

**Minnesota Department of Agriculture
Pesticide & Fertilizer Management**

FINAL PROGRESS REPORT FOR GRANT ENDED JUNE 30, 2016

PROJECT DESCRIPTION: Long-term trend monitoring for nitrate in drinking water from private wells in the Volunteer Nitrate Monitoring Network area.

REPORT DUE DATE: 7/31/2016

CONTRACT NUMBER: 81109

PROJECT MANAGER NAME: Linda Dahl

ORGANIZATION: Southeast Minnesota Water Resources Board

ADDRESS: 972 Summerfield Drive
Northfield, MN 55057

PHONE NUMBER: 507-457-5223

EMAIL: Ldahl@winona.edu

1.) GOALS AND OBJECTIVES OBTAINED

The goal and objectives set for this grant were to maintain the Southeast Minnesota Volunteer Nitrate Monitoring Network in order to determine long-term trends, with the objectives of long term nitrate monitoring of private water supply wells in SE MN and assisting counties to fulfill their county water plans with regard to nitrates. These were obtained through the activities detailed below.

2.) ACTIVITIES PERFORMED AND OUTCOMES

- SEMWRB maintained a subcontract with Olmsted County to coordinate sample collection and analysis through their state certified lab.
- Developed a service agreement with Olmsted County to provide regional laboratory services and monitoring coordination.
 - Olmsted County tasks and methods:
 - With MDA approval, the project expanded to include targeted nitrate testing sites, adding an additional several hundred sites to our plan.
 - Used the Lab's Water Quality Database for data management.
 - Utilized the lab's regular sample form but printed on pastel paper and with the well owner contact information affixed on a label (Att. A).
 - Used mail merge to print three labels – one for the test request form, one for the sample bottle, and one for envelope that the test kit is sent out in.
 - Coordinated sampling kit assembly and mailing.
 - Received and analyzed samples using a state certified method on the Ion Chromatograph. Samples were analyzed for nitrate-nitrogen, nitrite, chloride, sulfate and fluoride. Analysis included at least 10 duplicates per year.
 - Provided homeowners with results by mail.
 - Entered the results in a database and provided SEMWRB, Counties and MDA with an electronic copy of the results database.
- Developed service agreements with nine SE MN counties (Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Rice, Wabasha, Winona).
- MDH and Olmsted County developed a spreadsheet for counties to use to transfer volunteer contact and well location data to Olmsted County.
- Annual Monitoring: We completed both the 2014 and 2015 monitoring rounds. Kits were mailed to volunteers, and volunteers subsequently mailed their samples to the Olmsted County Environmental Lab for analysis of nitrates and anions. Olmsted County Regional Water Lab completed lab testing, reporting and data entry on all samples that were returned. Test results were sent to volunteers and county staff immediately upon analysis, and the database was shared with County partners and MDA.
 - We mailed out 688 test kits in October 2014, and 472 samples were returned.
 - We mailed out 623 test kits in September 2015, and 486 samples were returned.

- Database Update: Toward the long-term sustainability of the network I have been working with Kimberly Kaiser and Jaime Nielsen of MDA as Jaime provides expertise and assistance in working with each county to make sure the well and contact information we have in our database is up to date and consistently maintained across counties. Jaime, assisted with compiling our databases from all previous nitrate monitoring rounds into one database, and worked with county well network coordinators to update volunteer contact information. The updated database of results through 2015 is attached (Att. B).
- Recognition Events: Two annual volunteer recognition events were held. The first in Rice County on February 26th 2015 with eight volunteers from Rice, Dodge and Goodhue Counties attending. The second was in City of Rushford Village on March 29th 2016 with sixteen volunteers from Fillmore, Winona and Houston Counties attending. In preparation for these events venues were arranged, invitations were sent out, a speaker arranged and food and supplies ordered. At both events James Lundy of MDH presented results and project history.
- Newsletters: Annual newsletters were printed and sent to all volunteers, providing network updates (Atts. C, D).

3.) CHALLENGES ENCOUNTERED AND LESSONS LEARNED

The 2014 monitoring season was slightly behind schedule due to the short timeframe between contract execution and the date set for monitoring. Kits were sent out in October instead of the planned date of August.

After nine years since the network was set up, there is a need to do network maintenance by contacting each volunteer to make sure we are monitoring the original enrolled well, make note of changes in ownership or to the well itself, and update the database. MDA helped compile all of our data into one database in the winter/spring of 2016. In our next grant we will prioritize annual contact with each volunteer and filling buffers that lack an active volunteer.

3.) FINANCIAL INFORMATION

Total expenditures for this grant were \$59,950.96, with \$8,355.54 remaining unspent. The Final Budget and Expenditures spreadsheet is attached (Att. E), and a final invoice has been sent to MDA Accounts Payable

ATTACHMENT A

Southeast Minnesota Water Resources Board

Dodge - Fillmore - Goodhue - Houston - Mower - Olmsted - Rice - Steele - Wabasha - Winona

**Southeastern Minnesota Water
Analysis Laboratory**
2100 Campus Dr SE
Rochester, MN 55904-4722
(507) 328-7495
Fax (507) 328-7485
Email: waterlab@co.olmsted.mn.us

Water Test Request

Lab#:

Lab Date:

Volunteer Monitoring Network Site:

Attach Label

Tests Requested: nitrate, nitrite, chloride, sulfate, & fluoride

Date sampled: _____

Time sampled: _____ am pm

Sampled by: _____

Well is located at address above

Well is located at a different address _____

Funding provided
by:



*****IMPORTANT: Entire form MUST be returned with sample*****

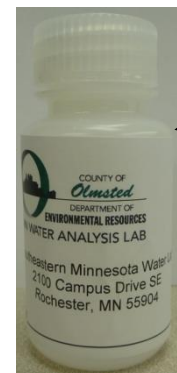
*****Please return samples no later than October 31st, 2015*****

If more time is needed please call the water lab and a later date can be arranged.

We hope to collect all the samples within the same season!

Water Sampling Instructions

1. Fill out the Water Test Request Form.
2. Wash your hands to remove any residual salt.
3. If possible, take a water sample that is not softened or filtered.
4. Let the water run until it is cold.
5. Fill the bottle. Be sure to screw the bottle cap on tightly.
6. Place the sample bottle into the Ziploc bag and seal.
7. Fold this completed Water **Test Request Form** and place it into the bag with the **sample**. ****You no longer need to freeze your sample****
8. Mail the sample as you would handle your outgoing mail.
It is OK to put it in a rural mailbox



Fill water to
this point

SOUTHEAST MINNESOTA Volunteer Nitrate Monitoring Network							Total Expenditures	Grant Balance
Objective	Cost Category	Unit Cost	Unit	Quantity	Grant Budget			
OBJECTIVE 1 -Annual SE MN Nitrate Monitoring								
Assemble and mail kits	Monitoring Coordinator	2.11	/kit	1215.00	2,563.65	2766.21	-202.56	
Postage to mail kits		8.57	kit	1215.00	10,412.55	11235.27	-822.72	
Lab analysis, reporting and data entry	Monitoring Coordinator	13.93	sample	1215.00	16,924.95	13373.23	3551.72	
Postage to send results		0.49	letter	1215.00	595.35	484.39	110.96	
volunteer appreciation events (\$500/year)		500.00	/event	2.00	1,000	1011.62	-11.62	
Newsletter envelopes printing and postage		0.68		1200.00	810	585.57	224.43	
County Well Network Coordinators	County Water Planners	2000.00	/county	9.00	18,000	12094.67	5905.33	
Administration	SEMWRB	9000.00	/yr.	2.00	18,000	18400.00	-400.00	
TOTAL					\$68,306.50	59950.96	8355.54	