

**Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 103-C

Online Modules Build Local Capacity to Protect Groundwater

Category: C. Environmental Education

Total Project Budget: \$ 335,000

Proposed Project Time Period for the Funding Requested: 3 years, July 2018 to June 2021

Summary:

This series of 8-10 online modules will increase knowledge and skills in local government staff and leaders so that Minnesotas groundwater is protected from overuse and pollution.

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Sponsoring Organization: Minnesota Department of Health

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Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Statement of need, human activities that result in overuse and pollution, and state agencies roles that manage groundwater

| | | | |
|--------------------------|-------------------------|-----------------------------|----------------------|
| _____ Funding Priorities | _____ Multiple Benefits | _____ Outcomes | _____ Knowledge Base |
| _____ Extent of Impact | _____ Innovation | _____ Scientific/Tech Basis | _____ Urgency |
| _____ Capacity Readiness | _____ Leverage | _____ TOTAL | _____ % |



Environment and Natural Resources Trust Fund (ENRTF)

2018 Main Proposal

Project Title: Online Modules Build Local Capacity to Protect Groundwater

PROJECT TITLE: Online Modules Build Local Capacity to Protect Groundwater

I. PROJECT STATEMENT

The project develops an online education program consisting of 8-10 modules to increase knowledge, technical skills, and expertise in land use planning for groundwater protection. Module topics will include:

- Basic principles of hydrogeology
- Groundwater quantity and sustainability
- Groundwater quality
- Risks to groundwater and ways to protect
- Protecting drinking water aquifers
- Groundwater-surface water interactions
- Building healthy relationships with landowners
- Local government and agency roles
- Tools to support local action
- Creating learning alliances

To build their capacity to act, the proposers also intend to develop local teams (learning alliances) to address local groundwater problems in innovative ways through knowledge-sharing and collaborative projects. Learning alliances give participants the opportunity to learn across organizational and geographical boundaries and develop more effective solutions to local groundwater problems.

Minnesota’s groundwater is an invisible resource threatened by land and water use decisions. The goals of this project are to prevent contamination in groundwater and ensure an adequate supply, particularly in areas with limited quantity or unprotected drinking water aquifers. The Minnesota Department of Health (MDH), with participation from the Minnesota Department of Natural Resources (DNR), and the University of Minnesota Water Resources Center (UMN) proposes a continued partnership with Freshwater Society (FWS) to develop a groundwater education and capacity building program specifically targeting soil and water conservation district (SWCD) staff, county staff, watershed district staff, as well as local elected officials who make land use decisions. This proposal leverages a SWCD needs assessment conducted by FWS and builds on groundwater workshops facilitated by FWS in 2015 in partnership with the agencies and organizations listed on this proposal.

Minnesota is not adequately prepared to protect its invaluable groundwater resources. State agencies and local partners have identified unsustainable water use, increases in nitrate and other pollutants, and changes in land use as threats to groundwater. Local government staff and local leaders are best able to influence local action. At the same time, SWCDs have asked for technical assistance and training to address these threats. A DNR survey reports that while SWCD staff feel that groundwater issues are important, but they self-report that they lack knowledge about groundwater quality and especially groundwater supply. The FWS needs assessment found that local water resource professionals anticipate spending more time on groundwater issues and want to increase their knowledge of groundwater water science, data management, and skill development.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: *Develop, pilot and revise 8-10 Web-based groundwater education modules*

Budget: \$ 310,000

| Outcome | Completion Date |
|---------|-----------------|
|---------|-----------------|



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| | |
|---|-------------------|
| <i>1. Essential groundwater science concepts and land use protection practices are identified.</i> | <i>Sept. 2018</i> |
| <i>2. 8-10 instructional modules focused on the essential concepts and practices are developed. Sequence, timing, and multiple delivery modes are determined, and existing and potential training outlets and venues have been identified</i> | <i>Sept. 2019</i> |
| <i>3. A sustainability plan is completed, including tuition levels, ongoing funding, an online "home" for long-term course management, course delivery schedule, ongoing review and revision schedules</i> | <i>Sept 2019</i> |
| <i>4. Classes have been piloted with up to 25 participants representing key audiences, including SWCD staff, county staff, and local elected officials, evaluated, and revised.</i> | <i>March 2020</i> |

Activity 2: Translate knowledge into local action to protect local groundwater resources

Budget: \$ 25,000

| Outcome | Completion Date |
|--|------------------------|
| <i>1. Partners have formed learning alliances in 2 of 4 pilot areas with known groundwater concerns- SE Minnesota, SW Minnesota, North Central/Straight River groundwater management area (GWMA), or West Central MN/Bonanza Valley GWMA</i> | <i>March 2020</i> |
| <i>2. A problem-solving process has been developed and projects in each pilot area have been designed to mitigate local groundwater problems</i> | <i>June 2020</i> |
| <i>3. 2-4 funding proposals are completed to fund projects to protect priority groundwater resources</i> | <i>July 2020</i> |

III. PROJECT STRATEGY

A. Project Team/Partners

Carrie Raber, Minnesota Department of Health (MDH) will act as project manager. Tannie Eshenaur will serve on the planning and design team, representing the MDH Drinking Water division. Sharon Pfeifer, Department of Natural Resources, will provide expertise on both groundwater content and the structure of learning alliances. Ann Lewandowski, UMN, will provide expertise in online learning for resource professionals based on her experience developing the Watershed Specialist training through the UMN Water Resources Center. All of the above have committed to contribute their time as in-kind support. Leslie Yetka, Director of Programs for Freshwater Society, will act as online content development lead, supported by funding from ENRTF. Content experts from state agencies, universities, and other organizations will be identified through Activity 1, and supported with contracted services from ENRTF funds as needed.

B. Project Impact and Long-Term Strategy

What is the long-term strategy and impact for the proposed project outcomes to be funded?

The UMN Water Resources Center has committed to make the learning series a regular program offered to water resource professionals at a minimal cost. The series will be offered in whole and in part every year as a professional development opportunity followed by the creation of a local learning alliance that develops a action proposal suitable for future funding. Ultimately, local government staff and leaders will have the knowledge, skills, and strategies needed to take action to protect groundwater.

C. Timeline Requirements

This project requires a longer-term cycle stretching over three years. Year One is focused on the development of instructional tools. Year Two is a pilot phase to engage resource professionals and evaluate the effectiveness of the modules. Year Three is a facilitated pilot of learning alliances to address local groundwater concerns.

2018 Detailed Project Budget

Online Modules Build Local Capacity to Protect Groundwater

IV. TOTAL ENRTF REQUEST BUDGET 2.5 years

| BUDGET ITEM | AMOUNT |
|--|-------------------|
| Personnel: | |
| Professional/Technical/Service Contracts: | \$ - |
| Freshwater Society- Leslie Yetka, Project Development Manager- \$61,000 to assemble learning modules from new and existing materials, \$20,000 for program support and administration, \$14,000 to pilot, evaluate, revise online modules as needed; \$15,000 for facilitation of Learning Alliances. Freshwater Society uniquely suited due to previous experience. | \$ 115,000 |
| University of Minnesota Water Resources Center contract, Ann Lewandowski - collaborate with instructional designer to adapt course to University learning management system (LMS), Lead course instructor, site host for course on online course management system, revise based on pilot, <u>plan full delivery</u> | \$ 20,000 |
| Groundwater content expert contract for services - for content experts (TBD) to develop 10 content modules, at \$5,000 per expert | \$ 50,000 |
| Instructional Designer contract TBD- Design and program online learning architecture, Aggregate content materials from groundwater experts into online instructional modules. RFP will be issued for this position | \$ 105,000 |
| Digital asset development- Produce videos, maps, graphics, animations, and other digital assets for use in the online course. RFP will be issued for this work. | \$ 15,000 |
| Social Science program evaluator- Evaluate the effectiveness of the online course, and the facilitated learning alliances. RFP will be issued for this position | \$ 30,000 |
| TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST = | \$ 335,000 |

V. OTHER FUNDS

| SOURCE OF FUNDS | AMOUNT | Status |
|---|-----------|--|
| Other Non-State \$ To Be Applied To Project During Project Period: / | N/A | |
| Other State \$ To Be Applied To Project During Project Period: | N/A | |
| In-kind Services To Be Applied To Project During Project Period: | \$ - | |
| Sharon Pfeifer- DNR staff- 250 hours (secured) Content adviser, Lead the development of Learning Alliances | \$ 13,000 | Secured |
| Carrie Raber- MDH staff- 250 hours (secured) Project manager, grant administrator | \$ 13,000 | Secured |
| Tannie Eshenaur- MDH- - 250 hours (secured)- Drinking water content adviser | \$ 13,000 | Secured |
| Dept of Agriculture- 128 hours (pending)- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Dept of Natural Resources (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Board of Water and Soil Resources (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| MDH Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| SWCD Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| MGWA Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| MN Rural Water- Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Met Council Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| UMN Regional Sustainable Development Partnership- Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Watershed Districts (MAWD or ADA) Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Municipal Groundwater content expert (pending)- 128 hours- Groundwater content expert (staff member to be identified) | \$ 6,000 | Pending |
| Past and Current ENRTF Appropriation: Specify dollar amount and year of appropriation from any current ENRTF appropriation for any directly related project of the project manager or organization that remains unspent or not yet legally obligated at the time of proposal submission. Be as specific as possible. Indicate the status of the funds. | \$ - | Indicate: Unspent? Legally Obligated? Other? |
| Other Funding History: Indicate funding secured but to be expended prior to July 1, 2018, for activities directly relevant to this specific funding request. State specific source(s) of funds and dollar amount. | \$ - | |

Online Modules Build Local Capacity to Protect Groundwater

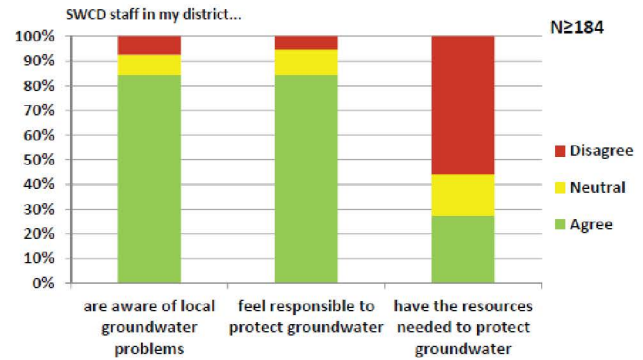
Groundwater: Invisible and at-Risk

Minnesota's groundwater is at risk of overuse and pollution. State agencies and local partners have identified unsustainable water use, increases in nitrate and other pollutants, and changes in land use as threats to groundwater. Protection is key. Groundwater problems are slow to build and even slower to resolve.

Local government staff and leaders report they do not have the knowledge and skills needed to do the necessary work.

MDH proposes to develop a groundwater education and capacity building program specifically targeting soil and water conservation district staff, county staff, watershed district staff, as well as local elected officials who make land use decisions. The Minnesota Department of Natural Resources, the University of Minnesota Water Resources Center, and the Freshwater Society would help develop the program.

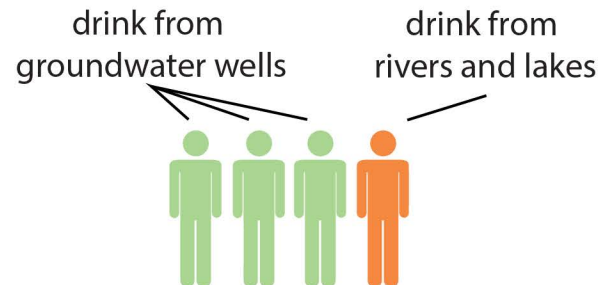
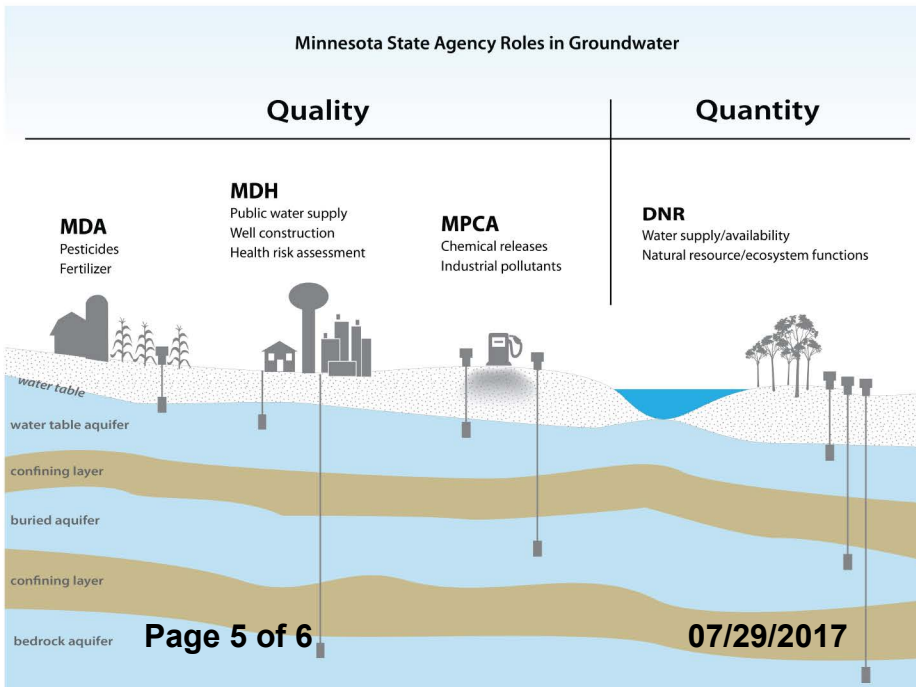
SWCD Staff Survey
(Freshwater Society, 2016)



Humans activities can result in groundwater overuse and pollution. Local government staff and leaders are best able to influence local actions.



Water is complex. Four state agencies, each with special scientific expertise, are involved in managing Minnesota's groundwater. Protecting groundwater is one way MDH protects the health of all Minnesotans.



Project Manager Qualifications

Carrie Raber, Project Manager. Carrie Raber is a principal planner with the Minnesota Department of Health (MDH). MDH is the lead public health agency for the State of Minnesota. MDH has primacy for the federal Safe Drinking Water Act and statutory authority for the Minnesota Well Code. MDH has a vital interest in groundwater protection as groundwater supplies 75% of the drinking water for Minnesotans.

Carrie has over a decade of experience protecting natural resources in the state, with a focus on groundwater implementation to protect drinking water resources. This experience was primarily gained while working for the Stearns County Soil and Water Conservation District (SWCD). During this time, she was the only person in the state focused on drinking water protection at the SWCD level. Carrie is currently leading an interagency effort called the Groundwater Restoration and Protection Strategies (GRAPS). The GRAPS process is responding to local needs to have better access to groundwater information and increase capacity to protect this critical resource. The first outcome of this process is the GRAPS report, an effort to package and deliver existing state data on groundwater and drinking water information to help inform local water plans.

Carrie will act as the project manager for this proposal. She has successfully executed federal, state, and foundation grants providing the necessary skills to carry out the LCCMR proposal. Carrie will oversee the project partners and rely on their expertise to help execute the objectives laid out in the project proposal.