



Environment and Natural Resources Trust Fund (ENRTF)

M.L. 2020 ENRTF Work Plan (Main Document)

Today's Date: August 5, 2019

Date of Next Status Update Report: April 1, 2021

Date of Work Plan Approval:

Project Completion Date: December 31, 2022

Does this submission include an amendment request? No

PROJECT TITLE: Expanding Protection of Minnesota Water through Industrial Conservation

Project Manager: Laura Babcock

Organization: University of Minnesota

College, Department, or Division: School of Public Health, Environmental Health Sciences, Minnesota Technical Assistance Program

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City, State, Zip Code: Minneapolis, MN 55455

Project Manager Direct Telephone Number: 612-624-4678

Email Address: lbabcock@umn.edu

Web Address: www.mntap.umn.edu

Location: Statewide

Total Project Budget: \$ 178,000

Amount Spent: \$0

Balance: \$178,000

Legal Citation: M.L. 2020, Chp. xx, Sec. xx, Subd. xx

Appropriation Language:

PROJECT STATEMENT:

This 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 water use. The Minnesota Technical Assistance Program (MnTAP) will identify target regions with water access and/or water quality challenges by utilizing 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.

The current proposal seeks to expand a successful industrial/commercial water efficiency program currently limited to the metro area to the entire State of Minnesota. MnTAP has demonstrated that industrial water efficiency technical assistance can reduce industrial water use, decrease water demand and improve operating costs. Technical assistance efforts have achieved significant water savings through maintenance and minor process modifications.

- 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.
- A ready mixed concrete producer saved 4.3 million gallons of water annually by implementing reuse.

II. OVERALL PROJECT STATUS UPDATES:

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Final Report December 31, 2022

III. PROJECT ACTIVITIES AND OUTCOMES:

ACTIVITY 1 Title: *Identify and engage regions with water supply and/or water quality challenges*

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 1 ENRTF BUDGET: \$55,430

Outcome	Completion Date
1. 10 outreach targets identified.	9/1/2020
2. Characterize regions by industry and water conservation potential.	11/1/2020
3. 3-4 regions receive directed outreach for water conservation technical assistance.	12/31/2020
4. 3-4 educational workshops on water conservation in participating regions.	3/31/2021
5. 5-8 high water users identified.	3/31/2021

First Update April 1, 2021

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ACTIVITY 2 Title: *Conduct water conservation assessments at industrial facilities and measure impact*

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 2 ENRTF BUDGET: \$102,570

Outcome	Completion Date
1. 5-8 water conservation and source reduction site assessments complete.	5/31/2022
2. 3 water conservation focused intern projects in the selected regions.	9/30/2022
3. All participating sites receive follow up assistance from MnTAP.	11/30/2022
4. 10,000,000 gallons of water reduced annually.	12/31/2022

First Update April 1, 2021

Second Update October 1, 2021

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Final Report December 31, 2022

ACTIVITY 3 Title: *Share results and replication opportunity throughout the state*

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 3 ENRTF BUDGET: \$20,000

Outcome	Completion Date
1. 3 intern success stories published.	10/30/2022
2. Presentations outlining the project outcomes.	9/30/2022
3. 1 webinar recorded and archived for future viewing.	10/30/2022
4. Water use assessment screening tool developed.	10/30/2022

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Final Report December 31, 2022

IV. DISSEMINATION:

Description: As part of this project, MnTAP will be generating and publishing 3 intern case studies that describe the water use reduction opportunities and progress toward implementation from industrial water users. The interns will also present their work in a public presentation at the annual MnTAP Intern Symposium. The project partners will also promote the project assessment opportunity and the results achieved at annual MRWA conferences. A summary of the overall strategies and results identified will be presented as a webinar which will be recorded and posted on the MnTAP website for future viewing. The project team will maintain effective reporting communications with the project sponsor.

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](#).

First Update April 1, 2021

Second Update October 1, 2021

Third Update April 1, 2022

Final Report December 31, 2022

V. ADDITIONAL BUDGET INFORMATION:

A. Personnel and Capital Expenditures

Explanation of Capital Expenditures Greater Than \$5,000: No capital equipment >\$5,000 will be procured during this project.

Explanation of Use of Classified Staff: No use of Classified Staff will be made during this project.

Total Number of Full-time Equivalents (FTE) Directly Funded with this ENRTF Appropriation:

Enter Total Estimated Personnel Hours for entire duration of project: 2,748	Divide total personnel hours by 2,080 hours in 1 yr = TOTAL FTE: 1.32
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Total Number of Full-time Equivalents (FTE) Estimated to Be Funded through Contracts with this ENRTF Appropriation:

Enter Total Estimated Contract Personnel Hours for entire duration of project: 416	Divide total contract hours by 2,080 hours in 1 yr = TOTAL FTE: 0.20
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VI. PROJECT PARTNERS:

MnTAP will expand our project partnership with MRWA to leverage outreach and technical assistance capabilities of both organizations. MRWA has deep connections with communities across Minnesota that may benefit from water efficiency technical assistance. MRWA will make project information and research findings available on the MRWA website, as well as in MRWA's publications. MRWA will be a

contracted partner to work closely with MnTAP to identify and engage communities with efficiency opportunity, support training activities and encourage implementation of recommendations. Regional business and local government leaders will be important collaborators to share project information within identified communities to promote engagement and broaden support for the projects and implementation of recommended water efficiency measures.

- A. Partners outside of project manager's organization receiving ENRTF funding – Minnesota Rural Water Association
- B. Partners outside of project manager's organization NOT receiving ENRTF funding - TBD

VII. LONG-TERM- IMPLEMENTATION AND FUNDING:

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.

VIII. REPORTING REQUIREMENTS:

- Project status update reports will be submitted April 1 and October 1 each year of the project
- A final report and associated products will be submitted by December 31, 2022

IX. SEE ADDITIONAL WORK PLAN COMPONENTS:

A. Budget Spreadsheet – LCCMR 2020_babcock_laura-3budget_0419-2-077_revised08122019.xlsx

B. Visual Component or Map – 2020_MnTAP_figure_IndustrialWaterConservation.pdf

C. Parcel List Spreadsheet - NA

D. Acquisition, Easements, and Restoration Requirements - NA

E. Research Addendum - NA

Attachment A: Project Budget Spreadsheet
 Environment and Natural Resources Trust Fund
 M.L. 2020 Budget Spreadsheet

Legal Citation:

Project Manager: Laura Babcock

Project Title: Expanding Protection of Minnesota Water through Industrial Conservation

Organization: University of Minnesota

Project Budget: \$178,430

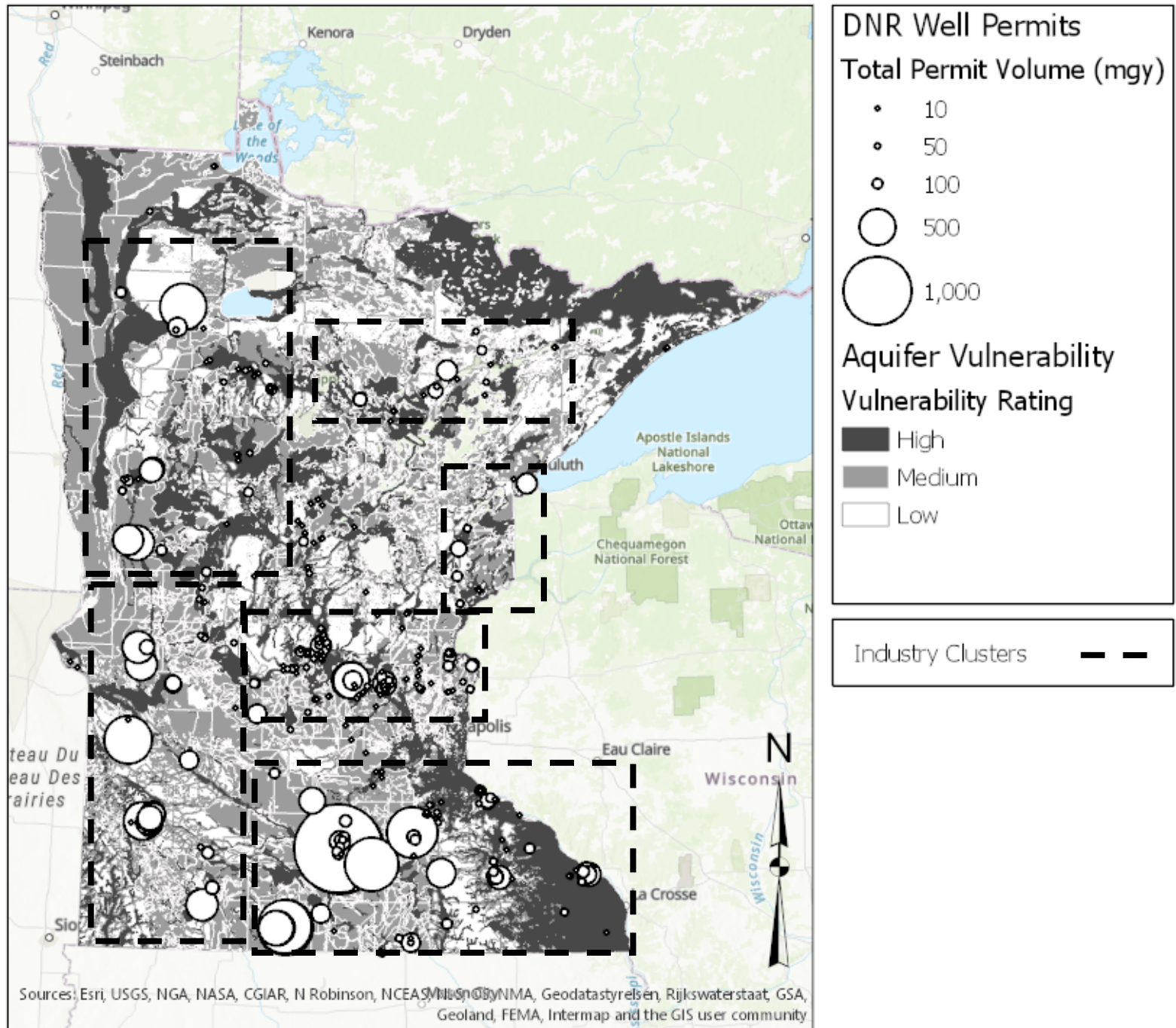
Project Length and Completion Date: 2.5 yrs, December 31, 2022

Today's Date: April 4, 2019



ENVIRONMENT AND NATURAL RESOURCES TRUST FUND BUDGET		Budget	Amount Spent	Balance
BUDGET ITEM				
Personnel (Wages and Benefits)		\$ 124,130	\$ -	\$ 124,130
Engineer, \$59,514 (71.6%salary, 28.4%fringe), 832 hr, 0.4 FTE				
Intern Manager, \$6,479 (71.6%salary, 28.4%fringe), 104 hr, 0.05 FTE				
Communications, \$7,294 (71.6%salary, 28.4%fringe), 104 hr, 0.05 FTE				
Intern, \$25,848 (92.3% salary, 7.7%fringe), 1,500 hrs (3 students), 0.72 FTE				
Supervisor, \$10,583 (71.6%salary, 28.4%fringe), 104 hr, 0.05 FTE				
Principal Investigator, \$14,412 (65.8%salary, 34.2%fringe), 104 hr, 0.05 FTE				
Professional/Technical/Service Contracts				
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		\$ 50,000	\$ -	\$ 50,000
Equipment/Tools/Supplies				
Intern safety equipment and supplies		\$ 570	\$ -	\$ 570
Printing			\$ -	\$ -
Travel expenses in Minnesota				
Travel by car to regions within Minnesota to provide training, technical assistance and intern projects focused on commercial/industrial water efficiency, possible lodging at per diem rates		\$ 2,000	\$ -	\$ 2,000
Other				
Water efficiency educational events location space rental for up to 3 sites		\$ 1,300	\$ -	\$ 1,300
COLUMN TOTAL		\$ 178,000	\$ -	\$ 178,000
SOURCE AND USE OF OTHER FUNDS CONTRIBUTED TO THE PROJECT				
	Status (secured or pending)	Budget	Spent	Balance
Non-State: Intern Company Cost Share	Pending	\$ 9,000	\$ -	\$ 9,000
State: MPCA Annual grant to MnTAP for operations, rent associated with FTE	Secured	\$ 10,360	\$ -	\$ 10,360
In kind: University of Minnesota Indirect Charges 26% MTDC	Secured	\$ 46,390	\$ -	\$ 46,390
Other ENRTF APPROPRIATIONS AWARDED IN THE LAST SIX YEARS				
	Amount legally obligated but not yet spent	Budget	Spent	Balance
None		\$ -	\$ -	\$ -

Existing Groundwater Use and Vulnerability



Project Outline



