

# Boone River Watershed Management Plan

## Executive Summary



A watershed management plan was prepared for the Boone River Watershed located in north central Iowa (shown in blue on map at right). This plan was sponsored by Boone River Watershed Management Authority (WMA), a voluntary coalition of local counties, cities, and soil and water conservation districts (SWCDs) within the watershed.

Approved in 2022, the plan identifies and prioritizes projects and activities to address water quality and flooding concerns across the watershed. Implementation of the plan is based on voluntary cooperation between WMA members, landowners, and other stakeholders. It will be updated every 5 years to maintain eligibility for funding assistance with implementation efforts.

Implementation of the plan relies on the voluntary adoption and use of Best Management Practices (BMPs), a broad set of conservation practices such as terraces, reduced tillage, grassed waterways, and others that help conserve soil and water resources. The plan helps to target BMPs to the most needed areas while also ensuring they can be adopted to fit the unique needs, lands, and budget of each farmer, landowner, and city.

The plan contains a long-term implementation strategy (20-years), short-term action plan (5-years), and an education plan.

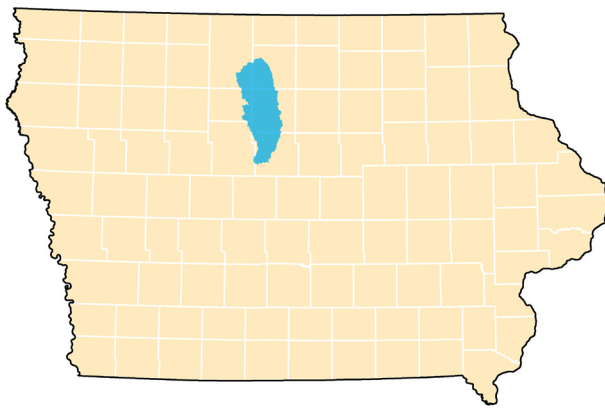
**VISION FOR THE WMA**

The Boone River WMA will be a local voice in existing and new watershed efforts through community, county, state, federal, and private partnerships to improve water quality and increase flood resiliency across the watershed. This will be achieved through facilitation of education, outreach, and implementation of practices which are voluntary, compatible with agriculture, economically viable, environmentally sound, and that improve soil health, as well as enhance recreation and wildlife habitat.

**Chapter 1** of the plan provides a brief overview of the plan and history of the watershed.

**View the full plan at [booneriver.org/boone-river-wma/](https://booneriver.org/boone-river-wma/)**

Funding provided by Iowa DNR Section 319 Watershed Improvement Program | Plan developed by JEO Consulting Group



### The Boone River Watershed faces multiple issues.

**High nitrogen and phosphorus levels**

caused by soil erosion and excess fertilizer runoff and leaching

**High levels of bacteria**

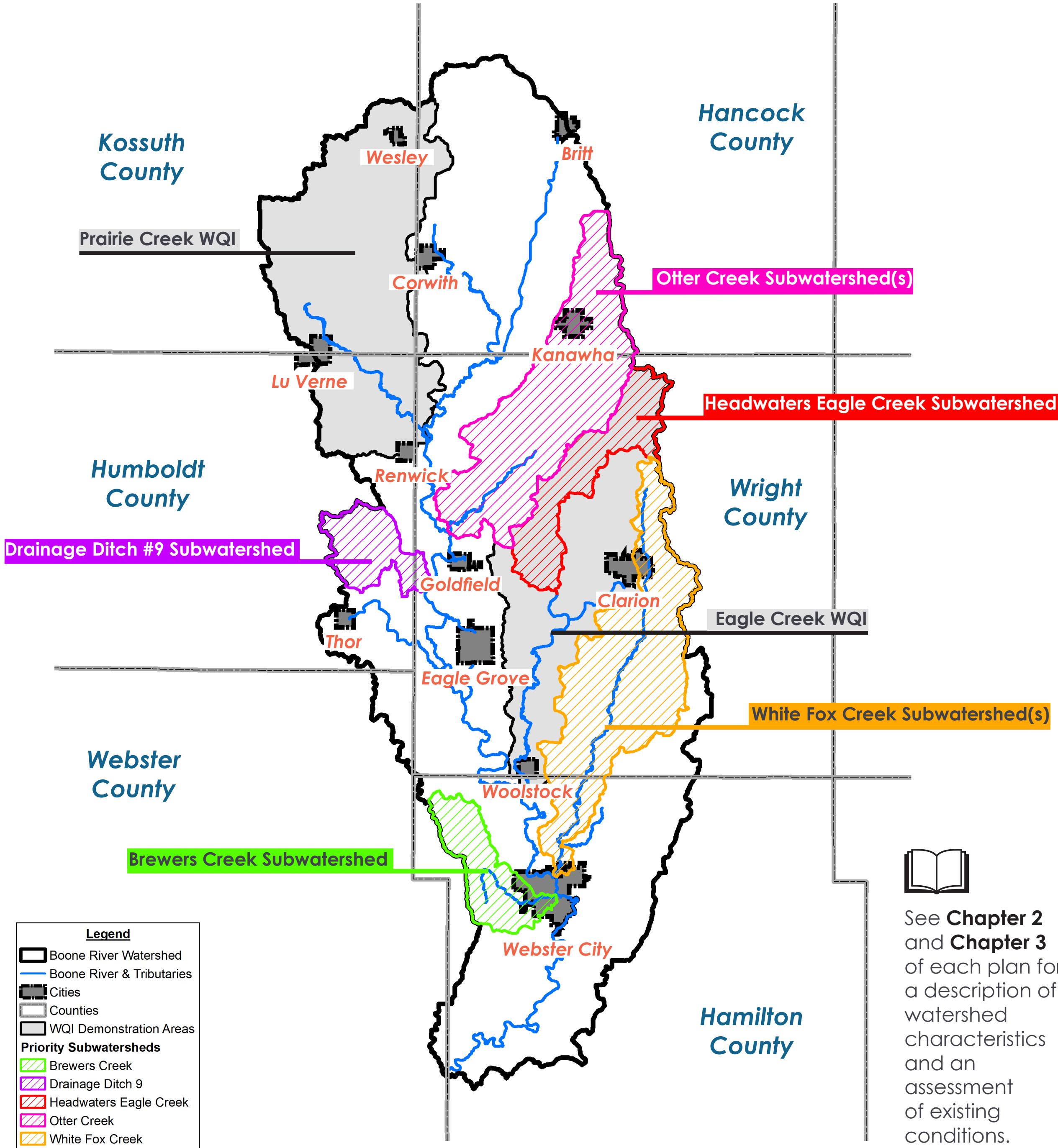
caused by waste from livestock, humans, and wildlife

**Stream bank erosion**

caused by stream channelization and higher runoff rates

**Flooding**

caused by changes to watershed hydrology and runoff patterns



See **Chapter 2** and **Chapter 3** of each plan for a description of watershed characteristics and an assessment of existing conditions.

## More than a plan. A path forward.

The watershed plan includes goals and objectives that are **SMART: Specific, Measurable, Attainable, Relevant, and Time-bound**.

**GOALS**

- Ensure water quality is adequate for all uses, both within the watershed and downstream, by meeting state water quality standards and goals.
- Reduce flood risks and improve wildlife habitat within the watershed.
- Build an aware and engaged community that works towards improving watershed management.

Goals and objectives are identified in **Chapter 4**. While **Chapter 5** outlines a long-term implementation strategy, **Chapter 6** provides a plan to involve and education stakeholders throughout the watershed, and **Chapter 7** is a short-term action plan to provide initial focus.

The action plan identifies priority activities that each city, county, and SWCD, along with the WMA should take over the next 5 years.

**ACTION PLAN FRAMEWORK**

**EDUCATION**

Outreach, education, or technical assistance aimed at various target audiences that helps to increase awareness of the WMA, the watershed plan, or assists in the increases adoption of BMPs.

**PROJECTS & STUDIES**

A standalone or specific effort meant to produce a product, tool, report, or achieve a tangible result.

**PARTNERSHIPS & POLICY**

Collaboration between WMA members or other partners and the resulting actions, guidelines, or protocols set forth to achieve a specific outcome.

**MONITORING & PLAN EVALUATION**

Efforts to collect, manage, and utilize data over time to track progress of meeting watershed plan goals.

Monitoring and assessing progress towards improved water quality and increased flood resiliency will be completed through long-term and short-term metrics.

**Measurable Indicators of Desirable Change**

<p><b>INPUTS</b></p> <ul style="list-style-type: none"><li>People</li><li>Funding</li><li>Public resources</li><li>Private resources</li></ul>	<p><b>HUMAN</b></p> <ul style="list-style-type: none"><li>Partner organizations</li><li>Partner agribusinesses</li><li>Farmer knowledge and attitude</li><li>Communities and management knowledge attitude</li></ul>	<p><b>LAND</b></p> <ul style="list-style-type: none"><li>Land use changes</li><li>BMP adoption</li><li>Flood resiliency indicators</li></ul>	<p><b>WATER</b></p> <ul style="list-style-type: none"><li>Edge of field monitoring</li><li>Stream monitoring</li><li>Modeled pollutant load reductions</li><li>Flood loss avoidance study</li></ul>
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Adopted from the Iowa Nutrient Reduction Strategy's (IDALS, 2017) logic model for measurable indicators of desirable change

## EVERYONE HAS A ROLE TO PLAY

to improve water quality and mitigate flooding

### WATERSHED MANAGEMENT AUTHORITY

- Act as the lead facilitator and coordinator for projects throughout the watershed
- Help identify and connect funding opportunities with local project sponsors
- Serve as a regional source for information
- Recruit additional members and build partnerships

### CITY & COUNTY GOVERNMENTS

- Serve as local sponsors for implementing projects
- Leverage local funds against other grant programs
- Adopt policies that reduce runoff or protect floodplains
- Identify and implement urban storm water BMPs, like:
  - » Stormwater management
  - » Infiltration basins
  - » Dams and levees
  - » Channel improvements
  - » Bridge improvements
  - » Non-structural strategies (zoning, acquisitions, floodplain remapping, etc.)
  - » Join the Community Rating System program

### LANDOWNERS & RESIDENTS

- Voluntarily adopt BMPs, using cost-share opportunities, such as:
- Cover crops
  - Drainage management
  - Oxbow restoration
  - Saturated buffers
  - Buffer strips
  - Perennial cover
  - Farm ponds
  - Floodplain restoration
  - Bioreactors
  - Wetlands
  - Stream stabilization
  - Prairie STRIPS

### SOIL & WATER CONSERVATION DISTRICTS

- Provide technical and financial support for BMPs

## WE CAN DO MORE TOGETHER

### LEVERAGING THE POWER OF PARTNERSHIPS

Local project sponsors use the action plan to direct resources toward meeting goals and objectives. When a local champion can assemble partnerships to contribute towards a project, even more can be achieved.

**Chapter 8** identifies funding and technical resources that can be used to help with plan implementation.

