

PRESENTATION TO THE UPPER MISSISSIPPI, ILLINOIS AND MISSOURI RIVERS ASSOCIATION

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Rock Island District

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US Army Corps of Engineers
BUILDING STRONG





U.S. ARMY CORPS OF ENGINEERS

Rock Island District

US Army Corps of Engineers®

SERVING FIVE RIVER BASINS IN FIVE STATES



FLOOD DAMAGE REDUCTION



NAVIGATION



EMERGENCY MANAGEMENT



RECREATION



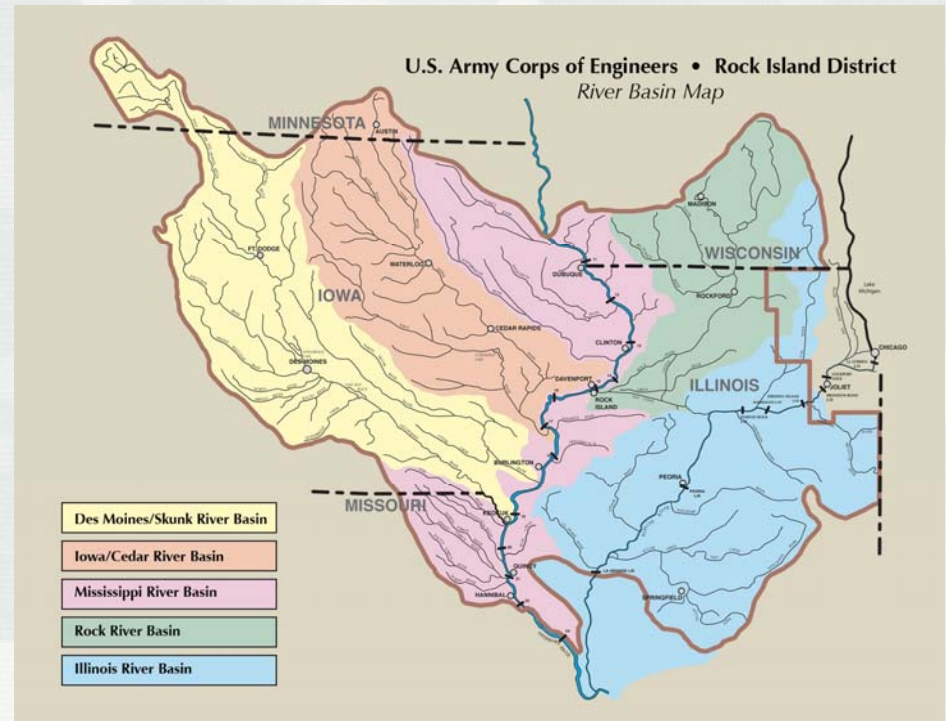
ECOSYSTEM RESTORATION

A LEADER IN INTEGRATED WATER RESOURCES MANAGEMENT

At The Heart of the Upper Mississippi River System

The Rock Island District

- Primarily a Civil Works District
- Serves 5 River Basins in the 5 Upper Mississippi River Basin States
- Lead District for Regulatory issues in Illinois and Iowa
- 78,000 Square Miles
- Operate 582 Miles of Navigation Channel
- 20 Locks and Dams
- 5 Reservoirs



Mississippi Valley Division

- Six Districts
- 5,000+ Employees
- 370,000 Square-Mile Boundary; Encompasses All or Parts of 12 States
- 4,267 Miles of Commercial Waterways
- 44 Flood Control Lakes/Reservoirs



District Workforce

- **2/3 work at 27 field operating sites**
(Lock operators, mechanics, electricians, carpenters, rangers, office support staff)
- **1/3 work in the Clock Tower complex on Arsenal Island** (Engineers; surveyors; archeologists; urban planners; biologists; realty, legal, logistics, public affairs, safety, and security specialists; & many others)
- **July 2008 - 855 employed with the District**
- **July 2009 - 936 employed**
- **July 2010 - 980+ estimated**



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PL84-99 June 2008 Flood Repairs



30 Breaches = \$42.8M



25 Pumps/7 Stations = \$9.96M

Temp. Pumping = \$10.6M

Wave Wash @
25 Districts =
\$25.19M



TOTAL REPAIRS
= \$88.6M



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PL84-99 Status of Breach Repairs

30 total MVR breaches = \$42.8M repair cost
Nearly 1 million cu. yds. of dredged sand!

Repairs complete

| | |
|--------------------------|--|
| Green Island (1 of 1) | Dec. 08 |
| Two Rivers (2 of 2) | Aug. 08 Ia Rvr Temp, MR Nov. 08, IA Rvr Permanent setback Dec. 09 |
| Henderson 1 & 2 (2 of 2) | Dec. 08 |
| Union Township (5 of 5) | Dec. 08 |
| Gregory (8 of 8) | Mar. 09 |
| Miss/Fox (5 of 5) | Jan. 09 |
| Hunt/Lima (2 of 2) | Mar. 09 |
| Indian Grave (3 of 3) | Mar. 09 |
| Louisa #11 (.75 of 2) | Dec. 09 partial LOP, Mar. 2010 complete |



PL84-99 Status of Pump Repairs

24 pumps + 7 stations = \$9.96M repair cost

Temp Pumping @ 5 stations = \$10.6M cost

| | <u>Pumps</u> | <u>Capacity</u> | <u>Completion</u> |
|----------------|--------------|-----------------|-------------------|
| Two Rivers | 4 | 100% | Feb 2010 |
| Henderson #2 | 3 | 100% | Feb 2010 |
| Union Township | 3 | 64% | Apr 2010 |
| Gregory | 3 | 100% | Aug 2009 |
| Hunt | 3 | 69% | Mar 2010 |
| Lima | 5 | 100% | Jun 2009 |
| Indian Grave | 3 | 100% | Jan 2010 |



PL84-99 Status of Wave-Wash Repairs

26 districts = \$25.19M repair cost

Completed: Green Island, Two Rivers, Miss-Fox, South River, Waterloo, Marshalltown, DesMoines, Evansdale, Ottumwa, Canton, Cascade, Elkader

In Progress: Bay Island, Henderson #1 & #2, Hunt, Lima, Indian Grave, Fabius, Green Bay, Louisa #11, Union Township, Burlington, Spoon River

Pending: Sny, Keokuk



Federal Infrastructure Damages

Flood Damages Sustained at:

- All Mississippi River Locks and Dams (Locks 11-22)
- All Illinois River Locks and Dams (8 total)
- Saylorville Lake
- Lake Red Rock
- Coralville Lake
- Farm Creek Reservoir

Total Infrastructure Damages:

- \$132M (estimated)



Federal Infrastructure Maintenance

Rehabilitations

- Lock & Dam 11
(Dubuque, IA)
- Lock 19 (Keokuk, IA)

Canal Wall Repair

- Lockport

Backlog Maintenance

- \$700M Upper Miss & ILWW



\$4-5 M per Lock & Dam or Large Reservoir Annually



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Upper Mississippi River Restoration- Environmental Management Program

- First large river ecosystem restoration program in U.S. and world – Est. in 1986
- Two Major Program Components
 - ▶ Habitat Rehabilitation and Enhancement Projects (HREPs) – 50 HREPs completed impacting 85,000 ac.
22 HREPs in planning
 - ▶ Long Term Resource Monitoring (LTRM) – 6 biological field stations in 5 states. Monitoring fish, plants, & water quality.



Pool 11 Islands EMP-HREP



NESP - NAVIGATION SYSTEM EFFICIENCY



COSTS OF DELAY

- ✓ Increased shipping costs
- ✓ Negatively affects producers consumers and all in between
- ✓ Congestion on road & rail
- ✓ Environmental concerns
- ✓ International competitiveness
- ✓ Multimodal opportunities



NESP ECOSYSTEM RESTORATION



COSTS OF DELAY

- ✓ Loss of goods and services
- ✓ Degraded conditions favor spread of exotic species
- ✓ Decreased abundance/diversity
- ✓ Tourism and recreation \$\$\$
- ✓ Flood attenuation



FY2011 Capability for Modest Construction Starts

(\$20M CG Scenario)

| <u>Navigation Efficiency Projects</u> | <u>Cost</u> | <u>Jobs</u> |
|---------------------------------------|----------------|-------------|
| Small & Large Scale Project Designs | \$3.685M | 111 |
| Mooring Cells @ 14, 24 and LGR | \$4.465M | 135 |
| Switchboat @ L&D 25 | \$1.100M | 33 |
| Environmental Mitigation | \$0.750M | 23 |
| TOTALS | \$10.0M | 302 |

| <u>Ecosystem Restoration Projects</u> | <u>Cost</u> | <u>Jobs</u> |
|---------------------------------------|----------------|-------------|
| Planning and Design | \$2.840M | 85 |
| WD/WD alteration – Pool 2 | \$0.350M | 11 |
| Island Shoreline Protect – Twin Is | \$1.500M | 45 |
| Cultural Site Protect (2) | \$0.600M | 18 |
| Side Channel - Herculaneum | \$2.610M | 65 |
| Backwater – Upper Peoria Pool | \$0.600M | 18 |
| Pool WLM – Pool 18 | \$1.500M | 45 |
| TOTALS | \$10.0M | 287 |



Illinois River Basin Restoration

519 projects in various stages of planning, design, and construction

Construction:

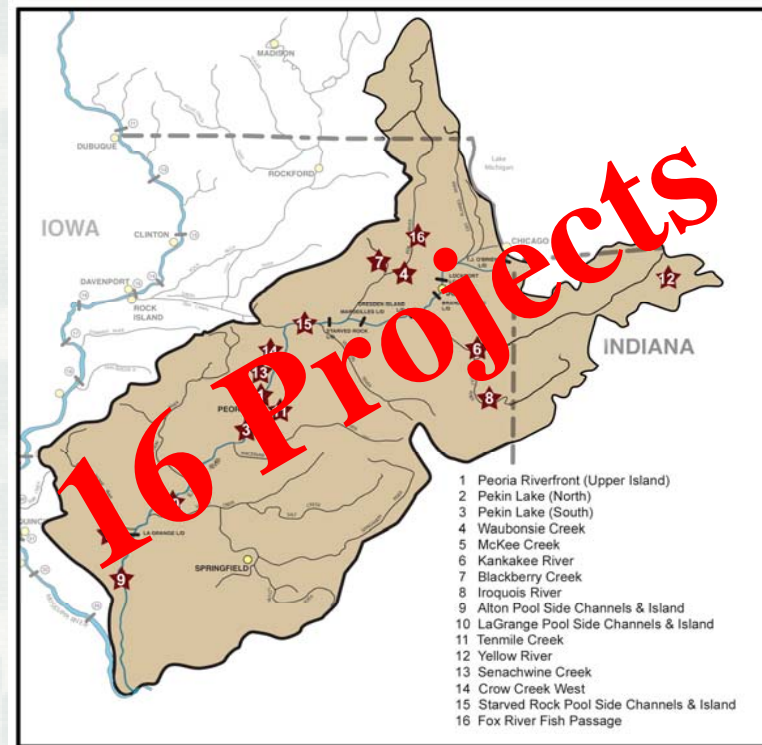
- Constructing Peoria Upper Island/Backwater - \$8.2M
- Constructing Waubonsie Creek Fish Passage - \$1.5M
- Peoria North Backwater – awaiting construction funds

Planning:

- Peoria South Backwater – to be complete in FY10
- Blackberry Fish Passage – to be complete FY11
- Alton Pool Side Channel – to be complete in FY10
- Planning continues on four additional projects

Cost-Share:

- Cost-share funds received for Comprehensive Plan and two construction projects
- Sponsor set aside additional \$4M for future cost share



**>\$130 million program
(\$85 million Federal)**



UMR Comprehensive Plan

- This level of study is used to help the Nation determine the existence of Federal interest for pursuit of feasibility-level investigations
- Per Congressional direction we maximized the use of existing data available at the time of the study
- Recommendations for “construction of a systemic flood control project” (Sec 459, WRDA 1999) could result from future feasibility-level studies



Recommendations

- Plan H was identified as the best performing plan
- Reconstruction
- Critical Transportation Analysis
- Look at Tributaries



Plan H

- Plan H – 0.2% (500-year) raise of all D&LDs unless more cost effective to acquire a D&LD.
- H has less impact on the MR&T based on our computations
- Estimated lower construction cost at this level of analysis



Reconstruction

- **Purpose** – insure existing systems perform & provide the original design benefits into the future.



Critical Infrastructure- Transportation

- **Purpose** – protect one or more road and/or rail river crossings to reduce the risk to interstate travel and commerce



MRC Recommendations

- **Implement Plan H**
- **Shorter term actions**
 - ▶ Place more river gages to better forecast and inform the public of flood risk.
 - ▶ Expand 'main stem' analysis to tributaries.
 - ▶ Initiate Reconstruction analysis.
 - ▶ Initiate Critical Flood Risk Management analysis.



Questions?



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

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