

Wadena SWCD
4 Alfred St. NE
Wadena, MN 56482



Spirit Lake/Menahga Storm Water Disconnect

Water of Concern
 Spirit Lake, Wadena County

Impairment
 Protection

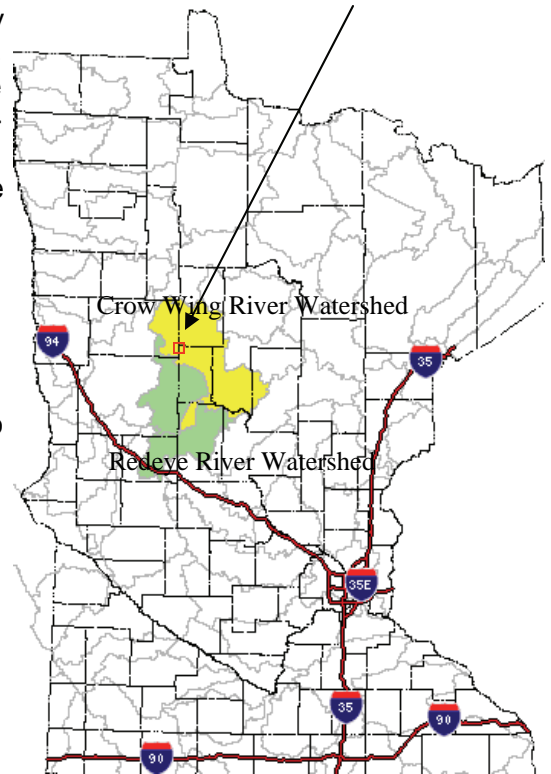
CWL Funding by Category	
Technical Assistance Funds	
Staffing	\$6,513
Professional Development	\$1,803
Design	\$20,220
Project Installation	\$21,464
Total CWL Funding	\$50,000
Leveraged Dollars	\$108,657
Total Project Dollars	\$158,657

Spirit Lake in Wadena County is a land-locked lake with ~115 acres of surface area and a watershed size of ~2.5 square miles. The lake is surrounded by the City of Menahga with > 95% of adjacent land owners to the lake on city sewer and water.

Lake management plans, written in 2002 and updated in 2004 to include the newly formed Spirit Lake Association, listed storm water run-off as a major threat to water quality. Storm water outlets drain into the lake on both the east and west side from major highways 71 and 87.

A storm water retention pond and shoreline habitat restoration were completed on the east storm drain outlet but more storm water management was needed to minimize quantity as well as improve the quality of the storm water reaching the lake. The west storm drain was also a very difficult retrofit so storm water management had to be pushed up into the watershed to reduce impact.

As a result, 8 rain gardens, 60 rain barrels, 1 pervious surfacing, 7 shoreline restorations and other strategies were implemented or



planned for throughout the city with funds from the Clean Water Legacy, DNR Shoreline Habitat Restoration Program, City of Menahga, Spirit Lake Association, Wadena SWCD, MN Waters, Initiative Foundation and most importantly local landowners.

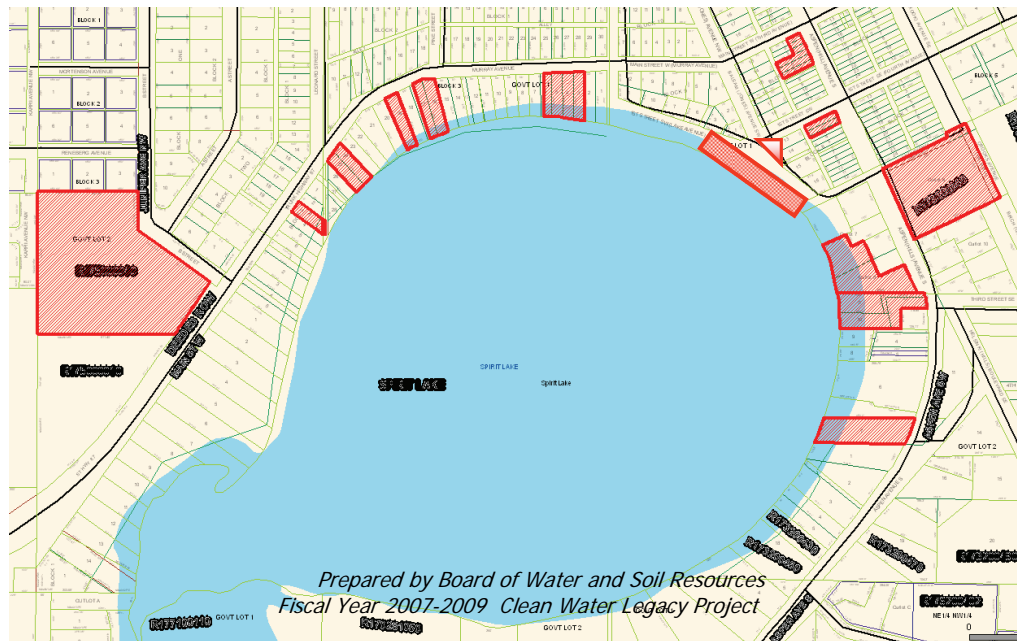
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Project Number: 07P62



Prepared by Board of Water and Soil Resources
 Fiscal Year 2007-2009 Clean Water Legacy Project

Conservation Practices Implemented

Name of Conservation Practice(s) Installed	Number of Plans Written	Number Installed	Total Cost
Rain Gardens	6	8	\$11,460
Rain Barrels		60	\$5,847
Shore Line Habitat Restorations	7	6	\$45,157
Retention Pond/Shoreline		1	\$2,028
Pervious/Grey Water Storage Parking Lot		1	\$44,209



Contributing Partners:

Partner	Description	Project Contribution	Leveraged Funds
Spirit Lake Association	Initiative Foundation HLRP Project Grant	Education	\$5,000
MN Waters	Conservation Partnership Grant	Design	\$5,000
DNR Fisheries	Block Shoreline Habitat Restoration Grant	Design, Implementation, Maintenance	\$53,257
Landowners	Locations throughout the city	Property, in—kind	\$24,575
BWSR Challenge Grant	Funds	Implementation	\$21,500

Project Informational/Educational Activities

Education has been a key element of the success of this project. Spirit Lake Association utilized their Initiative Foundation grant to pay for many educational events. Many volunteers became actively involved with implementation after attending several sessions and discussions provided by Jay Michaels of Emmons and Oliver, Inc.

The focus of Jay's talks were on storm water affect and disconnect. He adapted his sessions to fit the various attendees. One session was for Local Government officials, another for citizen's at large, and another to present disconnect sites for those who were looking for actual locations.

The University of Minnesota Water Resources staff provided training for shoreline restoration (a two day event), rain gardens and rain barrels. A shoreline planting was scheduled as a class for those interested in seeing how to get a restoration plan implemented. Students from the local Freshwater Education district were actively involved in several of the dirt moving projects.

University of Minnesota Extension toured the city projects and came away with ideas how the different extension departments could work together in one watershed.

Many articles were graciously published by local newspapers to help educate and let citizen's know what was happening in the city.



Project Outcomes:

Many large and small projects have been planned and/or completed throughout the City of Menahga to protect Spirit Lake from storm water run-off. The Wadena County Water Plan lists Spirit Lake as a valuable county resource and to work with citizen's in it's protection.

Eight rain gardens have been installed and are collecting storm water run off. Four are located in the parking lot of the Westside Laestadian Church which has been promoted as a show case for the city as an alternative to solid asphalt. Three rain gardens have been built on the Menahga Public School lawn. Many students and teachers have expressed an interest in learning more about the rain gardens in their front yard. One rain garden has been built in front of a commercial building along Highway 71 to collect sand and run off from the street.

A new pervious surface gazebo and gray water tanks for water storage have been installed at the recently remodeled West Central Telephone building.

60 rain barrels are located throughout the town to disconnect roof run off from the streets. Six private shorelines plus the city property have been restored to maximize infiltration versus run-off entering the lake.

Several other rain gardens plans are in place and waiting for future funding to implement.

