



I. Project Information

Grantee information:

Organization name: Douglas Soil and Water Conservation District
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E-mail address: emily.siira@mn.nacdnet.net

Project title: (8 word maximum)

Project title: 2011-2012 Douglas County Citizen Water Quality Monitoring Project

Project budget projection:

Start date: 04/1/11 End date: 6/30/13 Grant amount: \$ 32,193.00
(mm/dd/yy) (mm/dd/yy) [] 1-yr project [X] 2-yr project

Project location:

Watershed: Long Prairie Hydrologic unit code: 07010108

Basin (check all that apply):

- [] Lake Superior [] Lower Mississippi/Cedar [X] Upper Mississippi [] Minnesota [] Rainy
[] Red River [] Des Moines [] Missouri [] St. Croix

Name of MDH Certified Laboratory: RMB Environmental Laboratories, Inc.
Minnesota Department of Health (MDH)

II. Monitoring Project Plan

Project summary: (Briefly describe your project, the water(s) of concern and project area.)

The purpose of this project is to complete a lake data set for Skoglund's Slough (21-0084-00), a lake that MPCA has been targeted for assessment in 2011. Lake chemistry data such as total phosphorus and chlorophyll a, along with secchi disk will be collected five times a summer (June-Sept.) for two years. In addition, trained volunteers will be collecting water quality data on four stream sites in the targeted watershed. This monitoring will help these lake associations meet their lake management plan goals, as well as 2009-2019 Comprehensive Local Water Management Plan goals and enable 303(d) and 305 (b) assessments. These three lakes have active associations that have been developing lake management plans with the West Central Initiative Healthy Lakes program and are regularly engaged in the COLA (Douglas County Lakes Association).

III. Work Plan Detail

Project goal:

We will complete the dataset for the assessment of Aquatic Recreation Use in Skoglund's Slough by monitoring total phosphorus, chlorophyll a, and Secchi depth.

We will complete the data collection requirements (SET A, B, D) for four stream sites to allow for the assessment of Aquatic Recreation Use for those identified stream stretches.

Objective 1 Assess Lake Water Quality

Task A: Establish site location

Sub-task 1: Map and register location of new monitoring site with MPCA/STORET

Timeframe: April 2011-June 2011

Person(s) responsible: Project Manager, Siira-Douglas SWCD

Task B: Train Volunteer Monitors

Sub-task 1: Identify volunteer lake monitor through local media, newsletters, and lake association

Sub-task 2: Attend training or review training materials before each sampling season

Sub-task 3: Enroll volunteers in the MPCA Citizen Lake Monitoring Program (CLMP)

Sub-task 4: Purchase necessary lake monitoring equipment (integrated samplers, ice, etc.)

Timeframe: April 2011-September 2012

Person(s) responsible: Project Manager, Douglas SWCD, RMBEL, Volunteer monitors

Task C: Monitor lake

Sub-task 1: Collect in-lake sample with 10% field duplicate using MPCA/RMBEL protocol

Sub-task 2: Complete data sheets for each sample, noting physical observations and weather info

Sub-task 3: Collect Secchi disk readings

Sub-task 4: Submit samples to RMBEL for analysis: Total Phosphorus and Chlorophyll a

Timeframe: June 2011-September 2012

Person(s) responsible: Project Manager, Volunteer monitors, Douglas SWCD

Objective 2 Assess Stream Water Quality

Task A: Establish site locations

Sub-task 1: Map and register location of new monitoring site with MPCA/EDA

Timeframe: April 2011-June 2011

Person(s) responsible: Project Manager, Siira-Douglas SWCD

Task B: Train Volunteer Monitors

Sub-task 1: Identify volunteer stream monitor through local media, newsletters, and lake association

Sub-task 2: Attend training or review training materials before each sampling season

Sub-task 3: Enroll volunteers in the MPCA Citizen Stream Monitoring Program (CSMP)

Sub-task 4: Purchase necessary monitoring equipment (YSI)

Timeframe: April 2011-September 2012

Person(s) responsible: Project Manager, Siira-Douglas SWCD, RMBEL, Volunteer monitors

Task C: Monitor Streams

Sub-task 1: Collect samples with 10% field duplicates using MPCA protocol and sampling schedule

Sub-task 2: Collect data SET A (DO, pH, T-tube, Specific conductance, Temp, rec. suitability, water level, and photos)

Sub-task 3: Complete data sheets for each sample, noting physical observations and weather info

Sub-task 4: Submit samples to RMBEL for analysis: SET B (TP, TSS, TSVS, TKN, N+N, NH3) and SET D (E. Coli)

Timeframe: April 2011-October 2012

Person(s) responsible: Project Manager, Volunteer monitors, Douglas SWCD

Objective 3 Electronically submit data to MPCA

Task A: Prepare, review, and submit data to EDA before Dec. 1 each year

Timeframe: June 2011-September 2012

Person(s) responsible: Project Manager, RMBEL

Task B: Prepare summary reports

Sub-task 1: Compile data, calculate TSI, and prepare summary reports

Sub-task 2: Present information to volunteer monitors and lake associations

Timeframe: September 2012-March 2013

Person(s) responsible: Project Manager, RMBEL

Objective 4 Grant administration

Task A: Report as required

Sub-task 1: Complete and submit 1) Project establishment, 2) Lab establishment, and 3) station establishment forms

Sub-task 2: Complete and submit QAPP

Sub-task 3: Complete and submit Progress Report

Sub-task 4: Complete and report Final Report Summary

Timeframe: April 2011 – June 2013

Person(s) responsible: Project Manager, Siira-Douglas SWCD

Task B: Track grant funds and expenditures

Sub-task 1: Prepare invoices, pay expenses

Timeframe: April 2011 – June 2013

Person(s) responsible: Project Manager, Siira, Kleespies-Douglas SWCD

Task C: Miscellaneous office duties and activities

Sub-task 1: Track office overhead, travel, and other administrative, grant-related expenditures

Timeframe: April 2011 – June 2013

Person(s) responsible: Project Manager, Siira-Douglas SWCD

IV. Monitoring Site Table

Provide the site location, number of samples, the parameters to be collected, and the range of sampling dates in the table below for each water body to be monitored. The specific lake/stream sites proposed to be monitored **must** be listed. You may create a table of sites and append to end of work plan, if desired. **The work plan instructions provide detail on how to complete this table.**

Waterbody ¹	Site ID#	Lake Acres	Site location	Number of samples (including QA/QC)	Parameters	Monitoring date range (month to month)
Skoglund's Slough*	New 21-0084-00	108	Deep hole, center of lake	11	TP, Chl a, Secchi	June to September
Unnamed Stream*	New		CSAH 36 crossing, near Lake Irene	22, 11 per year 15 + 1 QA (3x/month 2011, 2x/month 2012)	Set A, B (see table below) Set C (see table below)	May to September June, July, August
Long Prairie River*	New		Hwy 29 crossing, near Lake Miltona	22, 11 per year 15 + 1 QA (3x/month 2011, 2x/month 2012)	Set A, B Set C	May to September June, July, August
Dittberner's Creek*	New		Dittberner's Crk Rd crossing, near Lake Miltona	22, 11 per year 15 + 1 QA (3x/month 2011, 2x/month 2012)	Set A, B Set C	May to September June, July, August
County Ditch 9, Branch 1*	New		County Ditch 9 Br. 1 and CSAH 4, near Lake Mary	22, 11 per year 15 + 1 QA (3x/month 2011, 2x/month 2012)	Set A, B Set C	May to September June, July, August

¹Identify Target Watershed site by using an asterisk (*).

Sample frequency and timing

YEAR 1

- Sample sites in the first and third weeks of May-September
- Collect Set A in the field and analyze water samples for Set B below for all sampling events
- Analyze for Set C three times in each month of June-August, with samplings roughly evenly spaced in time

YEAR 2

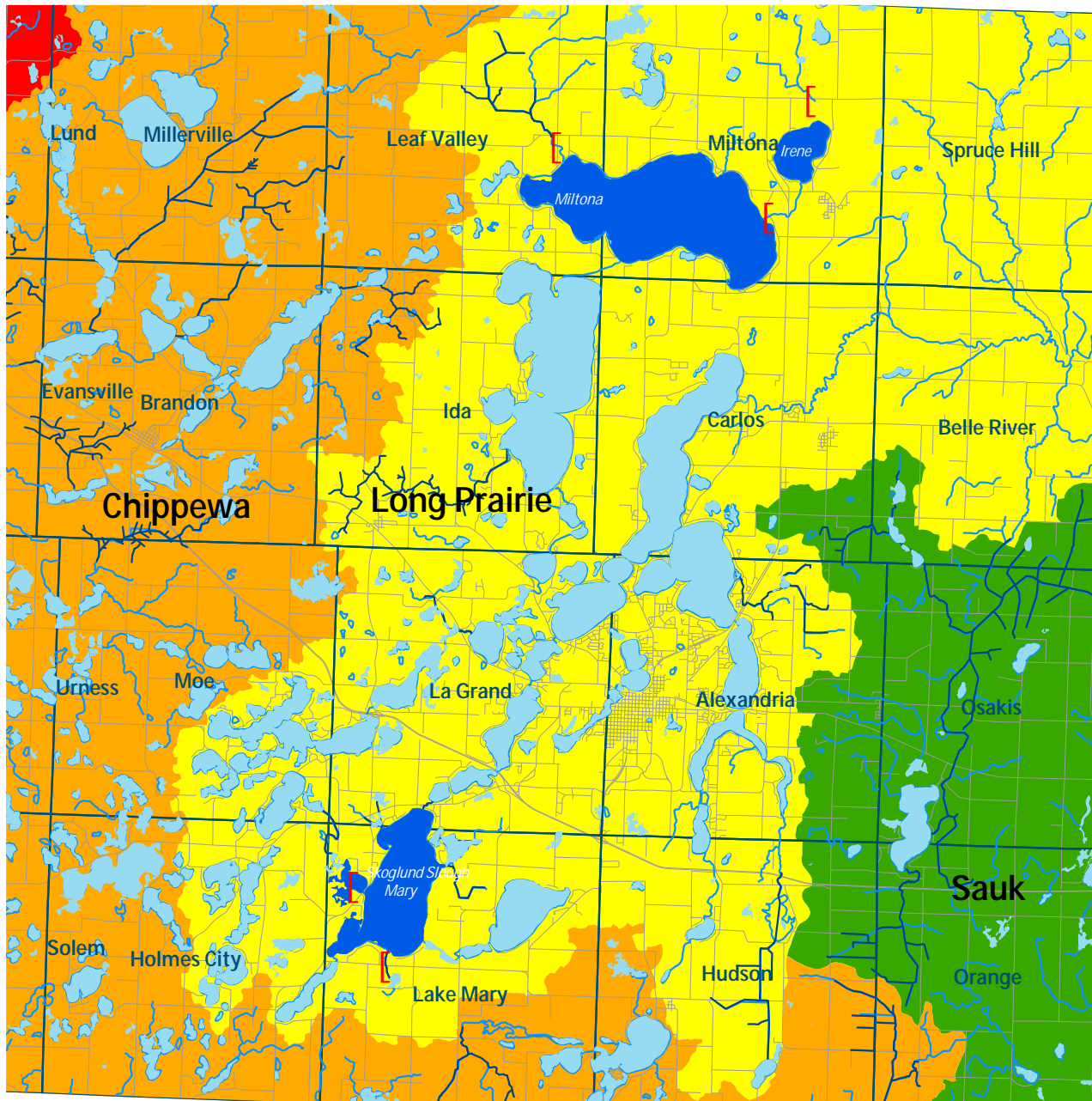
- Sample sites in the first and third weeks of May-September
- Collect Set A in the field and analyze water samples for Set B below for all sampling events
- Analyze Set C for all June-August samples

Stream site measurements, observations and analyses

Set A	Set B	Set C
Dissolved oxygen	Total suspended solids	E. coli
pH	Total suspended volatile solids	
Transparency with tube	Total phosphorus	
Specific conductance	Total Kjeldahl nitrogen	
Temperature	Nitrate and nitrite	
Recreational suitability, appearance, stage estimate	Ammonia nitrogen	
Water level measurement		
Photograph upstream and downstream		

V. Project Area Map

Please insert map(s) of the project area and proposed monitoring sites. The map must **clearly identify** monitoring site locations and nearby landmarks (streets, names of waterbodies, etc.) for orientation.



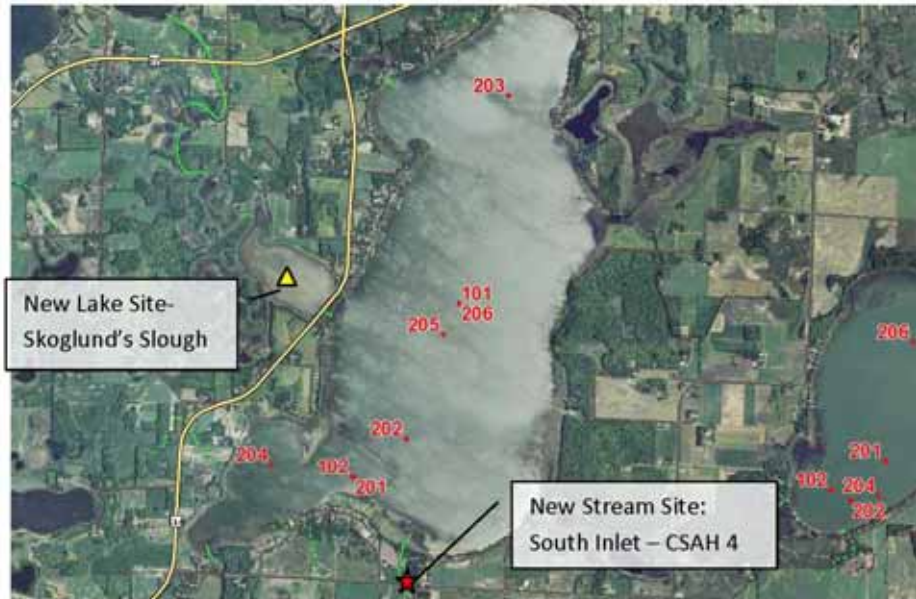
Lake Irene: 21-0076-00



Lake Miliona: 21-0083-00



Skoglund's Slough: 21-0084-00
Lake Mary: 21-0092-00



VI. Evaluation Plan

The success of this project will be evaluated with the following plan. The budget and task details are itemized in the work plan, and the results will be included in the final progress report.

Measures for success:

Success will be measured by the completion a nutrient status data set for the targeted lake (Skoglund's Slough) and four stream sites in the Long Prairie River Watershed in Douglas County. A complete data set for MPCA lake assessment is a minimum of 8 data points over two years, collected during the months of June through September.

Another measure of success will be the utilization of citizen volunteers. Volunteers often will be the first to notice changes in water quality on their lake bringing to light issues before they may be detected through data analysis. The increase in water quality data may help to guide future Water Plan and water resource related decisions in the county.

Methods:

Lake: Lake samples will be collected 5 times per year for two years from June to September. An integrated sampler will be used to collect in-lake waters samples. Samples will be transported to a MDH certified lab for analysis for Total Phosphorus and Chlorophyll a. Secchi disk reading will be recorded and entered with the data set. Field duplicates (10%) will be collected for QA/QC. SWCD staff will have an opportunity to review data after each monitoring season and before it is submitted to the MPCA. Data will be submitted to the MPCA by the laboratory.

Stream: Streams will be sampled in accordance to the MPCA sampling schedule. A YSI meter will be used to collect temperature, dissolved oxygen, and conductivity. Samples will be transported to a MDH certified lab for analysis for Total Phosphorus and Chlorophyll a. Secchi disk reading will be recorded and entered with the data set. Field duplicates (10%) will be collected for QA/QC. SWCD staff will have an opportunity to review data after each monitoring season and before it is submitted to the MPCA. Data will be submitted to the MPCA by the laboratory.

Volunteers will be utilized for the monitoring of each site. In the case that a volunteer cannot be found, SWCD staff will conduct the monitoring. It is estimated that four to six volunteers will contribute approximately 45 hours each on this project. Volunteers will be trained by RMBEL or Minnesota Waters staff with refresher trainings offered by SWCD staff.

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VII. Project Budget

Add budget items as necessary to fit your project. This budget sheet should not change significantly from your application budget sheet.

Budget item	Objective 1	Objective 2	Objective 3	Objective 4	Objective 5	Total budget
Objective title: (brief title of each objective listed)	Assess Lake	Assess Stream(s)	Data Management	Grant Administration		
Personnel: wages and benefits (including indirect overhead costs; if more than 3 staff, use "other" category)						
Staff #1: No. of hours <u>216</u> @ Hourly rate <u>35</u> x No. of years <u>2</u>	\$ 770	\$ 12,600	\$ 350	\$ 1,400	\$	\$ 15,120
Staff #2: No. of hours <u>10</u> @ Hourly rate <u>45</u> x No. of years <u>2</u>	\$ 270	\$ 270	\$	\$ 360	\$	\$ 900
Staff #3: No. of hours <u> </u> @ Hourly rate <u> </u> x No. of years <u> </u>	\$	\$	\$	\$	\$	\$
Laboratory analyses:						
No. of lake samples <u>10</u> @ Sample rate <u>40</u>						
No. of stream samples <u>80</u> @ Sample rate <u>80</u>						
No. of <i>E.coli</i> samples <u>60</u> @ Sample rate <u>13</u>	\$ 400	\$ 7,180	\$	\$	\$	\$ 7,580
Laboratory analyses for QA/QC:						
No. of lake samples <u>1</u> @ Sample rate <u>40</u>						
No. of stream samples <u>8</u> @ Sample rate <u>80</u>	\$ 40	\$ 640	\$	\$	\$	\$ 680
Monitoring equipment (see below)	\$	\$ 4,000	\$	\$	\$	\$ 4,000
Travel reimbursement: No. of miles <u>4500</u> @ (Current Commissioner's Plan rate) /mile	\$ 195	\$ 2,100	\$	\$	\$	\$ 2,295
Shipping	\$ 77	\$ 1,064	\$	\$	\$	\$ 1,141
Training and materials (include printing)	\$ 50	\$ 200	\$	\$	\$	\$ 250
Recognition event	\$ 25	\$ 75	\$	\$	\$	\$ 100
Monitoring supplies (ice, coolers, etc.)	\$ 25	\$ 50	\$	\$	\$	\$ 75
Other (describe the activity and cost – be specific):						
QA/QC: No. of <i>E. coli</i> samples <u>4</u> @ Sample rate \$13	\$	\$ 52	\$	\$	\$	\$ 52
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
	\$	\$	\$	\$	\$	\$
Column total:	\$1,852.00	\$28,231.00	\$ 350.00	\$1,760.00	\$ 0.00	\$32,193.00

Monitoring equipment (Attach an equipment list to provide detail if extensive equipment will need to be purchased or any single item exceeding \$250.)

YSI Professional Plus w/Quatro Cable (pH-DO-Cond-Temp-Sal-ORP-Baro)- Unit with 20m cable : \$3,628+tax+shipping

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