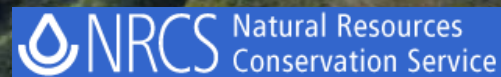
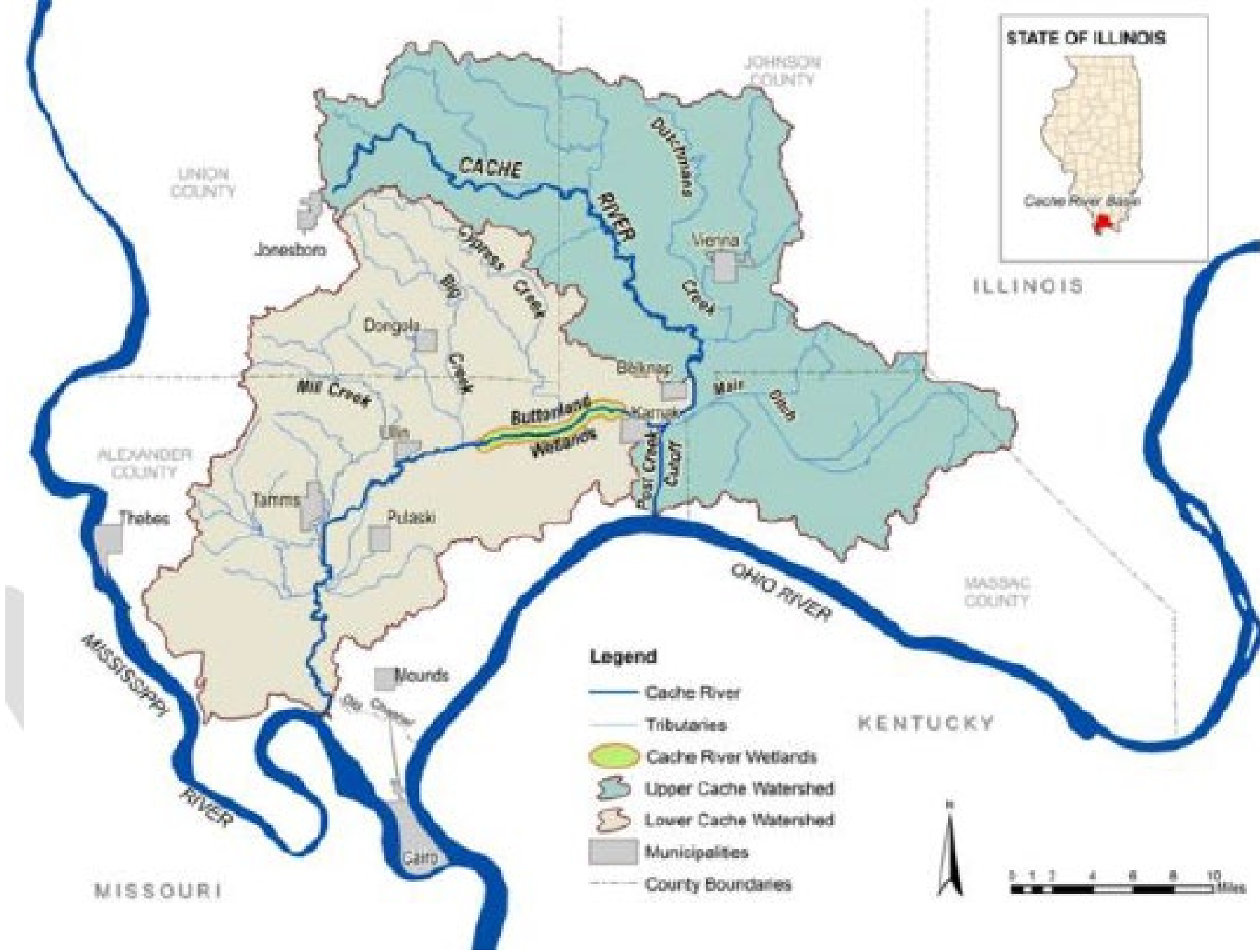


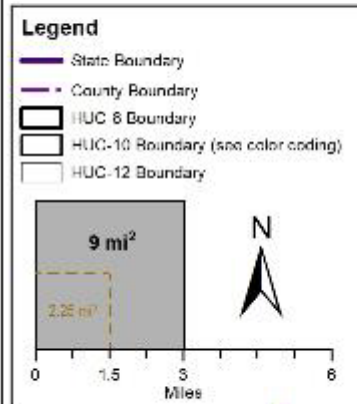
# Cache River Joint Venture Partnership: Past, Present, and Future







# Watersheds and Subwatersheds within the Cache River Subbasin (HUC-8 code 07140108)



Watershed data acquired  
from the USGS NHD  
<https://nhd.usgs.gov>

**Watershed Terminology:**  
Region = HUC-2  
Subregion = HUC-4  
Basin = HUC-6  
Subbasin = HUC-8  
Watershed = HUC-10  
Subwatershed = HUC-12

MISSOURI

ALEXANDER  
COUNTY

UNION COUNTY

JOHNSON  
COUNTY

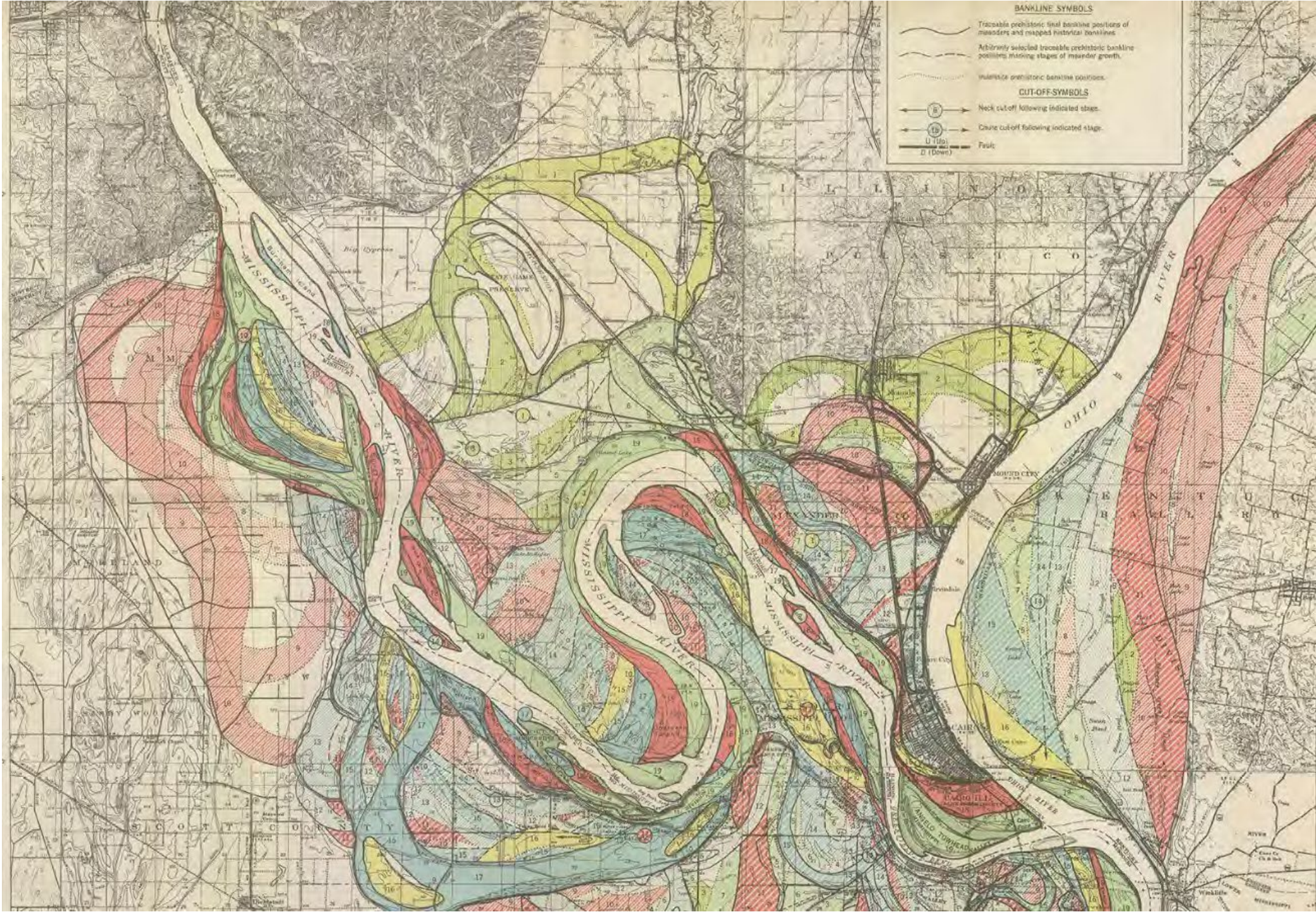
MASSAC COUNTY

PULASKI  
COUNTY

KENTUCKY

USGS Hydrologic Unit Codes (HUC)		
Code	HUC Number	HUC Name
HUC 10	0714010801	Big Creek-Cache River
HUC 12	071401080101	Cypress Creek
HUC 12	071401080102	Lincoln Slough
HUC 12	071401080103	Little Creek
HUC 12	071401080104	Big Creek
HUC 12	071401080105	Town of Kennel-Cache River
HUC 10	0714010802	Mill Creek-Cache River
HUC 12	071401080201	Cooper Creek-Mill Creek
HUC 12	071401080202	Mill Creek
HUC 12	071401080203	Sandy Creek
HUC 12	071401080204	Indian Camp Creek-Cache River
HUC 10	0714010803	Boar Creek-Cache River
HUC 12	071401080301	Headwaters Boar Creek
HUC 12	071401080302	Cypress Slough Boar Creek
HUC 12	071401080303	Lake Creek
HUC 12	071401080304	Hogsk n Creek-Cache River

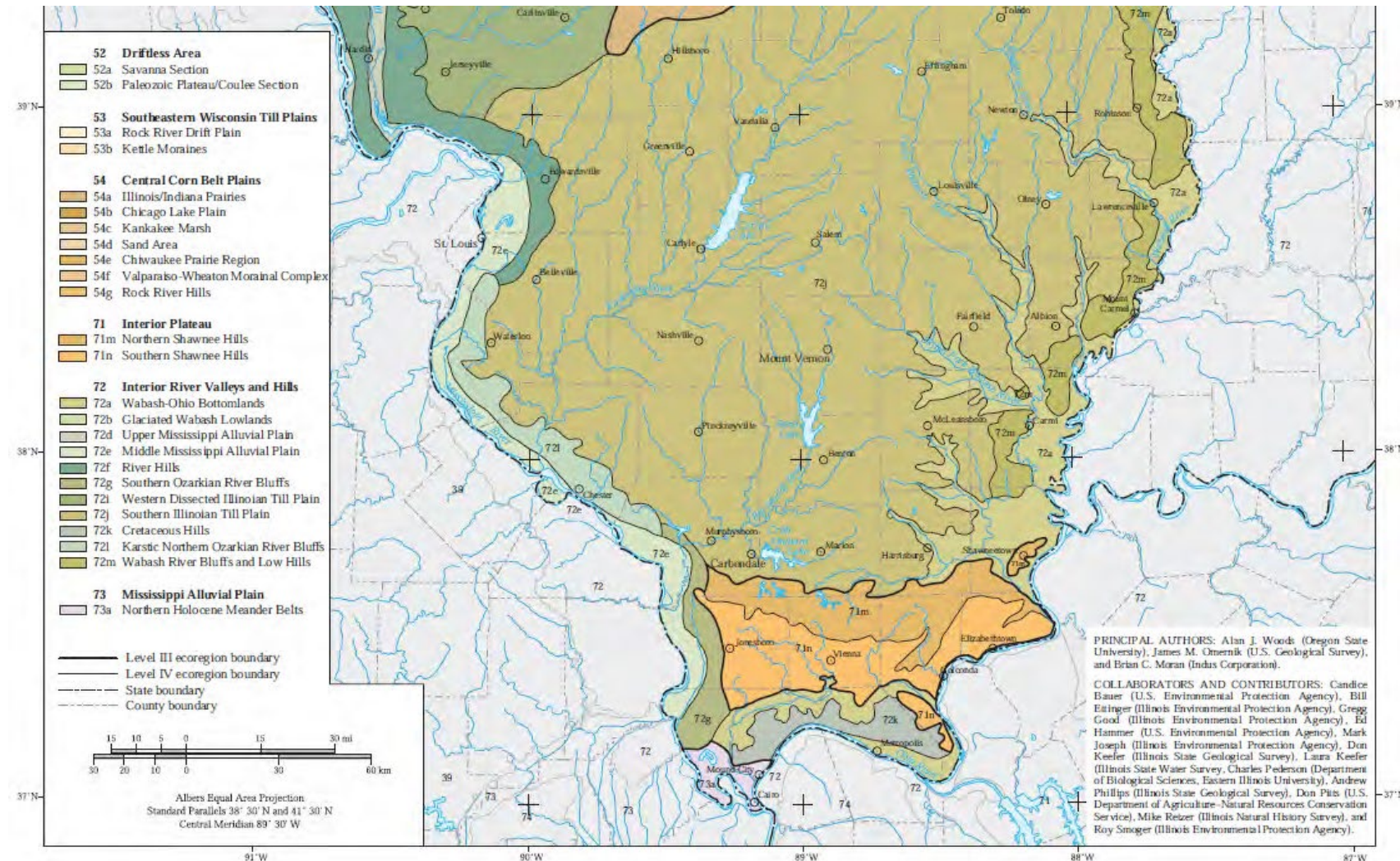






# Cache River Watershed Physiographic Regions

- Ozarks
- Interior Low Plateau
- Upper East Gulf Coastal Plain
- Mississippi River Alluvial Plain



R.C.F.

REPORT OF BOARD  
OF  
CACHE RIVER DRAINAGE  
COMMISSIONERS  
OF ILLINOIS

1905

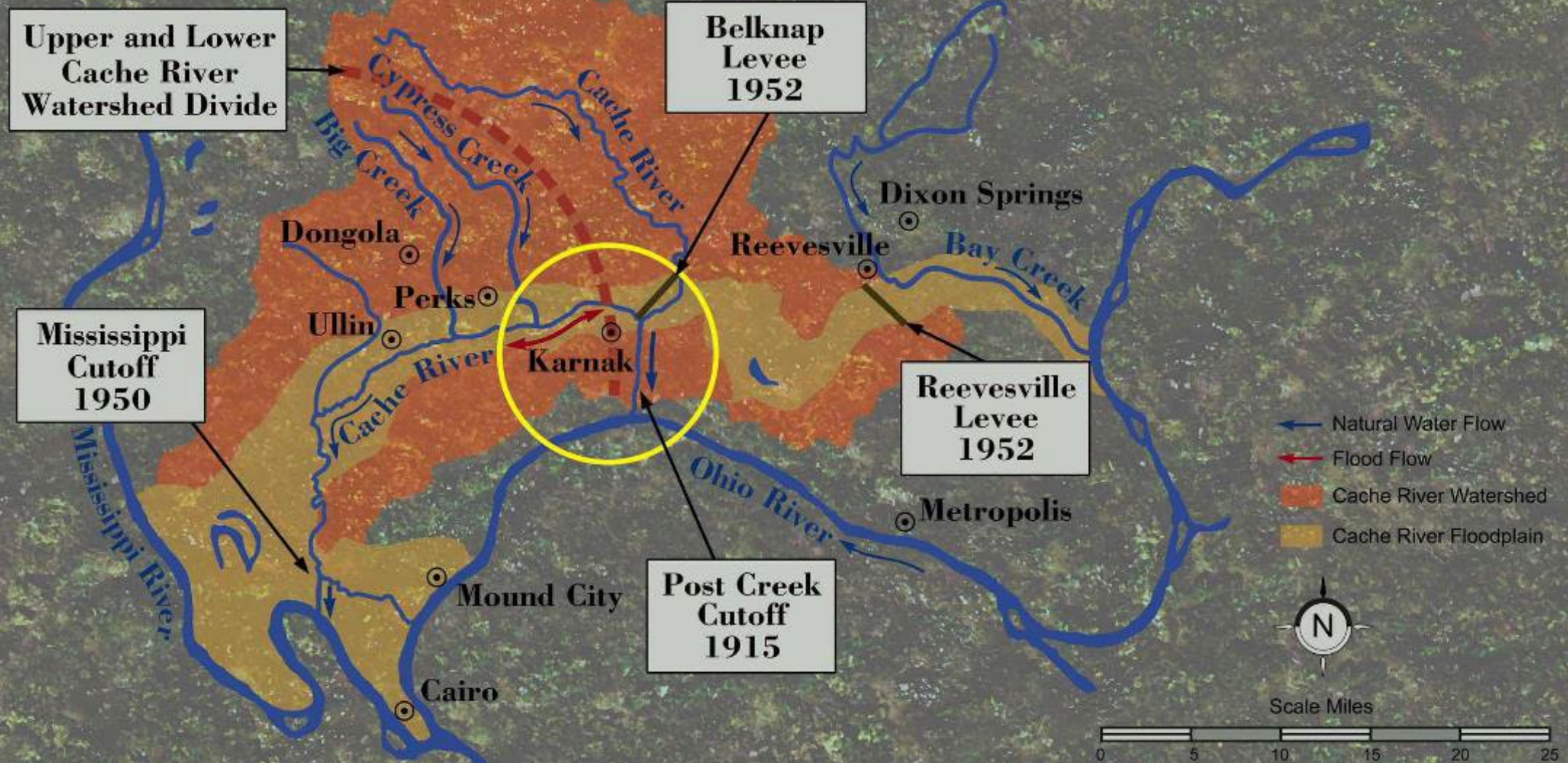
COMMISSIONERS.

W. A. Wall of Mound City, Ill., Chairman.  
Andrew Davidson, Metropolis, Ill.  
Hugh H. Copher, Marion, Ill.

State Printing Company  
Springfield, Illinois

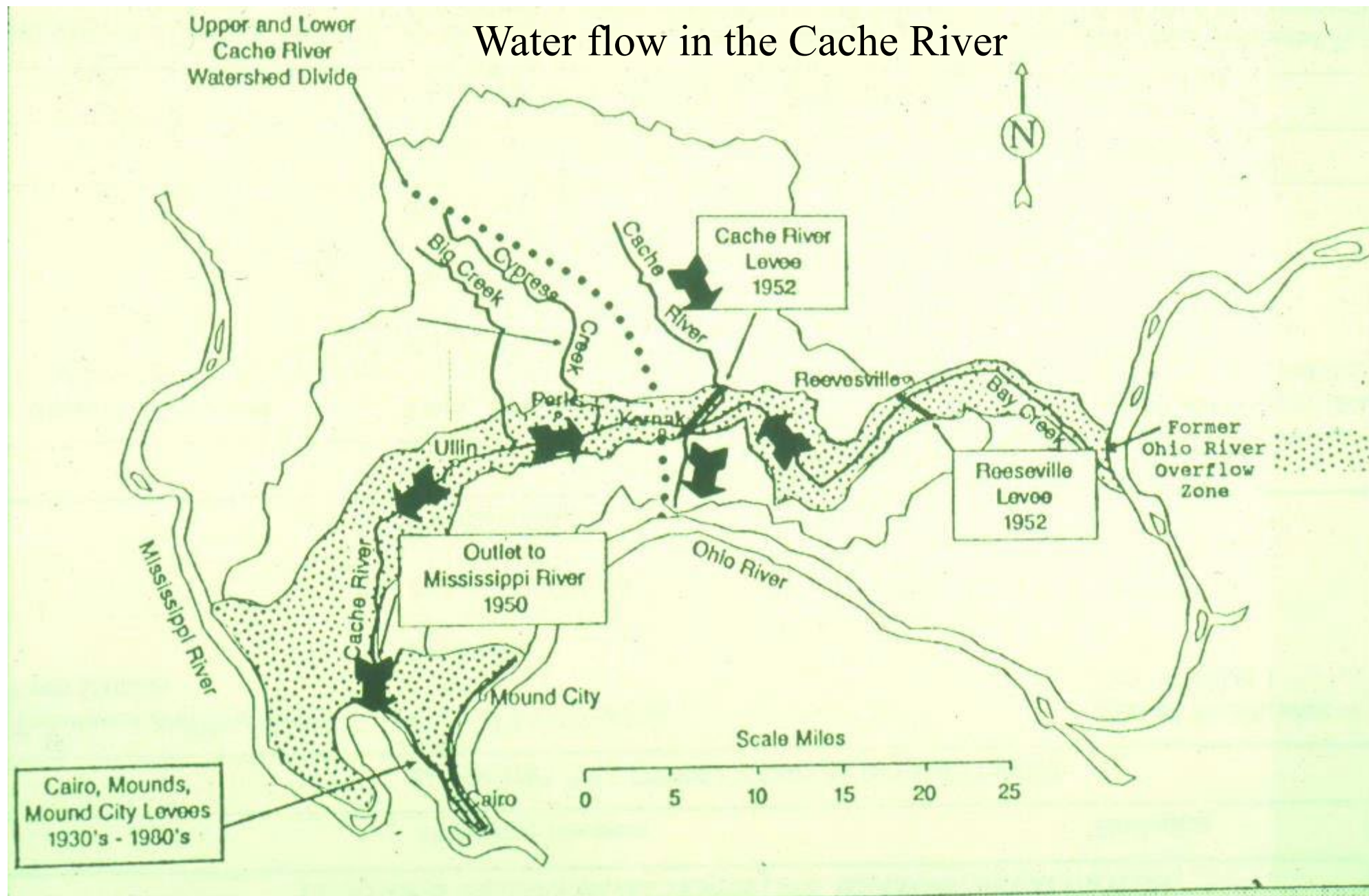


# THE CACHE IN 2000





## Water flow in the Cache River





# Conservation History

- Citizens to save the Cache River
- The Nature Conservancy
- State Natural Area (1987)
- Cypress Creek NWR (1990)
- Original MOU 1993
  - US Fish & Wildlife Service, Ducks Unlimited, Illinois Department of Natural Resources, The Nature Conservancy

## Cache River Wetlands Project, Illinois

### MEMORANDUM OF AGREEMENT

between

U.S. Fish and Wildlife Service, Department of the Interior

and

Illinois Department of Conservation

and

Ducks Unlimited, Inc.

and

The Nature Conservancy

#### I. PURPOSES

This agreement, made this September 25, 1993 by and between the U.S. Fish and Wildlife Service, Department of the Interior (hereinafter referred to as "Service"); the Illinois Department of Conservation (hereinafter referred to as "Department"); Ducks Unlimited, Inc. a non-profit corporation (hereinafter referred to as "Ducks Unlimited"); and The Nature Conservancy, a non-profit corporation (hereinafter referred to as "Conservancy") is hereby entered into under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401 as amended; 16 U.S.C. 661; and 16 U.S.C. 752f).

WHEREAS, the North American Waterfowl Management Plan is a policy document entered into by the United States, Canada, and Mexico setting forth a framework and guidelines for managing and enhancing waterfowl populations; and

WHEREAS, efforts to contribute to the goals of the North American Waterfowl Management Plan can also contribute to protecting and enhancing populations of rare or endangered plants and animals and other fish and wildlife species as well as protecting natural biological diversity and improving the quality of the human environment; and

WHEREAS, the Lower Mississippi Valley Joint Venture was established to protect, restore, and enhance critical habitat in the joint venture area through cooperative projects involving Federal and State agencies and private organizations; and



# Objectives

- A. To protect natural habitat and endangered species, and restore and manage habitat for waterfowl and other native fish and wildlife within the Cache River watershed;
- B. To assist in accomplishing the objectives of the North American Waterfowl Management Plan, the Lower Mississippi Valley Joint Venture, and the Illinois Natural Areas Plan by designing, acquiring and managing an ecological reserve as a public/private joint venture;
- C. To protect certain unique cultural importance identified Landmark program and/or the Inventory; areas of ecological and by the National Natural Illinois Natural Areas
- D. To protect important or unique natural features including, but not limited to: especially old or large individual trees, rookeries and nesting areas, and scenic areas er views;
- E. To protect and improve the condition and functional integrity of the entire Cache River ecosystem by improving land use and natural resource management practices on both public and private lands within the watershed; and
- F. To facilitate coordination and cooperation among public agencies and private interests in planning and implementing new and existing conservation programs in the Cache River watershed; To facilitate coordination and cooperation among public agencies and private interests in planning and implementing new and existing conservation programs in the Cache River watershed;



**The Joint Venture Partneship's mission is to protect and restore the Cache River's natural ecosystem and to provide recreational experiences in ways that are compatible with continued human use of the watershed.**





- To facilitate coordination and cooperation among public agencies and private interests in planning and implementing new and existing conservation programs in the Cache River Watershed.
- To protect and improve the condition and functional integrity of the entire Cache River ecosystem by improving land use and natural resource management practices on both public and private land within the watershed.
- To protect natural habitat and endangered species, and restore and manage habitat for waterfowl and native fish and wildlife within the Cache River watershed.
- To assist in accomplishing the objectives of the North American Waterfowl Management Plan, the Central Hardwoods Joint Venture, and the Illinois Natural Areas Plan by designing, acquiring, and managing an ecological reserve as a public/private joint venture.
- To protect certain unique areas of ecological and cultural importance identified by the National Natural Landmark program and/or the) Illinois Natural Areas Inventory; and To protect important or unique natural features including, but not limited to especially old or large individual trees, rookeries and nesting areas, and scenic areas or views.

MEMORANDUM OF UNDERSTANDING  
by and between

US FISH AND WILDLIFE SERVICE,

DUCKS UNLIMITED, INCORPORATED,

ILLINOIS DEPARTMENT OF NATURAL RESOURCES,

THE NATURE CONSERVANCY,

USDA NATURAL RESOURCES CONSERVATION SERVICE

This **MEMORANDUM OF UNDERSTANDING** is hereby entered into by and between the agencies and organizations listed above.

A. **PURPOSE:** The purpose of this Memorandum of Understanding is to establish a general framework of cooperation between the parties of the Cache River Joint Venture Partnership ("the Partnership") to achieve the common goal of restoring or otherwise enhancing the natural resources of the Cache River watershed.

Partners aim to achieve this goal through public resource management, resource compatible economic development, private lands conservation, and education and outreach.

The partners have determined that it is to their mutual benefit to cooperate in support of the following common purposes:

To facilitate coordination and cooperation among public agencies and private interests in planning and implementing new and existing conservation programs in the Cache River Watershed.

To protect and improve the condition and functional integrity of the entire Cache River ecosystem by improving land use and natural resource management practices on both public and private land within the watershed.

To protect natural habitat and endangered species, and restore and manage habitat for waterfowl and native fish and wildlife within the Cache River watershed.

To assist in accomplishing the objectives of the North American Waterfowl Management Plan, the Central Hardwoods Joint Venture, and the Illinois Natural Areas Plan by designing, acquiring, and managing an ecological reserve as a public/private joint venture.

To protect certain unique areas of ecological and cultural importance identified by the National Natural Landmark program and/or the Illinois Natural Areas Inventory; and



# Cache River Wetlands Joint Venture Partnership Public Lands

## Legend

- Waterways
- Communities
- Interstate Transportation System
- U.S. Transportation System
- State Transportation System
- - - County Boundary
- ▭ Cypress Creek National Wildlife Refuge Acquisition Boundary

## Ownership

- ▭ USFWS
- ▭ IDNR
- ▭ INC
- ▭ Private



0 5 10 Miles

Horizontal Scale: 1" = 150,000'  
One Inch = 2.37 Miles

Map Date: April 21, 2003  
Map Projection: UTM NAD83 ZONE 18  
Map Sources: Cypress Creek NWR, Illinois Dept. of Natural Resources,  
S.U. Forestry Department, and The Nature Conservancy

We have made every reasonable effort to ensure the quality in producing this map. The data comes from a variety of sources which vary in degree of accuracy. This map has been designed as a tool to be used in determining the locations of these areas.

Map Locator  
Not to Scale

CACHE RIVER WETLANDS  
JOINT VENTURE  
PARTNERSHIP



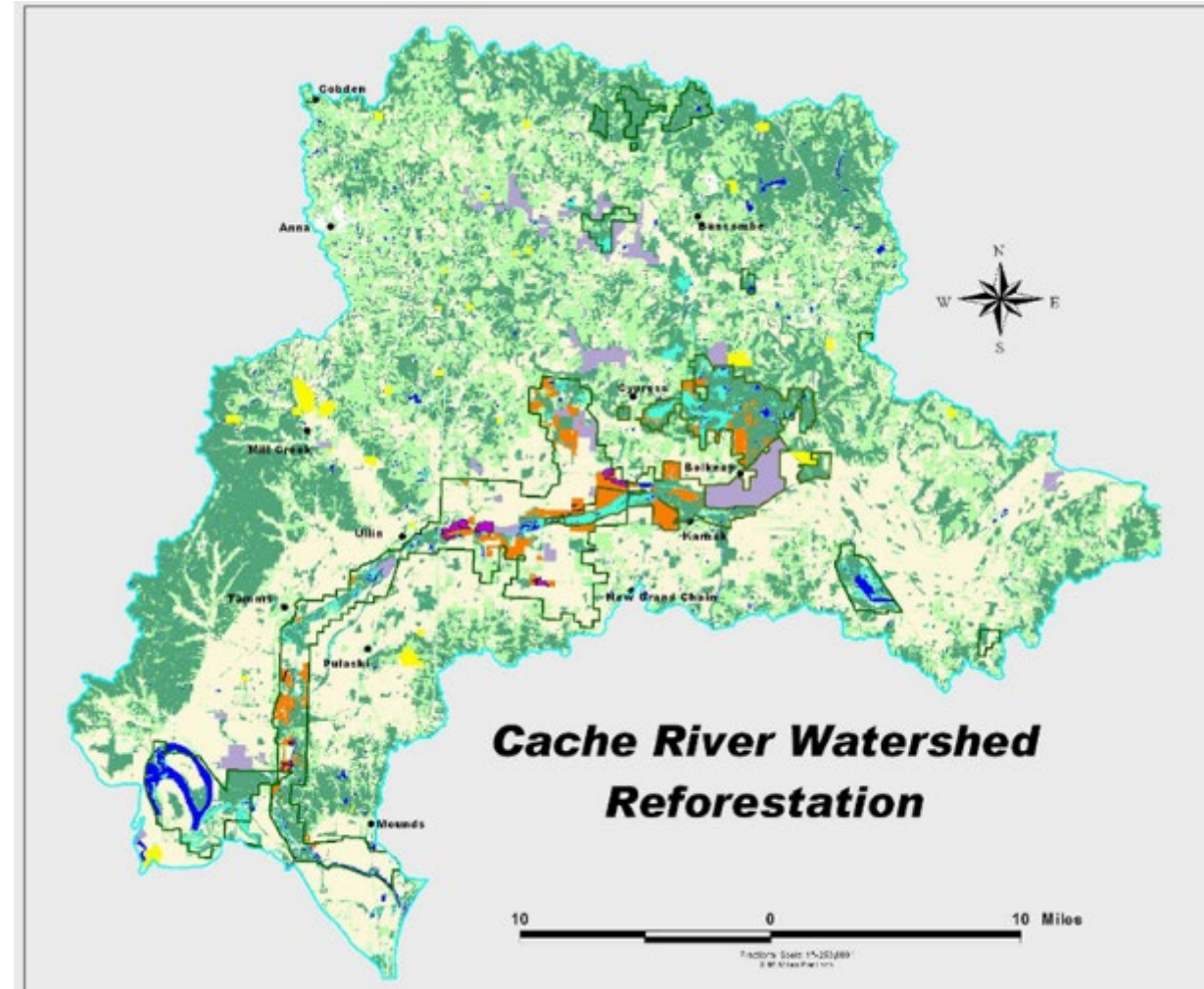
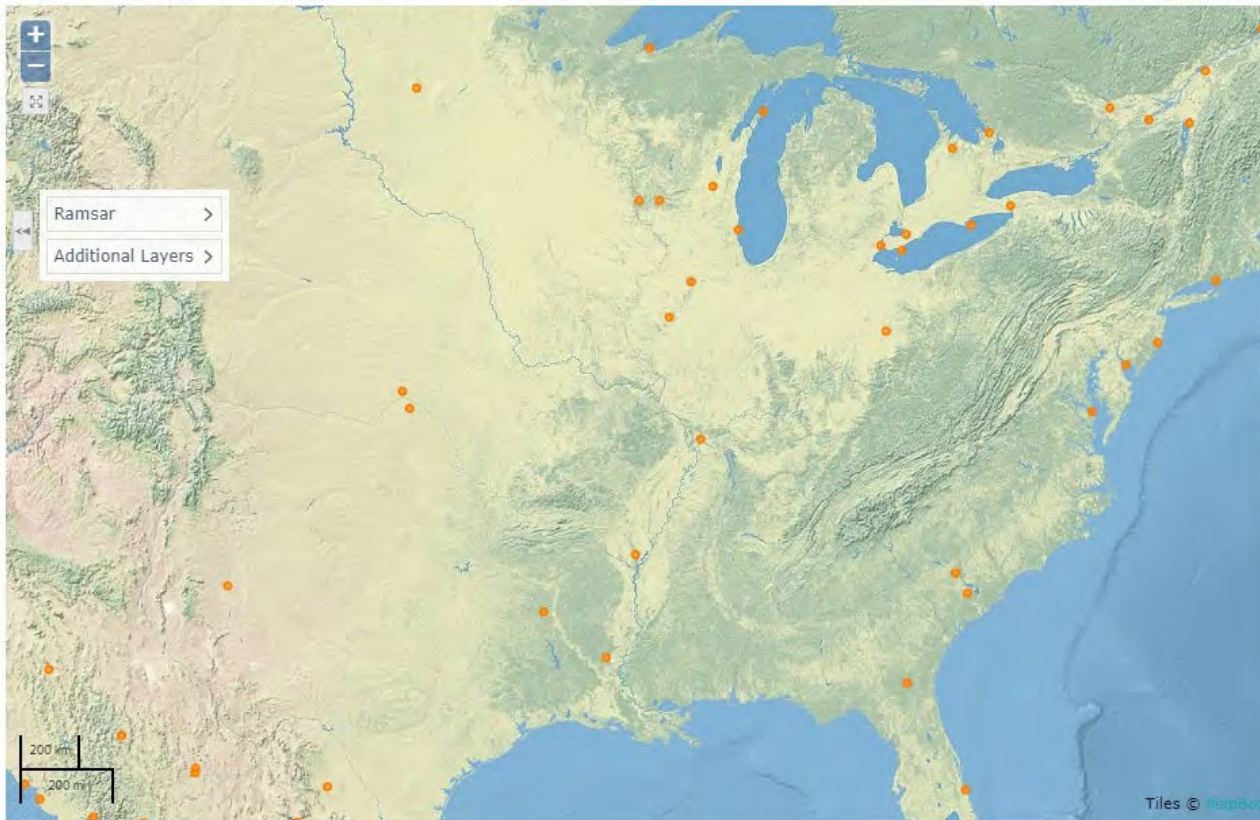


## National Natural Landmarks

- Lower Cache River Swamp
  - Est. 1980
  - Private, state, and federal ownership; 1,347 acres
- Heron Pond-Little Black Slough Natural Area
  - Est. 1972
  - State ownership; 6,439 acres



- Designated a RAMSAR Wetland of International Importance due to species diversity in 1996







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#### Cache River Watershed

Welcome to the Cache River Watershed pages. We hope that this resource will be of use to those interested in this area in Southern Illinois. Please contact us with any suggestions or questions. This resource was originally created as a bibliography by the members of the first-year [SIUC IGERT Watershed Science and Policy](#) cadre (Kim Erndt, Alicia Lloyd, Amanda Nelson, Kristen Pitts, Nicolas Sarkany, and Timothy Stoebner). We want to thank them and Anja Meksem, the IGERT coordinator at that time. We also want to thank Elizabeth Jones of the Cypress Creek National Wildlife Service for her assistance.

OpenSIUC, SIU Carbondale's institutional repository, has a [section on the Cache River, IL](#) with links to many recent articles, and abstracts of theses and dissertations at [http://opensiuc.lib.siu.edu/env\\_cache](http://opensiuc.lib.siu.edu/env_cache).

Many items are linked to subscription full text documents that require Southern Illinois University Carbondale IDs and passwords for access (available for SIUC students, staff, and

#### Get Help Here

Jennifer Horton, Science Librarian

[jhorton@lib.siu.edu](mailto:jhorton@lib.siu.edu)

Mary Taylor, Natural Sciences Librarian

[mtaylor@lib.siu.edu](mailto:mtaylor@lib.siu.edu)



# Current Collaboration

10) improve south bank to help avoid overland flows

3) improvements for management, operation and maintenance of the diehl structure

1) install water control device to control river depths OR control Limekiln Slough; could be used in concert with another structure further upstream.

11) create outlet area below Diehl structure for Egner Tract w/control for F&WS management

5) restore a proper outlet for Limekiln Slough to enhance bottomland hardwood/CT areas and keep flows from going over bank near diehl dam to the east

4) investigate spring development to assist in low flows; restore springs to original flow

34) review of 6 in-stream weirs in Big Creek for stability

33) upstream conservation treatment in big creek watershed

2) move diehl structure to Long Reach Road; allows for agencies to better control water management on their lands. Easier access for maintenance & operation. Would block boat access from the west, so would address this or build boat launch to east of road.

23) additional conservation measures in Cypress Creek watershed

21) investigate restoring historic Cypress Creek channel

22) potential well location for low flow insertion during dry periods

20) riffle weirs for dissolved O2

28) tunnel hill trail structure for providing grade to the west, and/or reconnection

31) potential secondary connection pathways; restore several braids

30) reconnection structure in Forman Floodway

29) levee repair

26) weirs for headcut reduction

27) flood improvements for Kamak

24) removal of Route 37 structure after creating east swamp structure

25) additional culverts for flood flows

17) restore meanders where possible along entire stretch

18) remove buttonbush in areas of desired open water

16) remove unnatural levee banks at bottom end of Cypress Creek to allow for floodplain flows

15) additional deepwater dredging, both for main channel and side meander channel

12) add additional culverts under LRR to allow for flood pulses to go through downstream areas

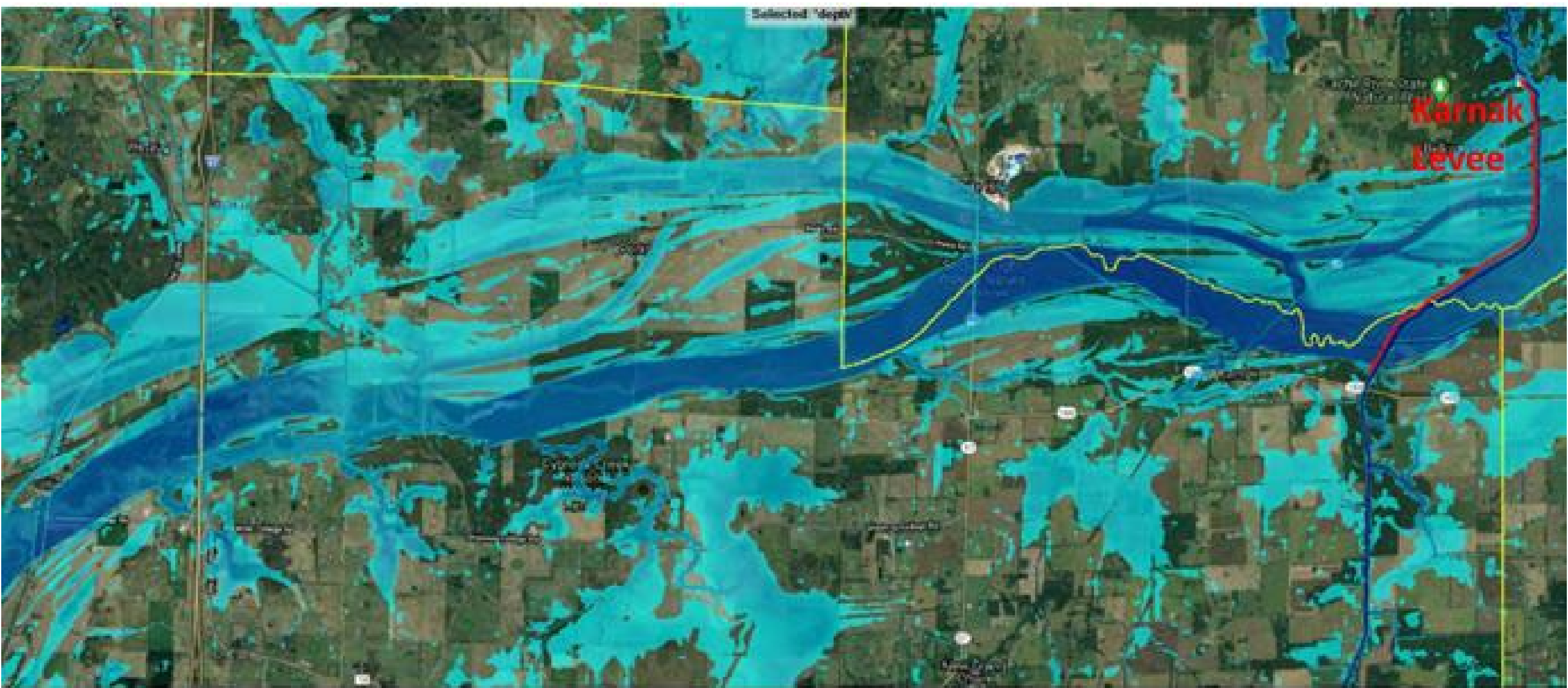
8) investigate possible dredging of CT area; including the slough channel itself to remove sediment bars and flow impediments

7) investigate sediment management structure(s) in Limekiln Slough area;

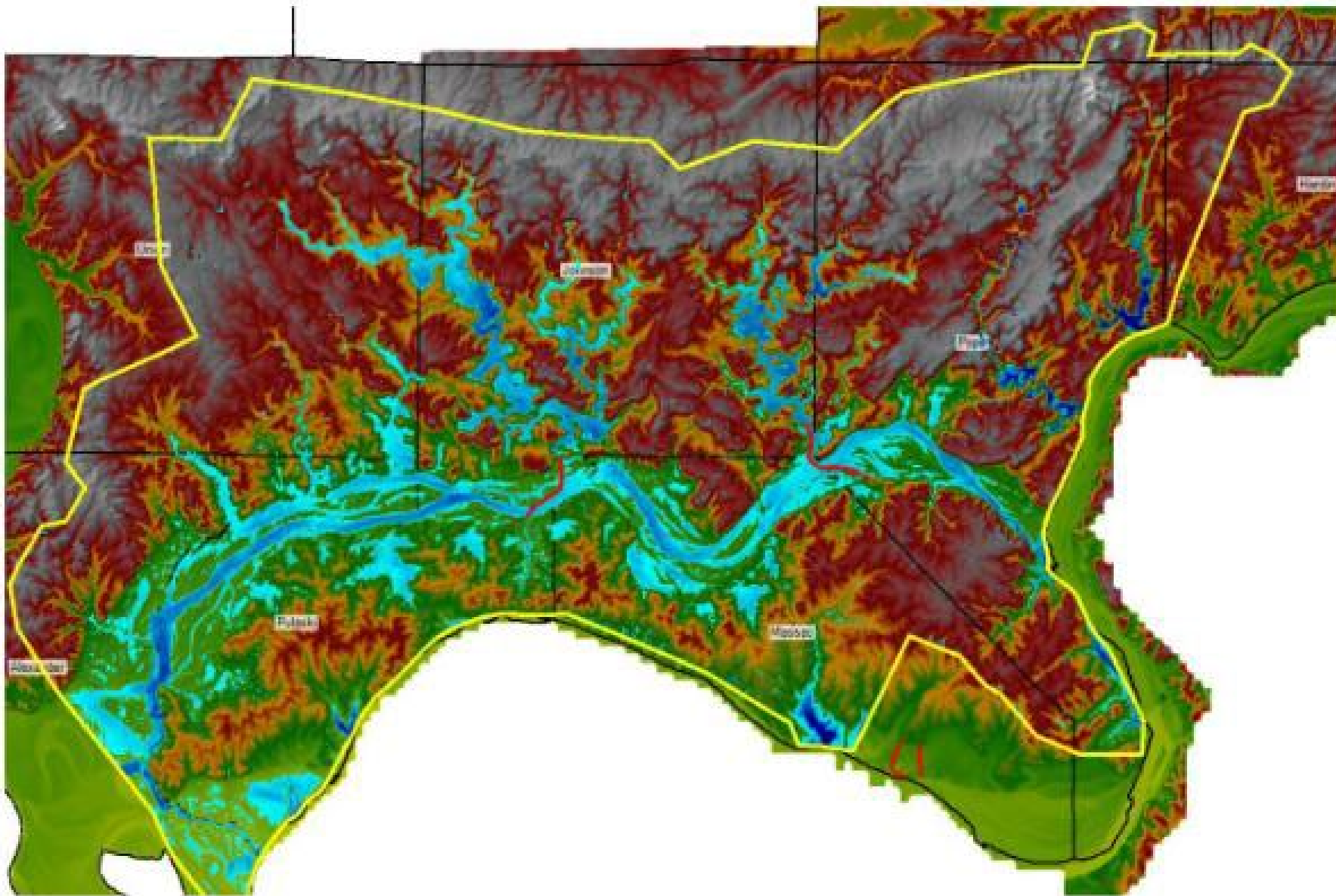
Location Map of Alternatives

1:70,000









- 2-Dimensional, Unsteady State HEC-RAS
- Rain-on-Grid



# Moving Forward

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