



Board of Water and Soil Resources

Implementing Clean Water Protection and Restoration Efforts

Senate Environment and Energy Policy Committee

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Watershed Restoration and Protection Strategies

Watershed restoration and protection strategy (WRAPS) provide:



Local Government Comprehensive Water/shed Management Plan will use WRAPS to establish:

- ❑ **How much** pollutant reduction or protection is needed to meet standard, achieve goal or improve trend
- ❑ **Where** the water pollution problems are coming from (approx at HUC 12 scale)
- ❑ Propose a **pace of progress**.
- ❑ **TMDL** with WLA and LA that goes to EPA.

- ❑ **How** to fix problems or threats (project and practice design)
- ❑ **Priority/Sequence** for fixing water problems or threats
- ❑ **Who** will have responsibility for fixes
- ❑ **Pursuit of \$** resources to accomplish fixes.



Agency Mission

Improve and protect Minnesota's water and soil resources by working in partnership with local organizations and *private land* owners.





BWSR business model

- Small agency of conservation professionals
- Local conservation delivery system
- Board of local officials and agency partners
- Focus on Minnesota's private lands (78 percent of state)
- Collaboration for on-the-ground results



Local Implementation

- Land use authority
- Established delivery system
- Local water plans and management





BWSR Plan Approval Authority

- County Comprehensive Local Water Plan
- Watershed District Plans and Capital Projects
- Metro Area Watershed Management Organizations
- Comprehensive Watershed Management Plan



County Watershed Management Roles

- Roads/Bridges/Culverts
- Drainage
- Floodplain Zoning
- Shoreland Zoning
- Wetland Protection
- Septic Systems
- Feedlots
- Water Quality/TMDL
- Stormwater

** in cooperation with SWCDs and Watershed Districts*



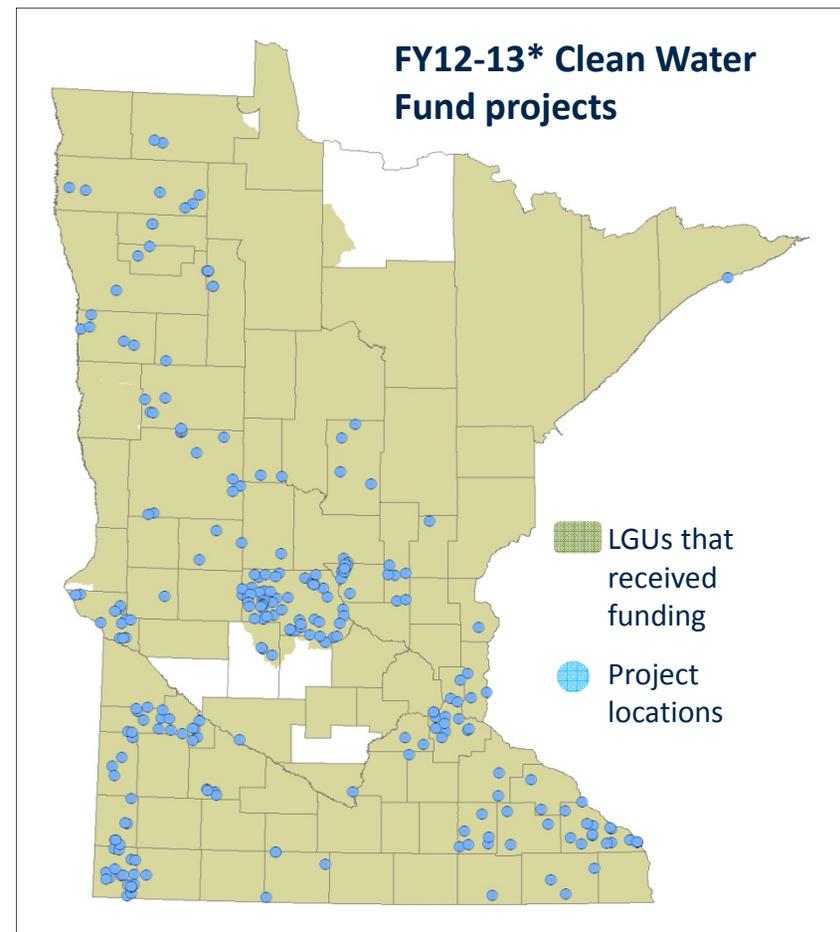
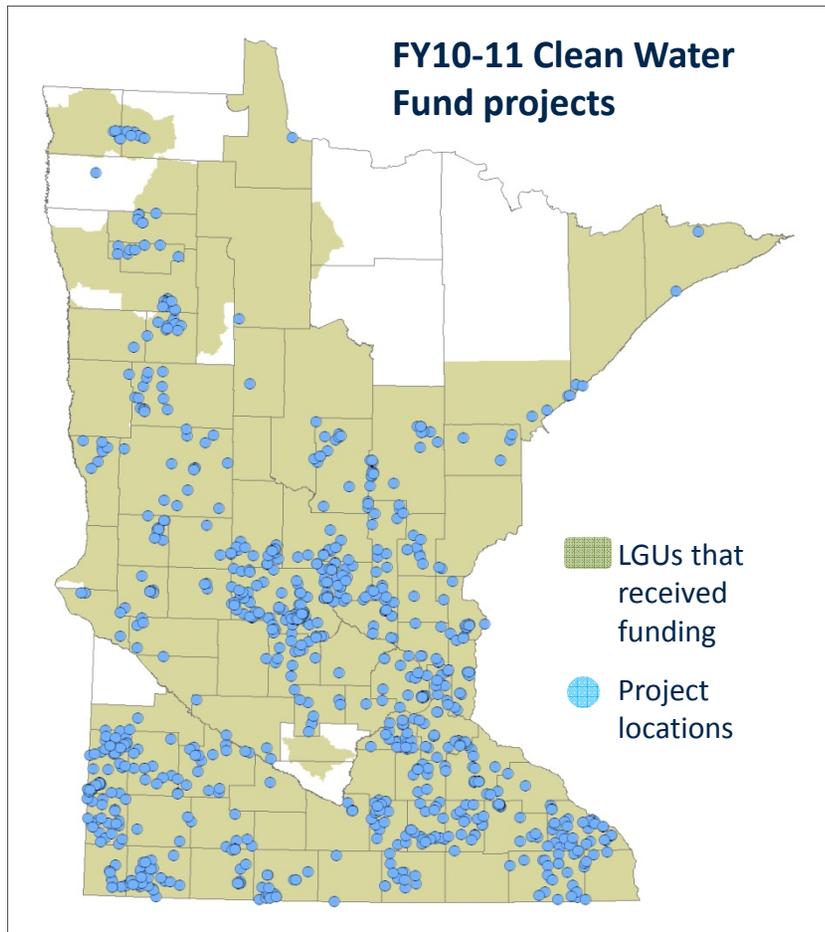
Watershed Improvement Tools

0. Data collection/analysis/Plans - to develop remedies
 1. Education: awareness to change practices
 2. Projects/Practices: to achieve conservation, clean water, infrastructure and citizen protection
 3. Regulation: to preserve or to restore when development occurs

(Data collection/analysis → plan revision/update)



Clean Water Fund projects



**FY13 projects not included*



Restoration Project Little Rock Lake

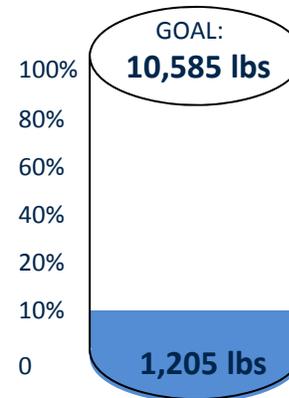


**Little Rock Lake overall
phosphorus reduction goal** **10,585 lbs**
FY2012 Benton SWCD project **(1,205 lbs/yr)**

9,380 lbs/yr

This project contributes approximately:

**11 percent of the TMDL phosphorus
reduction goal**





Protection Project Fish Lake



Active eroding shoreland gully depositing sediment and agricultural drainage water directly into Fish Lake.

Gully stabilized and bioreactor and water control structures installed nearby up in the watershed to stabilize flows and to reduce nitrogen inputs into the Fish Lake.

Best management practices installed:

Total nitrogen reduction **(4,200 lbs/yr)**
 Total phosphorus reduction **(62 lbs/yr)**
 Total sediment reduction **(9 tons/yr)**

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Species	Number of fish per net		Average Fish Weight (lbs)	Normal Range (lbs)
	Caught	Normal Range		
<i>Bigmouth Buffalo</i>	0.33	0.3 - 1.7	5.18	N/A
<i>Black Bullhead</i>	42.33	2.5 - 45.0	0.39	0.3 - 0.7
<i>Black Crappie</i>	2.22	1.8 - 21.2	0.26	0.2 - 0.3
<i>Bluegill</i>	1.67	2.5 - 16.5	0.28	0.1 - 0.3
<i>Bluegill</i>	0.56	7.5 - 62.5	0.42	0.1 - 0.3
<i>Channel Catfish</i>	3.56	N/A	0.90	N/A
<i>Channel Catfish</i>	3.33	N/A	0.93	N/A
<i>Common Carp</i>	0.11	0.4 - 2.0	1.54	2.6 - 6.0
<i>Common Carp</i>	11.00	0.3 - 3.0	1.79	1.9 - 5.2
<i>Green Sunfish</i>	0.11	0.2 - 1.3	0.24	0.1 - 0.2
<i>Northern Pike</i>	0.11	N/A	2.65	N/A
<i>Pumpkinseed</i>	1.00	0.7 - 4.2	0.23	0.1 - 0.2
<i>Smallmouth Bass</i>	1.33	0.2 - 2.3	1.58	0.9 - 1.5
<i>Walleye</i>	0.22	0.3 - 1.2	0.87	0.8 - 2.8
<i>Walleye</i>	20.00	1.2 - 6.3	2.23	1.2 - 2.7
<i>Yellow Perch</i>	0.11	0.3 - 1.7	0.07	0.1 - 0.2
<i>Yellow Perch</i>	1.67	2.0 - 27.9	0.13	0.1 - 0.2



Riparian Buffers

Buffers along public waterways provide multiple benefits:

- reduced soil erosion
- improved water quality
- enhanced wildlife habitat



Clean Water Fund Stories

FY 2010 Funding | **FY 2011 Funding** | Help

Competitive | Feedlot Water Quality | SSTS Imminent Health Threat Abatement | SSTS Program Enhancement & Inventory

Read more about our Clean Water Fund program

- **Bassett Creek Watershed Management Commission**
Wirth Lake Outlet Modifications
 Clean Water Funds Granted: \$75,000
 Funds Leveraged: \$175,000
 Project Cost: \$250,000
[View Fact Sheet](#)
- **Blue Earth County**
Blue Earth County Buffers
 Clean Water Funds Granted: \$136,842
 Funds Leveraged: \$53,000
 Project Cost: \$189,842
[View Fact Sheet](#)
- **Blue Earth County SWCD**
Blue Earth County Ravine and Stream Stabilization
 Clean Water Funds Granted: \$57,895
 Funds Leveraged: \$75,000
 Project Cost: \$132,895
[View Fact Sheet](#)
- **Bois de Sioux Watershed District**
Mustinka River Turbidity TMDL Implementation
 Clean Water Funds Granted: \$130,106
 Funds Leveraged: \$351,122
 Project Cost: \$481,228
[View Fact Sheet](#)
- **Buffalo-Red River Watershed District**
Upper South Branch BMP Strategic Implementation
 Clean Water Funds Granted: \$135,363
 Funds Leveraged: \$33,841
 Project Cost: \$169,204
[View Fact Sheet](#)
- **Buffalo-Red River Watershed District**
Wolverton Creek Restoration
 Clean Water Funds Granted: \$253,229
 Funds Leveraged: \$68,400
 Project Cost: \$341,629
[View Fact Sheet](#)
- **Lincoln Soil & Water Conservation District**
Verdi Wellhead Protection Area
 Clean Water Funds Granted: \$184,210
 Funds Leveraged: \$47,500
 Project Cost: \$231,710
[View Fact Sheet](#)
- **Middle St. Croix Watershed Management Organization**
Lily Lake Stormwater Retrofit
 Clean Water Funds Granted: \$43,400
 Funds Leveraged: \$10,850
 Project Cost: \$54,250
[View Fact Sheet](#)
- **Olmsted Soil & Water Conservation District**
Oronoco Well Sealing
 Clean Water Funds Granted: \$114,446
 Funds Leveraged: \$32,250
 Project Cost: \$146,696
[View Fact Sheet](#)
- **Pennington SWCD**
Halvorson Streambank Restoration
 Clean Water Funds Granted: \$34,375
 Funds Leveraged: \$8,593
 Project Cost: \$42,968
[View Fact Sheet](#)
- **Pennington SWCD**
Judicial Ditch #30 & #18 Buffer Initiative
 Clean Water Funds Granted: \$93,844
 Funds Leveraged: \$23,461
 Project Cost: \$117,305
[View Fact Sheet](#)
- **Pennington SWCD**
Ralph Engelstad Arena Rain garden
 Clean Water Funds Granted: \$88,681
 Funds Leveraged: \$22,170
 Project Cost: \$110,851
[View Fact Sheet](#)

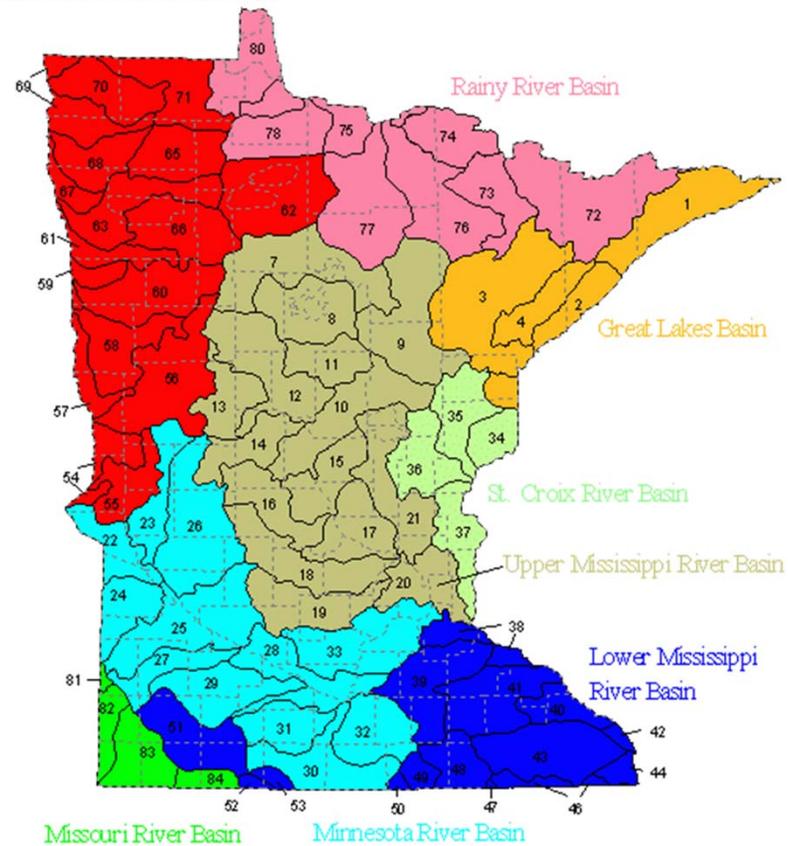




One Watershed – One Plan

MAJOR BASINS AND WATERSHEDS OF MINNESOTA

Red River of the North Basin



Missouri River Basin

Minnesota River Basin



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