

# UPPER MISSISSIPPI RIVER Illinois Waterway

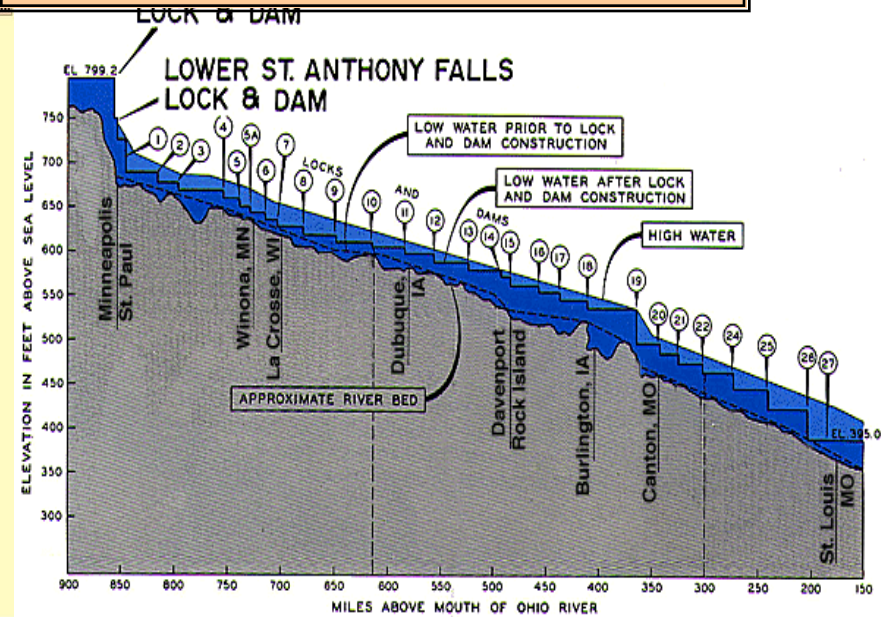


## NAVIGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM

Ken Barr Corps of Engineers Rock Island District

# UMR-IWW NAVIGATION SYSTEM

- 37 Lock Sites
- 1,200 Miles of River
- 226,000 refuge acres
- Significant Ecosystem (2.5 million acres)
- Constructed 1930-45

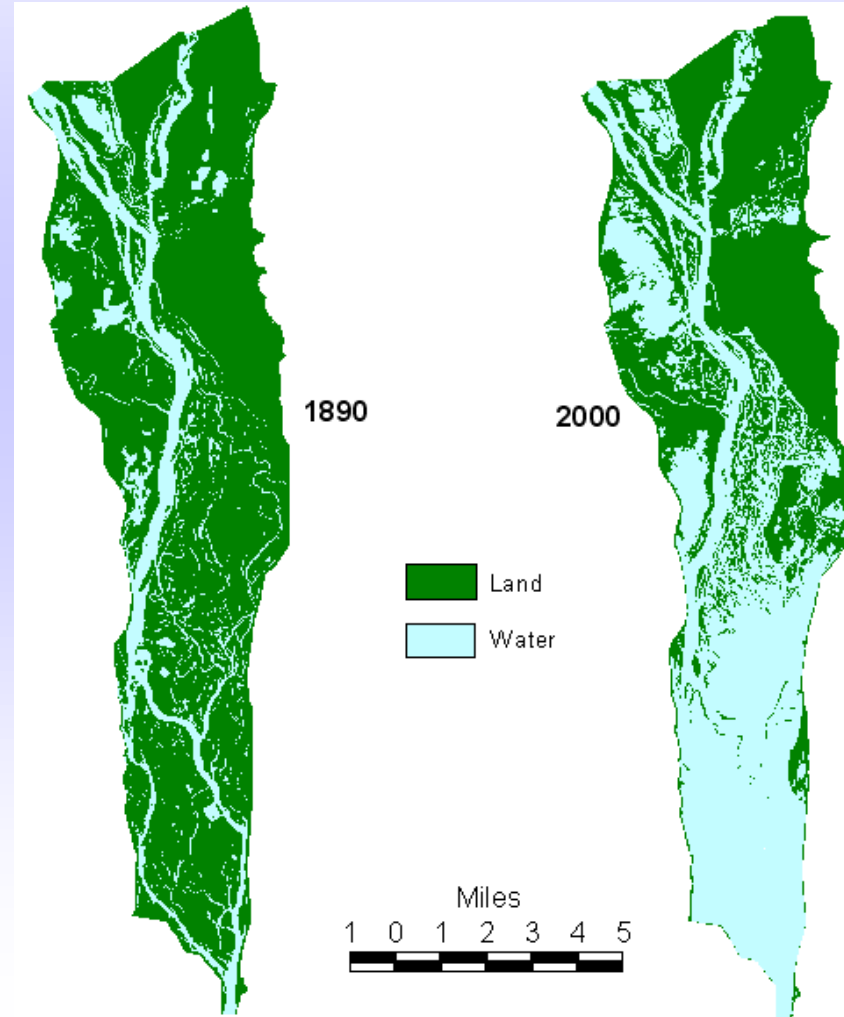


# Challenges

Navigation delays



Impoundment/ Loss of diversity and connectivity



# Loss of Connectivity



1 million acres isolated floodplain



## Migratory Fish Species of the UMR



American eel  
 spotted sucker  
 silver lamprey  
 shorthead redhorse  
 lake sturgeon  
 black redhorse  
 pallid sturgeon<sup>A</sup>  
 golden redhorse  
 longnose gar  
 silver redhorse  
 shovelnose sturgeon  
 northern hog sucker  
 goldeye  
 white sucker  
 mooneye  
 channel catfish  
 paddlefish<sup>B</sup>  
 blue catfish

Alabama shad  
 flathead catfish  
 skipjack herring  
 white bass  
 gizzard shad  
 yellow bass  
 threadfin shad  
 northern pike  
 blue sucker<sup>B</sup>  
 smallmouth bass  
 smallmouth  
 buffalo  
 largemouth bass  
 bigmouth buffalo  
 sauger  
 quillback  
 walleye  
 highfin carpsucker  
 freshwater drum



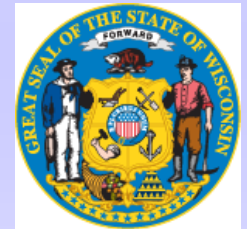
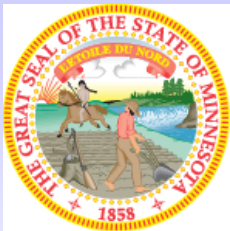
<sup>A</sup> federally listed endangered species

<sup>B</sup> candidate for federal listing

# COLLABORATION



US Army Corps  
of Engineers®



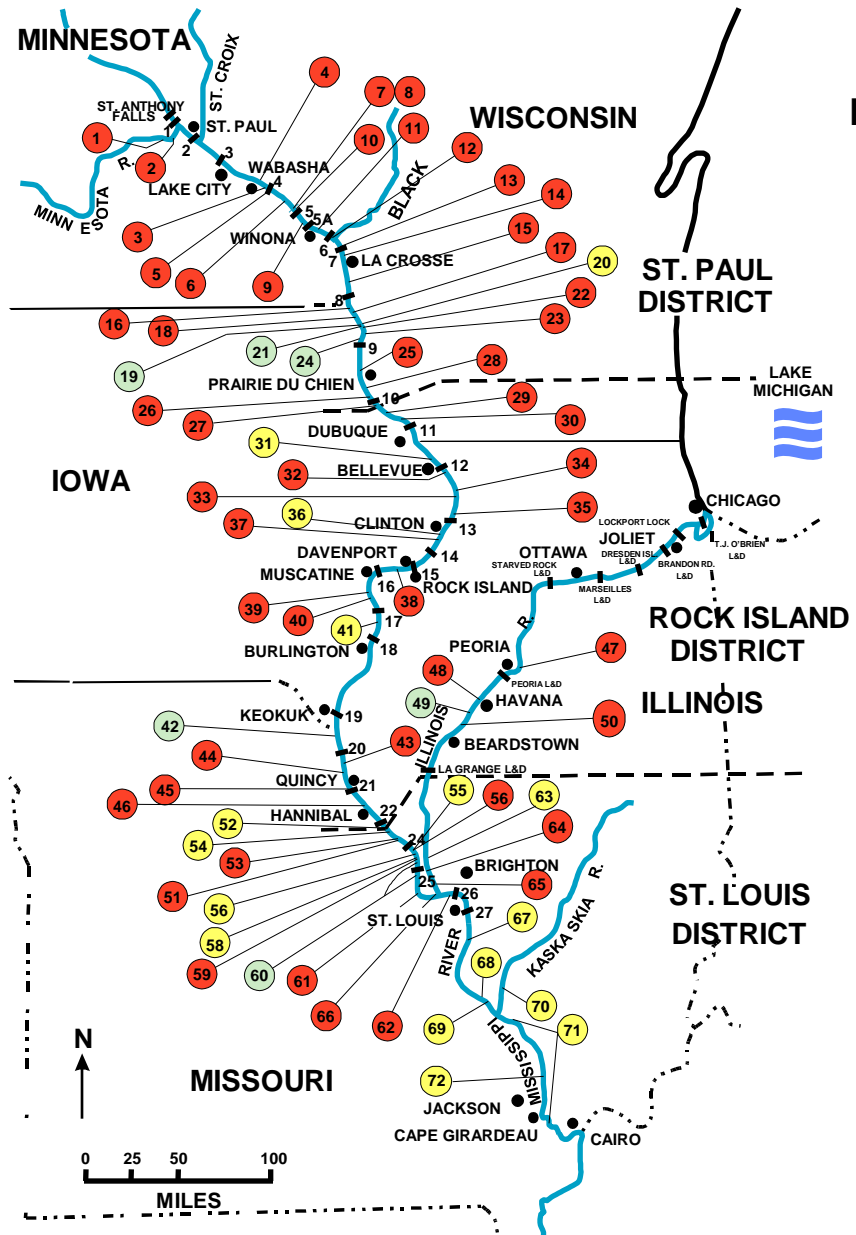
**UMR-IWW SYSTEM  
NAVIGATION  
FEASIBILITY STUDY**

**PUBLIC**

**NGO's**

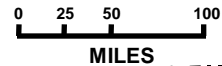
# UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM HABITAT REHABILITATION AND ENHANCEMENT PROJECTS

SITE NO.	PROJECT	SITE NO.	PROJECT
1.	RICE LAKE, MN	37.	PRINCETON REFUGE, IA
2.	LONG MEADOW LAKE, MN	38.	ANDALUSIA REFUGE, IL
3.	PETERSON LAKE, MN	39.	BIG TIMBER, IA
4.	INDIAN SLOUGH, WI	40.	LAKE ODESSA, IA
5.	FINGER LAKES, MN	41.	HURON ISLAND, IA
6.	ISLAND 42, MN	42.	FOX ISLAND, MO
7.	SPRING LAKE PENINSULA, WI	43.	GARDNER DIVISION, IL
8.	SPRING LAKE ISLANDS, WI	44.	COTTONWOOD ISLAND, MO
9.	POLANDER LAKE, MN	45.	MONKEY CHUTE, MO
10.	SMALL SCALE DRAWDOWN, WI	46.	BAY ISLAND, MO
11.	TREMPEALEAU REFUGE, WI	47.	PEORIA LAKE, IL
12.	LONG LAKE, WI	48.	BANNER MARSH, IL
13.	LAKE ONALASKA, WI	49.	RICE LAKE, IL
14.	EAST CHANNEL, WI/MN	50.	CHAUTAUQUA REFUGE, IL
15.	POOL 8 ISLANDS, WI	51.	CLARKSVILLE REFUGE, MO
16.	POOL SLOUGH, IA/MN	52.	TED SHANKS, MO
17.	BLACKHAWK PARK, WI	53.	PHARRS ISLAND, MO
18.	LANSING BIG LAKE, IA	54.	ANGLE BLACKBURN, MO
19.	CONWAY LAKE, IA	55.	REDS LANDING, IL
20.	LAKE WINNESHIEK, WI	56.	NORTON WOODS, MO
21.	CAPOLI SLOUGH, WI	57.	STAG & KEETON ISLANDS, MO
22.	POOL 9 ISLAND, WI	58.	SANDY CHUTE, IL
23.	COLD SPRINGS, WI	59.	BATCHTOWN MGMT AREA, IL
24.	HARPERS SLOUGH, IA/WI	60.	POOLS 25 & 26, MO
25.	AMBROUGH SLOUGH, WI	61.	CUIVRE ISLAND, MO
26.	BUSSEY LAKE, IA	62.	DRESSER ISLAND, MO
27.	GUTTENBERG PONDS, IA	63.	GODAR REFUGE AREA, IL
28.	MISS RIVER BANK STABILIZATION, IA/MN/WI	64.	STUMP LAKE, IL
29.	BERTOM-McCARTNEY LAKES, WI	65.	SWAN LAKE, IL
30.	POOL 11 ISLANDS, IA/WI	66.	CALHOUN POINT, IL
31.	POOL 12 OVERWINTERING, IA-IL	67.	JEFFERSON BARRACKS, IL
32.	PLEASANT CREEK, IA	68.	FT. CHARTRES SC, IL
33.	BROWN'S LAKE, IA	69.	ESTABLISHMENT CHUTE SC, MO
34.	SPRING LAKE, IL	70.	KASKASKIA OXBOWS, IL
35.	POTTERS MARSH, IL	71.	STONE DIKE ALTERATIONS, MO/IL
36.	BEAVER ISLAND, IA	72.	SCHENIMANN CHUTE, MO



**STATUS AS OF: JUNE 2007**

- UNDER CONSTRUCTION OR CONSTRUCTED
- GENERAL DESIGN INITIATED
- PLANNING PROCESS
- LOCK & DAM SITES



<http://www.mvr.usace.army.mil/EMP/default.htm>

# **VISION STATEMENT:**

To seek long-term sustainability of the economic uses and ecological integrity of the Upper Mississippi River System (UMRS)

## **OVERARCHING SYSTEM-WIDE NAVIGATION GOAL:**

To increase regional and national value of commercial navigation on the UMRS in an environmentally acceptable manner consistent with the vision.

- Manage for safe, reliable, efficient, effective, and environmentally sustainable navigation for movement of commerce, national security needs, and recreation.
- Manage for effective utilization of commercial navigation on the UMRS in meeting current and future challenges in the regional and national multimodal transportation systems

**OVERARCHING SYSTEM-WIDE ECOSYSTEM GOAL:** To conserve, restore, and maintain the ecological structure, process, function and composition of the UMRS to achieve the vision.

- Manage for a more natural hydrologic regime (**hydrology and hydraulics**)
- Manage for processes that shape a physically diverse and dynamic river-floodplain system (**geomorphology**)
- Manage for processes that input, transport, assimilate, and output material within UMR basin river-floodplains: e.g. water quality, sediments, and nutrients (**biogeochemistry**)
- Manage for a diverse and dynamic pattern of habitats to support native biota (**habitat**)
- Manage for viable populations of native species within diverse plant and animal communities (**biota**)



# INTEGRATED FEASIBILITY REPORT AND PEIS

**FINAL**  
**INTEGRATED FEASIBILITY REPORT AND**  
**PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT**  
for the  
**UMR-IWW System Navigation Feasibility Study**

**24 September 2004**

*“To seek long-term sustainability of the  
economic uses and ecological integrity of the  
Upper Mississippi River System”*



**US Army Corps  
of Engineers®**



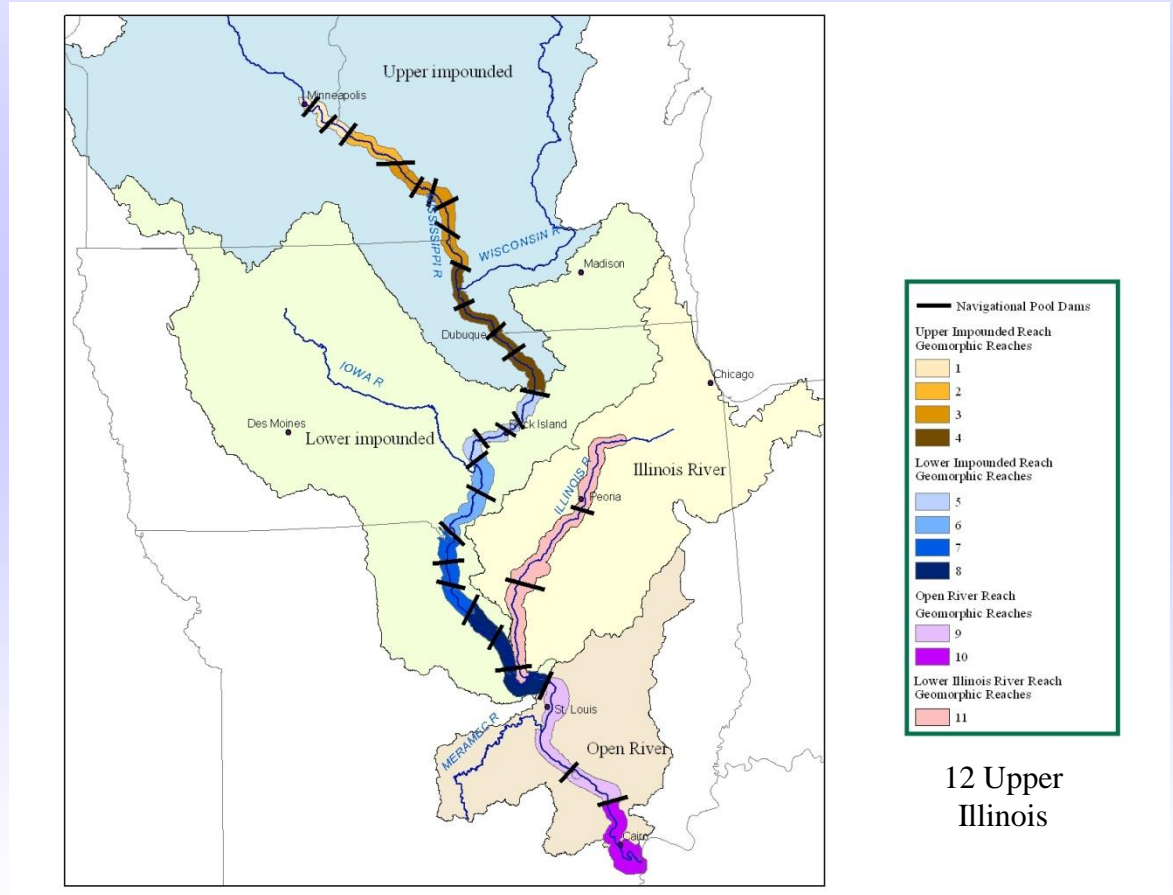
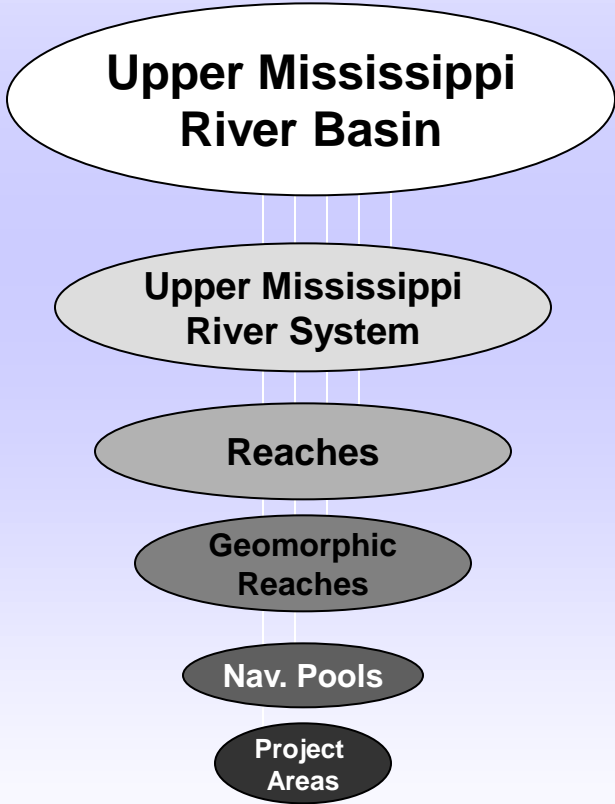
# **WRDA 2007 Authorized plan**

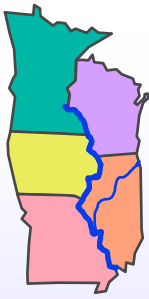
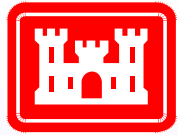
## **Nav \$2 billion      Eco \$1.8 billion**

- **Navigation 7 locks and small scale**
- **Fish Passage @ Dams 4,8,22, and 26**
- **Changes in Water Level Control @ Dams 25 and 16**
- **Forest & Cultural Resources Mngt Plans**
- **Adaptive Implementation of 225 small projects of less than \$25 million each**
  - **Island Building**
  - **Water Level Management**
  - **Backwater/Side Channel Restoration**
  - **Wing Dam/Dike Alterations**
  - **Island Shoreline Protection**
- **35,000 Acres of Floodplain Restoration**
- **Adaptive Management and Monitoring**



# Upper Mississippi River System Issues of Scale





# Lessons Learned

- **Collaboration & Transparency essential**
- **Need a strong vertical team**
- **Be explicit about Goals & Objectives**
- **Deal directly with uncertainty and risk**
- **Establish adaptive management team  
(Institutional arrangements are important)**
- **Be aware of issues of scale - System/ Reach/  
Project**
- **Don't let Adaptive Management become a buss  
word, the focus is on DOING well learning**



***Dual Purpose Plan ...  
To seek long-term sustainability  
of the economic uses and  
ecological integrity of the Upper  
Mississippi River System***

