## PROJECT OVERVIEW



#### Plan Purpose

- » The Shell Rock River Watershed Management Plan is sponsored by the Shell Rock River Watershed Management Coalition (WMC), which is a voluntary coalition of local counties, cities, and soil and water conservation districts within the watershed.
- » The plan was developed through public input, and identifies and prioritizes projects and activities to address flooding, water quality, and recreation issues across the watershed.
- » Implementation of the plan is based on voluntary cooperation between WMC members, landowners, and other stakeholders. Information, education, and outreach efforts will be a critical component of all implementation efforts.



# The Watershed Planning Area

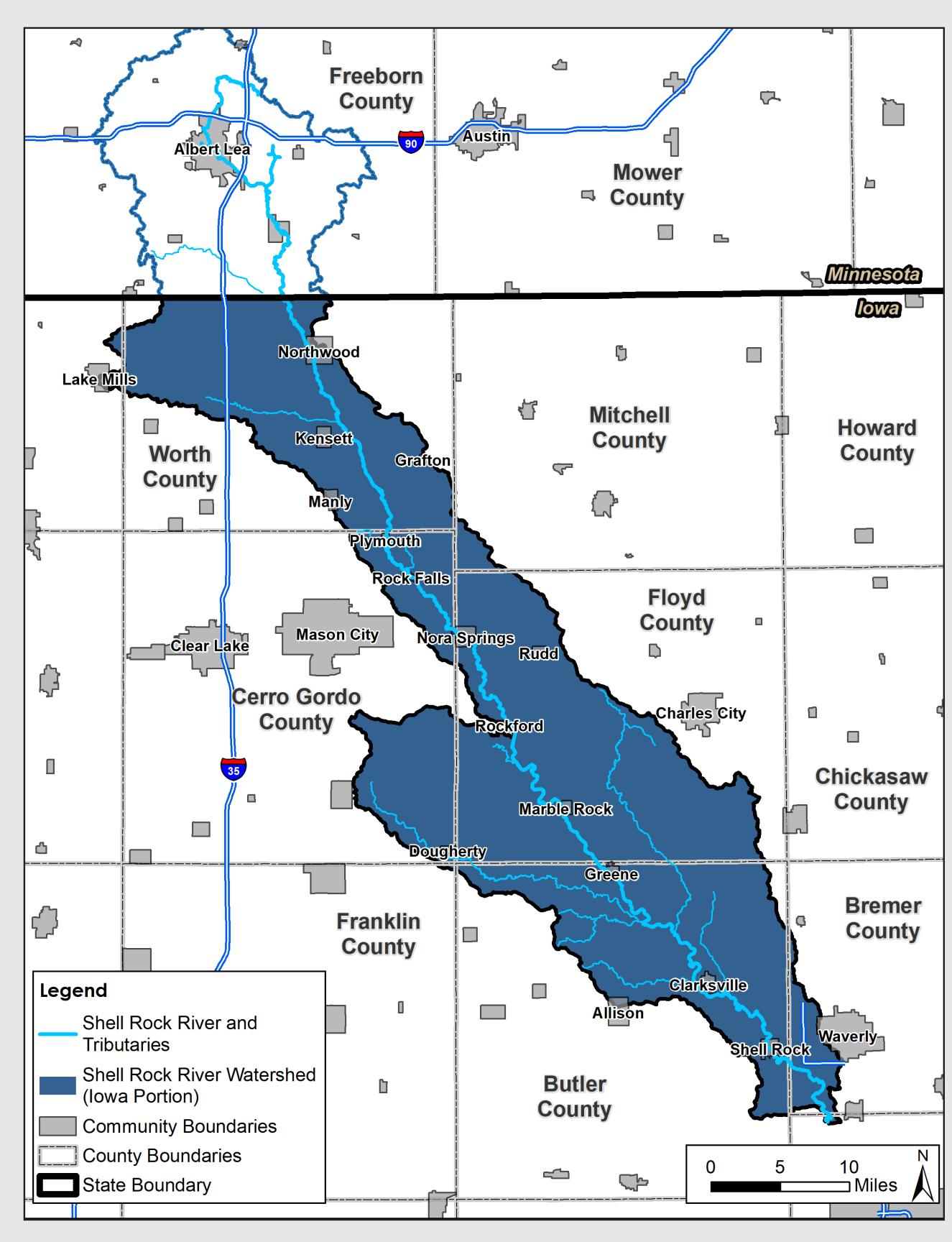
#### **Coalition Members**

**Cities:** Nora Springs, Northwood, Plymouth, and Shell Rock

**Counties:** Bremer, Butler, Cerro Gordo, Floyd, Mitchell, and Worth

#### Soil and Water Conservation Districts (SWCD):

Bremer, Butler, Cerro Gordo, Floyd, Mitchell, and Worth



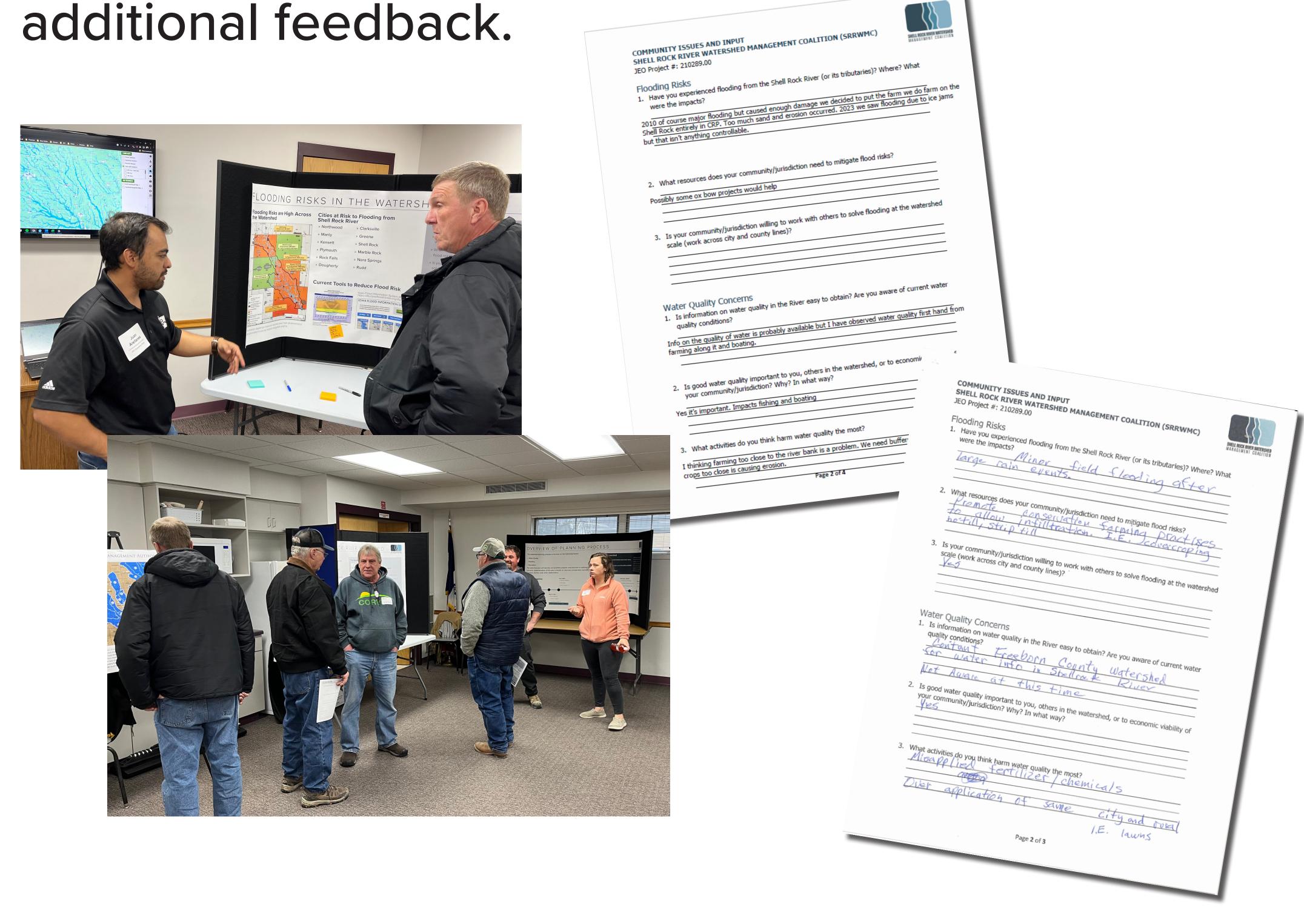


## PUBLIC INPUT IN THE PLANNING PROCESS



# The draft watershed plan has been developed based on public input.

The project team has used the quarterly WMC meetings and a project website to facilitate public input throughout the planning process. A public open house meeting was held in March to get input on the scope of issues and problems across the watershed. Additionally, worksheets were provided to each city, county, and SWCD to garner



#### Mission Statement

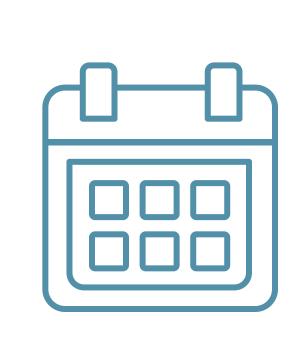
To assess and reduce flooding risks; repair, improve, and enhance the quality, appearance and recreational use of the Shell Rock River Watershed by encouraging municipal, public and private support and participation through education, conservation practices, and volunteering.

#### Goals

- **1.** Flood resiliency will be improved at the individual, community, and watershed level to prevent loss of life, reduce property losses, and avoid damage to infrastructure.
- 2. Improve water quality to support all uses and ensure it meets state standards and goals.
- **3.** Utilize recreation on the river to enhance local communities and connect the public with the watershed.
- **4.** Create an informed, educated, and passionate public that works towards improving watershed management.

The WMC is asking for additional review and feedback on the draft plan through the following ways:

- 1. Speak to a project team member today
- 2. Fill out a comment form today
- 3. Review the plan at the project website
- **4.** Submit a comment via email or through the project website



Feedback is requested by Friday,

December 15, 2023. This will allow
the plan to be finalized prior to
adoption in January.



Learn more about the plan by scanning the QR code or visiting jeo.com/shell-rock-river-wmc



## WATER QUALITY RECOMMENDATIONS



Key Recommendation: Expand water quality monitoring sites across the watershed to better understand conditions, identify pollutant sources, and monitor progress.

## Concern & Water Quality Targets

# Nutrient Pollution (Nitrogen & Phosphorus)

Water quality targets for nutrients are based on the Iowa Nutrient Reduction Strategy:

- 41% reduction in nitrate
- 29% reduction in phosphorous

#### **Effects**

- Excess nutrients can lead to algae blooms in waterways.
- When the algae begins decomposing it reduces oxygen in the water which harms aquatic life.
- Sometimes these blooms are dominated by bluegreen algae, which produces toxins that can be harmful to humans, livestock, and pets.
- High levels of nitrates in drinking water can cause blue-baby syndrome in infants, and are regulated by EPA drinking water standards.

## Priority Best Management What are Your Practices (BMPs) Preferred BMPs?

- Nutrient management
- No-till or strip till

- Cover crops

- Wetlands
- Bioreactors
- Saturated buffersUrban stormwater BMPs

## Erosion & Sediment Pollution

The water quality target for sediment is based on reducing erosion by 10%.

- Sediment transports other pollutants with it
- Increases water turbidity (reduces clarity)
- Buries stream and lake bottom aquatic habitat
- Loss of farmland or threats to infrastructure
- Loss of usable lake areas recreation impacts

- No-till or strip till
- Stream buffers
- Stream stabilization
- Terraces
- Ponds
- WASCOB
- Prairie Strips

#### E.Coli Bacteria Pollution

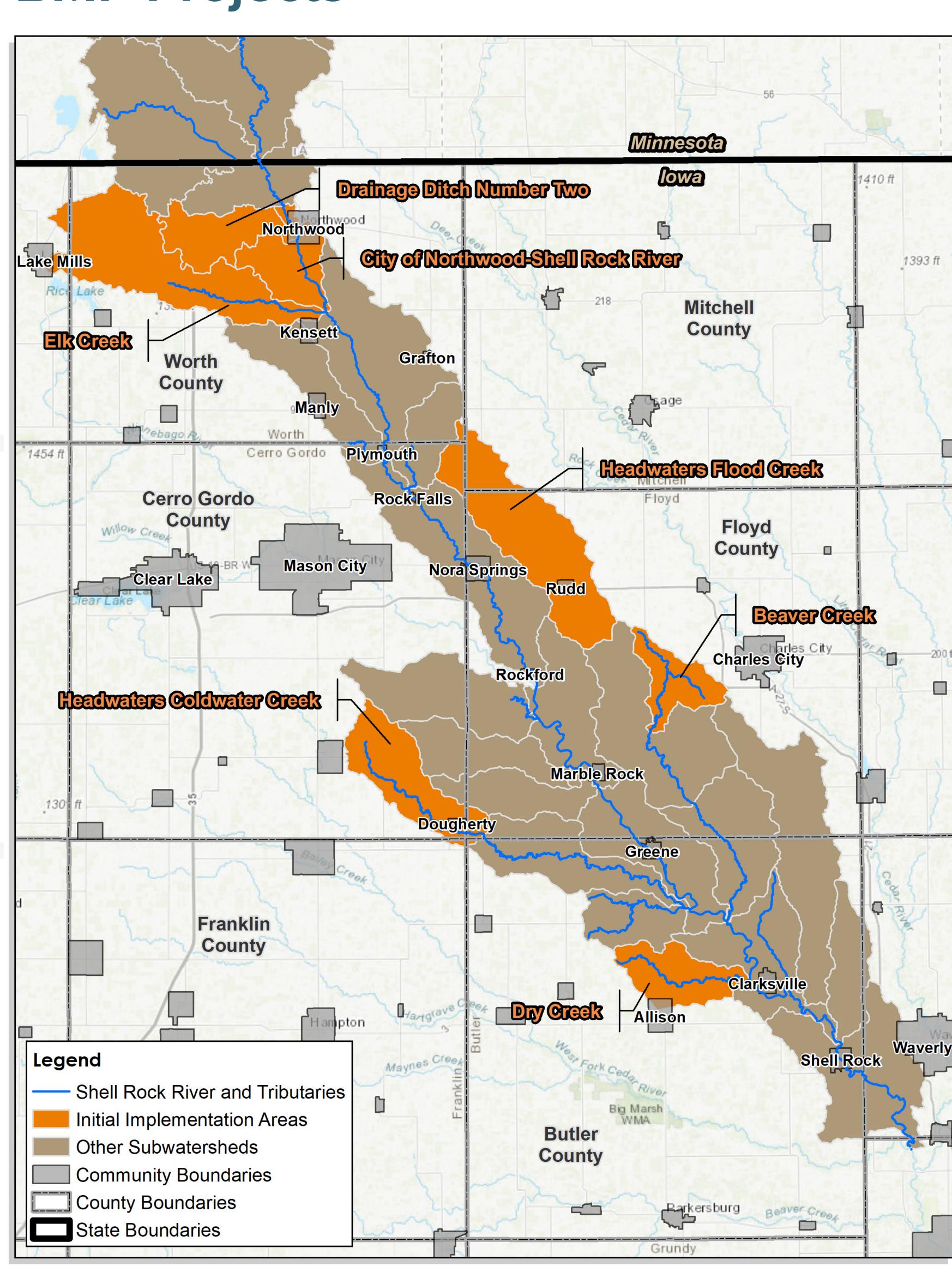
The water quality target for E. coli is based on meeting state water quality standards:

- 126 CFU/100mL (annual average)
- 235 CFU/100mL (maximum allowable concentration for a single sample)
- Ingesting water with disease-causing bacteria, viruses, or parasites (collectively called pathogens) can make you sick.
- Effects could include: diarrhea, vomiting, cramps, nausea, headaches, fever, fatigue, and even sometimes death.
- *E. coli* bacteria testing is used as an indicator for harmful pathogens in the water.

- Manure storage at small open feedlots

- Grazing management plans
- Stream access management
- Manure management plans
- Wastewater treatment system upgrades

## Possible Areas for Voluntary BMP Projects



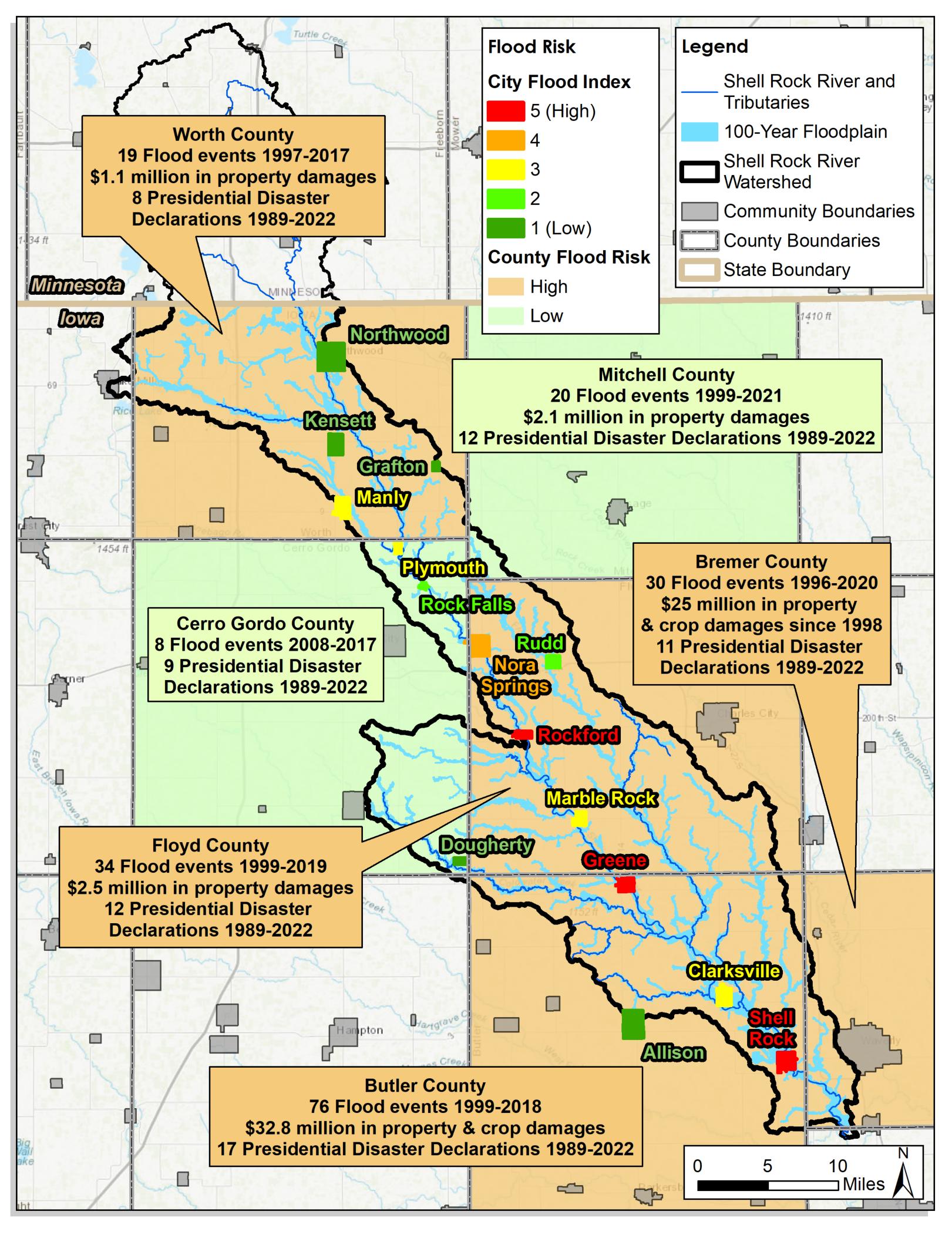
<sup>\*</sup> Flood Creek and several segments of the Shell Rock River have been listed as "impaired" by DNR, due to not meeting water quality standards.

## FLOODING RECOMMENDATIONS



Key Recommendation: Complete a hydrologic assessment across the watershed to better identify flood risks and evaluate community-level mitigation projects.

## Flooding Impacts the Entire Watershed

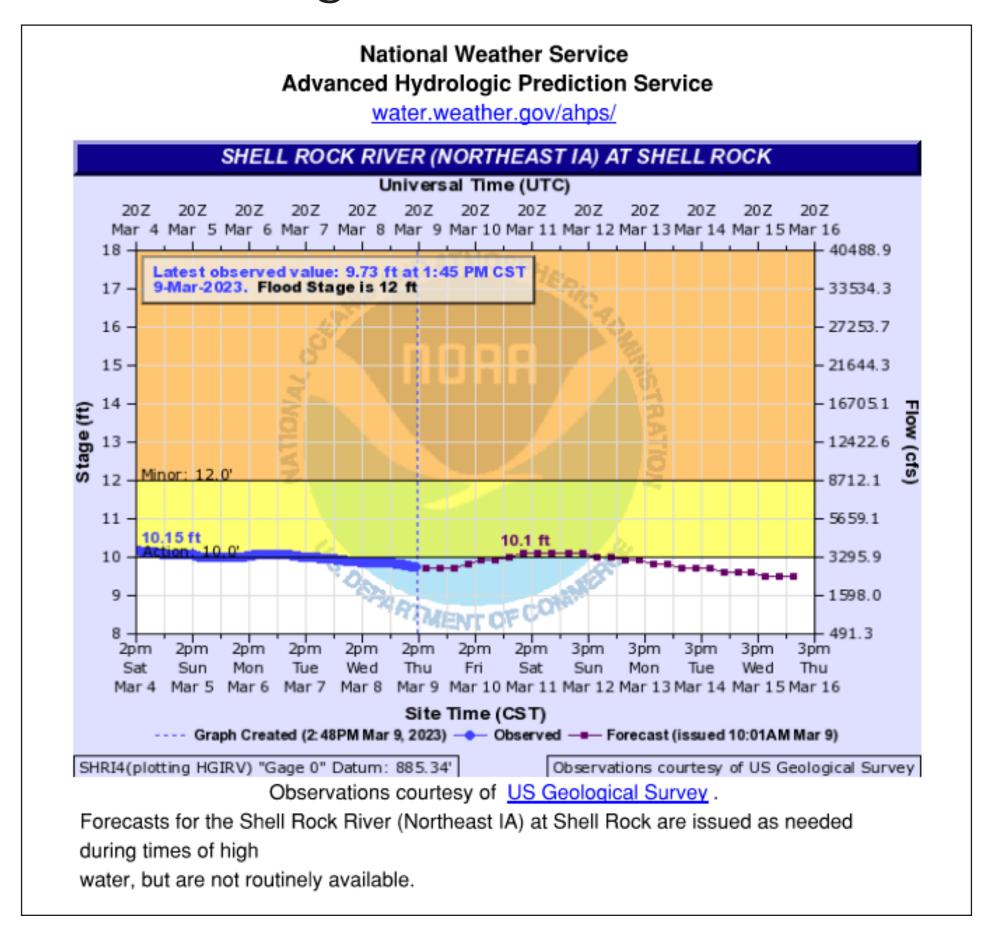


# Cities with the Highest Risk to Flooding from Shell Rock River

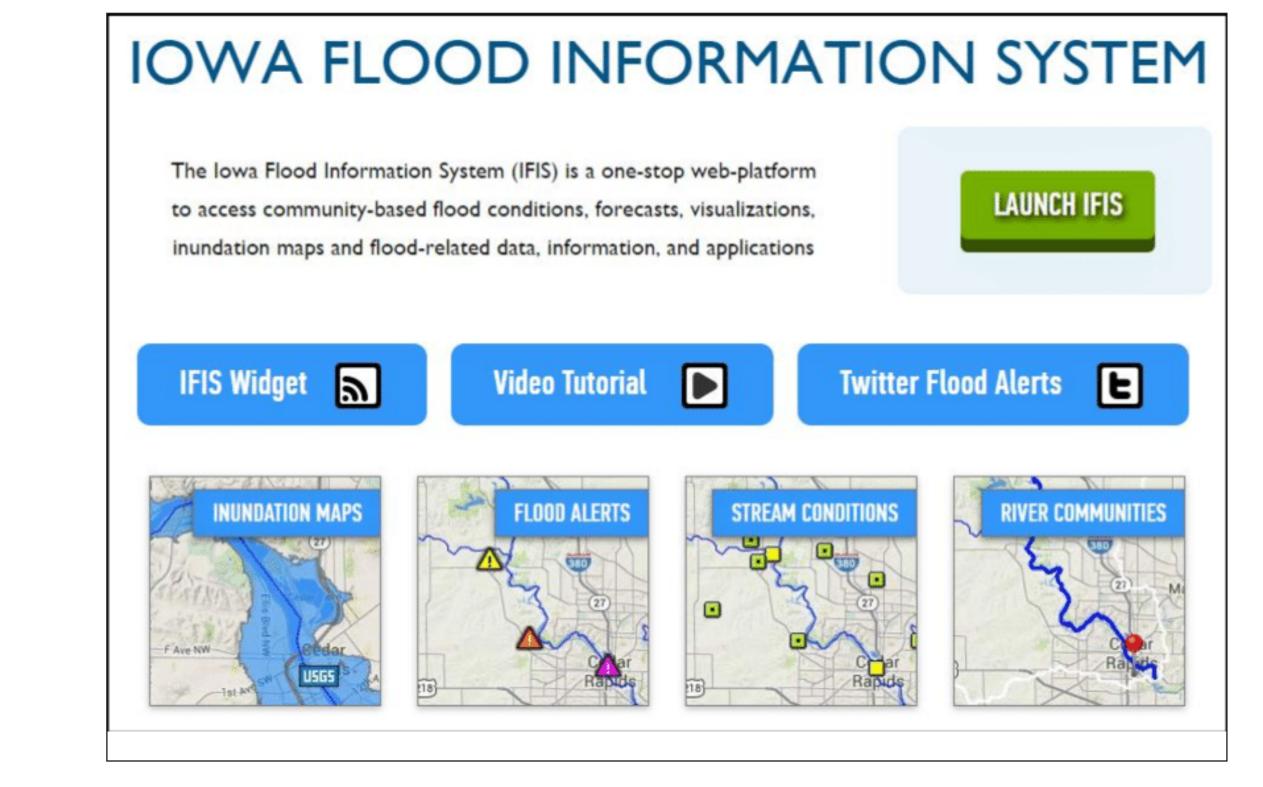
- » Clarksville
- » Greene
- » Manly
- » Marble Rock
- » Nora Springs
- » Plymouth
- » Rockford
- » Shell Rock

# Current Tools to Manage Flood Risk

Stream Gage at Shell Rock, lowa



### Iowa Flood Information System (IFIS) https://ifis.iowafloodcenter.org/ifis/



# What Types of Flood Mitigation Projects Would You Prefer?

- » Non-structural practices: Flood proofing, filling basements, elevating buildings, relocating buildings, buy-outs, utilize green space, etc.
- » Urban stormwater system upgrades
- » Channel widening or cleanout
- » Bridge and culvert improvements
- » Upstream detention: Dams, wetlands, etc.
- » Levees

Information based on historical records and risk assessment data provided in county hazard mitigation plans.

## RECREATION RECOMMENDATIONS

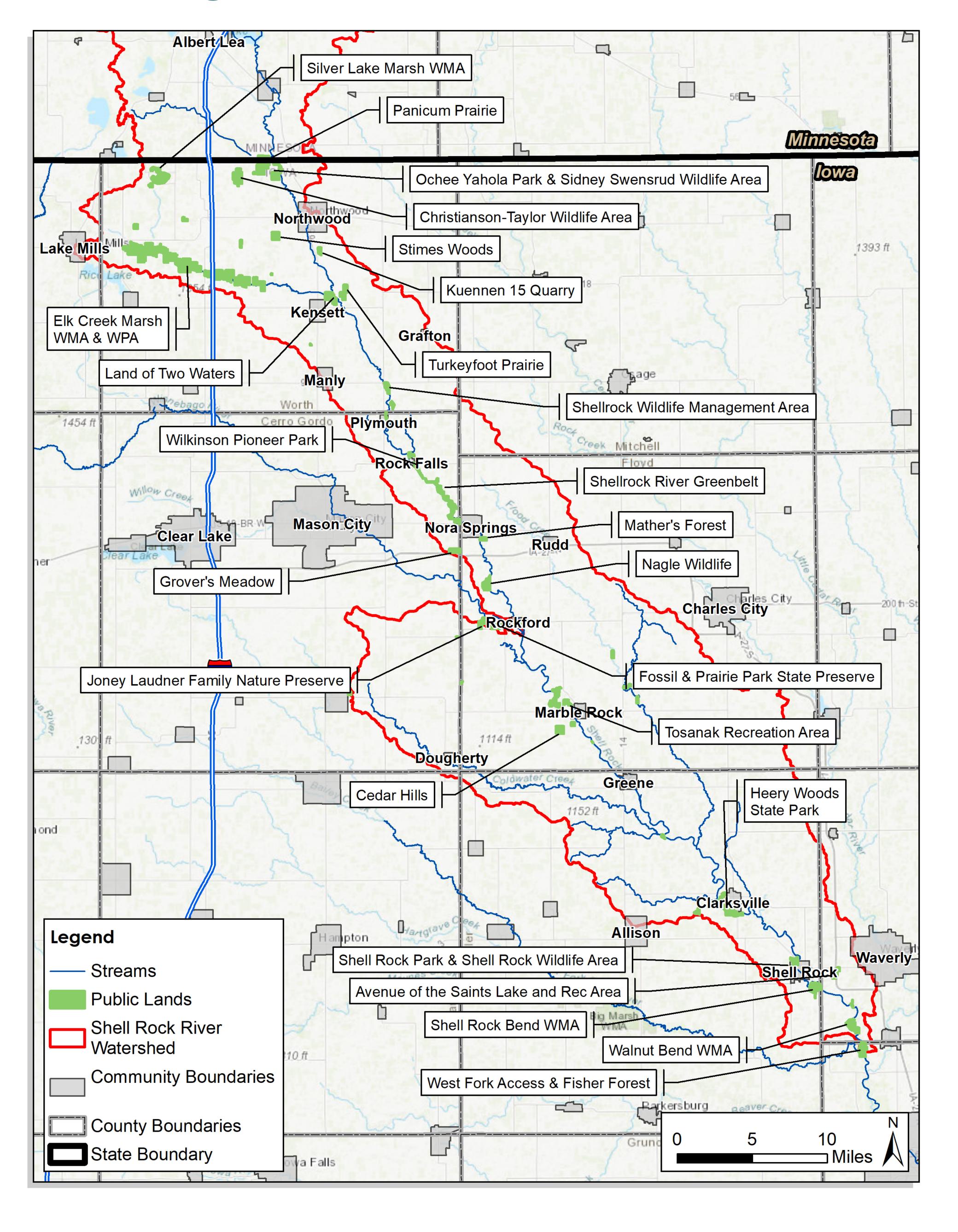


#### Key Recommendation: Complete a water trail plan for the Shell Rock River.

Through this planning process, additional public input will be gathered. This includes input from landowners along the river. Other items included in the planning process are access, signage, river obstacles (dams), and creation of maps or brochures to help river users and promote local tourism.



#### Existing Recreation Areas



# Are There Any Potential Projects That Should Be Prioritized?

- » Improved access at existing recreation areas
- » Improved amenities (parking, restrooms, dump stations, etc.) at existing facilities
- » Additional access points for canoe/kayak launches and fishing
- » Development of a lake in Butler County
- » White water park on the Shell Rock River
- » Better information on water level conditions within the Shell Rock River, and how they affect boat access
- » Additional wetlands for hunting
- » Rental options for kayaks, tubes, or other equipment
- » Community campgrounds
- » Additional places for riding horses and ATVs