



WATERLOO CREEK WATERSHED STUDY

APRIL 2012

Or Current Resident

Over the next several months, the Allamakee County SWCD will be meeting with landowners in the watershed to discuss their conservation goals through best management practices. If you are interested in meeting with us to discuss future conservation practices, you may reach us at the contact information listed below. Please remember that funding is not available at this time. Funding availability is dependent on receiving a Watershed Implementation Grant after this study has been completed.

If you prefer to receive future mailings at a different address, please let us know. Thank you!

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This study has been funded in part by the Iowa Department of Natural Resources through a grant from the U.S. Environmental Protection Agency under the Federal Nonpoint Source Management Program (Section 319 of the Clean Water Act).

**SPECIAL POINTS
OF INTEREST**

- > **Waterloo Creek is a 'high-quality water', yet impaired for primary contact recreation due to bacteria**
- > **Primary objective of study is watershed protection**
- > **2012 is 3rd and final year for watershed study**
- > **Biweekly water sampling began in April at 7 sites**

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allamakeeswcd.org

WHY IS A STUDY BEING DONE?

Waterloo Creek has been designated by the Iowa DNR as having 'high quality water'. This means it has much better quality than the levels listed in the Iowa DNR's Water Quality Standards. It also has excellent recreational and ecological importance.

Such waters need special attention to maintain their unique physical, chemical or biological traits. Waterloo Creek is also on the Iowa DNR's 2010 Impaired Waters List for primary contact recreation due

to bacteria, and is eligible for a DNR grant. An impairment means action is needed before the problem becomes severe. Biological impairments (bacteria) are difficult to trace to a specific cause. The objective of this study is protection for the watershed.

STUDY SUMMARY: 2010—2012

The study began in April 2010 with assessment activities and public outreach. The following activities were completed in 2010:

- Landowner survey
- Land cover assessment
- RUSLE (Revised Universal Soil Loss Equation)
- Livestock & manure storage Analysis
- Streambank stabilization
- Sinkhole assessment
- Rapid Assessment of Stream Conditions Along Length (RASCAL)
- Biweekly water sampling
- Macro invertebrate & fish Sampling

Based on the results of the assessment activities, a Watershed Management Plan (WMP) was completed. The plan identified impairments and degradation points in the watershed. It also formulated goals and objectives to prevent water quality impairments.

Another year of biweekly water sampling was completed in 2011.

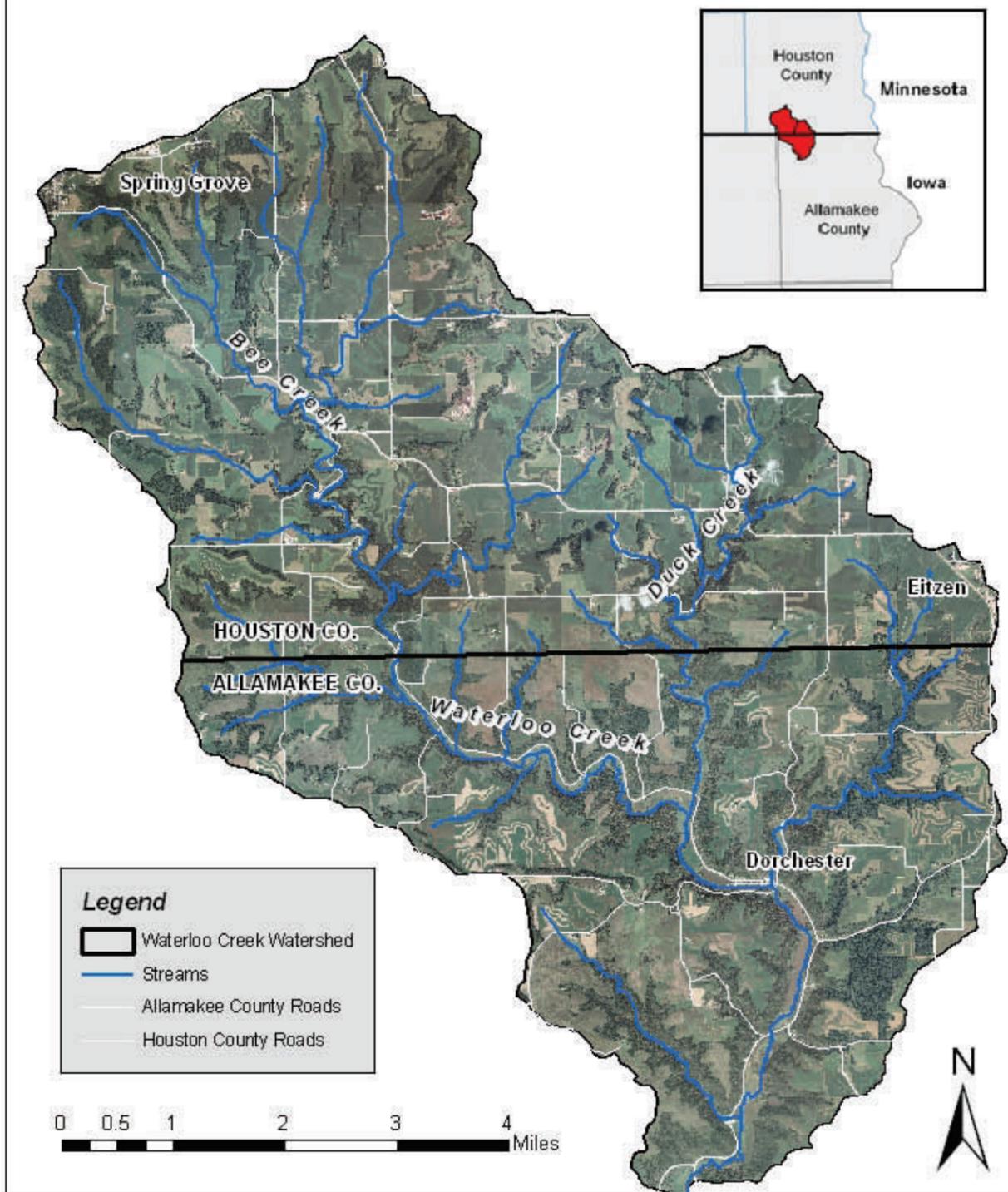
In 2012, a third and final year of bi-weekly water sampling will be done in order to get a more complete set of data. An updated WMP will be completed, and a grant application will be filed to implement the plan. If a

grant is approved, funding will be available for conservation practices in the watershed.



Waterloo Creek

Waterloo Creek Watershed



WATERSHED PARTNERS

The Allamakee SWCD would like to recognize some of the many agencies, groups, and landowners that contributed towards this study. Their participation is greatly appreciated and has helped to continue the progress of this study.

- Iowa DNR
- Minnesota DNR
- USDA–NRCS (IA & MN)
- Bee/Duck Creek Watershed Committee
- Root River SWCD (MN)
- University of Iowa State Hygienic Laboratory
- Northeast Iowa RC & D
- Trout Unlimited (Spring Creeks Chapter)
- Dr. Mike Osterholm



GRANT INFORMATION

Watershed efforts that target improvement of impaired waters may be eligible for funding. Two types of Iowa DNR grants are available for such efforts: a Watershed Planning Grant and a Watershed Implementation Grant. Specific application forms and timelines must be followed in order to be approved for funding.

A Watershed Planning Grant provides funding towards the development of a Watershed Management Plan (WMP).

A Watershed Management Plan (WMP) identifies water quality problems in the watershed, develops solutions, and creates a strategy for putting those solutions in action. WMPs take a long-term, comprehensive approach which helps to create a strategic, targeted plan for making changes in the watershed.

This study received funding for Watershed Planning Grants in 2010 and 2012. A WMP was created in 2010 and will be updated during

this year's study.

A completed WMP is a requirement for applying for a Watershed Implementation Grant, which provides funds, assistance, and guidance for putting the WMP in action.

Iowa DNR watershed grants are made possible by the US EPA, through funding provided in Section 319 of the federal Clean Water Act. The DNR uses the EPA grant funds to fund grants for watershed improvement efforts throughout the state.

2010-2011 DATA SUMMARY

The following field parameters were analyzed in 2010-2011:

- Turbidity
- Chloride
- Dissolved Oxygen (2011)
- Water Temperature
- Stream Flow

In addition, the following parameters were analyzed by the University of Iowa State Hygienic Laboratory:

- Nitrate-Nitrite-N (2011)
- Total Phosphate (2011)
- E. coli Bacteria

The turbidity and E. coli data has been summarized in the preceding pages. In 2010, four rainfall event samples (1" or more in a 24-hour period) were also collected. No rainfall event samples were collected in 2011. Funding is available for three rainfall event samples this year.

The 2010 sampling season was from April–December. The data show that E. coli and turbidity readings generally were higher in the fall months and also after rainfall events. The 2011 sampling season was from June–December. The data generally show higher readings in the summer months.

After this year's sampling season, all three years of data will be compiled in the Watershed Management Plan.



May 13, 2010 rainfall event bacteria samples—From left to right, the bottles represent the upstream to downstream sample locations in the watershed.

Mission Statement

To create and implement a comprehensive watershed plan that will help prevent further degradation of the water quality of Waterloo Creek and its tributaries, and support and maintain long-term conservation practices in the watershed.



Bee Creek

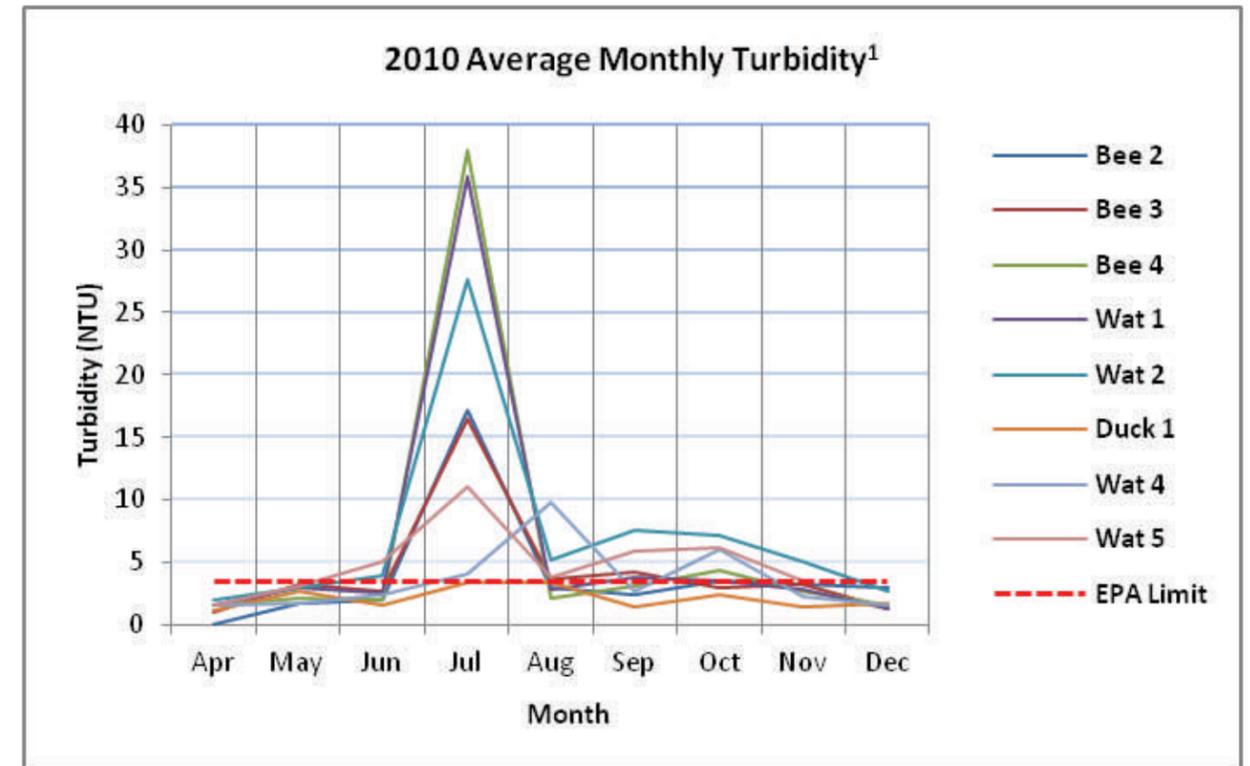
Fish species in Waterloo Creek include the American Brook Lamprey, Banded Darter, Brook Stickleback, Brook Trout, Brown Trout, Fantail Darter, Rainbow Trout, Slimy Sculpin, and White Sucker.



Duck Creek



Waterloo Creek



¹Excludes 15-Jun sampling at Wat 4 & 5 due to poor weather conditions. Excludes 8-Dec sampling at Wat 5 due to in-stream construction activity.

