

Yellow River Restoration

Section 519 Illinois River Restoration

Presented by:

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Overview

- Watershed Characteristics
- Study Area Problems
- Restoration Opportunities
- Proposed Restoration Design
- Benefits of Restoration
- Questions / Comments



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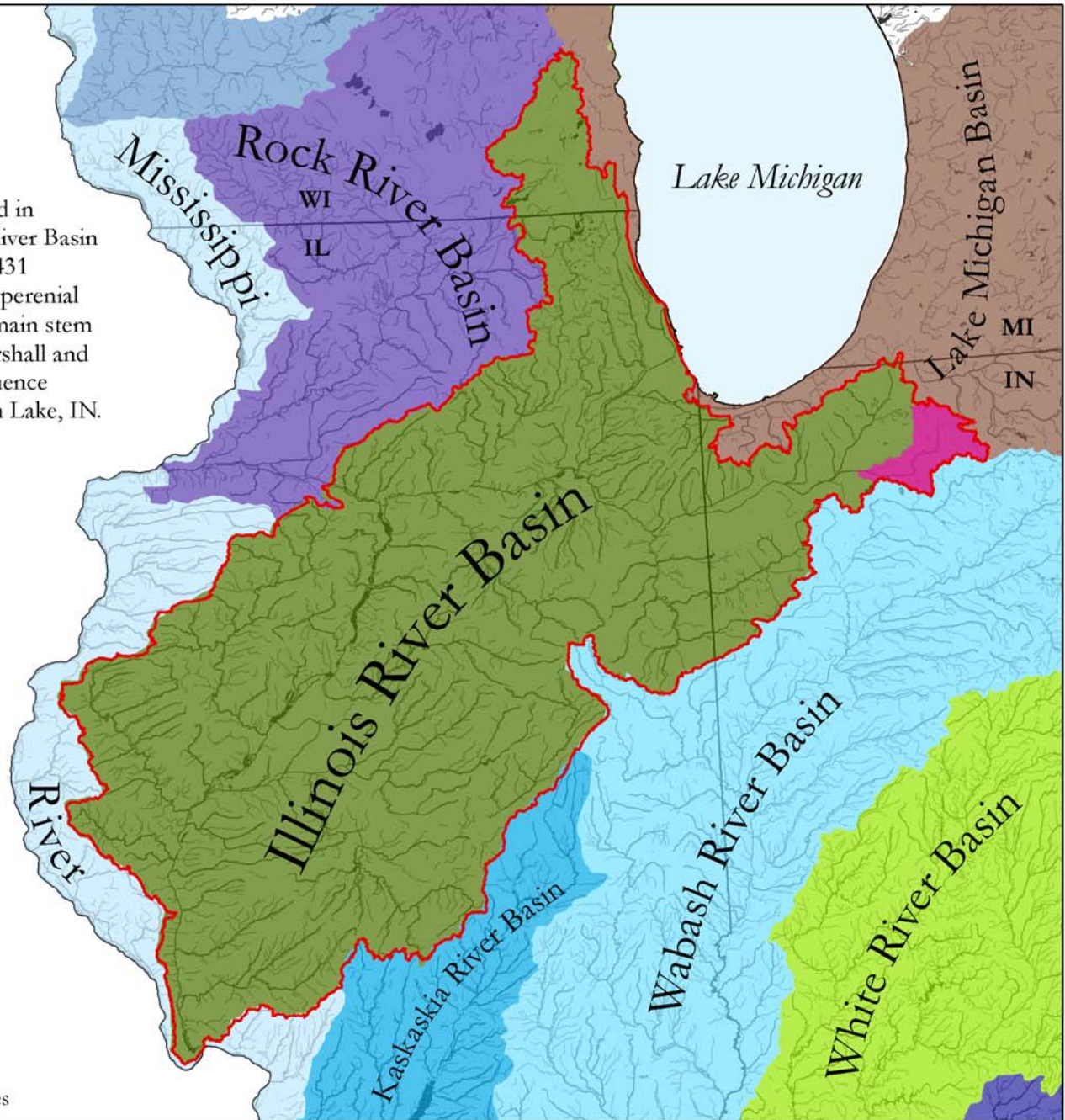
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The Yellow River Watershed is located in the northeastern portion of Illinois River Basin headwaters. The watershed is about 431 square miles with about 415 miles of perennial stream and ditch. The Yellow River main stem flows for about 60 miles through Marshall and Starke counties where it makes confluence with the Kankakee River near English Lake, IN.

- Streams & Rivers
- Illinois_River_Watershed
- Yellow River Watershed

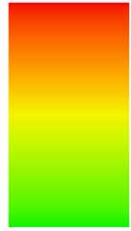


0 25 50 100 Miles



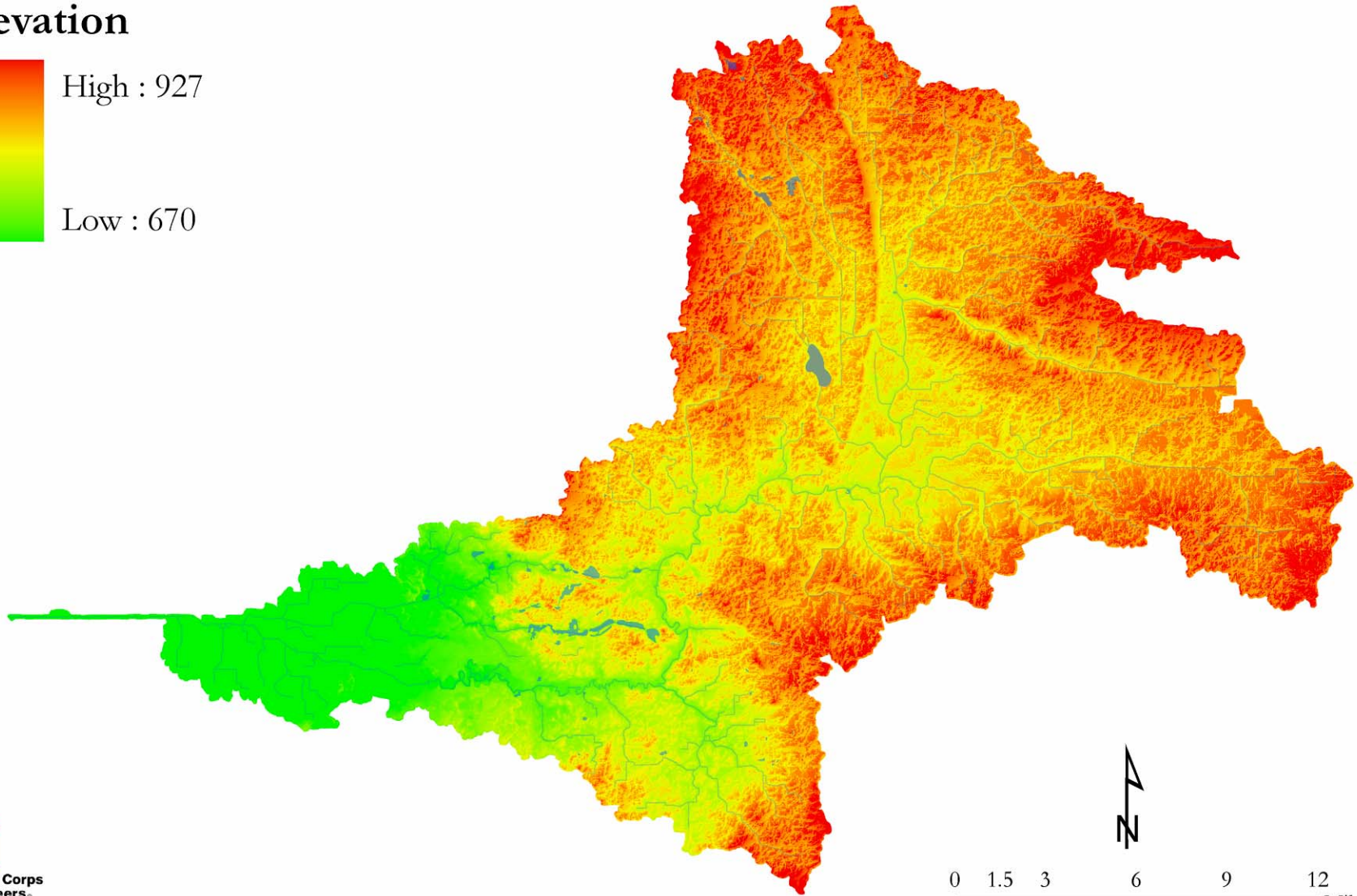
Topography

Elevation



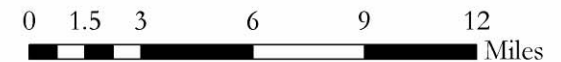
High : 927

Low : 670



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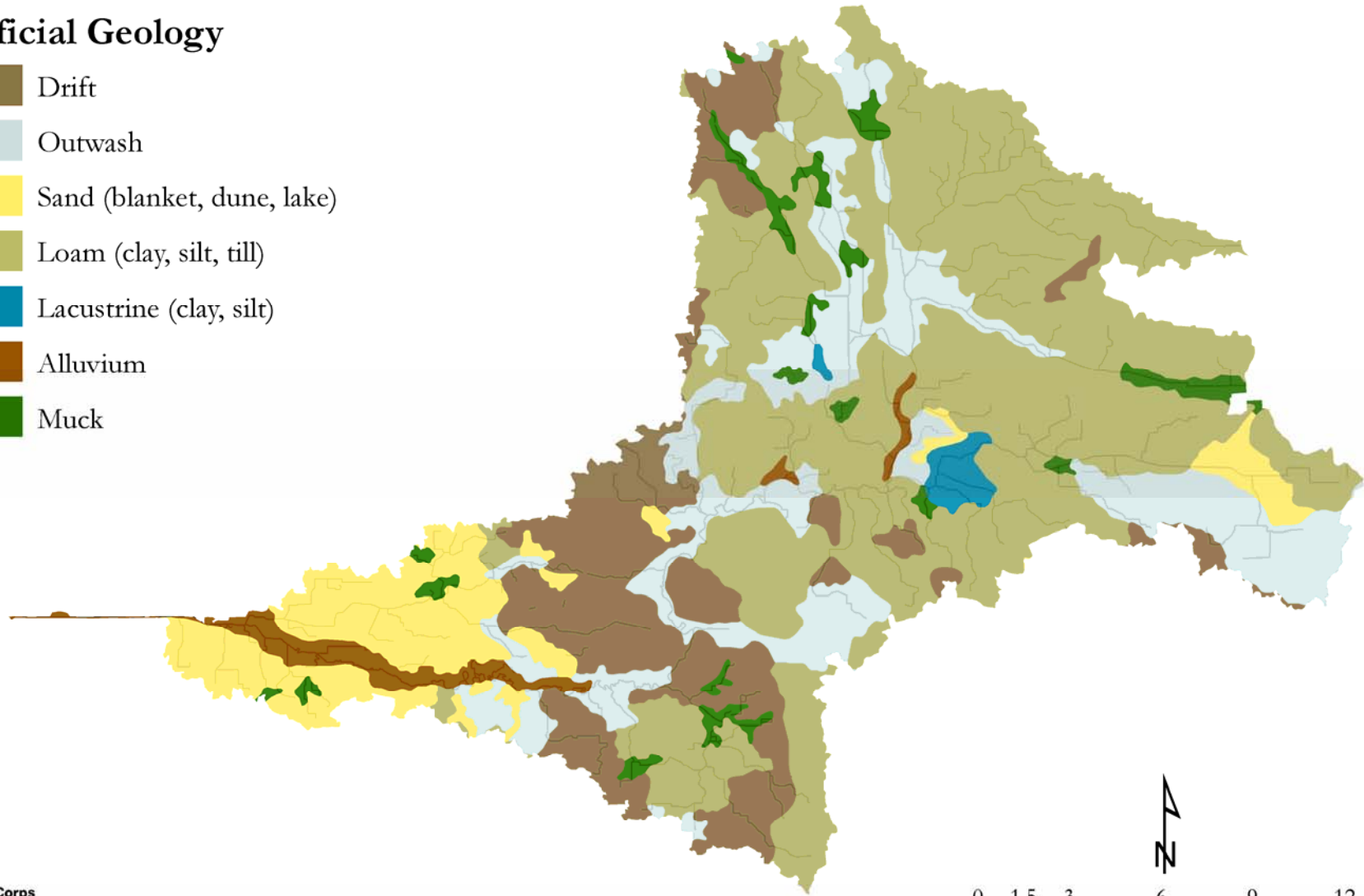
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Glacial / Fluvial Deposition

Surficial Geology

- Drift
- Outwash
- Sand (blanket, dune, lake)
- Loam (clay, silt, till)
- Lacustrine (clay, silt)
- Alluvium
- Muck



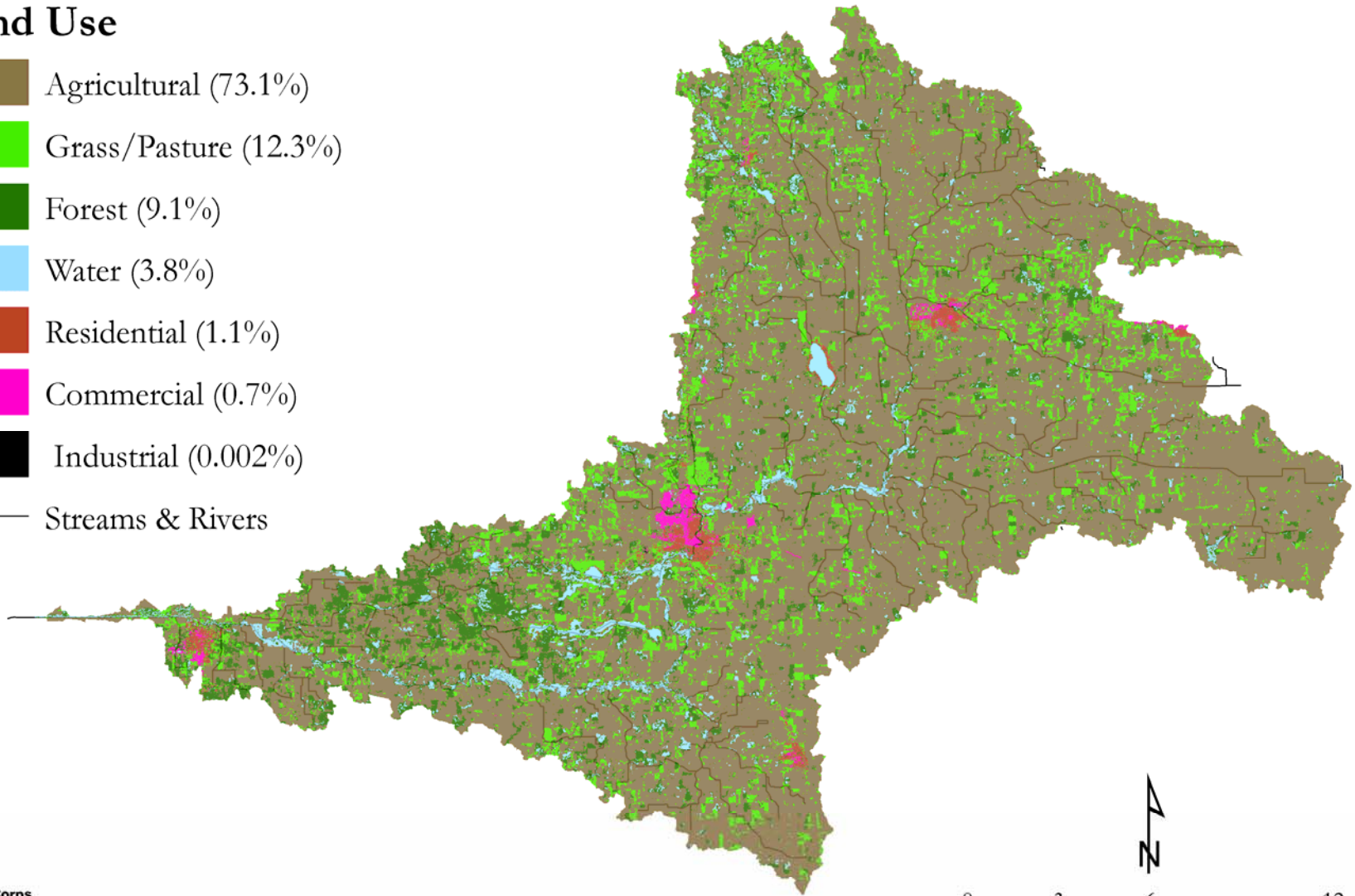
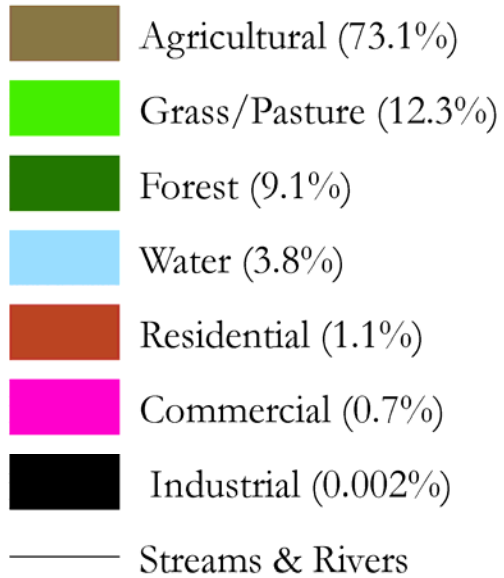
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0 1.5 3 6 9 12 Miles

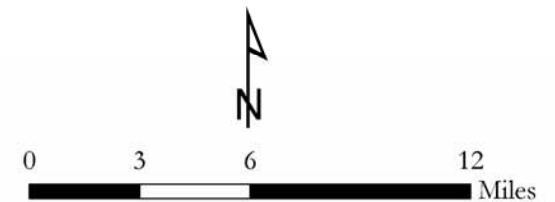
Land Use

Land Use

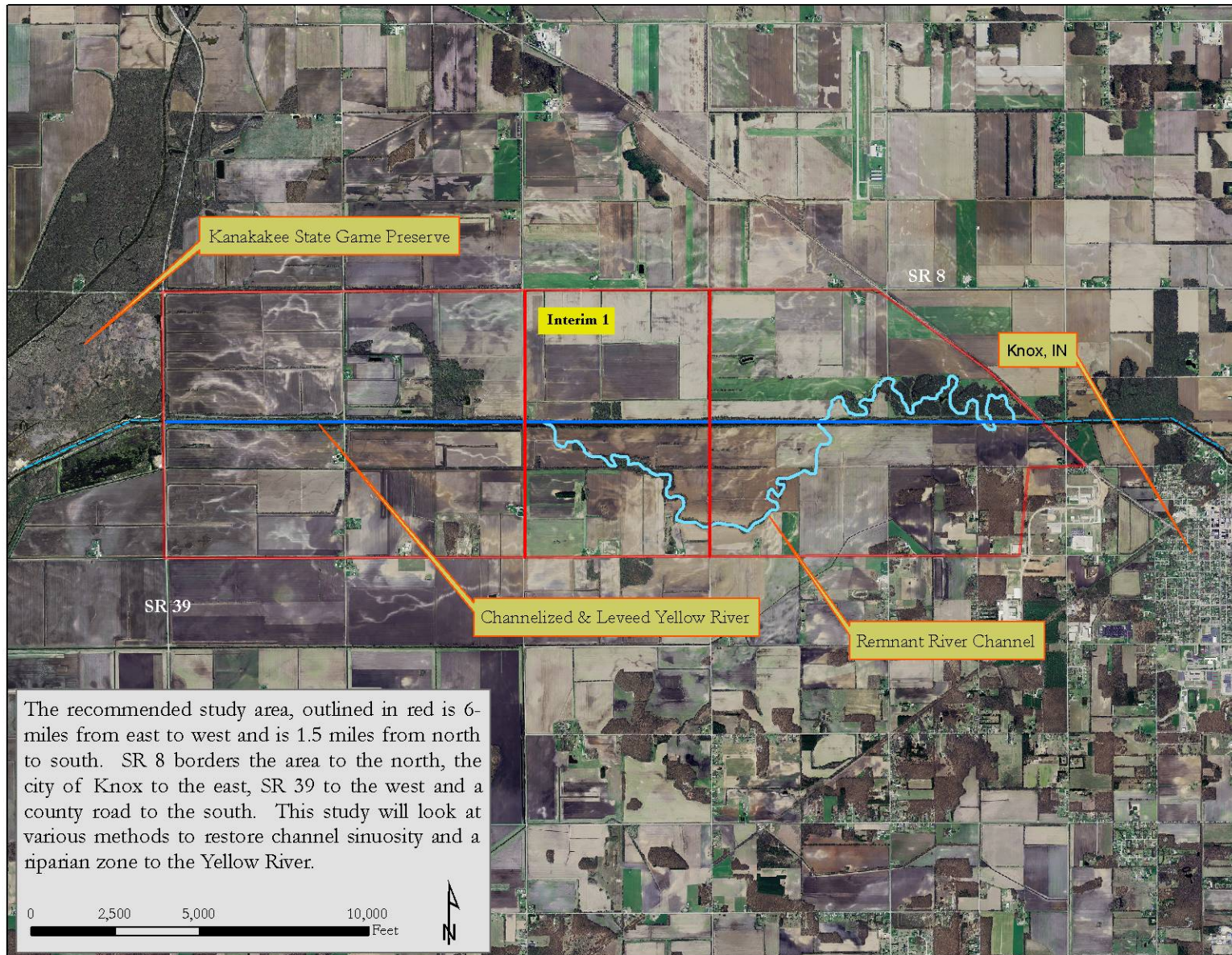


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Study Area



The recommended study area, outlined in red is 6-miles from east to west and is 1.5 miles from north to south. SR 8 borders the area to the north, the city of Knox to the east, SR 39 to the west and a county road to the south. This study will look at various methods to restore channel sinuosity and a riparian zone to the Yellow River.

0 2,500 5,000 10,000
Feet



Problems

- Loss of fluvial geomorphic process
 - Cut & Fill Alluviation
 - Instream complexity (pool/riffle, LWD)
 - Channel form (sinuosity, width)
 - Hydraulic dynamics (helical flow, critical flow)
 - Floodplain function
 - Channel Avulsion
 - Oxbow Lakes / Backwaters / Side Channels / Floodplain Wetlands
- Loss of riparian zone

Yellow River at Interim I



Yellow River at Interim I



Study Reach Fly-over



Yellow River near Upas Road



Yellow River at Starke/Marshall



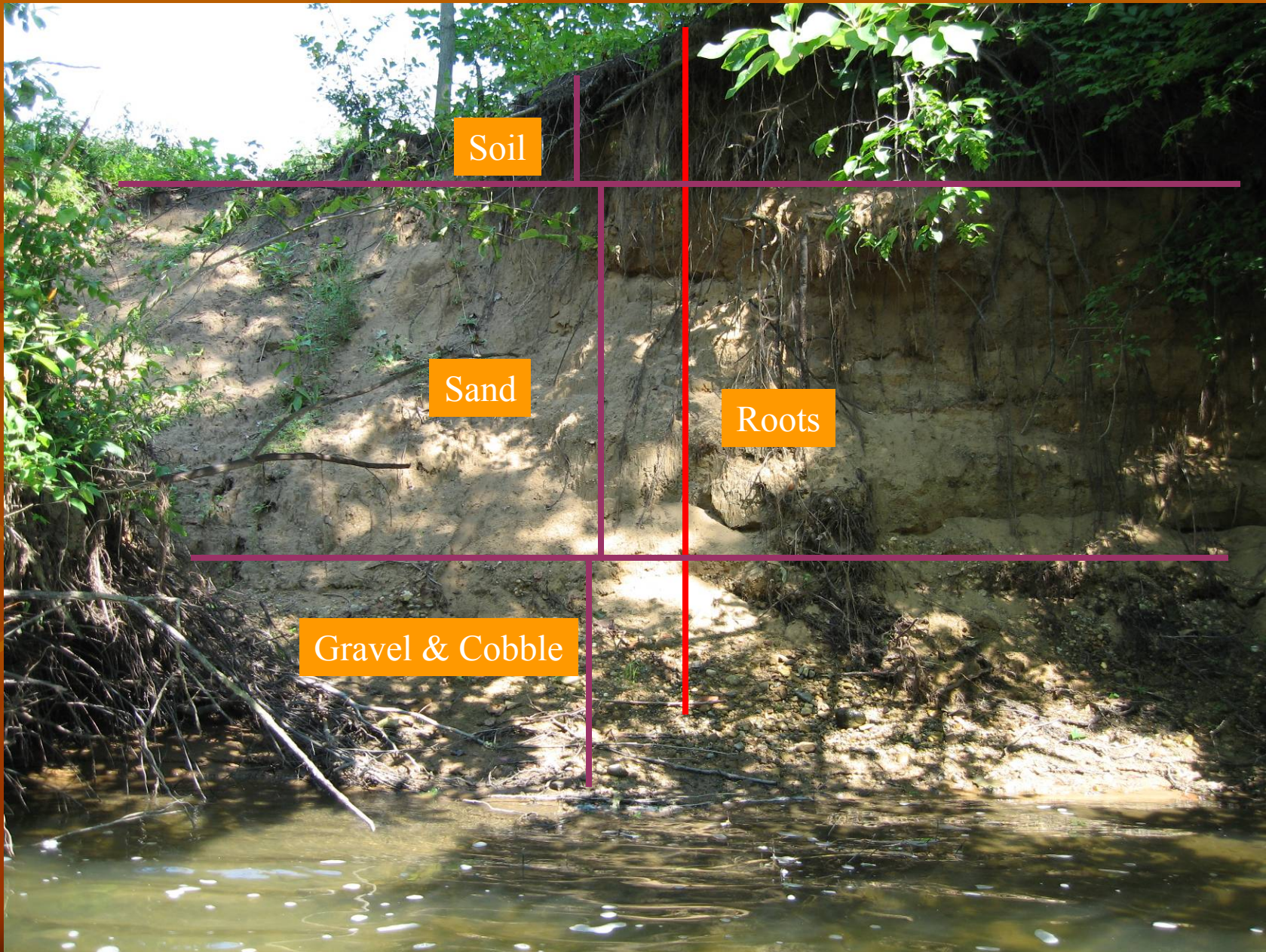
Reference Reach Fly-over A



Reference Reach Fly-over B



Bank Erosion Good or Bad?



Restoration Opportunities

- Interim I
- Channel Remnants
- Sandy Soils
 - Ample space
 - Low intensity construction
 - Quick response time
 - Low maintenance

Restoration Design

- Reestablish Channel
- Vegetate Riparian Zone
- Redirect Flow
- Fill / Block Old Channel
- Habitat Accoutrements
- Monitoring Plan

Project Benefits

- Improved riverine, floodplain and riparian functions.
- Naturalized hydraulics & hydrology for an Illinois River tributary .
- Reduced sediment delivery to the Illinois River from upland areas and tributary channels.
- Naturalized sediment transport in the Illinois River and its watershed.
- Restored aquatic habitat diversity for sustaining native fish and wildlife communities.
- Restored aquatic connectivity to Illinois River and its tributaries to maintain healthy populations of native species.

Questions / Comments



Ichthyomyzon fossor (Northern Brook Lamprey)

Collected while spawning at Upas Road in Yellow River
in May 2001 on large boulder in riffle.