Upper Mississippi River Restoration Program
Coordinating Committee

February 26, 2024
Quarterly Meeting

Highlights and Action Items

Programmatic Highlights

- The President's FY 2025 budget and the House and Senate FY 2025 Energy and Water Development appropriations measures include $55 million for UMRR. Federal agencies are currently operating under a continuing resolution, which is set to expire on March 14. In the interim, the Corps is allocating funds per a $55 million planning assumption for UMRR in FY 2025.
- The strategic planning team met in December 2024 to refine strategies and actions for the program and to draft timelines for partnership work over the next ten years. An internal review of the strategic planning process has begun, and the next phase will be to initiate a public review process, which is expected to occur in summer 2025.
- The Navigation and Ecosystem Sustainability Program (NESP) has initiated the reach planning process. The objectives and priority restoration areas identified in this process will be program neutral and could be of potential use to UMRR in the future.
- The Coordinating Committee will be receiving a request to meet in April to talk through funding scenarios, federal guidance updates, and personnel changes.

Habitat Rehabilitation and Enhancement Projects (HREPs) Highlights

- UMRR program partners continue to work through the process of evaluating potential project opportunities and selecting a suite of projects for implementation in FYs 2026 through 2030. Chairs of the technical-level river teams gave presentations on their work over the past 18 months to narrow down the list of potential projects for consideration. The teams considered variables like cost estimate, ecological benefit, and non-ecological benefits. NGOs and community groups participated in these river team meetings. The UMRR Coordinating Committee is anticipated to review and endorse fact sheets at the May Quarterly Meeting.
- After the project selection process is complete, the program will conduct an internal review and generate recommendations and lessons learned for future efforts. There is interest in expanding participation in river teams' project selection processes; particularly NGOs and community groups. Increased participation from these groups is envisioned to occur early and throughout future project selection efforts.
- In response to the partnership expressing interest in developing a consistent approach for monitoring HREPs and incorporating adaptive management, Marshall Plumley proposes to establish an HREP Monitoring Team. UMRBA will send out a request to Coordinating Committee members to identify representatives for this group. Kat McCain from the Corps' Ecosystem Restoration Planning Center of Expertise will also be involved in the group.

- The Environmental Design Handbook, first published in 2012, is currently being updated to reflect lessons learned as well as partnership feedback. The new version will be sent out for partner review.
- A few highlights of progress in implementing HREPs include:
    - The St. Paul District completed Stage 1 of the McGregor Lake HREP.
    - The St. Paul District initiated planning on the new Bank Stabilization HREP on the Minnesota River. This is an urgent project to address erosion and breaches that threaten the recently completed Bass Ponds HREP.
    - The Rock Island District completed construction on Beaver Island HREP.
    - The St. Louis District's two primary construction projects in FY 2025 will be Crains Island HREP and Harlow Island HREP.
    - The St. Louis District successfully installed interpretive signs at the Piasa and Eagles Nest Islands HREP.
    - The St. Louis District River Resources Action Team fall 2025 partner river trip will travel from St. Louis to Hannibal.

<u>Long Term Resource Monitoring (LTRM) Highlights</u>

- Under the $55 million planning assumption, UMRR plans to increase funding for base monitoring for LTRM by an additional $1.5 million in FY 2025 in recognition of increasing costs over the past several years.
- Two manuscripts were published in the last quarter (since November 2024) that were supported by UMRR funding and the programmatic infrastructure. LTRM work was also highlighted in a Milwaukee Journal Sentinel article.
- LTRM Implementation Planning identified several information needs that could be pursued. Work on the floodplain vegetation and river gradient information needs has started. Applications have been received for positions focused on the geomorphic trends and lower trophic contribution information needs.
- Topobathy acquisition of the Illinois River was completed in the fall of 2024, apart from some sections of the river that had already iced over. It is estimated that the data will be processed and usable by August 2025.
- Six positions were terminated at UMESC recently, which will impact an estimated 28 products or milestones.

<u>Communications and Outreach</u>

- The UMRR Photo Contest winners were announced for five categories. Kacie Grupa won for "Benefits of HREPs". Kyle von Ruden won for "Connecting People with Nature". Ken Petersen won for "Natural Features, Scenic Views, or Landscapes". Alicia Carhart won for "Cultural or Historic Features". Alicia Carhart won for "LTRM – Monitoring in Action".
- The partnership published a new brochure to capture the main messages of the program's 2022 Report to Congress. The brochure has already been successfully utilized for Congressional visits.

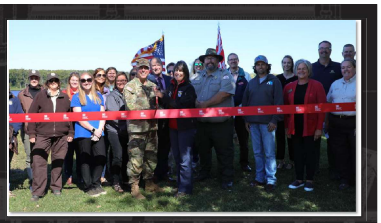
Future Meeting Schedule

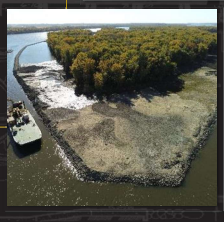
- May 2025 in La Crosse, Wisconsin
    - UMRBA quarterly meeting – May 20
    - UMRR Coordinating Committee quarterly meeting – May 21
- August 2025 in Minneapolis, Minnesota
    - UMRBA quarterly meeting – August 5
    - UMRR Coordinating Committee quarterly meeting – August 6
- October 2025 in the Quad Cities
    - UMRBA quarterly meeting – October 28
    - UMRR Coordinating Committee quarterly meeting – October 29

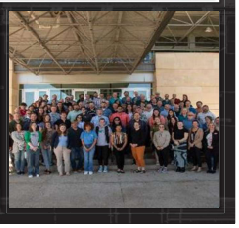
UMRR COORDINATING COMMITTEE - REGIONAL MANAGEMENT AND PARTNERSHIP COLLABORATION

Marshall Plumley
UMRR Regional Program Manager
St. Paul District
Rock Island District
St. Louis District

Date: 26 February 2025







U.S. ARMY

US Army Corps of Engineers

REGIONAL MANAGEMENT AND PARTNERSHIP COLLABORATION

- FY 2025 Fiscal Update
- HREP Selection
- UMRR Strategic Plan
- Odds & Ends

Upper Mississippi River Restoration

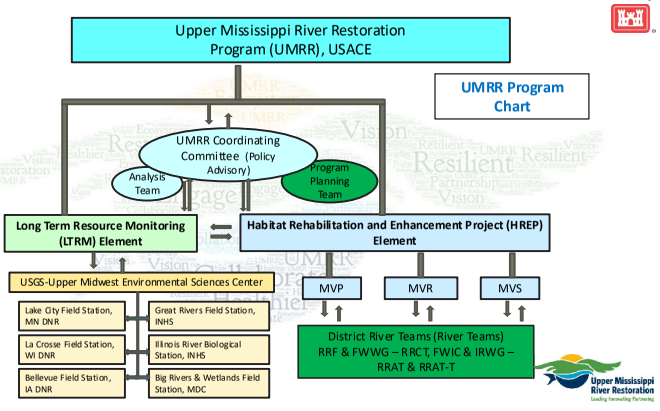
UPPER MISSISSIPPI RIVER RESTORATION PROGRAM

Upper Mississippi River System

- 1,200-mile commercially navigable river network
  - 29 Mississippi River locks & dams
  - Eight Illinois River locks & dams
  - Five National Wildlife Refuges
  - Five states
- Supports a mosaic of diverse and varied terrestrial and aquatic natural habitats, linking the Great Lakes and the Gulf Coast
- Nationally and Internationally Significant

Upper Mississippi River Restoration

UPPER MISSISSIPPI RIVER RESTORATION PROGRAM



Upper Mississippi River Restoration

WRDA 2024 CHANGES TO UMRR

SEC. 1354. UPPER MISSISSIPPI RIVER RESTORATION PROGRAM.

Section 1103(e)(4) of the Water Resources Development Act of 1986 (33 U.S.C. 652(e)(4)) is amended by striking "fiscal year 1999 and each fiscal year thereafter" and inserting "each of fiscal years 1999 through 2024, and $25,000,000 for fiscal year 2025 and each fiscal year thereafter".

HREP $75M + LTRM $25M = UMRR $100M Annual Authorization

Upper Mississippi River Restoration

FY 2025 FISCAL UPDATE

FINANCIAL REPORTING 1ST QTR. FY 25

UMRR Quarterly Budget Report: St. Paul District
FY2025 Q1; Report Date: Fri Jan 10 2025

Habitat Projects

Project Name	Cost Estimates			FY2025 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Lower Pool 10 Island and Backwater Complex	-	$32,428,000	$32,428,000	$101,078	$6,000,000	$6,101,078	$125,600
Lower Pool 4, Big Lake	-	$39,500,000	$39,500,000	$34,918	$450,000	$484,918	$86,749
Lower Pool 4, Robinson Lake, MN	-	$39,500,000	$39,500,000	$49,954	$550,000	$599,954	$149,703
MN Bank Stabilization	-	-	-	-	-	-	$38,640
McGregor Lake	-	$20,336,695	$20,336,695	$26,200	$350,000	$370,200	$27,184
Reno Bottoms	-	$38,965,000	$38,965,000	$26,683	$2,000,000	$2,020,683	$111,661
Total	-	$170,729,695	$170,729,695	$226,834	$9,000,000	$10,126,834	$539,737

Habitat Rehabilitation

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	$99,309
Total	-	-	-	$99,309

Regional Program Administration

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
Habitat Eval/Monitoring	-	$425,000	$425,000	$70,181
Total	-	$425,000	$425,000	$70,181

	Carry In	Allocation	Funds Available	Actual Obligations
St. Paul Total	$226,834	$10,325,000	$10,551,834	$709,227

FINANCIAL REPORTING 1ST QTR. FY 25

UMRR Quarterly Budget Report: Rock Island District
FY2025 Q1; Report Date: Fri Jan 10 2025

Habitat Projects

Project Name	Cost Estimates			FY2025 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Beaver Island		$25,288,000	$25,288,000	$33,444		$33,444	$24,970
Geode Island, IA		$16,600,000	$16,600,000	$49,315	$600,000	$649,315	$11,495
Keithsburg Division		$29,643,000	$29,643,000	$27,554	$4,800,000	$4,827,554	$113,337
Lower Pool 13		$24,063,000	$24,063,000	$22,531	$600,000	$622,531	$131,621
Lower Pool 19 Phase I		$20,000,000	$20,000,000	$199,493	$600,000	$799,493	$91,724
Pool 11, WI		$23,000,000	$23,000,000	$31,650	$600,000	$631,650	$176,057
Pool 12 (Forestry)		$9,000,000	$9,000,000	$85,367	$550,000	$635,367	$22,550
Pool 18 Forestry		$20,000,000	$20,000,000	$90,287	$600,000	$690,287	$107,496
Quincy Bay, IL		$25,000,000	$25,000,000	$27,068	$1,450,000	$1,477,068	$93,745
Steamboat Island		$41,977,000	$41,977,000	$94,483	$4,075,000	$4,169,483	$142,844
Total		$238,591,000	$238,591,000	$540,151	$13,925,000	$14,465,151	$913,539

Habitat Rehabilitation

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management			-	$43,243
Total			-	$43,243

Regional Program Administration

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
Adaptive Management		$200,000	$200,000	$16,212
Habitat Eval/Monitoring	$119,582	$425,000	$544,582	$66,436
Model Certification/Regional HREP		$100,000	$100,000	$6,360
Public Outreach	$344	$100,000	$100,344	$52,451
Regional Program Management	$108,311	$2,000,000	$2,108,311	$360,943
Regional Project Sequencing	-	$125,000	$125,000	$1,021
Total	$228,237	$2,950,000	$3,178,237	$507,622

Regional Science and Monitoring

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
Long Term Resource Monitoring		$6,500,000	$6,500,000	$4,723,834
Science in Support of Restoration/Management	$16,800	$7,950,000	$7,966,800	$19,290
Total	$16,800	$14,450,000	$14,466,800	$4,759,124

	Carry In	Allocation	Funds Available	Actual Obligations
Rock Island Total	$785,188	$31,325,000	$32,110,188	$6,219,348

FINANCIAL REPORTING 1ST QTR. FY 25

UMRR Quarterly Budget Report: St. Louis District
FY2025 Q1; Report Date: Fri Jan 10 2025

Habitat Projects

Project Name	Cost Estimates			FY2025 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Clarence Cannon	-	$29,800,000	$29,800,000	-	$650,000	$650,000	$22,425
Crains Island	-	$35,552,000	$35,552,000	-	$3,925,000	$3925,000	$56,024
Gilead Slough	-	$20,000,000	$20,000,000	$13,273	$550,000	$563,273	$92,620
Harlow Island	-	$37,971,000	$37,971,000	-	$3,100,000	$3100,000	$66,355
Mendota Island	-	-	-	-	$100,000	1100,000	-
Oakwood Bottoms	-	$34,200,000	$34,200,000	-	$500,000	$500,000	$997
Pike - Eagle's Nest Islands	-	$26,746,000	$26,746,000	-	$2,025,000	$2025,000	$480,611
Red's Landing Wetlands	-	$16,573,680	$16,573,680	-	$575,000	$575,000	$75,766
West Alton Missouri Islands	-	$14,500,000	$14,500,000	$126,371	$800,000	$926,372	$10,237
Yokinut Slough, IL	-	$15,500,000	$15,500,000	$14,075	$700,000	$714,076	$137,687
Total	-	$239,265,680	$239,265,680	$153,919	$12,925,000	$13078,913	$948,622

Habitat Rehabilitation

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	$180,455
Total	-	-	-	$180,455

Regional Program Administration

Subcategory	FY2025 Financials			
	Carry In	Allocation	Funds Available	Obligations
Habitat Eval/Monitoring	-	$425,000	$425,000	$103,134
Total	-	$425,000	$425,000	$103,134

	Carry In	Allocation	Funds Available	Actual Obligations
St. Louis Total	$153,913	$13,350,000	$13,503,913	$1,241,211

FY 25 APPROPRIATIONS

President's Budget	$55,000,000
House	$55,000,000
Senate	$55,000,000
FINAL APPROPRIATION	Continuing Resolution 14 Mar

FY25 DRAFT PLAN OF WORK

	Budget	Obligations as of 1 Feb 25
TOTAL FY25 Program	**$55,000,000**	**$ 9,902,455**
Regional Administration and Program Efforts	**$ 2,225,000**	**$ 871,822**
Regional Management	$ 1,735,000	
Program Database	$ 120,000	
Program Support Contract (UMRBA)	$ 145,000	
Public Outreach	$ 100,000	
Regional Project Sequencing	$ 125,000	
Regional Science and Monitoring	**$15,925,000**	**$ 5,224,460**
LTRM (Base Monitoring)	$ 6,500,000	
UMRR Regional Science In Support Rehabilitation/Mgmt. (MIPR's, Contracts, and Labor)	$ 7,950,000	
UMRR Regional (Integration, Adapt. Mgmt.)	$ 200,000	
Habitat Evaluation (split between MVS,MVR,MVP)	$ 1,275,000	
District Habitat Rehabilitation Efforts (Planning and Construction)	**$36,850,000**	**$ 3,806,173**
St. Paul District	$ 9,900,000	
Rock Island District	$13,925,000	
St. Louis District	$12,925,000	
Model Cert.	$ 100,000	

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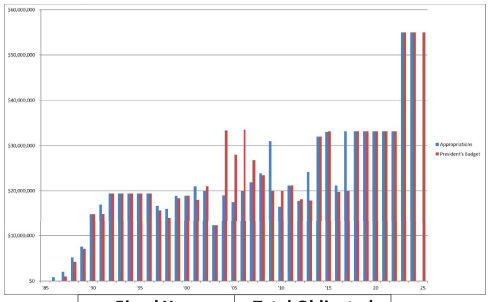
UMRR FUNDING

- From 2018-2022, Congress has funded the program to levels matching UMRR's full authorized annual amount of $33.17 million
- WRDA 2020 increased Authorization $55M (HREP = $40M / LTRM = $15M)
- FY 23 & FY 24 $55M Appropriation
- FY 25 PBUD $55M
- WRDA 2022 Authorization $90M (HREP = $75M / LTRM = $15M)
- WRDA 2024 Authorization $100M (HREP = $75M / LTRM = $25M)



Fiscal Year	Total Obligated
2011- 2016 Average	97.0 percent
2017 – 2022 Average	97.7 percent
2023 & 2024	98.2 percent

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PROGRAM EFFORTS SCHEDULE

Upper Mississippi River Restoration
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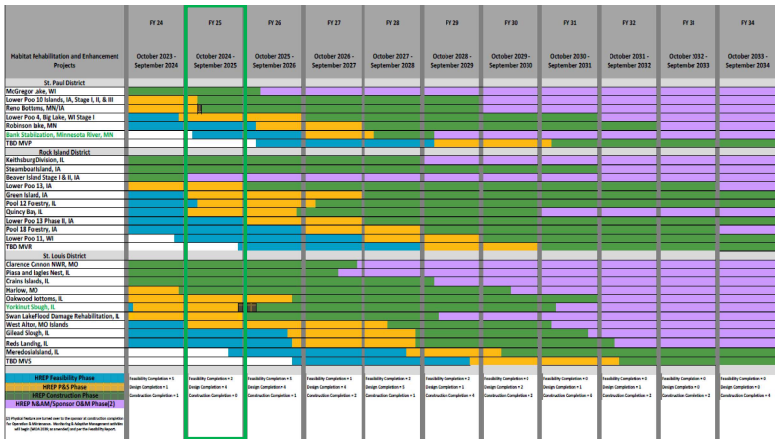

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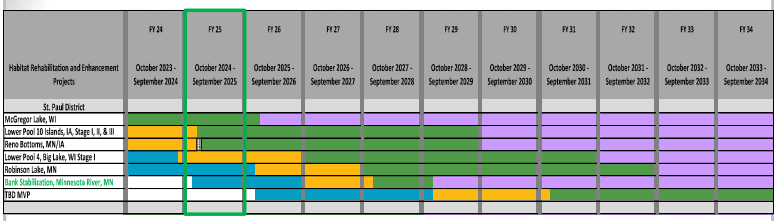
MVP 10-YEAR HREP OUTLOOK



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MVR 10-YEAR HREP OUTLOOK

No Changes

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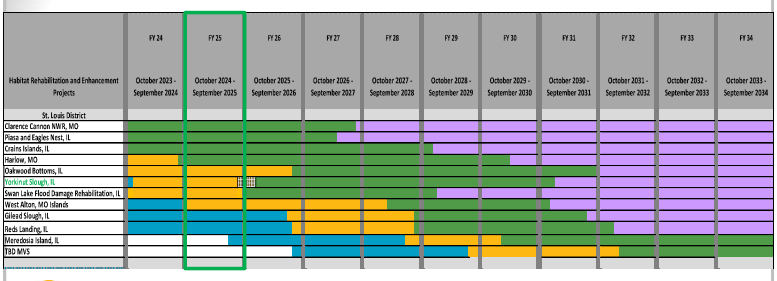
MVS 10-YEAR HREP OUTLOOK



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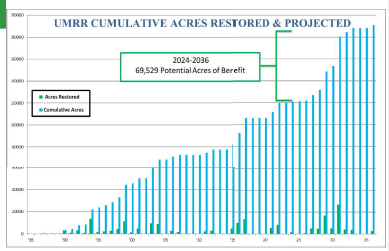
HABITAT REHABILITATION AND ENHANCEMENT PROJECTS (HREPS)



UMRR PROGRAM EFFORTS

UMRR Program Efforts	FY 24 October 2023 - September 2024	FY 25 October 2024 - September 2025	FY 26 October 2025 - September 2026	FY 27 October 2026 - September 2027	FY 28 October 2027 - September 2028	FY 29 October 2028 - September 2029	FY 30 October 2029 - September 2030	FY 31 October 2030 - September 2031	FY 32 October 2031 - September 2032	FY 33 October 2032 - September 2033	FY 34 October 2033 - September 2034
Funding Scenarios Discussion											
UMRR Workshop											
Future HREP Selection											
UMRR Strategic Plan											
40th & 50th Anniversary Celebration											
Report to Congress											
HREP Monitoring Team & Scoping											
Science Meeting/Science Proposals											
LTRM All Hands Meeting											
HNA III											
4th Status & Trends											
NCER											
Mississipi River Research Consortium											

HREP SELECTION

FUTURE HREP SELECTION

BLUF: Approved Fact Sheets available to the Program by the 3rd quarter of FY 25 (Apr – Jun 2025) for use in the FY 26 - FY 30 timeframe.

- Updated guidance provided to River Teams (FWWG, FWIC, RRAT)
  - Physical overlap with completed restoration efforts
  - Environmental Justice
  - Previously endorsed fact sheets
  - Cost/Project Size/Scope
  - Project Sponsor Requirements
- Support to River Teams
  - Single GIS viewer to input information across the region
  - Support analysis of the needs and considerations of at risk communities
  - HNA II & Status and Trends Webinars
- River Teams workshops

SCHEDULE

- Fall 2024 – Draft Fact Sheets for River Team (RRF, RRCT, & RRAT Exec)
- February 2025 UMRR CC – Presentation by River Teams
- May 2025 UMRR CC – Endorsement of Fact Sheets by UMRR CC

UMRR STRATEGIC PLANNING

UMRR STRATEGIC PLANNING

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PURPOSE | PRODUCTS

PEOPLE | PROCESS

Program Mission, Vision, Goals, Objectives, & Strategies

Strategic Issues and Response

Implementation Plan and Evaluation

Stronger Relationships

Upper Mississippi River Restoration

UMRR STRATEGIC PLANNING

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PURPOSE | PRODUCTS

WE ARE HERE

PEOPLE | PROCESS

Phase I – Understanding Strategic Issues

Phase II – Develop Strategic Goals and Objectives

Phase III – Strategies and Actions

Phase IV – Public Review Process

Phase V – Finalize Strategic Plan

Upper Mississippi River Restoration

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ODDS AND ENDS

Upper Mississippi River Restoration

NESP REACH PLANNING

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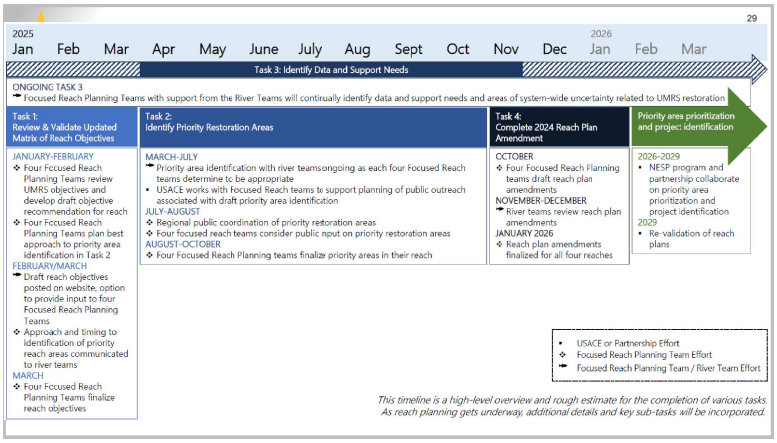
Reach Planning will provide a framework for the identification and prioritization of future restoration activities under NESP.

Major Reach Planning Tasks

1. Validate river restoration objectives
2. Identify priority restoration areas
3. Identify uncertainties & unknowns
4. Write Reach Plans
5. Provide recommendations for prioritizing restoration work

Reach planning will occur every 3-5 years

Upper Mississippi River Restoration



UMRR & REACH PLANNING KEY MESSAGES

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- Reach objectives and priority restoration areas are program neutral as they will be based on the ecological conditions and needs of the river.
- Any program or organization interested in aquatic resource restoration on the UMR or ILWW could use the information presented in Reach Plans to identify restoration opportunities.
- Reach Planning will also identify key areas of uncertainty related to aquatic resource restoration on the UMRS. Areas of uncertainty will be coordinated with the NESP Science Panel. Other than questions that relate back to the NESP authorization, there would be nothing proprietary to the NESP program.
- In the future USACE is open to looking aligning the UMMR Project Development and NESP Reach Planning Processes, if it makes sense.

Upper Mississippi River Restoration

SIGN UP FOR FUTURE REACH PLANNING UPDATES

Sign up for updates on NESP ecosystem restoration reach planning efforts!

Receive notices of:
- public meetings,
- planning discussions in your area(s) of interest,
- and reach planning updates.

You can opt to remove yourself from these emails or invitations at any time.

You are welcome to submit this form multiple times for different people within your organization.

Sign up for updates here:

https://forms.osi.apps.mil/r/MNMSca7xiQ

THE FUTURE OF HREP MONITORING…

Begins with where we have been

"lack of information has made it difficult for federal and state agencies to manage the river system for the competing uses."

--1982 Upper Mississippi River Basin Commission

THE FUTURE OF HREP MONITORING…

Begins with where we have been…WRDA 1986

(e)Program Authority
(1)Authority
(A) In general. The Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, may undertake, as identified in the master plan
(i) a program for the planning, construction, and ***evaluation*** of measures for fish and wildlife habitat rehabilitation and enhancement; and
(ii) implementation of a long-term resource monitoring, computerized data inventory and analysis, and applied research program, including research on water quality issues affecting the Mississippi River (including elevated nutrient levels) and the development of remediation strategies.

THE FUTURE OF HREP MONITORING…

Begins with where we have been…3rd Annual Addendum 1988

Performance Evaluation of Habitat Projects

Objectives - *determine the effectiveness of each project in attaining physical and chemical habitat improvement objectives as described in the Feasibility Report*

Project performance will be reported using descriptors of **physical and chemical habitat conditions**.

Parameters to be monitored we will emphasize **tracking of "first order" changes in which cause and effect relationships** are readily observed.

For most projects we will attempt to keep monitoring costs to an average of $1-2,000 per year.

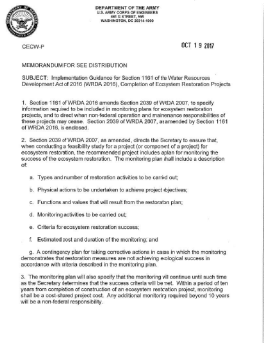
Specific monitoring needs will be based on the project's objective(s) as stated in the Definite Project Report and measurements specified in the O&M Manual.

Performance evaluation will be reported for the **life of the project**. Monitoring **needs** will be **determined through consultation and agreement** between all groups involved in project development and may vary through the life of the project.

POLICY AND GUIDANCE FOR HREP MONITORING & ADAPTIVE MANAGEMENT

Water Resources Development Act (WRDA) 2016, Sec. 1161
- **Implementation Guidance 19 OCT 2017**

https://planning.erdc.dren.mil/toolbox/library/WRDA/WRDA16IGSection1161_19Oct17.pdf



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET NW
WASHINGTON, DC 20314-1000

CEIZW-P

OCT 19 2017

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Implementation Guidance for Section 1161 of the Water Resources Development Act of 2016 (WRDA 2016), Completion of Ecosystem Restoration Projects

1. Section 1161 of WRDA 2016 amends Section 2039 of WRDA 2007, to specify information required to be included in monitoring plans for ecosystem restoration projects, and to direct when non-federal operation and maintenance responsibilities of these projects may cease. Section 2039 of WRDA 2007, as amended by Section 1161 of WRDA 2016, is enclosed.

2. Section 2039 of WRDA 2007, as amended, directs the Secretary to ensure that, when conducting a feasibility study for a project (or component of a project) for ecosystem restoration, the recommended project includes plans for monitoring the success of the ecosystem restoration. The monitoring plan shall include a description of:

a. Types and number of restoration activities to be carried out;

b. Physical actions to be undertaken to achieve project objectives;

c. Functions and values that will result from the restoration plan;

d. Monitoring activities to be carried out;

e. Criteria for ecosystem restoration success;

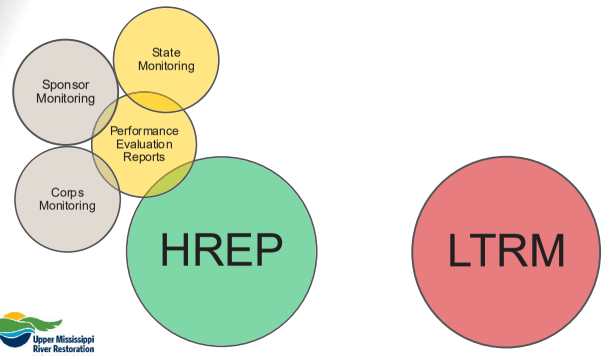
f. Estimated cost and duration of the monitoring; and

g. A contingency plan for taking corrective actions in cases in which the monitoring demonstrates that restoration measures are not achieving ecological success in accordance with criteria described in the monitoring plan.

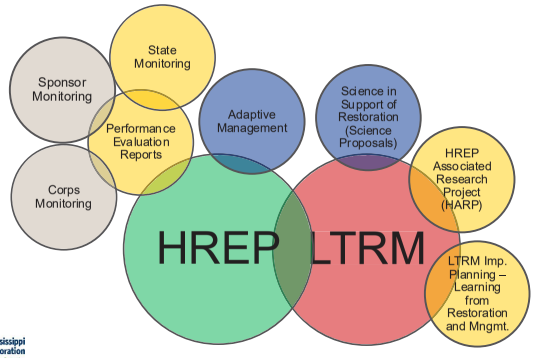
3. The monitoring plan will also specify that the monitoring will continue until such time as the Secretary determines that the success criteria will be met. Within a period of ten years from completion of construction of an ecosystem restoration project, monitoring shall be a cost-shared project cost. Any additional monitoring required beyond 10 years will be a non-federal responsibility.

WHERE WE STARTED

WHERE WE HAVE BEEN



WHERE WE ARE



CHALLENGES TO HREP MONITORING

- Lack of consistent approach
- Not a high priority
- Staff turnover
- No central repository for data/reports
- Long response times
- Number of HREPs to monitor
- Connecting monitoring to objectives/success criteria
- What was actually built may change monitoring needs
- Mother Nature delays monitoring

WHERE ARE WE GOING?

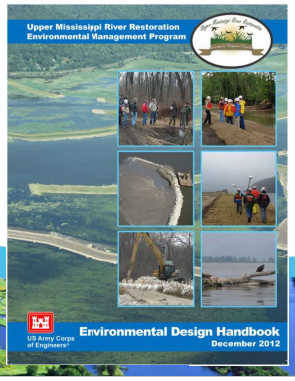
HREP Monitoring & Adaptive Management Framework

- 2024 HREP Workshop Results ✓
- EMMA ✓
- Establishment of a partnership team ⋯
  - Request from UMRBA will be forthcoming
  - Ecosystem Restoration Planning Center of Expertise - Kat McCain
- Scoping ⋯

UMRR DESIGN HANDBOOK

- UMRR Design Handbook update underway
  - Introduction
  - Chp 1 – UMRR Program
  - Chp 2 – HREP Projects
  - Chp 3 – Ecosystem Restoration Objectives
  - Chp 4 – Shoreline and Riverbank Protection
  - Chp 5 – Localized Water Level Management
  - Chp 6 – Dredging
  - Chp 7 – River Training Structures
  - Chp 8 – Floodplain Restoration
  - Chp 9 – Island Design

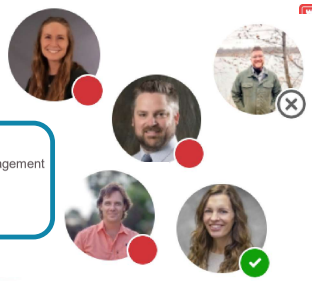
➢ *Focuses on the 6 Design Chapters*
➢ *Incorporates UMRR Workshop feedback*



INITIAL DRAFT

- Regional team – MVP, MVR, MVS
- Includes UMRR Engineering Leads

Intro	Angela Deen	
Chp 1	Kacie Grupa	Shoreline Stabilization
Chp 2	Jasen Brown	Localized Water Level Management
Chp 3	Steve Gustafson	Dredging
Chp 4	Jasen Brown	River Training Structures
Chp 5	Tate Sattler	Floodplain Restoration
Chp 6	Kacie Grupa	Islands



REVIEW SCHEDULE

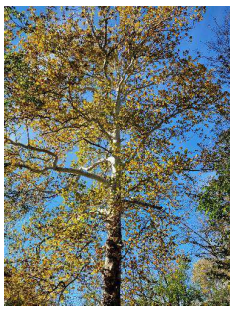
- 20 Feb: Kick-off meeting (Regional HREP SMEs)
- 24 Feb: Internal Review starts
- **21 March: Internal Review due (1 month)**
- 18 April: Edits incorporated (1 month)

After Corps Review, next steps:
- Incorporate graphics (UMRR Photo Contest)
- Writer-editor and Plumley review
- Agency Review
- Complete Update

UPCOMING REQUEST FOR AVAILABILITY

UMRR CC
- April timeframe
- Funding scenarios post FY 25 budget
- FY 26 Presidents Budget
- Federal guidance updates
- Federal and State staffing updates

DISCUSSION



STRATEGIC PLANNING UPDATE C1-20

UMRR STRATEGIC PLANNING

Phase I – Understanding Strategic Issues

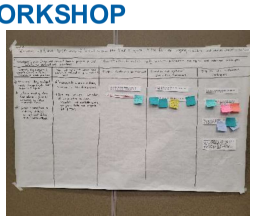
Phase II – Develop Strategic Goals and Objectives

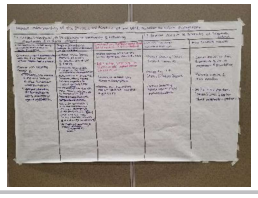
Phase III – Strategies and Actions

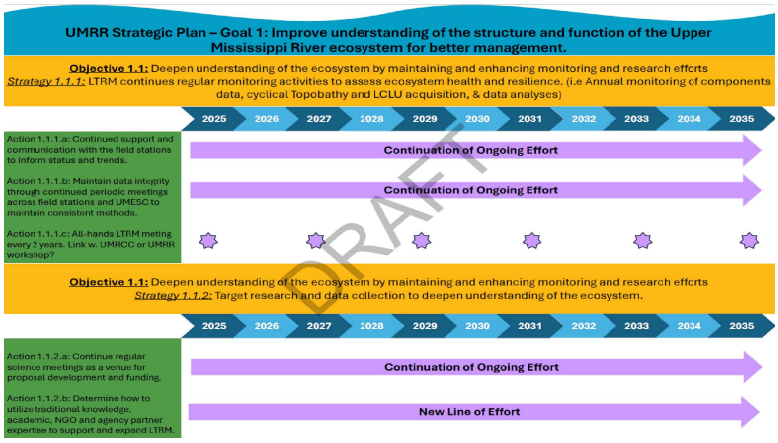
Phase IV – Public Review Process

Phase V – Finalize Strategic Plan

DECEMBER 2024 WORKSHOP







U.S. ARMY

SETTING THE STAGE FOR PRIORITIZATION OF ACTIONS

50

- New Line of Efforts
- Adjustments of Ongoing Efforts
- Continuation of Ongoing Efforts

U.S. ARMY

51

What ongoing efforts in your organization that are similar to new actions that UMRR might align with?

Upper Mississippi River Restoration

U.S. ARMY

SETTING THE STAGE FOR PRIORITIZATION OF ACTIONS

52

Adjustments of Ongoing Efforts

- Integration and leveraging of relate datasets into LTRM
- Ensure HREPs fully integrate LTRM data and science
- Develop priority questions/hypothesis for HREP monitoring
- Further documentation of baseline conditions at HREPs
- Formal assessments of new & novel restoration methods

Upper Mississippi River Restoration

U.S. ARMY

SETTING THE STAGE FOR PRIORITIZATION OF ACTIONS

53

New Line of Effort

- New component to the Science Meeting (HREP outcomes & needs)
- Staff at the interface of HREP & LTRM
- Identify new opportunities for HREP monitoring, learning, metrics
- Evaluate previous data (PERs) to inform HREP monitoring
- Communicate these timelines
- Identify key audiences and needs, to include indigenous communities
- Gap analysis of social science knowledge, current on trends, COPs, and application

Upper Mississippi River Restoration

U.S. ARMY

SETTING THE STAGE FOR PRIORITIZATION OF ACTIONS

54

New Line of Effort

- Identify engagement opportunities, host events, new stakeholders, and create accessible pathways for participation by new partners (includes understanding what new partners need from us)
- Balance institutional knowledge with outside knowledge and perspectives
- Institutional knowledge transfers, relevant information for new partners/staff
- Incorporate partnership values in program documents

Upper Mississippi River Restoration

SETTING THE STAGE FOR PRIORITIZATION OF ACTIONS

New Line of Effort

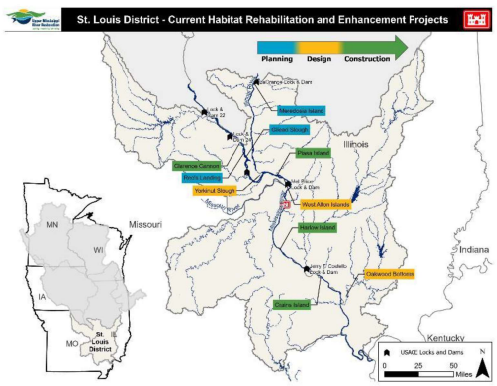
- Annual meetings with basin adjacent organizations (e.g. Missouri, Lower Miss, Ohio)

STRATEGIC PLAN NEXT STEPS

24 Feb – 17 Mar:	Strategic Planning Team Review
April	Communication and Outreach Team, LTRM Analysis Team Review
May	UMRR CC Review
TBD	Public Review

HABITAT REHABILITATION AND ENHANCEMENT PROJECTS - DISTRICT REPORTS

ST. LOUIS DISTRICT FY25 HREP UPDATE

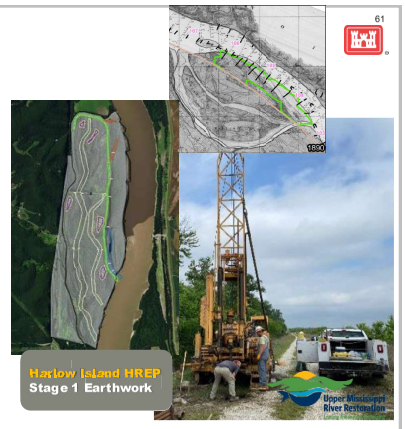


PLANNING

- **Gilead Slough (Pool 25) IL FWS**
  - Evaluating measures and alternatives
  - Habitat Evaluation Workshop 31 July
  - Sep 2025 - TSP Milestone
  - Dec 2026 - Public Review
  - Sep 2026 Report Submittal
- **Reds Landing, IL (Pool 25) IDNR**
  - Evaluating measures and alternatives
  - Working on OMRR&R and MAM costs
  - Nov 2025 - TSP Milestone
  - Jan 2026 - Public Review
  - Nov 2026 Report Submittal
- **Meredosia Island – Illinois River - FWS**
  - Identify Key USACE Team Members
  - Plan for late summer / fall kick-off

DESIGN

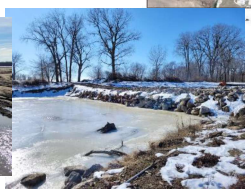
- **Clarence Cannon HREP – Pool 25, MO - FWS**
  - Stage 5, Remaining Items P&S Package
  - FY26 Award
- **Swan Lake FDR – Pool 26, IL - INDR / FWS**
  - Design P&S Package(s) underway
  - FY 26 Award
- **Yorkinut Slough, HREP (IL River) FWS**
  - Design Phase with multiple packages
  - Completed Stage 1 30% Design
  - Completed VE Workshop
- **Crains Island HREP (Open River), IL - FWS**
  - Stage 3, Excavation Hydraulic & Land based
  - FY25 Award
- **Harlow Island HREP (Open River), MO - FWS**
  - Complete Stage 2, P&S for FY25 or 26 Award

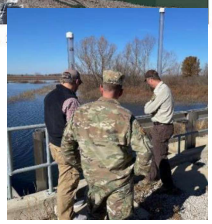


Harlow Island HREP
Stage 1 Earthwork

CONSTRUCTION

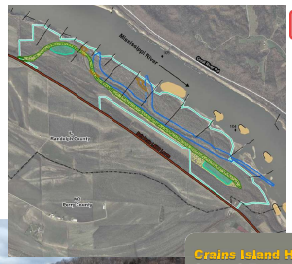
- **Clarence Cannon Refuge, MO (Pool 25)**
  - Reforestation – Staged, completed fall 2024
  - Last Stage in Design!
- **Piasa & Eagles Nest, IL HREP (Pool 26) IDNR**
  - Stage 2 – Side Channel Excavation and Island Building
  - Back to work after winter shut down





CONSTRUCTION

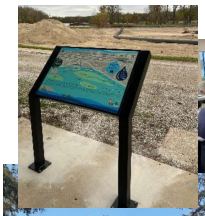
- **Crains Island, IL HREP (Open River) FWS**
  - Stage 3 pre-bid contractor site visit. Acquisition underway.
- **Harlow Island, IL HREP (Open River) FWS**
  - Stage 1 Construction continues as weather allows
  - Earthwork – ridge and swale

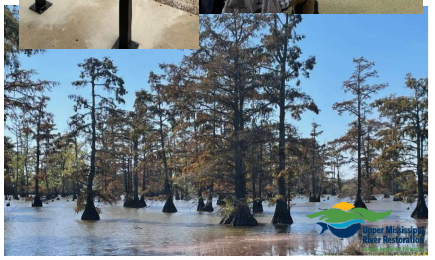


Crains Island HREP
Stage 2 Earthwork

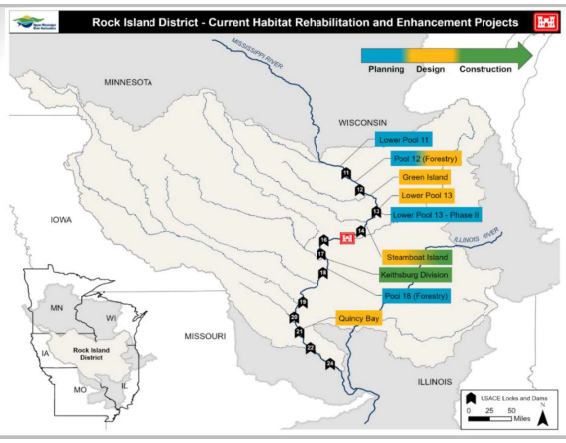
OTHER ACTIVITIES

- **New Project Concepts / Draft Fact Sheets Mississippi and Illinois Rivers**
  - Workshops completed
  - Sponsors review and input completed
  - Initial Fact Sheets Drafted
  - River Team (RRAT) supports
- **Outreach** - HREP Interpretive Signage
  - Installed Piasa and Eagles Nest Islands
  - Initiating Yorkinut Slough design
- **Performance Evaluation & Monitoring**
  - Data Collection
  - Ted Shanks PER SOW
- **Construction IDIQ Contract**
  - 5 year $50m
  - HREP SOW
- **Partner River Trip**
  - MVS Pools
  - Coordinating dates Aug / Sept TBD





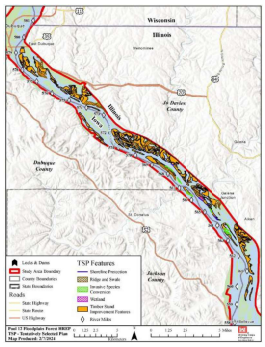
ROCK ISLAND DISTRICT
FY 25 HREP UPDATE



PLANNING

U.S. ARMY

- **Lower Pool 11 – Pool 11, WI**
  - Kickoff meeting completed
  - PDT is finalizing POOCs
  - Next Step: Measure Workshop scheduled for April 3rd
- **Pool 12 Forestry – Pool 12, IA/IL/WI**
  - Report is Approved
  - PDT working on printing and posting report
  - Next step: MOA
- **Green Island – Pool 13, IA**
  - Report is Approved
  - PDT working on printing and posting report
  - Next step: Agreement – waiting on HQ



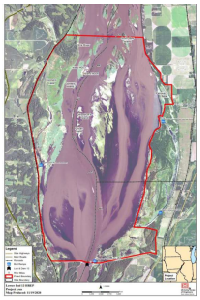
Pool 12 Forestry

Green Island

PLANNING

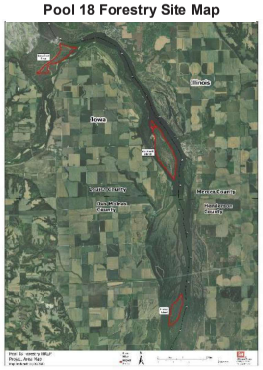
U.S. ARMY

- **Lower Pool 13 Phase II – Pool 13, IA/IL**
  - PDT is finalizing cost and habitat analysis on the final array
  - Next step: Run the CE/ICA and select the TSP
- **Pool 18 Forestry – Pool 18, IA**
  - Completed the cost and habitat analysis for the final array
  - PDT has selected the TSP
  - Next step: Pre-TSP meeting with MVD is scheduled for March 3rd



Lower Pool 13 Phase II Site Map

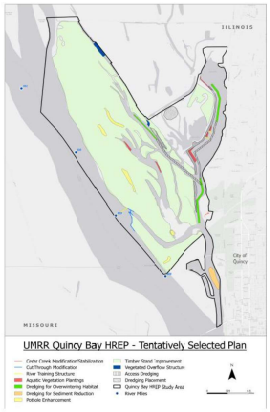
Pool 18 Forestry Site Map



PLANNING

U.S. ARMY

- **Quincy Bay – Pool 21, IL**
  - Report is Approved
  - Report is printed and posted on the UMRR website
  - Next step: PDT working AE SOW for Design and agreement

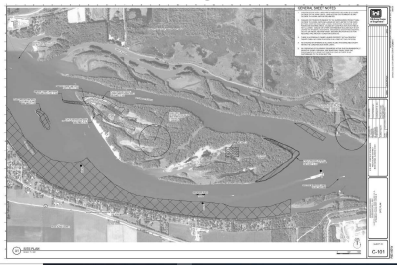


DESIGN

U.S. ARMY

- **Lower Pool 13 Stage I – Pool 13, IA/IL**
  - Addressed 30% reviews comments
  - Started 60% reviews on February 14th
  - Next step: Complete 60% review
- **Steamboat Island Stage III – Pool 14, IA/IL**
  - Addressed 30% reviews comments
  - Started 60% reviews on February 18th
  - Next step: Complete 60% review
- **Quincy Bay – Pool 21, IL**
  - PDT working the SOW for the AE design
  - Next step: Award a contract for AE design by June

Steamboat Island Stage III Draft Site Plan



CONSTRUCTION

U.S. ARMY

- **Beaver Island Stage IB, Pool 14, IA/IL**
  - All work completed
  - O&M manual completed
- **Steamboat Island Stage I – Pool 14, IA/IL**
  - Completed construction
  - Contract is closed out
- **Steamboat Island Stage II, Pool 14, IA/IL**
  - Contractor has demob for the winter
  - OD contractor placed dredged material at the head of Steamboat Island

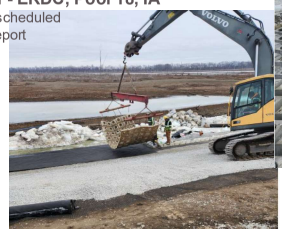
Steamboat Stage II – Placing material at the Island Head

CONSTRUCTION

U.S. ARMY

- **Keithsburg Division Stage I, Pool 18, IL**
  - Contractor has been placing the ACM on the spillway
- **Keithsburg Division Stage II, Pool 18, IL**
  - Contractor is not working; subcontractors waiting on payment
- **Huron Island, Stage III - ERDC, Pool 18, IA**
  - Survival survey is being scheduled
  - ERDC working on final report

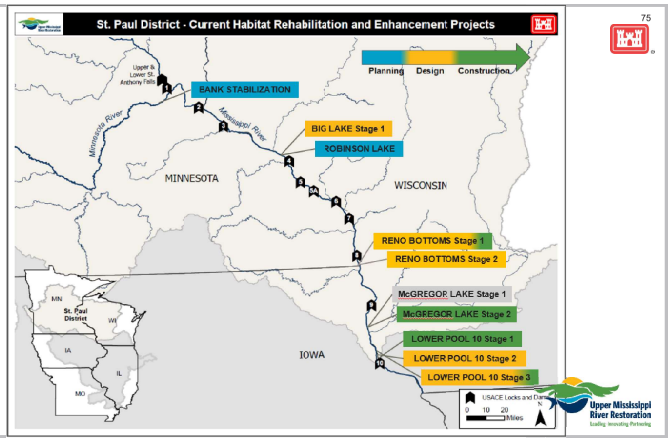
Keithsburg Division Stage I – Spillway - ACM



OTHER ACTIVITIES

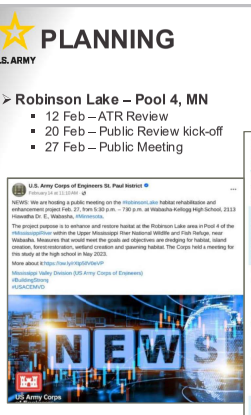
- **Forestry Inventory Services Blank Purchase Agreements (BPA)**
  - FY 25 SOW:
    - TBD
- **Forestry Multiple Award Task Order Contract (MATOC)**
  - FY25 SOW:
    - Keithsburg– out for bid

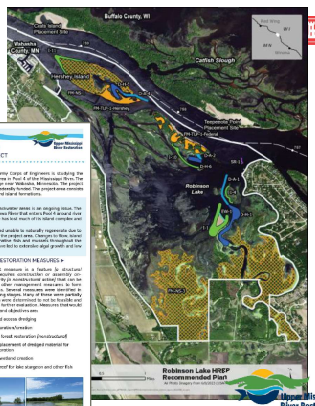
ST. PAUL DISTRICT
FY25 HREP UPDATE



PLANNING

- **Robinson Lake – Pool 4, MN**
  - 12 Feb – ATR Review
  - 20 Feb – Public Review kick-off
  - 27 Feb – Public Meeting

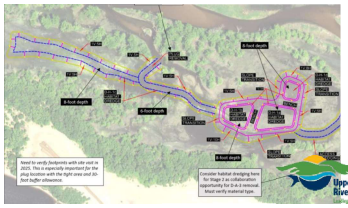




DESIGN

- **Big Lake – Pool 4, WI**

Stage 1
- P&S continues
- Completed refinement of habitat dredging

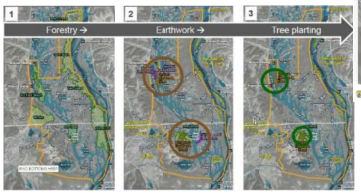


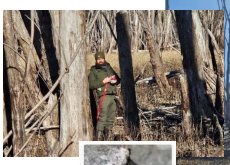
DESIGN

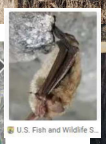
U.S. ARMY

➢ **Reno Bottoms HREP – Pool 9, MN/IA**

Stage 2
- A/E Design
- Dec: Completed 95% Review & ATR
- Jan: Started BCOES
- Next Steps:
  - Complete BCOES
  - Advertise







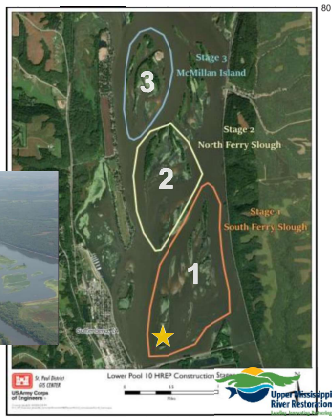
CONSTRUCTION

U.S. ARMY

➢ **Lower Pool 10 HREP – Pool 10, IA**

Stage 1
- Contract Awarded
  - 22 April: Earth Day Groundbreaking Event
  - Southern Islands

Stages 2 & 3
- Final Reviews
- BCOES
- Next Steps: Advertise Stage 3



CONSTRUCTION

U.S. ARMY

➢ **McGregor Lake HREP – Pool 10, WI**

Stage 1: 100% Complete
- O&M Manual: Completed Main Report
- As-builts almost completed
- Turnover Letter

Stage 2:
- March: Harvesting willows
- Fall: berm mixing, final grading, seeding

Overall:
- Lessons Learned
- Thin Layer Placement
- Preparing for final tree planting contract

U.S. ARMY

COMMUNICATIONS

UMRR COMMUNICATION AND OUTREACH TEAM
Update

Upcoming Efforts

- 2022 UMRR Report to Congress support
- UMRR Strategic Planning support
- 40th Anniversary of UMRR planning (2026)
- Program Storytelling

…and many others!

INAUGURAL UMRR PHOTO CONTEST

"Empowering Conservation Through Vision: Capturing the Upper Mississippi River's Essence"

- **Submissions** were accepted until October 31
- **Round 1 judging** began November 5
- **Round 2 judging** occurred November 21-December 13

Categories:

- Before/After, Construction, or Benefits of HREPs
- Connecting People with Nature, Human Use, or Public Interaction
- Natural Features, Scenic Views, or Landscapes
- Cultural or Historic Features
- LTRM – Monitoring in Action

90 photos submitted!

INAUGURAL UMRR PHOTO CONTEST RESULTS

BEFORE/AFTER, CONSTRUCTION, OR BENEFITS OF HREPS

HARPERS SLOUGH HREP POST-WETLAND CONSTRUCTION
KACIE GRUPA, USACE ST. PAUL DISTRICT

CONNECTING PEOPLE WITH NATURE, HUMAN USE, OR PUBLIC INTERACTION

GIRL WITH STURGEON
KYLE VON RUDEN, USFWS

CULTURAL OR HISTORIC FEATURES

U.S. ARMY
US Army Corps of Engineers

U.S. ARMY

A WINDING PATH THROUGH WILD RICE - BLUE LAKE, POOL 8
ALICIA CARHART, WISCONSIN DNR

LTRM - MONITORING IN ACTION

U.S. ARMY
US Army Corps of Engineers

U.S. ARMY

LTRM WATER QUALITY WINTER SAMPLING - POOL 8
ALICIA CARHART, WISCONSIN DNR

NATURAL FEATURES, SCENIC VIEWS, OR LANDSCAPES

U.S. ARMY
US Army Corps of Engineers

U.S. ARMY

GREAT BLUE HERON MATING SEASON
KENNETH PETERSEN, UMRBA

INAUGURAL UMRR PHOTO CONTEST

"Empowering Conservation Through Vision: Capturing the Upper Mississippi River's Essence"

Next Steps:

- Prize distribution: UMRR gear *or* framed photo (must be under $20) – winner's choice!
- "Our Mississippi" Summer 2025 highlight
- Feedback & Evaluation

QUESTIONS

UMRR Communication and Outreach Team

Rachel Perrine
USACE-RPEDN-PD-F @ MVR
Rachel.E.Perrine@usace.army.mil

UMRR-CC Meeting
February 26, 2025

Fish and Wildlife Workgroup (FWWG)
Project Selection Update and Recommendations
Ryan Hupfeld- FWWG Chair, Iowa DNR

FWWG UMRR Task:

1. **Identify 2-3 new small (up to $15 million) to medium projects ($15-25 million).**

UMRR

Current Endorsed Fact Sheets (in 2020 priority order)

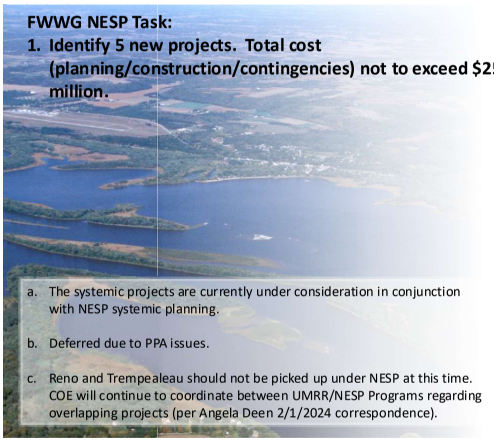
1. Lower Pool 4 (Tank Pond is the last remaining phase)
2. Bank Stabilization
3. Weaver Bottoms
4. Black River Bottoms
5. Pool 8 Floodplain Forest
- Reno Bottoms (Phase II)

FY25 Feasibility Study will be selected from this list

Slide From February 2, 2024 FWWG Meeting

FWWG NESP Task:

1. **Identify 5 new projects. Total cost (planning/construction/contingencies) not to exceed $25 million.**



a. The systemic projects are currently under consideration in conjunction with NESP systemic planning.

b. Deferred due to PPA issues.

c. Reno and Trempealeau should not be picked up under NESP at this time. COE will continue to coordinate between UMRR/NESP Programs regarding overlapping projects (per Angela Deen 2/1/2024 correspondence).

NESP

Current Endorsed Fact Sheets (2021/2023)

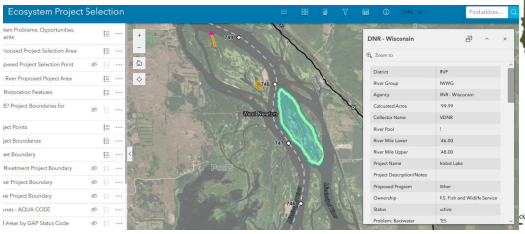
1. Systemic Forest Restoration (Multi-Pool)[a]
2. North-Sturgeon Lake (Pool 3)[b]
3. Swift and Dead Sloughs (Pool 11)
4. Trempealeau NWR Island Construction (Pool 6)[c]
5. Upper Reno (Pool 9)[c]
6. Systemic Bankline Stabilization and Natural Levee (Multi-Pool)[a]

Slide From February 2, 2024 FWWG Meeting

FWWG

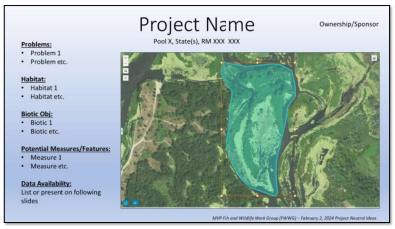
How did we get to final project recommendations?

- December-January – Partners identified potential program neutral projects.



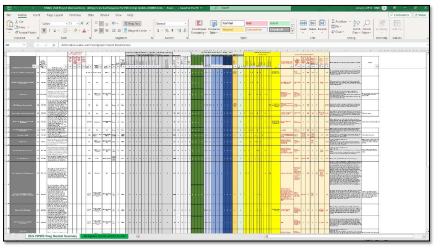
Identified potential project locations:

- December-January – Partners identified potential program neutral projects.
- February 2024 – Partners presented program neutral project ideas to FWWG (23 total).



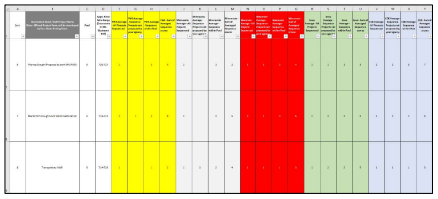
Refined details of each potential project:

- December-January – Partners identified potential program neutral projects.
- February 2024 – Partners presented program neutral project ideas to FWWG (23 total).
- March-April 2024 – Agencies populated spreadsheet with details about the projects.



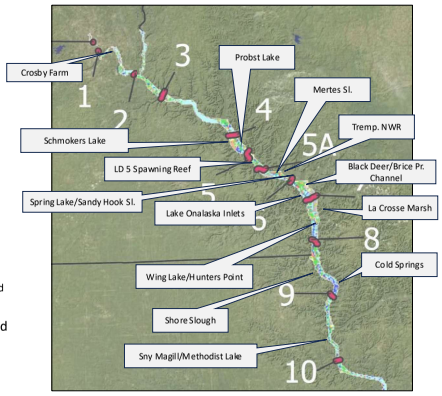
Narrowed down the project list by sequencing of projects:

- December-January – Partners identified potential program neutral projects.
- February 2024 – Partners presented program neutral project ideas to FWWG (23 total).
- March-April 2024 – Agencies populated spreadsheet with details about the projects.
- May 2024 – Agencies sequenced proposed projects using the following:
  - 1 = H = High - Implement first
  - 2 = M = Medium - Implement after high completed
  - 3 = L = Low - Implement last

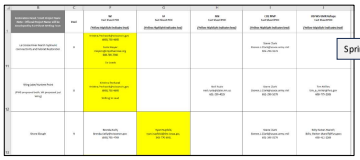


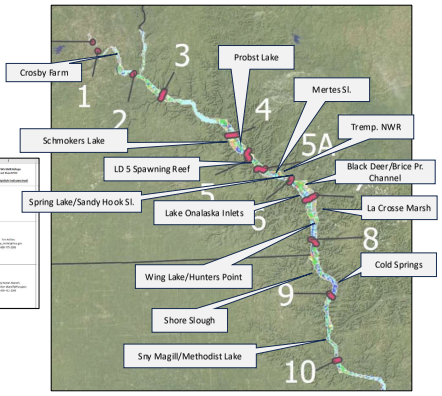
Decided on a number of projects to move into fact sheet development:

- December-January – Partners identified potential program neutral projects.
- February 2024 – Partners presented program neutral project ideas to FWWG (23 total).
- March-April 2024 – Agencies populated spreadsheet with details about the projects.
- May 2024 – Agencies sequenced proposed projects using the following:
  - 1 = H = High - Implement first
  - 2 = M = Medium - Implement after high completed
  - 3 = L = Low - Implement last
- June 2024 – Agency Voting Members reviewed sequencing and selected 14 projects to move into draft fact sheet development.



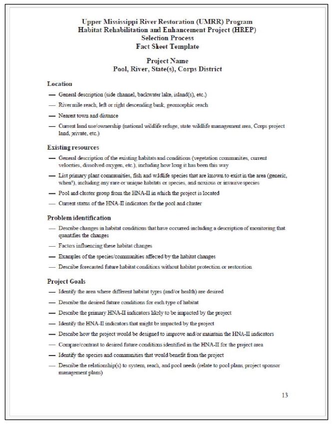
Identified Fact Sheet Leads and Teams:





Fact Sheet Format:

- All fact sheets followed UMRR template for development. If a project is chosen for NESP funding, the fact sheet will be simplified.


Upper Mississippi River Restoration (UMRR) Program
Habitat Rehabilitation and Enhancement Project (HREP)
Selection Process
Fact Sheet Template

Project Name
Pool, River, State(s), Corps District

Location
- General description (side channel, backwater lake, island(s), etc.)
- River mile reach, left or right descending bank, geomorphic reach
- Nearest town and distance
- Current land use/ownership (national wildlife refuge, state wildlife management area, Corps project land, private, etc.)

Existing resources
- General description of the existing habitats and conditions (vegetation communities, current velocities, dissolved oxygen, etc.), including how long it has been this way
- List primary plant communities, fish and wildlife species that are known to exist in the area (generic, when?), including any rare or unique habitats or species, and noxious or invasive species
- Pool and cluster group from the HNA-II in which the project is located
- Current status of the HNA-II indicators for the pool and cluster

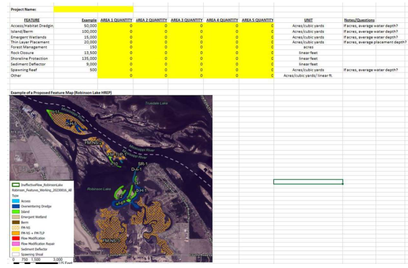
Problem identification
- Describe changes in habitat conditions that have occurred including a description of monitoring that quantifies the changes
- Factors influencing these habitat changes
- Examples of the species/communities affected by the habitat changes
- Describe forecasted future habitat conditions without habitat protection or restoration

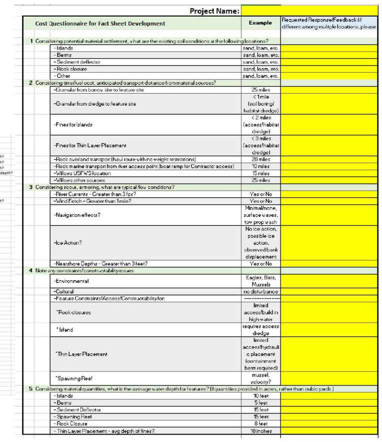
Project Goals
- Identify the area where different habitat types (and/or health) are desired
- Describe the desired future conditions for each type of habitat
- Describe the primary HNA-II indicators likely to be impacted by the project
- Identify the HNA-II indicators that might be impacted by the project
- Describe how the project would be designed to improve and/or maintain the HNA-II indicators
- Compare/contrast to desired future conditions identified in the HNA-II for the project area
- Identify the species and communities that would benefit from the project
- Describe the relationship(s) to system, reach, and pool needs (relate to pool plans, project sponsor management plans)

13

Cost Estimates:

- Cost estimates for the UMRR fact sheets were be prepared by the COE.





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FACT SHEETS: PARAMETRIC COSTS

PROJECT NAME				
Construction Cost	PED %	S&A %	Contingency %	Project Cost Q4 2024
$	$	$	$	$

Major Project Assumptions
Island Enhancement (TLP) from project dredge, no material transport
Design time = 1.5-yr, Construction contract = 3-yr
Constructability/Logistical concern materia placement/source

ASSUMPTIONS

- **Q4 2024 price levels**
- **No Federal Standard** / O&M Contributions included
- **No tree clearing** (unless noted)
- **PED =** Planning, Engineering, & Design
  (plans & specs, reviews, adaptive management and monitoring, project management, etc.)
- **S&A =** Supervision & Administration; minimum 4% of construction cost (smaller project), larger based on size
- **Contingency =** 35% for simple projects, greater to include constructability concerns, risks, unknowns
- **Islands =** include dredge material, rock vanes/groins, willows, seeding.
  (NO borrow site granular transport, unless noted)
- **Dredging =** as shown on map, no additional access dredging, no hauling material offsite
- **Fines thickness =** 2 ft depth unless otherwise noted

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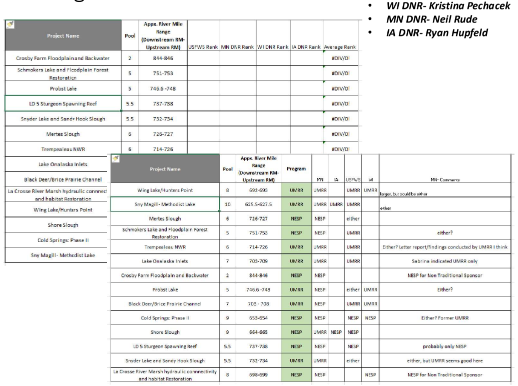
PARAMETRIC COST SUMMARY

FACT SHEET	Cost ($M)
La Crosse Marsh	$3.3
Crosby Farm	$4.7
LD5 Spawning	$5.0
Mertes Slough	$10.0
Snyder Lake Sandy Hook	$10.0
Schmokers Clear Lake	$11.9
Cold Springs	$12.8
Lake Onalaska Inlets	$12.8
Brice Prairie (Blackdeer) Channel	$13.5
Shore Slough	$17.5
Probst Lake	$21.3
Wing Lake and Hunter's Point	$22.7
Sny Magill Methodist Lake	$26.6
Trempealeau	$29.7

Final Edits, Rankings, and Program Selection

- Final edits to fact sheets and rankings to FWWG Voting Members.
- FWWG voting members ranked projects #1-14 and then averaged scores across agency for a final ranking
- UMRR/NESP program selection independent of final rankings.
  - If there were discrepancies among agencies, those were resolved by partner communications
  - Will also send other secondary ranked fact sheets (6) to RRF as options for projects that could be picked up if additional funding is available.

FWWG Voting Members:
- ***USFWS- Steve Winter***
- ***USACE- Steven Clark***
- ***WI DNR- Kristina Pechacek***
- ***MN DNR- Neil Rude***
- ***IA DNR- Ryan Hupfeld***



FWWG Recommended Projects by Program

Project Name	Pool	Appx. River Mile Range (Downstream RM- Upstream RM)	USFWS Rank	MN DNR Rank	WI DNR Rank	IA DNR Rank	USACE Rank	Average Rank	Program	Rank By Program
Wing Lake/Hunters Point	8	692-693	4	7	2	3	3	3.8	UMRR	1
Sny Magill- Methodist Lake	10	625.5-627.5	5	2	8	1	6	4.4	UMRR	2
Mertes Slough	6	726-727	8	1	5	4	9	5.4	NESP	1
Crosby Farm Floodplain and Backwater	2	844-846	7	4	10	6	2	5.8	NESP	2
LD 5 Sturgeon Spawning Reef	5A	737-738	3	5	14	11	1	6.8	NESP	3
Trempealeau NWR	6	714-726	2	6	6	12	8	6.8	UMRR	3
Schmokers Lake and Floodplain Forest Restoration	5	751-753	6	3	9	5	12	7	NESP	4
Probst Lake	5	746.6 -748	10	8	1	13	5	7.4	UMRR	
La Crosse River Marsh hydraulic connnectivity and habitat Restoration	8	698-699	9	9	7	14	4	8.6	NESP	5
Lake Onalaska Inlets	7	703-709	1	12	11	9	10	8.6	UMRR	
Snyder Lake and Sandy Hook Slough	5A	732-734	11	10	12	7	7	9.4	UMRR	
Black Deer/Brice Prairie Channel	7	703 - 708	12	11	3	10	11	9.4	UMRR	
Shore Slough	9	664-665	13	13	13	2	13	10.8	NESP	
Cold Springs: Phase II	9	653-654	14	14	4	8	14	10.8	NESP	

UMRR- FWWG Endorsed Fact Sheets (10-2024)
1. Wing Lake/Hunters Point- Pool 8
2. Sny Magill- Methodist Lake- Pool 10
3. Trempealeau NWR- Pool 6

NESP FWWG Endorsed Fact Sheets (10-2024)
1. Mertes Slough- Pool 6
2. Crosby Farm Floodplain and Backwater- Pool 2
3. LD 5 Sturgeon Spawning Reef- Pool 5A
4. Schmokers Lake and Floodplain Forest- Pool 5
5. LaCrosse River Marsh- Pool 8

UMRR- Secondary Fact Sheets (10-2024)
Probst Lake- Pool 5
Lake Onalaska Inlets- Pool 7
Snyder Lake and Sandy Hook Slough- Pool 5A
Black Deer/Brice Prairie Channel- Pool 7

NESP- Secondary Fact Sheets (10-2024)
Shore Slough- Pool 9
Cold Springs: Phase II- Pool 9

FWWG Recommended Projects

UMRR- FWWG Recommended Fact Sheets

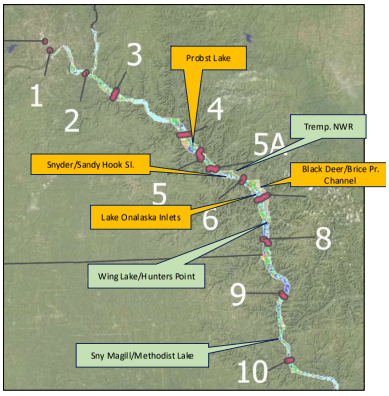
1. Wing Lake/Hunters Point- Pool 8*
2. Sny Magill- Methodist Lake- Pool 10*
3. Trempealeau NWR- Pool 6*

****UMRR- Secondary Fact Sheets**

- Probst Lake- Pool 5
- Lake Onalaska Inlets- Pool 7
- Snyder Lake and Sandy Hook Slough- Pool 5A
- Black Deer/Brice Prairie Channel- Pool 7

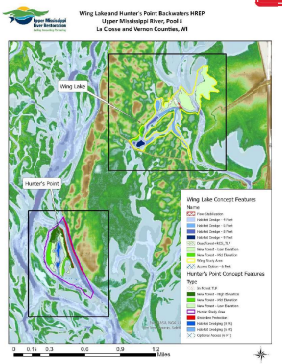
***December 10, 2025- RRF Endorsed Fact Sheets**

**Options for projects that could be picked up if additional funding is available. AKA- Fact Sheets that are ready to go and in the hopper



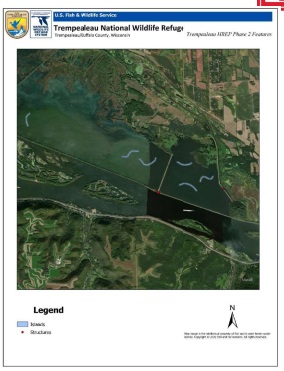
Wing Lake and Hunters Point Backwaters

- **Location:** Pool 8 (RM 690.6–692.8)
- **Sponsor:** USFWS (100% Federal) **Financial Data:** $22.7M
- **Problem Identification:**
  - Decline in quantity and quality of forest resources
  - Island fragmentation
  - Sedimentation of backwaters
- **Preliminary Objectives:**
  - Restore and enhance off-channel backwaters
  - Restore and maintain island habitat
  - Restore/increase isolated wetlands
  - Restore floodplain forest distribution, age, and species diversity
- **Preliminary Proposed Features:**
  - Habitat dredging
  - Island restoration using dredged material
  - Forest establishment on dredge material placement
  - Shoreline stabilization



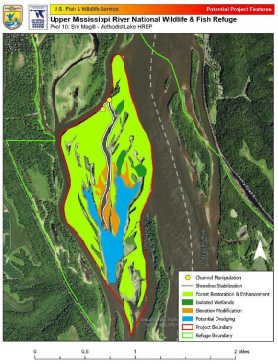
Trempealeau National Wildlife Refuge Phase II

- **Location:** adjacent to Pool 6 (RM 718–725.6)
- **Sponsor:** USFWS (100% Federal) **Financial Data:** $29.7M
- **Problem Identification:**
  - Impaired water quality
  - Increased prevalence of harmful algal blooms
  - Reduction in suitable waterfowl habitat
  - Decrease in aquatic vegetation
  - Increase in aquatic invasive species
- **Preliminary Objectives**
  - Improved ability to manage water levels
  - Improved water quality
  - Increased prevalence of emergent and submergent aquatic vegetation
  - Improved wildlife breeding, resting, and feeding habitat
- **Preliminary Proposed Features:**
  - Additional and/or larger water control structures
  - Habitat dredging
  - Island construction



Sny Magill- Methodist Lake

- **Location:** Pool 11-(RM 625 - 627.5)
- **Sponsor:** USFWS (100% Federal) **Financial Data:** $26.6M
- **Problem Identification:**
  - Decline in quantity and quality of forest resources
  - Island fragmentation
  - Sedimentation of backwaters
- **Preliminary Objectives:**
  - Restore and enhance off-channel backwaters
  - Restore and maintain island habitat
  - Restore/increase isolated wetlands
  - Restore floodplain forest distribution, age, and species diversity
- **Preliminary Proposed Features:**
  - Habitat dredging
  - Island restoration using dredged material
  - Timber stand Improvement
  - Forest establishment on dredge material placement
  - Shoreline stabilization
  - Isolated wetland creation



NEXT GENERATION FACT SHEET DEVELOPMENT

Upper Mississippi River Resource Coordinating Committee
Mississippi Valley Division
Rock Island District
Upper Mississippi River Restoration Program

Date: 26 February 2025

*The views, opinions and findings contained in this report are those of the author(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation.

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Guidance to River Teams

- Develop 6 to 10 projects of **varying size** and **complexity** using the fact sheet template.
- Limit fact sheets to 4 pages (excluding maps), pointing to references such as technical reports, other project fact sheets, white papers, journal articles, etc.
- Projects should be developed in consultation with federal, state, and nonprofit organization sponsors. Nonprofit or local organization participation will be facilitated through a "champion" voting member on the river team.
- Decision support tools can be developed as needed and upon request.
- Use decision logs and record discussions throughout the process to ensure transparency, adequate understanding and buy-in, and to inform future project selection efforts.
- Invite candidate cost-sharing non-profit organizations to consider submitting an HREP proposal.
- Use a structured decision-making exercise to describe whether and how projects will maintain or improve for each respective HNA-II indicator.
- Project overlapping with completed restoration efforts need to 1) describe changed ecological structure, function, & process, 2) describe additional habitat benefits beyond the previous project, 3) secure concurrence from District HREP Manager & UMRR Regional Program Manager

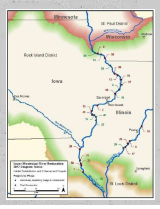
UMRR Vision Statement

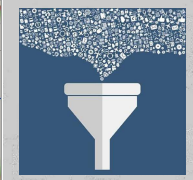
"A healthier and more resilient Upper Mississippi River ecosystem that sustains the river's multiple uses"

INDICATORS

Figure 1-1. Twelve HNA-II Indicators as related to the three general themes of resilience. Adapted from De Jager et al. 2018 and (Bouska K. L., Houser, De Jager, Van Appledorn, and Rogala, In Review). Note: Models were developed for the long-term successional processes and provide contextual information but sedimentation and forest succession were not included as indicators for HNA-II.

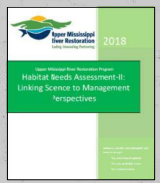
FWIC: NEXT GENERATION FACT SHEET DEVELOPMENT





Upper Mississippi River Resource Coordinating Committee
Mississippi Valley Division
Rock Island District
Upper Mississippi River Restoration Program

Date: 26 February 2025



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US Army Corps of Engineers

FWIC ROLES

7

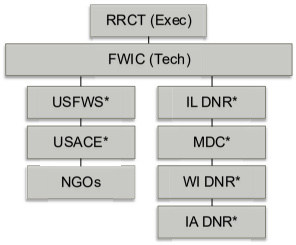
FWIC: Rank and develop fact sheets

FWIC POCs: Main points of contact for agencies
- IA DNR: Ryan Hupfeld
- WI DNR: Jess Westhoff
- MDC: Matt Vitello
- IL DNR: Rebekah Anderson/ Matt O'Hara
- USACE: Bethany Hoster
- USFWS: Lauren Larson

Fact Sheet Champions: A voting member, to assist non-traditional sponsors through the fact sheet process

RRCT Exec: Recommend and endorse fact sheets

**Process for Mississippi River



* Indicates FWIC voting member

FWIC SCHEDULE

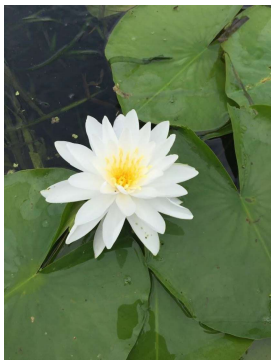
8

Date	Task	Program	Responsible Party(ies)
July - Oct 2023	Prepare for FWIC workshop, tool/resource/guidance/read-ahead materials development	Neutral	FWIC co-chairs and voting members
Oct-Nov 2023	2-day in-person workshop to identify new ecosystem projects, identify fact sheet "teams" and begin fact sheet development	Neutral, NESP, UMRR	All FWIC participants
Nov 2023- Feb 2024	Follow-up as needed, prep for next steps	NESP, UMRR	FWIC co-chairs and voting members
March 7 – 29, 2024	Each agency prioritize top 5 proposed projects based on systemic needs Pools 11 - 22	NESP, UMRR	FWIC Voting Members (in coordination with their respective agencies)
Mar 29 – May 6, 2024	Continue project identification steps & discussions	NESP, UMRR	FWIC Voting Members (in coordination with their respective agencies)
May 6 – May 31, 2024	Each agency prioritize top 3 proposed projects based on systemic needs Pools 11 - 22	NESP, UMRR	FWIC Voting Members (in coordination with their respective agencies)
June 6 – August 1, 2024	Draft fact sheets due	NESP, UMRR	Fact sheet teams
August 1 – 28, 2024	75% draft fact sheet review and coordination	NESP, UMRR	FWIC co-chairs, Fact Sheet teams
August 28 – September 30, 2024	Fact sheet edits due, UMRR Cost Estimate Spreadsheets due to USACE	NESP, UMRR	FWIC co-chairs, voting members, fact sheet teams
November 2024	Fact sheet review @ FWIC fall meeting	NESP, UMRR	All FWIC participants
November 2024- January 2025	Resolve remaining questions, finalize drafts, align schedules of fact sheets	NESP, UMRR	FWIC co-chairs, voting members, fact sheet teams
February 2025	UMRR fact sheet ranking & prioritization	UMRR	FWIC Voting Members (in coordination with their respective agencies)
March 7, 2025	FWIC voting member endorsement memo, "Final Draft" factsheets, memo sent to RRCT	UMRR	FWIC co-chairs, voting members, RRCT
March 7– April(?), 2025	RRCT fact sheet review	UMRR	RRCT
April/May 2025	RRCT meeting & fact sheet endorsement vote	UMRR	RRCT
May 2025	Forward fact sheets to NESP & UMRR	NESP, UMRR	RRCT

FWIC WORKSHOP

26 Oct 2023 – Virtual Workshop
- Program overviews & asks
- HNA II and Indicators Summary
- AGOL Intro & Tutorial

13 Nov 2023 – In-person Workshop
- Review AGOL exercise
- Sticker Exercise
- **Develop Screening Criteria**
- **Structured Mapping Exercise**
- Review Potential Projects



FWIC FACT SHEETS

UPPER POOL 13

Location: Pools 13 (RM 540 to 556)
Crooked Slough, Pinoak Lake/Lainsville Slough and Savanna Bay Complex

Problem: Many of the remaining floodplain forests in Pool 13 suffer from a loss of diversity, lack of natural regeneration, increased fragmentation, and loss of land from erosion. Increased flooding (both frequency and duration), sedimentation, and increased competition from invasive species also diminish existing forested areas. Island erosion/dissection, increased main channel connectivity, and sedimentation have degraded most of the deep lentic habitat throughout Pool 13.

Goals: see fact sheet

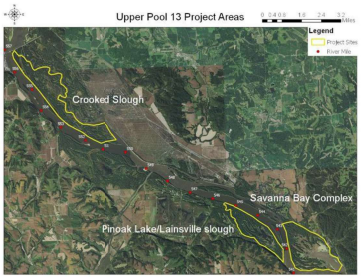
Proposed Features:
- Forest restoration and enhancement
- Topographic diversity
- River training structures
- Bank stabilization
- Small island restoration

Implementation Considerations:
- Large ecological footprint
- Species of concern (eagles, mussels, and bats)
- Phased construction
- Integration with Channel Maintenance

Financial Data: 2020 cost estimate $20-25 million/100% Federal

Sponsor: USFWS

*Factsheet endorsed in 2020



GENEVA & HERSHEY ISLANDS

Location: Pools 16 RM 458-462

Problem: Hershey and Geneva Island include interconnected backwaters, flowing side channels, islands, mature bottomland forest, floodplain, and wetlands. This habitat has significantly declined due construction of the lock and dam system, which resulted in increased water elevations, frequent flooding, and high levels of Total Suspended Solids (TSS). Additionally, Hershey Island has lost approximately 80% of its landmass.

Goals: see fact sheet

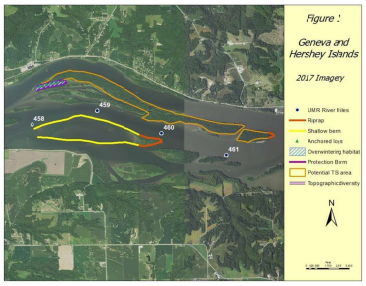
Proposed Features:
- Backwater dredging
- Topographic diversity
- Timberstand Improvement (TSI)
- Bank stabilization
- Hershey Island chevron

Implementation Considerations:
- Pool 16 is a hinge pool
- Integration with Channel Maintenance
- Data gaps: inventory existing resources & modeling
- Hershey Island within State of Iowa boundary
- Minimal restoration efforts in Pool 16

Financial Data: 2020 cost estimate $8 million/100% Federal

Sponsor: IA DNR

*Factsheet endorsed in 2020



MULTI-POOL HABITAT PROTECTION

Location: Pools 11-14 and 17

Problem: The (HNA-II) identified bankline erosion and island dissection as major factors contributing to the decline in habitat quality throughout the UMR floodplain. Wind and boat generated waves in large open water habitats created by the dams contribute to island erosion and sediment re-suspension, with banklines observed to be eroding at rates ranging from 0.3 to 3.7 feet per year. Higher annual flows resulting from a changing climate are further exacerbating island erosion and dissection (Schottler et al, 2014). Collectively, these factors reduce the number and acreage of islands throughout many UMR pools.

Goals: see fact sheet

Proposed Features:
- Shoreline stabilization and bank reshaping
- Closure structures constructed of rock and/or earth
- Historic island acreage restoration
- Forest creation, diversification, and enhancement activities

Implementation Considerations:
- Consider phased construction (Divide by State for permitting processes)
- Integration with Channel Maintenance
- Potential mussel constrains

Financial Data: 2020 cost estimate $5 to 10 million/ 100% Federal

Sponsor: USFWS

*Factsheet endorsed in 2020

Figure 1 Potential Project Site Examples within Pool 11

(A) Location map of example potential Project sites B-D within Pool 11 of the UMR. (B-D) Examples of eroding banklines and island dissection contributing to the decline in habitat quality throughout the UMR floodplain. Locations exhibiting similar habitat conditions would be identified for restoration within the scope of this Project.
(B) Example Site 1. (C) Example Site 2. (D) Example Site 3.

Turkey River Bottom

Location: Pool 11 (604 – 609)

Problem: Identified problems include lack of migratory bird habitat, loss of mast tree diversity, poor overwintering habitat, and poor nursery habitat for fish and wildlife. The floodplain forest in this area is experiencing declined conditions, reduced species diversity, loss of forest habitat area, lack of tree regeneration, and an increase of invasive species. Backwater lakes in the area include too little depth to accommodate fish through winter ice-up and low oxygen levels in both winter and summer. Due to siltation, fish movement is restricted at the entrance to the lakes and fish become trapped in oxygen depleted areas.

Goals: see fact sheet

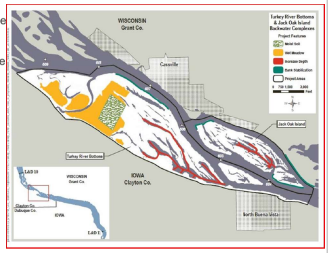
Proposed Features:
- Backwater dredging
- Forest restoration and enhancement
- Shoreline stabilization
- Topographic diversity

Implementation Considerations:
- Phased construction
- Non-essential, but private, land holdings in area
- Potential mussel constraints

Financial Data: 2 phases/$38.8 million first phase/100% Federal

Sponsor: USFWS

*updating previously approved factsheet



Lower Pool 11 SAV

Location: Pool 11 (RM 586-593)

Problem: Land cover data has been used to quantify changes in waterfowl habitat within the proposed projects area. Acreage of submersed aquatic vegetation (SAV) declined 70% from 2010 to 2020. Submersed aquatic vegetation can be impaired by high levels of Total Suspended Solids (TSS). Suspended solids in the water column reduce the amount of light available to SAV and TSS levels in the spring. The project area is characterized by long wind fetch distances which can result in larger wind-generated waves. Larger waves can contribute to greater levels of shoreline erosion, and to orbital wave velocities extending farther down the water column, leading to resuspension of sediment from bottom substrates. These factors play a role in limiting the prevalence of SAV in the project area through their influence on TSS.

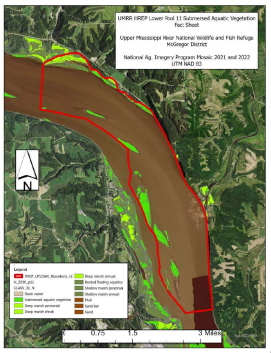
Goals: see fact sheet

Proposed Features:
- Island restoration and stabilization
- River structures (chevrons, rock mounds, seed islands)

Implementation Considerations:
- Consider phased construction
- Consider & integrate lessons learned from Lower Pool 13 HREP
- Potential mussel constraints

Financial Data: 3 phases/$38.8 million first phase/100% Federal

Sponsor: USFWS



Nine-Mile Island

Location: Pool 12 (RM 571.5 – 574.5)

Problem: Years of silt deposition have resulted in loss of quality deep water habitat and an overall degraded backwater complex. Multiple backwater lakes have sedimented in, to the point where they provide no overwintering habitat to fish, and others have been disconnected from the main backwater lake leading to stranded fish in depleted oxygen conditions throughout the winter. Impoundment and permanently higher water tables have decreased the health and resilience of floodplain habitat on islands and adjacent floodplain areas, allowing an increase in invasive species. Bank erosion contributes to instability of islands and increase in side channel and backwater lake sedimentation.

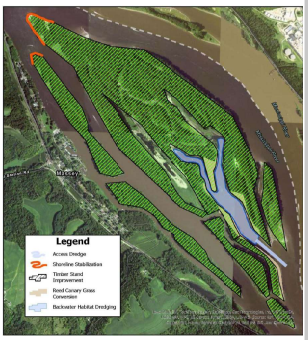
Goals: see fact sheet

Proposed Features:
- Forest enhancement (TSI, ridge & swale, plantings)
- Backwater dredging
- Topographic diversity
- Bankline stabilization

Implementation Considerations:
- Synergy with Pool 12 Overwintering and Forestry HREPs
- Project area must maintain designation as a Slow, No Wake Area
- Potential mussel & bat constraints

Financial Data: $34.5 million/100% Federal

Sponsor: USFWS



Spring Lake Backwater Restoration

Location: Pool 13 (RM 532 – 536.2)

Problem: Decades of sedimentation within Spring Lake have resulted in depths <2-ft in the majority of the area. There is very little bathymetric diversity and suitable year-round fish habitat, including during critical periods for survival. The 1993-1996 levee breach resulted in a large deposition of material that is now land. Invasive species, including purple loosestrife and flowering rush, are spreading throughout the lake. Historic barrier islands along the main channel protecting the perimeter levee are no longer present due to erosion, and no longer protect or prevent erosion on the perimeter levee. These issues are likely to continue, or even worsen, given the observed and predicted increases in flooding (both frequency and duration) on the Upper Mississippi River system.

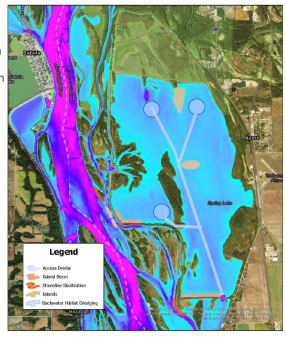
Goals: see fact sheet

Proposed Features:
- Backwater dredging
- Island creation
- Shoreline protection

Implementation Considerations:
- Fall access restrictions to maintain habitat sanctuary
- Potential mussel & bat constraints

Financial Data: 2 phases/$38.8 million first phase/100% Federal

Sponsor: USFWS



Odessa Floodplain Forest & (Fox Pond) Wetland

Location: Pools 17-18 (RM 435 – 441)

Problem: Repeated major flood events have caused a significant loss and degradation in forest, aquatic vegetation, wetlands, and associated communities. Without action, the Project area will continue to degrade and important habitat and ecological communities will be lost. Flood frequency, duration, and elevation have increased since completion of previous projects, limiting ability to remove flood water from the complex quickly. Siltation also adversely impacted Fox Pond, a 300-acre wetland. This wetland serves as the primary outlet and water level management feature of the Refuge's 900-acre moist soil management program. Ditches upstream and downstream of the pumping station have become occluded with silt and sediment, hampering moist soil production efforts and reducing critical food sources for waterfowl during migrations.

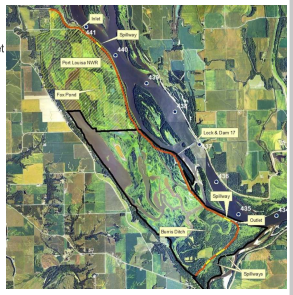
Goals: see fact sheet

Proposed Features:
- Water control structure
- Backwater dredging
- Forest enhancement (TSI, ridge & swale, plantings)

Implementation Considerations:
- Closed Season restrictions on Refuge & WMA
- Land access to some areas would need weight/width restrictions

Financial Data: $21 million/100% Federal

Sponsor: USFWS & Iowa DNR



Lower Long Island & Shandrew Island

Location: Pool 21 (RM 333.5-340.5)

Problem: The diversity and overall quality of migratory bird, wildlife, and fish habitat in the Long Island Division has been reduced over the past several decades. USACE's forestry monitoring on Long Island and Shandrew Island shows an overall lack of recruitment of diverse, hard mast tree species, and in some areas, significant mortality of large, canopy trees. These changes are primarily due to increased flood frequency and duration, introduction and spread of invasive species, continued sediment disposition from flood events, and construction of river training structures that reduce flow through the backwater channels. The communities affected by include floodplain and bottomland forests, forested wetlands, shrub-swamp and herbaceous wetlands, migratory birds and waterfowl, native wildlife, and fisheries resources.

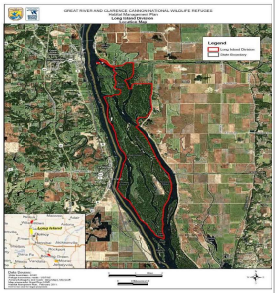
Goals: see fact sheet

Proposed Features:
- Forest enhancement (TSI, plantings)
- Interior channel dredging to restore flow
- Invasive species management
- Bathymetric diversity in backwaters and chutes

Implementation Considerations:
- Invasive/aggressive species impacts prior to implementation

Financial Data: $27 million/100% Federal

Sponsor: USFWS



FWIC RANKING METHODS

EVALUATION MATRIX

UMRR (Rock Island District, December 2024)		Ecological (HNA-II) Criteria*							Non-Ecological Criteria						
	Weighting	See Cluster Result Tabs						Score/Perfect Score by Cluster	X= Meets Criteria	X= Meets Criteria	X= Meets Criteria	Local / Pool / Multi-Pool	$ Million		
	Scoring range	-1 - 1	-1 - 1	-1 - 1	-1 - 1	-1 - 1	-1 - 1								
	Impact: Positive=1; None=0; Negative=-1														
HREP Factsheet	Pool	Connectivity - Open Water	Aquatic Functional Class 1 and 2	Floodplain Vegetation Diversity	Floodplain Functional Class (Inundation diversity)	Aquatic Vegetation Diversity	Total Suspended Solids	Total Ecological (HNA-II) Criteria	Sustainable (features are self-maintaining, reduced O&M)	Synergy with other HREPs	Integration potential with other Federal, State, or local actions/ initiatives	Area of Influence	Estimated Project Cost	Other Considerations	Assumptions
Turkey River Bottom	11	0.5	1	1	1	1	1	0.95	X	X	X	Local	40+	Synergy with other Pool 11 HREPs, such as Bertom McCartney, Snyder Slough, and Pool 11 Islands.	Some form of sedimentation control will be included within project to protect dredge cuts and forestry improvements, thereby reducing TSS.
Lower Pool 11 SAV	11	1	0.5	0	0	1	1	0.50	X	X	X	Local	39 Phase	Synergy with other Pool 11 HREPs, such as Bertom McCartney, Snyder Slough, and Pool 11 Islands.	Project features would be designed to not grow terrestrial vegetation. Reducing wind fetch would protect surrounding banklines, thereby providing AFC 1 and 2 benefits. Seed islands would provide transitional zone benefits.
Nine Mile	12	0.5	1	1	1	0.5	1	0.85	X	X	X	Local	35	Synergy with Pool 12 Overwinterng and Pool 12 Forestry HREPs.	
Upper Pool 13	13	0.5	1	1	1	0.5	1	0.85	X	X	X	Pool	20-25	Located within close proximity/within same pool as 2 completed, and 2 on-going HREPs. Multiple features will contribute to AFC 1 and 2 benefits, including backwater dredging, island bankline protection, interior aquatic habitat protection.	Aquatic vegetation is an ancillary benefit of island restoration.
Spring Lake Backwater Restoration	13	1.0	1	0.5	1	1	1	0.90	X	X	X	Local	39 Phase	Synergy: Within the same complex as the original Spring Lake HREP (completed in 1999). This proposed project would complement the previous Spring Lake HREP and provide synergy with other nearby HREPs such as Potters Marsh and Lower Pool 13. Project will provide protection to the original Spring Lake HREP. Ongoing coordination with UMRR Program regarding project footpring overlaps between the original and proposed Phase II	Potential to include upland floodplain vegetation diversity components, although not a primary objective.
Geneva and Hershey Islands	16	1	1	1	1	0.5	0.5	0.85	X		X	Local	8	Riprap stabilization to prevent erosion and decrease TSS.	
Lake Odessa Outlet/ Fox Pond	17 & 18	0	1	1	1	0.5	1	0.84	X	X	X	Local	TBD	Synergy with Lake Odessa, Keithsburg, and Big Timber HREPs. Water control structure type may influence self-maintenance/ reduce O&M.	
Lower Long Island & Shandrew Island	21	0	1	1	1	0.5	0.5	0.79	X	X	X	Local	27	Synergy with Gardner Division, Cottonwood, and Quincy Bay HREPs.	
Multi-Pool Habitat Protection	11, 12, 13, 14, 17	1	1	0.5	1	0.5	1	0.80	X	X	X	Multi-Pool	5-10	Synergy: potential to protect and extend life of existing HREPs, in addition to building upon habitat benefits. AFC 1 and 2: Sensitive shallow aquatic habitats maintained through protection. Floodplain and aquatic vegetation diversity maintened through island protection.	Bankline protection is expected to be long-lasting with low O&M.

PAIRED COMPARISON

OPTION	A: Turkey River Bottom	B. Lower Pool 11 SAV	C: Nine Mile	D: Upper Pool 13	E: Spring Lake Backwater Restoration	F: Geneva and Hershey Islands	G: Lake Odessa Outlet/ Fox Pond	H: Lower Long Island & Shandrew Island	I: Multi Pool Habitat Protection
A: Turkey River Bottom									
B. Lower Pool 11 SAV									
C: Nine Mile									
D: Upper Pool 13									
E: Spring Lake Backwater Restoration									
F: Geneva and Hershey Islands									
G: Lake Odessa Outlet/ Fox Pond									
H: Lower Long Island & Shandrew Island									
I: Multi Pool Habitat Protection									

	OPTION	Total	Weighted	Total %	Weighted %
A	Turkey River Bottome	0	0	#DIV/0!	#DIV/0!
B	Lower Pool 11 SAV	0	0	#DIV/0!	#DIV/0!
C	Nine Mile	0	0	#DIV/0!	#DIV/0!
D	Upper Pool 13	0	0	#DIV/0!	#DIV/0!
E	Spring Lake Backwater Restoration	0	0	#DIV/0!	#DIV/0!
F	Geneva and Hershey Islands	0	0	#DIV/0!	#DIV/0!
G	Lake Odessa Outlet/ Fox Pond	0	0	#DIV/0!	#DIV/0!
H	Lower Long Island & Shandrew Island	0	0	#DIV/0!	#DIV/0!
I	Multi-Pool Habitat Protection	0	0	#DIV/0!	#DIV/0!
	TOTAL	0	0	#DIV/0!	#DIV/0!

FWIC Proposed for Endorsement

- Tier 1: FWIC recommends project implementation in the near term.
- Tier 2: FWIC recommends project implementation through FY 2030.
- Tier 3: These project fact sheets are high quality proposals that meet restoration needs in the proposed areas and do not require further refinement. Project areas of Tier 1 & Tier 2 are experiencing higher habitat degradation requiring more immediate action.

Tier*:	Fact Sheet:	Pool(s)	Sponsor
Tier 1	Upper Pool 13	Pool 13	USFWS
	Geneva and Hershey Islands	Pool 16	IA DNR
	Multi-Pool Habitat Protection	Multiple	USFWS
Tier 2	Turkey River Bottom	Pool 11	USFWS
	Lake Odessa Outlet/Fox Pond	Pools 17 & 18	USFWS/ IA DNR
	Lower Long Island & Shandrew Island	Pool 21	USFWS
Tier 3	Spring Lake Backwater Restoration	Pool 13	USFWS
	Lower Pool 11 SAV	Pool 11	USFWS
	Nine Mile	Pool 12	USFWS

*Factsheets are in no particular order within Tier

RRCT ENDORSEMENT

- FWIC anticipates providing fact sheets and recommendations to RRCT NLT 7 March 2025

Upper Mississippi River Restoration
Leading Innovating Partnering

RRAT: NEXT GENERATION OF FACT SHEETS

UMRR-CC Meeting
Feb 26, 2025

"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

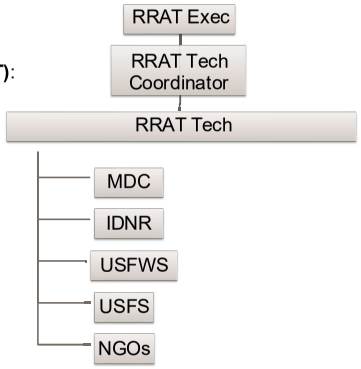
U.S.ARMY
US Army Corps of Engineers
Upper Mississippi River Restoration

RRAT FACT SHEET DEVELOPMENT ROLES

River Resource Action Team (RRAT):
Fact Sheet Development

RRAT Tech Coordinator:
Coordinated fact sheets between Tech and Exec

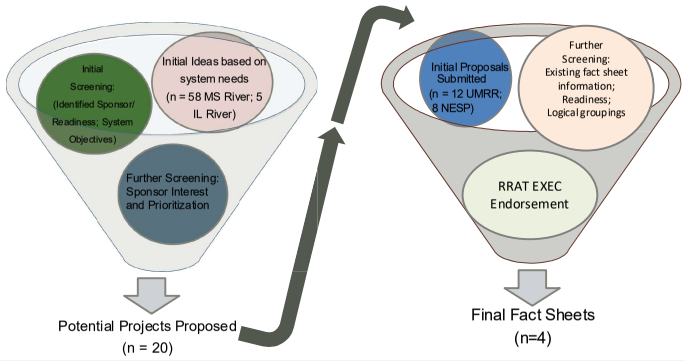
RRAT Exec:
Endorsement of Fact Sheets



RRAT FACT SHEET DEVELOPMENT PROCESS

- Jan 19, 2024: MS River Project Development Orientation Workshop (Virtual)
- Feb 22, 2024- IL River Project Development Orientation Workshop (Virtual)
- Mar 7 & 8, 2024- MS River Project Development Workshop (In Person)
- April 9 & 10, 2024 – IL River Project Development Workshop (In Person)
- May 14, 2024 – MS & IL River Potential Project List Submitted to Sponsors For Evaluation and Prioritization
- July 8 & 9, 2024 – MVS Review of Sponsor Feedback and Program Selection
- July – Dec - Draft Fact Sheets
- Jan. 22 – Submit Draft Fact Sheet to RRAT for review
- Jan. 29 – RRAT meeting for endorsement of fact sheets
- Feb 26 – Present fact sheets to UMRCC
- May 20 – Seeking UMRCC Endorsement

Screening



Screening

- **63 - Total Potential Project Concepts Identified Based on System Needs:** 58 MS River; 5 IL River.
- During in-person workshops projects were assessed for the following:
  - Identified sponsor
  - Readiness
  - Problems, Objectives, and System Needs
- 35 - Screened
- 28 -Potential project concepts assessed based on the following criteria:
  - Sponsor interest/prioritization
- 8 - Projects screened
- 20 - Potential project concepts move forward for further assessment/program identification:
  - 12 UMRR ; 8 NESP
  - Note- NESP potential project fact sheets put on hold until further programmatic clarity provided regarding reach planning.
- 12 - UMRR potential project concepts further assessed for:
  - Existing fact sheet information
  - Readiness
  - Logical groupings
- **4 - UMRR fact sheet concepts moved forward for fact sheet development**
  - Due to sponsor leadership changes, three additional proposed fact sheets needs further coordination before moving forward.

RRAT EXEC VOTING OF NEW PROPOSALS

Project Name	Pool	Sponsor	RRAT Exec Voting – X – yes to move forward for final fact sheet development			
			USACE	USFWS	IDNR	MDC
Mason Island	26	MDC	X	X	X	X
Spatterdock Slough	26	MDC	X	X	X	X
Chouteau Island	OR	IDNR	X	X	X	X
Illinois Bayou	OR	USFWS	X	X	X	X

Mason Island

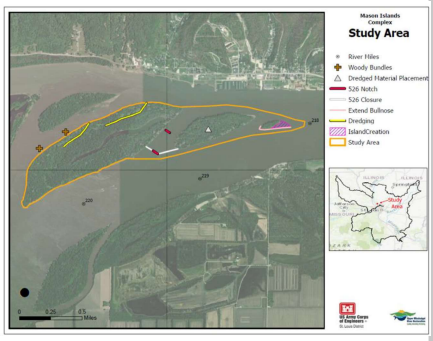
Location: Pool 26 (RM 221-218)

Sponsor: MDC (100% Federal)

Problem Identification:
- Backwater sedimentation
- Loss of bathymetric diversity
- Loss of sandbars and islands
- Loss of topographic and hydrologic diversity

Preliminary Objectives:
- Restoration and rehabilitation of these wetland and aquatic habitats

- **Preliminary Proposed Features:**
- Excavation
- Island Creation
- Bullnose
- Woody Bundles
- Notching existing dikes
- Closure dikes



Spatterdock Slough

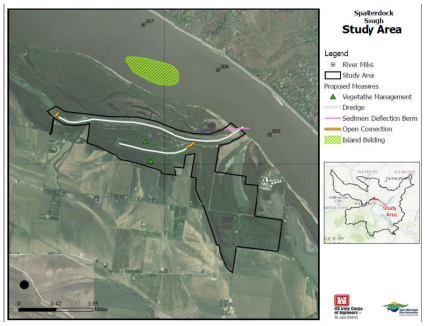
Location: Pool 26 (RM 209-205)

Sponsor: MDC (100% Federal)

Problem Identification:
- Backwater sedimentation
- Loss of bathymetric diversity
- Loss of sandbars and islands
- Loss of topographic and hydrologic diversity

Preliminary Objectives:
- Restore wetland hydrological functioning
- Improve floodplain topographic diversity
- Restore a wetland mosaic
- Increase forest diversity, including BLH

Preliminary Proposed Features:
- Excavation
- Island Building
- Sediment Deflection
- Emergent Vegetation Management



Chouteau Island

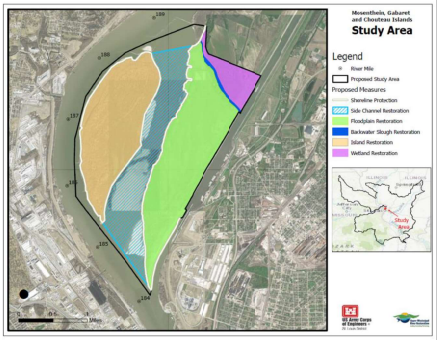
Location: Open River (RM 189-184)

Sponsor: IDNR (65:35 cost share)

Problem Identification:
- Primarily idle agricultural fields
- Degraded floodplain forest
- Modified hydrology

Preliminary Objectives:
- Restore wetland hydrological functioning
- Restore side channel and
- Restore a wetland mosaic
- Increase forest diversity, including BLH

Preliminary Proposed Features:
- Shoreline protection
- Side channel restoration
- Island Protection
- Wetland restoration
- Floodplain forest restoration
- Backwater slough restoration



Illinois Bayou

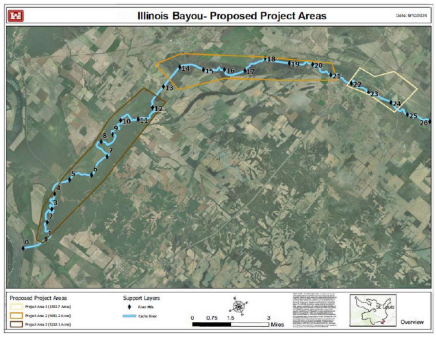
Location: Open River Reach (RM 0-24)

Sponsor: USFWS (100% Federal)

Problem Identification:
- Degraded emergent marsh, ephemeral wetlands, scrub-shrub, and bottomland hardwood forest
- Altered hydrology raising water elevations and sedimentation rates
- Sedimentation has resulted in a loss of connectivity and increased nutrient inputs

Preliminary Objectives:
- Restore aquatic hydrological function, diversity and connectivit
- Improve floodplain topographic diversity
- Restore a wetland mosaic
- Increase forest diversity, including bottomland hardwoods
- Bank stabilization

Preliminary Proposed Features:
- Water control structures
- Berm modifications and additions
- Water supply including pumps or wells and associated features
- Tree planting and Forest Stand Improvement (FSI)
- Wetland planting
- Wetland excavation;
- Ridge and swale restoration;
- Bank stabilization;
- River training structures



SEEKING UMRR-CC ENDORSEMENT FOR THE FOLLOWING FACT SHEETS:

Project Name	Sponsor
Mason Island	MDC
Spatterdock Slough	MDC
Chouteau Island	IDNR
Illinois Bayou	USFWS

POINTS OF CONTACT

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Brian Johnson – RRAT Exec Co-Chair
Brian.L.Johnson@usace.army.mil

Matt Mangan – RRAT Exec Co-Chair
Matthew_Mangan@fws.gov

NEW STUDIES

NEW DESIGNS

NEW CONSTRUCTION

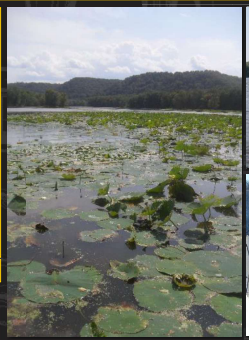
MORE ACRES RESTORED

Upper Mississippi River Restoration
leading. investing. Partnering

UMRR-LTRM MONITORING AND SCIENCE UPDATE

Davi Michl
Rock Island District
UMRR-CC

26 Feb 2025



U.S. ARMY US Army Corps of Engineers

UMRR MONITORING & SCIENCE FY25

$55 Million UMRR Program

2 SOWs in FY24

SOW for LTRM base monitoring

$6.5M

SOW for science in support (analysis under base)

$2.0M

Both SOWs together are equivalent to a fully funded UMRR LTRM element $8.5M

Science in Support of Restoration & Management
(combined with analysis under base into 1 SOW)

$5.95M

TOTAL: $14.45M

UMRR MONITORING & SCIENCE FY25

LTRM

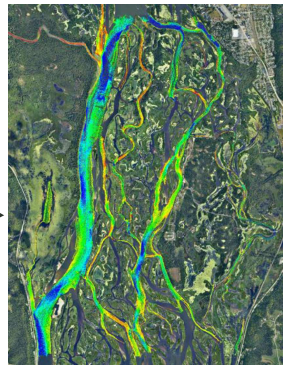
	Budget (gross)
MN	$1,084,310
WI	$880,299
IA	$593,488
Great Rivers (IL)	$610,057
Big Rivers & Wetlands (MO)	$603,889
IRBS (IL)	$688,704
Equipment	$143,356
All-Hands meeting	$ 9,081
STATES TOTAL (-carry-in)	**$4,651,356***
UMESC TOTAL (-carry-in)	**$4,137,486**
Corps tech/science reps	$ 77,000
TOTAL FY24 LTRM BUDGET	**$8,865,842**

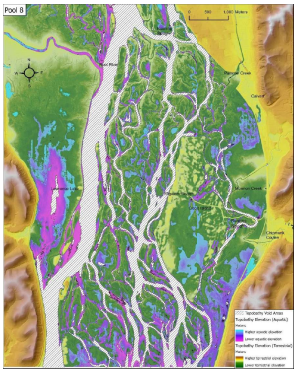
TOPOBATHY UPDATES

FY23 Pilot Study

Sonar →

Bathymetric lidar ↓





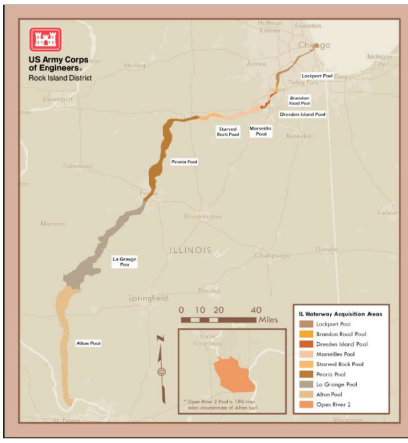
TOPOBATHY UPDATES

FY24-funded Acquisition Areas

- ILWW (La Grange to Lockport)
- Open River 2 (Ohio confluence to Grand Tower, IL)
- Lower Pool 13 Pilot

Acquisition Areas Status

- 12 task orders awarded
- Multi-beam acquisition commenced Nov
- Topobathy lidar completed in the Fall 2024
  - Lower Pool 13 pilot, Lockport-Marseilles, and LaGrange lidar remaining
  - POCs engaged for ice-melt/water levels conditions for acquisition completion in Spring 2025



Upper Mississippi River System
Topobathy Acquisition FY24

1. Alton Pool (430 sq. miles)
- Acquisition TO – Contractor: Fugro
- QA TO - Contractor: Dewberry

2. LaGrange Pool (447 sq. miles)
- Acquisition TO – Contractor: Surdex
- QA TO - Contractor: Fugro

3. Peoric-Starved Rock Pools (356 sq. miles)
- Acquisition TO – Contractor: WGI-Atlantic
- QA TO - Contractor: Fugro

4. Marseilles-Lockport Pools (207 sq. miles)
- Acquisition TO – Contractor: Dewberry
- QA TO - Contractor: Fugro

5. Open River 2 Pool (306 sq. miles)
- Acquisition TO – Contractor: Fugro
- QA TO - Contractor: Dewberry

QUESTIONS?

UMRR MONITORING & SCIENCE FY25

U.S. ARMY

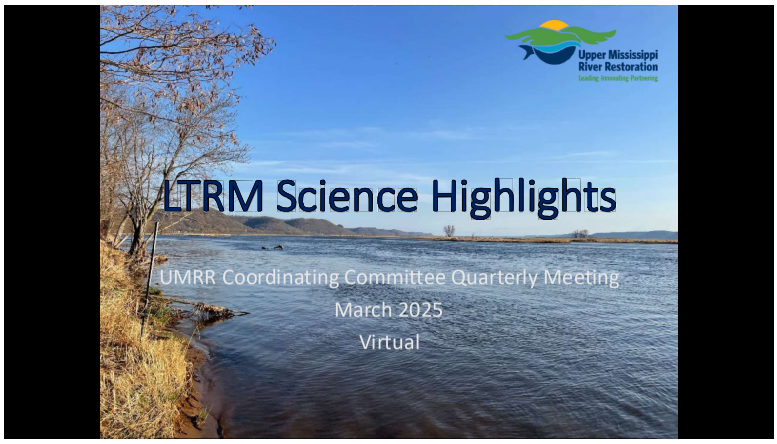
Science in Support of Restoration and Management

A.	LTRM balance	$ 705,571
B.	River Gradients – IRBS	$ 5,052
C.	Macroinvertebrates	$ 199,892
D.	Resilience FY25-27	$ 907,731
E.	Chloride Monitoring FY24-25	$ 96,274
F.	Landscape Patterns	$ 428,911
G.	Topobathy UMESC support	$ 200,419
H.	Implementation Planning INs	$ 2,168,249
I.	Science Proposals	$ 1,990,447
	Subtotal	**$ 6,702,546**
	Remaining	**$ 147,454***

DRAFT

Upper Mississippi River Restoration

Leading, Innovating, Partnering



Home › Aquatic Ecology › Article

Phytoplankton assemblage dynamics in relation to environmental conditions in a riverine lake

Open access | Published: 17 February 2025

(2025) Cite this article

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Robert M. Burdis, Nicole K. Ward & John T. Manier

Aquatic Ecology

Study Objectives:

1) How do phytoplankton vary along the riverine lake gradient, and across seasons and years?
2) What environmental variables are associated with different phytoplankton assemblages?

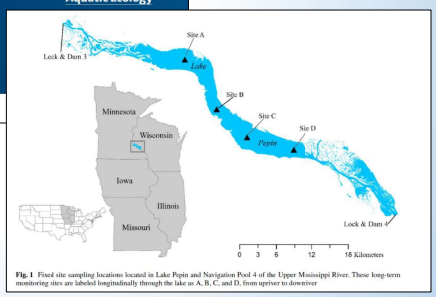


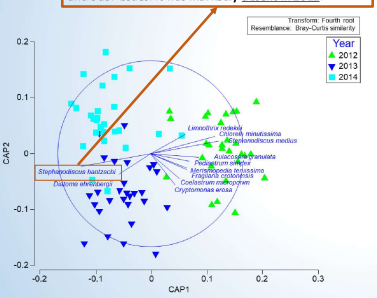
Fig. 1 Fixed site sampling locations located in Lake Pepin and Navigation Pool 4 of the Upper Mississippi River. These long-term monitoring sites are labeled longitudinally through the lake as A, B, C, and D, from upriver to downriver

Phytoplankton assemblage dynamics in relation to environmental conditions in a riverine lake

Robert M. Burdis · Nicole K. Ward · John T. Manier

S. hantzschii is very common in eutrophic waters around the world. In drinking water, it can cause taste and odor issues. It was markedly absent in 2012.

Related to limiting SRP in Apr/May??



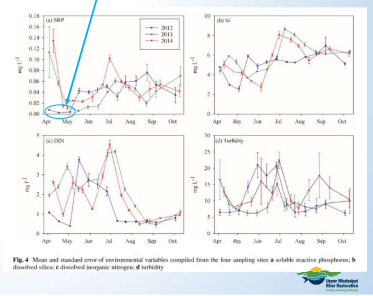


Fig. 4 Mean and standard error of environmental variables compiled from the four sampling sites **a** soluble reactive phosphorus; **b** dissolved silica; **c** dissolved inorganic nitrogen; **d** turbidity

Phytoplankton assemblage dynamics in relation to environmental conditions in a riverine lake

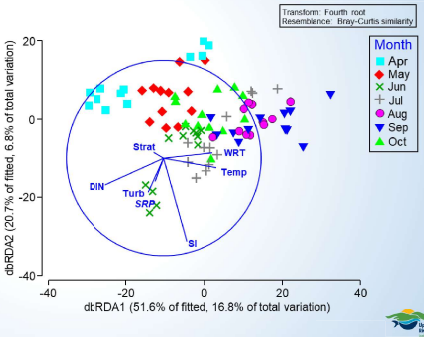
Robert M. Burdis · Nicole K. Ward · John T. Manier

32.6% of the variation in the phytoplankton assemblages was explained by:

SI=silica
DIN=dissolved inorganic nitrogen
Temp=water temperature
WRT=water residence time
Turb=turbidity
SRP=soluble reactive phosphorus
Strat=water column stability

(using DISTLM)

→ Check out the full paper for more info and details on spatial, seasonal, and annual variability in phytos!



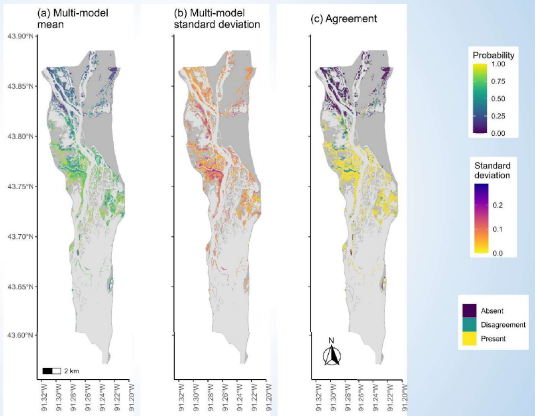
Delaney, John T., M. Van Appledorn, N. R. De Jager, K. L. Bouska, and J. J. Rohweder. 2024. Spatial Differences in Predicted *Phalaris arundinacea* (reed Canarygrass) Occurrence in Floodplain Forest Understories. *Ecosphere* 15(12): e70138.

Habitat suitability of reed canarygrass in floodplain forest understories

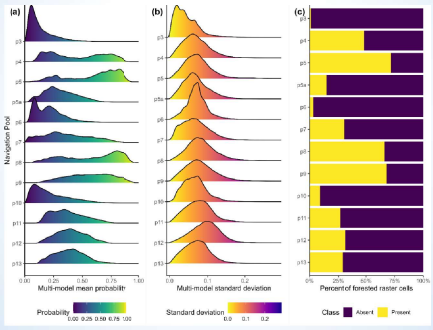
- Used 1,972 presence and 2,424 absence observations from USACE Phase II Forest Inventory understory plots for our occurrence data.
- Combined with 10 spatial layers that included aspects of inundation regime, forest cover, wet meadow invasion, and landcover legacies.
- Trained 3 models, each from a different machine learning algorithm, and combined predictions into an ensemble.
- Predictions across ~41,000 ha of floodplain forest across navigation pools 3-13 with an average accuracy of ~72% are available in a USGS data release: https://doi.org/10.5066/P9KBFBHW

Model Predictions

- Navigation Pool 8 example
- Average of 3 models
  - Random forest
  - XGBoost
  - Bayesian additive regression trees



Predictions by Navigation Pool



SYNTHESIS

ECOLOGY LETTERS WILEY

Coefficients in Taylor's law increase with the time scale of water clarity measurements in a global suite of lakes

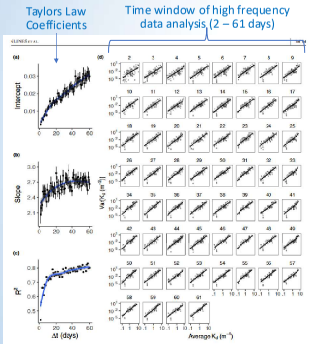
Max R. Glines[1] | Renata C. H. Amancio[2] | Mikkel René Andersen[3] | Helen Baulch[4] | Ludmila S. Brighenti[5] | Hannah E. Chmiel[6,7] | Joel E. Cohen[8,9,10] | Elvira de Eyto[11] | Oxana Erina[12] | Heidrun Feuchtmayr[13] | Giovanna Flaim[14] | Andrea Giudici[15] | David P. Hamilton[16] | Yannick Huot[17] | Michael R. Kelly[1,18] | Seán Kelly[19] | Alo Laas[20,21] | Christopher McBride[22] | Camille Minaudo[6] | Jose Fernandes Bezerra Neto[2] | Katy Nugent[4] | César Ordóñez[23] | Marie-Elodie Perga[24] | Brian Reid[25] | Caren Scott[26] | Peter A. U. Staehr[27] | Denise Tonetta[28] | Danielle Wain[29] | Nicole K. Ward[30] | Kevin C. Rose[1]

This study used **water clarity observations** from:

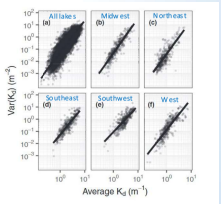
- **10,531** days of **high-frequency** sensor measurements in **35 lakes** and
- **lower-frequency** measurements over **multiple decades** from **6,342 lakes**

To **test if Taylor's Law describes water clarity patterns across time scales**

High frequency water clarity sensor data follows Taylors Law prediction across time windows, and **longer time windows have stronger relationship**



Low frequency water clarity data also follows Taylors Law prediction across time windows for all lakes and lakes in the same US region



Key Finding: Taylor's law of fluctuation scaling effectively links high-frequency sensor data with long-term monitoring data, creating new opportunities to understand and predict ecological dynamics on time scales from days to decades

Taylor's Law essentially uses data variability vs the mean to link understanding across scales

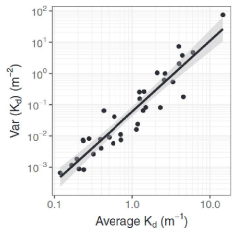


FIGURE 2 Log–log plot of variance in light attenuation versus the mean light attenuation using the entire time series available for each lake, so that there is only a single data point per lake. a=0.09, b=2.27, R^2=0.88.

In other words:

- This method enables powerful inferences across scales
- If LTRM were to add high frequency data collection in the future, this method could be used to best leverage our existing data to better understand cross-scale dynamics on the river

LTRM in the news

LTRM Pool 8 Field Station Update

Past/Future Presentations

Aquatic Vegetation presentations – Alicia Carhart
- Guiding principles for successful long-term resource monitoring (LTRM) – **Floodplain vegetation workshop, Moline – January 7th 2025**
- Impacts of newly invaded flowering rush on macrophyte diversity & composition in the Upper Mississippi River – **Wetland Science Conference, La Crosse – February 25-27th, 2025**
- Monitoring aquatic plant recovery in the Upper Mississippi River - **Wetland Science Conference, La Crosse**
- Wild rice recovery in the Upper Mississippi River – **La Crosse Area Leopold Day Celebration**, The Nature Center (outreach table that will highlight UMRR/LTRM monitoring and wild rice dynamics in the river) – February 27th, 2025
- Wild rice dynamics in the Upper Mississippi River – **Green Bay Restoration Team (virtual)**

Estimates of under-ice fish dynamics – Ben Patschull
"Evaluation of an Underwater Camera Method to Sample Freshwater Fish Assemblages Under the Ice" – **Wisconsin Chapter of AFS**

Other
"Long term monitoring of Pool 8 of the Upper Mississippi River: lessons learned from decades of change" – Patrick Kelly **UWL – USGS Joint Seminar, UMESC – February 6th 2025**

Pool 26 Field Station Update

- Provided information on fishes, river ecology, general ecology, as well as samples and/or data on fishes and ecology of the Mississippi River to the biologists, academics, the press, students and the general public.
- Collected and provided fish samples and loaned our mussel collection to a teacher from Southern Illinois to train their students for the **Illinois State Environthon competition**.
- Collected fish from the Mississippi River and provided information about the species to the **National Great Rivers Museum (the Corps of Engineers) display tanks, Alton, IL**.
- Collected fish from the Mississippi River for a 5000-gallon aquarium display at the IDNRs 35th annual, **Two Rivers Family Fishing Fair at Pere Marquette State Park, Grafton, IL.**
- Assisted with a fish identification teaching booth at the IDNRs 35th annual, **Two Rivers Family Fishing Fair at Pere Marquette State Park, Grafton, IL.**
- Collected specimens of Skipjack herring to **assist a graduate student** with their project.
- Provided opportunities for students to experience various types of fisheries, invertebrate and water quality field work, and provided training of basic field skills and techniques.

Lower Pool 13 HARP* Update

*HREP-associated research project

1) Pilot a radar wave monitoring system to measure pre-project wave conditions

2) Evaluate relationships between wind, waves, and turbidity, and assess the relative contributions of upstream sources and local resuspension on turbidity

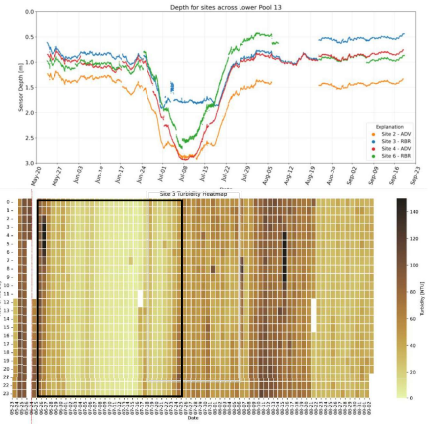
3) Assess spatial patterns and quantify relationships among wild celery, turbidity, velocity, and wave dynamics

4) Evaluate relationship between relative substrate stability and mussel assemblage characteristics

Upper Mississippi River Restoration
Leading Innovating Partnering

2024 Field Season

2024 Field Season



2025 Field Season

- **Current plan**
  - **April – August deployment**
    - Radar
    - Water quality sondes, pressure sensors, and acoustic doppler velocimeters
  - **3 FLAMe trips**
    - Before, during, and after vegetation growth
  - **Aquatic vegetation surveys**
    - **105 sites ~ August**

LTRM Implementation Planning Recommended Information Needs Update

- Geomorphic trends in the UMRS
- River gradients from Pool 14 to Pool 25
- Floodplain vegetation change across system
- Lower trophic contribution (zooplankton and phytoplankton)

Currently funded

- Learning from restoration
- Aquatic plant distribution
- Terrestrial and aquatic herpetofauna (amphibians and reptiles)
- Freshwater mussels
- Macroinvertebrates*

Initial assessment of primary impacts of terminated positions

- At least 28 products or milestones will be delayed or cancelled
- Pool 13 HARP
  - GS-11 Physical Scientist on Pool 13 HARP project;
    - For Objectives 2 and 3: this position was to be the lead on designing field data collection, analysis, interpretation and writing for 3 manuscripts
  - GS-11 Research Biologist and a GS-5 Term Biologist both working on Freshwater mussels.
    - Were responsible for substantial work within Objective 4 of Pool 13 HARP
  - Many aspects of Pool 13 HARP will be affected
  - We will pursue a subset of the originally intended products at the loss of planned work on other projects. Details TBD

Initial assessment of primary impacts of terminated positions

- GS-11 Biologist working on multiple floodplain forest and hydrology projects
  - Assessing forest development processes and pathways in floodplain forests along the Upper Mississippi River using Dendrochronology
  - Generating future hydrology and water temperature projections for the UMRS using hybrid deep learning [water temperature data base portion of this project likely cancelled]
  - Draft Report: Effects of management actions and hydrological changes on forest succession at Reno Bottoms
  - Information Need 1.1: Systemic Assessments of Floodplain Vegetation.

Initial assessment of primary impacts of terminated positions

- GS-11 Research Biologist and a GS-5 Term Biologist both working on Freshwater mussels
  - Pool 13 HARP: Objective 4
    - Draft publication on linkages between native freshwater mussel assemblages and substrate stability. May not be possible to proceed with these analyses and the associated publication.
  - Previously funded UMRR Science Meeting Project: Strategic approach to identify HREP features that promote dense and diverse mussel assemblages
    - Eliminated positions were responsible for:
      - Serving on the team planning the organization of the project workshop
      - Literature review of habitat characteristics that promote dense and diverse mussel assemblages in large rivers
      - Literature review of existing mussel response metrics
      - Producing a guidance document for best management practices for incorporating mussel features into HREPs to IPDS.

Initial assessment of primary impacts of terminated positions

- GS-9 Computer Scientist (Geospatial)
  - Was assisting LTRM data manager with
    - modernizing and updating data collection applications
    - Updating the WQ fixed site data tool
    - Modernizing the LTRM web applications to be more mobile friendly and better display 30+ years of long term data.

Upper Mississippi River Restoration Program

Upper Mississippi River Restoration

Upper Mississippi River Restoration Program

The Upper Mississippi River ecosystem is healthier and more resilient because of the Upper Mississippi River Restoration Program (UMRR)

- UMRR is a premier example of multi-purpose river management, underscoring the value of integrating ecological, economic, and social interests in large river management.
- UMRR restores large complexes of fish and wildlife habitat, providing protection, nesting, and feeding areas for a diverse set of fish, birds, mussels, mammals, reptiles, and amphibians, including a number of rare and endangered species.
- UMRR supports jobs and economic growth through the Upper Mississippi River System.
- UMRR depends on, and is driven by, a truly unique and remarkable partnership network. The ongoing commitments from all partners are essential to the program's success.

Upper Mississippi River Ecosystem: Status and Trends of its Health and Resilience

The river is changing for a variety of reasons, but mostlybecause of changing hydrology and invasive species. The Upper Mississippi River System is a large and diverse ecosystem with many regional differences. The changes in the river are occurring differently and at different rates within the Upper Mississippi River System.

- There is **more water** in the river **more of the time.** High flows are lasting longer and occurring more frequently throughout the system. This is important because water flow is the primary driver affecting the quality and quantity of habitat.
- **Floodplain forest loss has occurred in nearly all study areas** except south of the locked portion of the river. The forests may be responding to changes like increased flood inundation and invasive species.
- In most of the river system, **water in main channel has become clearer and aquatic plants have become more abundant**, improving habitat for some fish and wildlife. Increased water clarity in the river allows sunlight to reach deeper into the water and promotes plant growth. Those plants slow water flow and anchor the sediment, which further improves water clarity and triggers more plant growth.
- **Concentration of nutrients, notably nitrogen and phosphorus, remain high**, exceeding U.S. Environmental Protection Agency benchmarks. However, total phosphorus concentrations have declined in many of the studied reach areas.
- **The river continues to support diverse and abundant fishes.** Recreational fishes have increased in parts of the system. However, there have been substantial declines in forage fish, an important food source for larger fishes and animals, throughout the river network. Invasive carps have substantially affected the river ecosystem where they have become common.

For 30 years UMRR's long term resource monitoring has captured trends in nutrient concentrations, plant community changes, thermal loss across the system, and the impacts from invasive carp expansion to the abundance and diversity of native fishes.

UMRR plans to advance the following initiatives through 2028, pending continued appropriations:

- Implement habitat projects at a steady pace, proactively ensuring a strategic flow of projects through the planning, design, construction, and evaluation phases.
- Integrate knowledge of ecological resilience into habitat project planning, design, and evaluation.
- Track biological responses to UMRR's habitat projects and implement adaptive management approaches in more deliberate ways.
- Assess and detect changes in the health and resilience of the Upper Mississippi River System.
- Foster and strengthen existing and new partnerships.

This information is available in greater detail in the following scientific publications:

2022 Ecological Status and Trends of the Upper Mississippi and Illinois Rivers

2018 UMRR Habitat Needs Assessment II

Restoring Complexes of Habitat: Portfolio of Projects in 2017 - 2022

Habitat Rehabilitation and Enhancement Projects

- UMRR has constructed seven habitat restoration and enhancement projects (HREPs) since 2017.
- These seven projects save **improved 15,400 acres of habitat** which provides protection, nesting, and feeding areas for fish, birds, mammals, reptiles and amphibians.
- This brings the **total program investment to 63 constructed habitat projects** spanning 121,400 acres of aquatic floodplain as of December 2024.

HREPs Constructed 2017-2022

1. Bass Ponds (MN-2)
2. Conway Lake (IA-1, WI-3)
3. Harpers Slough (IA-1, WI-3)
4. Pool 12 Overwintering (IA-1, IL-17)
5. Beaver Island (IA-1, IL-17)
6. Huron Island (IA-1, IL-15)
7. Ted Shanks Conservation Area (MO-6, IL-15)

HREPs in Planning, Design, Feasibility

There are 26 habitat projects currentlt in feasibility, planning, and design as of December 2024.

- 5 in feasibility
- 8 in planning
- 13 in design

Technique	Objectives
Dredge backwaters	• Alter flow patterns and velocity • Improve floodplain structural diversity • Increase deep-water fish habitat for overwintering • Provide access for fish movement
Manage water levels	• Restore more natural hydrologic cycles in project area • Promote growth of aquatic plants as food for waterfowl • Reduce backwater sediment loads • Consolidate bottom sediments • Control rough fish
Build islands	• Decrease wind and wave action • Alter flow patterns and sediment transport • Improve aquatic plant growth • Improve floodplain structural diversity • Provide nesting and loafing habitat for waterfowl and turtles • Promote growth of woody vegetation

Restoring for Purpose

UMRR's habitat restoration and enhancement projects create and protect mosaics of different habitat types.

Floodplain Reconnection and Restoration. Hundreds of thousands of acres of floodplain habitat have been cut-off from the Upper Mississippi River by levees. Reconnecting some of this land would increase flood storage capacity, improve water quality, and provide valuable habitat for fish and wildlife.

Water Level Management. Much of the flora and fauna native to the Upper Mississippi River region is adapted to the wide variations in water levels that characterized the river prior to establishment of the lock and dam system. Since the implementationof the nine-foot channel, however, those variationshave been truncated, with the low river stage portion of its hydrograph increased to support commercial navigation. Restoring natural water variability at UMRR habitat projects encourages plant growth that is important to food and refuge.

Backwater Restoration I an important component of HREPs because of the widespread loss of backwater and secondary channel depth and depth diversity. The loss of depth and depth diversityare due to the high rates of sediment deposition in th UMRS. Restoring water depth and diversity creates important habitat for fish, especially in winter, when backwaters provide refuge from harsh conditions in main channel areas. Backwater dredging often complements other project components, such as island or levee construction.

Island Restoration and Construction. Prior to impoundment, the Upper Mississippi River had a braided island form along much o its length. Many of the islands were inundated when thelock and dam system was established, and others were lost subsequently to increased wind-wave erosion. Restoring these islands protects the shoreline from wave- and wind action while providing important habitat for fish wildlife, and plants.

Working in Partnership

The UMRR program is a product of regional collaboration and operates through a truly unique and remarkable partnership infrastructure. The ongoing commitments from all partners have been vital to UMRR's effective habitat restoration and knowledge-building efforts on the Upper Mississippi River System.

This information was developed by the partnership in the **2022 Report to Congress**, available here.

US Army Corps of Engineers

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

DEPARTMENT OF NATURAL RESOURCES

USGS science for a changing world

IOWA DNR

UMRBA Upper Mississippi River Basin Association