

# Des Moines and Missouri River Basin

## Projects completed

### West Fork Des Moines River Watershed

West Fork Des Moines River watershed TMDL and Heron Lakes excess nutrients





## West Fork Des Moines River watershed TMDL for turbidity & Heron Lakes excess nutrients

This TMDL development project encompasses the West Fork Des Moines River (WFDMR) watershed in southwest Minnesota. Agricultural land dominates this watershed, which measures about 1,300 square miles. This project addresses 33 impaired waters listings, including fecal coliform bacteria, turbidity, pH, and excess nutrients in North and South Heron Lakes. The project began in late 2003 with the EPA approving the TMDL study in December 2008. Barr Engineering's role in the project was to serve as technical lead for the turbidity and excess nutrients portion of the TMDL. Key contributions included data analysis, modeling, TMDL report drafting, and participation in public meetings and presentations.

### Goals

- Complete the TMDL report, including determination of pollutant reductions needed for both point and nonpoint sources and general implementation strategies.
- Complete data analysis and modeling for turbidity and excess nutrients.
- Hold public meetings and presentations to convey the study findings and address public concerns.

### Results that count

- A TMDL was completed for 33 impaired waters listings.
- Data analysis and modeling were completed, producing an improved understanding of the primary factors responsible for the impaired waters throughout the watershed.
- Broad, watershed-wide communication was conducted about impaired waters and the need for restoration.

### Financial information

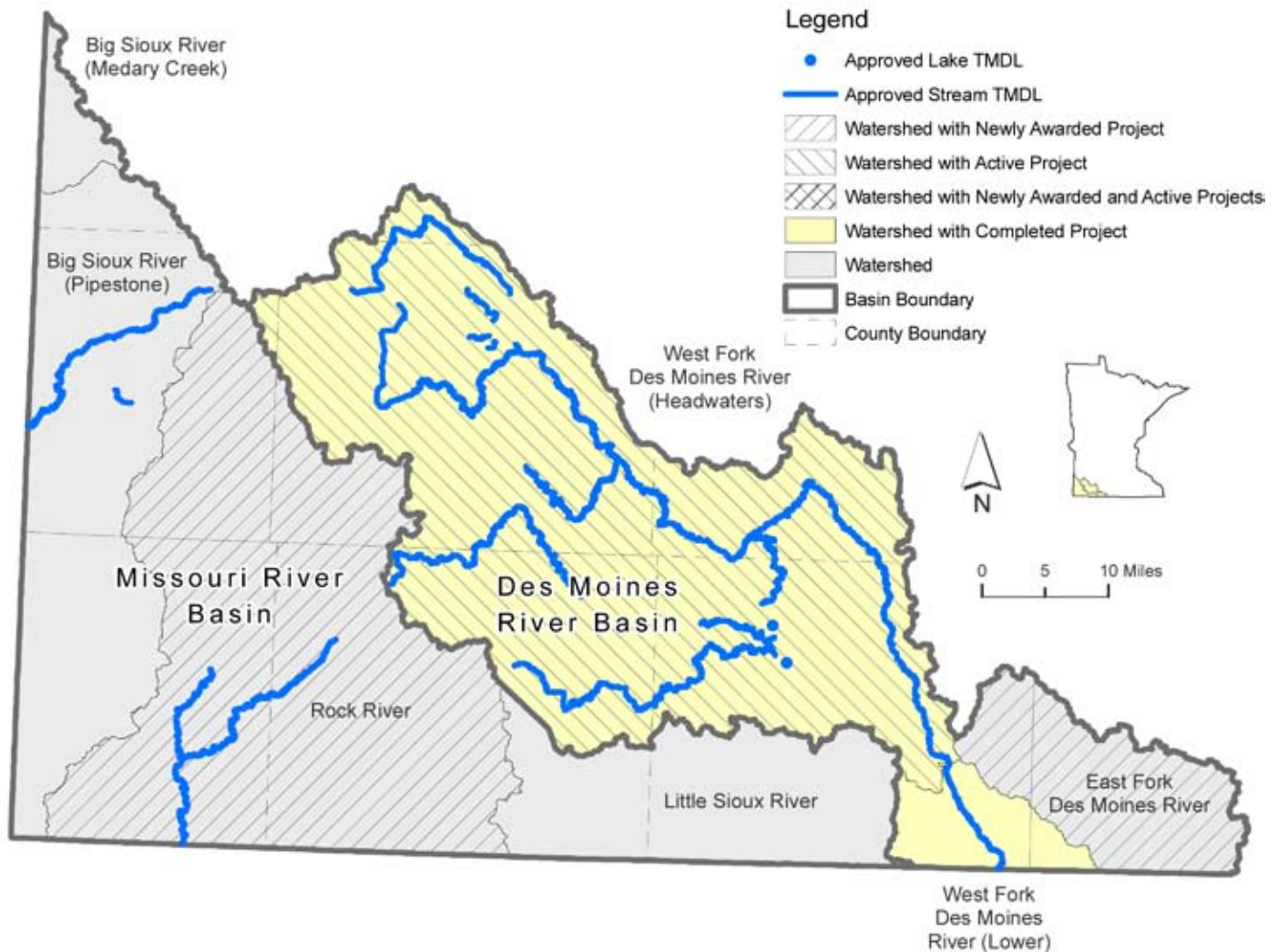
Funding type: Section 319 Grant  
Grant amount \$71,021

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## Des Moines and Missouri River Basins

### Projects active and awarded in 2009



### West Fork Des Moines River (Headwaters) Watershed

#### Beaver Creek watershed improvement project continuation — 2005 (active in 2009)

Sponsor: Murray County

Funding: CWP (Grant) \$62,122; CWP (Loan) \$178,800

Purpose: Develop manure management plans, design and implement grass waterways, restore wetlands, complete sediment control/water retention structures, prepare demonstration plots for fertilizer applications, protect priority lands, upgrade septic systems, establish stream bank protection and continue monitoring, outreach and education.

#### Elk Creek conservation tillage incentive program — 2006 (active in 2009)

Sponsor: Heron Lake Watershed District

Funding: CWP (Grant) \$28,200

Purpose: This project will enlist landowners within the project area to change their tillage practices. Options include no-till, strip-till, minimum-till, ridge-till and forage residue management, which will prevent further soil and nutrient loss and decrease nonpoint source pollution in the watershed.

**Heron Lake alternative tile intake cost-share program — 2006 (active in 2009)**

Sponsor: Heron Lake Watershed District

Funding: Section 319 (Grant) \$36,000

Purpose: Reduce sediment in runoff from farm fields by replacing open tile intakes with subsurface rock intakes.

**Heron Lake watershed district — BMP program for Alba Township — 2007 (active in 2009)**

Sponsor: Heron Lake Watershed District

Award: Section 319 (Grant) \$40,800

The goal of this project is to decrease water movement, reduce erosion, and improve water quality throughout approximately 23,000 acres in Alba Township through changing tillage methods from conventional tillage to conservation tillage. Conventional tillage is the main practice undertaken on the silty clay loam soils. Creating awareness among landowners about the relationship between soil conservation and water quality will be critical to the project's success.

**Heron Lake watershed district: Clean Water Partnership continuation — 2008 (active in 2009)**

Sponsor: Heron Lake Watershed District

Funding: CWP (Grant) \$428,752.50

CWP (Loan) \$500,000

Purpose: This implementation project will continue to increase public awareness of water quality issues. The watershed district will establish cost-share, incentive, and loan programs for best management practice (BMPs) installation. Conservation tillage equipment purchase will continue. This project will control water flow in the watershed through the installation of alternative surface tile intakes and water/sediment control basins, wetland restoration, storm water retention ponds, critical area plantings, and riparian easements. The monitoring effort will ensure timely completion of the watershed treatment strategies and their effectiveness in improving the stream and lake water quality. Installation of BMPs such as filter strips and wetland restorations will provide habitat for resident and migrant wildlife species.

**Heron Lake watershed district — conservation tillage demonstration plot — 2008 (active in 2009)**

Sponsor: Heron Lake Watershed District

Funding: Section 319 (Grant) \$20,547

This grant will allow continued research in conservation tillage used on the demonstration plot developed in 2005. The economic and environmental benefits of six treatments of reduced tillage, including strip till, will be evaluated. This project will demonstrate 1) several tillage practices that have the potential to reduce sediment delivery to surface waters and preserve agricultural soils through increased crop residue cover on row-cropped fields, and 2) economic and environmental benefits of reduced tillage systems.

**Heron Lake watershed district — Fulda lakes project — 2007 (active in 2009)**

Sponsor: Heron Lake Watershed District

Award: Section 319 (Grant) \$55,800

The Heron Lake watershed is rural and agricultural. In a watershed such as this, agricultural best management practices (BMPs) are crucial. Landowners are hesitant to try new methods. The goal of this project is to improve the water quality in Fulda lakes through the use of cost share and incentive programs, and education of residents and landowners.

**East Fork Des Moines River Watershed****Des Moines River, East Fork monitoring project (awarded in 2009)**

Sponsor: Martin County Soil and Water Conservation District

Funding: CWP (Grant) \$40,000

Purpose: The intent of this phase 1 project is to provide an inventory of resource needs and fill in the gaps in water quality data within the East Fork Des Moines River Watershed, to expand on the work already underway in the Tuttle Lake water quality assessment project and to complete a diagnostic study and implementation plan for this watershed.