Environment and Natural Resources Trust Fund

M.L. 2020 Approved Work Plan

General Information

ID Number: 2020-024

Staff Lead: Corrie Layfield

Date this document submitted to LCCMR: August 13, 2021

Project Title: Expanding Protection Of Minnesota Water Through Industrial Conservation

Project Budget: $178,000

Project Manager Information

Name: Laura Babcock

Organization: U of MN - School of Public Health

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Project Reporting

Date Work Plan Approved by LCCMR: August 13, 2021

Reporting Schedule: April 1 / October 1 of each year.

Project Completion: June 30, 2024

Final Report Due Date: August 14, 2024

Legal Information

Legal Citation: M.L. 2021, First Special Session, Chp. 6, Art. 5, Sec. 2, Subd. 04g

Appropriation Language: $178,000 the second year is from the trust fund to the Board of Regents of the University of Minnesota for the Minnesota technical assistance program in partnership with the Minnesota Rural Water Association to provide technical assistance to businesses to decrease industrial and commercial water use in communities at risk for inadequate groundwater supply or quality.

Appropriation End Date: June 30, 2024

Narrative

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.

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.

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

Activities and Milestones

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

Activity Budget: $53,500

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.	September 30, 2021
Characterize regions by industry and water conservation potential.	November 30, 2021
3-4 regions receive directed outreach for water conservation technical assistance.	December 31, 2021
3-4 educational workshops on water conservation in participating regions.	March 31, 2022
5-8 high water users identified	March 31, 2022

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.	May 31, 2023
3 water conservation focused intern projects in the selected regions.	September 30, 2023
All participating sites receive follow up assistance from MnTAP.	April 30, 2024
10,000,000 gallons of water reduced annually.	April 30, 2024

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.	September 30, 2023
3 intern success stories published.	October 31, 2023
Water use assessment screening tool developed.	December 31, 2023
1 webinar recorded and archived for future viewing.	March 31, 2024

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

Dissemination

Describe your plans for dissemination, presentation, documentation, or sharing of data, results, samples, physical collections, and other products and how they will follow ENRTF Acknowledgement Requirements and Guidelines.
General project information, general technical information, sign up mechanism to participate in the evaluation, publications and other project related information will be included in a series of web pages under the MnTAP Water pages http://www.mntap.umn.edu/focusareas/water/ as a new subpage dedicated to project activities. Periodic updates of project progress and publicly available results will be published in the MnTAP monthly electronic newsletter, Source, along with feature articles on the project web page. Access to these communication pieces will be through the current MnTAP publication web pages http://www.mntap.umn.edu/resources/publications/. All MnTAP resources are freely distributed for use in replicating and advancing the work.

Intern project information will be posted on the MnTAP Intern Program web pages for company solicitation, and student recruiting http://www.mntap.umn.edu/interns/. Intern project results will be posted under MnTAP Intern Past Projects http://www.mntap.umn.edu/interns/pastprojects/ and in the annual print and electronic intern project summary publication, Solutions http://www.mntap.umn.edu/resources/publications/solutions/.

Webinar materials that are presented as part of the project will be posted under MnTAP Resources and Tools on the MnTAP Webinars pages http://www.mntap.umn.edu/resources/webinars/ for future viewing and sharing.

The Minnesota Environment and Natural Resources Trust Fund (ENRTF) will be acknowledged through use of the trust fund logo or attribution language on project print and electronic media, publications, signage, and other communications per the ENRTF Acknowledgement Guidelines.

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

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
Engineer		Technical assistance and training			31.8%	1.5		$76,300
Intern Manager		Hire, train and supervise intern program			31.8%	0.15		$11,000
Principle Investigator		Program administration, reporting			36.5%	0.15		$11,200
Intern		Execute site based projects			8%	1		$26,000
							Sub Total	**$124,500**
Contracts and Services								
Minnesota Rural Water Association	Sub award	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

							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	**$178,000**

Classified Staff or Generally Ineligible Expenses

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

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	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
In-Kind	University of Minnesota Indirect rate 26% MTDC	Non-recovered indirect on grant total.	Secured	$46,280
			Non State Sub Total	**$55,280**
			Funds Total	**$65,640**

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
Background Check Certification Form	ee6d1bac-dad.pdf

Difference between Proposal and Work Plan

Describe changes from Proposal to Work Plan Stage

Revised budget reflects the recommended amount of $178,000.
Indirect charge match from UMN was reduced to reflect the 26% off of the reduced total $178,000.
Changed contact info for fiscal agent
Allocation for MRWA services reclassified as sub-award.
Timeline was extended to the end of the appropriation period 6/30/2024 with extra time allocated to generation of self assessment tool, site follow up, and dissemination of information and generated resources.

Additional Acknowledgements and Conditions:

The following are acknowledgements and conditions beyond those already included in the above workplan:

Do you understand and acknowledge the ENRTF repayment requirements if the use of capital equipment changes?

N/A

Do you agree travel expenses must follow the "Commissioner's Plan" promulgated by the Commissioner of Management of Budget or, for University of Minnesota projects, the University of Minnesota plan?

Yes, I agree to the UMN Policy.

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

N/A

Does your project include original, hypothesis-driven research?

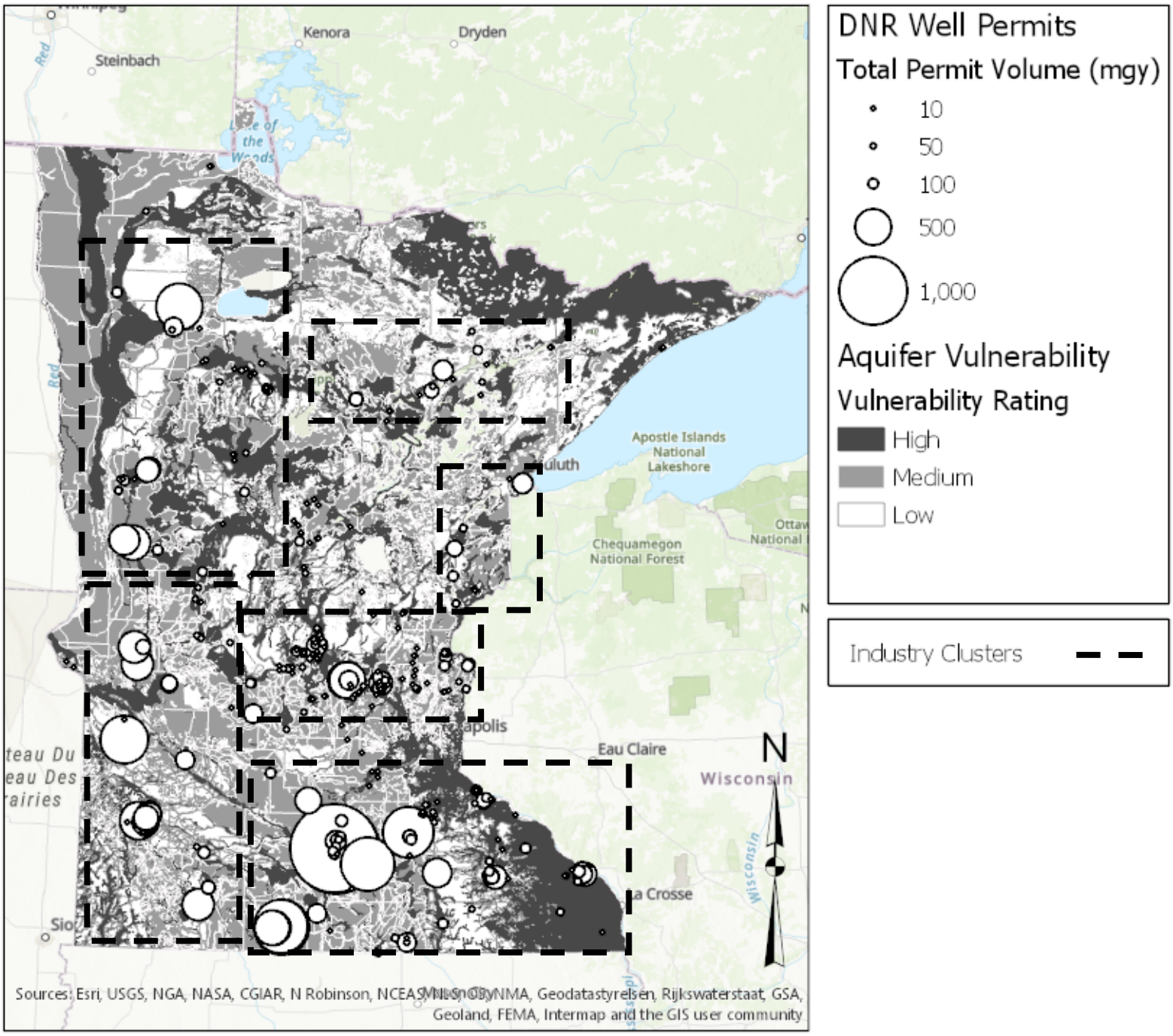
Yes

Does the organization have a fiscal agent for this project?

Yes, Sponsored Projects Administration

Expanding Protection of Minnesota Water through Industrial Conservation

Existing Groundwater Use and Vulnerability



Project Outline

Engage Regions → **Engage Industrial Users** → **Provide Technical Assistance** → **Implement Suggestions** → **Develop Process Model**