

*PRESENTATION
TO THE*

*CORPS OF ENGINEERS
THE NATURE CONSERVANCY
PARTNERSHIP CONFERENCE*

*SPUNKY
BOTTOMS*

1 1 35 PROJECT

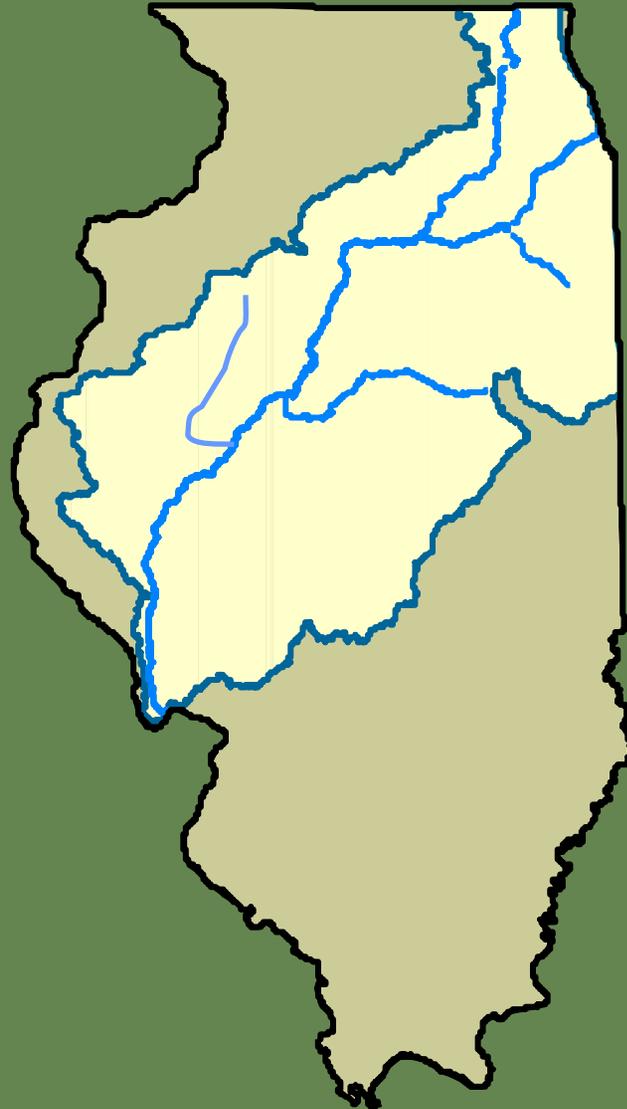
BY

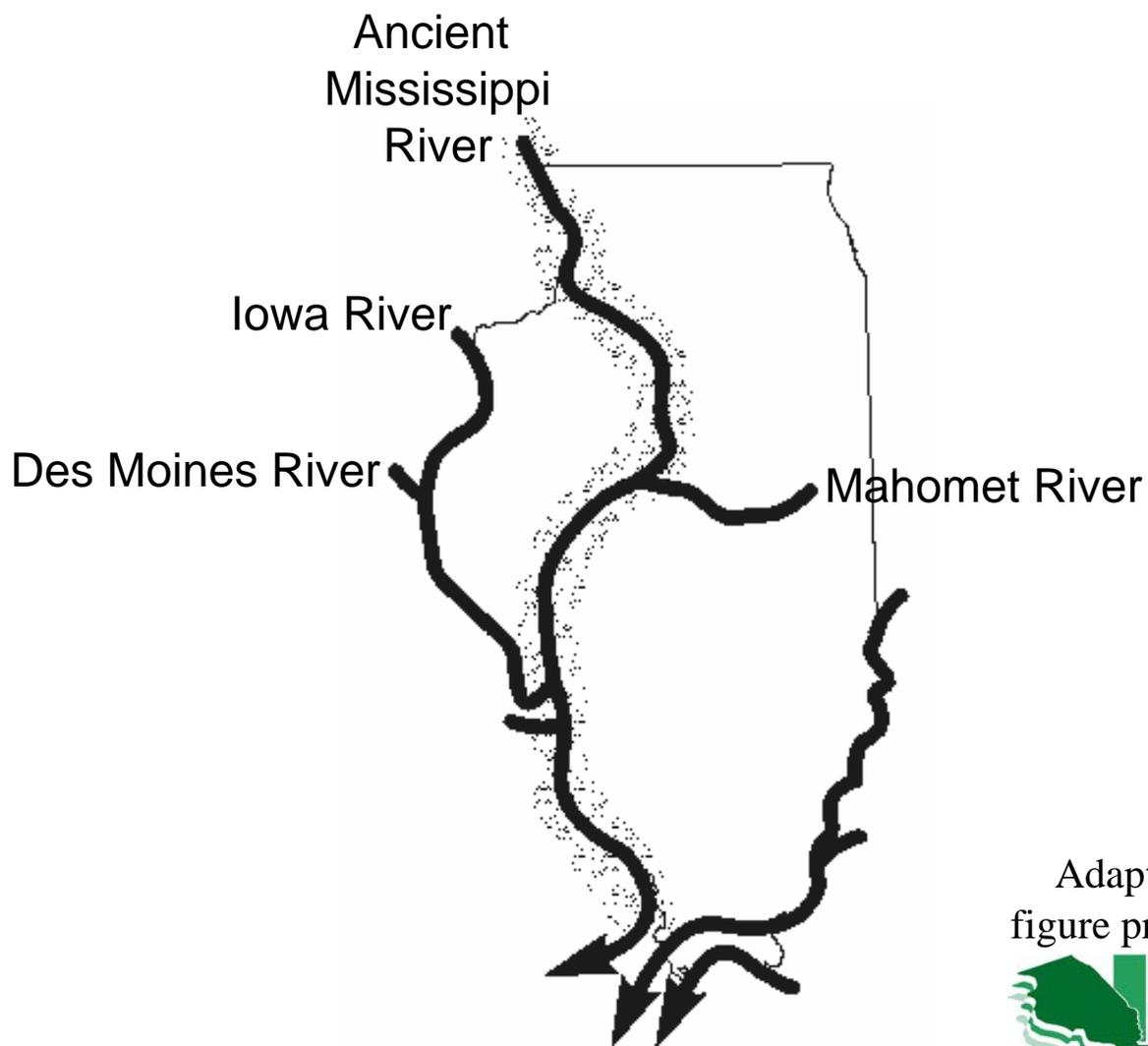
*DOUG BLODGETT— THE NATURE CONSERVANCY
TAMARA ATCHLEY — ST. LOUIS DISTRICT*

17 NOVEMBER 2004



Spunky Bottoms

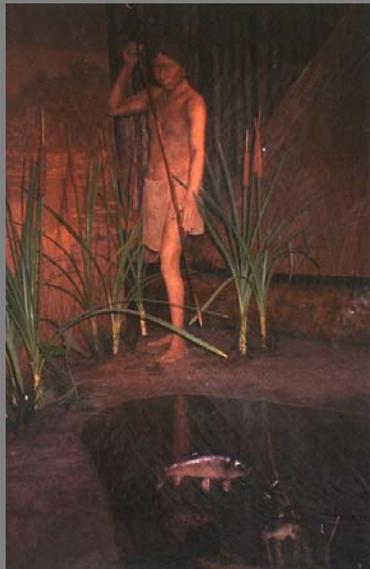




Adapted from figure provided by



This River has supported and inspired more than 600 generations of human habitation in Illinois



Journal entry:
August 1673



“... it is made up of little
lakes and little rivers.”

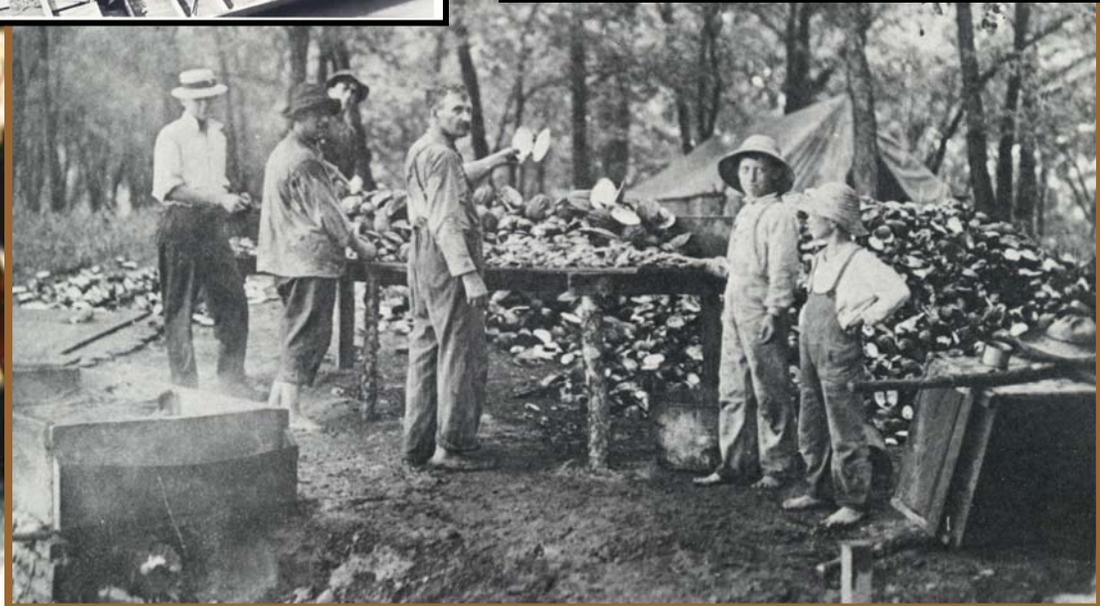
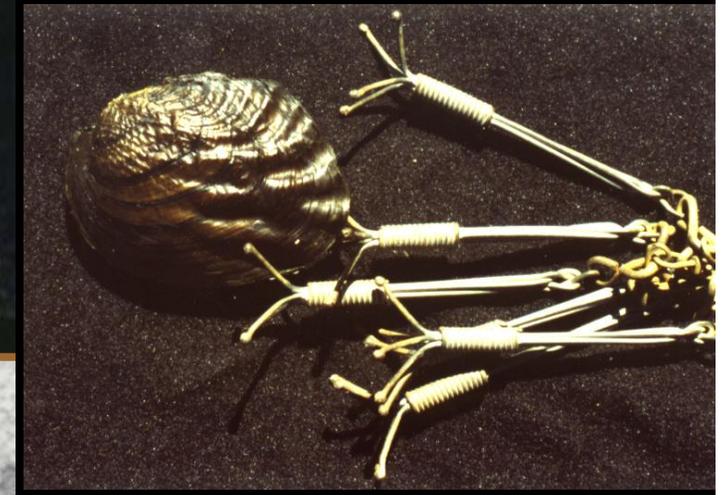
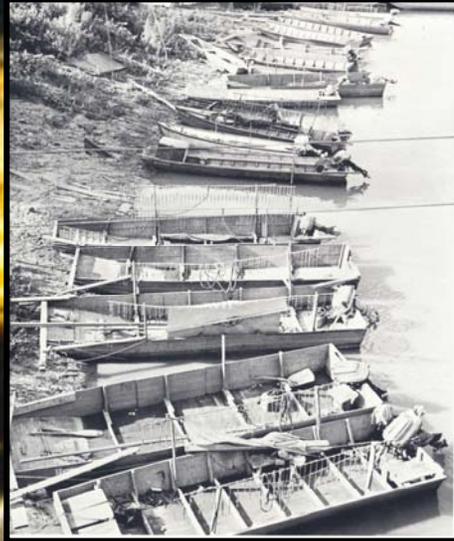
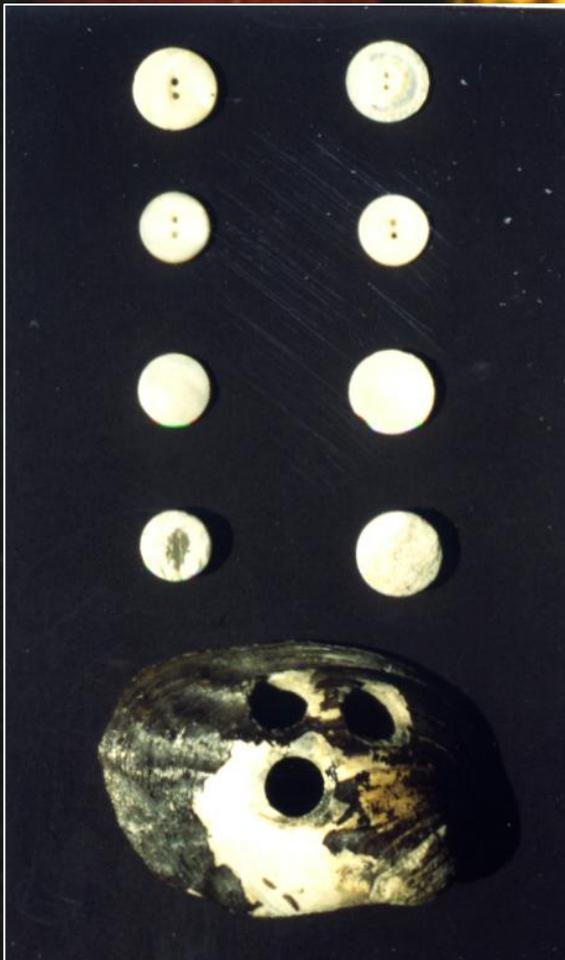
Pere Marquette





**One of the most
noted sporting
grounds in the
Midwest**

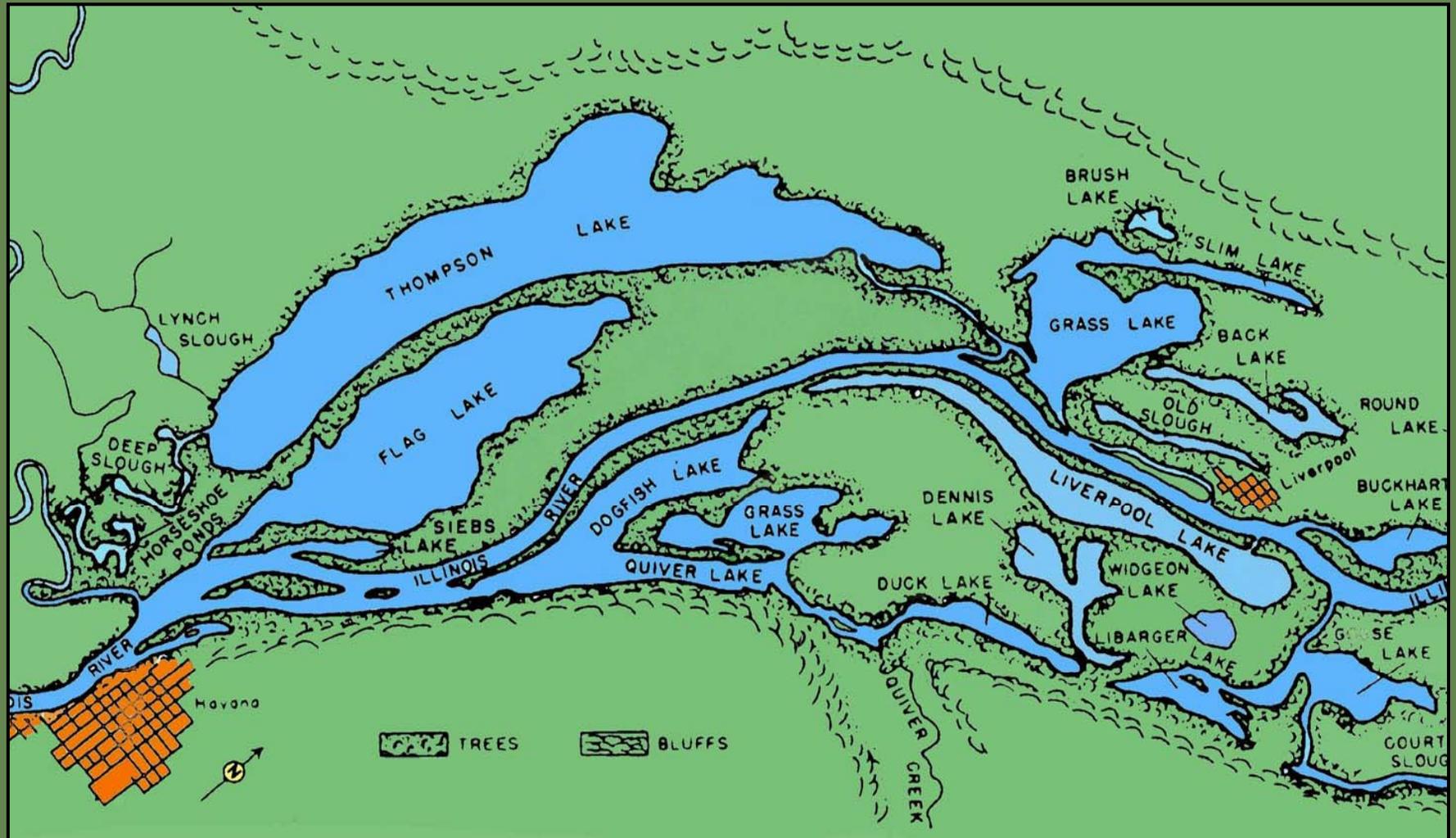
Once the most productive mussel stream per mile in North America



June 24, 1898

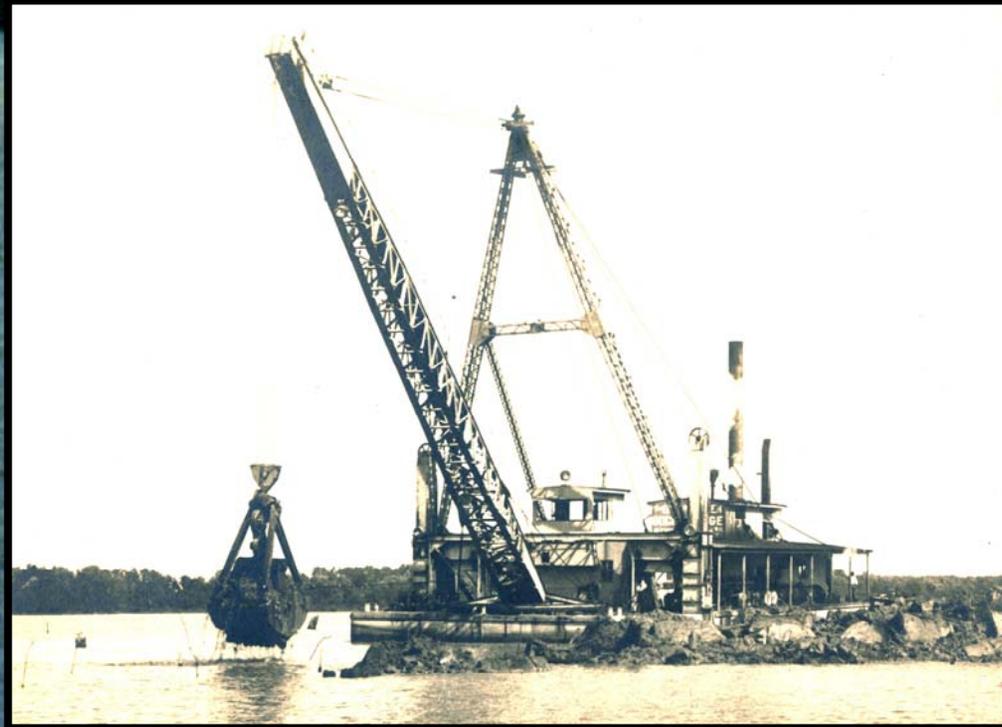
HAVANA — The fish business is becoming quite a factor among our industries, and our citizens should appreciate the large amount of money brought into our city yearly.

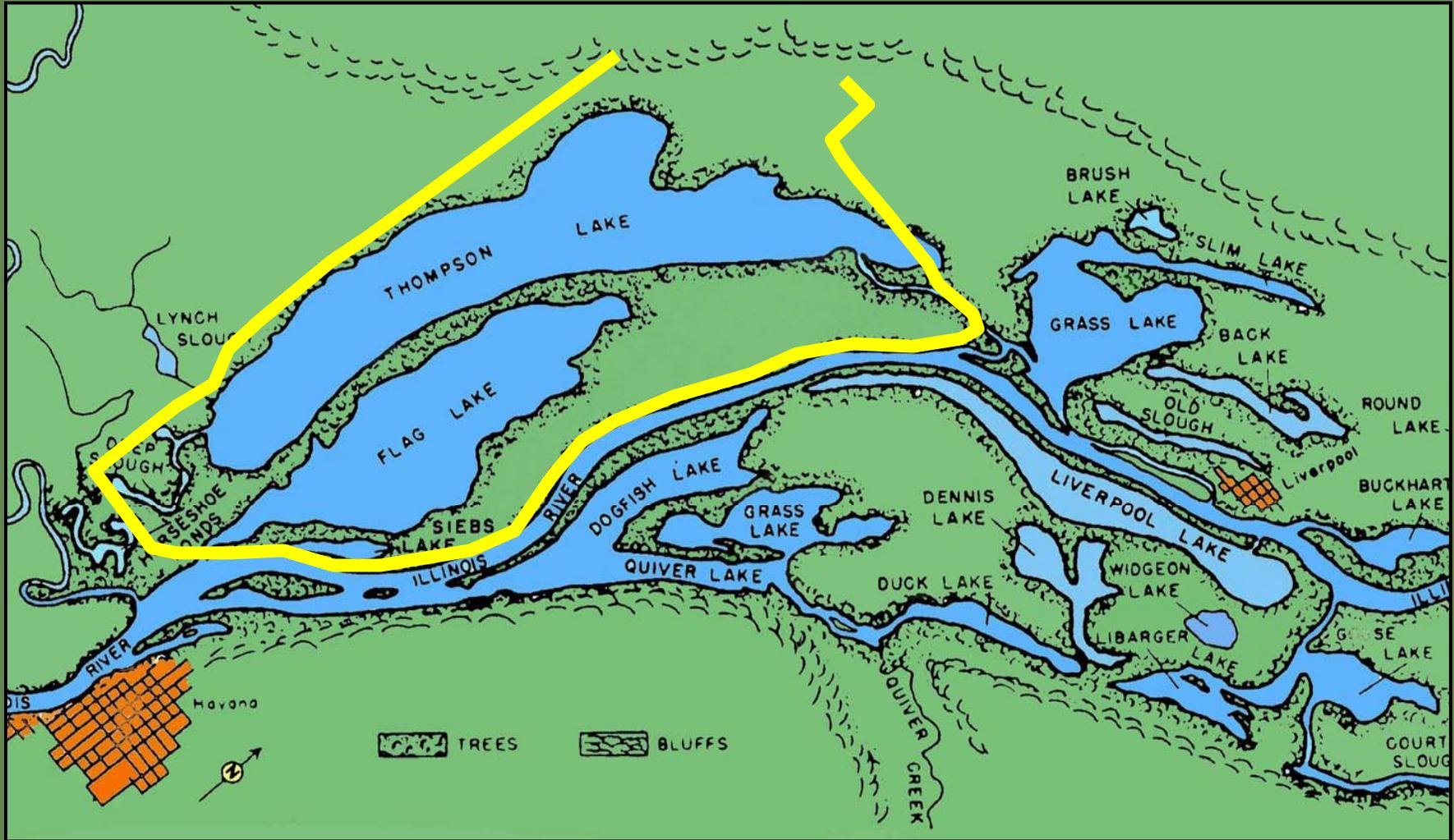






HAVANA — The three dredges that are working on Thompson Lake, are throwing up a new levee in ‘Dan Hole’s Field’....

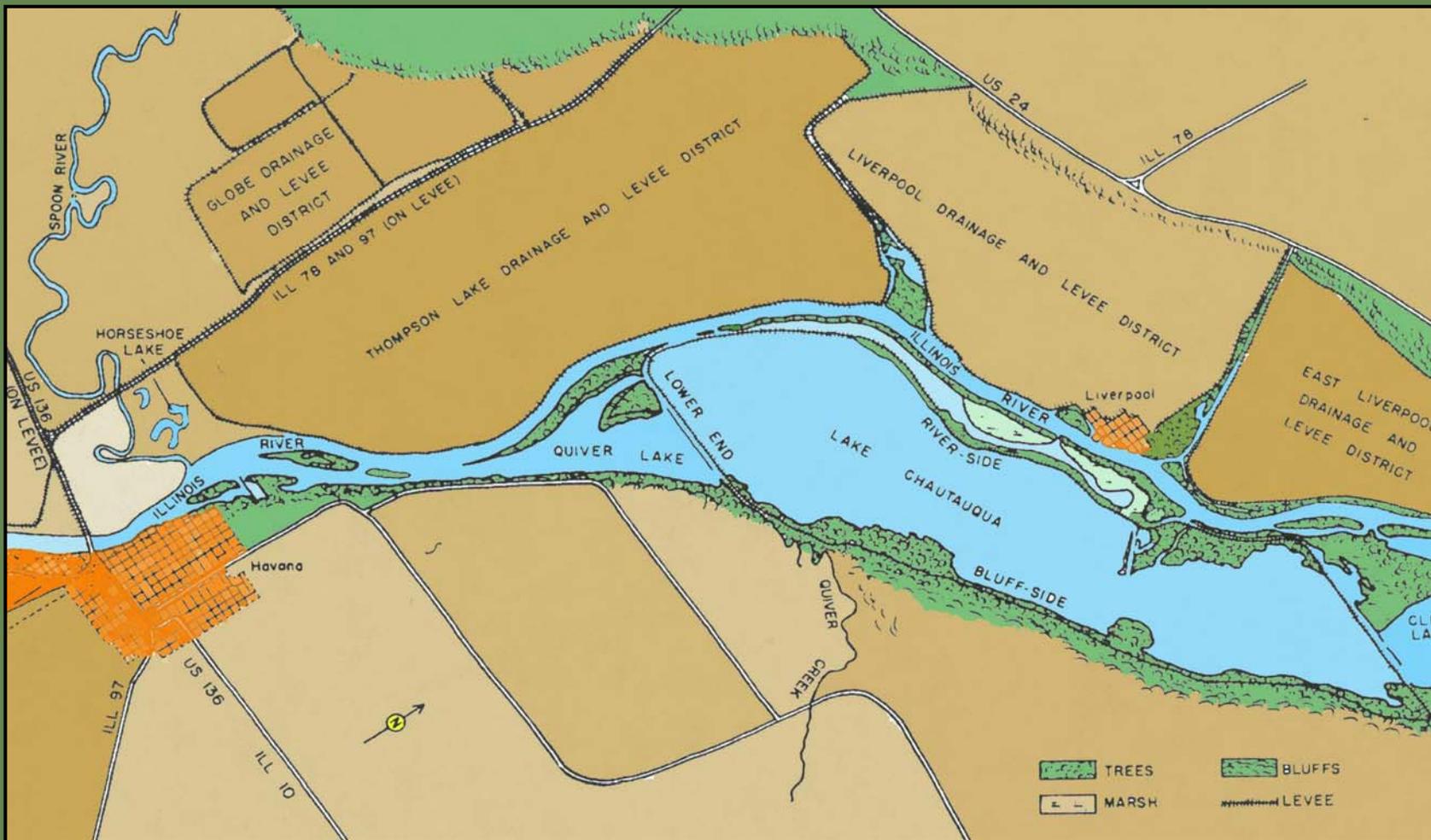




Spunky Bottoms



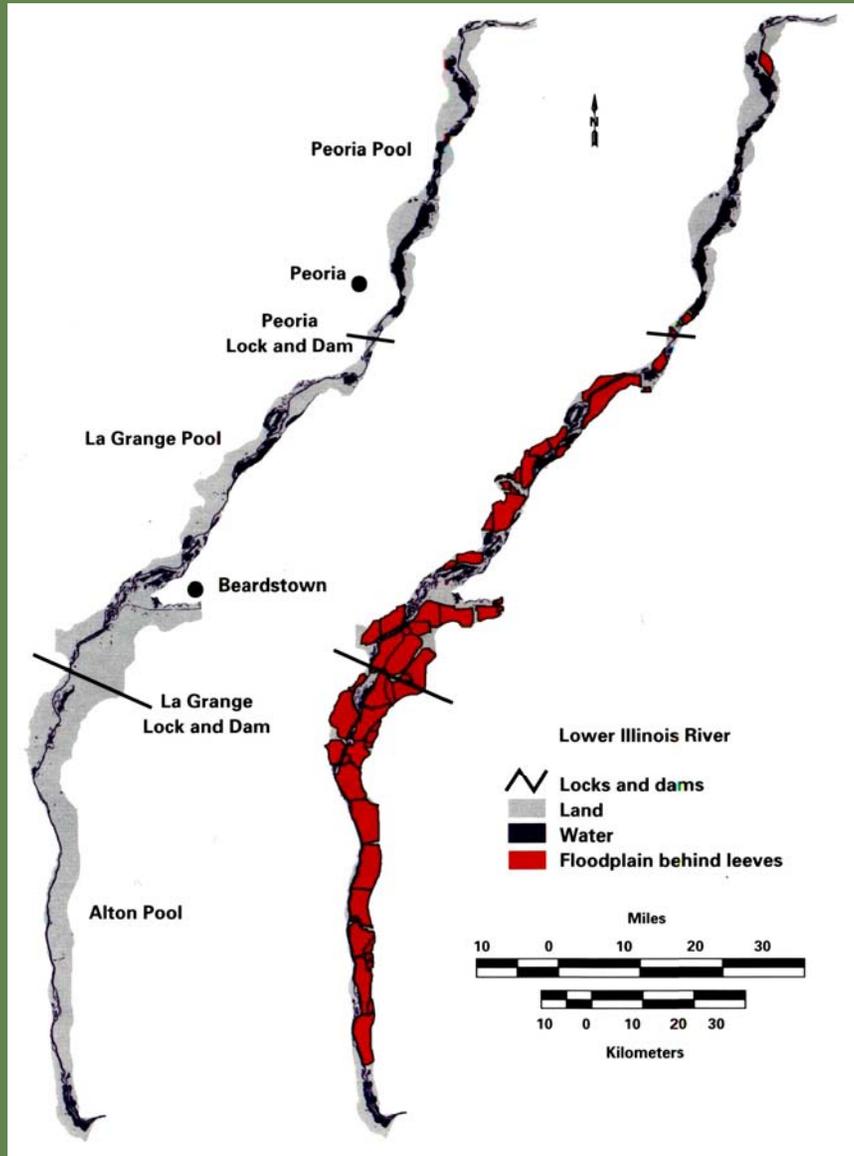
1940





Threats ... Habitat loss and degradation





Conversion to farming is responsible for the loss of approximately 50% of the natural floodplain habitat in the ... Illinois River

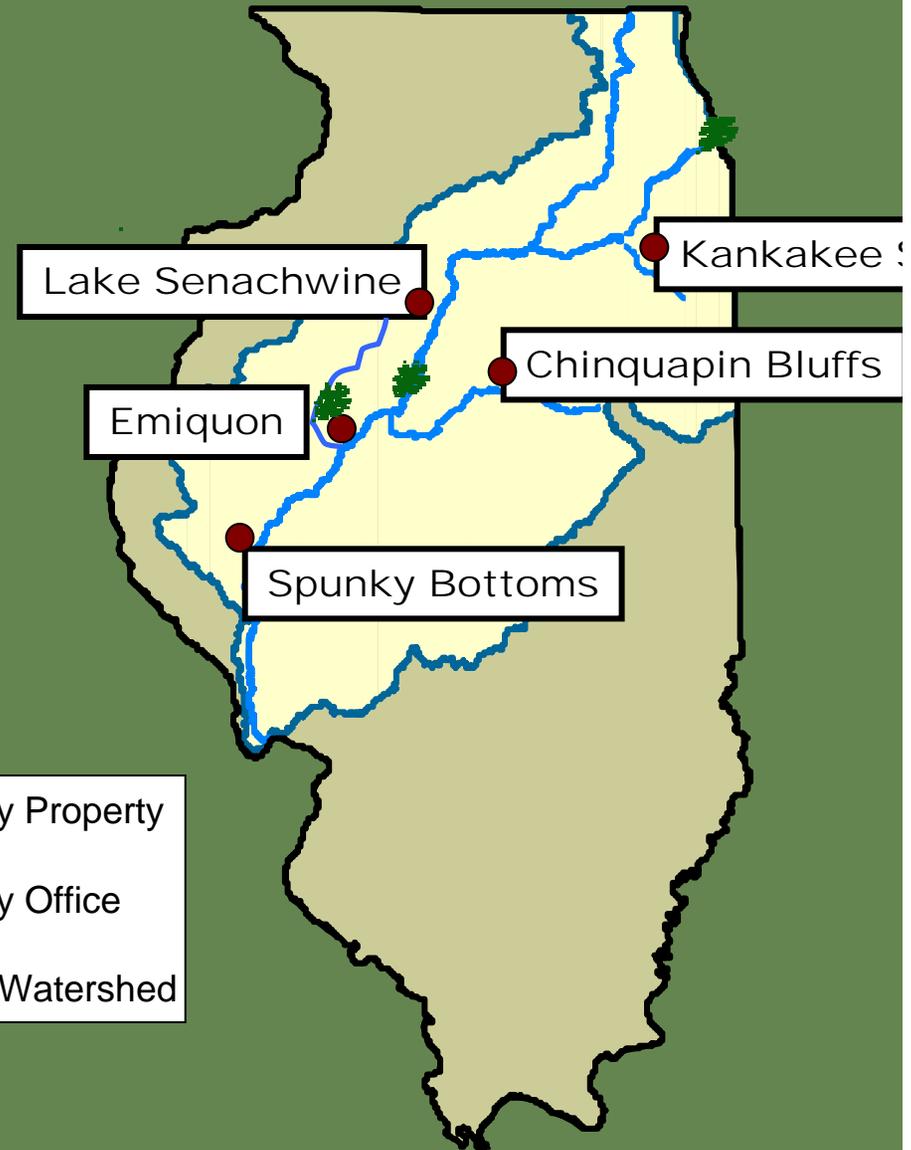
U.S. Geological Survey
1999. Ecological status and trends of the Upper Mississippi River System
1998: A report of the Long Term Resource Monitoring Program.



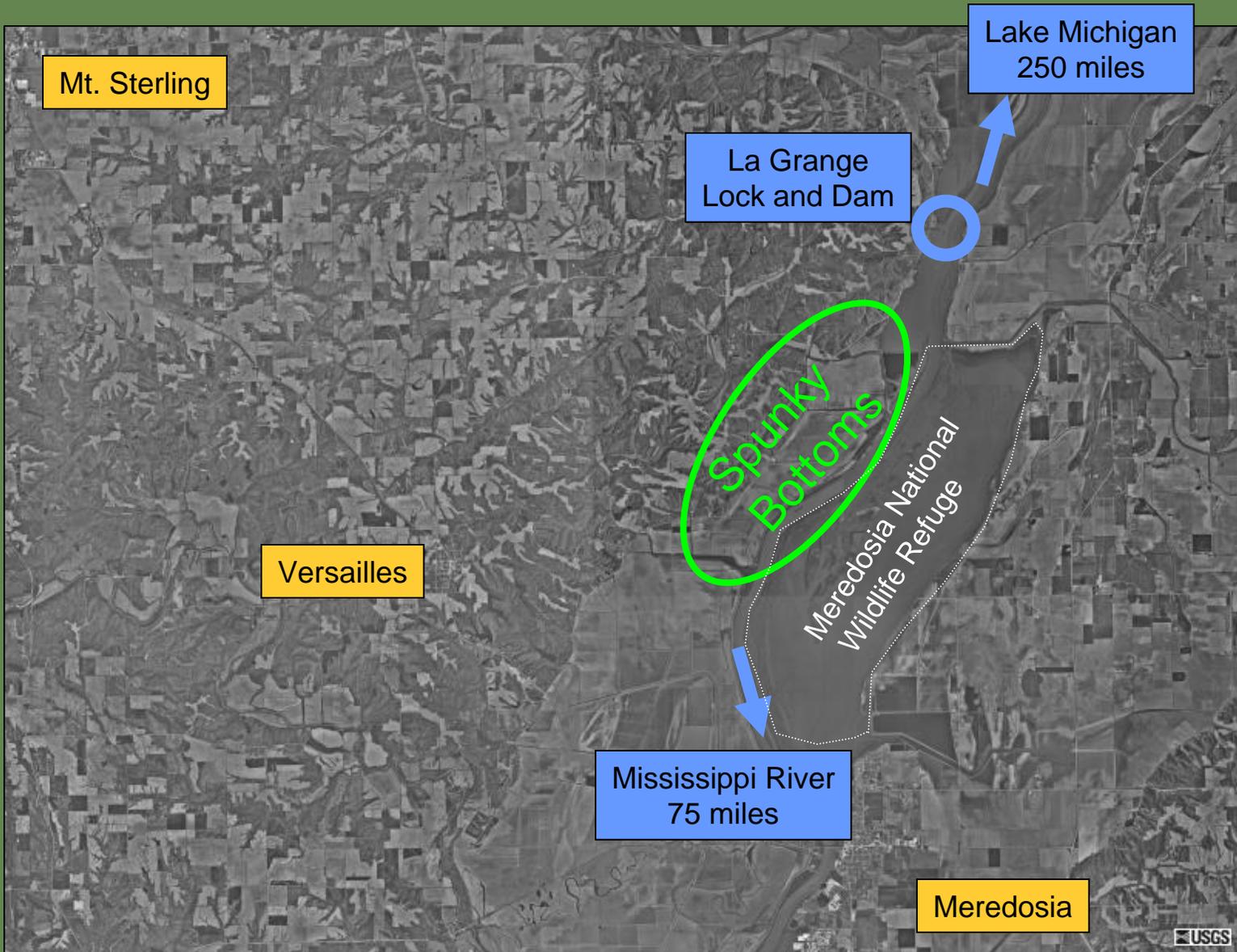
Illinois River Program

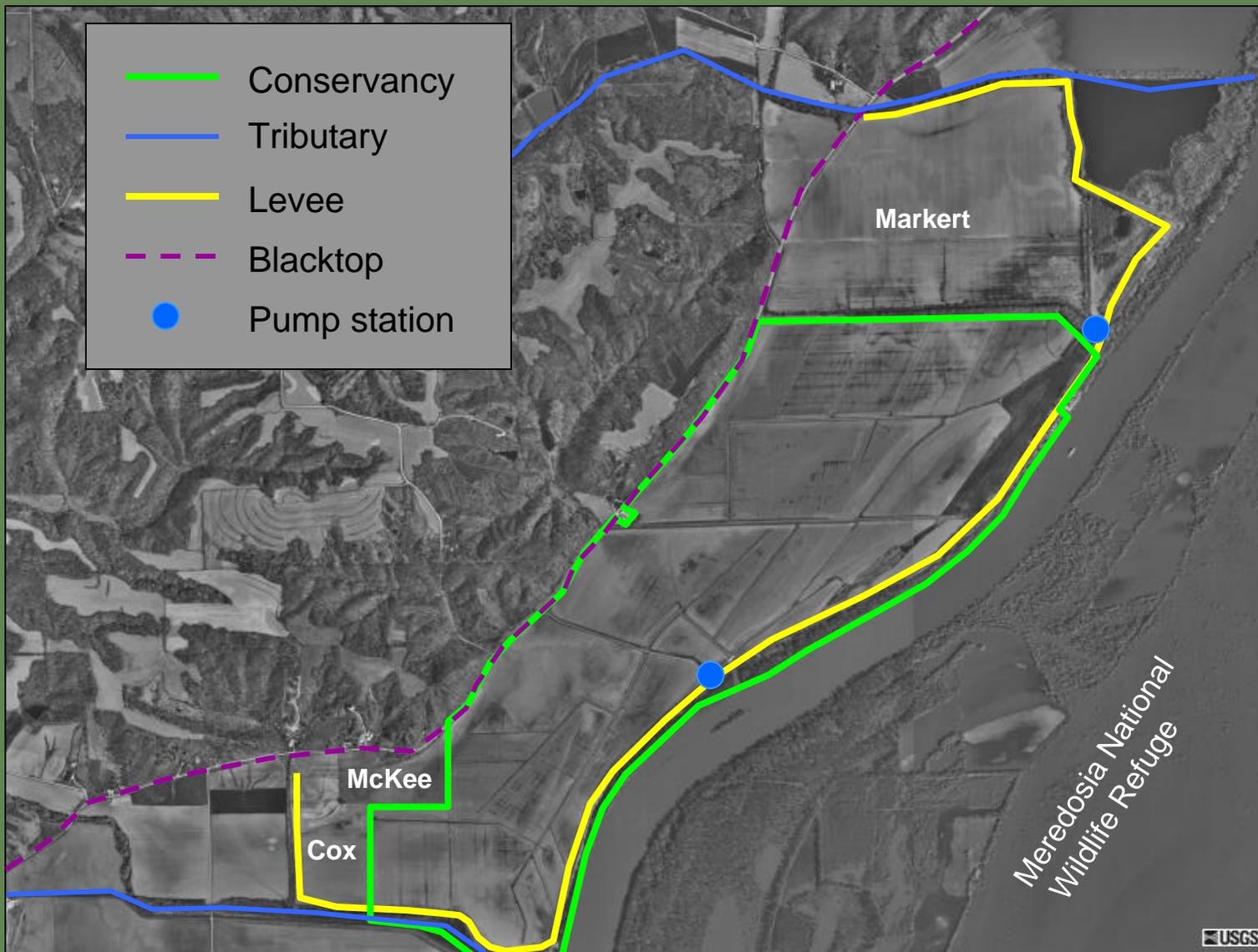
Strategies ...

-  Conservancy Property
-  Conservancy Office
-  Illinois River Watershed



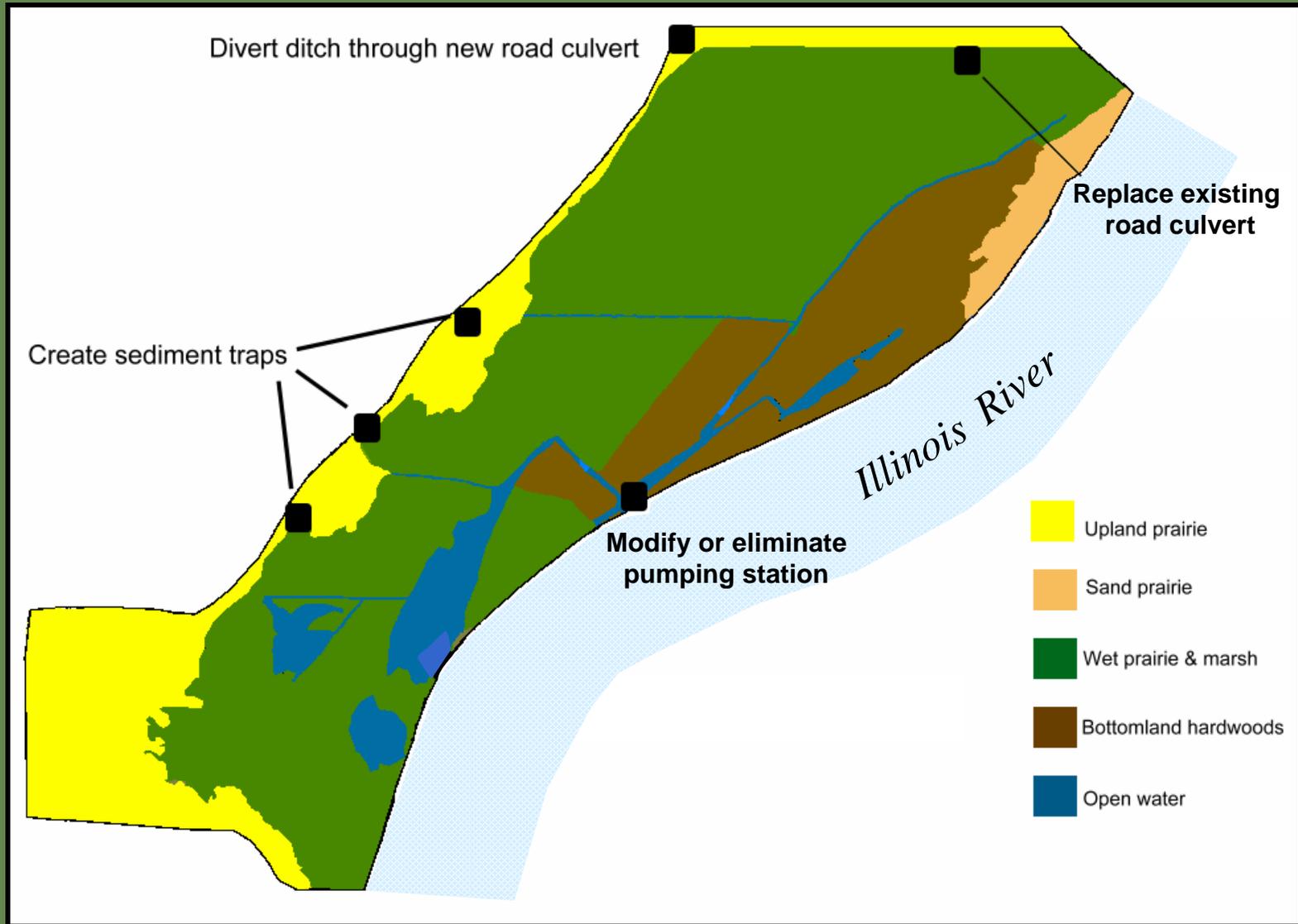
Spunky Bottoms







**Spunky Bottoms--A model project
for the restoration of natural habitats,
especially functional floodplain,
and ecological processes
to support plant and animal communities
native to the Illinois River Valley**





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Spunky Bottoms Environmental Restoration Study

Section 1135 Projects (Water Resources
Development Act of 1986, as amended



- Modifications to an existing Corps project **and/or**
- Locations where Corps project has contributed to environmental degradation
- Must be feasible
- **Must be consistent with original project**

One Corps Serving the Armed Forces and the Nation



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Spunky Bottoms

Environmental Restoration

Study

Section 1135 - Funding



- Annual \$25M appropriation limit
- 75% Federal
25% Non-Federal
- **\$5M per project
Federal limit**

25% Non-Federal Share





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Spunky Bottoms Environmental Restoration Study

Section 1135 Phases

 Preliminary Restoration Plan – 6 months

 Feasibility – 12 months

 Design – 12 months

 Construction

???



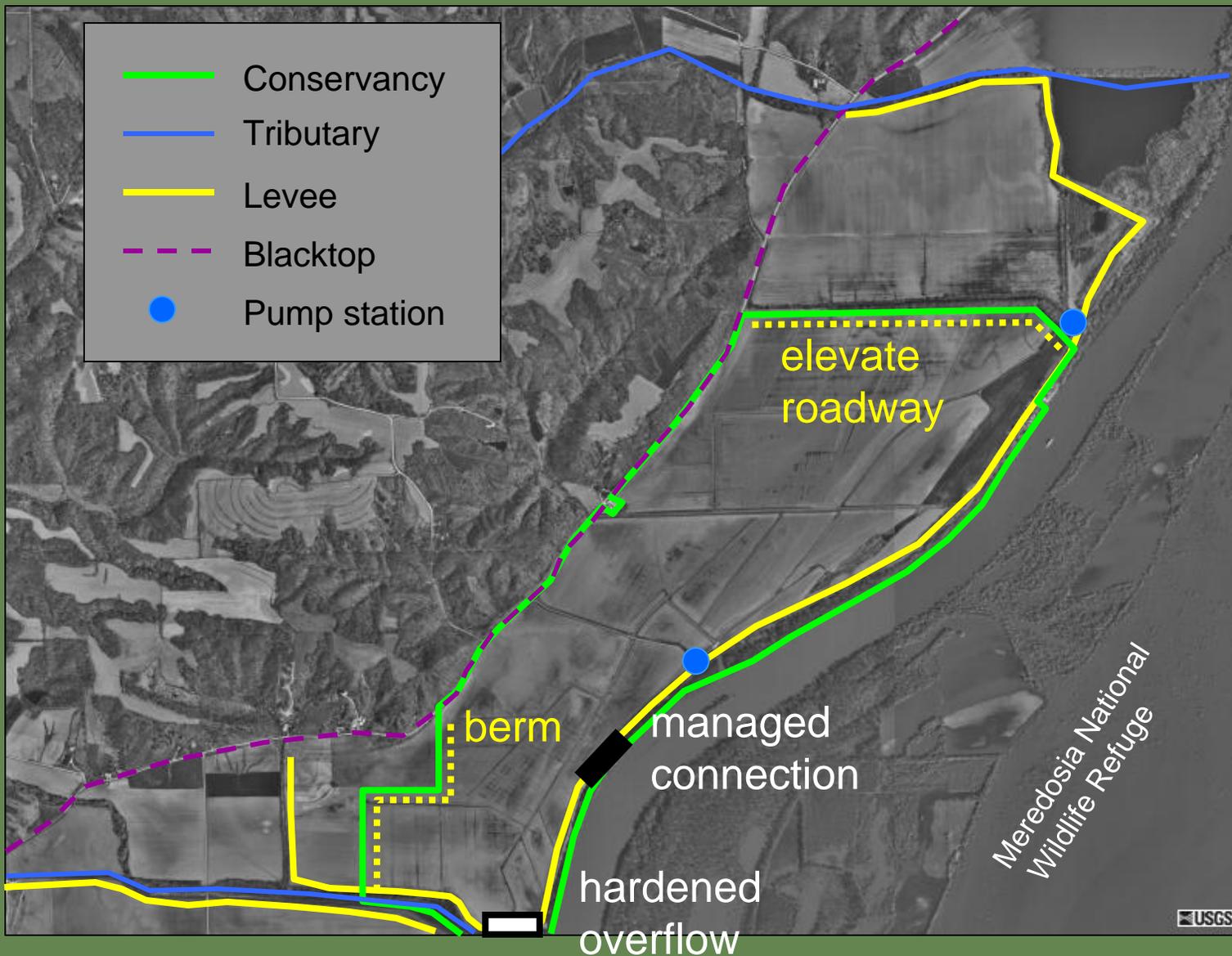
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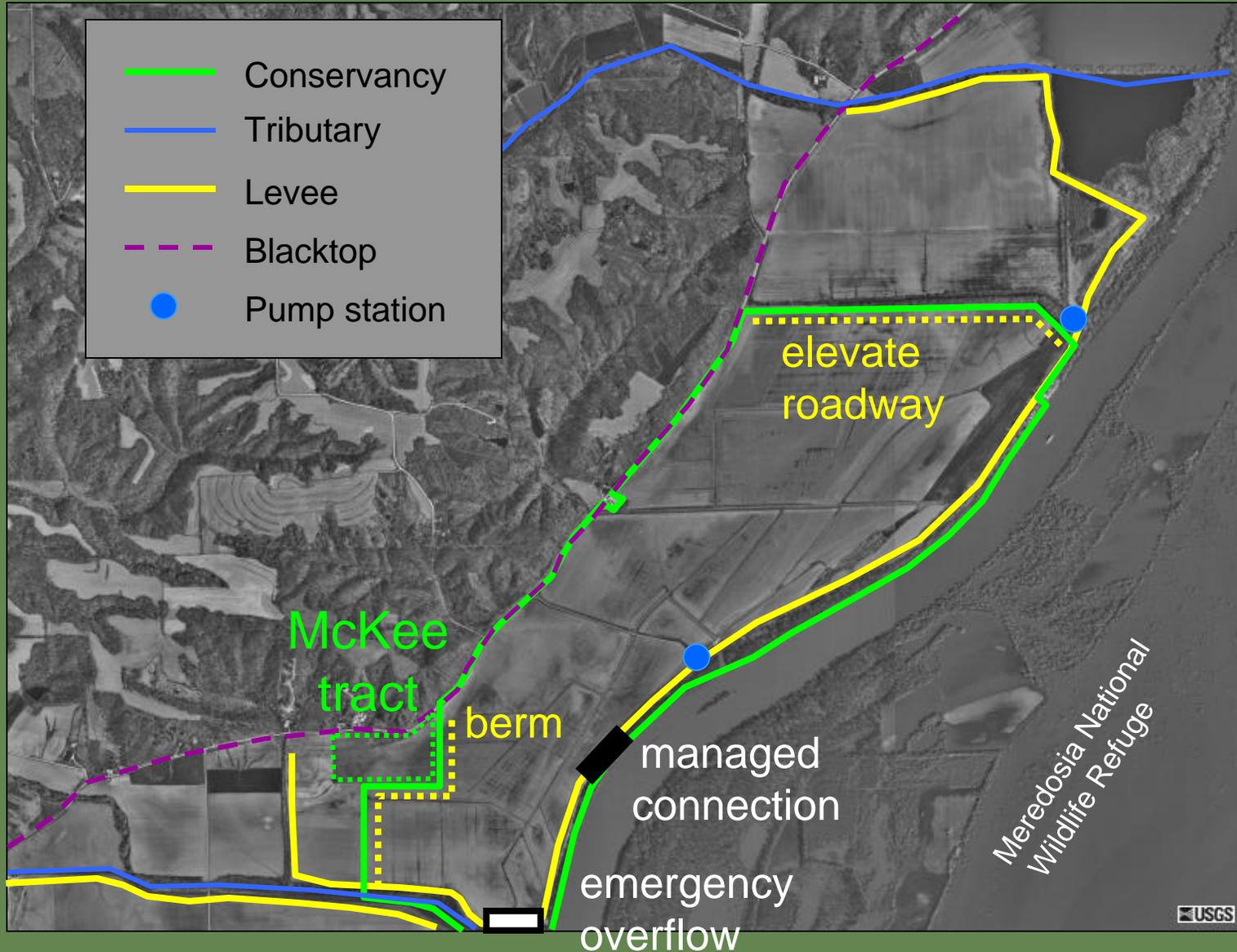


Spunky Bottoms Environmental Restoration Study

Feasibility Phase

- **Initiated in April 2000**
- **Environmental assessment completed in 2000**
- **Draft report was internally reviewed in April 2001**







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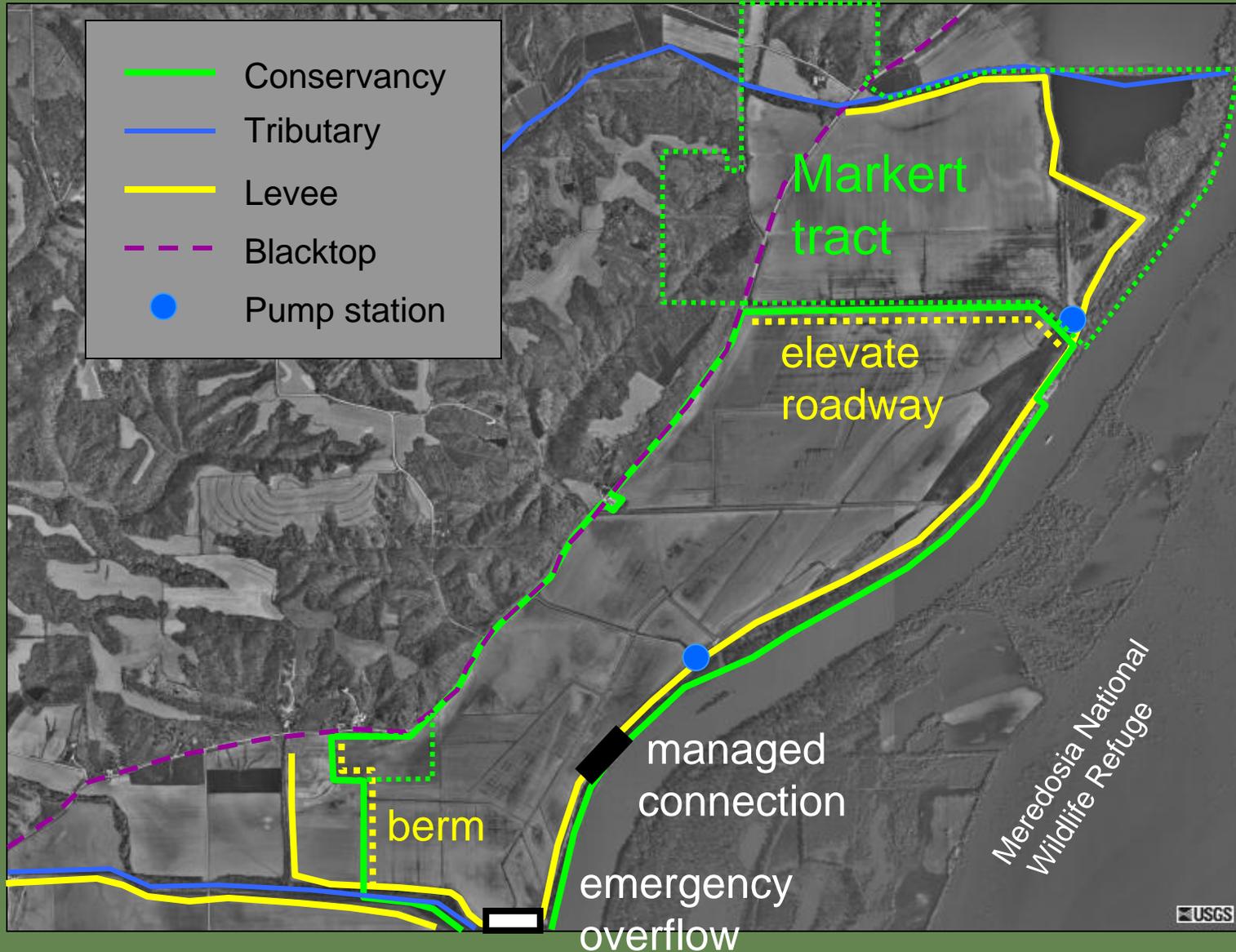


Spunky Bottoms Environmental Restoration Study

Feasibility Phase – Scope Change

- Prospect of additional land acquisition outdated the existing draft report
- Report was revised to include the McKee property during 2001







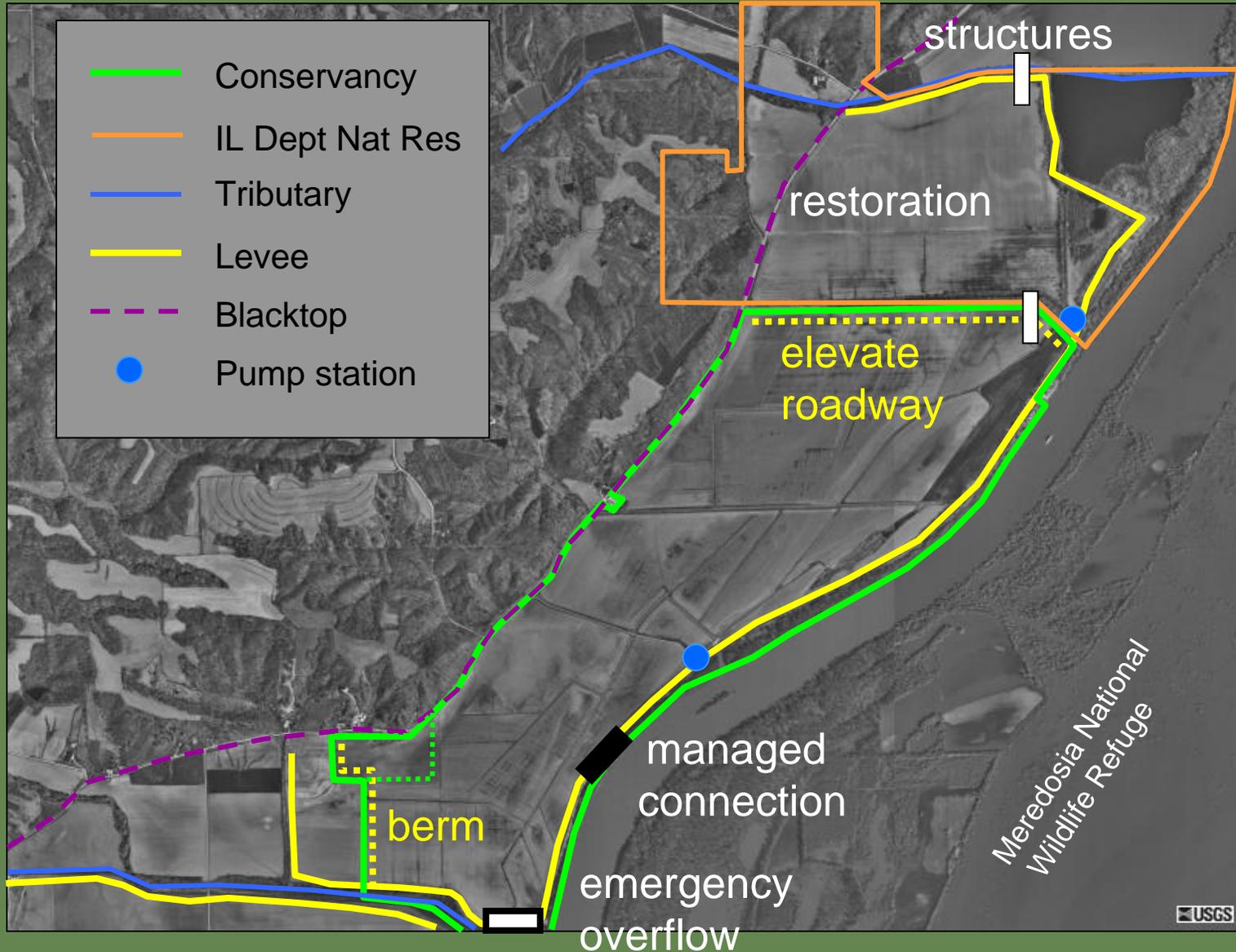
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Spunky Bottoms Environmental Restoration Study

Feasibility Phase – 2nd Scope Change

- Prospect of additional land acquisition outdated the existing draft report
- Team began revising report to include Markert property to the north
- **Additional project area increased project cost above the \$5M Federal limit**
- Complexities of two non-federal cost share sponsors—one NGO and one state





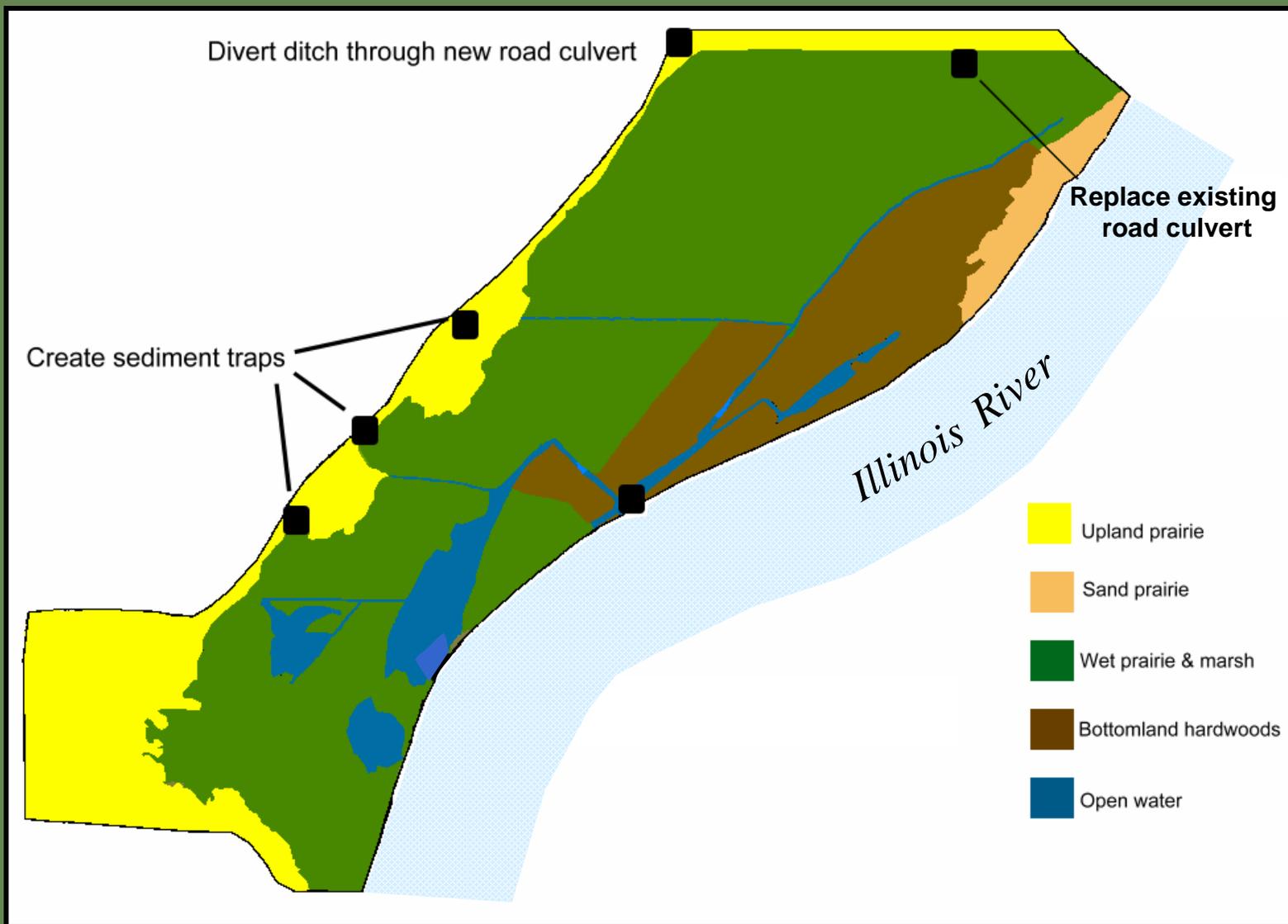
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Feasibility Phase – Authority issue

- Project's eligibility under Section 1135 was questioned – June 2002
- Section 1135 projects must be **consistent with the original project purpose.**
- Original Illinois River levee constructed for flood control (economic justification)





Strategies: Floodplain Restoration





Strategies: Floodplain Restoration





Indian Grass
(*Sorghastrum nutans*)
Big Bluestem
(*Andropogon gerardii*)



Black-eyed Susan
(*Rudbeckia hirta*)

Upland grasses and forbes

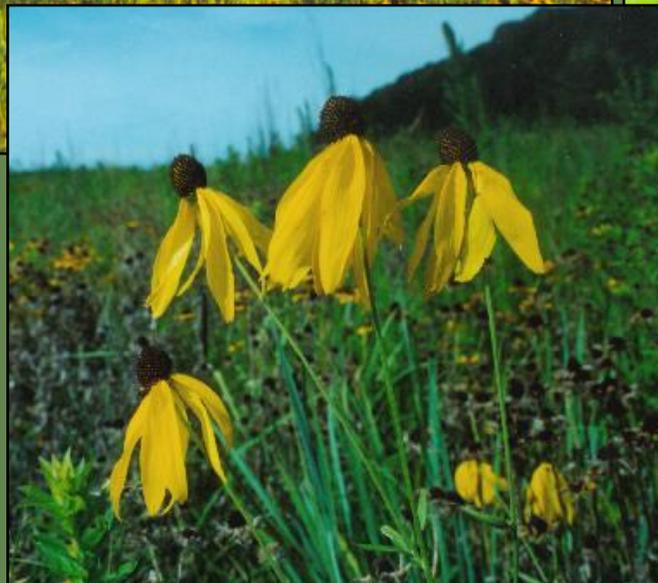
- | | |
|----------------------------------|--------------------------|
| <i>Anemone canadensis</i> | Canada Anemone |
| <i>Asclepias tuberosa</i> | Butterfly Weed |
| <i>Baptisia leucantha</i> | White Wild Indigo |
| <i>Desmodium illinoiense</i> | Illinois Tick Trefoil |
| <i>Eryngium yuccifolium</i> | Rattlesnake Master |
| <i>Helianthus mollis</i> | Downy Sunflower |
| <i>Helopsis helianthoides</i> | Early Sunflower |
| <i>Lespedeza capitata</i> | Round-headed Bush Clover |
| <i>Liatris pycnostachya</i> | Prairie Blazing Star |
| <i>Parthenium integrifolium</i> | Wild Quinine |
| <i>Ratibida pinnata</i> | Yellow Coneflower |
| <i>Rudbeckia hirta</i> | Black-eyed Susan |
| <i>Silphium laciniatum</i> | Compass Plant |
| <i>Silphium terebenthinaceum</i> | Prairie Dock |
| <i>Solidago nemoralis</i> | Old Field Goldenrod |
| <i>Andropogon gerardii</i> | Big Bluestem |
| <i>Elymus canadensis</i> | Prairie Wild Rye |
| <i>Panicum virgatum</i> | Prairie Switchgrass |
| <i>Petalostemum purpureum</i> | Purple Prairie Clover |
| <i>Sorghastrum nutans</i> | Indian Grass |



Upland restoration



Black-eyed Susan
(*Rudbeckia hirta*)



Prairie Coneflower
(*Ratibida pinnata*)



Iron Weed
(*Vernonia altissima*)

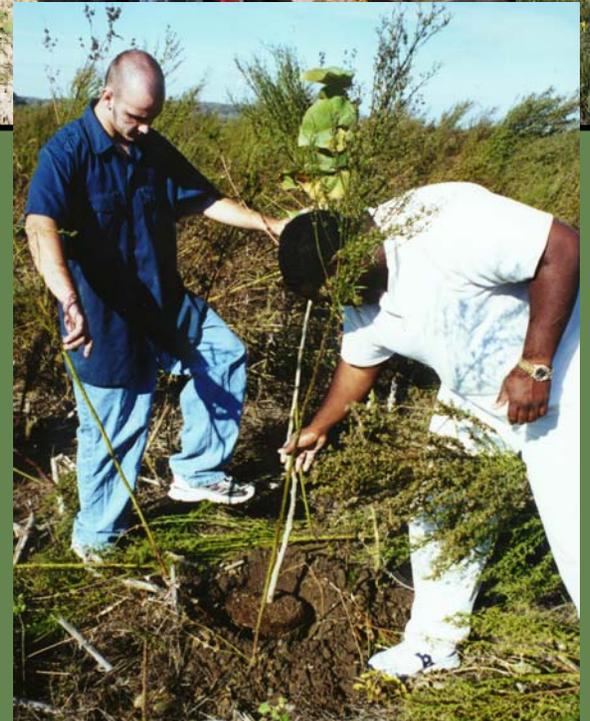


Bottomland hardwoods

- | | |
|-----------------|-------------------------------|
| Pin Oak | <i>Quercus palustris</i> |
| Chinquapin Oak | <i>Quercus muhlenbergii</i> |
| Bur Oak | <i>Quercus macrocarpa</i> |
| Green Ash | <i>Fraxinus pennsylvanica</i> |
| White Ash | <i>Fraxinus americana</i> |
| Sycamore | <i>Platanus occidentalis</i> |
| American Linden | <i>Tilia americana</i> |
| Kentucky Coffee | <i>Gymnocladus dioica</i> |
| Pecan | <i>Carya illinoensis</i> |
| Black Walnut | <i>Juglans nigra</i> |
| River Birch | <i>Betula nigra</i> |
| Butternut | <i>Juglans cinerea</i> |



Bottomland hardwood restoration





Wetland restoration





If we build it, will they come?





Many rare species have returned

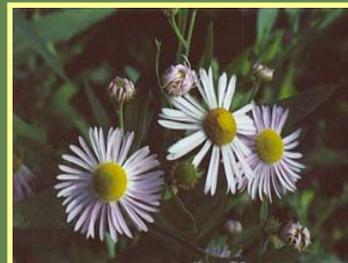
- River Otter
- Henslow's Sparrow
- Northern Harrier
- American Bittern
- Least Bittern
- Bald Eagle
- King Rail
- Black Rail
- Pied-Billed Grebe
- Little Blue Heron
- Yellow-Crowned Night Heron
- Black-Crowned Night Heron
- Yellow-Headed Blackbird
- Osprey
- Peregrine Falcon
- Decurrent False Aster



- state threatened
- state endangered
- state endangered
- state endangered
- state endangered
- state/federal threatened
- state endangered
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- state/federal endangered
- state threatened

- Spiny Softshell Turtle
- Stink Pot Turtle
- Green Frog
- Common Snapping Turtle
- False Map Turtle
- Plains Leopard Frog
- Western Ribbon Snake
- Prairie King Snake
- Five Lined Skink
- Tiger Salamander

- county record





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Spunky Bottoms Environmental Restoration Study

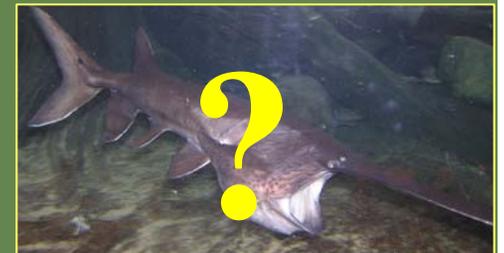
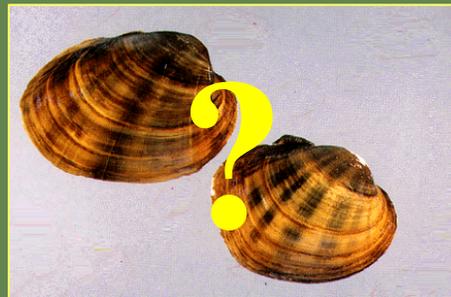
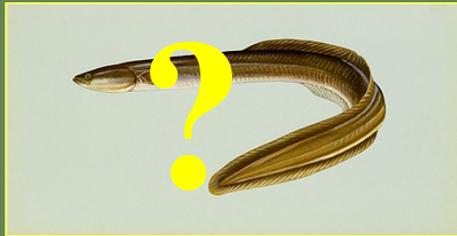
Feasibility Phase – Outdated info

- Original site evaluation was certainly out of date
- Too many benefits lost to project due to succession at the site?
- Solution – traditional habitat evaluation along with a functional assessment



Some benefits of wetlands ...

- Store storm water (reduce flooding, moderate unnatural water level fluctuations, provide base flow)
- Facilitate infiltration and groundwater recharge
- Improve water quality
- Store and process nutrients (e.g., nitrogen, phosphorous)
- Store and process sediment
- Sequester carbon
- Provide wildlife habitat
- Provide recreation and education opportunities





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Environmental Restoration

Study

Functional Assessment

- **Team developed a score to evaluate functional wetland values**
- **Considered important wetland functions**
- **Functions were weighted**
- **Alternatives compared against no action condition**



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Spunky Bottoms Environmental Restoration Study

Current Status

- Draft report complete
- Waiting on WRDA
- Other authorities are possibilities if no WRDA



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Spunky Bottoms Environmental Restoration Study

Problems/Solutions

- **Changes to project scope delayed completion of the feasibility phase**
 - ◆ **Delays due to land acquisition were acceptable since result was a more complete project**



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Spunky Bottoms Environmental Restoration Study

Problems/Solutions

- **Study delays due to policy questions**
 - ◆ Lots of room for improvement.....make decisions at lowest appropriate level ???
 - ◆ TNC pursued legislative solutions after problems were identified



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Spunky Bottoms Environmental Restoration Study

Problems/Solutions

- **Delays result in out of date info**
 - ◆ **Delays caused change in existing conditions for study and required additional time and effort to revise study**
 - ◆ **Had site remained in ag production, existing conditions would have been more static**
 - ◆ **Possible solution is for the Corps to define existing conditions at start of study instead of start of project and allow benefits to accrue during study**



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**DRAFT: Illinois River Ecosystem Restoration Study Vision and Goals
4 March 2004 revision**



Vision: A naturally diverse and productive Illinois River Basin that is sustainable by natural ecological processes and managed for compatible social and economic activities.

Goal 1: Restore and maintain ecological integrity, including habitats, communities, and populations of native species, and the processes that sustain them.

Goal 2: Reduce sediment delivery to the Illinois River from upland areas and tributary channels with the aim of eliminating excessive sediment load.

Goal 3: Restore aquatic habitat diversity of side channels and backwaters, including Peoria Lakes, to provide adequate volume and depth for sustaining native fish and wildlife communities.

Goal 4: Improve floodplain, riparian, and aquatic habitats and functions.

Goal 5: Restore and maintain longitudinal connectivity on the Illinois River and its tributaries, where appropriate, to restore or maintain healthy populations of native species.

Goal 6: Restore Illinois River and tributary hydrologic regimes to reduce the incidence of water level conditions that degrade aquatic and riparian habitat.

Goal 7: Improve water and sediment quality in the Illinois River and its watershed.