which has been shown to greatly reduce runoff rates. From these sites, reductions could be as high as 100% if no overland flow occurs and cattle have limited access to streams.

Project Photos, Additional Maps, or Conservation Practice

Demonstrating fencing techniques at the Pasture Walk at the Chris Austad farm.

Clipping forage samples at the Dawson Grabau farm to do analysis of the feed value.

Aerial seeding of winter rye cover crop on Tom Boelter farm 35 days after seeding on August 28, 2008, as part of the MDA Sustainable Ag grant project. This field was grazed in May, 2009, then planted to corn.