



Environment and Natural Resources Trust Fund

2021 Request for Proposal

General Information

Proposal ID: 2021-301

Proposal Title: Expanding Protection of Minnesota Water through Industrial Conservation

Project Manager Information

Name: Laura Babcock

Organization: U of MN - School of Public Health

Office Telephone: (612) 624-4678

Email: lbabcock@umn.edu

Project Basic Information

Project Summary: Project seeks to decrease water demand in communities at risk for inadequate ground water supply or quality by providing technical assistance to identify cost-effective ways to reduce industrial/commercial use.

Funds Requested: \$181,000

Proposed Project Completion: 2023-12-31

LCCMR Funding Category: Small Projects (H)

Secondary Category: Water Resources (B)

Project Location

What is the best scale for describing where your work will take place?

Statewide

What is the best scale to describe the area impacted by your work?

Region(s): Central, NE, NW, SE, SW,

When will the work impact occur?

During the Project and In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

Some parts of Minnesota suffer from low producing aquifers that are unable to support growth in residential and industrial/commercial water use. Other areas may have sufficient water supply, however, high water use may result in contamination due to drawdown and infiltration. Reducing water demand in areas at risk for water scarcity or well contamination may provide a low cost option for water management activities when compared with well drilling or extensive water purification. The proposal seeks to expand a successful industrial/commercial water efficiency program demonstrated in the metro area to the entire State of Minnesota. Industrial water efficiency technical assistance can reduce industrial water use, decrease water demand and improve operating costs. Significant water savings through maintenance and minor process modifications may also be realized.

- A food processing facility achieved over 2 million gallons of water savings annually and operating cost reduction of \$14,000/yr by optimizing pump operations and irrigation controls.
- A healthcare facility identified 7.6 million gallons of water savings annually and operating cost reduction of \$123,000/yr by optimizing water discharge procedures and developing a replacement schedule for less efficient equipment at the end of useful life.

What is your proposed solution to the problem or opportunity discussed above? i.e. What are you seeking funding to do? You will be asked to expand on this in Activities and Milestones.

Provide technical assistance to identify cost-effective ways to reduce industrial/commercial water use. MnTAP will identify target regions with water access and/or water quality challenges by analyzing state water data and using detailed community water system knowledge of partner Minnesota Rural Water Association (MRWA) and others. MnTAP and MRWA will engage these regions by conducting water efficiency workshops, direct technical assistance to businesses, and placing interns in businesses with high water efficiency opportunity to launch conservation implementation.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state's natural resources?

- 3-4 regions receive directed outreach for water conservation technical assistance.
- 3-4 educational workshops on water conservation in participating regions.
- 5-8 high water users identified.
- 5-8 water conservation and source reduction site assessments complete.
- 3 water conservation focused intern projects in the selected regions.
- 10,000,000 gallons of water reduced annually.
- 3 intern success stories published.
- Presentations outlining the project outcomes.
- 1 webinar recorded and archived for future viewing.
- Water use assessment screening tool developed.

Activities and Milestones

Activity 1: Identify and engage regions with water supply and/or water quality challenges

Activity Budget: \$56,500

Activity Description:

Partner with MRWA to identify 10 regions in Minnesota that have not received water efficiency technical assistance previously and could benefit from reduced water demand. The regions will be selected based on aquifer resiliency, MRWA regional knowledge, and the presence of significant industrial activity. Regional water supply providers and commercial/industrial water users will be contacted for participation in the project. Project opportunity information sharing will be conducted through communication pieces and educational workshops on water use best management practices and success stories from past projects.

Activity Milestones:

Description	Completion Date
10 outreach targets identified.	2021-09-30
Characterize regions by industry and water conservation potential.	2021-11-30
3-4 regions receive directed outreach for water conservation technical assistance.	2021-12-31
3-4 educational workshops on water conservation in participating regions.	2022-03-31
5-8 high water users identified	2022-03-31

Activity 2: Conduct water conservation assessments at industrial facilities and measure impact

Activity Budget: \$104,500

Activity Description:

Conduct technical assistance site assessments at the sites identified in Activity 1 to demonstrate water conservation and source reduction opportunities. Site assessments will include mapping site water use, identifying high use operations and recommending options to manage water use more efficiently. Up to three complex, technical projects will be chosen as summer intern projects to assess industrial water use, develop water saving recommendations and launch conservation implementation.

Activity Milestones:

Description	Completion Date
5-8 water conservation and source reduction site assessments complete.	2023-05-31
3 water conservation focused intern projects in the selected regions.	2023-09-30
All participating sites receive follow up assistance from MnTAP.	2023-11-30
10,000,000 gallons of water reduced annually.	2023-12-31

Activity 3: Share results and replication opportunity throughout the state

Activity Budget: \$20,000

Activity Description:

Outline a self-assessment process to identify water efficiency opportunity and disseminate success stories/lessons learning to a broad audience throughout Minnesota. Present findings at available regional meetings, informational publications and through a webinar that is open to the public and recorded for future viewing. Maintain effective reporting communications with project sponsor.

Activity Milestones:

Description	Completion Date
Presentations outlining the project outcomes.	2023-09-30
Water use assessment screening tool developed.	2023-10-31
1 webinar recorded and archived for future viewing.	2023-10-31
3 intern success stories published.	2023-10-31

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Lori Blair	Minnesota Rural Water Association (MRWA)	MRWA will engage their clients in this project, make project information and research findings available on their website, and in their publications. MRWA will work closely with MnTAP to identify and engage communities with efficiency opportunity, support training activities and encourage implementation of recommendations.	Yes

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this be funded?

This project seeks to develop a strategy to bring a demonstrated industrial/commercial water efficiency technical assistance program to communities throughout the state interested in water management strategies. Once developed and documented, these strategies will be available to communities, businesses and existing programs that assist Minnesota communities with sustainable water use for replication beyond the program time period.

Other ENRTF Appropriations Awarded in the Last Six Years

Name	Appropriation	Amount Awarded
Wastewater Nutrient Reduction through Industrial Source Reduction Assistance	M.L. 2019, First Special Session, Chp. 4, Art. 2, Sec. 2, Subd. 04c	\$200,000

Project Manager and Organization Qualifications

Project Manager Name: Laura Babcock

Job Title: Director, MnTAP

Provide description of the project manager's qualifications to manage the proposed project.

Laura Babcock, Ph.D. has been the Director of the Minnesota Technical Assistance Program (MnTAP) since 2011. Prior to her position at MnTAP, Laura spent 20 years in industrial process technology roles including research, product and process development. Laura manages the MnTAP organization providing technical leadership to staff which includes 12 full time staff members and 12-20 student interns and administratively manages a grant sponsored budget of \$1.3 million per year primarily through an annual grant through the Minnesota Pollution Control Agency. Other grant funding come from partners including Minnesota Department of Commerce, Division of Energy Resources, Metropolitan Council, counties and other local units of government, U.S. Environmental Protection Agency (EPA) Region 5, U.S. Department of Energy (DOE) and energy utilities. Laura has extensive experience managing the technical and administrative activities of environmentally focused assistance project that generate implemented results. Past history of MnTAP annual grant performance is summarized in our annual IMPACT environmental benefits reports posted on the MnTAP website - <http://www.mntap.umn.edu/resources/publications/impact/>.

Organization: U of MN - School of Public Health

Organization Description:

The Minnesota Technical Assistance Program (MnTAP) was established in 1984 as an outreach program at the University of Minnesota that has been helping Minnesota businesses develop and implement industry-tailored solutions that prevent pollution at the source, maximize efficient use of resources, and reduce energy use and costs to improve public

health and the environment. MnTAP staff members provide no-cost, confidential, industry-tailored technical assistance. By reducing waste and increasing efficiency, clients can save on disposal and raw material costs and decrease regulatory compliance burdens as well as create healthier and safer working conditions while reducing environmental impacts and saving money. As part of the University, MnTAP has no regulatory responsibilities or obligations allowing us to work closely and confidentially with a variety of businesses throughout the state. MnTAP typically provides technical assistance to over 200 companies per year. In the past 5 years, MnTAP has conducted technical assistance activities in 74 of the 87 Minnesota counties and actively seeks opportunities to provide service to all regions of Minnesota.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	\$ Amount
Personnel								
Engineer		Technical assistance and training			31.8%	1		\$76,300
Intern Manager		Hire, train and supervise intern program			31.8%	0.1		\$11,000
Principle Investigator		Program administration, reporting			36.5%	0.1		\$14,200
Intern		Execute site based projects			8%	1		\$26,000
							Sub Total	\$127,500
Contracts and Services								
Minnesota Rural Water Association	Professional or Technical Service Contract	Minnesota Rural Water Association to provide direct community outreach and promote project results through website and meetings. Sole source contract based on MRWA extensive experience and relationships in target communities				0.24		\$50,000
							Sub Total	\$50,000
Equipment, Tools, and Supplies								
							Sub Total	-
Capital Expenditures								
							Sub Total	-
Acquisitions and Stewardship								
							Sub Total	-
Travel In Minnesota								
	Miles/ Meals/ Lodging	Mileage and per diem for travel within Minnesota to provide technical assistance	Provide on site visits to define water conservation opportunities.					\$2,000

5/23/2020

							Sub Total	\$2,000
Travel Outside Minnesota								
							Sub Total	-
Printing and Publication								
							Sub Total	-
Other Expenses								
		Meeting space rental for up to 3 sites	Provide up to three locations for educational events.					\$1,500
							Sub Total	\$1,500
							Grand Total	\$181,000

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request
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Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
In-Kind	MPCA Annual grant to MnTAP for operations.	Rent associated with FTE assigned to this project	Pending	\$10,360
			State Sub Total	\$10,360
Non-State				
In-Kind	University of Minnesota Indirect rate 26% MTDC	Non-recovered indirect on grant total.	Secured	\$47,149
In-Kind	Private companies participating in the Intern Program	Cost share from facilities participating in Intern Program used to pay a portion of the intern program costs	Potential	\$9,000
			Non State Sub Total	\$56,149
			Funds Total	\$66,509

Attachments

Required Attachments

Visual Component

File: [0c069c09-ee9.pdf](#)

Alternate Text for Visual Component

Map of Minnesota ground water use based on DNR permits and vulnerability rating (high, med, low) with industrial clusters superimposed. The project outline as Engage Regions, Engage Industrial users, Provide Technical Assistance, Implement Recommendations and Develop a process model for replication.

Optional Attachments

Support Letter or Other

Title	File
MPCA In-kind Rent Match Authorization	d32e710b-197.pdf
UMN Sponsored Projects Administration Authorization to Submit	c1ac5672-01a.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

No

Does your project have patent, royalties, or revenue potential?

No

Does your project include research?

Yes

Does the organization have a fiscal agent for this project?

Yes, Sponsored Projects Administration

