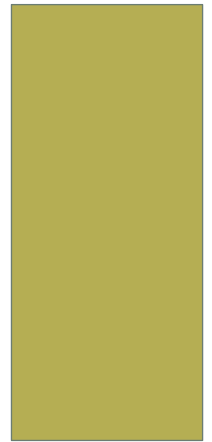




River Watch
Citizen Monitoring Program

*BUILDING BASIN-WIDE LEADERSHIP
THROUGH WATERSHED EDUCATION*



ND Water Quality Monitoring Conference
March 4-6, 2014

OUTLINE

- International Water Institute
- MN River Watch Program
 - Goals
 - Overview
- ND River Watch Efforts



International Water Institute

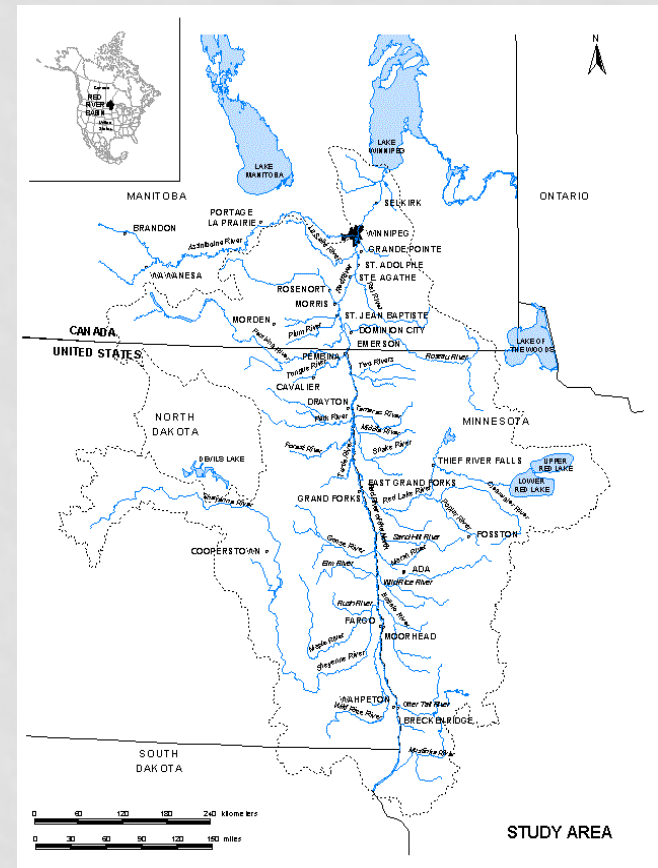
Flood research and watershed education for the **Red River Basin**

1997 Red River of the North Flood

- International Flood Mitigation Initiative (IFMI) 2000

Mission:

- Watershed Research
- Watershed Education



RIVER WATCH GOALS

- Understand water's role in the environment and human interactions
- Develop sound science and critical thinking as basis for knowledgeable decision making
- Help meet resource managers monitoring and management needs
- Instill a sense of place in the watershed
- Train next generation of resource managers

MINNESOTA RIVER WATCH

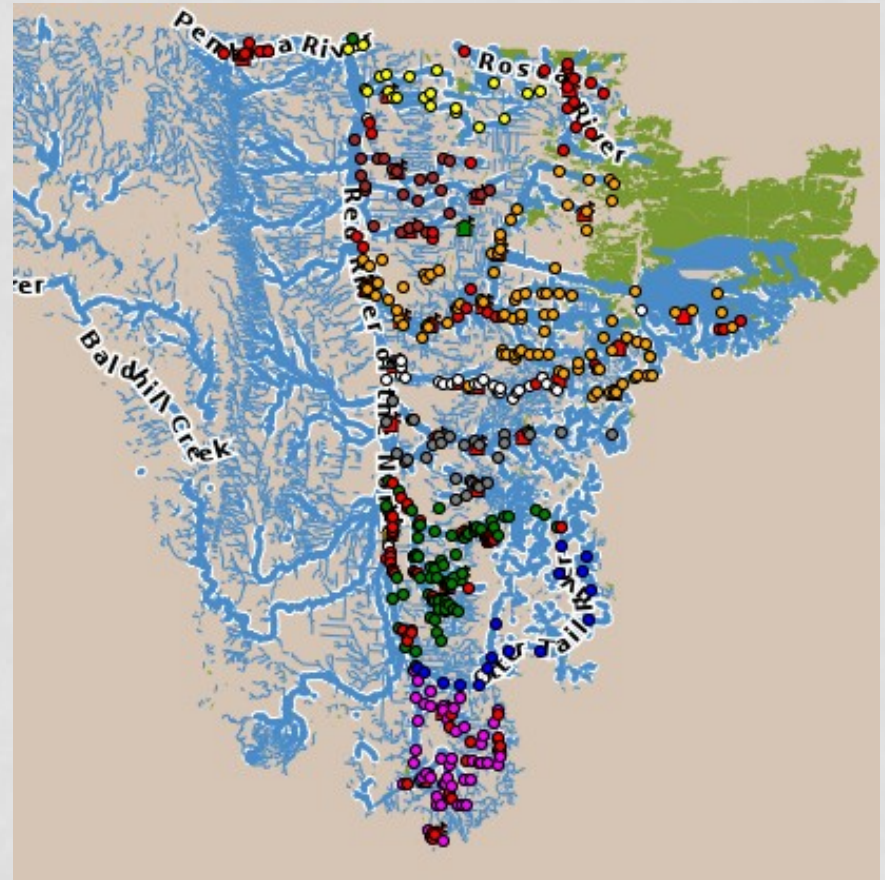
Enhance Watershed Science and Education Through Outdoor Activities and Curriculum Integration

- ✓ Water Quality Monitoring
- ✓ Snow and Frost Study
- ✓ Macroinvertebrate Monitoring
- ✓ River Explorers Program

“Hands-on experience through field-based activities”

WATER QUALITY MONITORING

- 25 Schools/Teams in RRB
- Over 150 established sites
- 8,500 site visits



WQ MONITORING FIELD EQUIPMENT



SNOW AND FROST STUDY



- Students collect snow depth, snow water equivalency, frost depth, and infiltration rates.
- Data collected is provided to the National Weather Service via CoCoRaHS.
 - Increase the accuracy of forecasting spring flooding.

MACROINVERTEBRATE MONITORING

- Learn about the relationship between water quality and biological communities.
- Kits and Training available



RIVER EXPLORERS

Explore local rivers and streams

Low tech paddling with high tech tools

- Waterproof digital cameras - geotag photos / Apps to learn and document findings.
- Information integrated with Google maps and shared with local resource managers to illustrate current conditions.



RIVER EXPLORERS (DATA)

8/17/2012 11:18 am

Exposed Roots

Co Rd 117

vegetation re

Bank Erosion

Grygla RW team on Thief

© 2013 Google

Image USDA Farm Service A

48°15'23.42" N 96°06'45.11" W elev 1139 ft

Bank Erosion

Taken Date: 8/17/2012 1:09:18 PM
Coordinates: N48°15'19.80"; W96°6'37.80"
Megapixels: 5.0
Altitude: 345.0 m
Directions: [To here](#) - [From here](#)

CR12

shall CR12

kayaker

Co Hwy 12

google earth

Eye alt 2404 ft

ute
er Basin

RIVER EXPLORERS (RECREATION)

Get directions My places

Collaborate **EDIT**

Clearwater River Scout Trip 6-7-13

Scouting the Clearwater River north of Shevlin, MN to document river conditions and to identify stretches in the river that have obstacles. We used 10' kayaks that are very easy to maneuver, a great choice for this stretch of river. On water paddling time was 3 hours and 15 minutes. Easy access points along river at all three road crossings. Great stretch of river to paddle with any level of experience!

Unlisted · 2 Collaborators · 574 views
Created on Jun 12 · By asher · Updated Jun 21
[Rate this map](#) · [Write a comment](#) · [KML](#)

- Launch Point for Clearwater River**
Very nice paved access to river, no dock or boat ramp, but paved road to park on within 50 feet of river.
- Gravel Road Crossing**
Wayne taking notes after making it to the first road crossing.
- Fence line across river**
A fence line spans the entire river and was covered with grass from high flows earlier in the year, we were able to duck under it wire at the water levels on 6-7-13.
- Fence line across river**
Fence line spans the entire channel but we were able to paddle over it.
- Dock across river**
A roll-in dock that spans the entire river, at water levels on 6-7-1 we had to get off the river and go around the dock.
- On Hwy 23 Bridge**

Old Bridge
Last Updated by asher on Jun 21

Abandoned bridge across river, at water levels on 6-7-13 we had to slide off the kayak seat and lay back to go underneath this low bridge.

Directions Search nearby Save to map more

Map Traffic

Imagery ©2013 TerraMetrics Map data ©2013 Google Edit in Google Map Maker Report a problem

NORTH DAKOTA INITIATIVE

- 2014/15 - Establish 5 River Watch Teams in ND
 - Walhalla, Cavalier, and Pembina have expressed interest
 - Larimore has been active in River Watch but not supported
- **Funding/Support:**
 - Red River Joint Water Resources Board
 - ND Natural Resources Conservation Service
 - Pembina County Water Resources District

www.internationalwaterinstitute.org

*In the end, we will conserve only what we love,
we will love only what we understand,
and we will understand only what we are taught.
Baba Dioum*