One Team: Relevant, Ready, Responsive and Reliable

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\textsuperscript{a}
- golden redhorse
- longnose gar
- silver redhorse
- shovelnose sturgeon
- northern hog sucker
- goldeye
- white sucker
- mooneye
- channel catfish
- paddlefish\textsuperscript{b}
- blue catfish

- Alabama shad
- flathead catfish
- skipjack herring
- white bass
- gizzard shad
- yellow bass
- threadfin shad
- northern pike
- blue sucker\textsuperscript{a}
- smallmouth bass
- smallmouth buffalo
- largemouth bass
- bigmouth buffalo
- sauger
- quillback
- walleye
- highfin carpsucker
- freshwater drum

\textsuperscript{a} federally listed endangered species
\textsuperscript{b} candidate for federal listing
COLLABORATION

UMR-IWW SYSTEM NAVIGATION FEASIBILITY STUDY

PUBLIC NGO’s
UPPER MISSISSIPPI RIVER SYSTEM
ENVIRONMENTAL MANAGEMENT PROGRAM
HABITAT REHABILITATION AND ENHANCEMENT PROJECTS

<table>
<thead>
<tr>
<th>SITE NO.</th>
<th>PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>RICE LAKE, MN</td>
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<tr>
<td>2.</td>
<td>LONG MEADOW LAKE, MN</td>
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<td>3.</td>
<td>PETERSON LAKE, MN</td>
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<td>4.</td>
<td>INDIAN SLOUGH, WI</td>
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<td>5.</td>
<td>FINGER LAKES, MN</td>
</tr>
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<td>6.</td>
<td>ISLAND 42, MN</td>
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<td>7.</td>
<td>SPRING LAKE PENINSULA, WI</td>
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<td>8.</td>
<td>SPRING LAKE ISLANDS, WI</td>
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<td>9.</td>
<td>POLANDER LAKE, MN</td>
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<tr>
<td>10.</td>
<td>SMALL SCALE DRAWDOWN, WI</td>
</tr>
<tr>
<td>11.</td>
<td>TREMPEALEAU REFUGE, WI</td>
</tr>
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<td>12.</td>
<td>LONG LAKE, WI</td>
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<tr>
<td>13.</td>
<td>LAKE ONALASKA, WI</td>
</tr>
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<td>14.</td>
<td>EAST CHANNEL, WI/MN</td>
</tr>
<tr>
<td>15.</td>
<td>POOL 8 ISLANDS, WI</td>
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<tr>
<td>16.</td>
<td>POOL SLOUGH, IA/MN</td>
</tr>
<tr>
<td>17.</td>
<td>BLACKHAWK PARK, WI</td>
</tr>
<tr>
<td>18.</td>
<td>LANSING BIG LAKE, IA</td>
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<td>19.</td>
<td>CONWAY LAKE, IA</td>
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<td>20.</td>
<td>LAKE WINNESHEIK, WI</td>
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<td>21.</td>
<td>CAPOLI SLOUGH, WI</td>
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<td>22.</td>
<td>POOL 9 ISLAND, WI</td>
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<td>23.</td>
<td>COLD SPRINGS, WI</td>
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<tr>
<td>24.</td>
<td>HARPERS SLOUGH, IA/WI</td>
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<tr>
<td>25.</td>
<td>AMBROUGH SLOUGH, WI</td>
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<tr>
<td>26.</td>
<td>BUSSEY LAKE, IA</td>
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<td>27.</td>
<td>GUTTENBERG PONDS, IA</td>
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<td>28.</td>
<td>MISS RIVER BANK STABILIZATION, IA/MN/WI</td>
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<td>29.</td>
<td>BERTOM-MCCARTNEY LAKES, WI</td>
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<td>30.</td>
<td>POOL 11 ISLANDS, IA/WI</td>
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<tr>
<td>31.</td>
<td>POOL 12 OVERWINTERING, IA-IL</td>
</tr>
<tr>
<td>32.</td>
<td>PLEASANT CREEK, IA</td>
</tr>
<tr>
<td>33.</td>
<td>BROWN'S LAKE, IA</td>
</tr>
<tr>
<td>34.</td>
<td>SPRING LAKE, IL</td>
</tr>
<tr>
<td>35.</td>
<td>POTTERS MARSH, IL</td>
</tr>
<tr>
<td>36.</td>
<td>BEAVER ISLAND, IA</td>
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STATUS AS OF: JUNE 2007

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

Regional Program Manager 309/794-5426
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
Comprehensive Systems Approach to Adaptive Management

Figure 1.1. Diagram of the adaptive management process.

Weber in Galat et al 2007
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