

**Environment and Natural Resources Trust Fund
2017 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 012-A

Mapping Groundwater Contamination: Accessible Data to Protect Resources

Category: A. Foundational Natural Resource Data and Information

Total Project Budget: \$ 480,000

Proposed Project Time Period for the Funding Requested: 3 years, July 2017 - June 2020

Summary:

Throughout Minnesota chemical spills have created groundwater contamination. MPCA will share groundwater contamination areas in a web-based interactive map; improving data accessibility to protect our largest source of drinking water.

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Sponsoring Organization: MPCA

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Web Address https://www.pca.state.mn.us/waste/superfund-program

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Groundwater contamination data is combined to make an interactive web-based map. This map has multiple benefits including accessible data and technology transfer, more effective groundwater conservation and use, and increased protection of drinking water. This will benefits the public and all levels of government.

<input type="checkbox"/>	Funding Priorities	<input type="checkbox"/>	Multiple Benefits	<input type="checkbox"/>	Outcomes	<input type="checkbox"/>	Knowledge Base
<input type="checkbox"/>	Extent of Impact	<input type="checkbox"/>	Innovation	<input type="checkbox"/>	Scientific/Tech Basis	<input type="checkbox"/>	Urgency
<input type="checkbox"/>	Capacity	<input type="checkbox"/>	Readiness	<input type="checkbox"/>	Leverage	<input type="checkbox"/>	TOTAL <input type="checkbox"/> %



PROJECT TITLE: Mapping Groundwater Contamination: accessible data to protect resources

I. PROJECT STATEMENT

Minnesota properties that were once home to dry cleaners, metal plating shops, manufacturing plants and other industrial facilities in many cases have contaminated the groundwater from spills and leaks of hazardous chemicals. Frequently the contamination spreads off the property creating an area of groundwater contamination. The Minnesota Pollution Control Agency (MPCA) proposes to compile data currently kept in individual Superfund Program project files to show these areas of groundwater contamination in an interactive web-based map. The interactive web-based map will fill a data accessibility gap for anyone involved in groundwater use, regulation and conservation in Minnesota.

MPCA programs that address hazardous substance contamination in groundwater are focused on addressing health and environmental risks from individual sources of contamination. Without additional resources, compiling data from individual project files and presenting it in an interactive web-based format has been beyond the program capacity. This is the primary reason the need for easy access to groundwater contamination data has not been met.

When making decisions about the location of new municipal drinking water wells and planning for drinking water treatment, knowing where groundwater contamination areas are is particularly important. Businesses also need this information as many industries rely on clean water to function, or as they are looking to expand existing or develop new facilities.

Collecting data in one place and generating an interactive map showing areas of contaminated groundwater will help manage and protect the largest source of clean drinking water in the state. This effort will save government agencies, businesses, and Minnesota citizens' time and resources.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Extract groundwater testing data from individual MPCA files to populate a centralized database Budget: \$160,000

The MPCA will obtain groundwater testing results from MPCA files or environmental consultants. The results will be imported into a centralized database by the ENRTF recipients.

Outcome	Completion Date
1. All active Superfund site files are reviewed to compile monitoring well locations and groundwater testing results. This represents 81 Superfund sites.	July 2018
2. Groundwater testing results are in a centralized, digital database.	July 2018

Activity 2: Map areas of groundwater contamination using compiled data Budget: \$160,000

The MPCA will define areas of groundwater contamination by interpreting the testing results.

Outcome	Completion Date
1. Areas of groundwater contamination surrounding 81 Superfund sites are defined and prepared for public accessibility.	July 2019



Environment and Natural Resources Trust Fund (ENRTF)

2017 Main Proposal

Project Title: Mapping Groundwater Contamination: accessible data to protect resources

Activity 3: Share interactive web-based map

Budget: \$160,000

The MPCA will use GIS technology to share groundwater contamination data on an interactive web-based map.

Outcome	Completion Date
1. Interactive web-based map showing areas of groundwater contamination is published.	June 2020
2. Users will have better access to MPCA’s groundwater contamination results.	June 2020
3. Increased public awareness of the groundwater contamination areas in the State.	June 2020

III. PROJECT STRATEGY

A. Project Team/Partners

Hans Neve (project manager), Anne Morris (GIS specialist) and Jamie Wallerstedt (systems specialist) will be an in-kind financial contribution from the MPCA. ENRTF funds will staff two graduate student workers from the University of Minnesota for data processing and a temporary hydrologist for data review.

B. Project Impact and Long-Term Strategy

For most people groundwater is a resource that is out of sight and out of mind. Allowing areas where the resource has been degraded to be seen and more fully known will build public knowledge and appreciation to protect and conserve groundwater. The interactive web-based map will be statewide and will encompass all active Superfund sites. Cities, counties, the Metropolitan Council, the Department of Natural Resources, the Minnesota Department of Health, community groups and individual citizens want this information faster.

Project Impact	Long-Term Strategy
The web-based interactive map will fill a data accessibility gap for anyone involved in groundwater use, regulation and conservation in Minnesota.	As the data is used, we expect the audience will grow; more organizations and individuals will take advantage of the tool using it for additional applications.
Mapping areas where the groundwater resource has been degraded by hazardous chemicals will build public knowledge and appreciation of the groundwater resource which is critical for protection and conservation efforts.	Collecting groundwater contamination data in one tool will support the work related to groundwater use, regulation and conservation in Minnesota.

Once this system is built, the MPCA will continue to update and publish the data. Conversations with partnering agencies during the duration of the project will help develop the best strategies for long-term maintenance. The MPCA is committed to ongoing data processing and hosting as part of the Agency’s overall data and document management strategy.

C. Timeline Requirements

Our first step is processing the data currently kept in individual project files and loading it into a database. The entire effort will take 36 months from initial data mining to database inputs and final interactive web-based map.

2017 Detailed Project Budget

Project Title: Mapping Groundwater Contamination: Accessible Data, Enhanced Remediation

IV. TOTAL ENRTF REQUEST BUDGET 3 years

<u>BUDGET ITEM</u> (See "Guidance on Allowable Expenses", p. 13)	<u>AMOUNT</u>
Student workers - Two U of MN Graduate Students employed for three years; 100% full-time; 75% towards salary; 25% towards benefits.	\$ 240,000
Hydrologist I - One temporary hydrologist employed for three years; 100% full-time; 75% towards salary; 25% towards benefits.	\$ 240,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 480,000

V. OTHER FUNDS

<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
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: Existing Employees of the MPCA will be provided for an in-kind contribution to provide leadership and direction to the project staff funded by this grant (FTE = 0.53 for three years of 3 staff members). Funds are provided by the Superfund Program Budget.	\$ 127,800	<i>Secured</i>
Funding History: A smaller effort completed in 2008 to map and make accessible groundwater contamination information was done by Metropolitan Council in coordination with Dakota County and the Minnesota Department of Health. They reviewed MPCA data, put it in a database and a GIS map, and produced a report; however, did not produce an interactive map. The effort was limited to 49 site files in Dakota County and Washington County, only 5 of which are part of the MPCA's proposed project. The final report documented the complexity of moving from data in individual project files to an accessible and interactive map. There are no provisions for updating and <u>maintaining the data.</u>	\$ 25,000	<i>Completed</i>
Remaining \$ From Current ENRTF Appropriation:	N/A	

Mapping groundwater contamination: accessible data to protect resources

Groundwater testing results entered into a database for all active Superfund sites in Minnesota

Interpretation of testing results to locate and map groundwater contamination plumes

Statewide interactive mapping application



Accessible data and technology transfer

What are the benefits?



Expedited land restoration



More effective groundwater conservation



Increased protection of drinking water

Who does this help?



Cities, counties, Metropolitan Council, Department of Natural Resources, Department of Health, community groups, individual citizens, private industry

Organization Description: Minnesota Pollution Control Agency

The Minnesota Pollution Control Agency's mission is to protect and improve the environment and enhance human health. The MPCA monitors environmental quality, offers technical and financial assistance, and enforces environmental regulations.

Project Manager Qualifications: Hans Neve

Two decades of progressive experience working in state environmental remediation programs, including seven years of experience leading programs.

EXPERIENCE: MINNESOTA POLLUTION CONTROL AGENCY, 1996 to Present

Public Spokesperson- Superfund Program (November 2013- Present)

- Represented the Agency at public meetings and meetings with state and federal elected officials.
- Delivering technical and sensitive health information to the public and individual residents.
- Responded to significant media interest from print, radio and television reporters.
- Developed communication documents and websites.
- 2014 Team Voyager Award- General Mills Superfund Site Vapor Intrusion Response Team

Supervisor - Superfund Program and Voluntary Investigation and Cleanup Program (VIC) (March 2008- Present)

- Provided program leadership, implemented changes that increased efficiency and engagement
- Reviewed and approved contract work orders
- Developed work plans and budgets for federal grants
- Reestablished relationships with external partners that were previously strained
- 2011 Voyager Award- Revitalization of the VIC Program
- Exercised fiscal control directing project budgets

Emergency Response Specialist - Emergency Response Program - (2002- 2008)

- Served as MPCA's Incident Commander at some major incidents, setting objectives, directing the MPCA response and coordinating with partner organizations.
- Developed and managed enforcement cases including major multi-media cases.
- Provided direction and oversight of state contractors. Managed project budgets up to \$400,000.

Hydrogeologist - State Superfund Program (1996-2002)

- Reviewed Reports and provided oversight of regulated parties and MPCA contractors performing remedial investigations, and response actions.

Development and implementation of program policies and procedures

- April 2013 Updated Remediation Division Website
- May 2013 Remediation Division Guidance Soil Leaching Values
- July 2013 Brownfield Program Response Action Plan Guidance
- September 2013 OnBase Standard Operating Procedure "No New Paper to the File" Policy
- October 2013 Section Work Load Model- data system that integrates data from time tracking database, document management database and remediation programs database.
- January 2015 Vapor Intrusion Best Management Practices

EDUCATION AND TRAINING:

Master of Science in Hydrogeology
Western Michigan University
Kalamazoo, Michigan

Bachelor of Arts in Geology
Gustavus Adolphus College
Saint Peter, Minnesota