

**Environment and Natural Resources Trust Fund
2019 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 102-BH

Minnesota Spring Inventory Final Phase

Category: H. Proposals seeking \$200,000 or less in funding

Sub-Category: B. Water Resources

Total Project Budget: \$ 71,000

Proposed Project Time Period for the Funding Requested: June 30, 2021 (2 yrs)

Summary:

The project will complete the Minnesota Spring Inventory, identifying, cataloging and assisting in the protection of important water springs threatened by overuse of groundwater, development, land-use changes, and -changing climate.

Name: Paul Putzier

Sponsoring Organization: MN DNR

Title: Supervisor County Geologic Atlas

Department: EWR

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Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

The figure presents the Targeted Spring Provinces (Minnesota & St. Croix Rivers, north shore, southeast, Lake Agassiz, central lakes) location of verified springs and counties spring locations still require verification.

<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"/> %
<input type="checkbox"/>	If under \$200,000, waive presentation?						



PROJECT TITLE: Minnesota Spring Inventory Final Phase

I. PROJECT STATEMENT

Springs are an important natural resource that occur all across Minnesota. It is vital to inventory, assess, and monitor springs on a comprehensive, statewide basis because they are all of the following:

- Sources of trout streams
- Of cultural significance
- Sources of cool water fisheries
- Maintaining integrity against aquatic invasive species
- Special places to enjoy and experience
- Assemblages of unique and rare plants, animals and insects
- Sources of wetlands
- Sustaining base flow in streams
- Windows into the health of groundwater system

Healthy springs across Minnesota are threatened by overuse of groundwater, development, land-use changes, and changing climate. The Minnesota Spring Inventory is designed to make information about this important and threatened natural resource widely available to private industry, private citizens, academia, and government to assist in resource management and protection.

Phase I of the Minnesota Spring Inventory is complete. It established processes and procedures to conduct the statewide inventory including the evaluation of existing documentation and uncovering documents and data sets that had been lost.

Phase II of the Minnesota Spring Inventory is nearing completion. It included developing exploration techniques and standards and exploring and cataloging of springs. The work focused on the Targeted Spring Provinces and public lands (see figure). Approximately 2000 springs were documented through the Phase II work to date.

Phase II also produced the Minnesota Springs Citizen Reporting App which allows the public to add springs to the DNR catalogue using their portable devices. More than 250 candidate springs were submitted.

The Minnesota Spring Inventory Final Phase (proposed project) will allow for the completion of work in the Targeted Spring Providences, the evaluation of springs still requiring verification, and refinement of the spring inventory web presence to make information more accessible. With the tools developed the inventory can continue to expand with input from the DNR, other state and federal agencies, local organizations and citizens. Much of the data from the first two years of project is already available and being used.

II. PROJECT ACTIVITIES AND OUTCOMES

ENRTF BUDGET: \$71,000

Activity 1: Complete field inventory of Targeted Spring Provinces and refine web-products

This project includes final field evaluations to characterize presence and type of springs in the Targeted Spring Providences, the evaluation of springs still requiring verification, and refinement of the spring inventory web presence to make information more accessible. The project also includes presentation of the final results in publications (MGWA Newsletter, news releases, and DNR notifications) and potentially at conferences such as the Minnesota Water Resource Conference.



Outcome	Completion Date
1. Complete field inventory of Targeted Spring Provinces & verification of candidate springs	April 30, 2020
2. Final additions and refinement of publicly available web-products	June 30, 2020
3. Publication and presentation of results	June 30, 2020

III. PROJECT PARTNERS:

A. Partners receiving ENRTF funding

Name	Title	Affiliation	Role
None			

B. Partners NOT receiving ENRTF funding

Name	Title	Affiliation	Role
None			

IV. LONG-TERM- IMPLEMENTATION AND FUNDING:

The Minnesota Spring Inventory is part of a long-term continuing need to identify, assess, and monitor all parts of the hydrologic cycle so that changes can be accurately interpreted and responded to. This project provides the tools (network, data, and a web platform) for others agencies and citizens to build on.

V. TIME LINE REQUIREMENTS:

This proposal requests funding to for one additional year, through June 30, 2020, to take advantage of the knowledge and momentum gained during the initial years of the project. This allows for a more complete inventory across the state and refined web products associated with the work. At the conclusion of the project others will be able to use the tools developed to continue to build the inventory. This is the final project request for the foundational Minnesota Spring Inventory work.

VI. SEE ADDITIONAL PROPOSAL COMPONENTS:

- A. Proposal Budget Spreadsheet
- B. Visual Component or Map
- C. Parcel List Spreadsheet
- D. Acquisition, Easements, and Restoration Requirements
- E. Research Addendum (not required at proposal stage)
- F. Project Manager Qualifications and Organization Description
- G. Letter or Resolution
- H. Certified Audit or 990 Tax Information

2019 Proposal Budget Spreadsheet

Project Title: Minnesota Spring Inventory Final Phase

IV. TOTAL ENRTF REQUEST BUDGET: One year

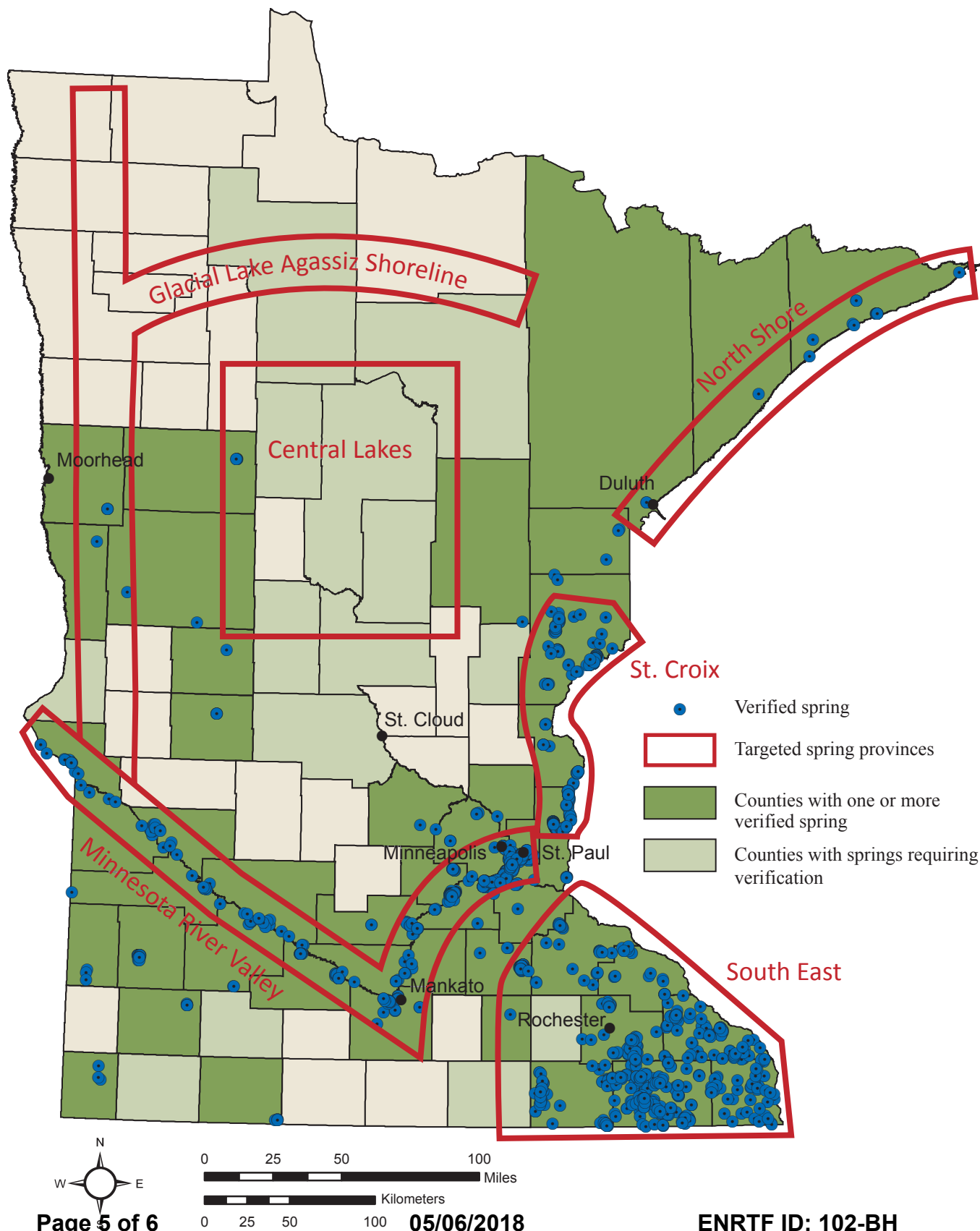
BUDGET ITEM (See "Guidance on Allowable Expenses")	AMOUNT
Personnel: Hydrologist Supervisor/Project Manager (classified): \$126,000; 0.1 FTE Hydrologist 3 (classified): \$119,000; 0.1 FTE Hydrologist 1 (classified or unclassified): \$70,000; 0.5 FTE Salaries include ~15-25% fringe benefits	\$ 59,500
Professional/Technical/Service Contracts: N/A	\$ -
Equipment/Tools/Supplies: Field equipment such as current meters, data loggers, specific expenses for use of specialized field data tablets to collect field data, waders, hip boots, GPS equipment, GIS or specialty software, and misc. tools and supplies for field data collection and equipment maintenance.	\$ 1,388
Acquisition (Fee Title or Permanent Easements): N/A	\$ -
Travel: In-state vehicle mileage (est \$1,500) and travel expenses (est \$1,000), primarily for locating new springs, field verification of locations provided by the public, water sample and field data collection for some locations.	\$ 2,888
Additional Budget Items: Expenses (\$500) to give project-related presentations at events such as the Minnesota Ground Water Association or the Minnesota Water Resources conferences as part of project results dissemination.	\$ 500
Additional Budget Items: *Direct and Necessary expenses: HR Support (~\$1034), Safety Support (~\$214), Financial Support (~\$824), Communication Support (~\$1,251), IT Support (~\$2,342), and Planning Support (~\$1,059) necessary to accomplish funded programs/projects.	\$ 6,724
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 71,000

*Direct and Necessary expenses include Department Support Services (Human Resources, IT Support, Safety, Financial Support, Communications Support, and Planning Support). Department Support Services are described in the agency Service Level Agreement and billed internally to divisions based on rate that have been developed for each area of service. These services are directly related to and necessary for the appropriation. Department leadership services (Commissioner's Office and Regional Directors) are not assessed. Those elements of individual projects that put little or no demand on support services such as large single-source contracts, large land acquisitions, and funds that are passed through to other entities are not assessed Direct and Necessary costs for those activities.

V. OTHER FUNDS (This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)

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:	N/A	
Past and Current ENRTF Appropriation: \$200,000 - ENRTF for M.L. 2014, Chp.226, Sec. 2, Subd. 05b "State Spring Inventory" Partial funding for spring inventory work provided under three Springshed mapping projects M.L.2007, M.L. 2009, M.L. 2011. Total ENRTF funding for the three projects \$1,270,000, of which estimated \$93,250 (7.3%) was spent on spring inventory tasks.	\$ 370,000	
Other Funding History:	N/A	

Minnesota Spring Inventory as of February 2018



Project Manager Qualifications and Organization Description

Project Manager: Paul F. Putzier

Degrees and Professional Certificates:

M.S. Geology, University of South Florida, Tampa, Florida	1987
B.S. Geology, University of Wisconsin, Madison, Wisconsin	1982
Minnesota Professional Geologist, License #30053	

Qualifications:

2011 to present

DNR Hydrogeologist

Provide technical and program direction for the completion of DNR Part B county geologic atlases or regional hydrogeologic assessments. Directed the development of project databases, directed the editing and publication of Part B atlases and documents, assured web access of project data, supported staff development of improved mapping tools and techniques, and assisted others in use of and access to project results and data.

Previous employment:

2008 - 2009	HDR Engineering. Section Manager/Senior Project Manager and Hydrogeologist. Managed Environmental Sciences (NEPA) Section including 35 scientists & GIS professionals, providing environmental permitting (EIS) for large capital projects.
2004 to 2008	STS Engineering. Manage Environmental Sciences Section including 12 engineers. Project manager/hydrogeologist for state & federal Superfund sites & Superfund site investigations.
1992 to 2004	The RETEC Group. Operations manager for office of 35 engineers, geoscientists, and environmental professionals. Managed the \$6 million Lower Fox River, Wisconsin Superfund project successfully through the remedial investigation, feasibility study (RI/FS), and risk assessments.(RA) steps of CERCLA to an approved ROD.
1984 to 1992	Groundwater Technology Inc. Operations manager responsible for four regional offices including over 60 engineers, geoscientists, and environmental professionals.

Project Responsibilities: The project manager will be responsible for: providing overall program management and technical direction for the project; directing project staff; contracting for professional services in support of the program; contracting laboratory and other services; coordinating with project partners; directing the development of atlas reports; and preparing and submitting project work plans, updates and final reports.

Organization Description: The Minnesota Department of Natural Resources (DNR)'s mission is to work with citizens to conserve and manage the state's natural resources, to provide outdoor recreation opportunities, and to provide for commercial uses of natural resources in a way that creates a sustainable quality of life.