



*ENVIRONMENTAL
MANAGEMENT
PROGRAM*

(EMP)

*2005 Governor's Conference on Management of the
Illinois River System*

*By
Marvin Hubbell*

One Team: Relevant, Ready, Responsive and Reliable

The Upper Mississippi River System Environmental Management Program (UMRS-EMP) is a Federal-State partnership to restore and monitor the natural resources the river system. (The Upper Mississippi River Management Act of 1986 (P.L. 99-662))



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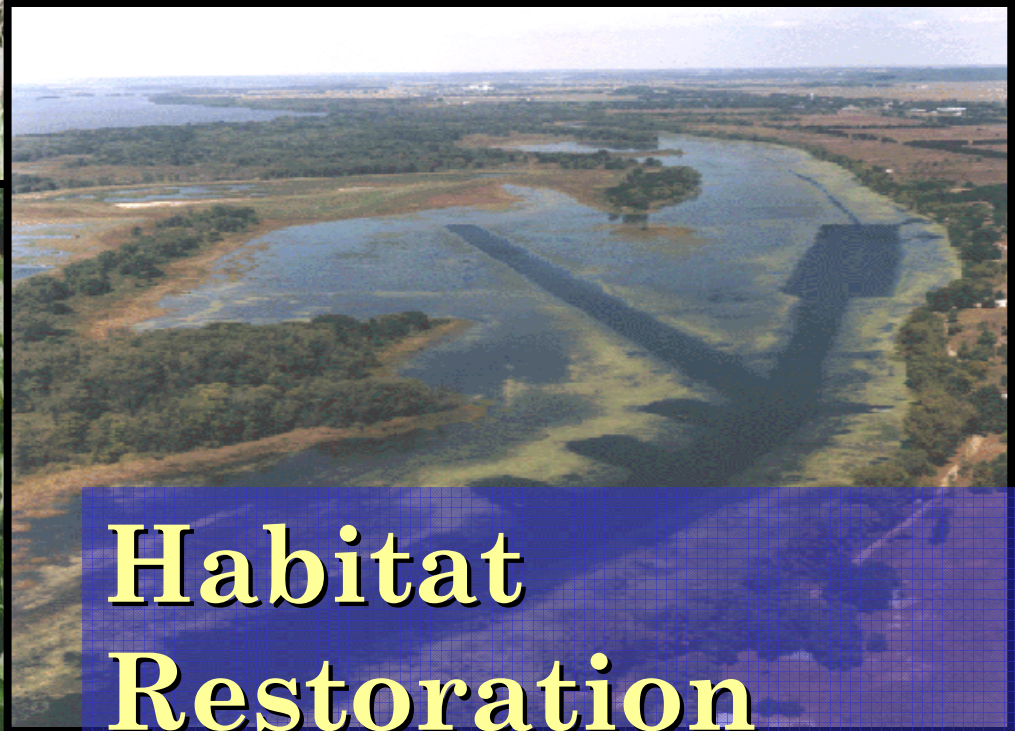
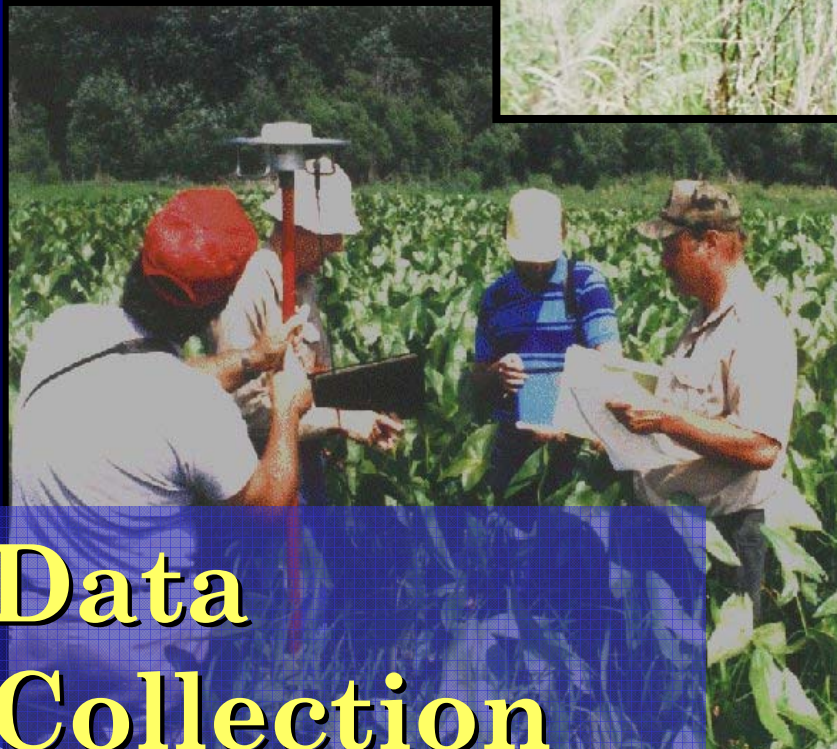
*What is
the EMP?*

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Partners



The EMP is...



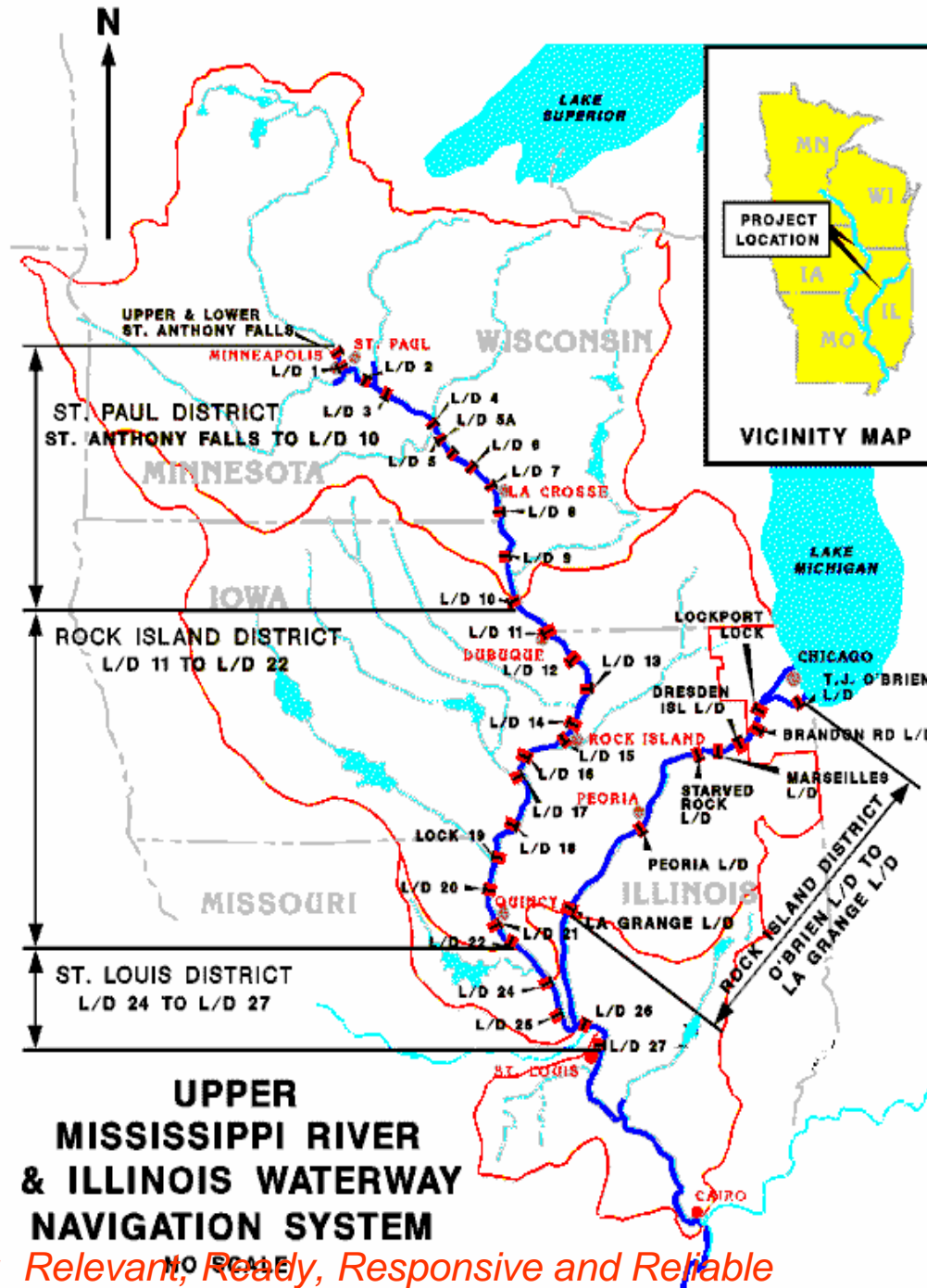
Data Collection

Habitat Restoration

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System

- 1200 Miles of Navigable Channel
- 37 Navigation Lock and Dam Sites



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COLLABORATION



Corporations

Levee Districts

UMRS-EMP



PUBLIC

NGO's



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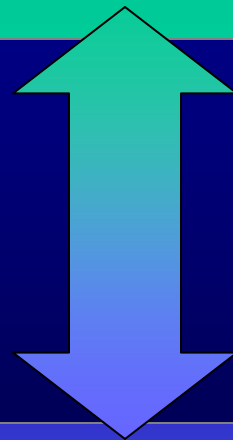


The
EMP
is...

INFORMATION

Monitoring & Analysis

LTRMP



ACTION

Habitat Protection & Restoration

HREP



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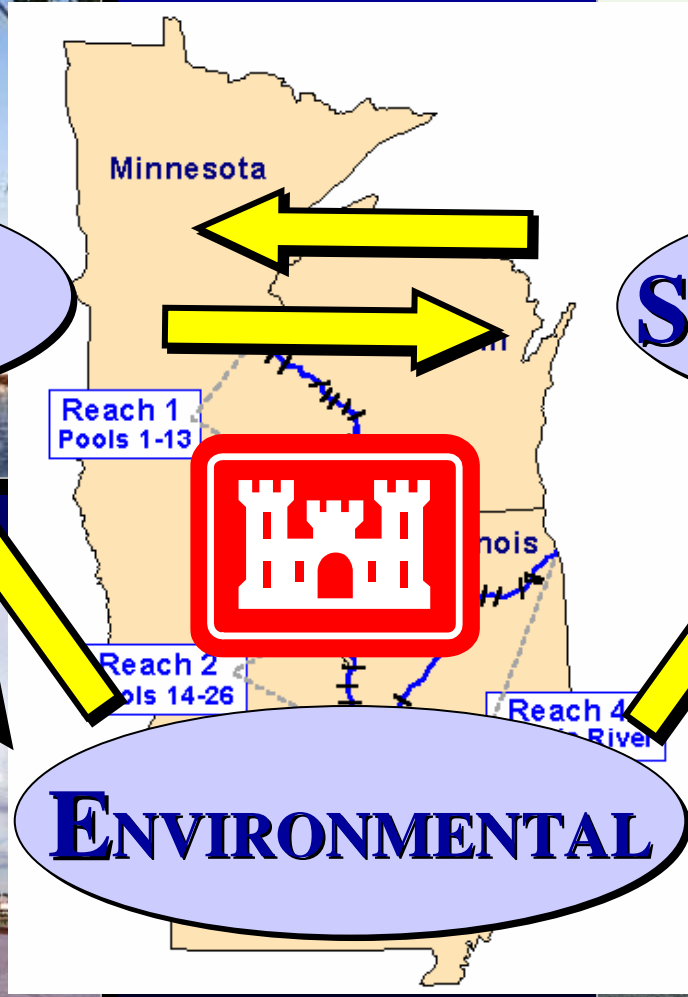
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Upper Mississippi River System

ECONOMIC

SOCIO-POLITICAL

ENVIRONMENTAL



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EMP GOALS AND OBJECTIVES

Restoration , protection, and enhancement of critical aquatic, wetland, and floodplain habitat types throughout the UMRS.

Systemic resource monitoring, data analysis, and applied research resulting in an increased understanding of both the regulated and open reaches of the UMRS.

Improved communications and expanded partnership among the many UMRS management agencies, interest groups, and the general public.

A model program applicable to other river systems and water resources.

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Assess Problem

Adjust

Design

**ADAPTIVE
MANAGEMENT**

Continue

Evaluate

Implement

MONITOR



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LONG TERM RESOURCE MONITORING PROGRAM (LTRMP)

Monitoring

Data Analysis

Applied Research

Mapping

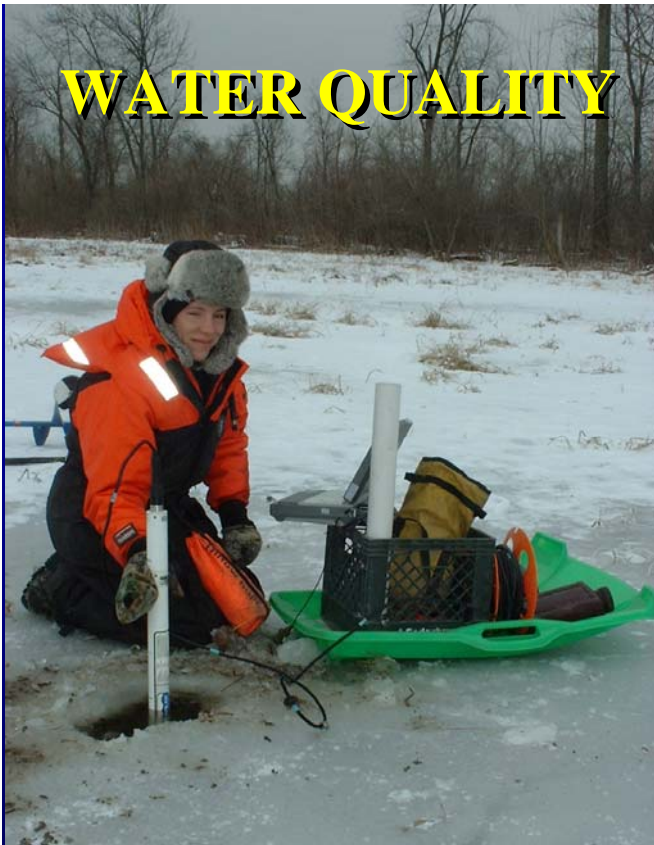
Information Clearinghouse



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WATER QUALITY



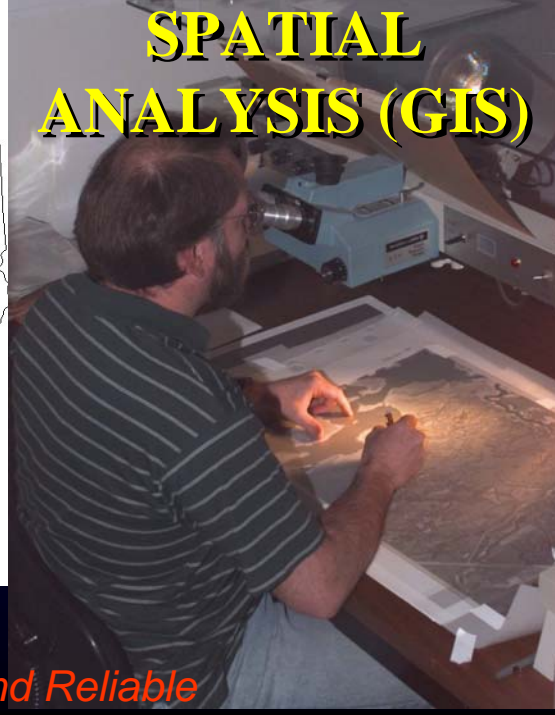
VEGETATION



FISHERIES



SPATIAL ANALYSIS (GIS)



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LTRMP VISION

“To provide resource managers and decision makers with information necessary to maintain the UMRS as a sustainable multi-use large river ecosystem”



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LTRMP ACCOMPLISHMENTS

- Network of 6 field stations in 5 states
- Standardized monitoring data for:
 - Water quality
 - Fish
 - Aquatic Vegetation
 - Macroinvertebrates *
- Land use Land cover – UMR for 1975, 1989, & 2000
- Network helps monitor exotic species
- State of the Art GIS capability
- Management of a systemic database system - + 2,000,000 records
- Leader in distributing data via the Web
- Status and Trend Reports for the UMRS – 1999 and 2006
- Used as a starting point for others developing monitoring programs
- More than 350 reports and manuscripts since 1987
- Modeling to support HREP's – forest restoration, over wintering, biological response, and sedimentation



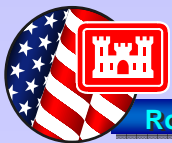
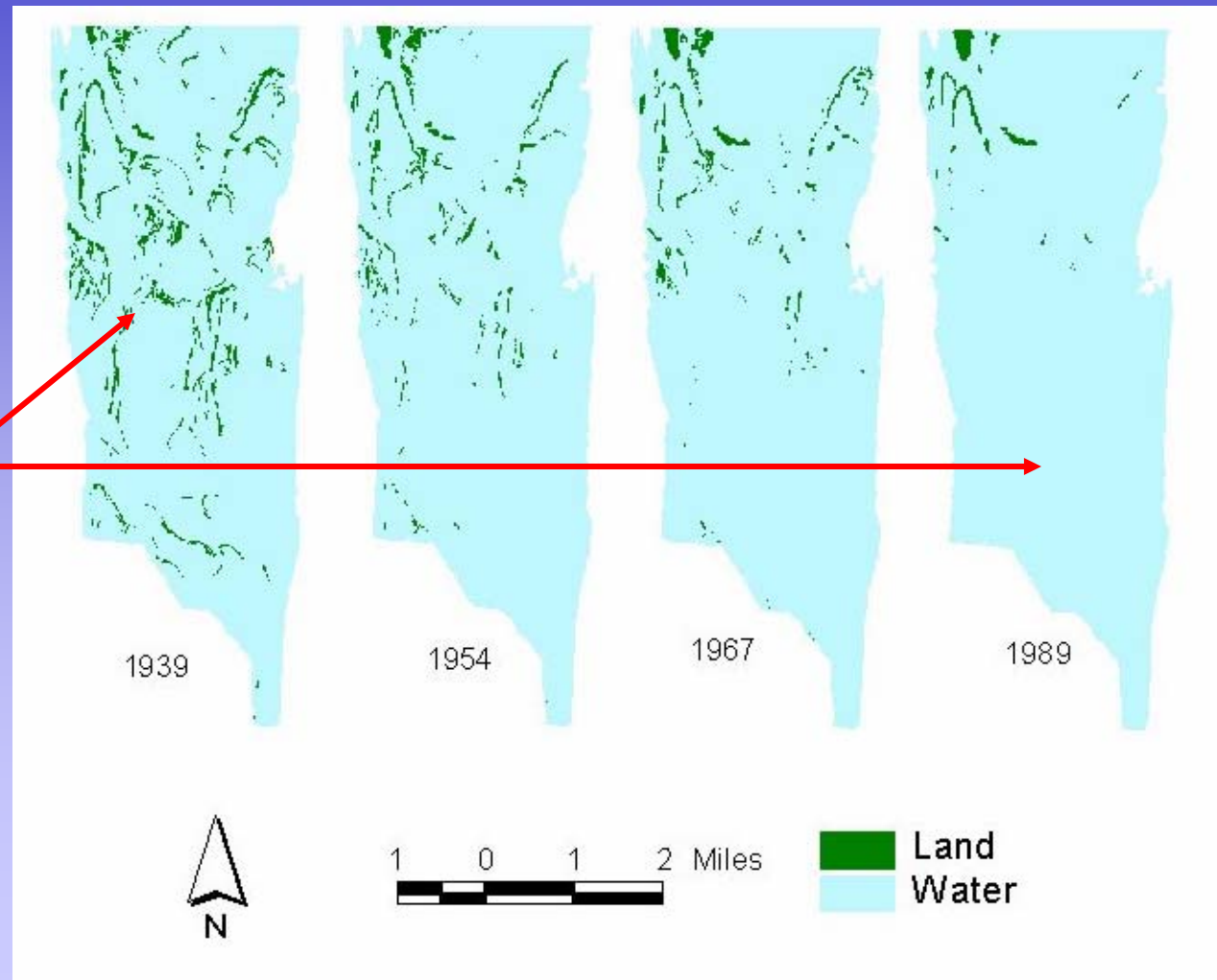
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Environmental Issues

Example - Habitat loss in lower Pool 8

Note loss of island habitat in lower Pool 8 since impoundment

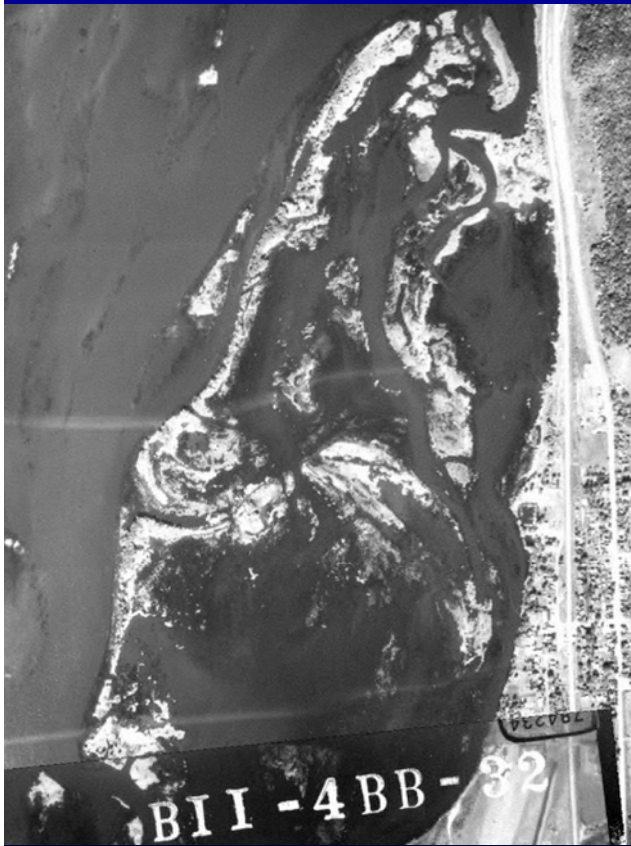


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Island Protection and Restoration

Pool 8 Islands HREP Phase II,
near Stoddard, Wisconsin



October 1961



August 1994



August 2000



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The
EMP
is...

INFORMATION

Monitoring & Analysis

LTRMP

HNA

ACTION

Habitat Protection & Restoration

HREP



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HNA PRODUCTS

HABITAT NEEDS ASSESSMENT
FOR THE
UPPER MISSISSIPPI RIVER
Technical Report
October 2000



Habitat Needs Assessment
GIS Query Tool

User's Manual

BETA I



April 2000

PUBLIC INVOLVEMENT ASPECTS OF
MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL
MANAGEMENT PROGRAM HABITAT
ASSESSMENT

Final

October 2000

Views, opinion, and/or findings contained in this report are those of the author and do not represent the official Department of the Army position, policy, or decision unless so designated.

Planning and Management Consultants

6 • Carbondale, IL 62903 •

Upper Mississippi River System

Habitat Needs Assessment

Summary
Report
2000



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HABITAT REHABILITATION AND ENHANCEMENT PROJECTS (HREP)

Increase habitat diversity (wetland, aquatic, and benthic)

Provide off-channel over wintering and spawning habitat

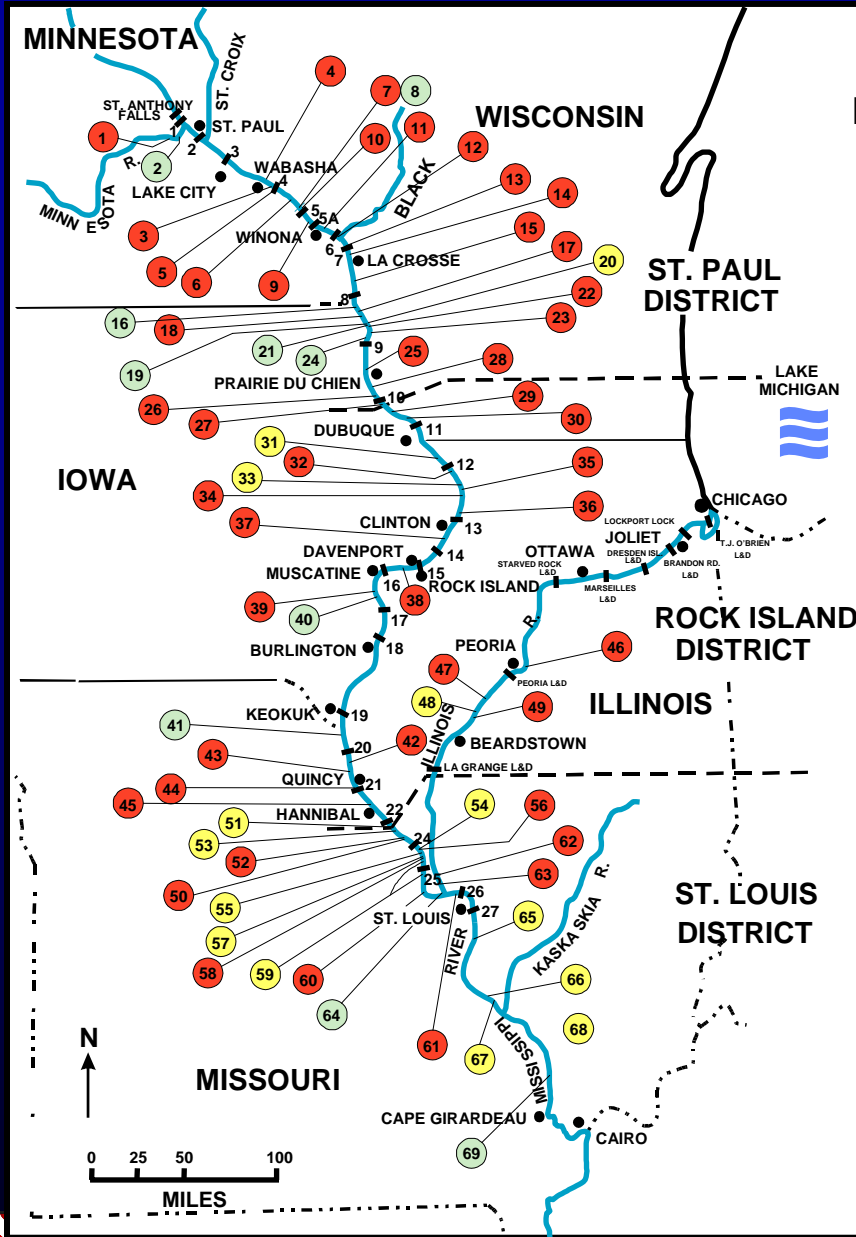
Provide reliable floodplain wetlands and associated food resources

Create additional shelter zones and nesting sites

Increase numbers of mast producing trees

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



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

STATUS AS OF: MARCH 2005

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



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SUMMARY 1988 - 2005

41 projects nearly complete or completed

71,000 acres of habitat

7 projects under construction

11,500+ acres of habitat

21 projects in design

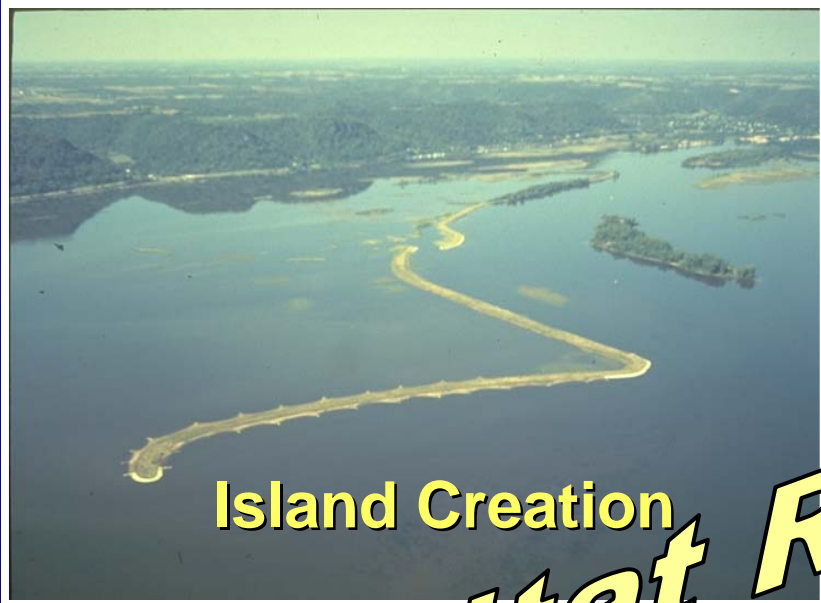
43,000++ acres of habitat



69 Projects Total Acres: 125,000+

Per project range of investment: \$56,000 - \$13 million+
(majority of projects completed to date: \$1-4 million range)

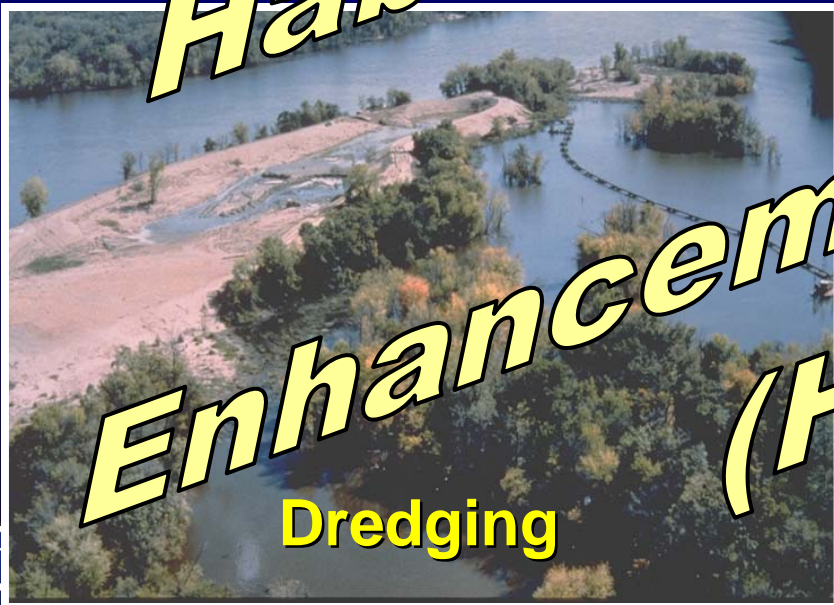
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Island Creation



Control Structures



Dredging



Water Level Management

Habitat Rehabilitation & Enhancement Projects (HREP)

EMP

Illinois River Summary

- *5 projects completed*
29,600 acres of habitat benefited
- *1 project under construction*
2,300 acres of habitat benefited
- *1 project in design*
5,600 acres of habitat benefited

7 Projects:

Total Est. Cost: \$61,648,000

Total Acres: 37,500 ac.

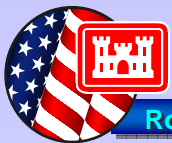


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Peoria Lake, IL HREP

- **Forested wetland unit (160+ acres)**
- **Barrier island (5,000+ feet)**
- **Side channel excavation (3,500 ft)**
- **Rock closure structure**
- **Tree plantings**



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Potters Marsh, IL HREP



Banner Marsh, IL HREP



Pothole

Prairie Planting



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Lake Chautauqua (LaGrange Pool)

- **Moist Soil Management Units**
- **Perimeter Levee Restoration**
- **Pumping Facilities**
- **Water level Control**
- **Backwater Excavation**
- **Partners: F&WS and Illinois DNR**



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20 10:31 AM

Swan Lake (Pool 26/Illinois)



Moist Soil Unit Drawdown

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Swan Lake Nov. 02



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Environmental Management Program



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Rice Lake, IL

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