

Environment and Natural Resources Trust Fund 2009 Phase 2 Request for Proposals (RFP)

LCCMR ID: 073-B4

Project Title: Water Quality Monitoring and Education for Lake Protection

Total Project Budget: \$ \$49,994

Proposed Project Time Period for the Funding Requested: November 2011

Other Non-State Funds: \$ \$0.00

Priority: B4. Deep Water Lakes

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Region:	County Name:	City / Township:
NE	Cook	

Summary: To protect Cook County's outstanding lakes by collecting a complete dataset for total phosphorus, chlorophyll-a, Secchi, and dissolved oxygen while fostering lake association participation and education through workshops and newsletters.

Main Proposal: 1008-2-041-proposal-LCCMR Grant Proposal Cook SWCD.doc

Project Budget: 1008-2-041-budget-RFP_2009_Project Budget Cook Co. SWCD.xls

Qualifications: 1008-2-041-qualifications-Water Plan Coordinator qualifications.doc

Map:

Letter of Resolution:

MAIN PROPOSAL

PROJECT TITLE: Monitoring and Education for the Protection of Cook County's Deep Lakes

I. PROJECT STATEMENT

The purpose of this project is to protect the Cook County's outstanding water resources. This will be accomplished by collecting a complete dataset for total phosphorus, chlorophyll-a, Secchi readings and dissolved oxygen for unimpaired Cook County lakes while fostering lake association participation and education through workshops and newsletters. Many Cook County lakes have successfully participated in the Citizen Lake Monitoring Program (CLMP) in the past, however, there are numerous lakes still lacking sufficient data. Cook County's population has increased 34% since 1990 and is expected to continue growing (Cook County Local Water Management Plan). This puts the deep trout lakes being built upon at high risk of eutrophication from increased development due to their fragile nutrient-poor properties.

There has been a recent upwelling of interest in water quality protection and monitoring from Cook County lake associations and they have requested this project. The Cook County Coalition of Lake Associations (CCCoLA) and individual lake associations will be partners in this project and implement the volunteer monitoring and data collection, under the direction of the Water Plan Coordinator. In addition, an alliance has been formed with Minnesota Waters to coordinate lake monitor training activities and follow-up on data interpretation. Lake training sessions on CLMP+ procedures have been held for three years. RMBE Laboratories will continue to analyze samples collected in this project as they have for Cook County SWCD the past two years.

The Cook County Water Management Plan has identified 16 lakes that are a priority for establishing baseline data on for total phosphorus, chlorophyll-a, temperature profiles and Secchi disk readings. Since 2005, eleven of these lakes have been sampled as part of Surface Water Assessment Grants or DNR Grants. However, none of them have been sampled for hypolimnetic oxygen depletion. Hypolimnetic dissolved oxygen is an important parameter to study because research (Gliwicz & Kowalczewski, 1981) suggests that although epilimnetic factors are the primary cause of oxygen depletion, hypolimnetic O₂ will show evidence of depletion before significant changes will be seen in the epilimnetic variables such as Secchi depth, phosphorus, or chlorophyll. This may be because the rate of oxygen depletion is a more stable parameter and not as subject to the year-to-year variation seen in other variables (Dr. Robert Carlson. Personal communication).

Because of Cook SWCD's past work with the MPCA's CLM Program and work involving citizens in lake stewardship, we are well prepared and positioned for more work of this kind. Biz Clark, chair of CCCOLA, will be the primary volunteer recruiter. She was very successful in recruiting volunteers for Cook County SWCD's CLMP+ project both by her connections to lake associations and by her articles in the paper.

II. DESCRIPTION OF PROJECT RESULTS

Result 1: Plan for monitoring and identify lakes to be sampled **Budget:** \$10,866

With the help of the Cook County Water Advisory Committee, identify 6 priority deep lakes to be monitored based on data deficiency and population increases on the lake. With the help of Biz Clark and CCCOLA, recruit 12 volunteers to monitor the lakes for total phosphorus, chlorophyll-a and Secchi depth. With help from CCCOLA and MN Waters, provide training workshops for volunteers.

Deliverable

Completion Date

1. 6 priority deep lakes identified

July 2009

2. 12 volunteers recruited

July 2009

3. Training workshop for volunteers provided

May 2010

Result 2: Monitor lake quality on 6 Cook County Lakes

Budget: \$22,760

The Cook County Water Plan Coordinator will use the Cook County SWCD Hydrolab to collect temperature and dissolved oxygen readings on the identified lakes over two summers and a portion of the summer of 2009 when funds become available. Volunteers will sample 6 MPCA-numbered sites or new sites if none are established on 6 lakes 6 times per year for total phosphorus, chlorophyll-a and Secchi readings. Lakes that lose significant amounts of their oxygen during the summer will be identified.

Deliverable

Completion Date

1. Samples taken 6 times a summer by volunteers on 6 lakes **Sept. 2011**

2. Samples taken 4 times a summer by Water Plan Coordinator **Sept. 2011**

Result 3: Educate lake property owners about practices that harm water quality **Budget:** \$16,368

Partnering with the University of Minnesota Extension and CCCoLA, the SWCD will offer workshops on maintaining and improving septic systems and natural shoreline buffer strips on private property in Cook County. The Water Plan Coordinator will write a bi-monthly newsletter about lakeshore best management practices and water quality issues unique to Cook County to be paper and electronically mailed to interested citizens and to all Cook County Lake Associations to encourage lake enthusiasts to engage in practices that will keep their lakes from degradation.

Deliverable

Completion Date

1. 2 ISTS workshops

August 2009, August 2010

2. 2 Natural shoreline buffer strip workshops

September 2009, May & June 2010

3. 8 newsletters over two years

October 2011

III. PROJECT STRATEGY AND TIMELINE

A. Project Partners

This project will partner with CCCoLA, Cook County High School, MN Waters, RMB Environmental Laboratories, University of MN Extension and MPCA's CLMP+.

B. Project Impact

Cook County's lake database will be increased through this project and this data combined with education will help lake property owners understand the impacts of their activities upon their lake.

C. Time

This is a two-year project, using the summers of 2010 and 2011 to collect data and the winters to prepare educational materials and to plan and conduct workshops. The Water Plan Coordinator will begin dissolved oxygen monitoring in the summer of 2009, when funds become available.

D. Long-Term Strategy (if applicable)

To educate lake property owners about lake stewardship and develop baseline data on all developed lakes.

Project Budget

INSTRUCTIONS AND TEMPLATE (1 PAGE LIMIT)

(One page limit, single-sided, 10 pt. font minimum Retain the bold text and remove all instructions typed in italics. Add or delete rows as is necessary. If a category is not applicable you may write "N/A", leave it blank, or delete the row.)

IV. TOTAL PROJECT REQUEST BUDGET

BUDGET ITEM <i>(See list of Eligible & Non-Eligible Costs, p. 17)</i>	AMOUNT	% FTE
Personnel: <i>Who is getting paid to do what and what is the % of full-time employment for each position? List out by position.</i>		%
Water Plan Coordinator: 1600 hrs. @ \$24.15/hr (including fringe) for organizing volunteers, creating newsletter, coordinating workshops, training coordination,	\$ 38,640	40%
	\$ -	%
Contracts: <i>With whom and for what? List out by item.</i>	\$ -	
RMB Environmental Laboratories for sample analysis and volunteer training	\$ 3,960	
MN Waters volunteer training and other workshops	\$ 2,000	
Equipment/Tools: <i>integrated sampler-6 @ \$25/ea., pens, clipboards, ice, calibration standards for Hydrolab, etc., postage, printing</i>	\$ 336	
Acquisition (Including Easements): <i>List # of acres and who will hold title (e.g., DNR, Non-profit)</i>	\$ -	
Restoration: <i>List # of acres.</i>	\$ -	
Other: <i>Mileage for Water Plan Coordinator to drive to lakes for D.O. sampling, final report from lab, newsletter printing and mailing</i>	\$ 2,958	
shipping of samples to RMBEL in Detroit Lakes through Spee Dee Shipping	\$ 2,100	
TOTAL PROJECT BUDGET REQUEST TO LCCMR	\$ 49,994	

V. OTHER FUNDS

SOURCE OF FUNDS	AMOUNT	Status
Remaining \$ From Previous Trust Fund Appropriation (if applicable): <i>How much Trust Fund money remains not spent or legally obligated from any previous Trust Fund appropriation for any directly related project of the proposing project, project manager, or project organization? Specify the appropriation.</i>	\$ -	Unspent or Not Legally Obligated
Other Non-State \$ Being Leveraged During Project Period: <i>What additional non-state cash \$ will be spent on the project during the funding period? For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.</i>	\$ -	Secured or Pending
Other State \$ Being Spent During Project Period: <i>What additional state cash \$ (e.g. bonding, other grants) will be spent on the project during the funding period? For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.</i>	\$ -	Secured or Pending
In-kind Services During Project Period: Volunteers spending 8 hours at the training, and an hour sampling 6 times a summer for two years plus CCCoLA volunteers helping to recruit volunteers and conduct workshops. 200 hours of help at \$10/hour	\$ 2,000	
Past Spending: <i>List money spent or to be spent on this specific project, cash and/or in-kind, for 2-year timeframe prior to July 1, 2009</i>	\$ -	

The Cook County Soil and Water Conservation District's mission statement is "Protecting and restoring soil and water resources with technical, financial and educational assistance."

The Water Plan Coordinator has a degree in natural resources and over 4 years of experience in a variety of surface and ground water sampling activities and has completed a season of monitoring and coordinating volunteers on 7 lakes for total phosphorus, chlorophyll-a and Secchi as part of a Clean Water Legacy Surface Water Assessment Grant. She has effectively communicated with MPCA staff for establishment of MPCA sites, with CCCoLA for the recruitment of volunteers, with MN Waters for training sessions of volunteers, and with volunteers.