Presentation
to the

11th Biennial Governor's Conference
On the Management of the Illinois River System

Illinois River Basin Restoration: Critical Restoration Projects

by

Marshall Plumley

Planning & Policy Branch, Rock Island District

October 3, 2007

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Agenda

- Senachwine Creek
- Pekin Lake SFWA – Northern Unit
- Pekin Lake SFWA – Southern Unit
- Questions

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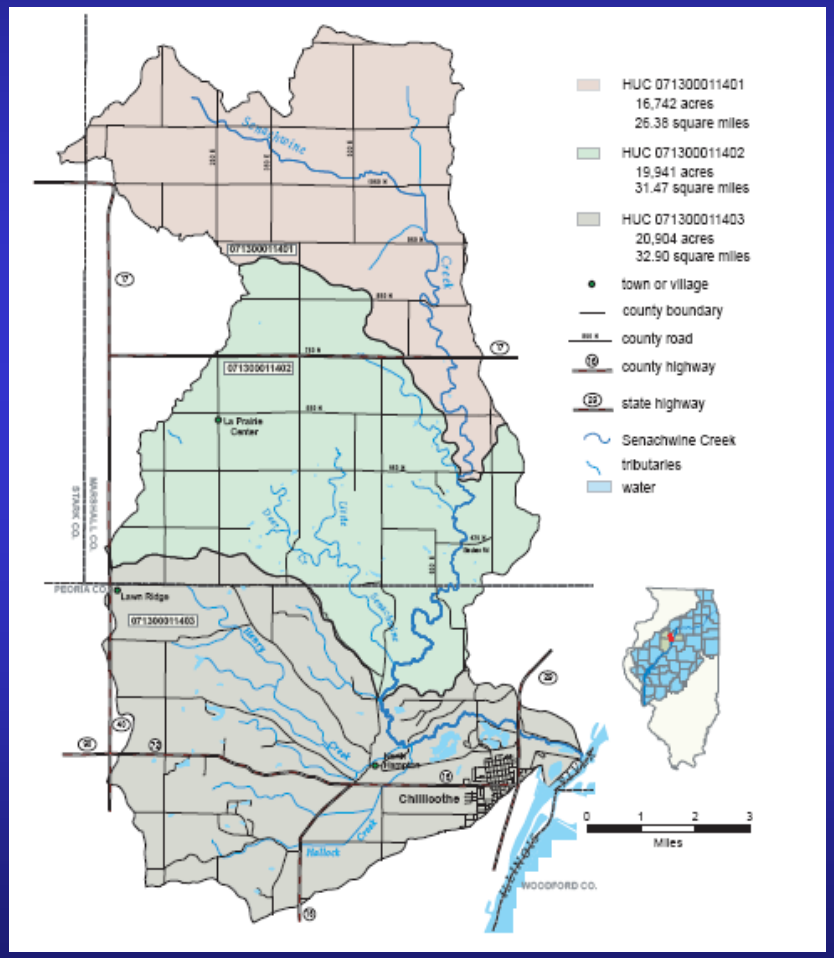
Senachwine Creek



- 58,000 Acres
- 90 Square miles

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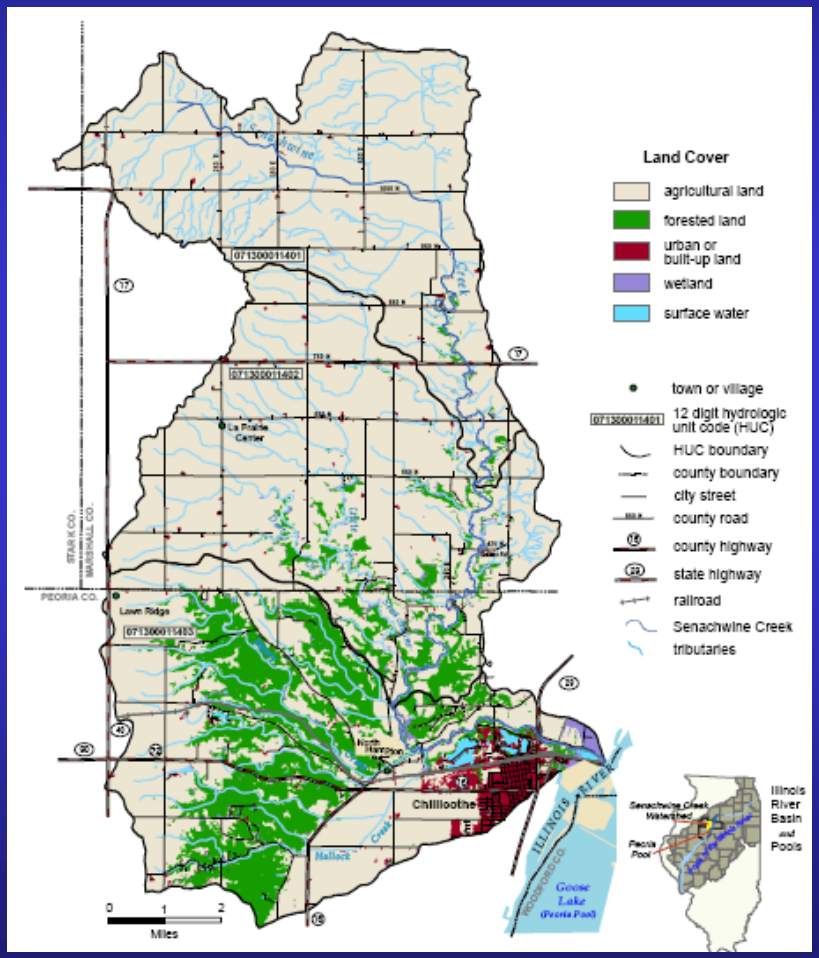
Senachwine Creek



- 80% Agricultural
- 15% Forest
- 3% Urban
- 3% Wetlands

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Why Here?

- The direct tributaries to Peoria Lakes make up less than 4% of the Illinois River Basin land area, yet contribute up to 50% of the sediment load of the Illinois River at Peoria Lakes
- Senachwine Creek is the largest direct tributary to Peoria Lake(s) and is among the highest sediment producers

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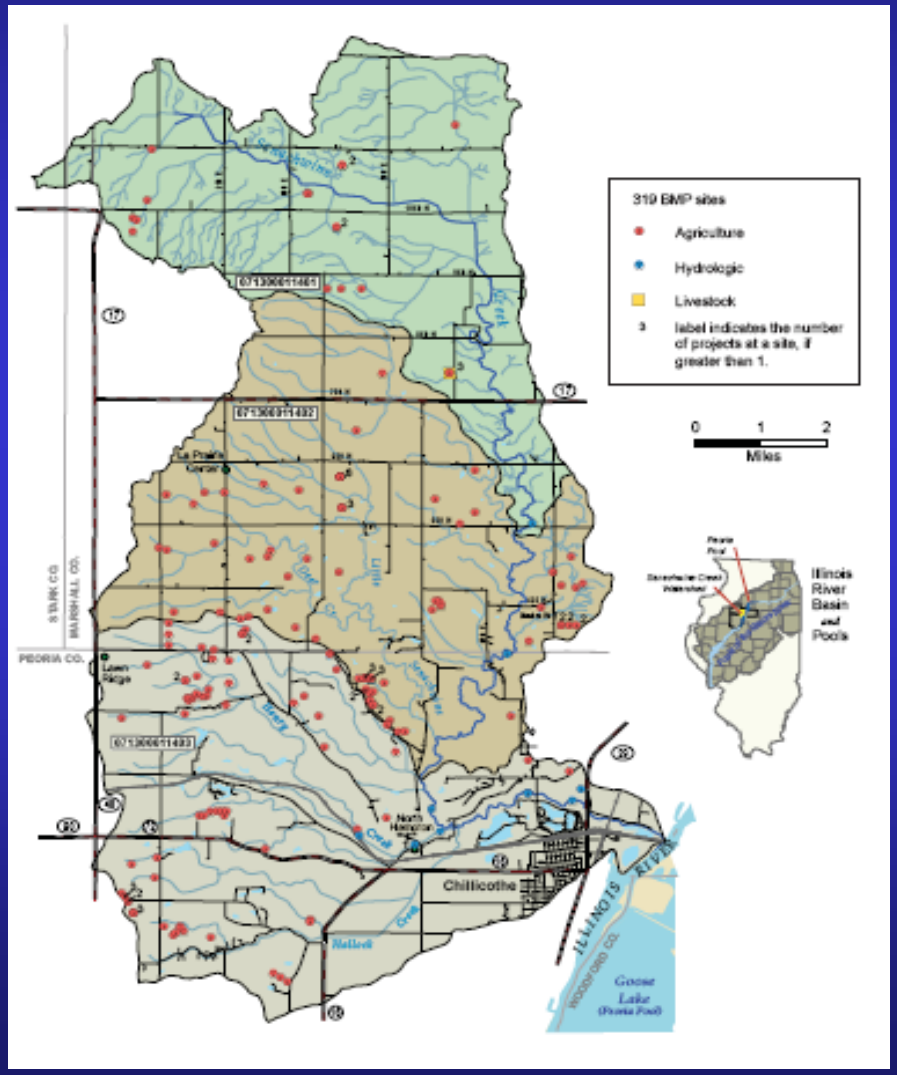

Why Here?

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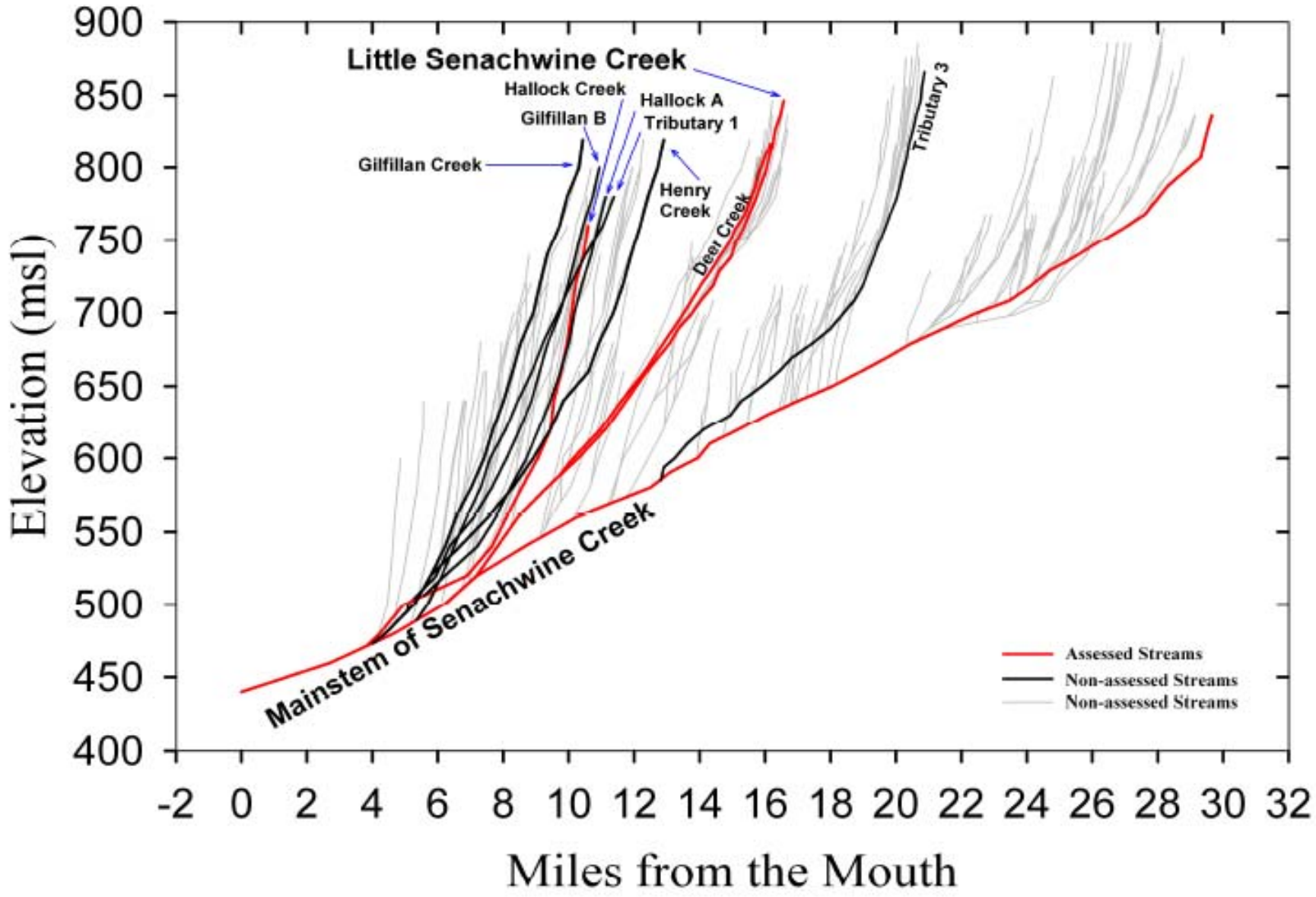
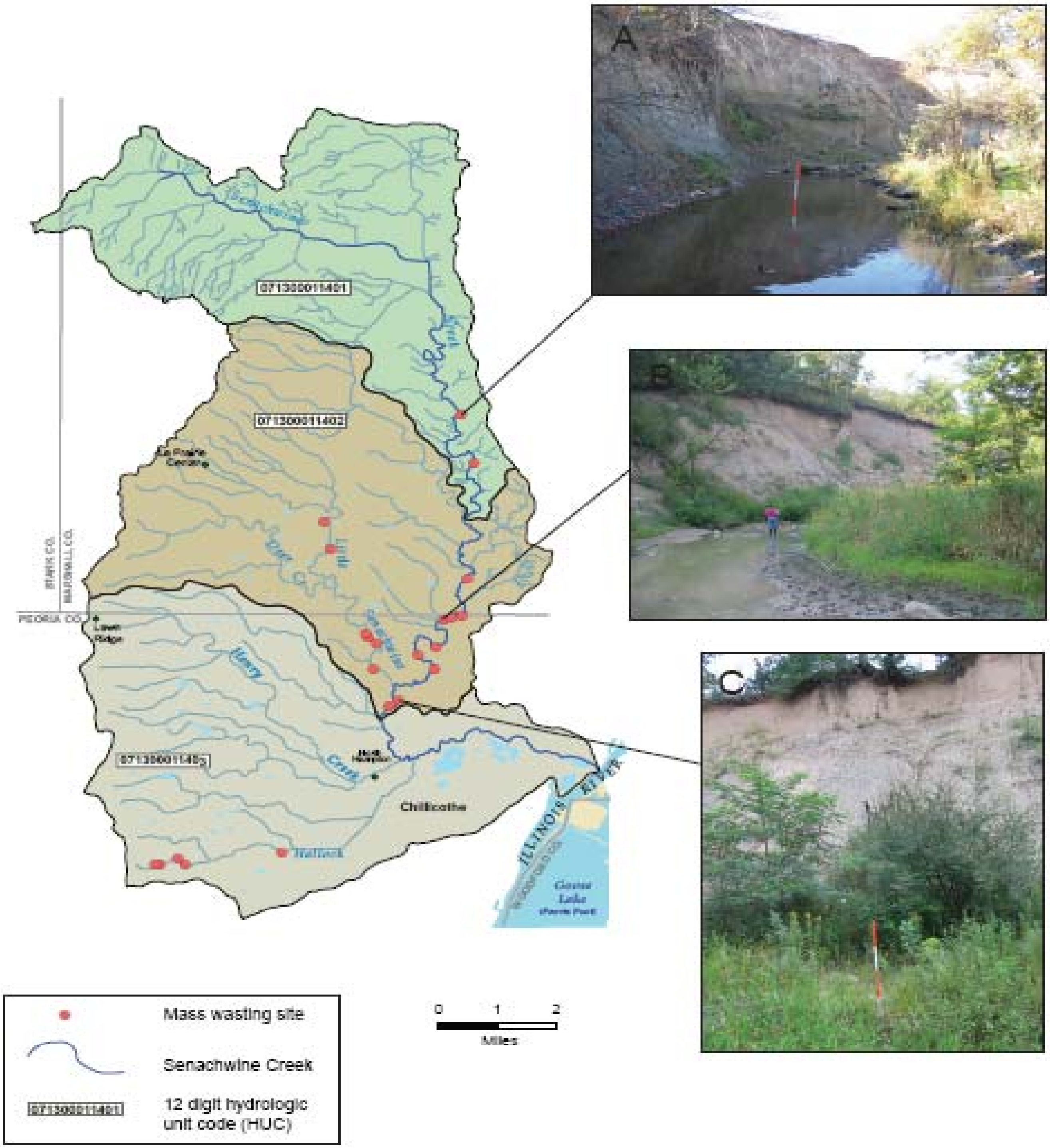
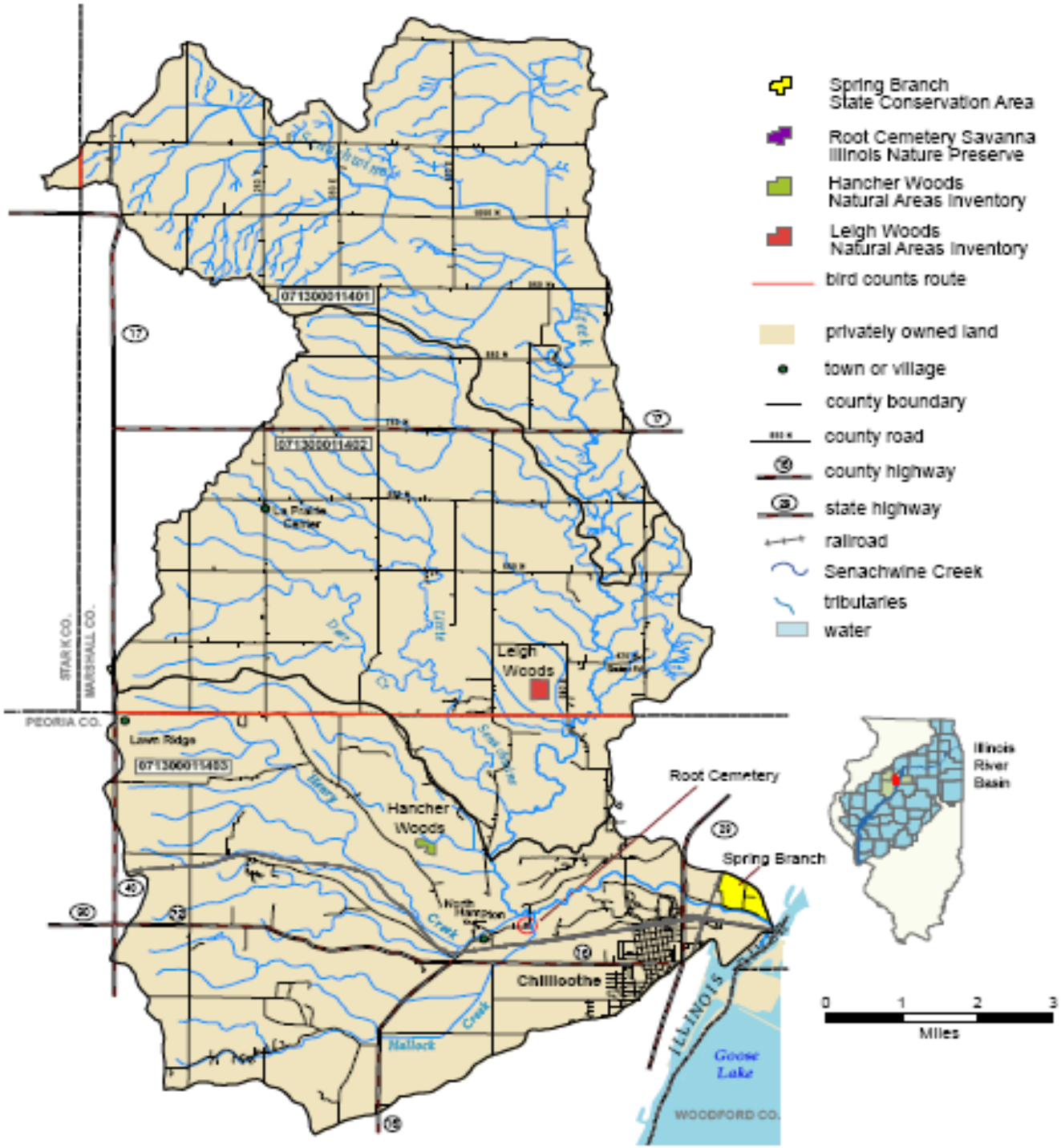
Problems

- High sediment delivery to the Illinois River
- Stream bed and bank instability
- Degraded stream and riparian habitats
- Isolation of existing high quality areas


Little Senachwine Creek
Hallock Creek
Gilfillan B
Hallock A
Tributary 1
Gilfillan Creek
Henry
Creek
Deer Creek
Tributary 3
Mainstem of Senachwine Creek
Assessed Streams
Non-assessed Streams
Non-assessed Streams
Elevation (msl)
900
850
800
750
700
650
600
550
500
450
400
-2
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
Miles from the Mouth


A
B
C
071300011401
071300011402
Chillicothe
PEORIA CO.
Mass wasting site
Senachwine Creek
12 digit hydrologic unit code (HUC)
0
1
2
Miles

Reliable


Spring Branch
State Conservation Area
Root Cemetery Savanna
Illinois Nature Preserve
Hancher Woods
Natural Areas Inventory
Leigh Woods
Natural Areas Inventory
bird counts route
privately owned land
town or village
county boundary
county road
county highway
state highway
railroad
Senachwine Creek
tributaries
water
071300011401
071300011402
071300011403
La Prairie Center
Leigh Woods
Lawn Ridge
Hancher Woods
Root Cemetery
Spring Branch
Chillicothe
Hallack Creek
Goose Lake
ILLINOIS
WOODFORD CO.
PEORIA CO.
STARK CO.
MARSHALL CO.
Illinois River Basin
0 1 2 3
Miles

Reliable

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Restoration Measures

- WASCOB's
- Streambed/bank stabilization
  - Grade Control Structures
  - Rock Riffles
  - Bank Barbs
  - Stone Toe Protection
- Forest/timber stand improvement
- Riparian buffers
- Wetland Restoration

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Pekin Lake SFWA – Northern Unit

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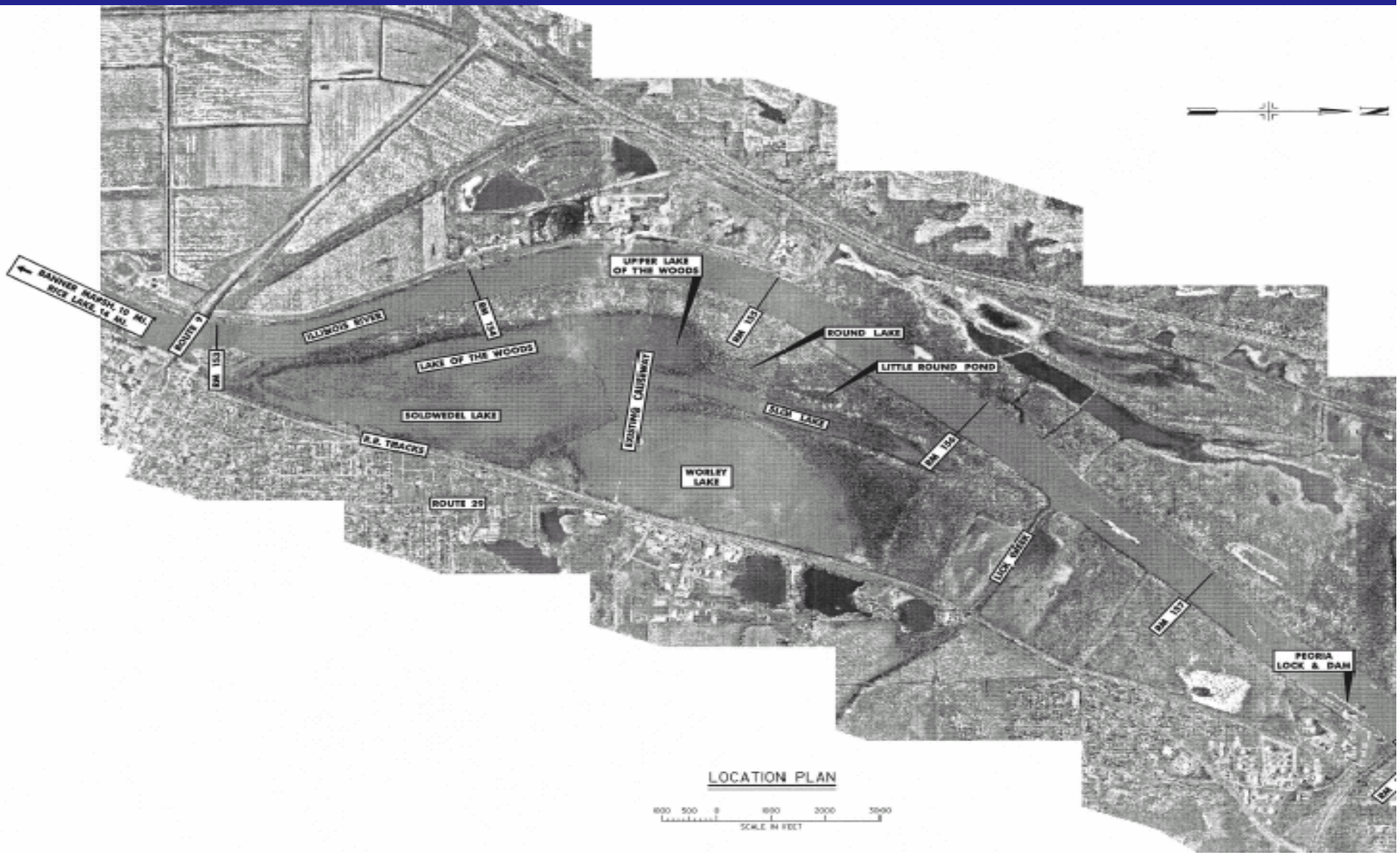
Location



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Problems

- Continued willow invasion of moist soil areas
- Moist soil plant areas are flooded due to variable river levels

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Project Goals

- Improve Aquatic Habitat
- Enhance Wetlands
- Improve Terrestrial Habitat

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Objectives

- Keep late spring and early summer water level changes from impacting moist soil plant areas
- Improve existing shallow water habitats
- Alter conditions that promote willow encroachment on moist soil plant areas

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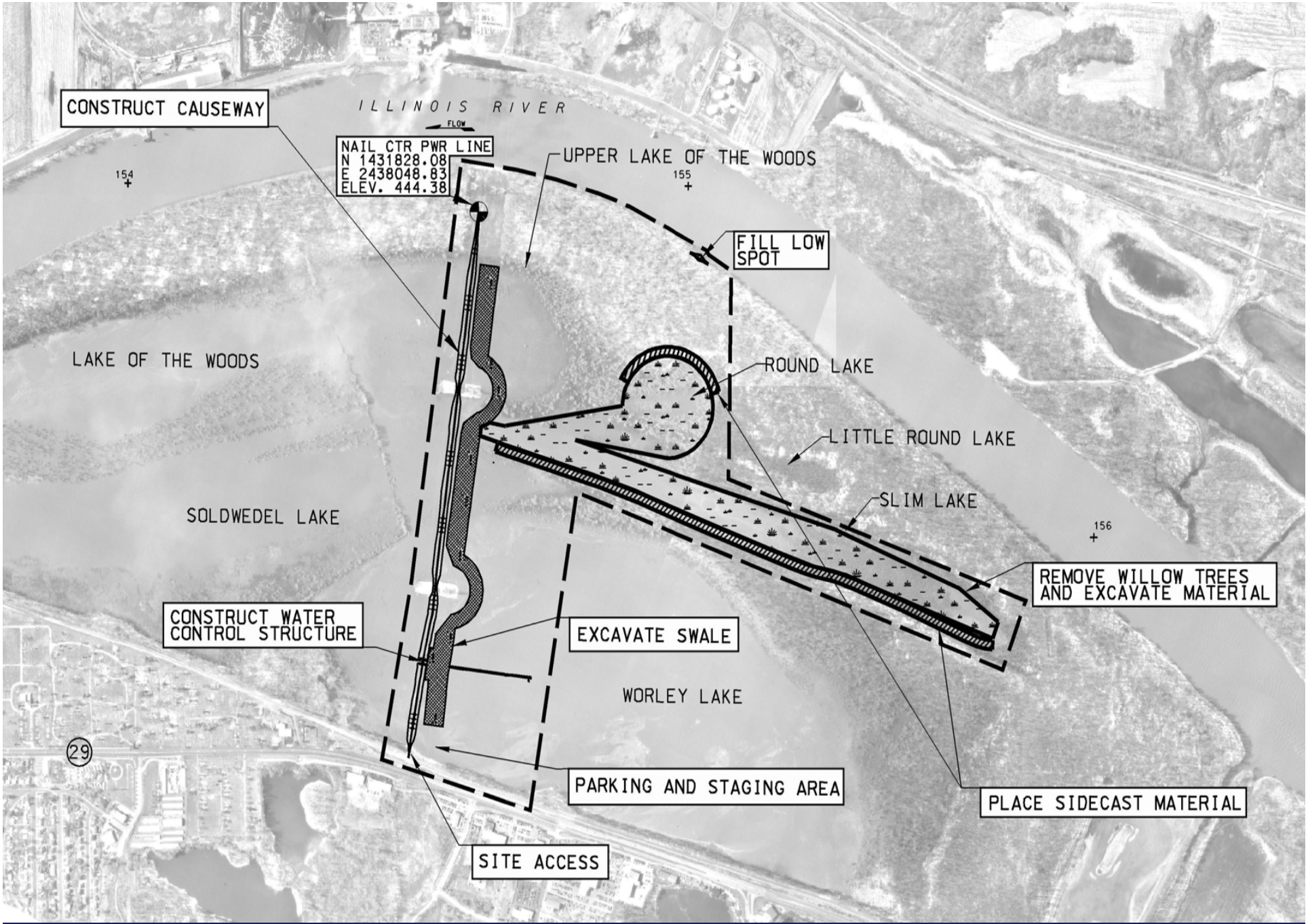
Features

- Construct Site Access gate and guardrails.
- Construct a new causeway along the existing rubble power line causeway alignment.
- Excavate material to create drainage swale (material used for causeway).
- Construct water control structure.
- Clear and grub wetland areas. Excavate these areas to remove sediment.
- Fill low spot along river with excavated wetland materials.


CONSTRUCT CAUSEWAY
ILLINOIS RIVER
FLOW
NAIL CTR PWR LINE
N 1431828.08
E 2438048.83
ELEV. 444.38
UPPER LAKE OF THE WOODS
154
155
156
FILL LOW SPOT
LAKE OF THE WOODS
ROUND LAKE
LITTLE ROUND LAKE
SLIM LAKE
SOLDWEDEL LAKE
REMOVE WILLOW TREES AND EXCAVATE MATERIAL
CONSTRUCT WATER CONTROL STRUCTURE
EXCAVATE SWALE
WORLEY LAKE
29
PARKING AND STAGING AREA
PLACE SIDECAST MATERIAL
SITE ACCESS

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Current Railroad Access/ Gate Location

Contractor Responsibilities for railroad access:

- RR to construct crossing.
- Flagman at site.
- Break trains parked at access.

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Stop Log Structure

2003

2005

Stop log structure location is at existing low point.

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Causeway (2003)

Depending on year, clearing and grubbing will be required prior to placement of soil excavated from adjacent lakes.

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Causeway (2005)

Note that most of the vegetation has been removed
(View is standing on the causeway, looking towards the RR)

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Rubble on Causeway

Rubble over a certain size will be removed or cut.
Rebar will be cut.
Excavated material will be placed over existing causeway.

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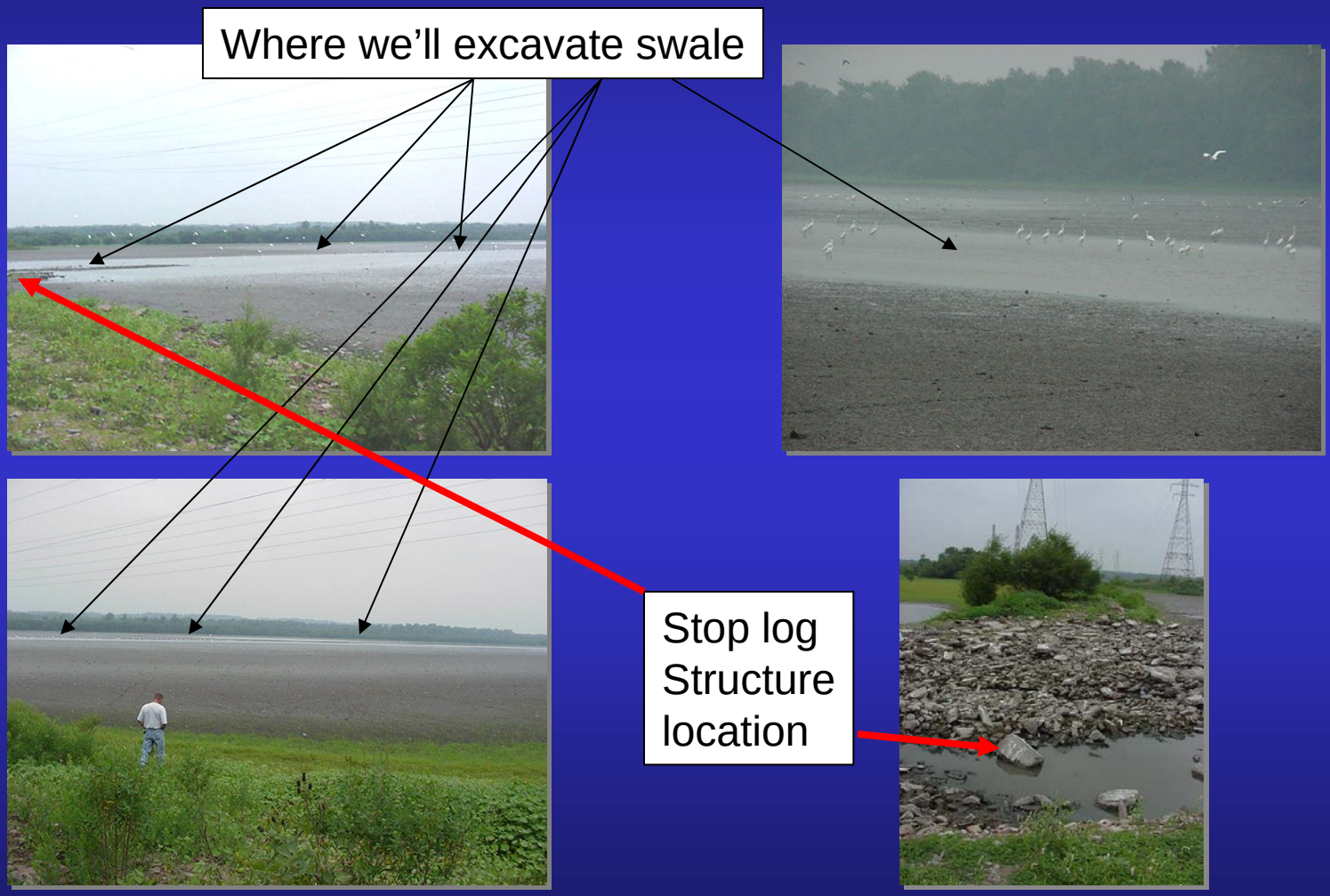
Worley Lake (9/03)



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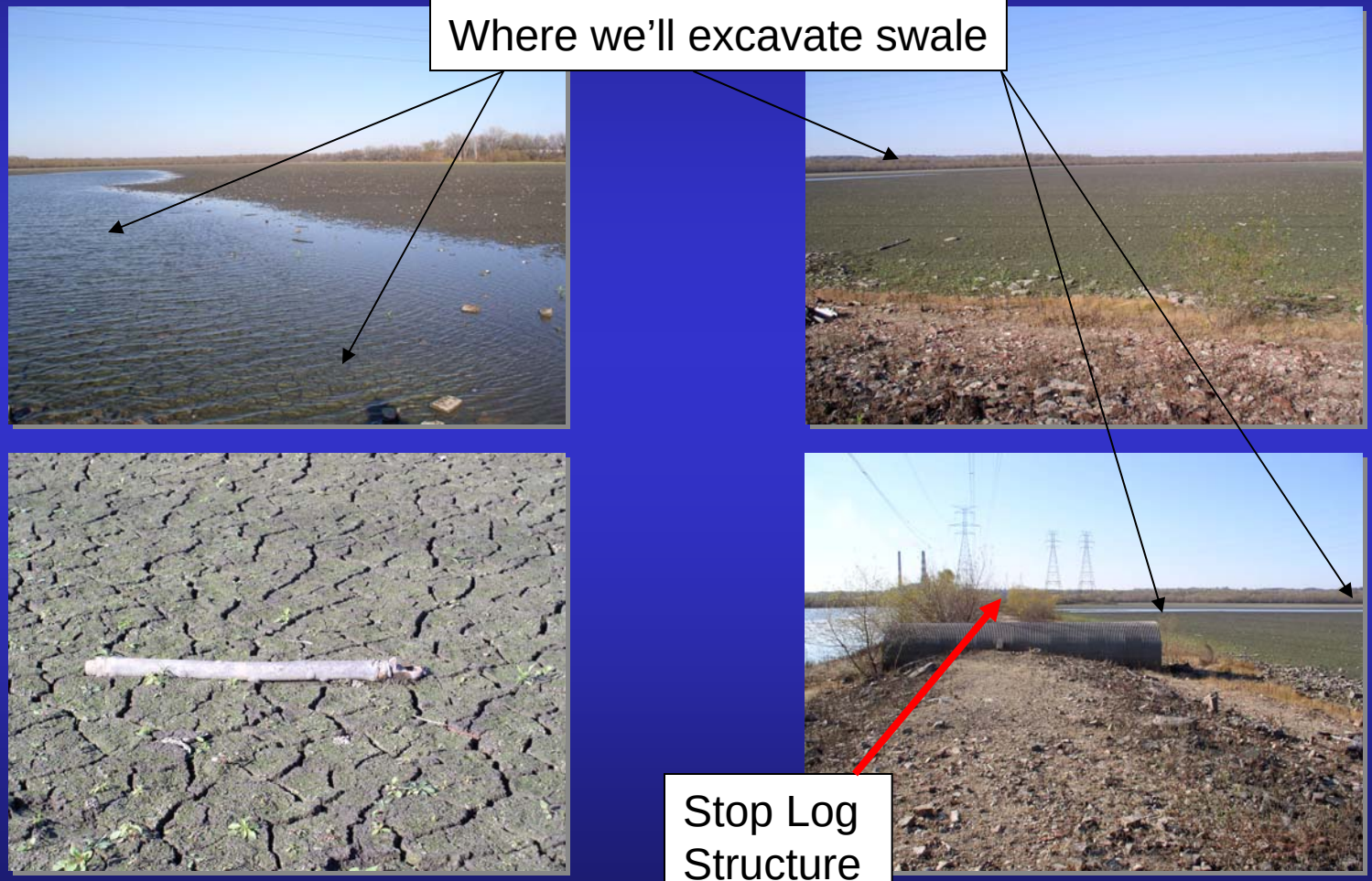
Worley Lake (11/03)



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Worley Lake (11/05)

Approximate swale excavation location

Worley Lake Looking North from the Causeway (Drought Year)

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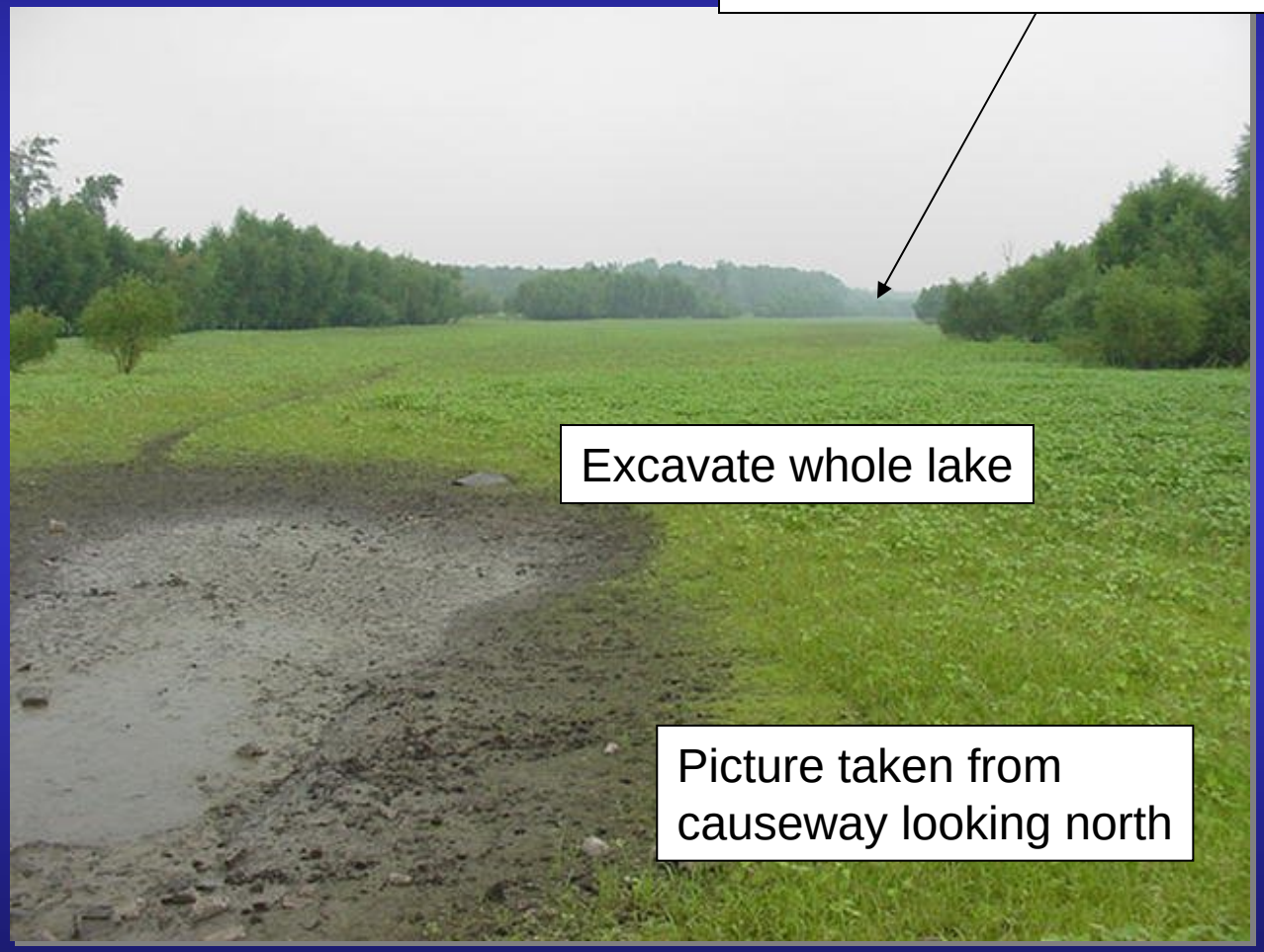
Wetland Enhancement



9/03

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Muddy Construction

Floating Backhoe from
divemar.com/ODS/docs/ hoedredge.html

It is likely that construction will be in muddy conditions (unless there is another drought year) so low pressure equipment will likely be required.

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Endangered or Threatened Species

Decurrent False Aster

Timing issues important to avoid species impact

Heron Rookery

Bald Eagle (nests)

Indiana Bat

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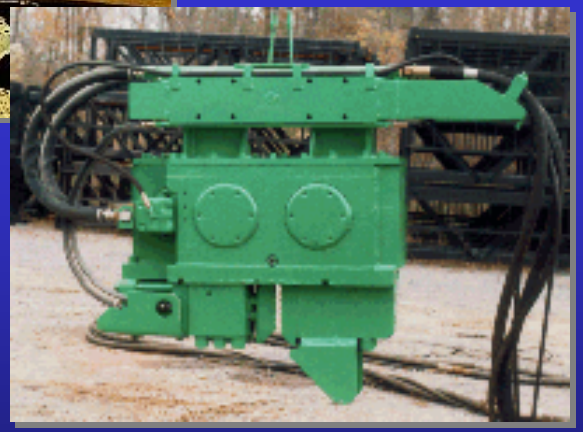
Construction Under Power Lines

Maintain Minimum Clearance Distances. Important for stop log structure construction and placement of excavated material



Drive piles using Low overhead vibration Equipment
http://www.iceusa.com/index.htm

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Pekin North Schedule Completed Work

- Public Review Draft approved by MVD (August 2003).
- P&S initiated September 2003. ITR completed in 2004.
- 401 Permit received in 2005.
- Feasibility Report approved by the Assistant Secretary of the Army (Civil Works) 2006.

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Cost

- Total Project Cost is estimated at ~$6.3M.
- Construction Contract Cost is expected to be just under $3M.
- Remaining costs are for RE and PED.

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Pekin Lake SFWA – Southern Unit

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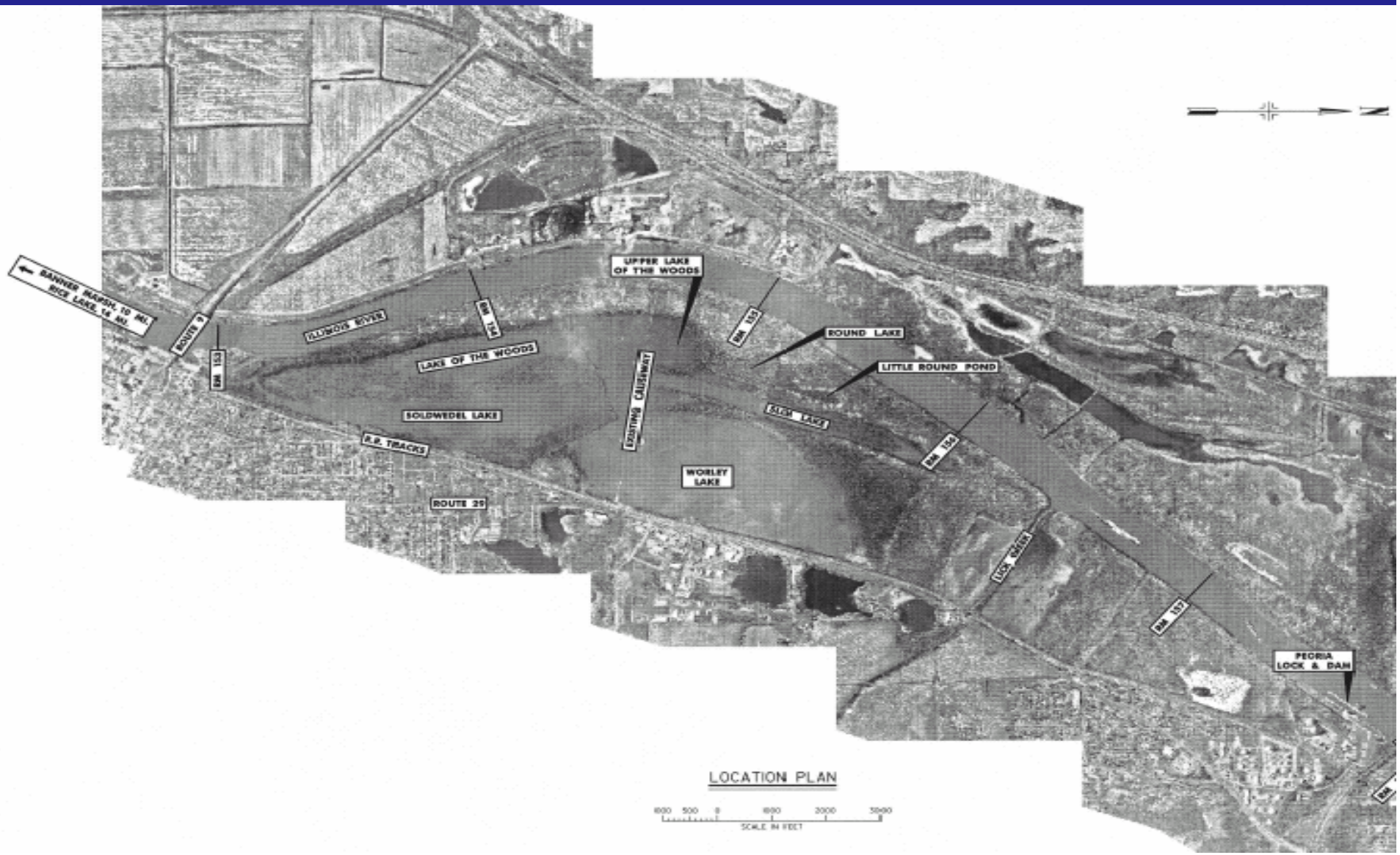
Location



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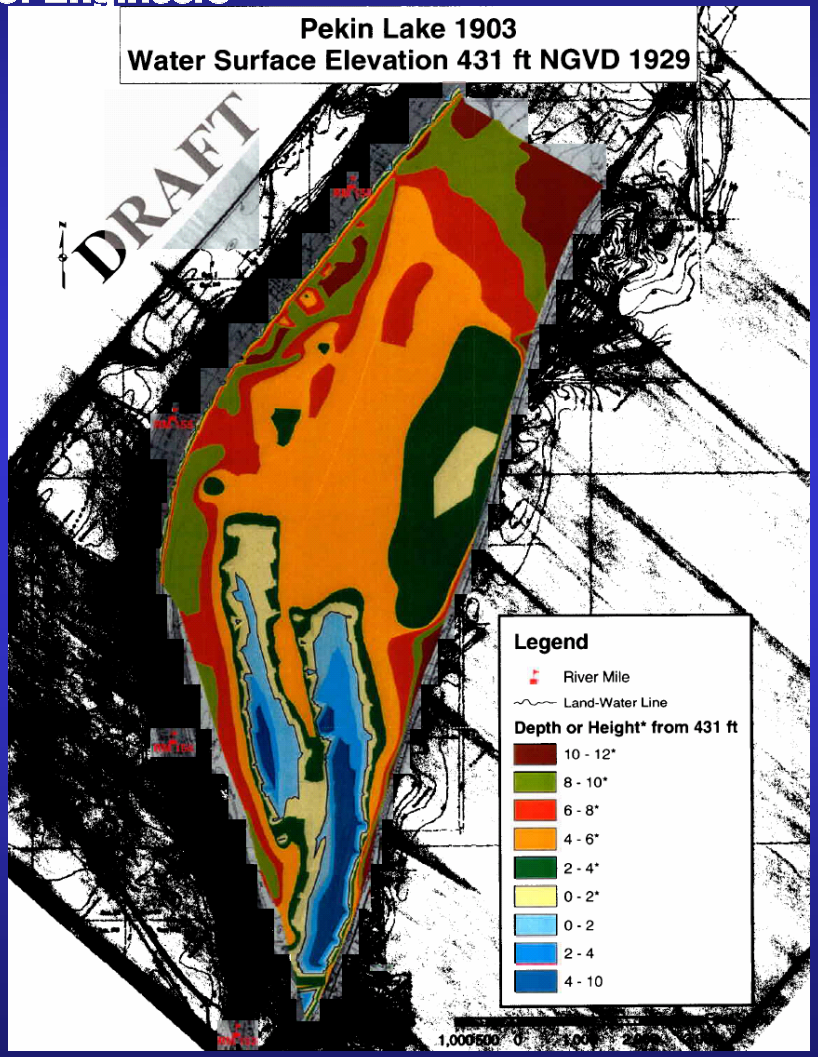
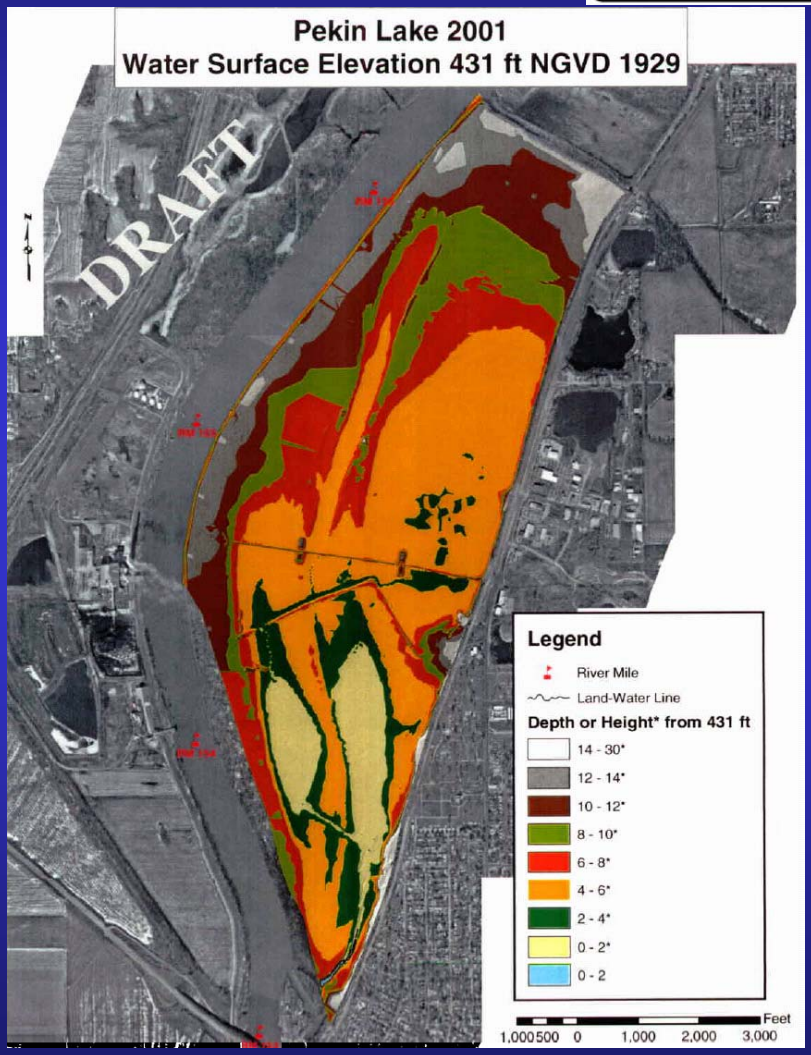
Problems





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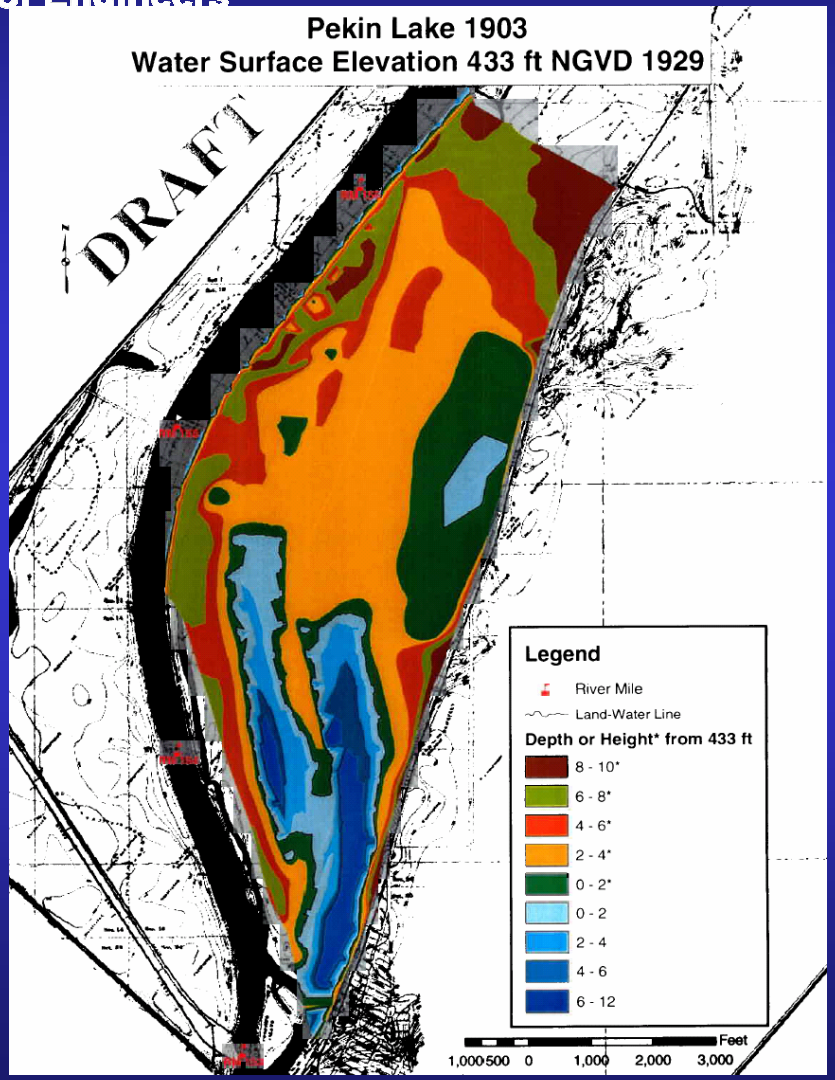
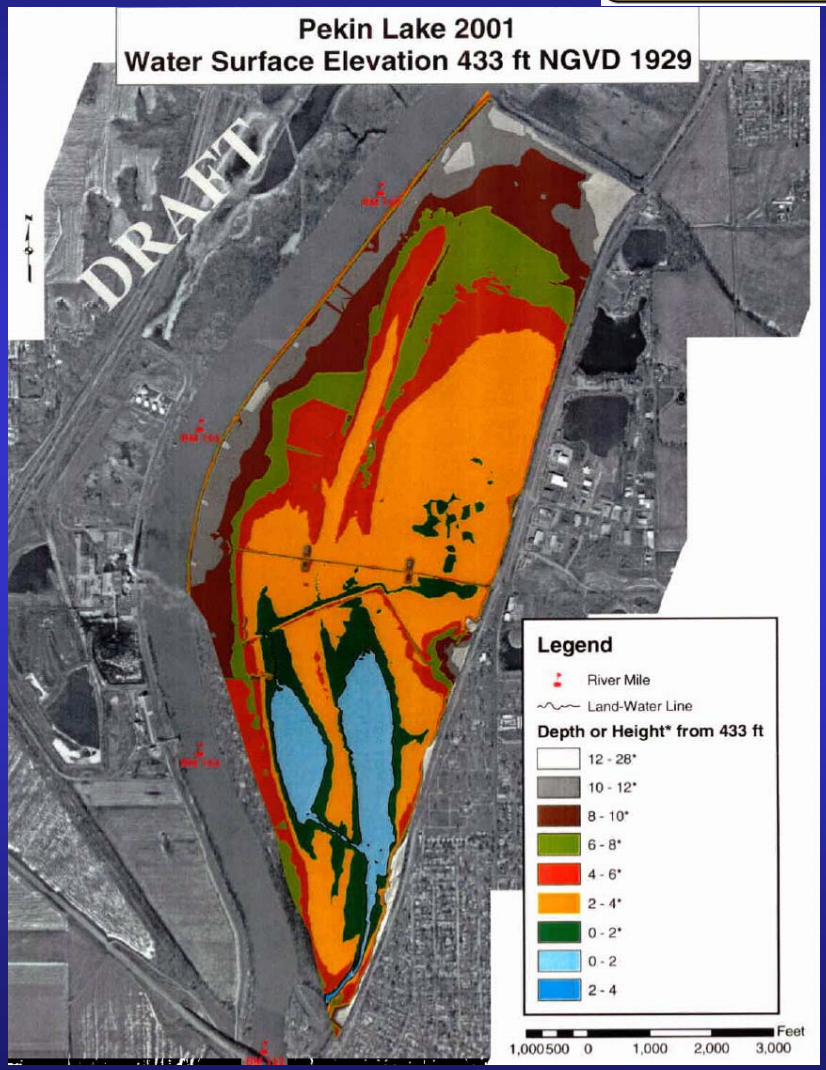
Problems





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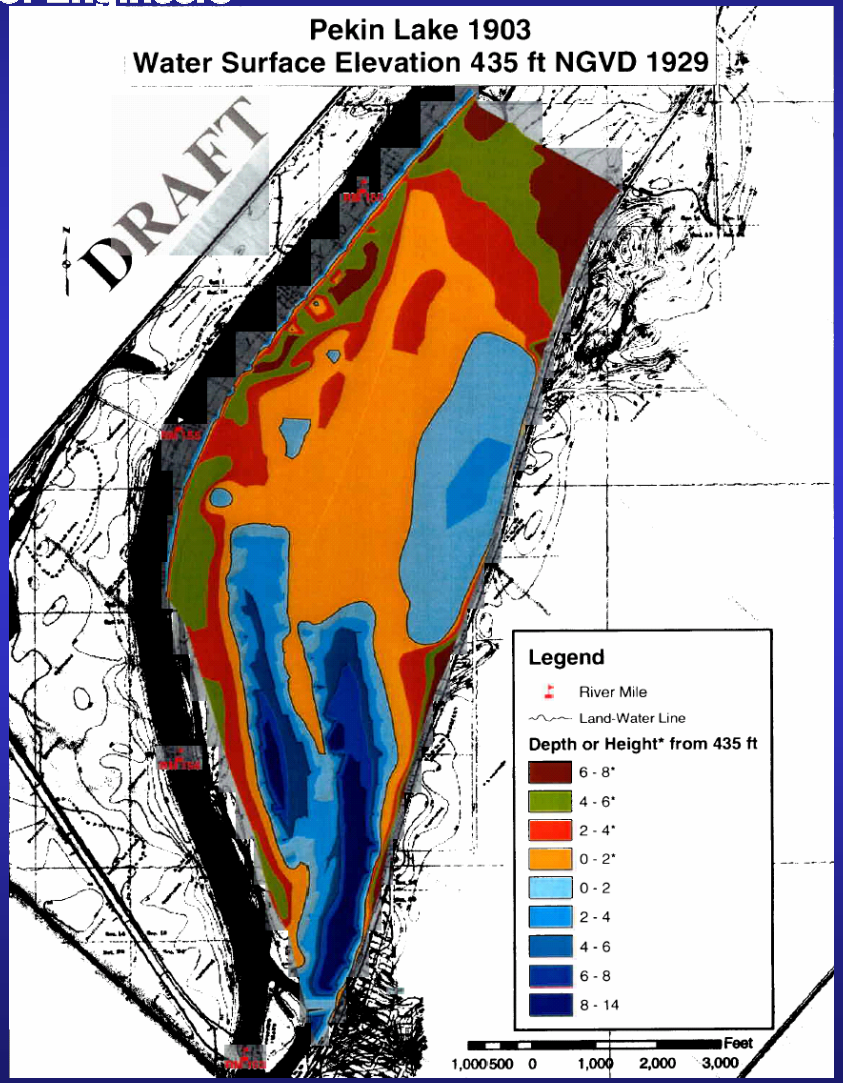

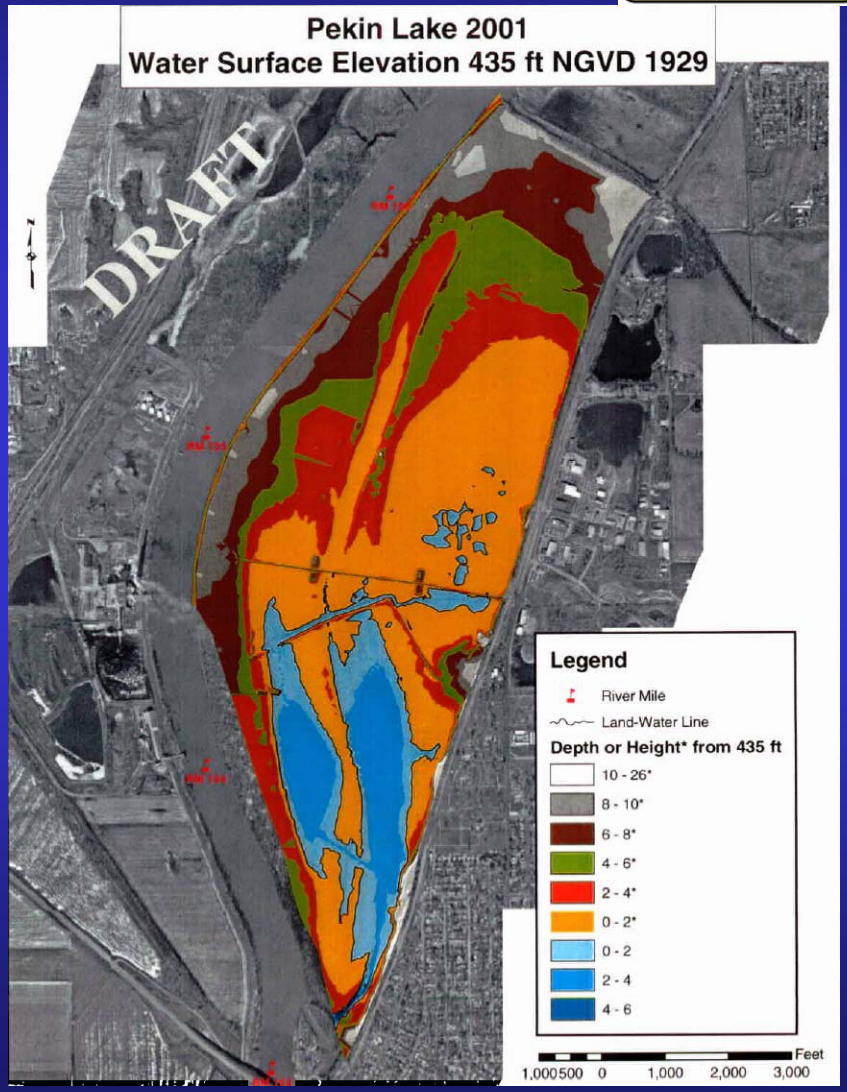

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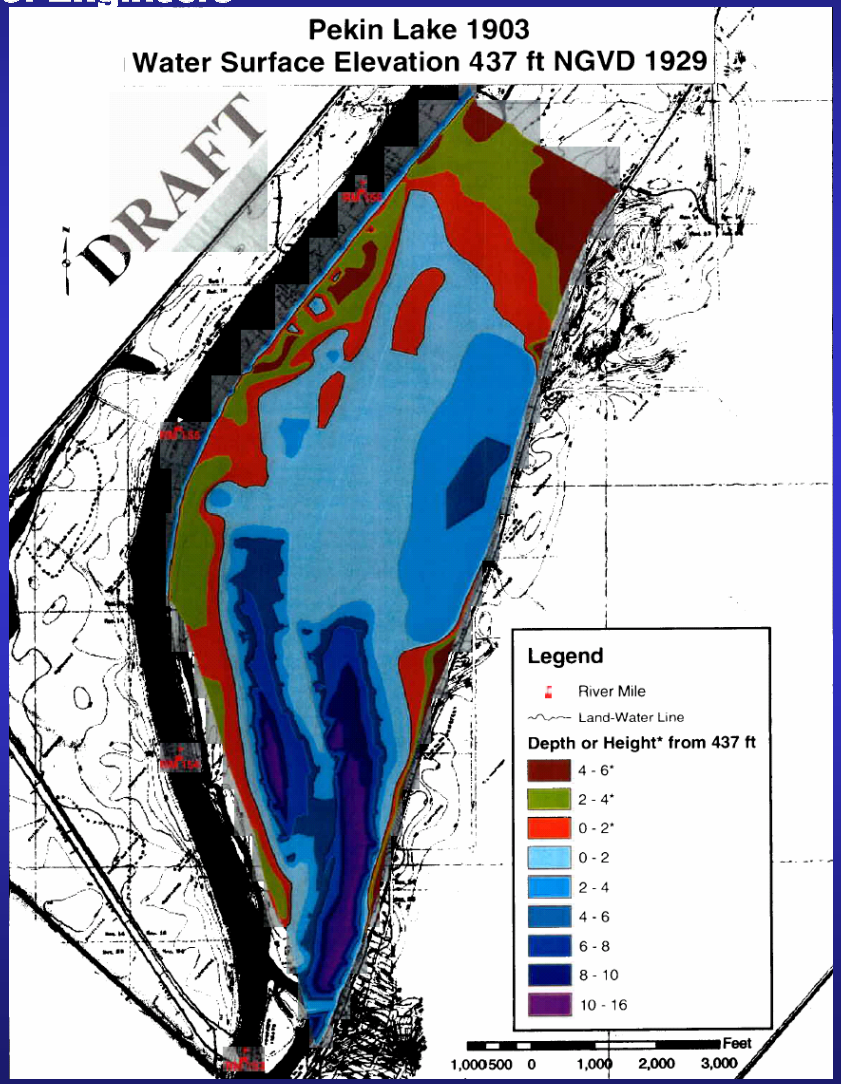

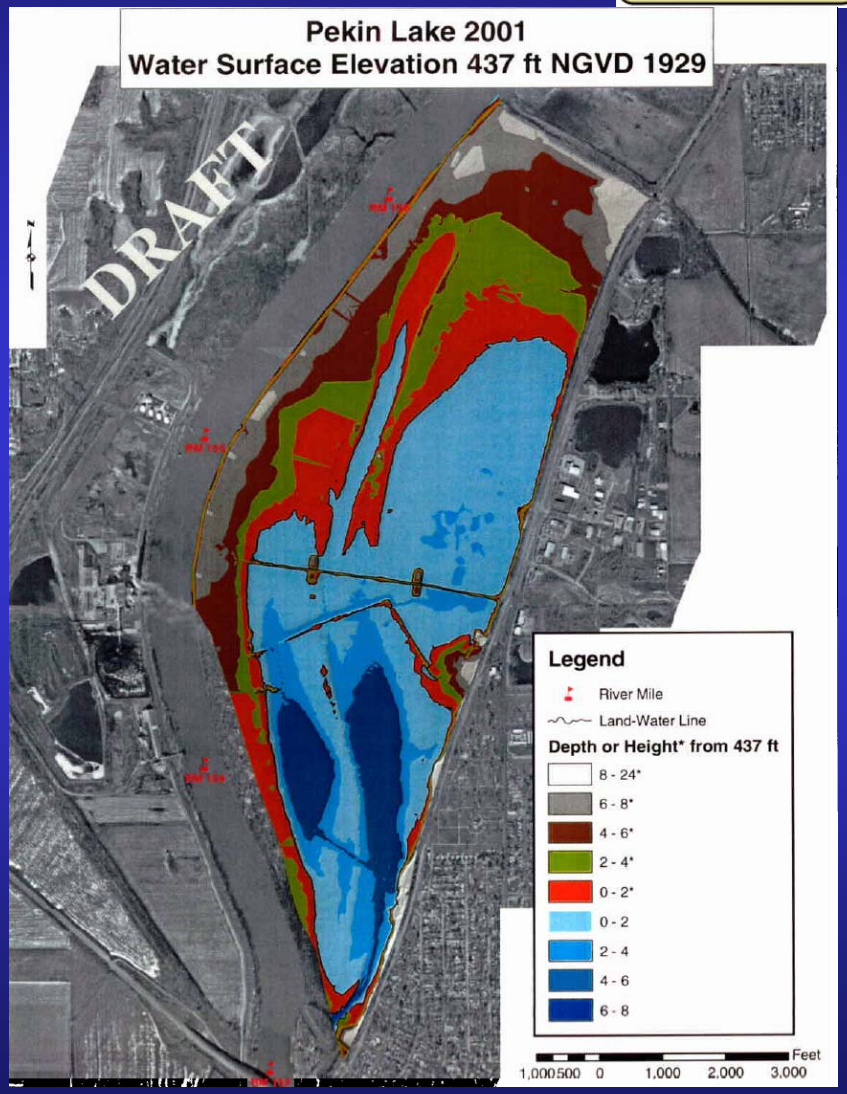

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Project Goals

- Improve Aquatic Habitat
- Enhance Wetlands
- Improve Terrestrial Habitat

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Objectives

- Provide overwintering fish habitat
- Improve spawning and nursery habitat
- Improve migratory waterfowl and shorebird habitat
- Improve forest diversity and re-introduce mast trees

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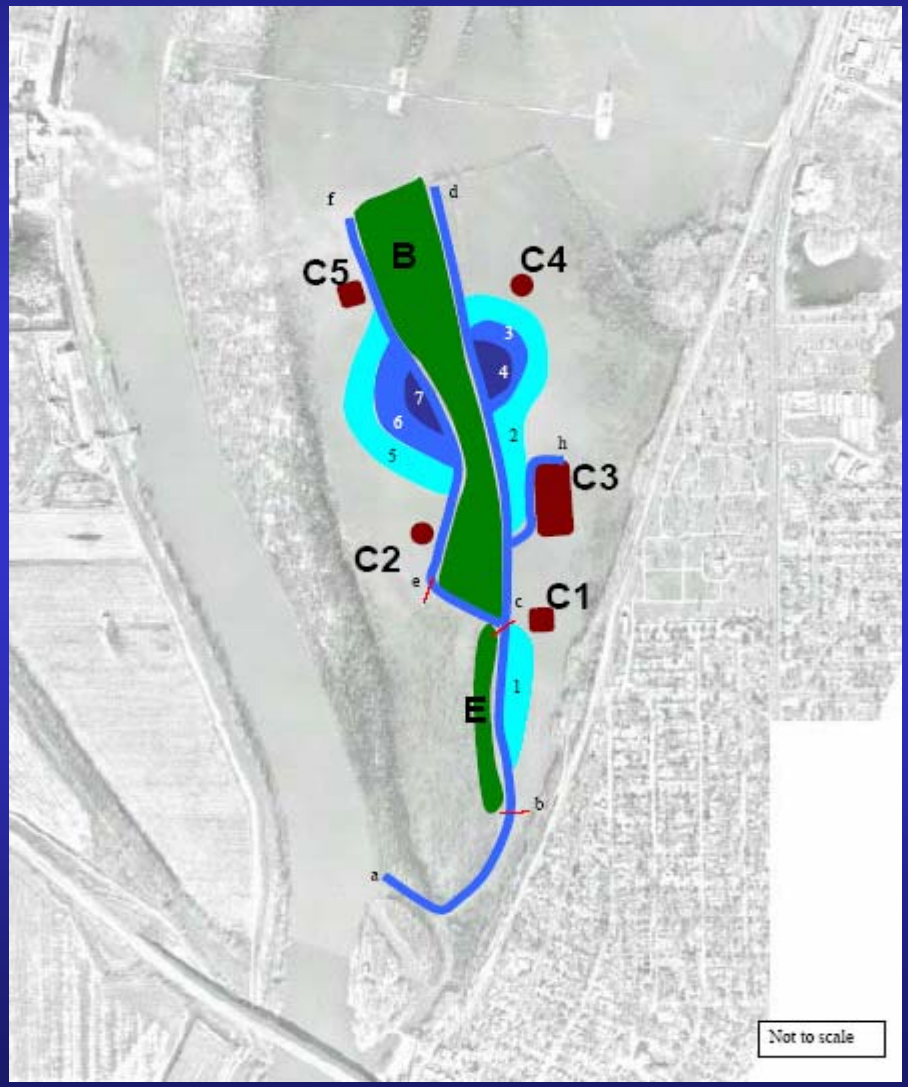
Features

- 45.7 Acres of Dredging with 42.8 Acres of Placement



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Design

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Wet Conditions

- In spring and early summer months, may be placing material in several feet of water (447.1 is 2 year flood. Ground between 432 and 435).
- Photo taken in April 2005.

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Dry Conditions

- In summer and fall months, there may not be any surface water (looking south at the same spot as the last photo).
- Photo taken in September 2003.

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Access

- Access is only from the river.
- Some access dredging may be required.
- Public boat ramp south of project, within a half mile.

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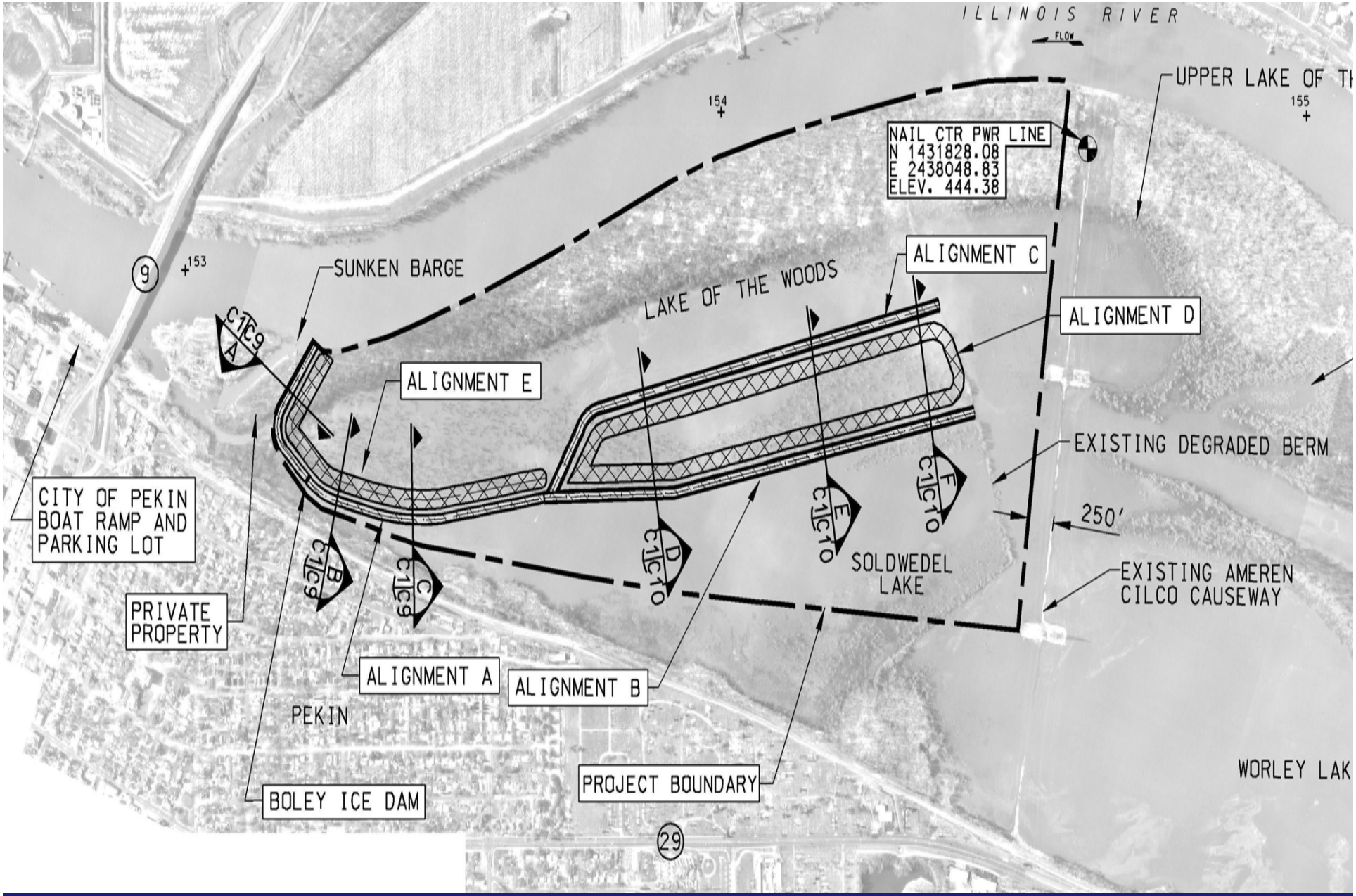
Stage 1 Construction

- Stage 1
  - **Mechanical excavation and placement.**
  - **Three Dredging alignments**
  - **Two placement locations.**


ILLINOIS RIVER
FLOW
UPPER LAKE OF TH
154
155
NAIL CTR PWR LINE
N 1431828.08
E 2438048.83
ELEV. 444.38
9
153
SUNKEN BARGE
LAKE OF THE WOODS
ALIGNMENT C
ALIGNMENT D
ALIGNMENT E
EXISTING DEGRADED BERM
250'
CITY OF PEKIN
BOAT RAMP AND
PARKING LOT
PRIVATE
PROPERTY
SOLDWEDEL
LAKE
EXISTING AMEREN
CILCO CAUSEWAY
ALIGNMENT A
ALIGNMENT B
PEKIN
BOLEY ICE DAM
PROJECT BOUNDARY
WORLEY LAK
29

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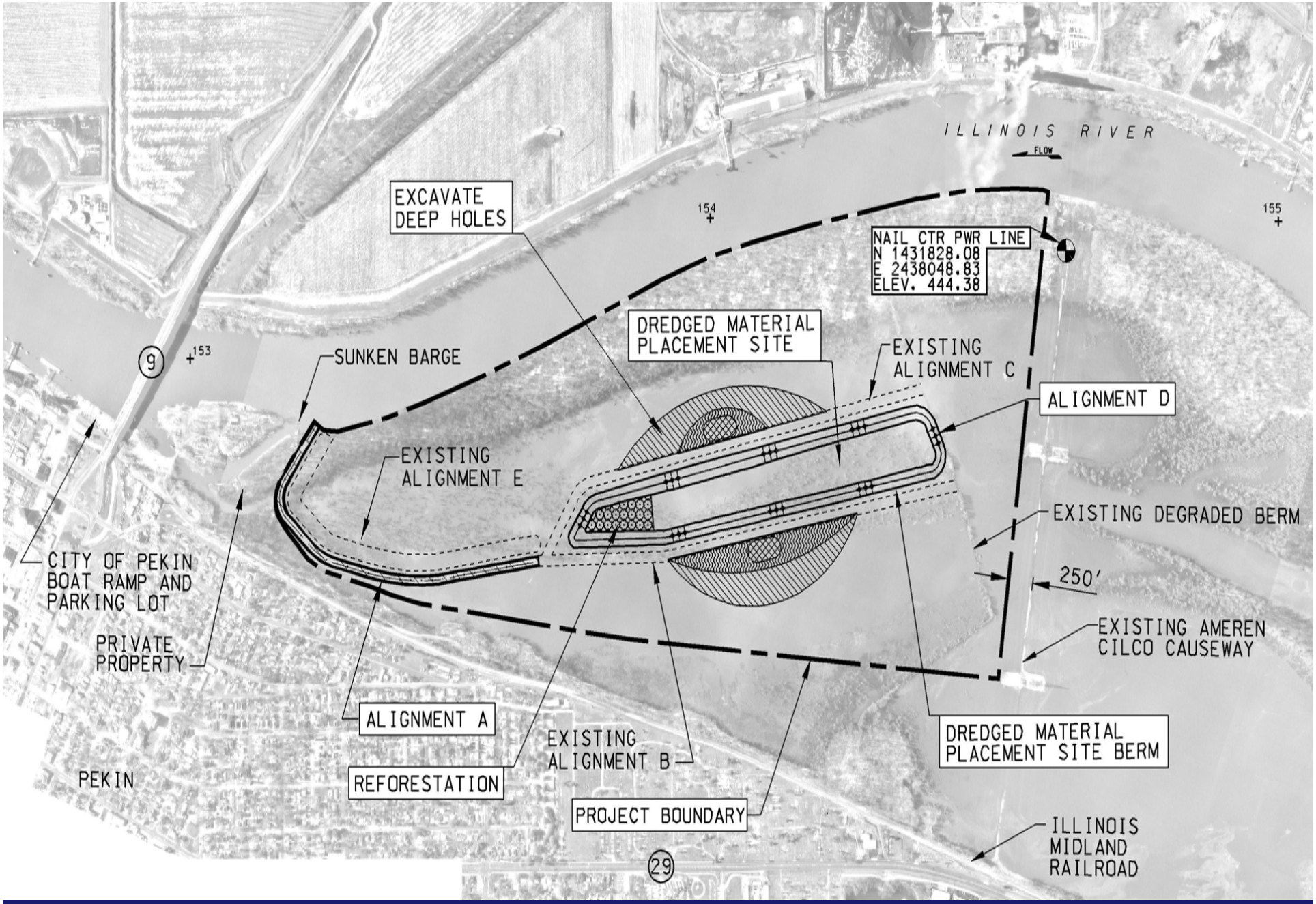
Stage 2 Construction

- Stage 2
  - Shape placement berms
  - Hydraulic dredging
    - ♦One dredging alignment
    - ♦6 deep water holes.
  - Maintain differing elevations.
  - Knock down containment berms a few feet.
  - Plant trees (option).


ILLINOIS RIVER
FLOW
EXCAVATE DEEP HOLES
154
155
NAIL CTR PWR LINE
N 1431828.08
E 2438048.83
ELEV. 444.38
DREDGED MATERIAL PLACEMENT SITE
EXISTING ALIGNMENT C
ALIGNMENT D
9
153
SUNKEN BARGE
EXISTING ALIGNMENT E
EXISTING DEGRADED BERM
250'
CITY OF PEKIN BOAT RAMP AND PARKING LOT
PRIVATE PROPERTY
EXISTING AMEREN CILCO CAUSEWAY
ALIGNMENT A
EXISTING ALIGNMENT B
DREDGED MATERIAL PLACEMENT SITE BERM
PEKIN
REFORESTATION
PROJECT BOUNDARY
ILLINOIS MIDLAND RAILROAD
29

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Schedule: Completed

- Feasibility Report approved by MVD, September 2004.
- P&S initiated, April 2005.
- Feasibility Report sent to HQ, November 2005.
- Stage I Plans and Specs substantially completed (along with cost estimate), September 2005.
- Stage II Plans and Specs nearly completed (no cost estimate), December 2005.

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Cost

- Total Project Cost is estimated at the project cap of ~$7.69M.
- RE costs are estimated at ~ $1.2M.
- Stage I is estimated between $3.5M and $4M.
- Stage II will use up most of the remaining costs up to the project cap.

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Questions?

Artwork is provided to the Rock Island District courtesy of Michael Blaser

www.blaserstudio.com www.steamboatmikey.com

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