



# Iowa Watershed Management Authorities

*Why County Supervisors Should Be Engaged and Enthusiastic!*

Lora L. Friest  
Executive Director  
Northeast Iowa RC&D  
Postville, Iowa



# Outline



- Review of Why and How WMAs Got Started in Iowa
- What a WMA Can and Can't Do
- Clayton County Supervisors: Turkey River WMA
- Iowa Flood Center & IIHR Partnership & Findings
- WMA – On-road Structures and Why They Matter
- WMA Formation Across Iowa



# HF 2459 Watershed Legislation April 7, 2010

*Provisions added to the Iowa Code 466B, the Surface Water Protection and Flood Mitigation Act*

1. (State) Watershed Planning Advisory Committee
2. **Watershed Management Authorities**
3. Iowa Flood Center Hydrologic Analysis & Pilot Projects

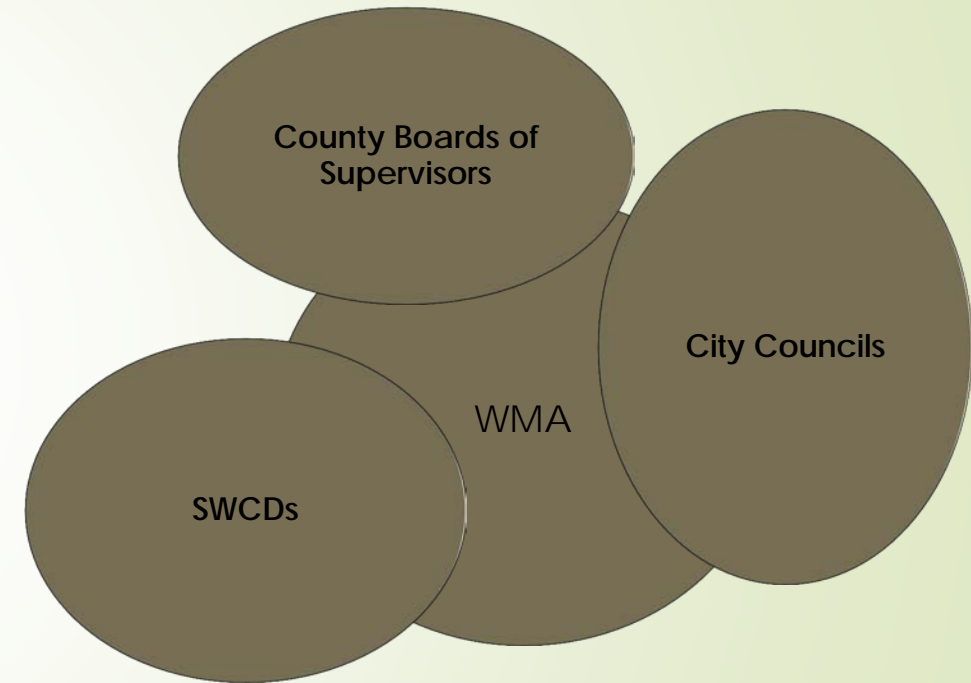
*According to the Rebuild Iowa Office  
Wallace State Office Building*

# Iowa Code Chapter 466B, Subchapter III

## ▶ Iowa Watershed Management Authorities

### MUST...

- ▶ **Invite all** cities, counties and SWCDs to participate and participants make up the board
- ▶ Be created pursuant to a chapter **28e agreement** between a minimum of **two** political subdivisions from the same watershed
- ▶ Be governed by a **Board of Directors** made up of appointed representatives of the participating political subdivisions





# Iowa Code Chapter 466B, Subchapter III

Watershed Management Authorities

**MAY...**

- Assess flood risk
- Assess water quality
- Assess options for reducing flood risk and improving water quality
- Monitor federal flood risk and improving water quality
- Educate residents of the watershed area regarding water quality and flood risks



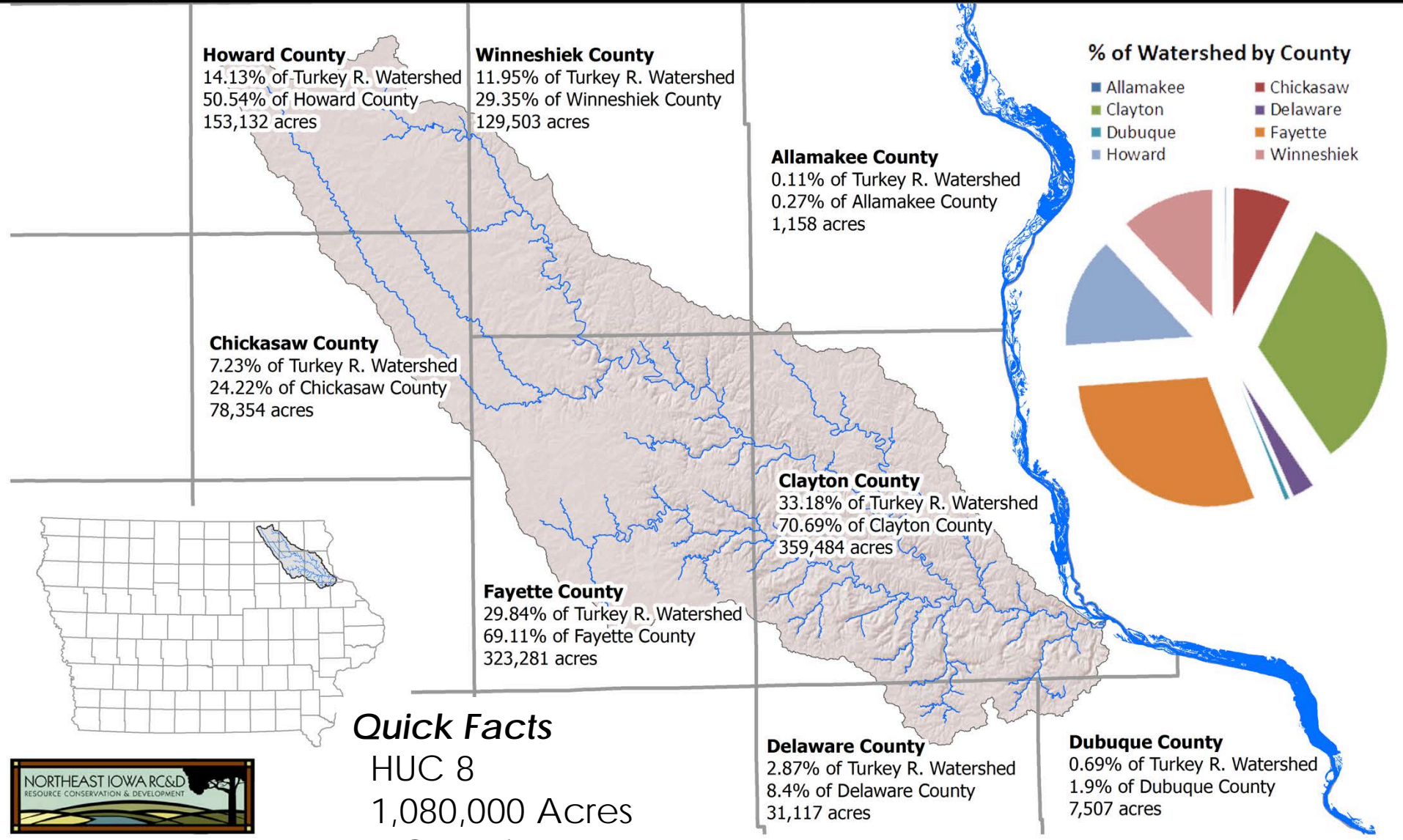
# Iowa Code Chapter 466B, Subchapter III

- Watershed Management Authorities...
  - Entities can be involved in more than one WMA
  - **Cannot** acquire property by eminent domain
  - Political subdivisions **are not required** to participate
  - Political subdivisions **may appoint anyone they wish** to the WMA Board of Directors





# Turkey River Watershed: Land Area by County



## Quick Facts

HUC 8  
1,080,000 Acres  
8 Counties  
32,000 Residents







# Turkey River Watershed Counties & Incorporated Cities

Exhibit A

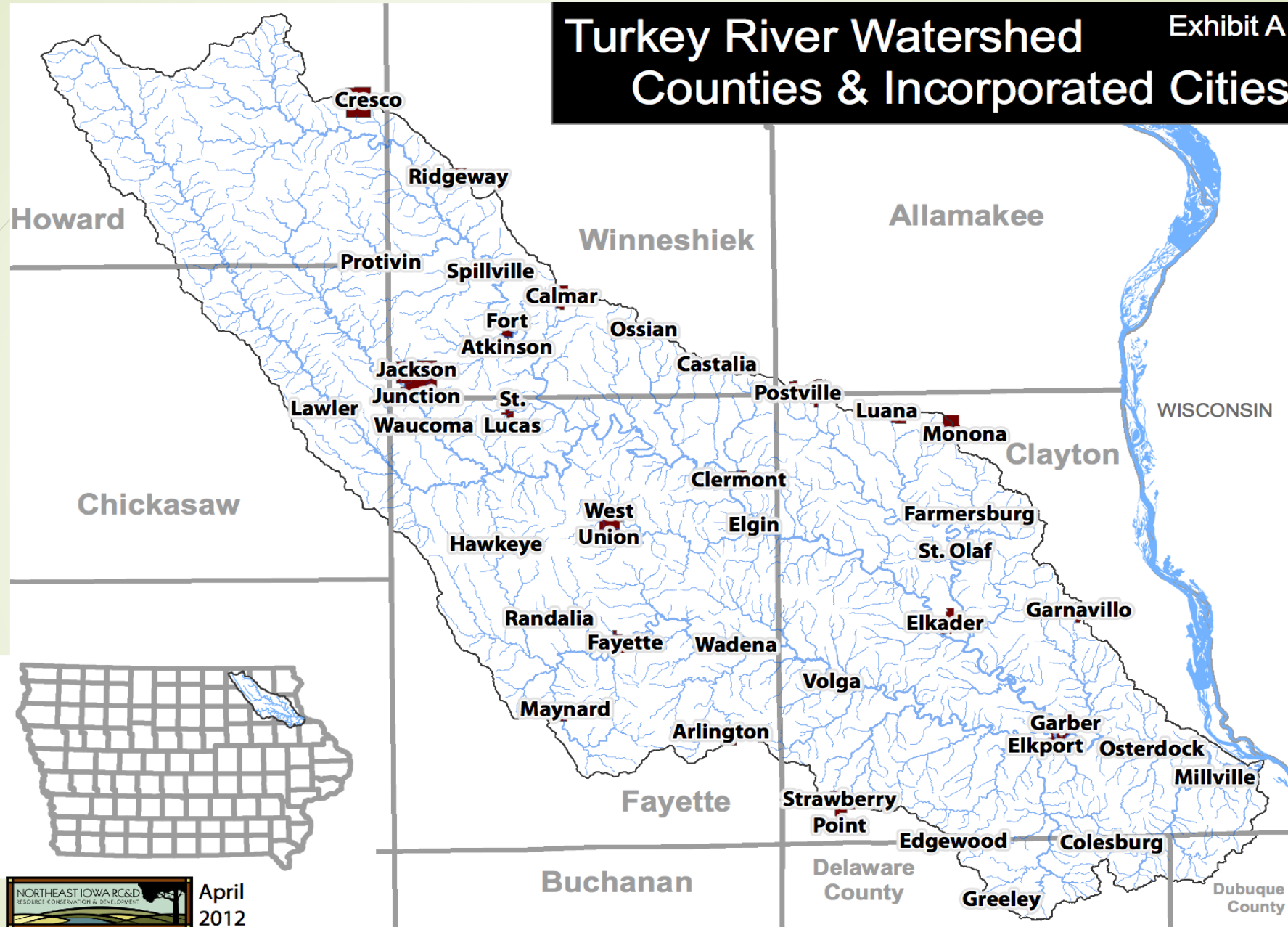










Photo by Winneshiek Co. Emergency Management























City Engineer

Appointed  
Citizen/Agribusiness  
Owner

Soil & Water  
Conservation District  
Commissioner

Watershed Project Coordinator/Mayor

City  
Administrator

Emergency  
Management

Supervisor/Producer

Conservation  
Board Director

Came for  
Donuts

County  
Supervisor Mayor

District

Conservationist

Fisheries  
Biologist



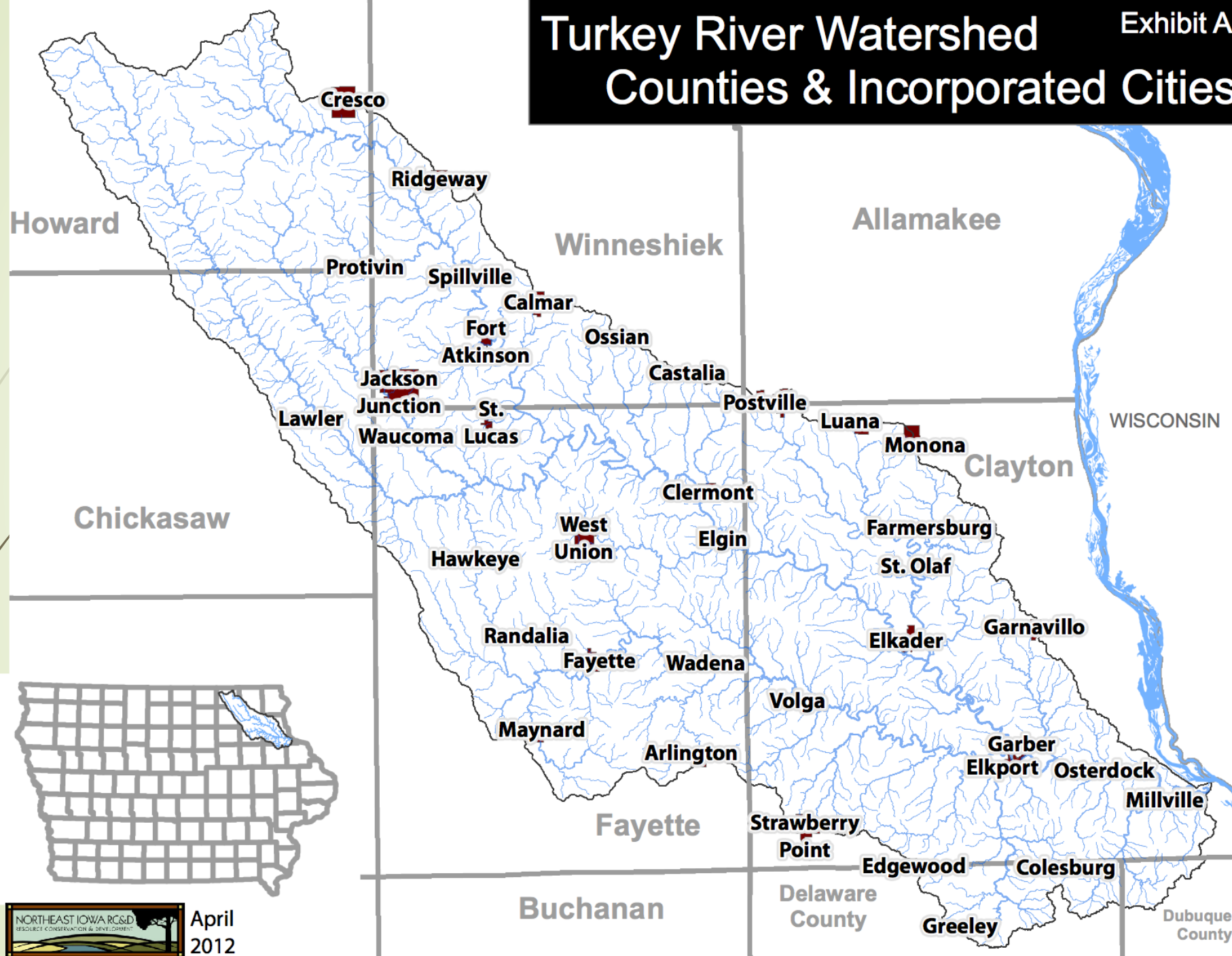
# Turkey River WMA

- Water management problems are greater than one community or city can handle
- Flooding costs residents, cities, and counties billions of dollars
- Multi-jurisdictional WMA planning allows for shared learning, maximizes resources and increases access to technical assistance and funding
- Watershed Residents are supportive of efforts to reduce flooding



# Turkey River Watershed Counties & Incorporated Cities

Exhibit A





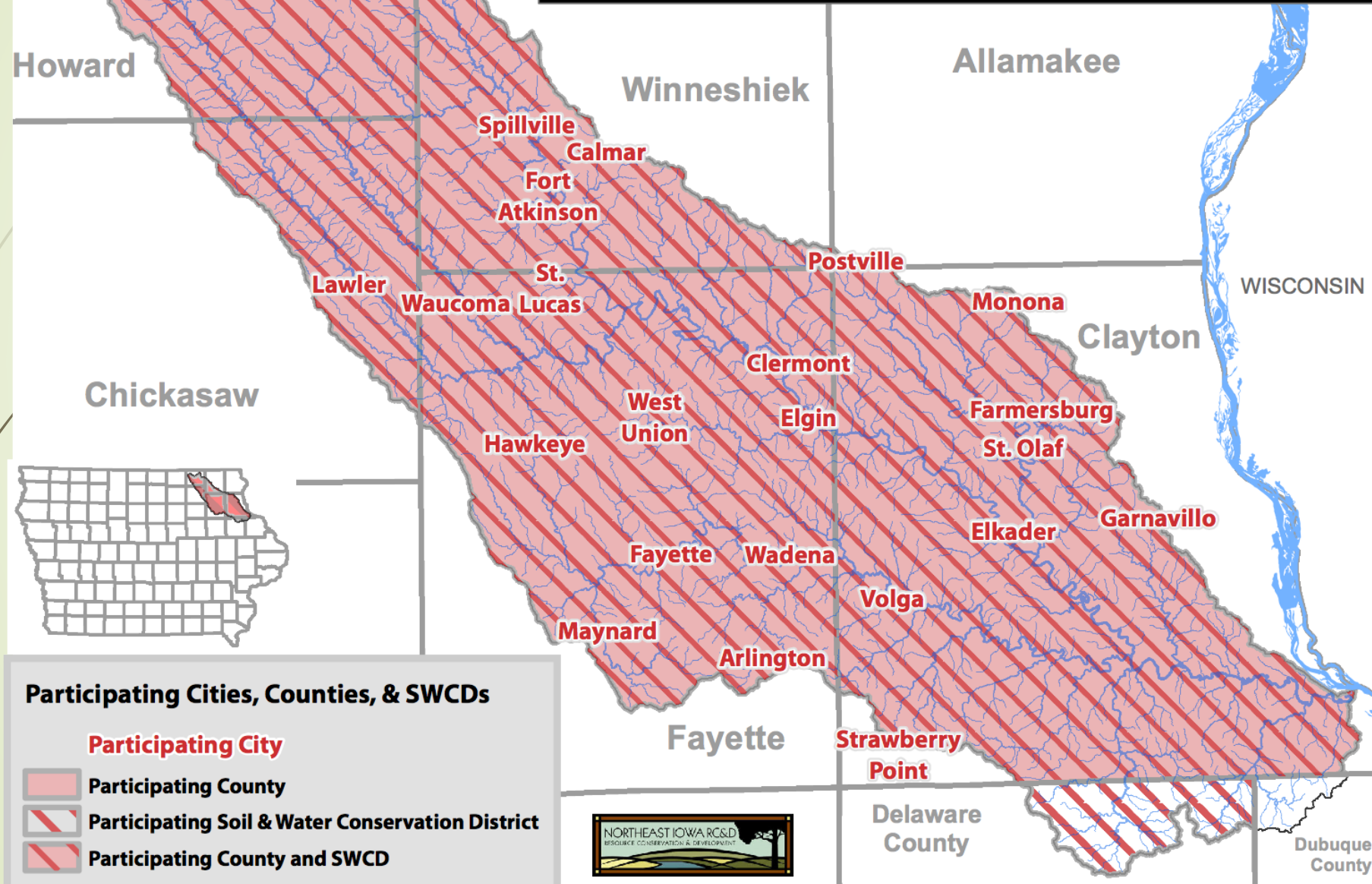
# Turkey River Watershed Management Authority Participants

August 2012

HUC 07060004

1,084,086 acres

[www.turkeyriver.org](http://www.turkeyriver.org)



# Watershed Resiliency Plan

A 20 Year Strategic Plan to Increase the Hydrologic Function & Resiliency of the Turkey River Watershed

Developed for the TRWMA by Northeast Iowa RC&D Inc. with funding provided by HUD/CDBG and the Iowa Department of Natural Resources



Turkey  
River  
Watershed  
Management  
Authority





# HF 2459 Watershed Legislation April 7, 2010

*Provisions added to the Iowa Code 466B, the Surface Water Protection and Flood Mitigation Act*

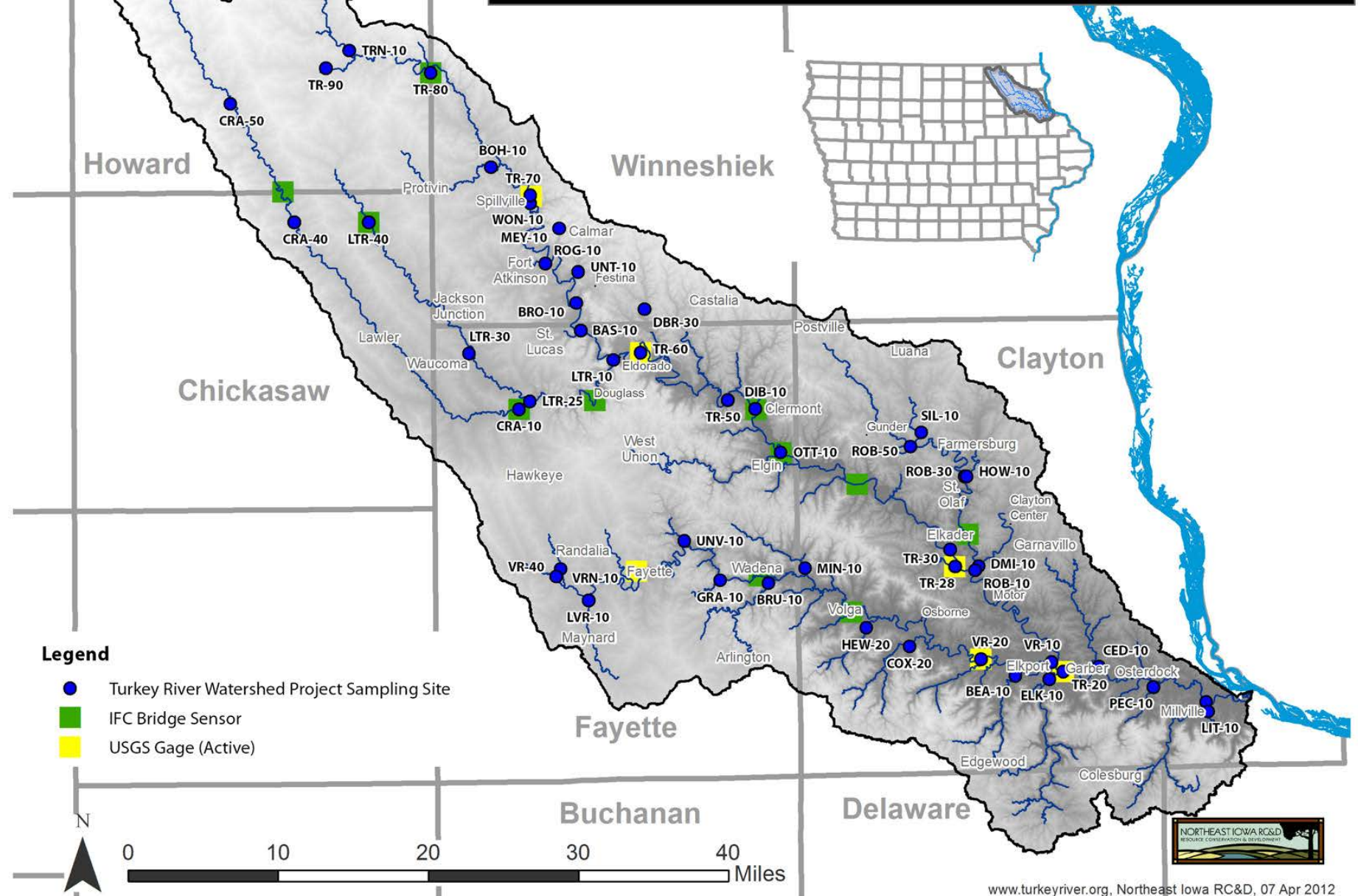
1. (State) Watershed Planning Advisory Committee
2. Watershed Management Authorities
3. **Iowa Flood Center Hydrologic Analysis & Pilot Projects**

*According to the Rebuild Iowa Office  
Wallace State Office Building*



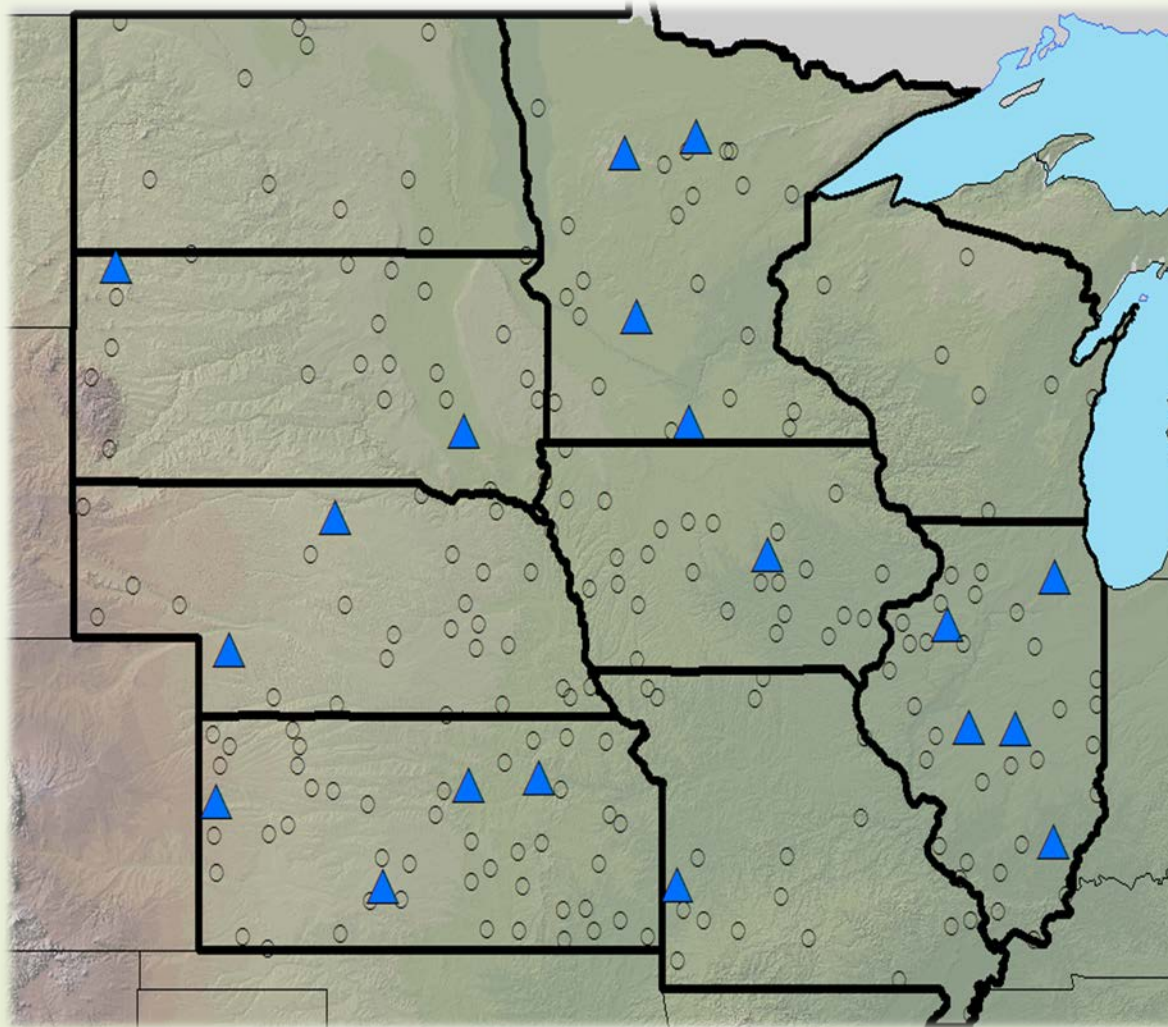
# Turkey River Watershed

## USGS Stream Flow Gauges & IFC Bridge Sensors



# Annual Precipitation Changes

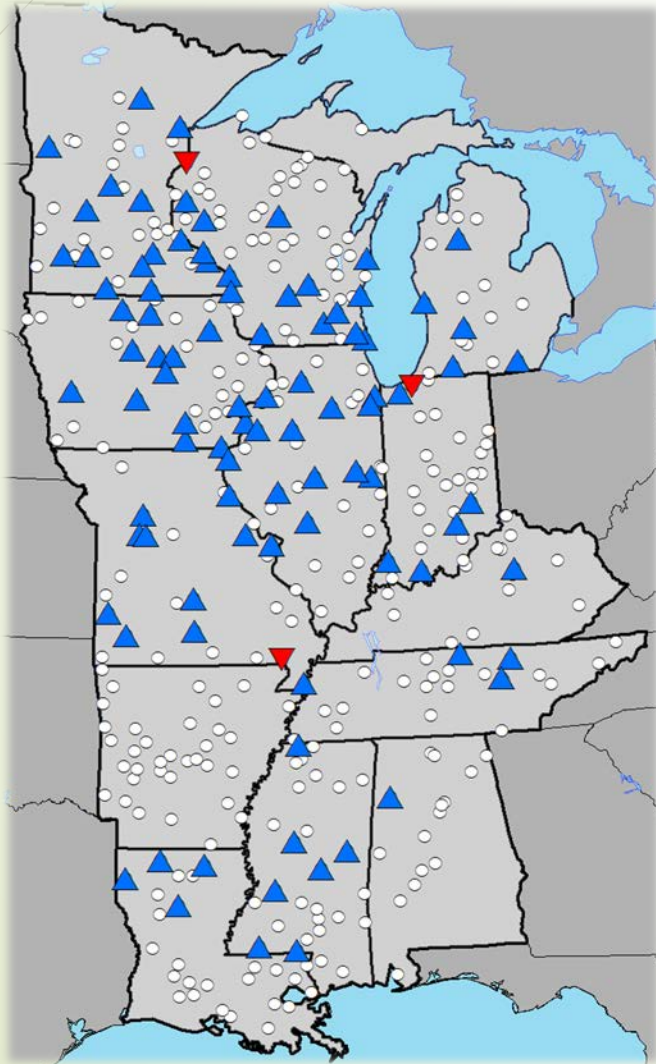
Rain gauges with *annual* maximum rainfall increasing over time



IFC/IIHR



# Changes in Peak Precipitation

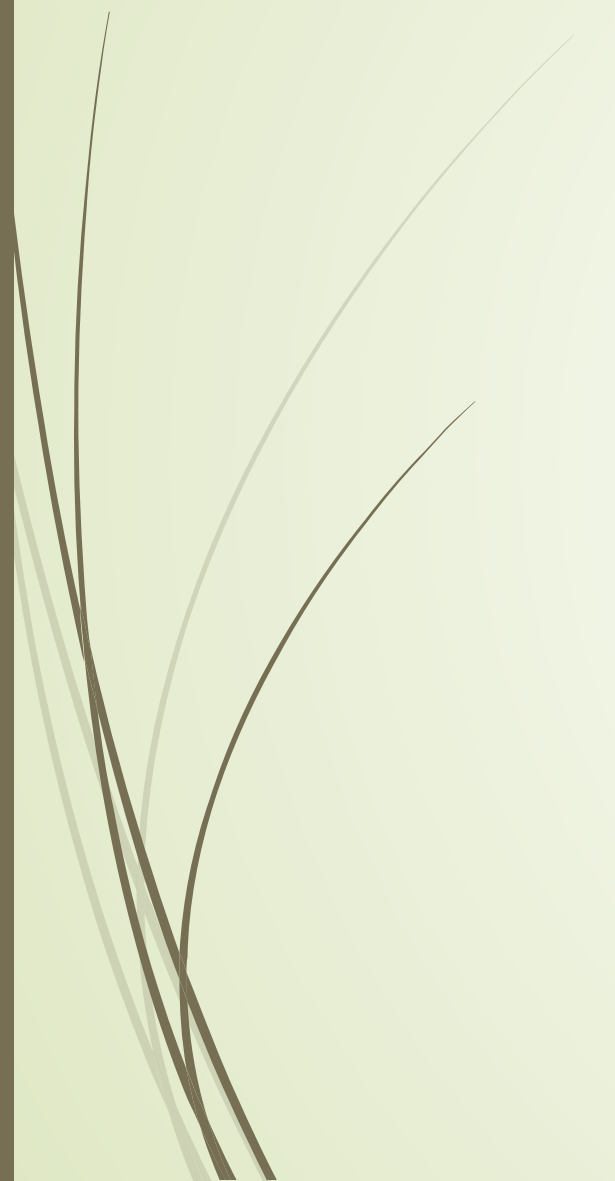



Blue - Rain gauges with significant increases in peaks over threshold over time

Red – Decrease in peaks over threshold over time

White – Little to no change

50 year period of record



# Hydrologic Assessment of the Turkey River Watershed

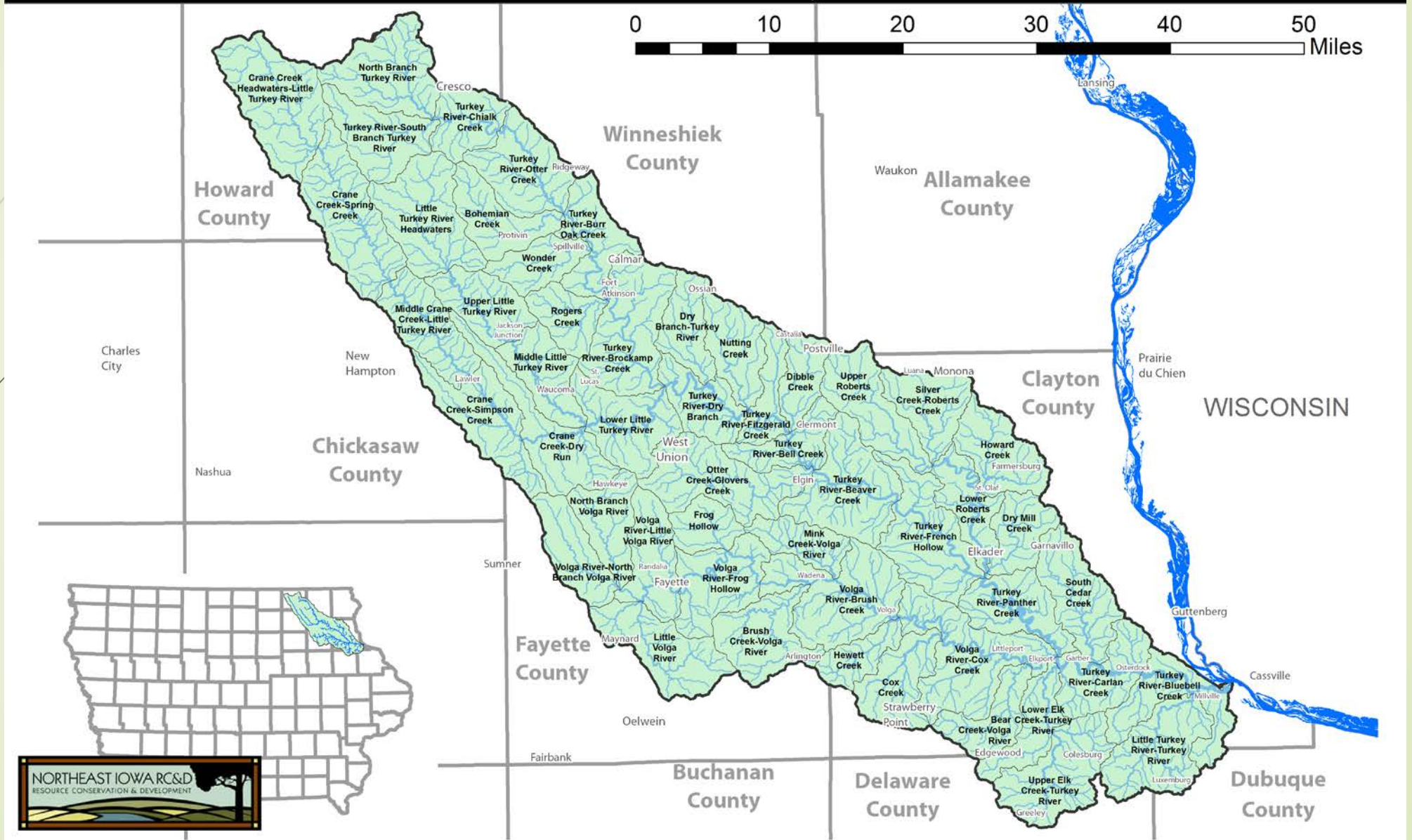
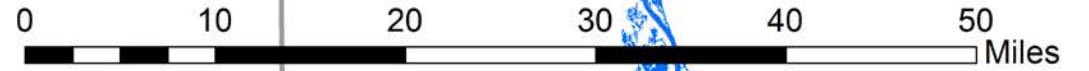
July 2014

Iowa Flood Center | IIHR—Hydrosience & Engineering  
The University of Iowa  
C. Maxwell Stanley Hydraulics Laboratory  
Iowa City, Iowa 52242





# HUC 12 Watersheds within the Turkey River Watershed



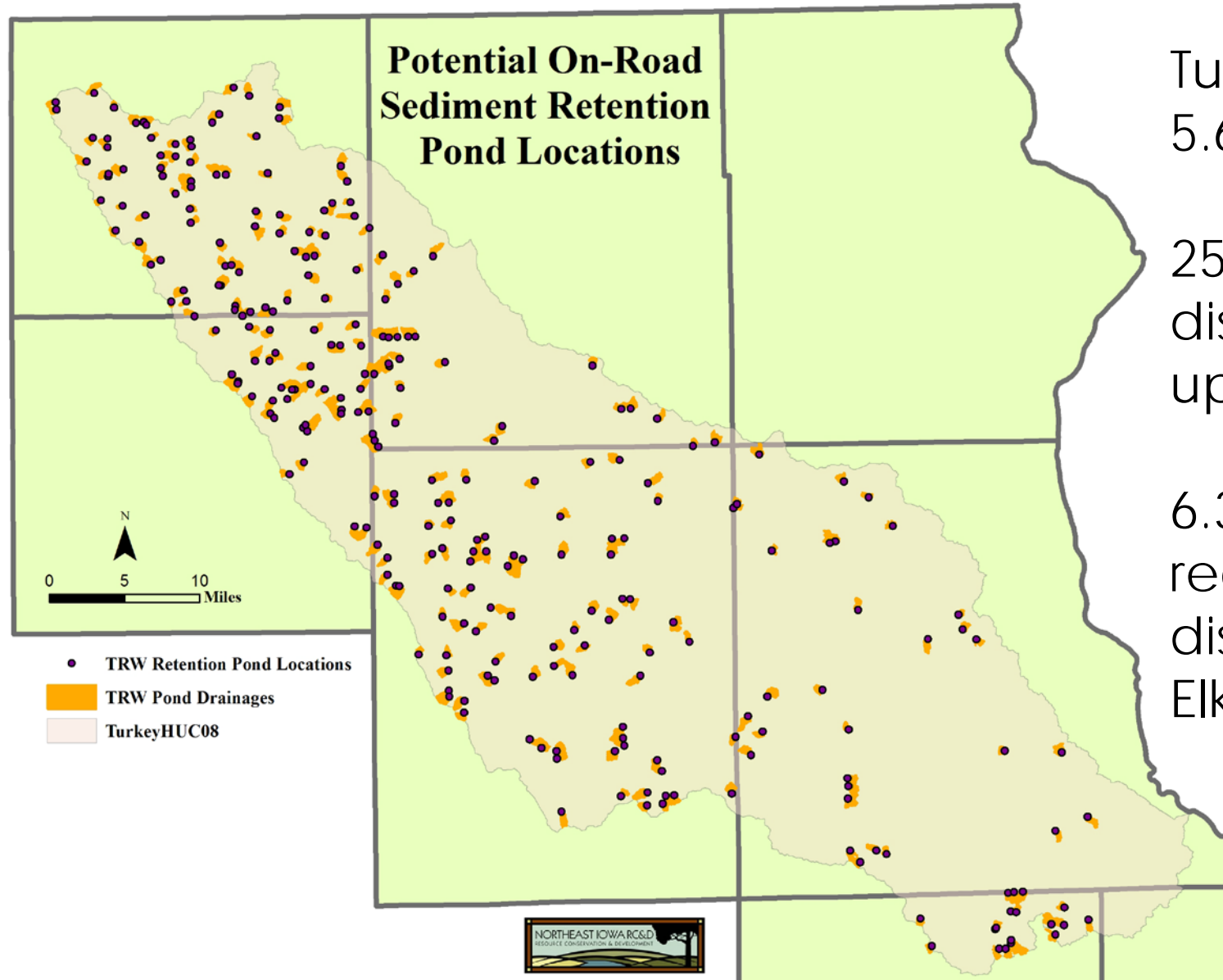


# Wetlands Ponds and Sediment Retention Basins on Private Lands





## Potential On-Road Sediment Retention Pond Locations



Turkey River  
5.67" in 24 hours

253 ponds  
distributed in 153  
upstream subbasins

6.3% to 12.1%  
reduction in peak  
discharge at  
Elkader

# County On-Road Structure – Upstream





# County On-Road Structure - Downstream





# County On-Road Structure - Upstream





# County On-Road Structure - Upstream

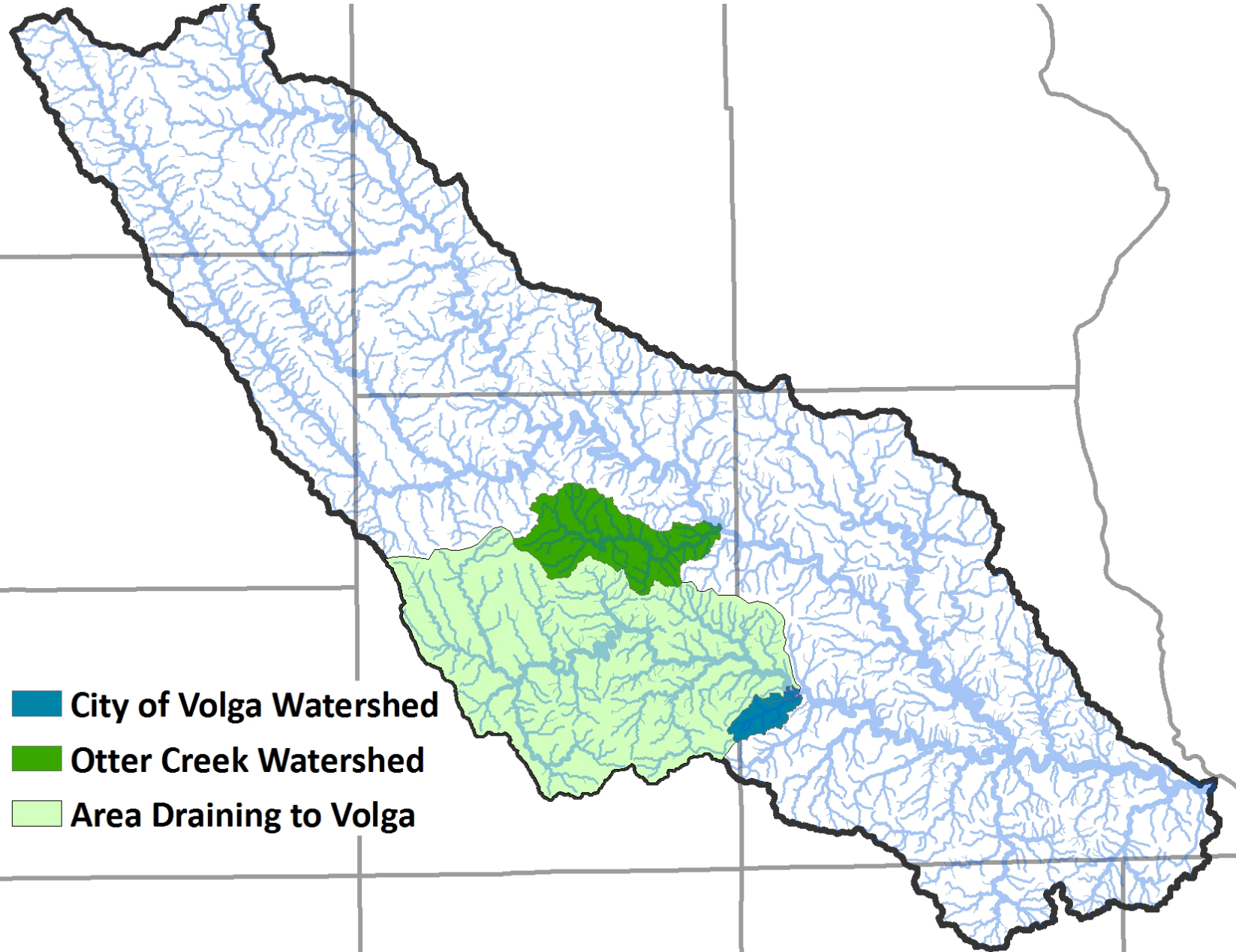


# County On-Road Structure - Downstream

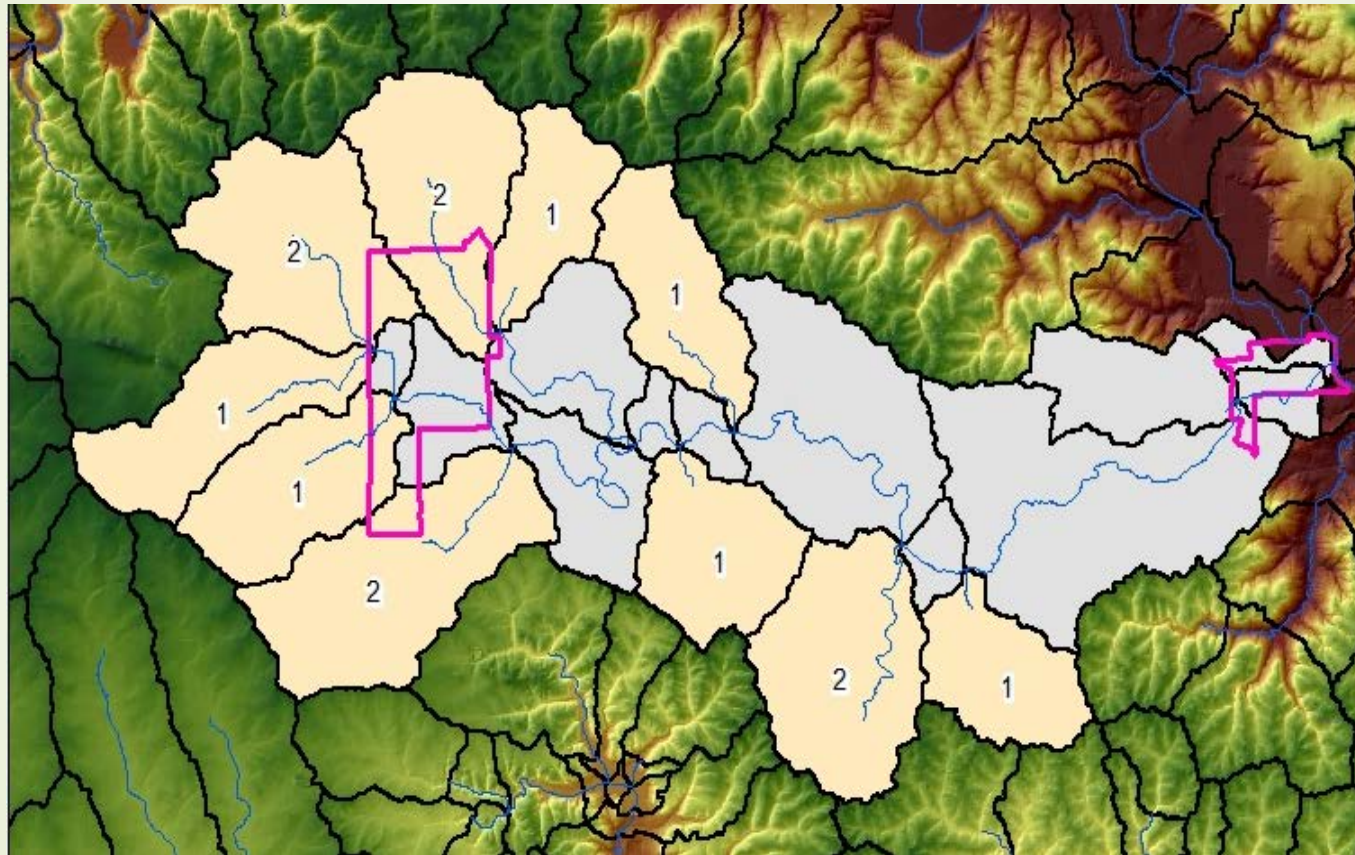




## Subwatershed in relation to Turkey River Watershed



# Increased Storm Water Runoff Capacity



Otter Creek at  
Elgin, Iowa  
5.67 inch rain  
24 hours

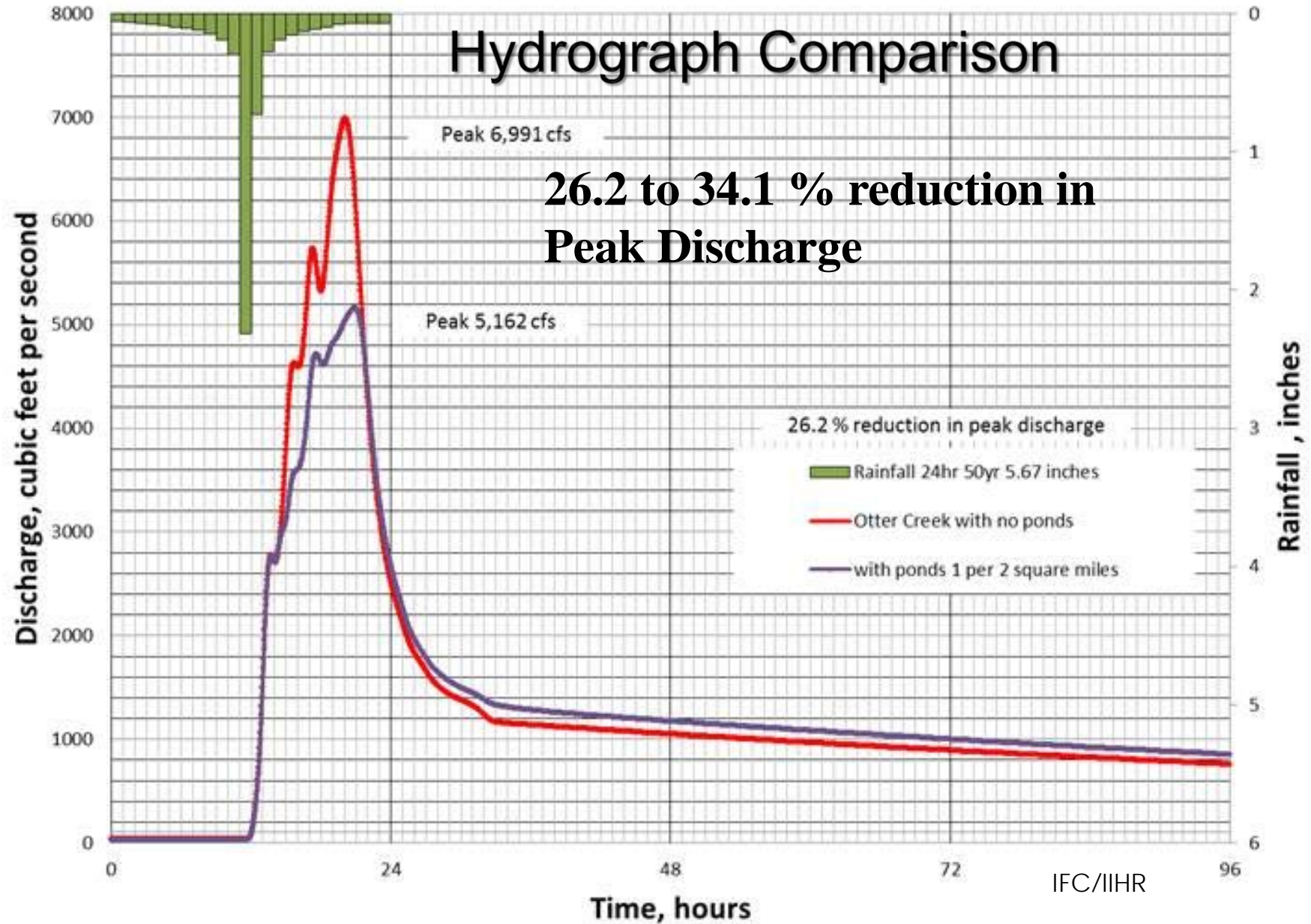
Installation of 14  
ponds distributed  
in 10 upstream  
subbasins

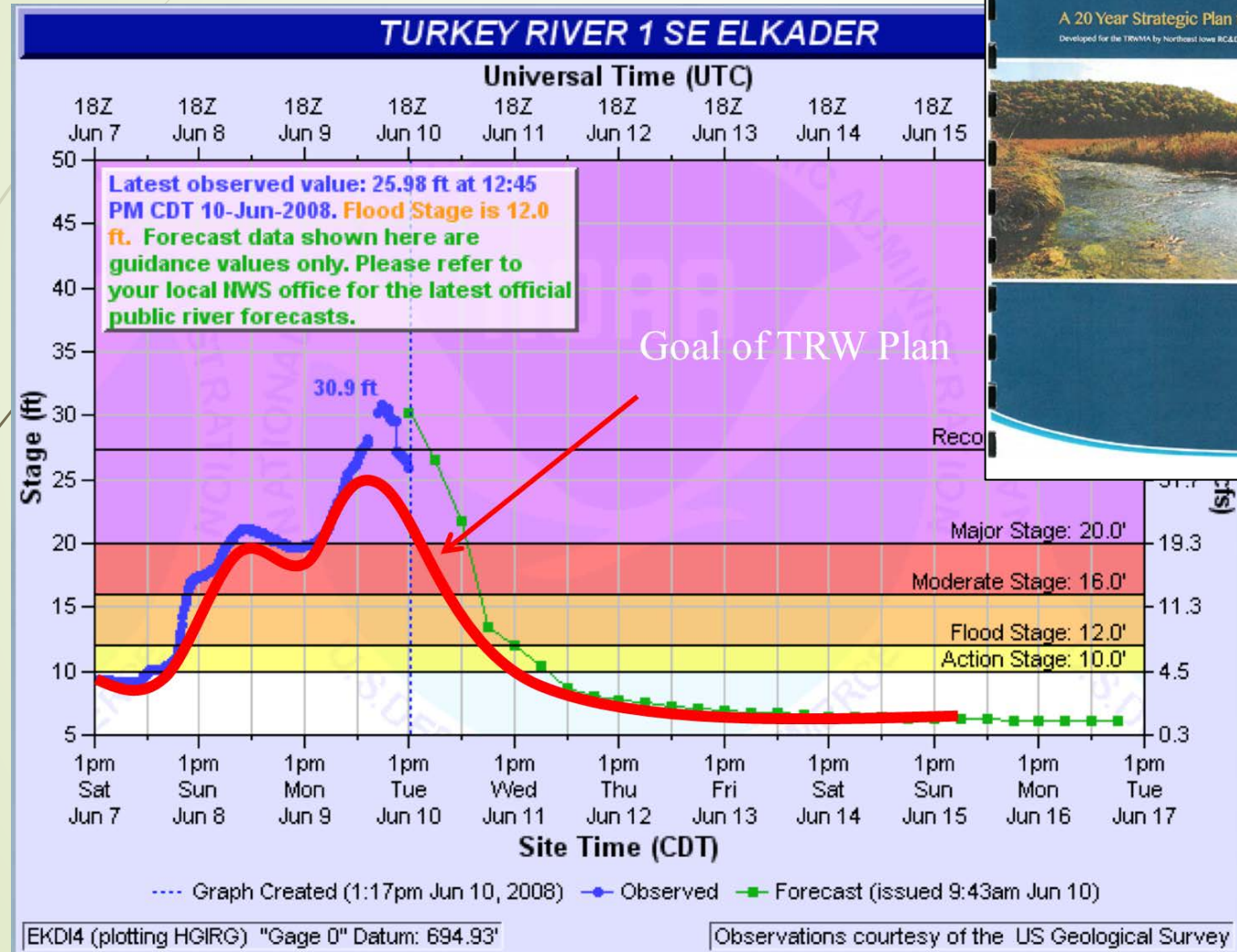
- Otter Creek (47 mi<sup>2</sup>) in Fayette County
- Includes West Union and Elgin
- Hypothetical storm, 5.67" in 24 hours (50 year average recurrence interval)
- Hydrograph comparison for Otter Creek at Elgin just upstream of Turkey River

IFC/IIHR



## Otter Creek response at Elgin to addition of ponds in upstream subbasins









## Watershed Resiliency Plan

A 20 Year Strategic Plan to Increase the Hydrologic Function & Resiliency of the Turkey River Watershed

Developed for the TRWMA by Northeast Iowa RCAD Inc. with funding provided by HLD/CDBG and the Iowa Department of Natural Resources




**Turkey River Watershed**  
Management Authority







# Turkey River Watershed Survey of Rural and Urban Landowners

- 30% of rural landowners and 18% of urban residents were impacted by flooding in the past 5 years
  - 75% of respondents knew someone who had been impacted by flooding.
  - A majority of urban (70%) and rural landowners (59%) feel that more should be done to address flooding
  - Over 66% of rural landowners were interested in learning more about how they could reduce flooding or improve water quality
  - 56% of urban residents were interested in learning more about how they could reduce flooding or improve water quality on their property
- 





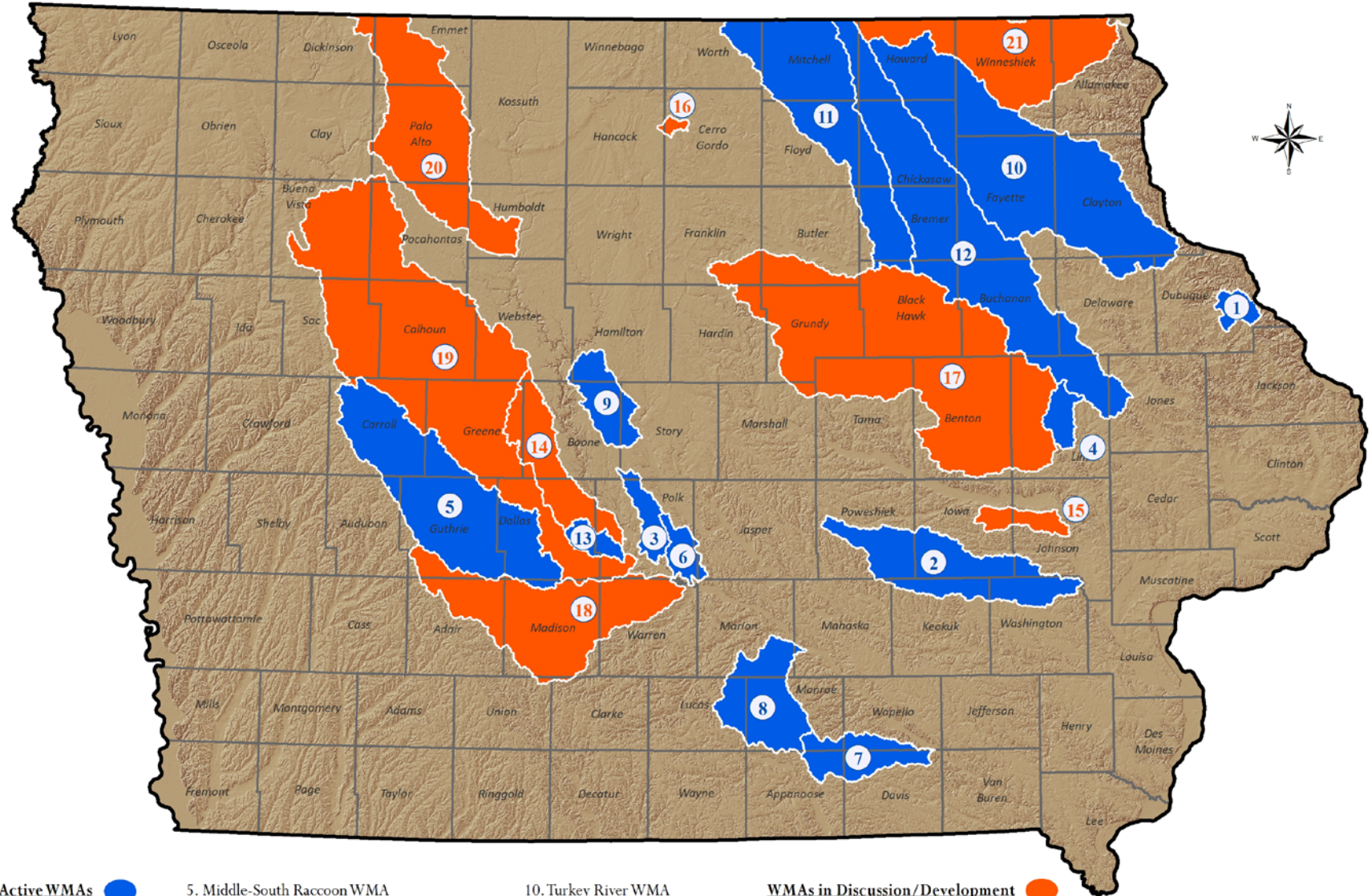
# Turkey River WMA Partnerships/Activities

- **All TRW County Board of Supervisors** have adopted policy regarding use of on-road structures
- **3 SWCDs** have ongoing subwatershed projects
- **NE IA RCD and WMA SWCDs** are conducting stream and river monitoring at 50 sites
- **Iowa Flood Center/IIHR** working with WMA partners to model flood reduction as it relates to structures in Otter Creek Watershed – 26 Pending Structures
- **Iowa Flood Center/IIHR** water and flow monitoring, modeling of the effects practices will have on nutrient reduction in TRW
- **ISA, NE IA RCD and 7 TRW producers** conducting tile-line water monitoring
- **NE IA RCD, IFC, 20 producers & landowners** monitoring rainfall and soil moisture
- **NE IA RCD & Iowa NRCS** completing a Rapid Land Cover Mapping exercise of the TRW to evaluate land use changes between 2013 and 2016
- **NE IA RCD, Iowa NRCS and 12 TRW Champion Producers** promoting practices
- **ISA, NE IA RCD, LCSA and USFWS** using AgSolver to increase productivity on 4,000 acres of cropland in the TRW
- **Several communities** are working to implement various projects to improve water quality and reduce flooding





# Watershed Management Authorities



## Active WMAs

1. Catfish Creek WMA
2. English River WMA
3. Fourmile Creek WMA
4. Indian Creek WMA

## 5. Middle-South Raccoon WMA

6. Mud Creek, Spring Creek & Camp Creek WMA
7. Soap Creek Watershed Board
8. South Central Iowa Cedar Creek WMA
9. Squaw Creek WMA

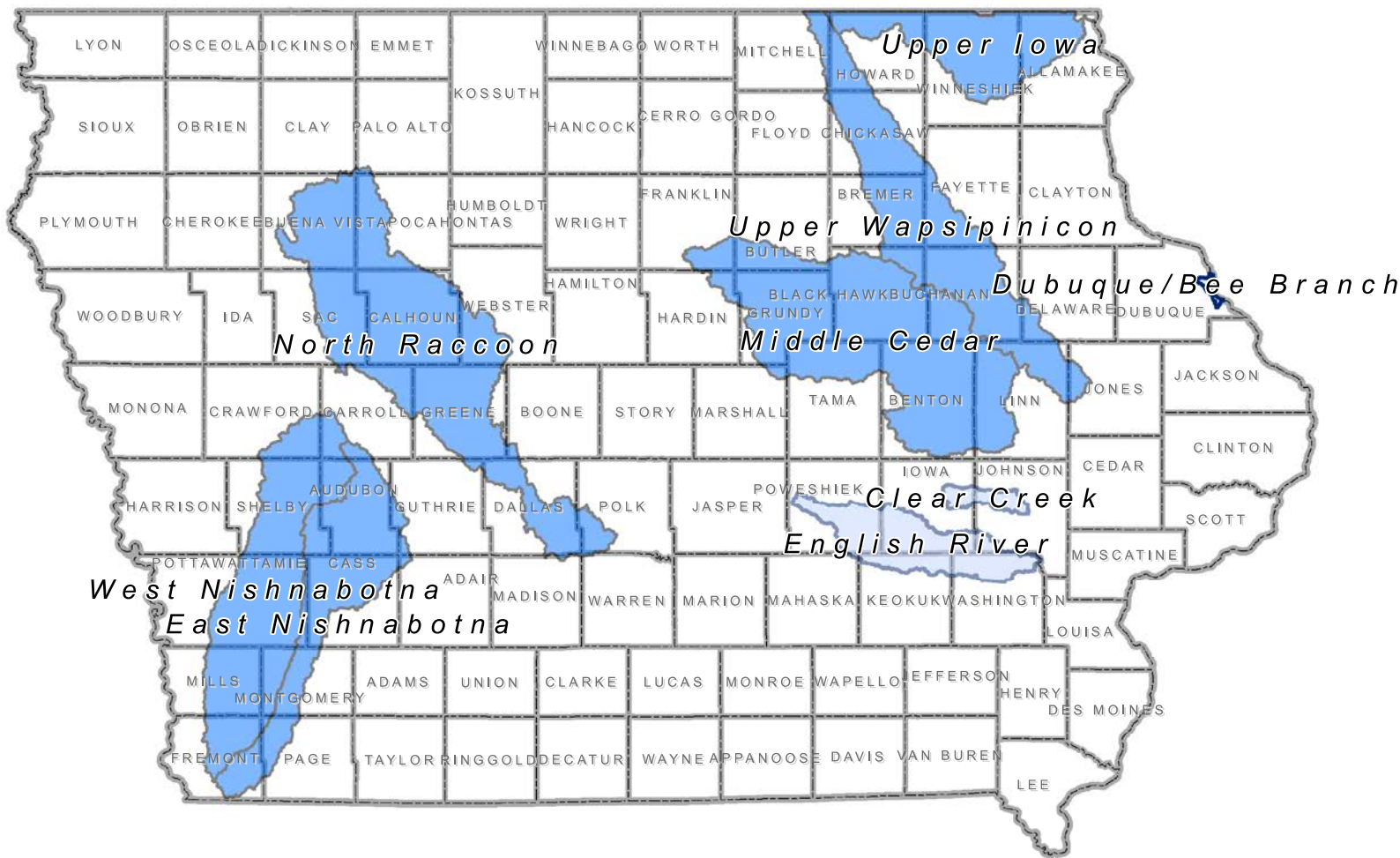
## 10. Turkey River WMA

11. Upper Cedar River WMA
12. Upper Wapsipinicon River WMA
13. Walnut Creek WMA

## WMAs in Discussion/Development

14. Beaver Creek WMA
15. Clear Creek WMA
16. Clear Lake WMA
17. Middle Cedar WMA

18. North & Middle River WMA
19. North Raccoon WMA
20. Upper Des Moines WMA
21. Upper Iowa WMA

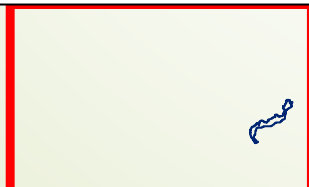


National Disaster  
Resilience  
Competition  
2016 Award  
to Iowa

\$96,887,177

\$50 M for  
watersheds

~\$31 M for  
Practices

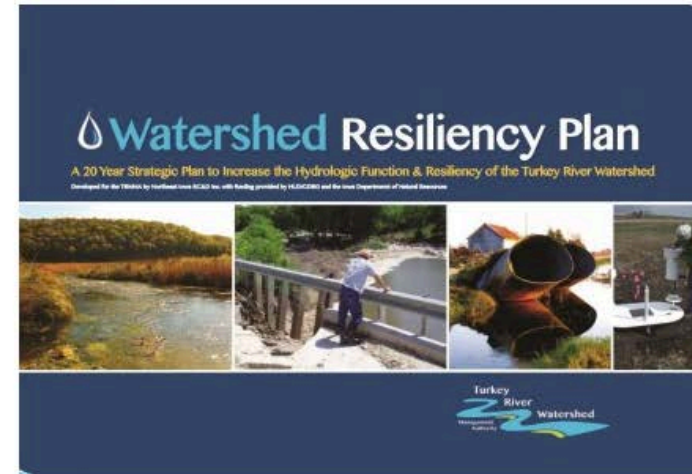




# Turkey River Watershed Project

Together we will...

- reduce the impact of [flooding](#)
- improve our [water quality](#)
- create places to [fish](#), [paddle](#), or [camp](#) with friends & family
- [become a model watershed](#)



## Upcoming Events

**MAR**  
**24**  
Thu

1:00 pm Turkey River Watershed  
Managemen... @ Postville YMCA

Add View Calendar →

## IFC Bridge Sensors (Water Level)

- [Crane Creek at Jericho](#)
- [Crane Creek at Hawkeye](#)

## Recent Posts

- [Watershed Wednesday: Learning from watershed neighbors](#)
- [IFC helps bring \\$96.8M to Iowa for new watershed project](#)
- [New ISU research studies Iowa farmland that loses money](#)
- [Task force: Here's how we fix Iowa's water quality](#)
- [Iowa Flood Center offers real-time river data](#)
- [UI institute leads in tracking water quality](#)

## Search

## Mailing List Sign-Up

Email Address

First Name



# IOWA HOMELAND SECURITY & EMERGENCY MANAGEMENT



What is Alert Iowa?

Search our site:

[Click here to search](#)

[Home](#)

[Quick Links](#)

[About HSEMD](#)

[County EM](#)

[Programs](#)

[Grants](#)

[Disasters](#)

[News Room](#)

[Resource Room](#)

[A-Z Index](#)

**Mark Schouten**

Director

if you  
**SEE** | **SAY**  
something | something™

## State of Iowa receives \$96.9 million HUD grant

Jan. 22, 2016 - Gov. Terry E. Branstad has been notified that the U.S. Department of Housing and Urban Development (HUD) has awarded Iowa \$96.9 million for disaster resilience projects.



Through the **National Disaster Resilience Competition**, HUD has

awarded the State \$96.9

million to conduct a program to help Iowa communities recover from prior disasters and improve their ability to recover more quickly from future disasters. The award comes after a two-phase competition, during which several state and local agencies collaborated to create a program called the Iowa Watershed Approach (IWA). The IWA will accomplish six goals, including reducing flood risk, improving water quality, increasing resilience, engaging stakeholders, improving quality of life and health, and developing a program that can be replicated throughout the Midwest and the nation.

**The HUD National Disaster Resilience competition awarded nearly \$1 billion to communities across the United States.**

[Click here to read more and access links](#)





# Next Steps

- Join your WMA or start a WMA and take your WMA Board position seriously
- Engage County Engineers, Emergency Managers, CCB Director and other County Employees
- Encourage your WMA to have nontraditional partnerships with producer groups, nonprofits and others that bring new ideas to the table
- Educate your Legislator about the need for WMAs
  - If No-one is charged with *reducing* flooding then No-one will
  - They asked us to form WMAs and we are....now what?
  - State funding for WMA planning and projects will ultimately save county, state and federal tax dollars by reducing the infrastructure damage caused by flooding