

**Upper Mississippi River Restoration
Environmental Management Program
Coordinating Committee
Quarterly Meeting**

August 6, 2014

Highlights and Action Items

Program Management

- UMRR-EMP's FY 14 internal allocations under its \$31.968 million appropriation are as follows:
 - Regional Management – \$1,000,000
 - LTRMP element – \$5,225,000
 - HREPs element – \$25,743,000
 - Regional science support – \$1,065,700
 - MVP – \$6,980,400
 - MVR – \$10,466,500
 - MVS – \$7,230,400

[Note: At the end of FY 13, funds were transferred among UMR Districts to get critical work accomplished and to maximize the amount of funds obligated. The FY 14 allocations to all three Districts reflect rebalancing of those internal funds.]

- The program's overall spending on science in FY 14 is \$7.754 million: \$314,000 in regional management, \$5.4 million for base monitoring (includes carry-over), \$1.065 million on research and analysis to inform restoration, and \$325,000 in each UMR District to standardize habitat project monitoring protocols and to evaluate projects post-construction (i.e., project evaluation reports).
- **The President's FY 15 budget request, House's FY 15 energy and water appropriations measure, and Senate Energy and Water Subcommittee's FY 15 appropriations markup include \$33.17 million for UMRR-EMP, which is the program's full annual authorized amount.**
- **Col. Mark Deschenes will host the UMRR-EMP agency leadership summit on September 18, 2014 at Eagle Point Park in Dubuque.** The event will include an indoor discussion session in the morning and a field trip to Sunfish Lake in the afternoon. The indoor session will include a briefing on UMRR-EMP's history, partnership, and accomplishments, as well as a focused discussion on key issues on which the leaders' input will be sought. These issues might include funding and staff resources under higher funding levels, the draft 2015-2025 UMRR Strategic Plan, compatibility in messaging for navigation and ecosystem restoration on the river, and emerging issues. **A team of volunteers will develop an agenda and consider how to best frame the indoor discussions.** The volunteers include Dru Buntin, Jim Fischer, Diane Ford, Marv Hubbell, Kirsten Mickelsen, Tim Schlagenhaft, and Janet Sternburg.

Strategic Planning

- **The UMRR-EMP CC approved the draft 2015-2025 UMRR Strategic Plan for a broader stakeholder review. USACE will host the draft Strategic Plan on a UMRR-EMP web page**

with a feature for individuals to submit comments. Marv Hubbell will send the strategic planning team a press release template that members can use when soliciting input.

- **UMRR-EMP CC's November 19, 2014 meeting, the planning team will present a draft list of new and improved actions necessary to implement the Strategic Plan. This list will be used to communicate how some of the program's current operations will change based on the plan.**

2013 Implementation Issues Assessment

- **Marv Hubbell asked partners to consider what implementation issues warrant inclusion in the 2016 UMRR-EMP Report to Congress. The UMRR-EMP CC will discuss potential issues at its November 19, 2014 quarterly meeting.**

Habitat Rehabilitation and Enhancement Projects

- MVS plans to initiate design on Clarence Cannon soon. MVS's other planning priorities are Rip Rap Landing and Piasa and Eagles Nest Islands. MVS will likely start planning on Harlow/Wilkinson Middle River project soon. USFWS is assisting in identifying project opportunities for habitat restoration projects in the Open River reach. Final construction details on Pools 25 and 26 Islands are nearing completion.
- MVD approved Harpers Slough DPR in July. MVP anticipates awarding a construction contract on Stage's 1 and 2 of the project this fiscal year.
- Ellen Milliron is MVR's new HREP Manager. MVR plans to initiate construction on Huron Island and Lake Odessa flood recovery this fall, continuing its construction efforts on Pool 12 Overwintering Stage I, Fox Island, and Rice Lake Stage I. The District's current planning priorities include Keithsburg and Emiquon East.
- **UMRR-EMP CC members requested a presentation at a future quarterly meeting regarding project evaluation report (PER) content and findings, including the 2012 Environmental Design Handbook.**
- In the second quarter of FY 15, the UMRR-EMP will initiate a "data-driven" process for selecting new starts that will be informed by partners' expertise and experience, the strategic plan and other program documents, and decision support tools.
- **Following controversy over the Emiquon East habitat project's design, partners have recently reached an agreement about the project's design and adaptive management. Marv Hubbell and Doug Blodgett overviewed the history of the project site and land management, the project features, and new agreement among sponsors. Dan Stephenson expressed Illinois DNR's support for the project, particularly under the recent agreement. Hubbell said the controversy highlights the value of working through the partnership coordination mechanisms to sort through difficult issues. The project will also require additional program involvement in project management after construction is completed, additional documentation of annual O&M costs and site management actions, and an explicit adaptive management component.**

Long Term Resource Monitoring Element

- The second edition of the program's fish monitoring protocols was published that documents refinements to the methods since 1995. Refinements are typically discovered through field

experience, data analysis, and technological advances. A report describing the fish component's monitoring rationale, strategy, issues, and methods is anticipated to be released in mid-August.

- A scientific review of the Aquatic Habitat Appraisal Guide 2.0 (AHAG) concluded that the model's effectiveness is reduced by its outdated approach. The model is well suited for nine species only, representing two to three guilds. Those species should serve as the basis for the model. Recommendations are to 1) incorporate empirical response curves into defining the empirical response curves and 2) conduct post-project biological evaluations to test pre-project benefits estimated by AHAG.
- A manuscript was published on white-tailed deer winter browse selection and its implications for bottomland forest restoration.
- **Proposals for FY 15 funds for research and analysis are due on August 30. The A-Team will consider these proposals on its September 4 conference call.** An updated SOW for the FY 14 projects is located on pages F-10 to F-12 of the agenda packet.
- Rich Pendleton explained analyses that show that Asian carp are influencing the fish community structure. There are significant differences between fish communities pre- and post-establishment, including condition and abundance.

Other Business

- **Upcoming quarterly meetings are as follows:**
 - **November 2014 — St. Paul**
 - UMRBA water quality meeting — November 17
 - UMRBA meeting — November 18
 - **UMRR-EMP CC — November 19**
 - **February 2015 — Quad Cities**
 - UMRBA meeting — February 10
 - **UMRR-EMP CC — February 11**
 - **May 2015 — St. Louis**
 - UMRBA meeting — May 5
 - **UMRR-EMP CC — May 6**

EMP CC Quarterly Meeting August 6, 2014

Marvin E. Hubbell - MVR
UMRR Regional Program Manager

Mississippi Valley – Rock Island District (MVR)
Mississippi Valley – St. Louis District (MVS)
Mississippi Valley – St. Paul District (MVP)



UMRR-EMP PARTNERS



FY14 Work Plan

TOTAL FY 13 Program	\$30,370,000	\$31,968,000
Regional Administrative Amount	\$ 902,000	\$ 1,000,000
Regional Management (Regional EMP & LTRM)	\$ 511,000	\$ 529,000
Program Database	\$ 45,000	\$ 55,000
Regional Project Sequencing	\$ 50,000	\$ 75,000
UMRR-EMP Strategic Plan	\$ 65,000	\$ 85,000
UMRBA	\$ 76,000	\$ 76,000
HREP/LTRM Integration	\$ 60,000	\$ 60,000
Public Outreach	\$ 45,000	\$ 70,000
2016 Report to Congress	\$ 50,000	\$ 50,000
LTRM	\$ 5,225,000	\$ 5,225,000
HREP	\$24,243,000	\$25,677,300
UMRR Regional Science Support	\$ 1,000,000	\$ 1,065,700
St. Louis District	\$ 6,516,000	\$ 6,980,400
Rock Island District	\$ 9,961,000	\$10,532,200
St. Paul District	\$ 6,766,000	\$ 7,230,400



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FY14 Funding for science and monitoring

TOTAL FY 14 Program	\$31,968,000		
Regional Administrative Amount	\$ 1,000,000	31.4%	\$314,000
Regional Management (Regional EMP & LTRM)	\$ 529,000		
Program Database	\$ 55,000		
Regional Project Sequencing	\$ 75,000		
UMRR-EMP Strategic Plan	\$ 85,000		
UMRBA	\$ 76,000		
HREP/LTRM Integration	\$ 60,000		
Public Outreach	\$ 70,000		
2016 Report to Congress	\$ 50,000		
LTRM	\$ 5,225,000 (\$175,000)		\$5,400,000
HREP	\$25,677,300		
UMRR Regional Science Support	\$ 1,065,700		\$ 1,065,000
St. Louis District	\$ 6,980,400		\$ 325,000
Rock Island District	\$10,532,200		\$ 325,000
St. Paul District	\$ 7,230,400		\$ 7,754,000



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FY14 Program Execution

- UMRR Spreadsheets
 - Pages B-1 to B-5



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FY 15 Budget Request

- President's Budget \$33,170,000
- House \$
- Senate \$
- Hoping for an Appropriations Bill around the first of FY15.



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ROCK ISLAND DISTRICT (MVR) FY14 HREP Work Plan (August 2014)

PLANNING

- Keithsburg Division, Pool 18, IL
- Emiquon East, LaGrange Pool, IL
- Snyder Slough Backwater, Pool 11, WI
- Beaver Island, Pool 14, IA

DESIGN

- Pool 12 Overwintering Stage II, Pool 12 IL
- Huron Island Stage II, Pool 18, IA
- Lake Odessa Flood Recovery, IA

CONSTRUCTION

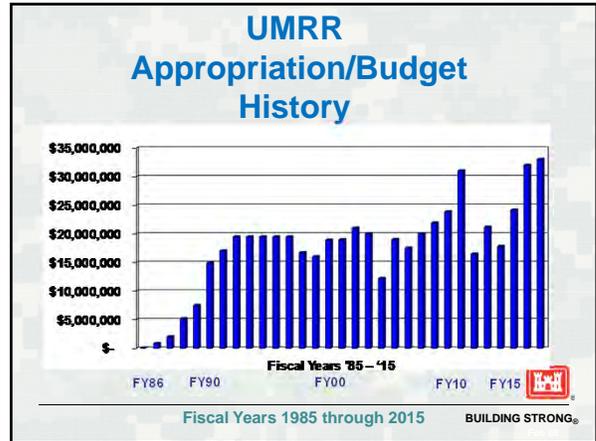
- Lake Odessa Flood Recovery, IA Pools 17 and 18, IA
- Fox Island, Pool 20, MO
- Rice Lake Stage I, IL LaGrange Pool
- Huron Island Stage I, Pool 18, IA

EVALUATION

- FWS
- Baseline Monitoring
- Adaptive Mgmt. Pool 12
- Post Project Monitoring
- Performance Evaluations



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Agency Leadership Event

- Key Program Issues
- **Date – September 18, 2014**
- Location –Dubuque, IA



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Meeting with Senior Leaders

- Format – Meeting in AM, Field trip in PM
- Meeting Organizer – COL Deschenes
- Topics of interest to your Senior Leaders
 - Funding
 - Staffing
 - Strategic Plan
 - Navigation and Ecosystem Restoration
 - Emerging Issues
 - Other



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Public Outreach



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UMRR Strategic Plan

- Corps being more involved in the LTRM SOW and budget development process
- Need to clearly link recommendations in a variety of documents:
 - Three Reports to Congress
 - Implementation Issues Assessment (IIA) Papers
 - Status and Trend Reports
 - LTRM Strategic Plan and Operational Plans
 - EMP/NESP Transition Plan



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Strategic Planning Meetings

- Date: April 9-11, 2013 (La Crosse)
- June 18-20, 2013 (R.I. Arsenal)
- August 22, 2013 (Webinar)
- November 5-7, 2013 (R.I.) *cancelled*
- January 6-8, 2014 (R.I. Arsenal)
- April 8-10, 2014 (R.I. Arsenal)
- June 14 and 16, 2014 Webinar**



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Key Items Discussed

- Comments Received from targeted review
- Endorsement of the Plan
- Additional Public Review of the Plan
- How to achieve the outcomes envisioned by the Plan
- How to operationalize the Plan



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Feedback from targeted review

- Received many thoughtful comments.
 - Many of those comments were addressed by inserting foot notes and providing web links to documents and providing clarifying language.
- Some of the more extensive feedback related to:
 - Increased budget coordination,
 - Implementation of the Plan,
 - Endorsement of the plan, and
 - Achieving the outcomes (see May min)



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Achieving these outcomes will require change

Significance of these recommendations:

- Require us to characterize/define the existing health and resiliency of the system
- Use existing and potentially new data sets or indicators to establish a baseline and to monitor change
- Utilize existing and develop new indicators to monitor progress



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Other Changes

- Identification, selection, formulation of new projects will be based upon their contribution to increasing health and resiliency
- Provide feedback to the Partnership and others regarding progress
- Enhanced integration
- Focus science efforts to more effectively address rehabilitation and management needs



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Anticipated Changes for all Partners

- Refer to this Program as UMRR with a habitat restoration element and a research element.
- Greater emphasis on measuring and reporting progress to HQ and OMB.



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Anticipated Changes for Corps Staff

- Greater emphasis on measuring and reporting progress to HQ and OMB.
- PDT's will have greater access to monitoring data and scientists within USGS, LTRM field stations, and the Corps.
- Increased use of habitat projects to test important science questions on the UMRS.
- Improved monitoring plans in DPR's to help measure project outcomes.



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Anticipated Changes for Corps Staff

- Future research will be more focused on needs related to restoration and management.
- The next generation of habitat projects will be more focused on river health and resilience.
- Greater linkage of models used for plan formulation and evaluation of project outcomes.



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Anticipated Changes for Corps Staff

- Increased involvement in the management of habitat projects post construction (especially when there is an AM Plan).
- Refer to this Program as UMRR with a habitat restoration element and a research and monitoring element.
- Centralized databases.
- Standardized monitoring techniques/protocols across Districts.



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Anticipated Changes for UMESC and Field Station Staff

- Refer to this Program as UMRR with a habitat restoration element and a research and monitoring element.
- Increased use of habitat projects to test important science questions on the UMRS.
- Future research will be more focused on needs related to restoration and management.
- Increased involvement with PDT's in project formulation.



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Next Steps

Remaining schedule:

- EMP-CC concurrence in August
- Operational Plan will be the annual SOW
- Increase budget coordination:
 - ▶ Out Year
 - ▶ Next Year
 - ▶ Current Year Execution
- Extended public review until November.
- Partnership use of UMRR
- Other



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Implementation Issues Assessment Annual Review

- Revisit the IIA's
- FY15 Partner Priorities



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Implementation Issues Assessment

- NGO's as cost share partners
- Land Acquisition



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Implementation Issues Assessment (IIA)

- State Participation and Leadership Support
- LTRM Component Implementation
- Delegated **Authority**
- Adaptive Management
- State's and Service Capacity for HREP O&M



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Implementation Issues Assessment

- HREP Planning and Prioritization
- HREP Evaluations
- UMRR-EMP Habitat Project Types



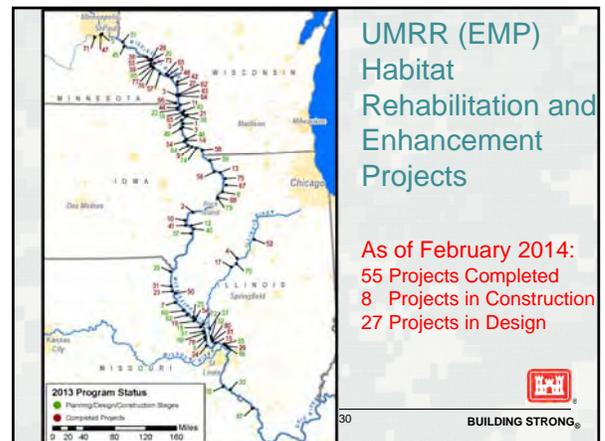
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Implementation Issues Assessment

- Construction Cost Sharing
- HREP Operations and Maintenance on Navigation Structures
- Emerging Trends and Issues



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**ST. LOUIS DISTRICT (MVS)
FY14 HREP Work Plan (August 2014)**

PLANNING

- Rip Rap Landing, IL**
 - Preparing final draft late 4th Qtr or 1st Qtr FY15
- Clarence Cannon Refuge, MO**
 - Approved and moving to P&S FY15
- Piasa and Eagles Nest Islands, Pool 26, IL**
 - Public Open House 4th Qtr FY14 & continue feasibility FY15
- Other studies in the Queue**
 - Harlow / Wilkinson Middle River M
 - Glades & Godar, IL River
 - Horseshoe Lake, IL
 - West Alton/Missouri Islands

DESIGN

- Ted Shanks, MO**
 - CN1/CS3 Water Control
 - Nose Slough/Deadman WC
 - Pump Station

CONSTRUCTION

- Ted Shanks, MO**
 - SR1 Water Control
 - North Berm and Setback
 - HL1 Water Control
- Pools 25 & 26 Islands, MO**
 - Bolters Island
- Batchtown, IL - Punchlist**

EVALUATION

- Baseline Monitoring
- Post Project Monitoring
- Performance Evaluation



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Ted Shanks, MO HREP



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**ST. PAUL DISTRICT (MVP)
FY14 HREP Work Plan (6 Aug 2014)**

PLANNING

- Harpers Slough, Pool 9, IA/WI**
 - DPR approved Jul 2014
- North & Sturgeon Lakes, Pool 3, MN**
 - Complete Pre-Draft DPR FY14
- Conway Lake, Pool 9, IA**
 - Complete Pre-Draft DPR in FY14
- McGregor Lake, Pool 10, WI**
 - Complete Pr-Draft DPR FY14
- Other studies in the Queue**
 - Weaver Bottoms, Clear Lake, Bass Lake Ponds, Pool 10 islands

DESIGN

- Harpers Slough Stage 1

CONSTRUCTION

- Capoli Slough Islands, WI**
 - Stage 1 (Newt Marine)
 - Stage 2 (McHugh/JF Brennan)
 - * Impacts from extended high water. Mob in late July/early Aug
- Harpers Slough, IA**
 - Award Stage 1 in September

EVALUATION

- Baseline Monitoring
- Post Project Monitoring
- Performance Evaluation



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**ROCK ISLAND DISTRICT (MVR)
FY14 HREP Work Plan (August 2014)**

PLANNING

- Keithsburg Division, Pool 18, IL
- Emiquon East, LaGrange Pool, IL
- Snyder Slough Backwater, Pool 11, WI
- Beaver Island, Pool 14, IA

DESIGN

- Pool 12 Overwintering Stage II, Pool 12 IL
- Huron Island Stage II, Pool 18, IA
- Lake Odessa Flood Recovery, IA

CONSTRUCTION

- Lake Odessa Flood Recovery, IA Pools 17 and 18, IA
- Pool 12 Overwintering Stage I, Pool 12 IL
- Fox Island, Pool 20, MO
- Rice Lake Stage I, IL LaGrange Pool
- Huron Island Stage I, Pool 18, IA

EVALUATION

- FWS
- Baseline Monitoring
- Adaptive Mgmt. Pool 12
- Post Project Monitoring
- Performance Evaluations
 - Bertom and McCartney
 - Rig Tuzoher
- Pool 11 Overwintering
- Chautauqua NWF



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New Project Starts FY17-FY18

▪ **Next Steps**

- EMP-CC Feedback on approach
- Proposed schedule (FY15 -
 - Formal start – 1st Quarter FY15
 - Develop Outline
 - assemble key data sources
 - Identify perspective members of SET
 - Link rehabilitation efforts to refined goals, objectives, indicators, and data from base monitoring
 - Completion – 4th Quarter FY17



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**Emiquon Preserve
Habitat Project**

- Possible Program Issues for future discussion:
 - Process of moving a project into UMRR
 - Program involvement in project management after construction is complete
 - Documentation of annual O & M costs
 - Documentation of site management actions
 - Use of Adaptive Management and Investment
 - Other



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Illinois

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Andalusia Refuge	353	\$2,741,000	\$0	\$2,741,000
Barren Marsh	4,290	\$5,339,000	\$1,760,000	\$7,119,000
Calhoun Point	2,135	\$10,764,000	\$0	\$10,764,000
Chautauque Refuge	3,940	\$14,151,000	\$0	\$14,151,000
Gardner Division (Long Island Division)	6,300	\$7,760,000	\$0	\$7,760,000
Peoria Lake	2,500	\$3,235,000	\$42,000	\$3,277,000
Potters Marsh	2,305	\$3,007,000	\$0	\$3,007,000
Spring Lake	3,300	\$6,530,000	\$0	\$6,530,000
Stump Lake	2,960	\$6,057,000	\$0	\$6,057,000
Total:	37,218	\$71,165,000	\$3,644,000	\$74,809,000

Field Station	Total Cost
National Great Rivers Research & Education Center Biological Field Station	\$ 8,783,000
Illinois River Biological Field Station	\$ 8,783,000
Total Science & Monitoring	\$17,566,000

Illinois

Future Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Batchtown	3,280	\$17,091,000	\$146,000	\$17,237,000
Boston Bay	900	\$6,337,000	\$0	\$6,337,000
Delair Division	1,685	\$9,500,000	\$0	\$9,500,000
Glades Wetlands	2,650	\$17,218,000	\$0	\$17,218,000
Godar Refuge	2,400	\$8,202,000	\$0	\$8,202,000
Keithsburg Division	1,390	\$6,350,000	\$0	\$6,350,000
Pool 12 Overwintering	7,990	\$20,656,000	\$0	\$20,656,000
Red's Landing Wetlands	1,620	\$4,484,000	\$0	\$4,484,000
Rip Rap Landing	2,300	\$8,169,000	\$231,000	\$8,400,000
Salt Lake#1 Chartres Side Channel	60	\$2,000,000	\$0	\$2,000,000
Swan Lake	2,900	\$15,623,000	\$262,000	\$15,885,000
Total:	32,225	\$132,881,000	\$408,000	\$133,289,000

Iowa

Completed Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Big Timber	1,039	\$851,000	\$0	\$851,000
Brown's Lake	453	\$2,093,000	\$0	\$2,093,000
Bussey Lake	494	\$3,432,000	\$162,000	\$3,594,000
Guttenberg Waterfowl Ponds	198	\$327,000	\$0	\$327,000
Lake Odessa	6,788	\$22,600,000	\$0	\$22,600,000
Lansing Big Lake	6,420	\$2,090,000	\$0	\$2,090,000
Pleasant Creek	2,350	\$1,312,000	\$0	\$1,312,000
Pool 11 Islands-Mud Lake	4,550	\$4,597,920	\$0	\$4,597,920
Pool Slough	620	\$518,000	\$175,000	\$693,000
Princeton Refuge	1,129	\$4,006,000	\$54,000	\$4,060,000
Total:	24,041	\$41,826,920	\$391,000	\$42,217,920

Field Station	Total Cost
Town DNR Mississippi River Biological Field Station	\$9,786,000

Iowa

Future Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Beaver Island	1,790	\$13,375,000	\$0	\$13,375,000
Conway Lake	1,043	\$2,512,000	\$0	\$2,512,000
Harpers Slough	2,200	\$12,150,000	\$0	\$12,150,000
Huron Island	2,000	\$13,773,000	\$0	\$13,773,000
Lower Pool 10 Island and Backwater Complex	2,340	\$6,000,000	\$0	\$6,000,000
Steamboat Island	1,280	\$7,780,000	\$0	\$7,780,000
Turkey River Bottoms Delta and Backwater Complex	3,638	\$18,700,000	\$0	\$18,700,000
Total:	14,251	\$74,290,000	\$0	\$74,290,000

Minnesota

Completed Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
East Channel	320	\$559,000	\$0	\$559,000
Finger Lakes	530	\$1,445,000	\$0	\$1,445,000
Island #2	420	\$262,000	\$0	\$262,000
Long Meadow Lake	2,340	\$750,000	\$0	\$750,000
Peterson Lake	614	\$1,179,000	\$0	\$1,179,000
Polander Lake	790	\$3,000,000	\$0	\$3,000,000
Pool 8 Islands Phase III	3,288	\$19,650,000	\$0	\$19,650,000
Pool Slough	620	\$518,000	\$175,000	\$693,000
Rice Lake-MN	907	\$682,000	\$0	\$682,000
Total:	9,729	\$28,045,000	\$175,000	\$28,220,000

Field Station	Total Cost
State of Minnesota, Lake City Biological Field Station	\$ 10,170,000

Minnesota



Future Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Bass Ponds, Marsh, and Wetland	390	\$3,000,000	\$0	\$3,000,000
Clear Lake (Finger Lake) Dredging	321	\$2,500,000	\$0	\$2,500,000
North and Sturgeon Lakes	5,150	\$8,000,000	\$0	\$8,000,000
Weaver Bottoms	4,883	\$10,000,000	\$0	\$10,000,000
Total:	11,134	\$26,500,000	\$0	\$26,500,000



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Missouri



Completed Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Bay Island	650	\$3,112,000	\$0	\$3,112,000
Clarksville Refuge	312	\$454,000	\$0	\$454,000
Culvre Island	2,180	\$1,444,000	\$479,000	\$1,923,000
Dresser Island	940	\$2,904,000	\$0	\$2,904,000
Monkey Chute	88	\$56,000	\$0	\$56,000
Pharris Island	625	\$2,783,000	\$0	\$2,783,000
Stag and Keaton Islands	470	\$471,000	\$0	\$471,000
Total:	5,165	\$11,224,000	\$479,000	\$11,703,000

Field Station	Total Cost
Big Rivers & Wetlands Biological Field Station	\$7,387,000



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Missouri



Future Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Clarence Cannon	3,750	\$25,800,000	\$0	\$25,800,000
Fox Island	2,033	\$4,800,000	\$0	\$4,800,000
Harlow Island	1,300	\$6,500,000	\$0	\$6,500,000
Piasa - Eagle's Nest Islands	1,600	\$5,500,000	\$0	\$5,500,000
Pool 24 Islands	3,150	\$9,492,000	\$0	\$9,492,000
Pool 25 and 26 Islands	2,026	\$2,660,000	\$0	\$2,660,000
Ted Shanks	2,900	\$29,506,000	\$0	\$29,506,000
West Allon Tract	610	\$6,532,000	\$0	\$6,532,000
Wilkinson Island	2,700	\$5,980,000	\$0	\$5,980,000
Total:	27,271	\$111,582,000	\$	\$111,582,000



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Wisconsin



Completed Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Ambrough Slough	2,746	\$2,461,000	\$166,000	\$2,627,000
Bertram McCartney Lakes	2,000	\$2,440,000	\$0	\$2,440,000
Blackhawk Park	82	\$232,000	\$77,000	\$309,000
Coit Springs	30	\$463,000	\$0	\$463,000
East Channel	320	\$559,000	\$0	\$559,000
Indian Slough	625	\$988,000	\$0	\$988,000
Lake Onataska	2,750	\$2,064,000	\$0	\$2,064,000
Lung Lake	40	\$646,000	\$0	\$646,000
Pool 11 Islands-Sunfish Lake	4,000	\$5,247,226	\$0	\$5,247,226
Pool 8 Islands Phase I	643	\$2,314,000	\$0	\$2,314,000
Pool 8 Islands Phase II	1,268	\$3,482,000	\$0	\$3,482,000
Pool 8 Islands Phase III	3,288	\$19,650,000	\$0	\$19,650,000
Pool 9 Islands	410	\$1,266,000	\$0	\$1,266,000
Small Scale Drawdown	80	\$97,000	\$0	\$97,000
Spring Lake Islands	530	\$3,895,000	\$0	\$3,895,000
Spring Lake Peninsula	30	\$448,000	\$0	\$448,000
Trempeleau	6,487	\$5,835,000	\$0	\$5,835,000
Total:	30,696	\$58,574,226	\$243,000	\$58,817,226

Field Station	Total Cost
USGS - Upper Mississippi River Environmental Science Center	\$35,154,000
State of Wisconsin, La Crosse Biological Field Station	\$10,293,000



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Wisconsin



Future Projects

Project Name	Acres Restored	Federal Cost	Non-Federal Cost	Total Cost
Capoli Slough	820	\$9,450,000	\$0	\$9,450,000
Lake Winneshiek	5,170	\$5,000,000	\$0	\$5,000,000
Lock & Dam 3	660	\$9,100,000	\$0	\$9,100,000
Lower Pool 10 Island and Backwater Complex	2,340	\$6,000,000	\$0	\$6,000,000
McGregor Lake	1,000	\$6,500,000	\$0	\$6,500,000
Snyder Slough Backwater Complex	2,064	\$16,800,000	\$0	\$16,800,000
Turkey River Bottoms Delta and Backwater Complex	3,638	\$18,700,000	\$0	\$18,700,000
Total:	15,692	\$71,550,000	\$0	\$71,550,000



BUILDING STRONG®

UMRR LTRMP Report




 Restoring and Monitoring
 the
 Upper Mississippi River System

East Peoria, Illinois
August 6, 2014

Photo by Stan Bousson

Temporary Connectivity: The Relative Benefits of Large River Floodplain Inundation in the Lower Mississippi River

Quinton Phelps, Sara Tripp, David Herzog, & James Garvey

- There is a synergistic relationship between large rivers and adjacent floodplain connectivity
- Elevated river levels during spring 2011 at the confluence of the Mississippi and Ohio River prompted the USACE to create large gaps in the levee system producing an expansive floodplain



Restoration Ecology 2014

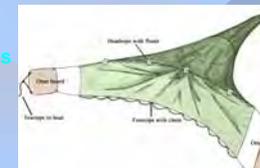
Temporary Connectivity: Continued...

- Opportunity to evaluate the influence of floodplain inundation on fish species diversity, relative abundance, and growth
- Sampled floodplain and adjacent river from commencement of inundation through early October
- Found species diversity, relative abundance, and growth were higher in the floodplain than the main river
- Data support previous examinations, that suggest floodplain inundation may be important for riverine fishes
- Given these apparent advantages of floodplain inundation, restoration efforts should balance benefits of floodplain inundation while safeguarding priority needs of humans

Long Term Resource Monitoring Program Procedures Fish monitoring, 2nd edition

Eric Ratcliff, Eric Gittinger, Matt O'Hara & Brian Ickes

- Documents changes in fish sampling procedures since 1995.
- Refinements to methods become necessary as monitoring programs mature
- Possible refinements are identified by:
 - ❖ field experiences
 - ❖ data analysis
 - ❖ technological advances
 - ❖ financial necessity



<http://pubs.usgs.gov/mis/ltrmp2014-p001>

Monitoring rationale, strategy, issues, and methods: UMRR-EMP LTRMP Fish Component

Brian Ickes, Jennifer Sauer, and Jim Rogala

- Why the data were collected in the way they were, at the scales they were, and in the manner that they were
- Present information on:
 - ❖ Rationale for monitoring UMRS fish
 - ❖ Strategies employed and their reasoning
 - ❖ Discussions on issues associated with the sampling design itself

Because the primary target of SRS is the study reach and annual scale, this is also the intended scale for cross-component synthesis or integration using the SRS data



<http://pubs.usgs.gov/mis/ltrmp2014-p001a/>

Spatially explicit habitat models for 28 fishes from the Upper Mississippi River System (AHAG 2.0)

Brian Ickes, Jennifer Sauer, Nate Richards, Mel Bowler, & Ben Schlifer

- A scientific review of the Aquatic Habitat Appraisal Guide (AHAG) model indicated that the model's effectiveness is reduced by its dated approach (Abt Associates Inc. 2011).
- Two major recommendations from review:
 - ❖ Incorporate empirical data from the UMRS into defining the empirical response curves
 - ❖ Conduct post-project biological evaluations to test pre-project benefits estimated by AHAG

<http://pubs.usgs.gov/mis/ltrmp2014-t002/>

Spatially explicit habitat models: Continued

- Models were fit for 28 species, representing 3 habitat guilds (Lentic, Lotic, and Generalist) using multiple logistic regression with presence/absence responses
- USACE requires certified and peer-reviewed models to conduct pre-project assessments of predicted benefits
- In total, 9 species, representing 2 of the 3 guilds (Lotic and Generalist), produced well-fit models. These 9 species should comprise the basis for AHAG 2.0.
- Additional work, likely requiring downscaling of the regional models to pool-scale models, will be needed to incorporate additional species.

<http://pubs.usgs.gov/mis/trmp2014-t002/>

Winter Browse Selection by White-Tailed Deer and Implications for Bottomland Forest Restoration in the Upper Mississippi River Valley

Ben Cogger, Nate De Jager, Meredith Thomsen and Carrie Reinhardt Adams

- White-tailed deer forage selectively, modifying upland forest species composition
- Study investigated plant selection by deer in bottomland forests
- Deer preferred American elm and silver maple. Avoided green ash and box elder
- Selective foraging could promote the expansion of invasive species and/or alter tree species composition
- Islands may, however, serve as refuges from browsing on a regional scale.



Natural Areas Journal 34(2):144-153

LTRMP data used in USGS Ecosystems Science Strategy

Invasion of Asian Carp in the Great Lakes

Asian carp, especially hybrid and other carp, are aggressive, voracious fish that have become abundant throughout much of the Mississippi River basin. These species are invasive to the Great Lakes, primarily posing a \$1 billion per year commercial fishery resource at risk. In consultation with partners, the USGS is assessing habitat of the lakes and rivers of the Great Lakes region for their potential to support Asian carp and are developing information on environmental factors. Habitat studies also include understanding Asian carp reproductive biology and their requirements, quantifying such the step-Lake-wide and river-wide distribution of Asian carp, identifying and testing potential barriers to Asian carp dispersal, and identifying and testing potential barriers to prevent Asian carp advancing into the Great Lakes.

U.S. Geological Survey Ecosystems Science Strategy—Advancing Discovery and Application through Collaboration

River Observations

Larval Asian Carp observed
July 2014 on Pool 26
of the Mississippi River

filmed by Eric Gittinger
National Great Rivers Research
and Education Center

River Observations Mayflies!

La Crosse, WI

Lance Lee

John Sullivan

Retirement Celebration for Heidi Langrehr, WDNR Began her career with LTRMP in 1989

Thank you!

Additional UMRR LTRMP Staff Activities

Upper Mississippi River Restoration Environmental Management Program
Restoring and Monitoring the Upper Mississippi River System

Photo by Gee Marsh

See a complete list on the A-Team Corner
www.umesc.usgs.gov/ltrmp/documents/fy14_quarter_activity_all.pdf

FY14 Third Quarter Additional UMRR LTRMP Staff Activities

Ben Lubinski attended the "Day of Science" meeting featuring NGRREC research collaborators from the University of Illinois

The WDNR field station staff coordinated a statewide training session for new employees in the WDNR water bureau in May

Jennifer Sauer gave a presentation on the UMMR program at the Rio Grande Environmental Management Meeting in Brownsville, Texas

UMRS Basin
Rio Grande Basin

Brian Ickes delivered an invited lecture on Asian carp at Northrup Auditorium, University of Minnesota, as part of the Institute of Advanced Studies, River Life Program

FY14 Third Quarter Additional UMRR LTRMP Staff Activities

Giblin provided zooplankton data to Dr. Gretchen Garrish for paleolimnology work on Pool 8

John Chick, Eric Ratcliff, Eric Gittinger, and Ben Lubinski demonstrated LTRMP fish sampling techniques, fish identification, and ecology of fishes of the Mississippi River as well as LTRMP water quality sampling techniques to approximately 30 National Great Rivers Research and Education Center college interns during NGRREC intern week.

Nathan De Jager, Timothy Fox, Jason Rohweder, and Steve Buan (NOAA) discussed computer tools to model and map flood inundation along the Upper Mississippi River, and how these could be linked to river forecast models created by the National Oceanic and Atmospheric Administration

Petersen completed aging of 606 bluegills for the Pool 12 HREP project

Assistant Secretary of Interior for Water and Science Anne Castle and staff will visit UMESC Thursday August 8th.

Tour will include on-river time with Barry and Jenny to learn about UMR and LTRMP activities and history

FYI

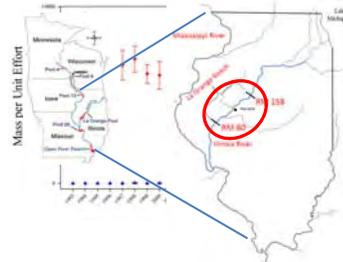
Long-term changes in fish community structure in relation to Asian carp establishment

Rich Pendleton
 Levi Solomon
 Chris Schwinghamer
 Andy Casper
 Brian Ickes



Asian carp in the Illinois River

- La Grange Reach – 2nd pool upstream of confluence
- Establishment in 2000 (Irons et al 2007, Sass et al 2010, McClelland et al 2013)
- One of the most dominant fish in La Grange Reach



es, USGS, UMR-EMP ITRMP

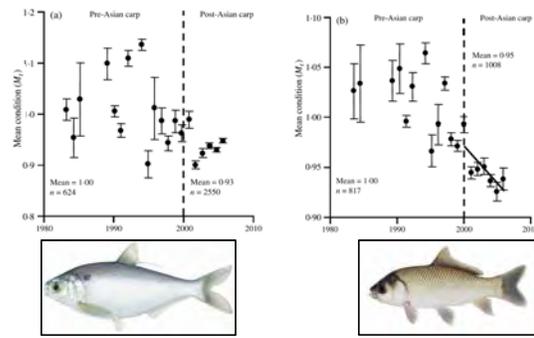
Overview

- Asian carp have potentially reduced abundance and condition of native gizzard shad and bigmouth buffalo (Irons et al. 2007)
- Goal: investigate changes in the fish community in relation to establishment of Asian carp

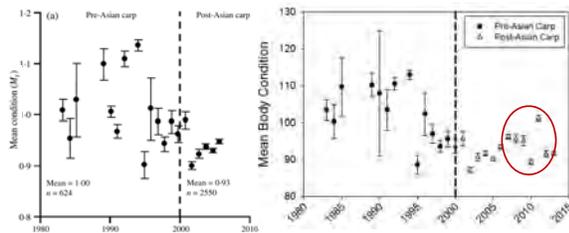


Native Planktivores

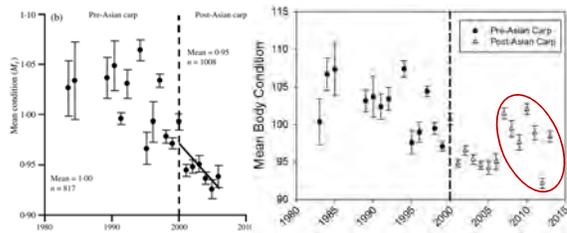
Figure from Irons et al. 2007



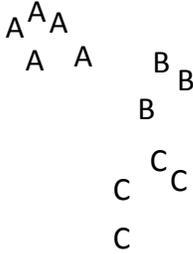
Gizzard Shad



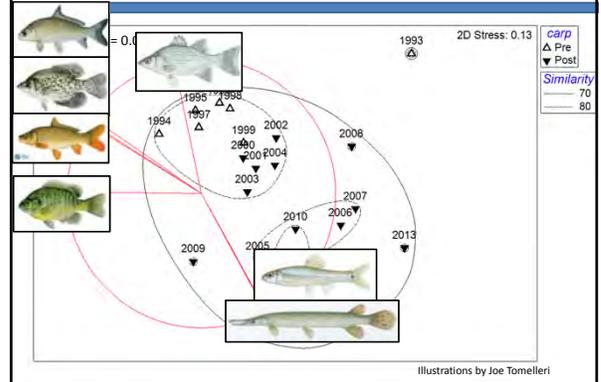
Bigmouth Buffalo



Nonmetric Multidimensional Scaling



Pool Wide



Other Gears/Sites

ANOSIM p values
 $\alpha = 0.10$

Gear	Pool-wide	Stratified Random			Fixed	
		MC	SC	BW	SC	TWZ
Day Electrofishing	> 0.01	0.07	0.02	0.01	> 0.01	> 0.01
Large Hoop		0.02	0.16		> 0.01	> 0.01
Small Hoop		> 0.01	0.03		0.17	0.19
L & S Hoop		0.02	0.06		> 0.01	> 0.01
Mini-fyke	0.16	0.13	0.58	0.19	0.03	0.10
Fyke Net				> 0.01		0.07
Trawling						0.02

Additional Species

Pre-establishment

- Largemouth Bass
- White Crappie
- Black Crappie
- Smallmouth Buffalo
- Bigmouth Buffalo

Post-establishment

- Emerald Shiner
- Red Shiner
- Western Mosquitofish
- Orangespotted Sunfish
- Bowfin
- River Carpsucker

Major Findings

- Evidence for potential impact?
 - Shifts in community structure
 - Changes in abundance
 - (-) White bass, bluegill, common carp, smallmouth buffalo
 - (+) Emerald shiner, bullhead minnow, gar, bowfin
 - Decreased condition and relative abundance
 - Possible other factors
 - Water levels
 - Abiotic factors



Acknowledgements

Thanks to

- Mike McClelland
- IRBS Staff

