

LINCOLN SOIL AND WATER CONSERVATION DISTRICT



FY2011-Clean Water Funds: Verdi Wellhead Protection Area Project

Water of Concern:

Ground Water Protection: Verdi Well Field

CWF Grant Awarded:

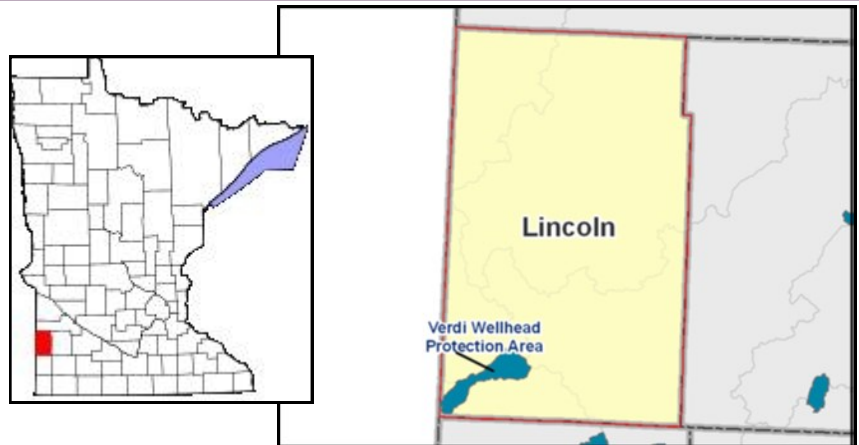
Verdi Well Field: \$184,210

Leveraged Funds:

Lincoln-Pipestone Rural Water: \$32,500
Landowners: \$123,097

Grant Funds Not-Spent: \$14,085

Grant Period: From: 1/1/2011-12/31/2013



CWF Expenditures by Category

Technical/Administrative Assistance Funds

Item:	Total	Spent
Administrative	\$9,210	\$9,210
Leveraged Funds: LPRW	\$32,500	\$32,500

Implementation Funds

Nutrient Mgmt Plan	\$55,843	\$52,760
Variable Rate Technology	\$1,296	\$1,296
Split N; Nitrogen Stabilizers	\$60,261	\$49,259
Filter Strips	\$57,600	\$57,600
Leveraged Funds: Landowners	\$123,097	\$123,097
Total Imp. Funding	\$175,000	\$160,915
Total CWF Budget	\$339,807	\$325,722

PROJECT CONTACTS:

Pauline VanOverbeke-Administration
pauline.vanoverbeke@mn.nacdnet.net
Randy Kraus-Farm Bill Technician
randy.kraus@mn.nacdnet.net
Phone: 507-694-1630, Ext 3

Project Partners

- Lincoln-Pipestone Rural Water
- Natural Resources Conservation Service
- Department of Natural Resources
- Department of Health
- Rural Water Association
- Department of Agriculture

Overall Project Description

Project partners play a vital role in the implementation of the Verdi Wellhead Protection Plan and have made this water source a priority in lowering nitrate levels. The aquifer used by the wells in the Verdi Well Field consists of a sand and gravel horizon about 30' thick which overlies clay-rich till. The geological sensitivity in all five of the Verdi wells is classified as "high".

The Verdi Well Field supplies water to ten community water suppliers, 34 large rural users, and 1,126 rural hookups. Total population served by this water supply is about 7,500. It is the only water supply source Lincoln-Pipestone Rural Water has in Lincoln County and functions as a backup water source to both the Holland and Burr water sources.

Water quality monitoring indicates presence of nitrate nitrogen in the wells. The nitrate levels in the wells indicate that the wells pump groundwater that is under the influence of sources of nitrogen related to human activities.

Nutrients that are not effectively utilized by crops have potential to leach into groundwater or enter nearby surface waters via overland runoff or subsurface agricultural drainage systems. A major principle of crop nutrient management is to prevent the over-application of nutrients. These projects are designed to decrease surface runoff and filter sediment, nutrients, and pesticides before reaching surface and ground water. The goal of this project is to reduce nitrate levels in this water supply. This will be accomplished by providing landowners educational information and provide incentives to assist with the following: develop a nutrient management plan, utilize variable rate technology, utilize nitrogen stabilizers and nitrogen efficiency products and install filter strips. Total number of landowners along with acres of each category are located on the back of this report.

SUMMARY:

Project outcomes are shown below. Under the practice funds expended, the number of landowners along with the number of acres are shown for each category along with the total incentive for the years.

Lincoln-Pipestone Rural Water has completed sampling results through the Verdi Task Force Monitoring Wells and also their production wells. These results are located in the eLink reporting system under an attachment: 2013 LPRW Sampling Results. As indicated on the graphs, nitrate trends differ between the production wells and the Verdi Task Force Wells. There is not clear understanding as to why this is (many factors may be contributing: 1) there may be a response “lag” as to water quality results between the Task Force wells and production wells, of which may show up in the future; and/or 2) land use near the production wells (idle/reserve) versus the Task Force wells (pasture/row crop) may be impacting water quality in the generalized areas. Also in eLink is map/diagram that provides the location of the Verdi Task Force Wells and its geographic relationship to the Verdi Wellhead production wells, as well as within the well capture zone and the Wellhead Protection Area itself. where the Verdi Task Force wells are located in comparison to the production wells.. Findings from the original study of the aquifer have indicated several key facts, including: thin protective layer above the aquifer, recharge influence of Spring Creek itself, and localized vulnerability near the production wells.

Practice Funds Expended:

Year End:	Nutrient Management Plans (# landowners/acres)	Nitrogen Stabilizer Product/Split N Application (# landowners/acres)	Variable Rate Technology (# landowners/acres)	Filter Strips (# landowners/acres)	Incentive Total
12-31-2011	12-2,163	9-1,260	1-108		\$32,458
12-31-2012	10-1,590	9-1,593		2-51.2	\$86,014
12-31-2013	13-2,842 acres	13-2,406			\$42,443
Totals	36-6,595	31-5,259	1-108	2-51.2	\$160,915

Administration/Technical Funds Expended:

Total Administration Dollars Spent	\$9,210
Leveraged Funds (LPRW) used for Technical/Administration	\$32,500

Project Informational/Educational Activities:

Type of Activity	Number of Participants	Date
Newsletter/Annual Report	1,380 owners/operators	February, 2011
Website	N/A	Continuous
Letters-landowners	40 owners/operators	March 14, 2011
Meeting-Project Partners	10	March 8, 2011
Meeting-Project Partners	10	November 15, 2011
Newsletter/Annual Report	1,380 owners/operators	February, 2012
Website	N/A	Continuous