

Habitat Restoration

North and Sturgeon Lakes, Pool 3

Mississippi River

Public Open House
September 2015



US Army Corps of Engineers
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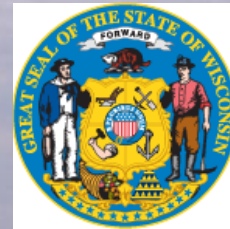


Meeting Purpose

- Progress update on Habitat Rehabilitation and Enhancement Project (HREP)
- Solicit public input
- Address questions & concerns



Participating Agencies



PUBLIC



NGO's



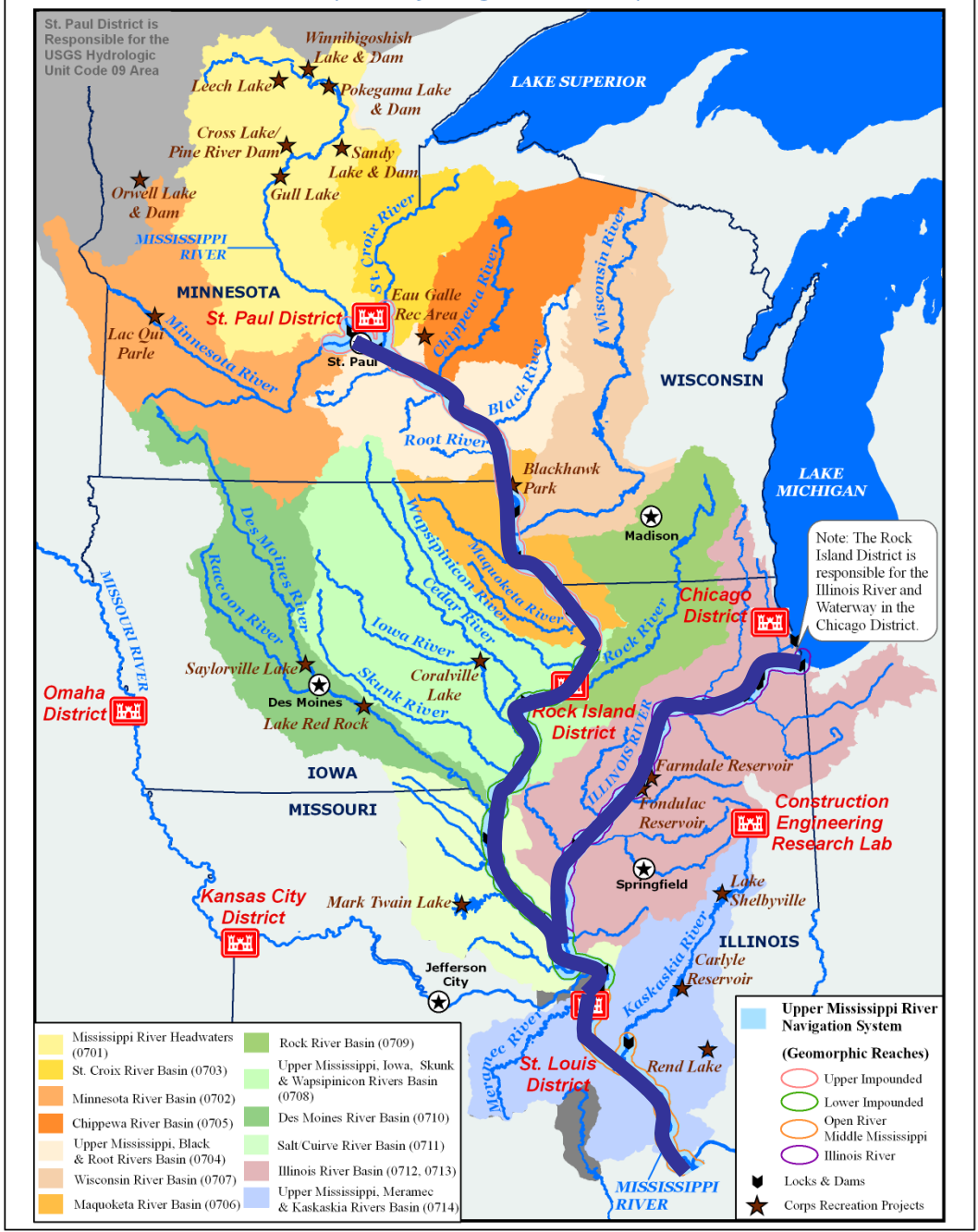
Industry



Upper Mississippi River Basin

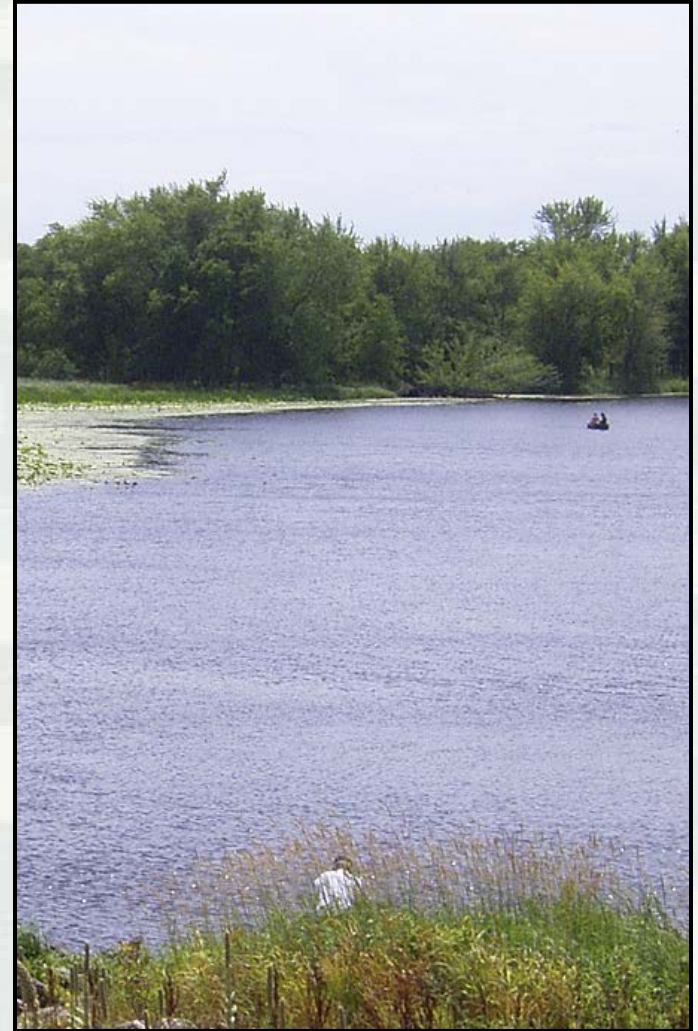


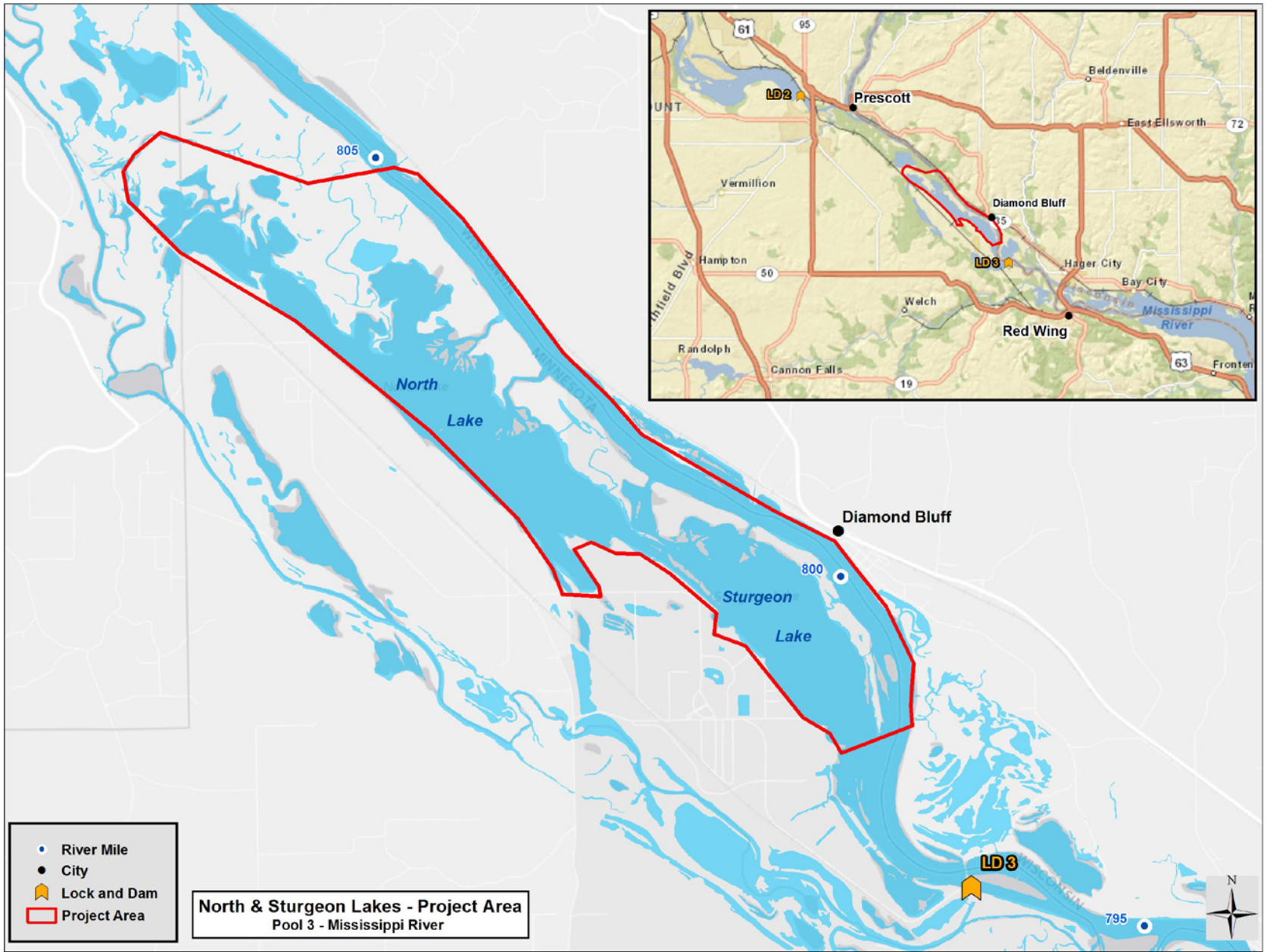
The Upper Mississippi River Basin (USGS Hydrologic Unit Code 07)



Upper Mississippi River Restoration Goals and Objectives

- Restore, protect, & enhance habitat
- Monitor resources to learn about the river
- Improve communications & expand partnerships





- River Mile
- City
- 📌 Lock and Dam
- 📐 Project Area

North & Sturgeon Lakes - Project Area
Pool 3 - Mississippi River



North & Sturgeon Lakes

■ Concerns:

- Increased flows / Sedimentation
- Vegetation loss
- Lack of quality habitat
- Wave generated erosion
- Stable water level



North & Sturgeon Project Goals

- Improve habitat for native/ desirable plant, animal & fish species
- Restore/emulate a sustainable ecosystem



North & Sturgeon Problems

- Loss of emergent, submersed, & floating leaf aquatic vegetation
- Loss of island habitat & floodplain forest
- Degraded waterfowl habitat
- Expansion & erosion of secondary channels
- Lack of protected off channel fish habitat



Habitat Objectives

- Increase aquatic vegetation & wild rice
- Manage delta formation
- Improve habitat for fish & migratory bird species



North & Sturgeon Alternatives

- Islands
- Overwinter fish habitat (Dredging)
- Brewer Lake Inlet protection
- Partial pool drawdown



Dredging for
overwinter fish
habitat



North Lake
Islands

Rock
protection at
Brewer Lake
inlet

Sturgeon Lake
Islands



North Sturgeon Lake Concepts

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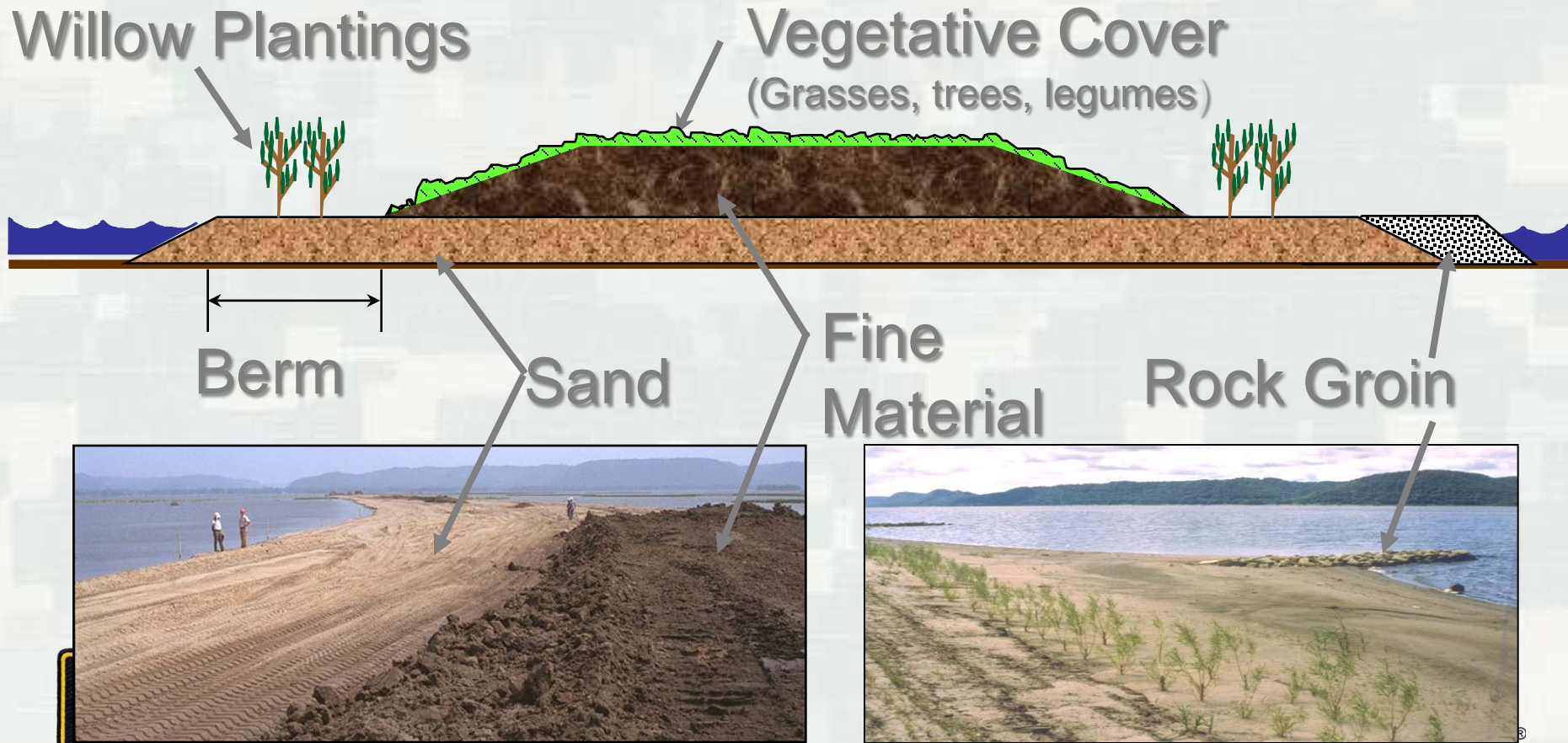
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Why Build Islands?

- Reduce wave action
- Manage delta growth
- Manage flow patterns
- Reduce sediment transport & resuspension
- Improve water clarity
- Improve aquatic vegetation
- Improve habitat for fish & birds



Island Restoration/ Creation: Typical Island Cross Section





Why Dredge Backwaters?

- Restore deep water fish habitat
- Remove sediment
- Provide over winter fish refuge
- Top soil for island construction
- Material for upland prairie restoration





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Why Protect Brewer Lake Inlet?

- Prevent erosion
- Prevent side channel expansion
- Manage flows
- Manage sediment transport



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Why Drawdown Water Levels?

- Expose sediment & promote vegetation growth
- Increased vegetation:
 - Provides habitat for wildlife
 - Filters sediment and nutrients & improve water quality

Newly exposed sediment



Revegetated sediment



Temporary Pool Drawdown during Growing Season (May-Sep)



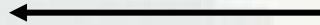
Drawdowns expose sediments which sprout vegetation



Vegetation is reflooded and collects sediment, improving water clarity



Clear water helps vegetation persist



Vegetation provides food and cover for wildlife



Wildlife numbers increase



Pool 3 Partial Drawdown

- Up to 18" at Lock and Dam 3
- Decreasing progressively upstream to 0" at Prescott gage
- Impacts primarily in North and Sturgeon Lakes
- No impacts Prescott & upstream



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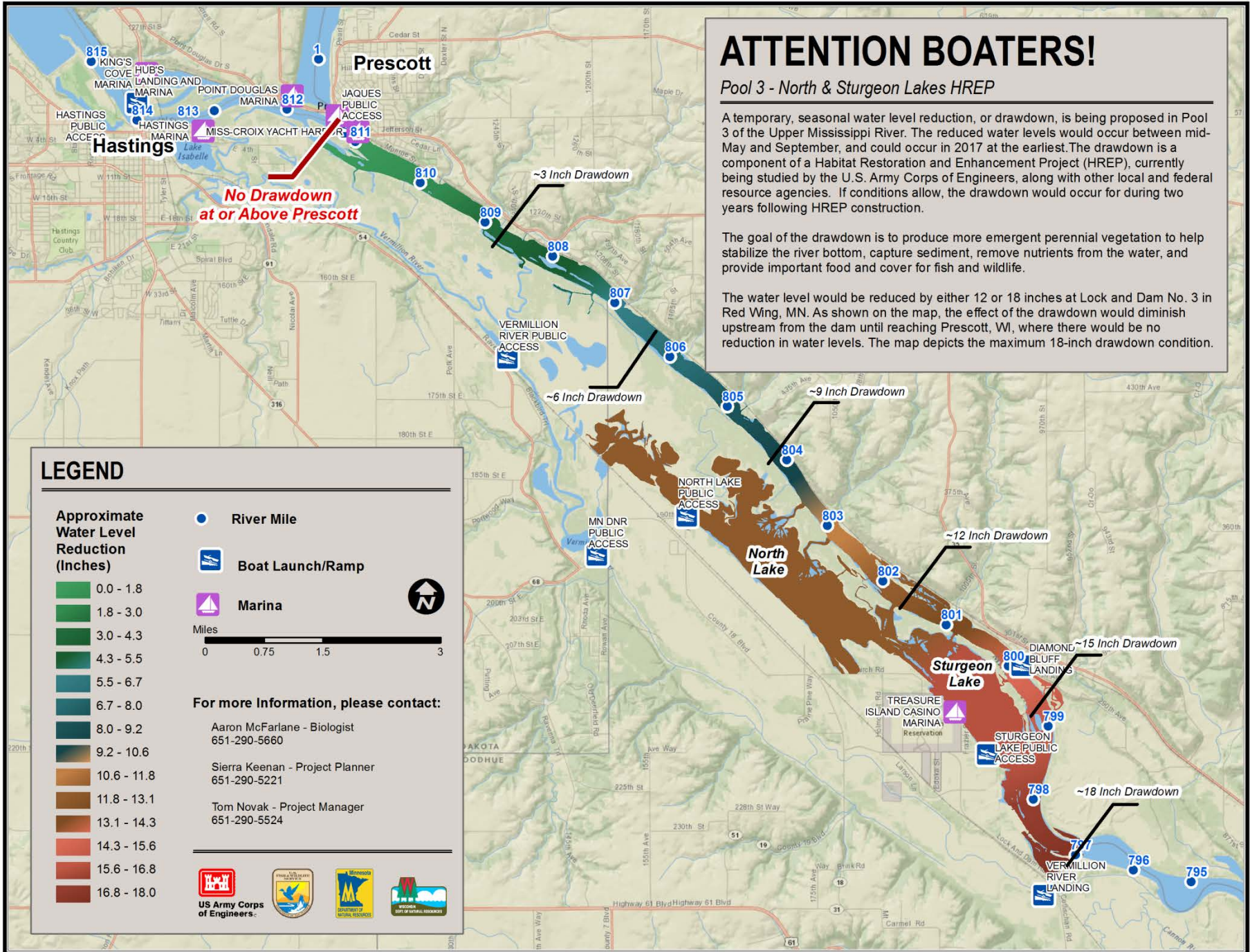
ATTENTION BOATERS!

Pool 3 - North & Sturgeon Lakes HREP

A temporary, seasonal water level reduction, or drawdown, is being proposed in Pool 3 of the Upper Mississippi River. The reduced water levels would occur between mid-May and September, and could occur in 2017 at the earliest. The drawdown is a component of a Habitat Restoration and Enhancement Project (HREP), currently being studied by the U.S. Army Corps of Engineers, along with other local and federal resource agencies. If conditions allow, the drawdown would occur for during two years following HREP construction.

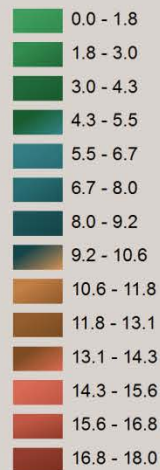
The goal of the drawdown is to produce more emergent perennial vegetation to help stabilize the river bottom, capture sediment, remove nutrients from the water, and provide important food and cover for fish and wildlife.

The water level would be reduced by either 12 or 18 inches at Lock and Dam No. 3 in Red Wing, MN. As shown on the map, the effect of the drawdown would diminish upstream from the dam until reaching Prescott, WI, where there would be no reduction in water levels. The map depicts the maximum 18-inch drawdown condition.



LEGEND

Approximate Water Level Reduction (Inches)



● River Mile

Boat Launch/Ramp

Marina



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Pool Drawdown Challenges

- Drawdown depth varies by pool location
- Timing & duration of all drawdowns affected by flow
- Must be flexible (may not be able to complete a drawdown in any given year)
- Other issues & constraints:
 - ▶ Recreational boating, commercial navigation, mussel mortality



What's Next During the Study?

- 1) Finish the study
- 2) Prepare the final report
- 3) Public review of report
- 4) Approve report and recommendation
- 5) Build project

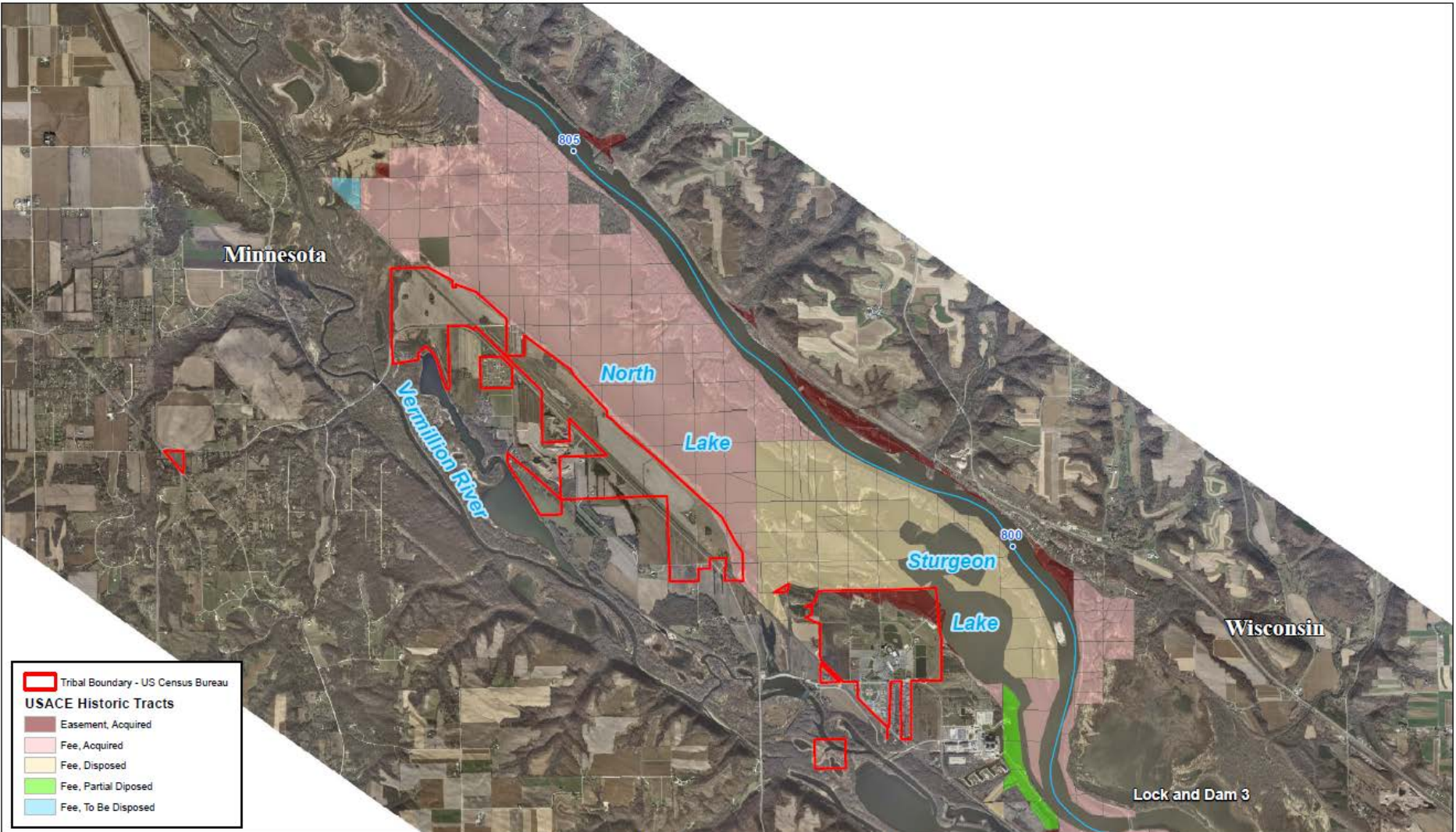


Questions?





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- Tribal Boundary - US Census Bureau
- USACE Historic Tracts**
- Easement, Acquired
- Fee, Acquired
- Fee, Disposed
- Fee, Partial Disposed
- Fee, To Be Disposed

Mississippi River Pool 3 - Real Estate - USACE

Base Image: USACE 11 November 2009

