

**Environment and Natural Resources Trust Fund  
2012-2013 Request for Proposals (RFP)**

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**Project Title:**

**ENRTF ID: 094-E2**

Red River Basin Water Measurement Networks

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**Topic Area:** E2. NR Info Collection/Analysis

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**Total Project Budget:** \$ 352,066

**Proposed Project Time Period for the Funding Requested:** 1.5 yrs, July 2013 - June 2015

**Other Non-State Funds:** \$ 0

**Summary:**

The Red River Basin Volunteer and Automated Water Measurement Networks will measure flows and precipitation to enhance flood forecasting, assist in drought predictions, and improve nutrient load management.

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**Sponsoring Organization:** Red River Basin Commission

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**Location**

**Region:** NW

**County Name:** Becker, Clay, Clearwater, Grant, Kittson, Mahnomon, Marshall, Norman, Otter Tail, Pennington, Polk, Red Lake, Roseau, Stevens, Traverse

**City / Township:**

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<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 Readiness	<input type="checkbox"/> Leverage	<input type="checkbox"/> Employment	<input type="checkbox"/> TOTAL <input type="checkbox"/> %



# Environment and Natural Resources Trust Fund (ENRTF) 2012-2013 Main Proposal

**PROJECT TITLE:** Red River Basin Water Measurements Networks

## I. PROJECT STATEMENT

**WHY:** This effort is important as it will strengthen flood forecasting, enable drought predictions and improve water quality efforts in the Red River basin in Minnesota. This project will help reduce damages from floods, assist agricultural in increased production yields, and improve the environment. This project provides both immediate and long term benefits to the economy and environment in Minnesota.

**GOALS:** The Red River Basin Commission will use the ENRTF funds towards two primary goals.

1. Strengthen the volunteer water measurement network for flows and precipitation in the Red River basin in Minnesota.
2. Implement an automated water measurement network for flows and precipitation in the Red River basin in Minnesota.

**OUTCOMES:** The water measurement network will achieve these goals through the following outcomes:

- 1.) Volunteer Network Outcomes:
  - a. Strengthen and expand marginal current network to a minimum of 10 volunteers in each of 15 counties.
  - b. Provide each volunteer with equipment to measure frost depth and snow water equivalents (both of which are difficult to measure automated) as well as other parameter for flow and precipitation.
  - c. Provide training for equipment use.
  - d. Establish communication network to assure daily reports.
- 1.) Automated Network Outcomes:
  - a) Increase automated real time measurements for flows and precipitation.
    - i) Based on geography, soils, tributaries, retention sites, and weather patterns.
  - b) Link automated stations for flow and precipitation to all key agencies.
  - c) Link automated stations to North Dakota and Manitoba efforts.

**HOW:** The Commission and Department of Natural Resources (regional hydrologist and state climatologist) will work with local government: counties, watershed districts and soil and water conservation districts to find and train the volunteers. Together we will also coordinate with other Red River basin state, provincial and federal agencies to establish the volunteer and automated networks maximizing dollars and providing for national, basin, regional and local needs. The commission will seek funding from North Dakota leveraging Minnesota funds. States funding will match what Manitoba has currently committed for a volunteer and automated network. The overall effort will provide a full basin approach that will benefit all jurisdictions.

## II. DESCRIPTION OF PROJECT ACTIVITIES:

**Activity 1:** Volunteer Network

**Budget:** \$152,066

We will establish a volunteer network that expands the current volunteer efforts and provide them with basic equipment and training. This network will record flow and precipitation data specifically soil moisture, snow, and snow water equivalents which are more effective manually measured.

## Red River Basin Water Measurement Networks

Outcome	Completion Date
1. Recruitment of a minimum of 10 volunteers per each of the 15 counties based on gaps and needs assessment.	December 31, 2013
2. Training of volunteers in precipitation data collection, recording and submittal and equipment deployment.	December 31, 2014

**Activity 2:** Automated water measurement network

**Budget:** \$250,000

The Red River Basin Commission will establish an automated real-time water measurement network for flows and precipitation in the 15 county NW Red River basin portion of the state. Some of this information will be transferred to agencies every 1-2.5 seconds.

Outcome	Completion Date
1. Identification of gage and precipitation needs and locations.	September 30, 2013
2. Equipment placement, calibration and transmittal quality control check.	December 31, 2014
3. Final report to ENRTF.	December 31, 2014

### III. PROJECT STRATEGY

#### A. Project Team/Partners

The Red River Basin Commission as the sponsoring organization will manage the project and lead all committee, outreach and training activities. We will work with the Department of Natural Resources who will assist with all aspects of the project. A basin Collaborative Working Group will provide input throughout the project related to needs, locations and outcomes. This group includes: the United States Geological Service, the United States National Weather Service, the United State Natural Resources Conservation Service, local and joint watershed districts, counties, soil and water conservation districts and the existing weather reporting volunteer network. The Commission will be responsible for the final report. Some project funds will be applied to two Department of Natural Resource staff time. The Minnesota office of United States Geographical Services and the Minnesota office of the National Weather Service will provide technical assistance in all the activities.

#### B. Timeline Requirements

The Commission's project will be completed in 18 months from July 2013 to December 2014.

#### C. Long-Term Strategy and Future Funding Needs

There will be no future funding needs to maintain the volunteer network, other than to expand it if needed. Future funding will be needed to maintain the gaging flow network that will be expanded in this project. Federal, state and local funds currently maintain what gaging is now done and this project will link these sources to determine a long term strategy that will be in the report. The precipitation stations will have a 5 year maintenance agreement funded through this project. These agreements will be reasonably price afterward and local users will likely be interested in maintain the sites as they will prove useful to county government and agriculture. A strategy for this will also be in the report.



**Environment and Natural Resources Trust Fund (ENRTF)  
2012-2013 Main Proposal**

PROJECT TITLE: Red River Basin Water Measurements Networks

**2012-2013 Detailed Project Budget  
RED RIVER BASIN COMMISSION**

**IV. TOTAL ENRTF REQUEST BUDGET 18 MONTHS**

<b>BUDGET ITEM</b>	<b>AMOUNT</b>
<b>South Basin Mgr:</b> 30% salary, 26% sal. for benefits, 936 hrs - 1 person	\$ 43,455
<b>Volunteer Cord/Trainer:</b> 35% salary, 11% sal. for benefits, -546 hrs - 1 person	\$ 16,317
<b>Admin / Finance:</b> 5% salary, 11% sal. for benefits, -117 hrs - 1 person	\$ 2,315
<b>MN DNR: Travel, Meeting Expenses &amp; Staff Time</b>	\$ 25,000
<b>Contracts:</b> Contract & Equipment for Automated Network Real-time measuring for Stream Gaging, Precipitation, & Retention Sites.	\$ 250,000
<b>Equipment/Tools/Supplies:</b> Volunteer Network (15 Counties X 10 sites)	\$ 7,500
<b>Equipment/Tools/Supplies:</b> Publication & Printing Exp. & Meeting Supplies	\$ 1,000
<b>Acquisition (Fee Title or Permanent Easements):</b>	N/A
<b>Travel:</b> Mileage & travel expenses for Work Group meetings,	\$ 3,279
<b>Additional Budget Items: 4 - Ripple Effect</b> (Public Service newspaper article) - staff & research time	\$ 1,200
<b>Additional Budget Items: Water Minutes</b> (30 - 60 sec. Radio - PSA) + staff & research time	\$ 2,000
<b>TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =</b>	<b>\$ 352,066</b>

**V. OTHER FUNDS**

<b>SOURCE OF FUNDS</b>	<b>AMOUNT</b>	<b>Status</b>
<b>Other Non-State \$ Being Applied to Project During Project Period: North Dakota</b>	\$350,000	<i>Pending</i>
<b>Other Non-State \$ Being Applied to Project During Project Period: Manitoba</b>	\$ 700,000	<i>Approved</i>
<b>Other State \$ Being Applied to Project During Project Period:</b>	N/A	
<b>In-kind Services During Project Period: RRBC Staff &amp; Office Support</b>	\$ 35,000	Approved
<b>Remaining \$ from Current ENRTF Appropriation (if applicable):</b>	N/A	
<b>Funding History: Long Term Flood Solutions Project Funds - State of North Dakota 2010-2011</b>	\$ 500,000	
<b>Funding History: Long Term Flood Solutions Project Funds - State of Minnesota 2010-2011</b>	\$ 500,000	

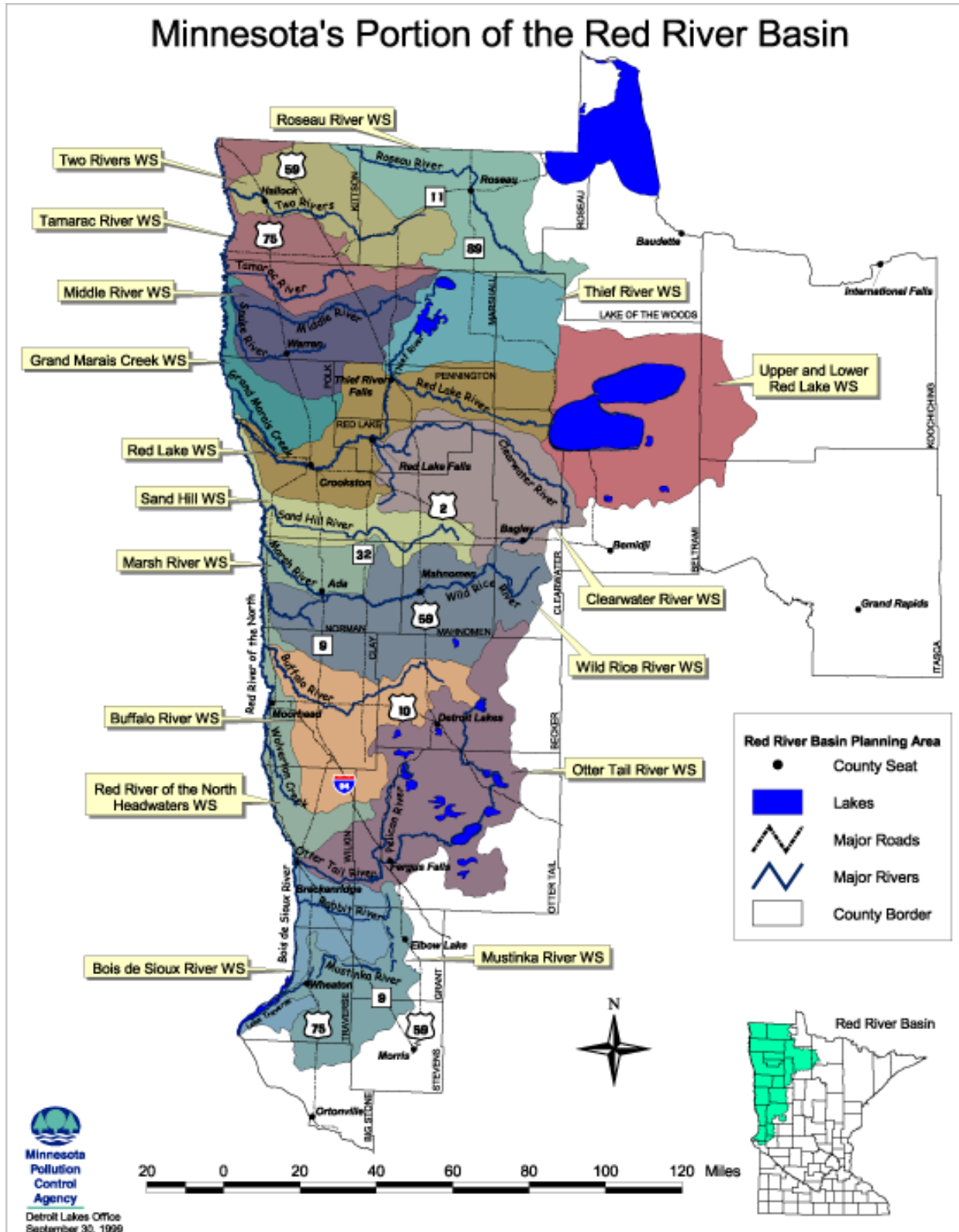


# Environment and Natural Resources Trust Fund (ENRTF)

## 2012-2013 Main Proposal

PROJECT TITLE: Red River Basin Water Measurements Networks

### Map of Proposed Project Area





## **Environment and Natural Resources Trust Fund (ENRTF) 2012-2013 Main Proposal**

**PROJECT TITLE:** Red River Basin Water Measurements Networks

### ***Project manager qualifications/organization description***

The Red River Basin Commission's mission is to develop a Red River basin integrated natural resources framework plan, to achieve commitment to implement the framework plan, and to work toward a unified voice for the basin. The vision is: A Red River basin where residents, organizations and governments work together to achieve basin-wide commitment to comprehensive integrated watershed stewardship and management. In order to achieve our vision of comprehensive, integrated watershed stewardship and management, a balance must be maintained between the functions of natural systems established over thousands of years and the use of the landscape for human needs. The Commission works cooperatively across the jurisdictions to balance economic, environmental and social uses to create a sustainable basin for future generations. The Commission was created to assist in working across jurisdictional and political boundaries to identify problems and gaps and to promote solutions that work within the context of jurisdictional and national autonomy. The make-up and size of the Commission's 41 board members assists in this mandate. The Board includes: citizens, local government officials, provincial and state agency representatives, First Nation/Tribal and environmental representatives from Minnesota, North Dakota, South Dakota and Manitoba. The board also includes: federal elected officials and agencies as ex-Officio. The Commission promotes consensus on issues and creates opportunities for collaborative efforts to manage basin resources.

The Red River Basin Commission is known in the basin for its partnerships, facilitation, project efforts, education and outreach on natural resource issues. The Commission has been the designated entity to staff the 15-county Minnesota Counties Joint Powers Board in NW Minnesota formed in the 1980s when the Commission predecessor group The International Coalition assisted these counties in their Comprehensive Local Water Plans that was funded by LCMR. This existing structure and relationship will allow the Commission to immediately launch this effort upon funding notification. In addition the Commission recently completed a Long Term Flood Solutions Report with Recommendations for Minnesota and North Dakota. This project addresses Recommendations 3.4 and 3.5.

The project manager will be the Commission's South Basin Manager and Communications Coordinator, Julie Goehring who has spent the past 25 years working on Red River Basin land and water issues. Her duties include developing, maintaining, and implementing communication and education and outreach programs for the commission. She also serves as a liaison between the Board, other water and natural resource management entities and local stakeholders in the Red River Basin to enhance coordination and communication. Goehring serves as a public member of the Minnesota Environmental Quality Board. She has a B.S. in Mass Communications, Print Journalism, from Minnesota State University—Moorhead.