Badger Creek Watershed

National Water Quality Initiative

Badger Creek Watershed is one of three Iowa watersheds selected to participate in USDA's National Water Quality Initiative (NWQI). Through NWQI, USDA's Natural Resources Conservation Service (NRCS) works with farmers in priority watersheds to improve water quality and aquatic habitats in impaired lakes and streams. NRCS helps producers implement conservation and management practices – through a systems approach – to control and trap nutrient and manure runoff. Qualified producers receive assistance for installing conservation practices such as cover crops, filter strips and terraces.

What is a Watershed?

A watershed is all of the land that drains water into a particular point, usually a stream, lake or river. Watersheds are found in all shapes and sizes, covering entire states or regions.

During rain events, water either travels over the surface or soaks into the ground. Water traveling over the surface may pick up contaminants like sediment, chemicals, nutrients and waste. Where they end up depends on your location in the watershed. If the land is unprotected then contaminants are deposited into a river, stream or body of water.

Courtesy Iowa DNR

Badger Creek Watershed History

Badger Creek Watershed was officially organized under Iowa Code in 1961. Seventy five percent of the watershed landowners had to concur with the formation of the watershed before sponsors from Dallas, Warren and Madison Counties could apply for federal grants from the Soil Conservation Service (SCS) to construct flood control practices. These sponsors are County Supervisors and Soil and Water District Commissioners from each of the three counties.

From 1963 to 1980, landowners constructed grade stabilization structures (ponds and toe-walls), grassed waterways and road culvert boxes. They were built at strategic sites throughout the Badger Creek Watershed with landowners signing perpetual easements for Operation and Maintenance of the practices by the Watershed Sponsors. The Sponsors have that authority to levee a watershed property tax to repair and maintain watershed structures.

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service
www.ia.nrcs.usda.gov

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NWQI Information

NRCS conservation professionals will provide technical assistance and planning tools to determine which conservation actions will provide the best results to improve water quality on your land. To help install these conservation practices, financial assistance to share in the cost of these conservation practices is available though the Environmental Quality Incentives Program (EQIP).

Partnerships

NRCS identified priority watersheds through the help of local partnerships and state water quality agencies. Partners sometimes offer financial assistance in addition to NRCS programs. NRCS will continue to coordinate with local and state agencies, conservation districts, non-governmental organizations and others to implement this initiative. This strategic approach will leverage funds and provide streamlined assistance to help individual agricultural producers take needed actions to reduce the flow of sediment, nutrients and other runoff into impaired waterways.

Through NWQI, higher than normal EQIP financial assisstance payment rates may be available for the following conservation practices:

- Cover Crops
- Grassed Waterways
- Grade Stabilization Structures
- Water and Sediment Control Basins
- Nutrient Management
- Livestock Waste Storage
- Tile Outlet Terrace Systems
- Tile Line Bioreactors
- Prescribed Grazing
- Pasture/Grassland Management
- Pasture/Hayland (Biomass) Plantings
- Livestock Watering Systems
- Contour Buffer Grass Strips
- Vegetative Buffers
- Wetland Construction
- Tree/shrub Plantings
- Windbreaks

Producer Benefits

Water quality conservation practices benefit agricultural producers by lowering input costs and enhancing the productivity of working lands. Well managed farms limit pollution from runoff, produce food and fiber, sustain rural economies, and provide food security to the Nation.

Public Benefits

NRCS is proud to be involved in a nationwide effort with landowners and communities to improve and protect our water resources. The landowners and farmers participating in the initiative will receive conservation payments to work on the land in a sustainable way which provides cleaner water. In addition to the financial assistance, the land will remain productive into the future. Communities benefit by having clean waterways, safer drinking water and healthy habitat for fish and wildlife.

How to Apply

Visit your local NRCS office to apply. You will need to establish eligibility and farm records for your land. NRCS will help you complete an application while explaining which conservation practices are available in your watershed.

Dallas County NRCS Office
1918 Greene Street, Suite 2
Adel, IA 50003
Phone: 515-993-3413

Madison County NRCS Office
815 East Highway 92
Winterset, IA 50273
Phone: 515-462-2961

Warren County NRCS Office
909 East 2nd Avenue, Suite B
Indianola, IA 50125
Phone: 515-961-5264

Badger Creek Lake

Badger Creek Lake was constructed in 1980, and covers approximately 269 acres, with 7.75 miles of shoreline. It has an average depth of 10 ft. and a maximum depth of 25 ft. The 975 acre Badger Creek Lake State Park lies in the upper reaches of Badger Creek Watershed. The Lake has its own 11,700 acres of watershed in rural Badger Creek.

Iowa's Impaired Waterbody List

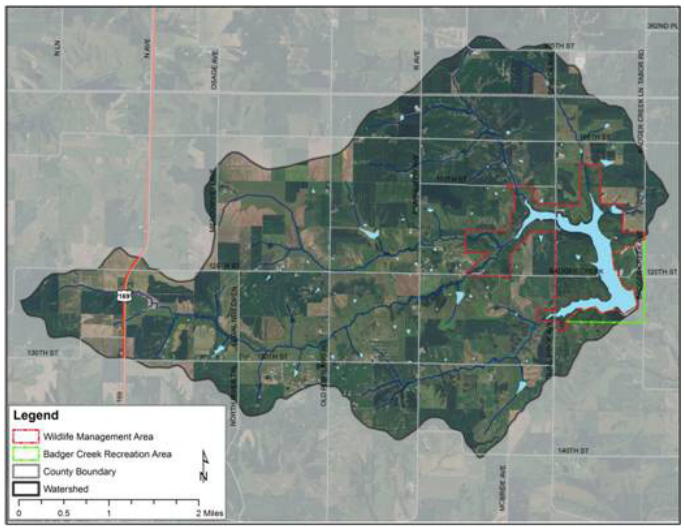
Badger Creek Lake was added to the Section 303(d) list in 1998 by the Iowa Department of Natural Resources (IDNR) as partially supporting its aquatic life uses due to excessive siltation and organic enrichment impairments (nutrients).

Siltation and nutrient loading altered physical and chemical characteristics of the lake, impacting several beneficial uses such as:

1. Interference with reproduction and growth of fish and other aquatic life;
2. Creating a light-limiting environment that interferes with establishment of aquatic vegetation; and
3. Excessive suspension of siltation and nutrient rich water create poor water quality that inhibits proper functioning of aquatic life.

In 2002, the Iowa DNR released a report known as the Total Maximum Daily Load (TMDL) for siltation and nutrients.

» 14,658 tons of sediment delivered to the lake each year.



» 19,055 pounds of phosphorous delivered to the lake each year.

Watershed assessments conducted in 2011 identified and quantified several sources of sediment delivered to Badger Creek Lake. These include classic gully erosion, ephemeral erosion from upland areas, sheet and rill erosion, streambank erosion, and shoreline erosion. From these assessments, an estimated sediment delivery budget was calculated for the Badger Creek Lake Watershed.

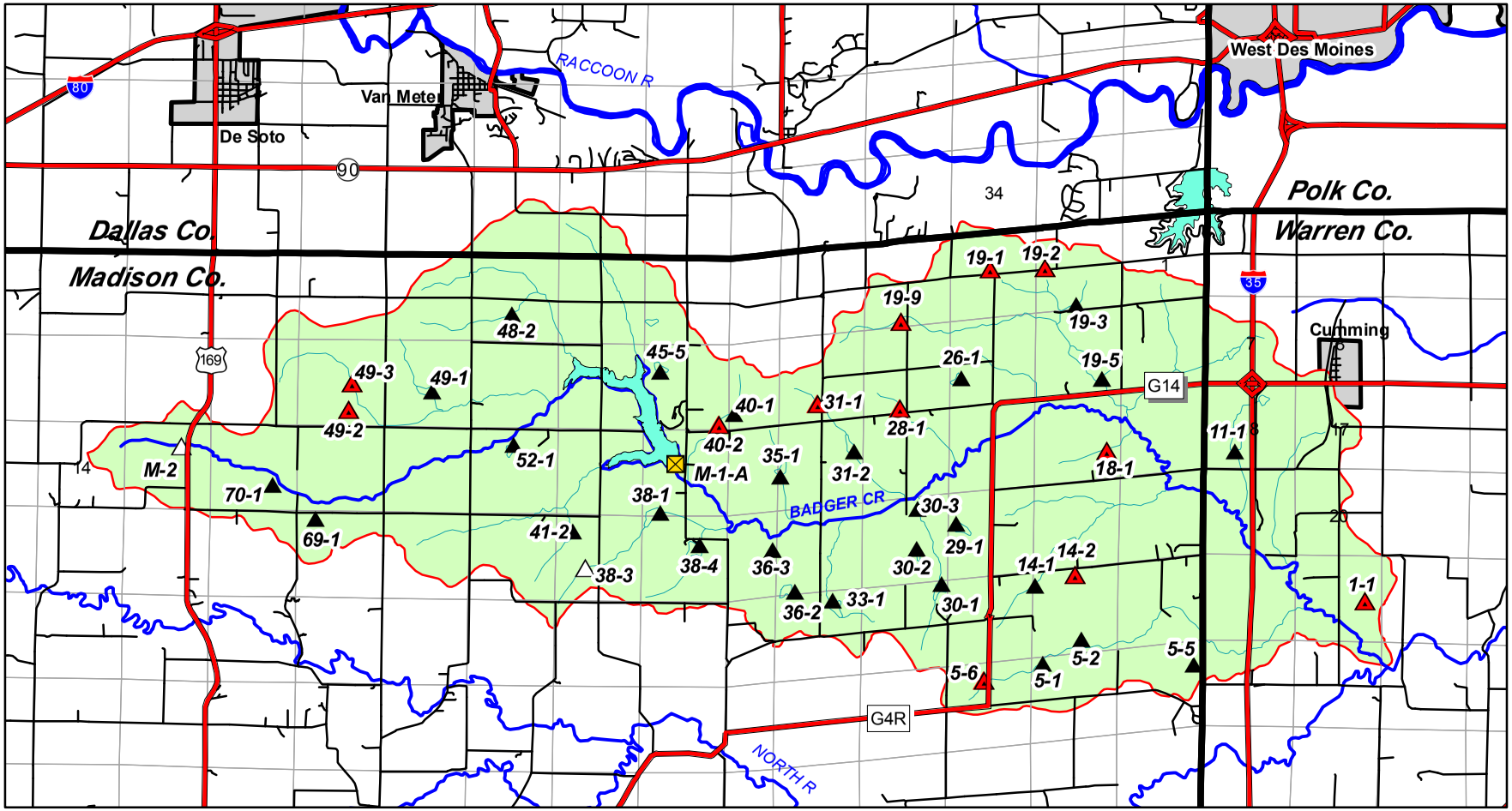
Section 319 Funding Available

The IDNR awarded the Badger Creek Lake Watershed a 3-year grant as part of Section 319 of the 1987 Clean Water Act. Section 319 authorizes the Environmental Protection Agency (EPA) to provide grants to states for implementation of nonpoint source (NPS) pollution control programs and projects to help protect or improve water quality. The IDNR is the state agency with primary responsibility for carrying out Iowa's Section 319 program.

The grant funds are used by IDNR to support various NPS pollution control projects ("water quality projects") within the state. Contact the Madison County Soil and Water Conservation District (SWCD) for more information at (515) 462-2961 ext. 3.

Environmental Protection Agency (EPA) Section 319 Financial Assistance Options

» Cover Crops
» Grassed Waterways
» Grade Stabilization Structures
» Water and Sediment Control Basins
» Nutrient Management
» Tile Line Bioreactors
» Tile Outlet Terrace Systems
» Prescribed Grazing
» Residue & Tillage Management
» Pasture/Grassland Management
» Riparian Buffers
» Wetland Restoration
» Streambank Protection
» Shoreline Protection



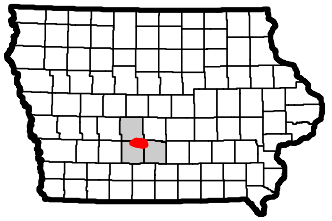
Legend

Badger Creek Project Structures

- Drop Inlet Detention Structure
- Floodwater Retarding Structure
- Waterway Improv w/ Drop Spllwy
- Waterway Improvement

- County Boundaries
- PLSS Section Lines
- Incorporated Cities - Areas
- Watershed Boundary
- Water Bodies

- Highways
- Roads
- Major Rivers
- Streams



N W E S

0 0.5 1 2 3 Miles

Badger Creek Watershed Project Map

USDA-NRCS GIS Staff
Des Moines, IA February 2013