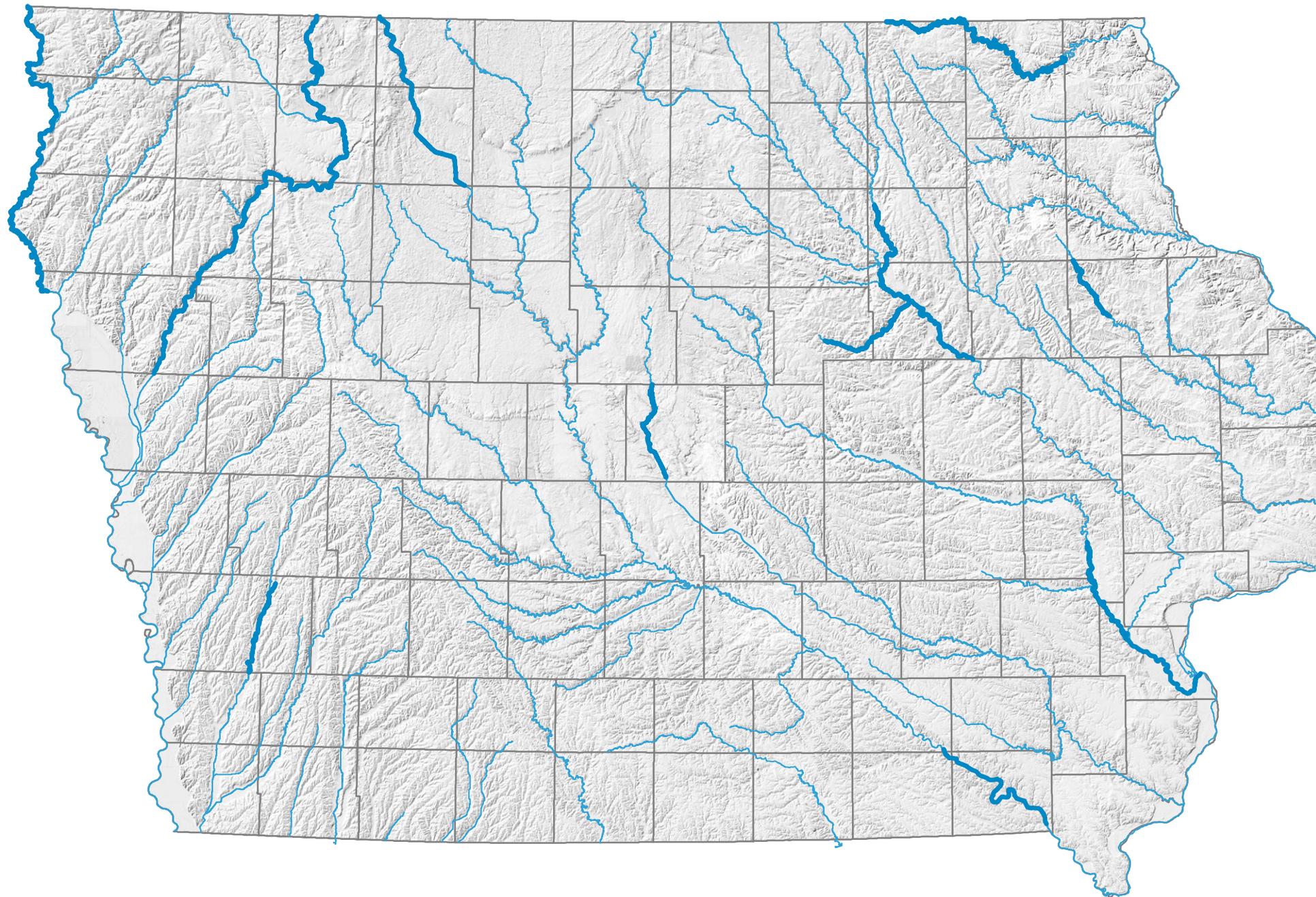
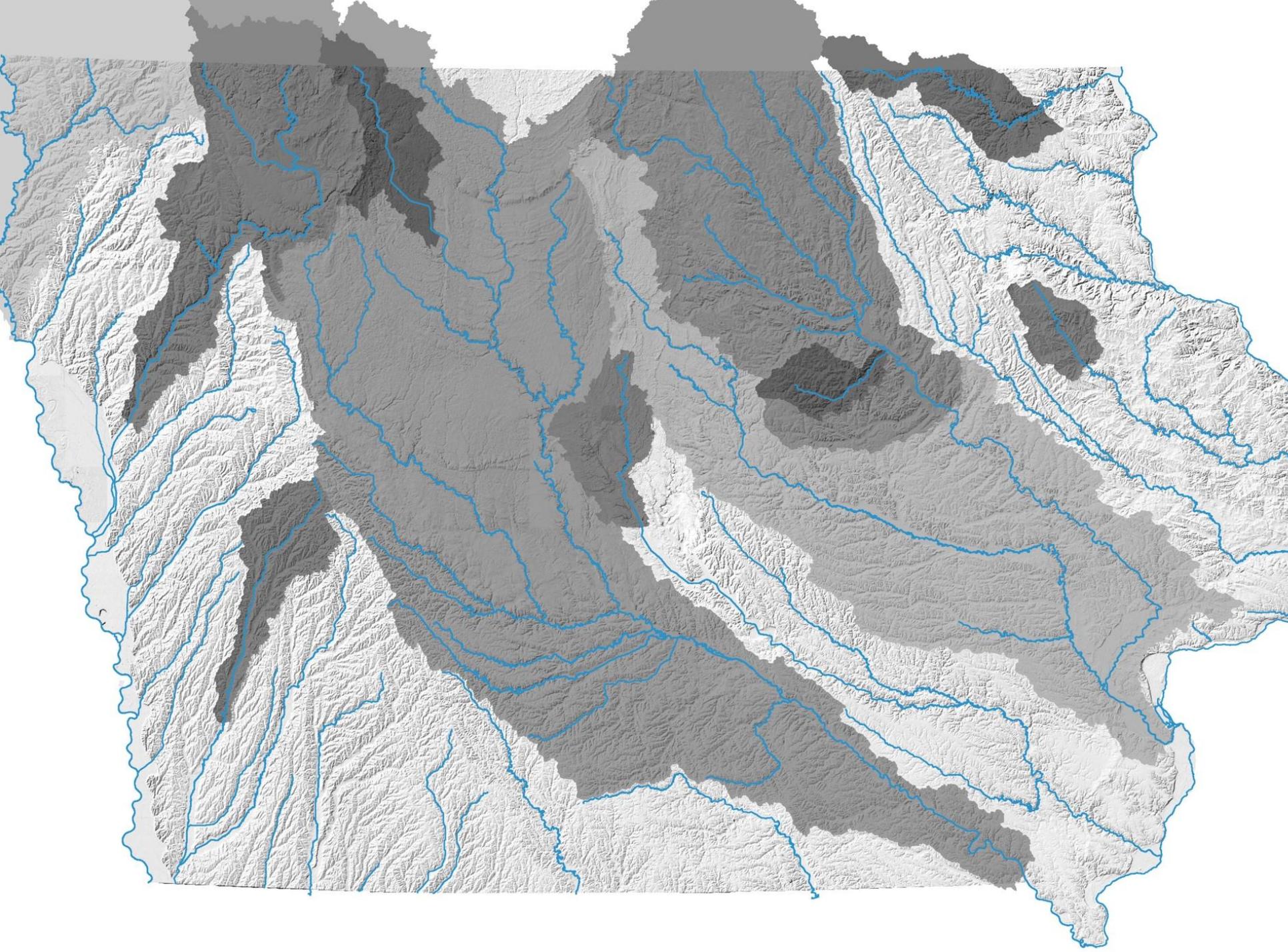
A photograph of a river with a blue semi-transparent overlay containing text. The river is surrounded by bare trees, suggesting a late autumn or winter setting. The water is calm, reflecting the sky and the surrounding trees. The overlay is a solid blue color, and the text is white and centered within it.

# CHALLENGING THE WAY WE CONSIDER IOWA RIVERS

Mimi Wagner  
*Iowa State University*



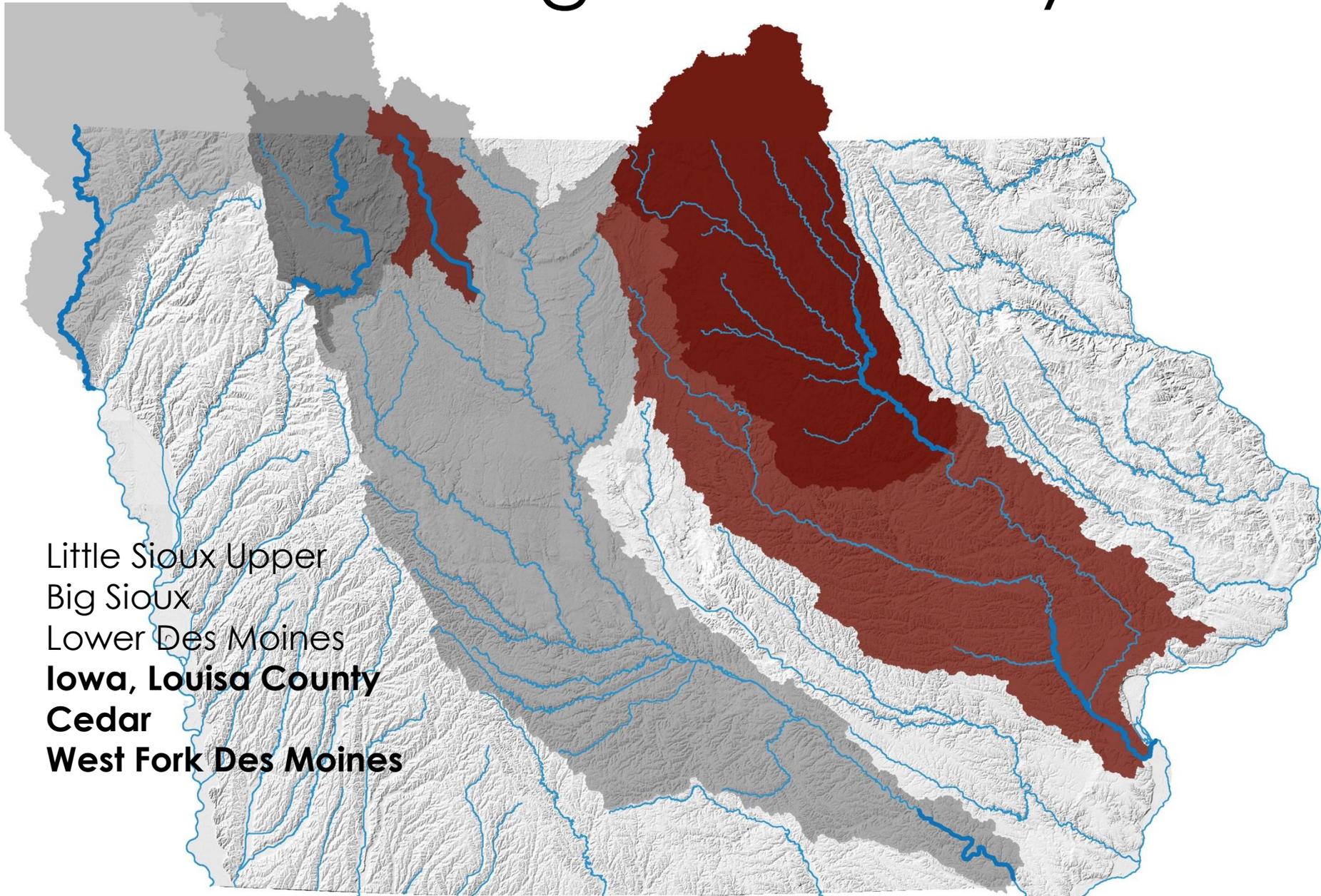




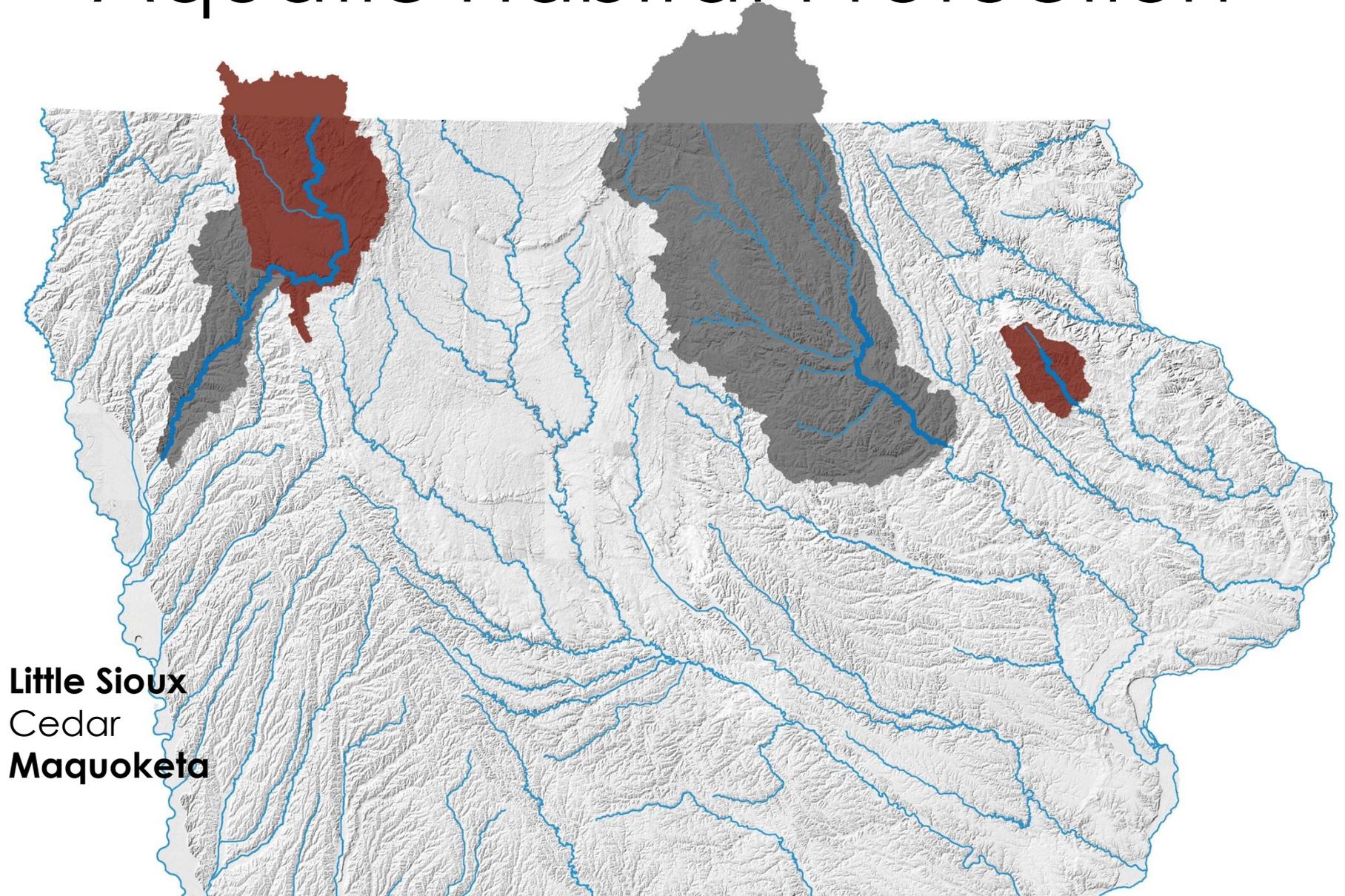
# Analysis Metrics

- Breeding Bird Protection
- Aquatic Habitat Protection
- Permanently Protected Terrestrial Habitat
- Erosion
- Cultural – Historic Resource Protection
- Beginning Paddler Potential
- Economic Benefits

# Breeding Bird Quality

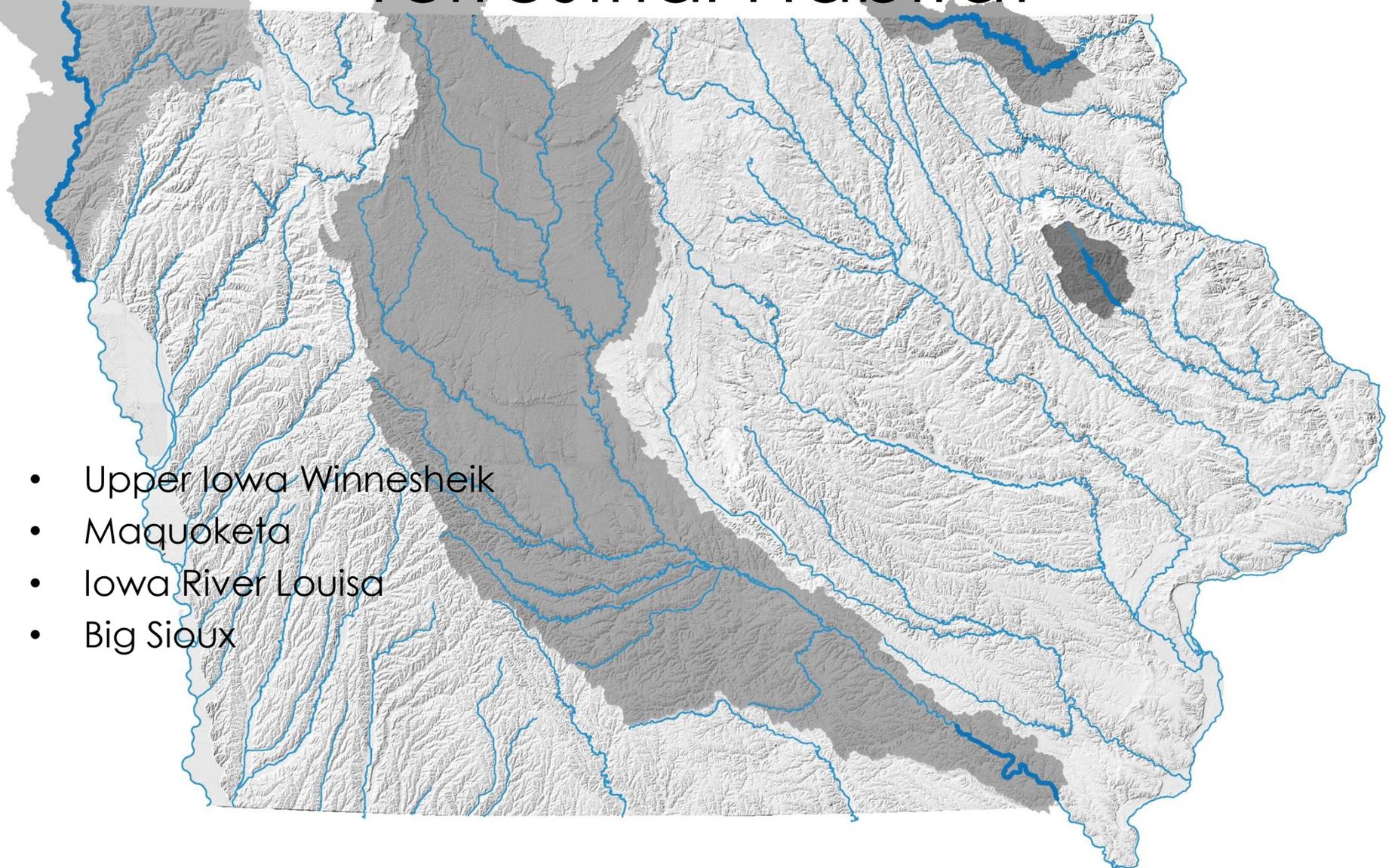


# Aquatic Habitat Protection



# Permanently Protected Terrestrial Habitat

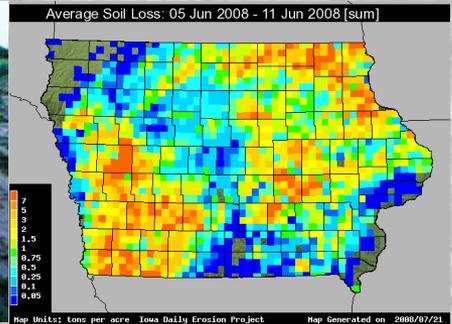
- Upper Iowa Winnesheik
- Maquoketa
- Iowa River Louisa
- Big Sioux



# Iowa Daily Erosion Project 2: Real time soil and water resource inventory



R. Cruse<sup>1</sup>, B. Gelder<sup>1</sup>, D. James<sup>2</sup>, D. Herzmann<sup>1</sup>, J. Laflen<sup>6</sup>, W. Kraszewski<sup>3</sup>, J. Opsomer<sup>4</sup>, D. Flanagan<sup>5</sup>, J. Frankenberger<sup>5</sup>



<sup>1</sup>Iowa State University;

<sup>2</sup>USDA-ARS; National Laboratory for Agriculture and the Environment

<sup>3</sup>University of Iowa

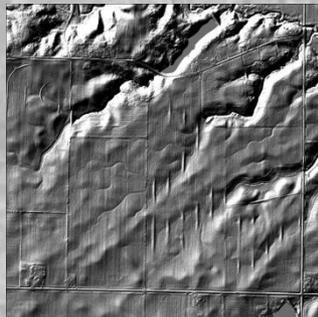
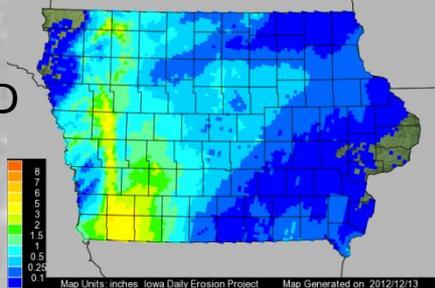
<sup>4</sup>Colorado State University

<sup>5</sup>USDA-ARS; National Soil Erosion Laboratory

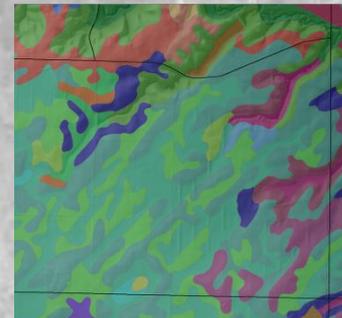
<sup>6</sup>Retired and former director National Soil Erosion Laboratory

Rainfall on 25 Aug 2012

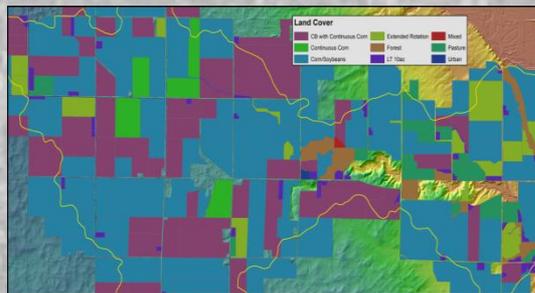
NEXRAD  
Precip



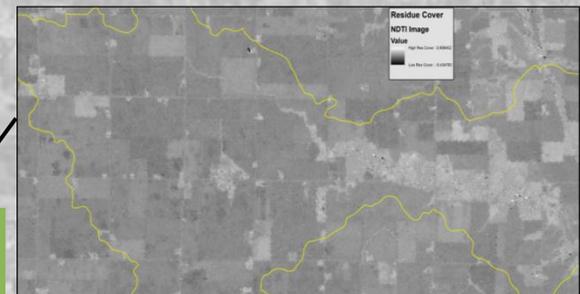
LiDAR  
Slopes



SSURGO  
Soils



Field Boundary &  
Crop Rotation



Remote Management

**WEPP**

**Infiltration Capacity**  
(depth/time)

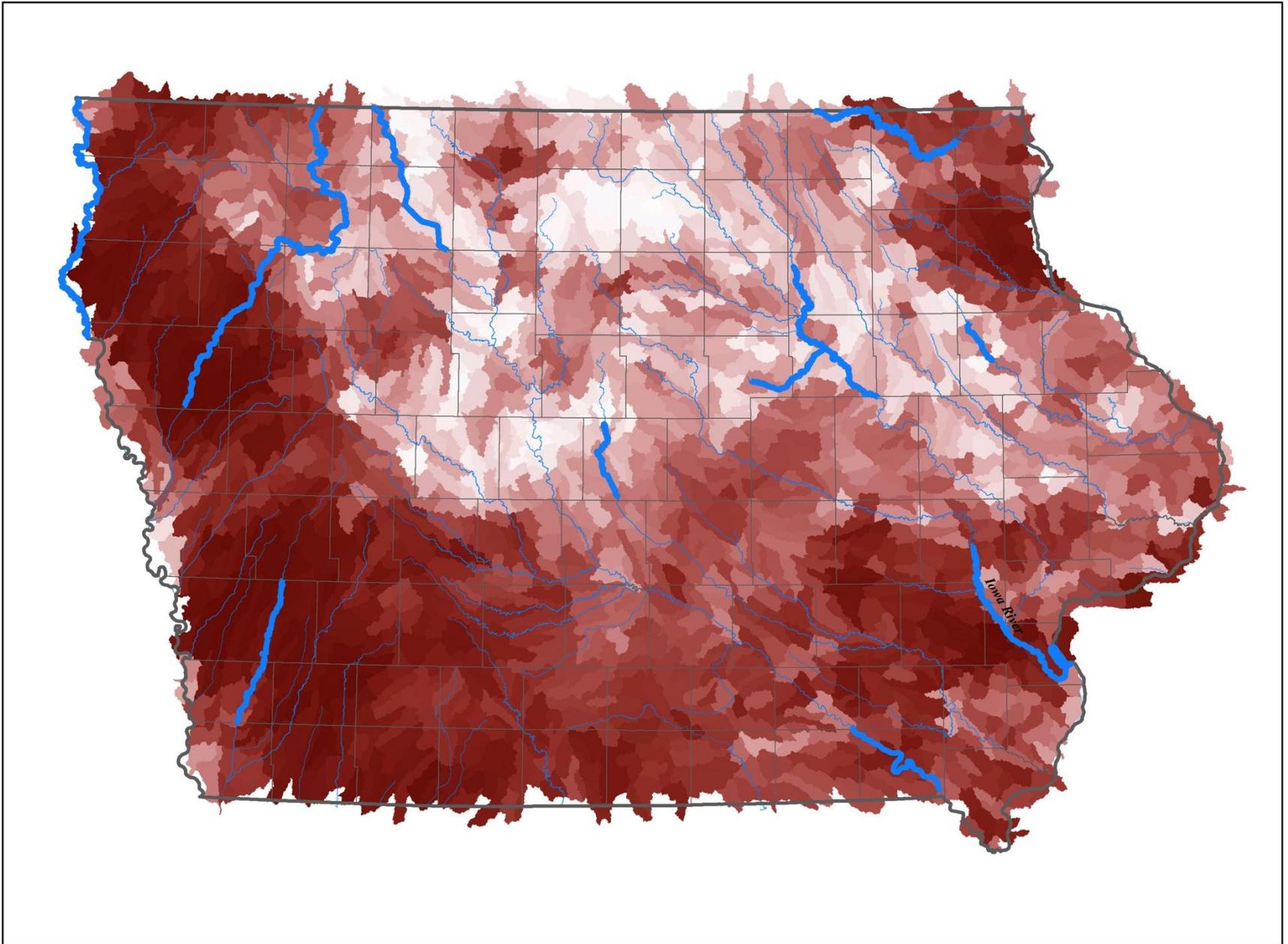
*rainfall rate is less than the infiltration capacity, the rainfall is the runoff.*

*Infiltration capacity tells us how much of the rainfall can be absorbed by the ground without running off.*

©The COMET Program

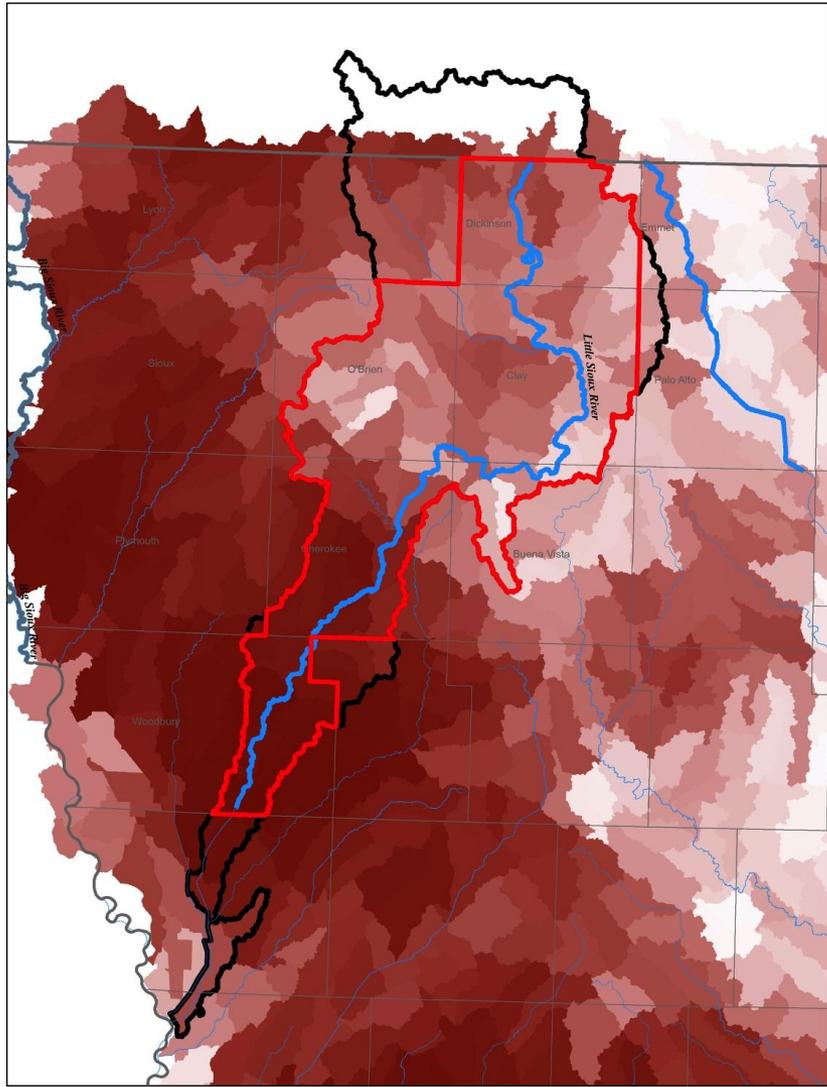


# Whole State IDEP



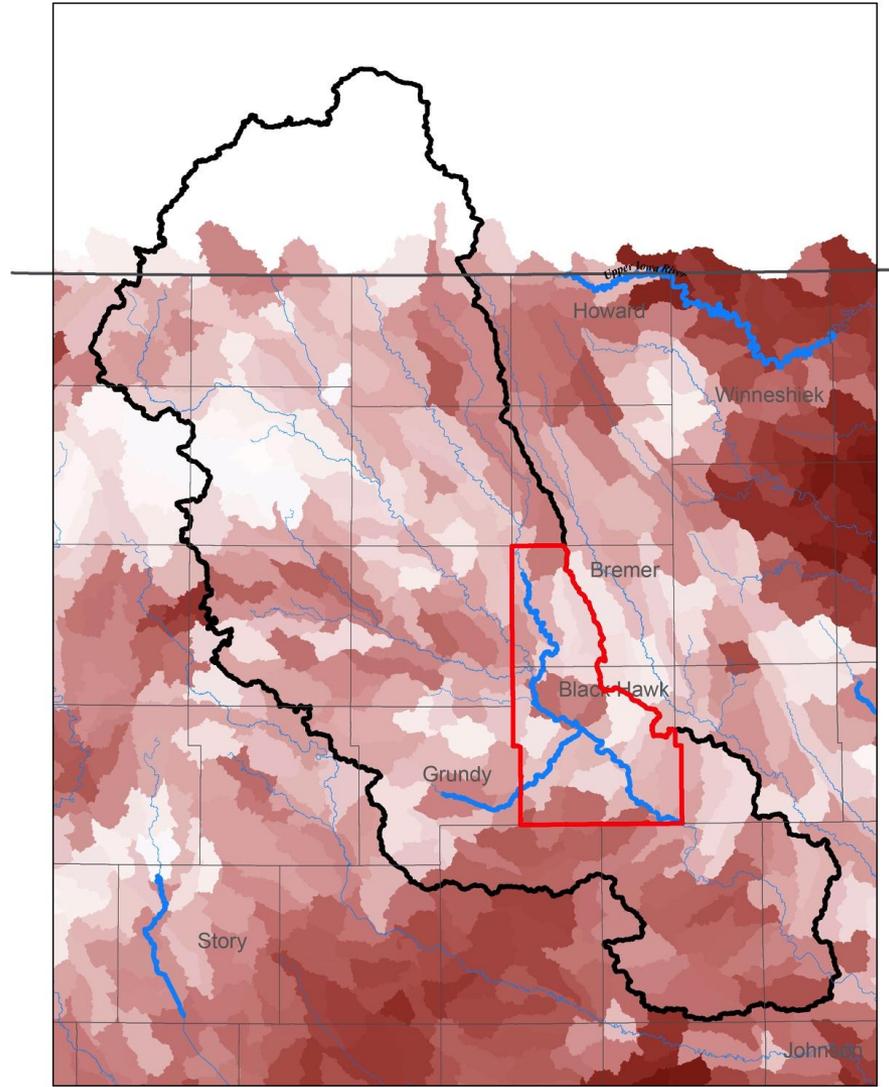
2012 IDEP Boundaries

Little Sioux River IDEP



2012 IDEP Boundaries

Cedar River IDEP



2012 IDEP Boundaries

# Average HUC 12 Annual Erosion in 2012

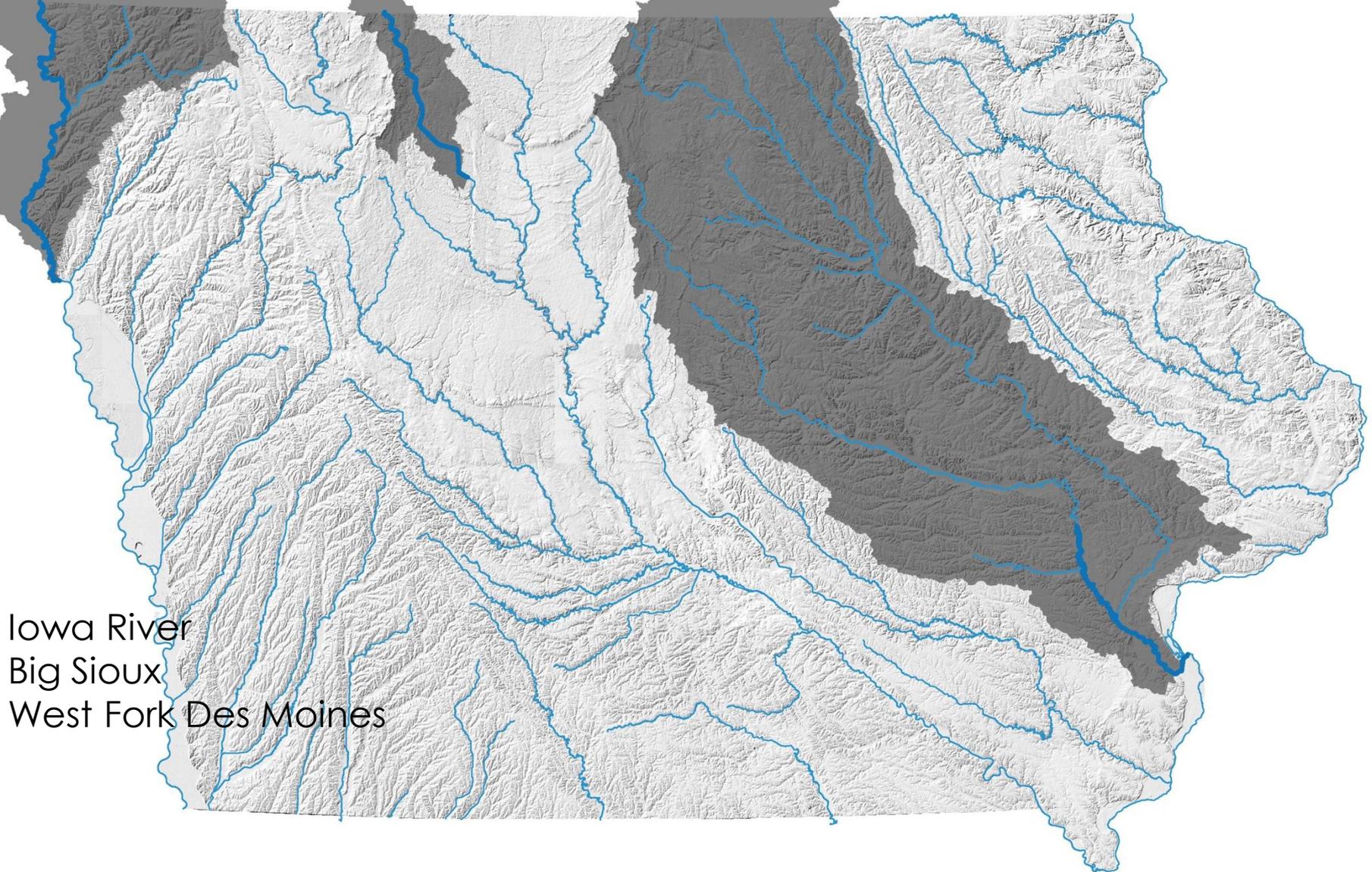
- Worst Three

- Lower Little Sioux
- West Nishnabotna
- Big Sioux

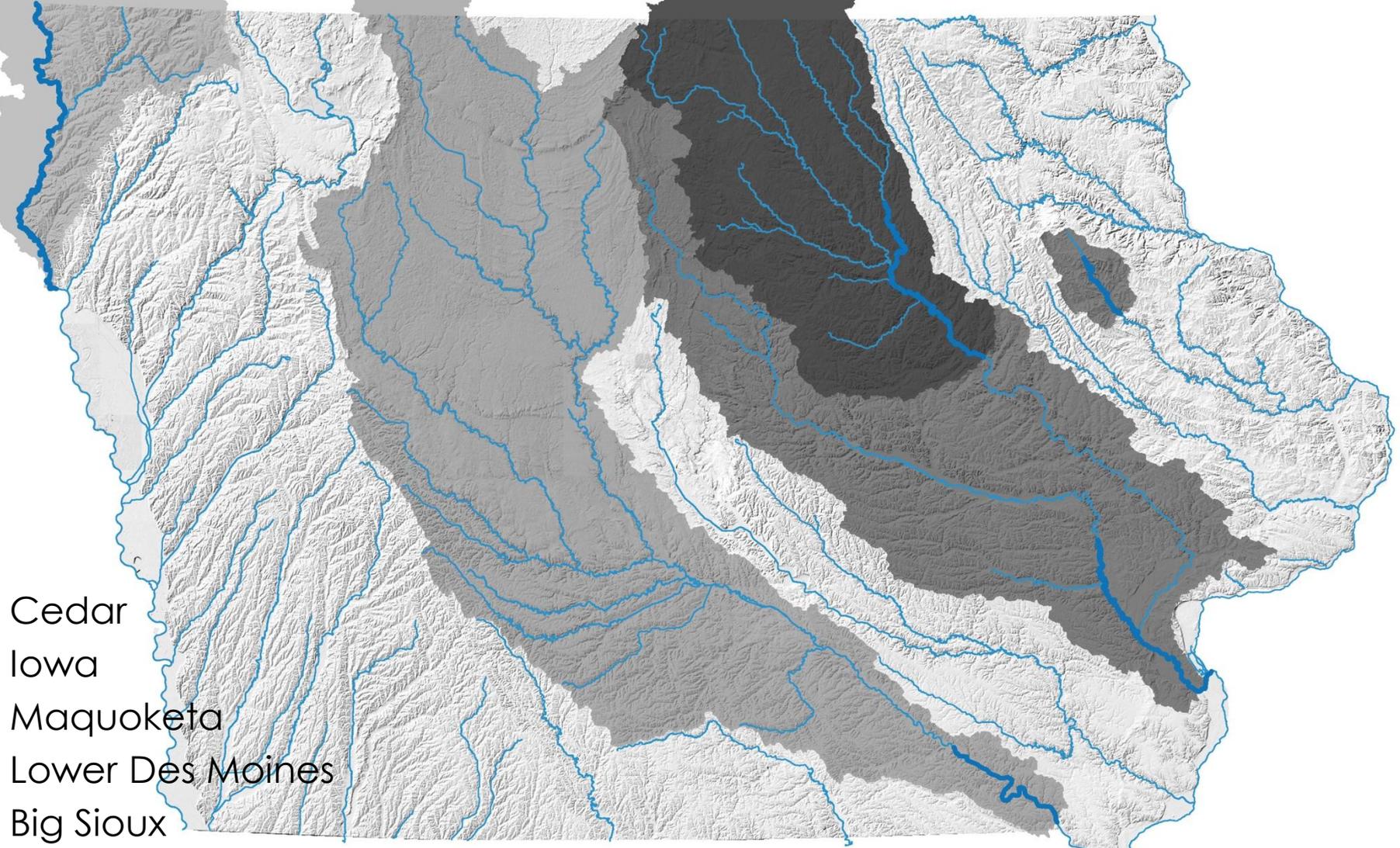
- Best Three

- Black Hawk Creek
- West Fork Des Moines
- South Skunk

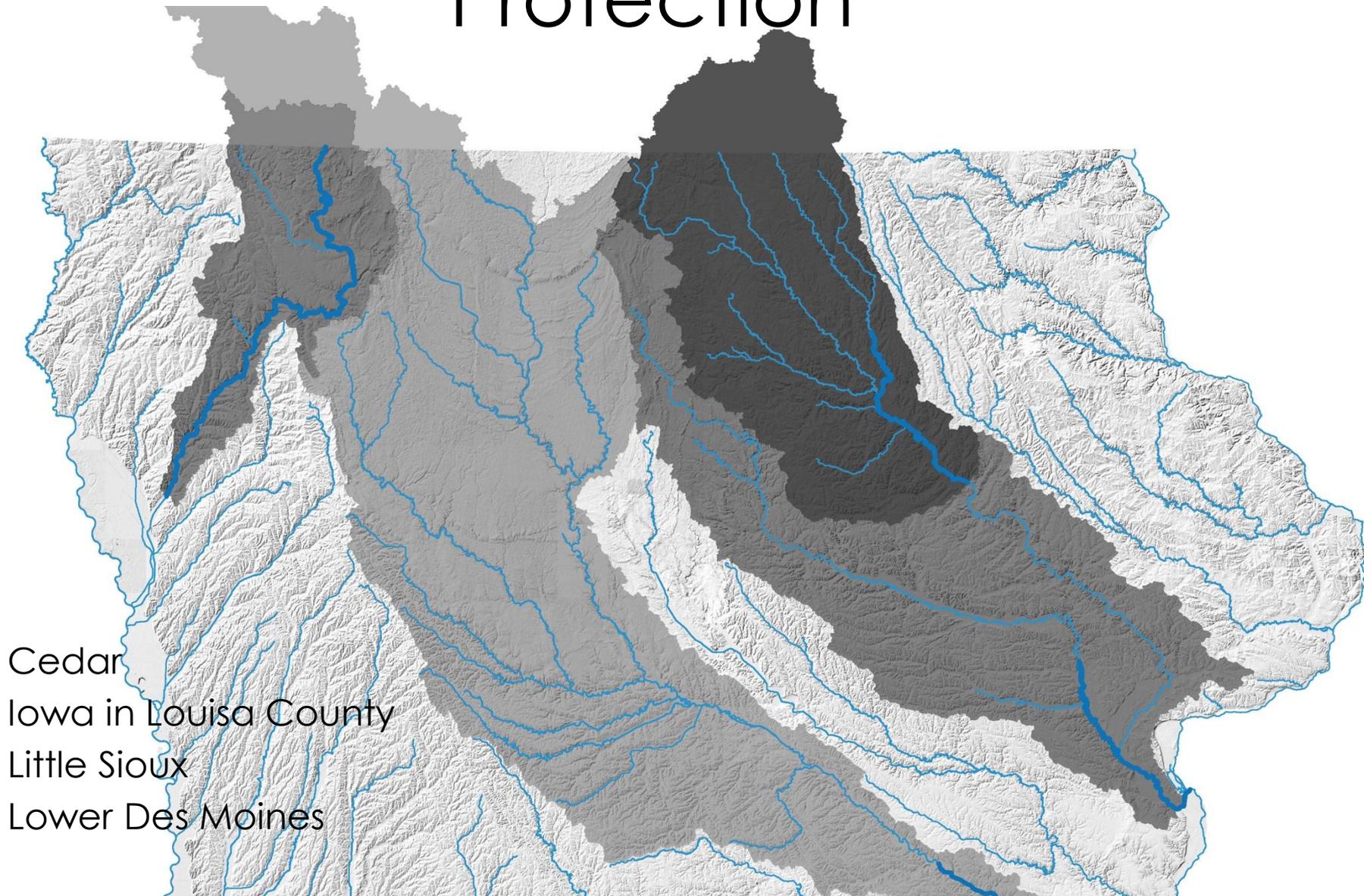
# Natural Channel Experience



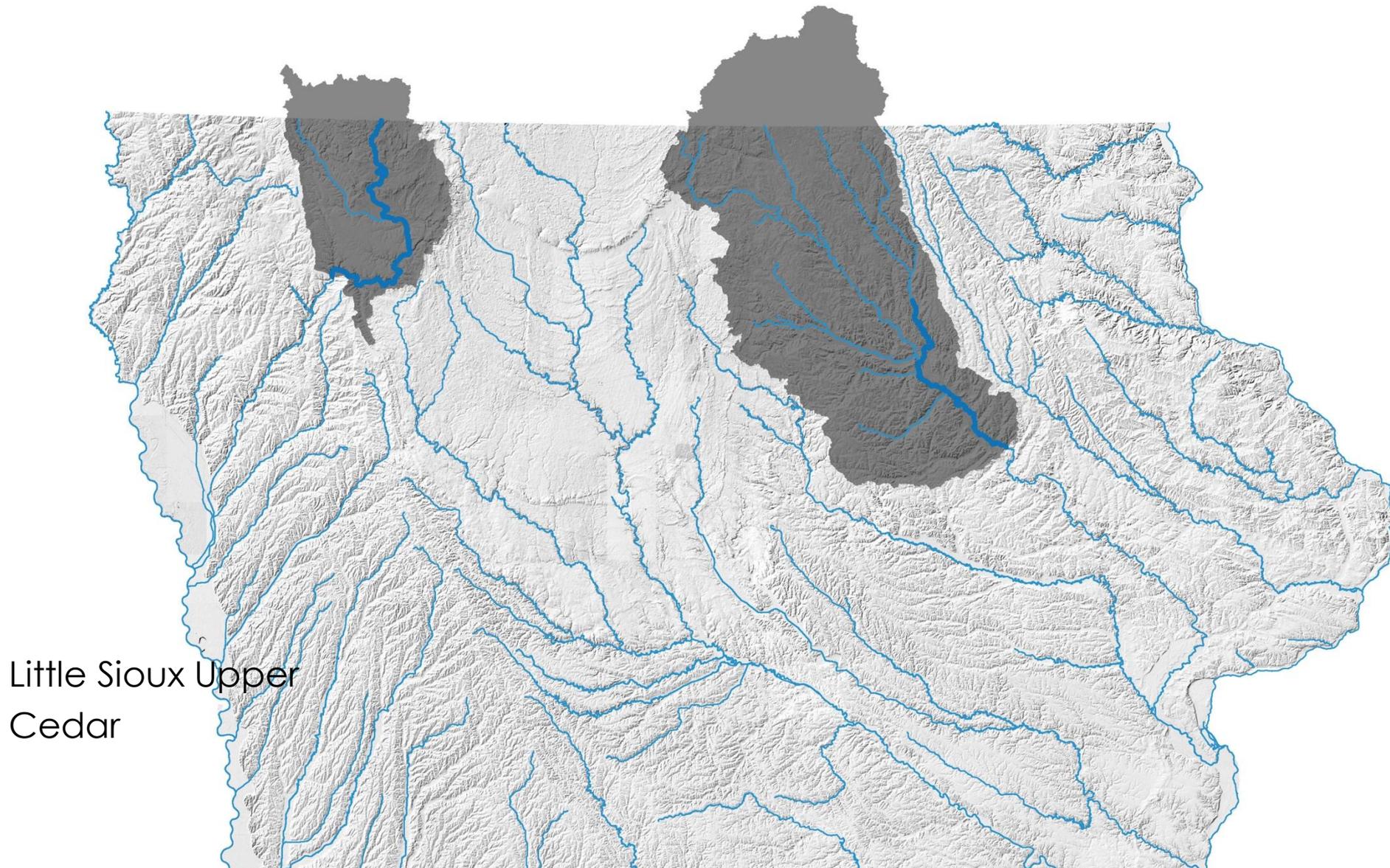
# Economic Spending

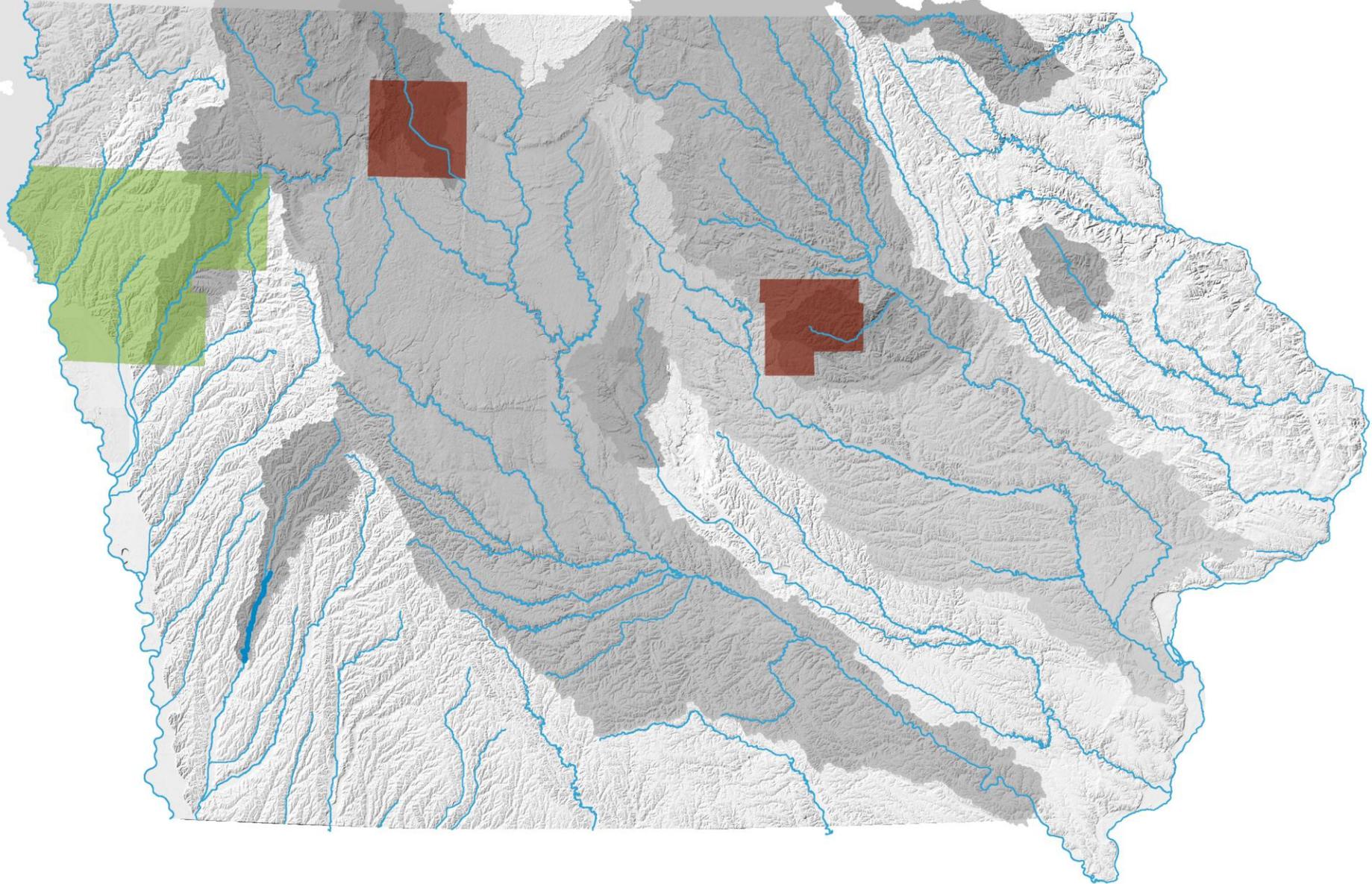


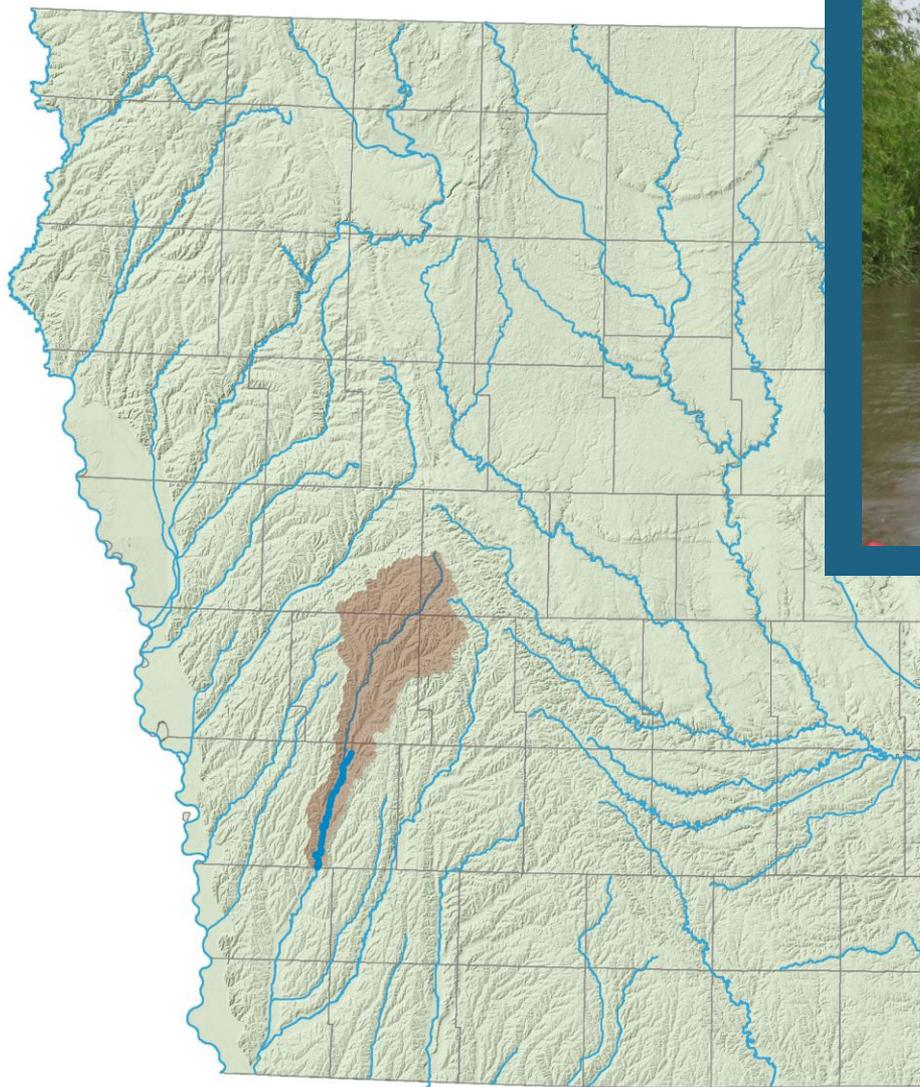
# Cultural – Historic Resource Protection



# Beginning Paddling Experience







# WEST NISHNABOTNA

- Stream Order 4-5
- 30.8 River Miles
- 695 Sq Miles

# SOUTH SKUNK

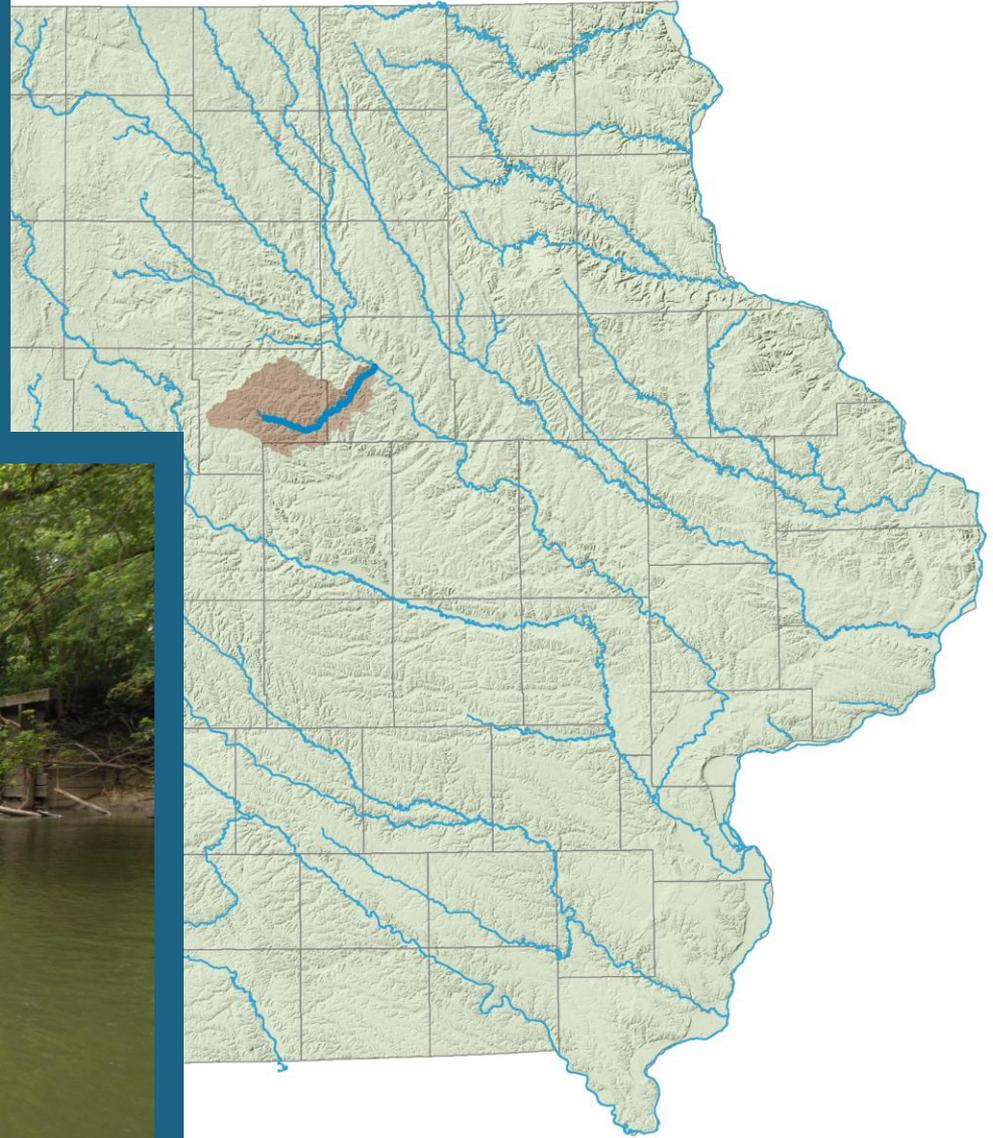
- Stream Order 4-5
- 38.0 River Miles
- 652 Sq Miles





# BLACKHAWK CREEK

- Stream Order 3-5
- 43.4 River Miles
- 339 Sq Miles



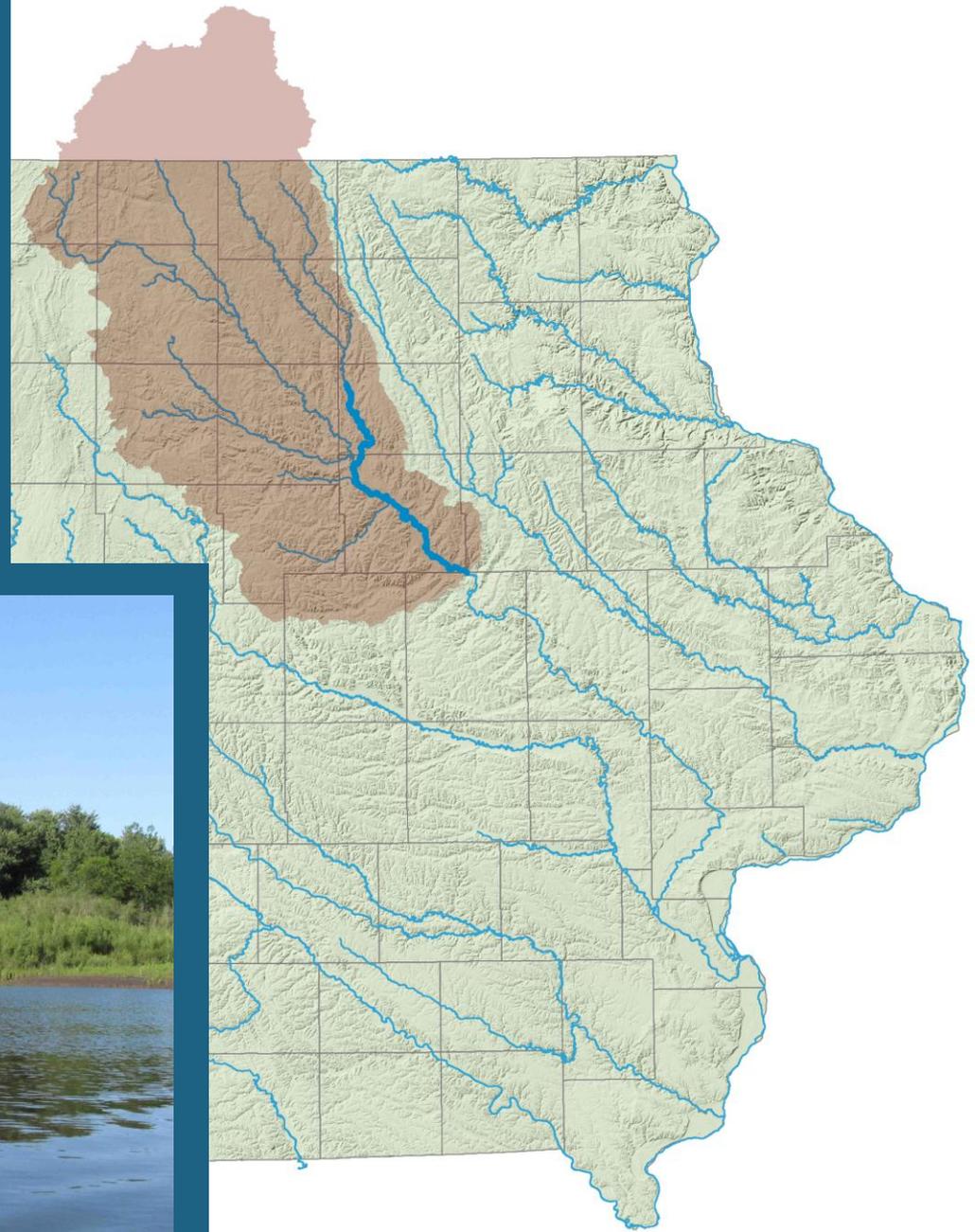


# BIG SIOUX

- Meandered
- 140.5 River Miles
- 8,857 Sq Miles

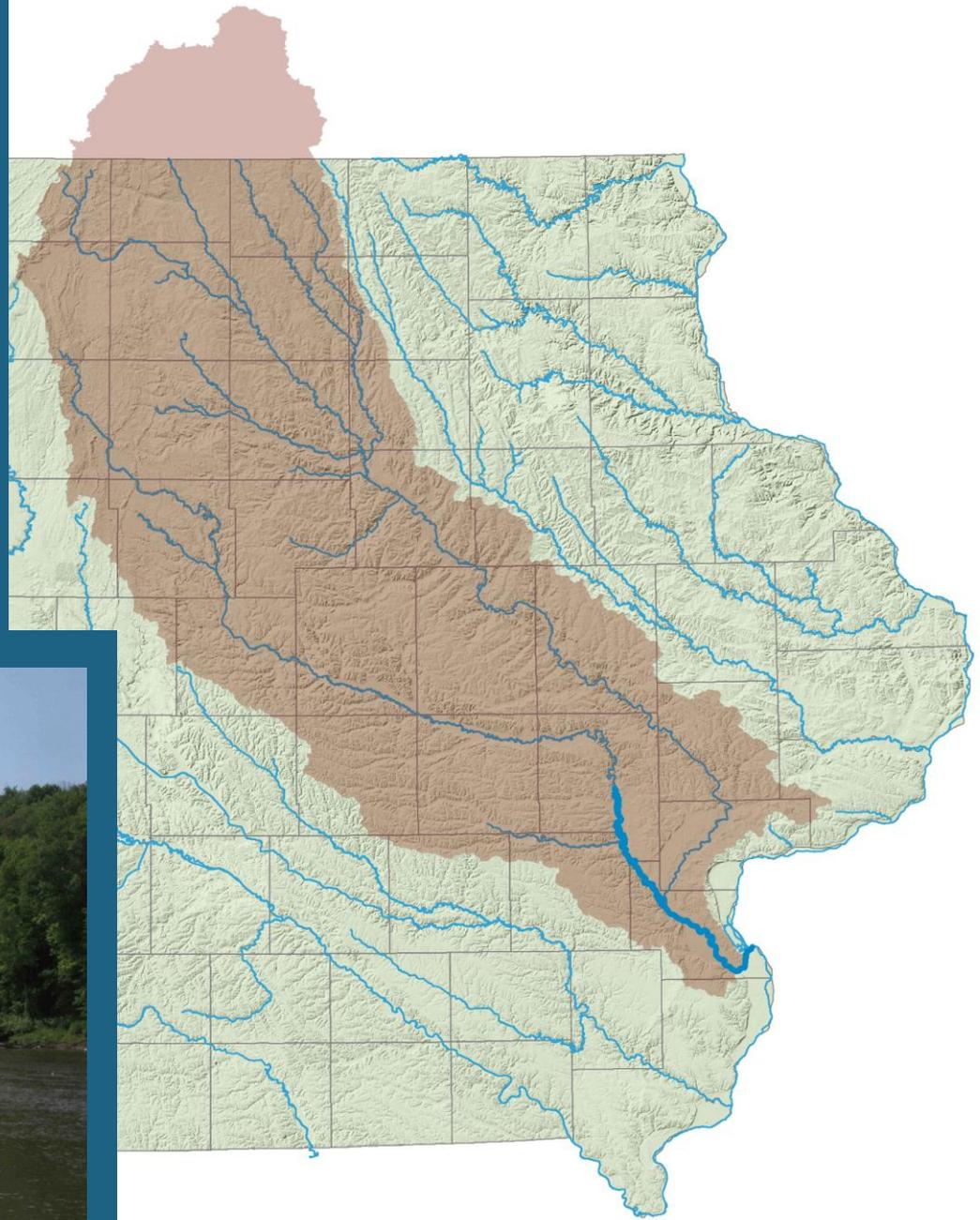
# CEDAR

- Meandered
- Stream Order 5-6
- 73.9 River Miles
- 583 Sq Miles



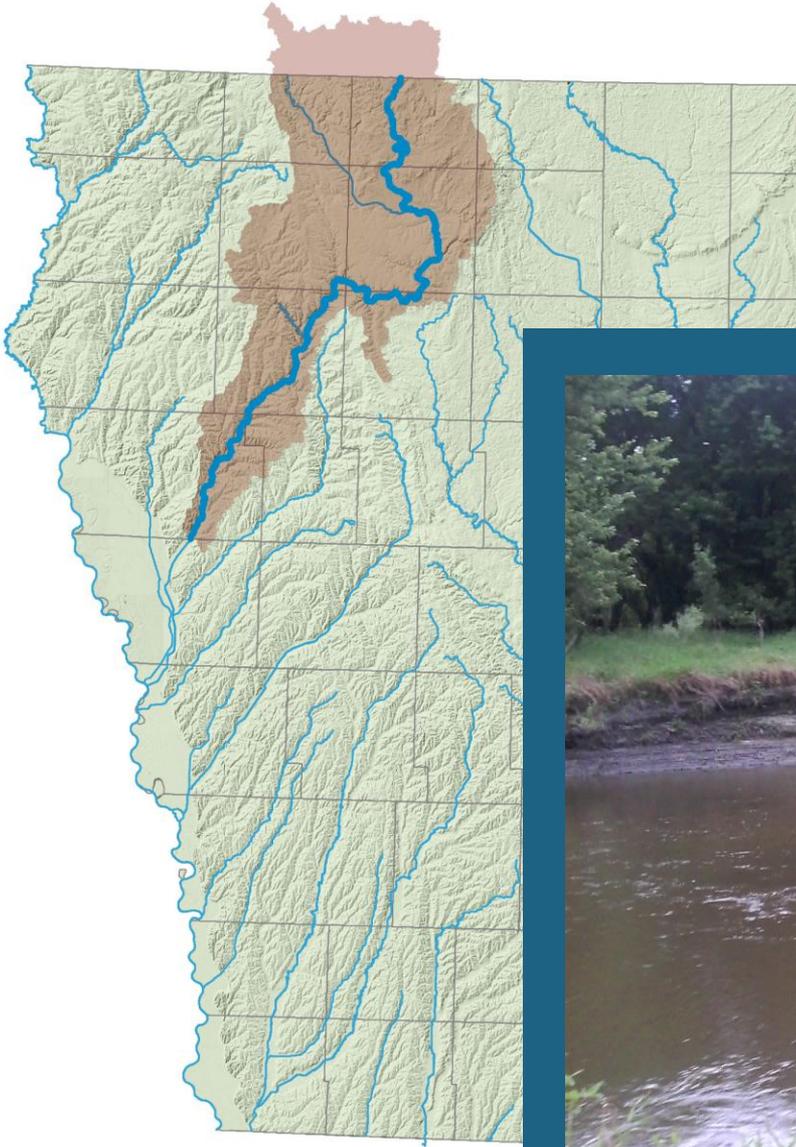
# IOWA

- Meandered
- Stream Order 6-7
- 74.9 River Miles
- 12,620 Sq Miles



# LITTLE SIOUX

- Stream Order 4-6
- 209.4 River Miles
- 2,713 Sq Miles



# LOWER DES MOINES



- Meandered
- Stream Order 7
- 44.0 River Miles
- 14,204 Sq Miles

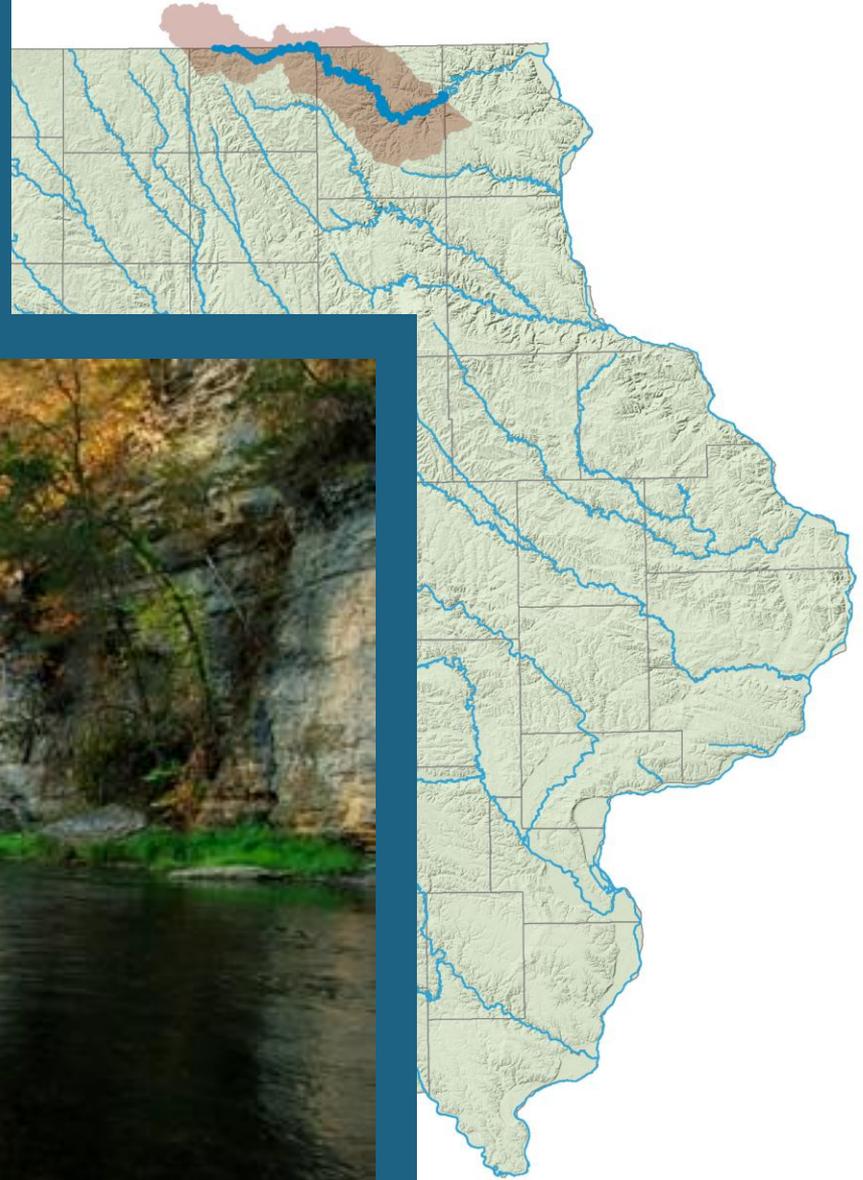
# MAQUOKETA

- Stream Order 3-5
- 26.6 River Miles
- 327 Sq Miles



# UPPER IOWA RIVER

- Stream Order 4
- 101.4 River Miles
- 722 Sq Miles



# WEST FORK, DES MOINES

- Meandered
- Stream Order 6
- 65.1 River Miles
- 708 Sq Miles

