Hampton Inn Alton, Illinois

Upper Mississippi River Restoration Program Coordinating Committee

Quarterly Meeting

November 20, 2024

Agenda

with Background and Supporting Materials



Upper Mississippi River Restoration Coordinating Committee

November 20, 2024 Agenda

Time	Page	Торіс	Presenter
8:00 a.m.		Welcome and Introductions	Sabrina Chandler, USFWS
8:10	A1-10	Approval of Minutes of August 7, 2024 Meeting	
8:20	B1-4	 Regional Management and Partnership Collaboration FY 2024 Fiscal Update and FY 2025 Outlook Program Efforts Schedule USACE Headquarters Staff Visit to the Region HREP Selection UMRR Strategic Planning 	Marshall Plumley, USACE
9:15	C1-3	Strategic Planning Exercise	Chrissa Waite, USACE
10:15		Break	
10:30		Communications — UMRR Communications Team — External Communications and Outreach Events	Rachel Perrine, USACE All
11:00 a.m.	D1-2	UMRR Showcase Presentation — Side Channel Restoration	Kristen Bouska, USGS
12:00 noon		Lunch	
1:00 p.m.	E1-21	 Program Reports Long Term Resource Monitoring and Science FY 2024 Third Quarter Highlights Implementation Planning Update USACE Update A-Team Report Habitat Rehabilitation and Enhancement Projects District Reports 	Jeff Houser, USGS Davi Michl, USACE Matt O'Hara, Illinois DNR Angela Deen, Julie Millhollin, and Brian Markert, USACE
3:00	F1-13	Other Business — Future Meeting Schedule	
3:10 p.m.		Adjourn	

ATTACHMENT A

<u>Minutes of the August 7, 2024</u> <u>UMRR Coordinating Committee Quarterly Meeting</u>

(A-1 to A-10)

Minutes of the Upper Mississippi River Restoration Program Coordinating Committee

August 7, 2024 Quarterly Meeting

Edina, MN

Kelly Keefe of the U.S. Army Corps of Engineers called the meeting to order at 8:09 a.m. on Aug 7, 2024. Other UMRR Coordinating Committee representatives present were Jim Fischer (USGS) on behalf of Jeff Houser, Sabrina Chandler (USFWS), Dave Glover (Illinois DNR), Vanessa Perry (Wisconsin DNR), Matt Vitello (Missouri DoC), Grant Wilson (Minnesota DNR), Kirk Hansen (Iowa DNR). A complete list of attendees follows these minutes.

Minutes of the May 22, 2024 Meeting

Marshall Plumley requested that "Rock Island District" be replaced with "St. Louis District" in the third sentence in the FY 2024 Fiscal Update section on page A-1 of the draft minutes. Plumley also noted that there are a few minor editorial corrections to be made.

Jim Fischer moved and Matt Vitello seconded a motion to approve the draft minutes of the May 22, 2024 meeting as corrected. The motion carried unanimously.

Regional Management and Partnership Collaboration

Fiscal Report

Marshall Plumley announced that UMRR is scheduled to execute over 95 percent of its FY 2024 appropriation of \$55 million by the end of the fiscal year. Plumley acknowledged the contributions of all UMRR partners who are involved in the program's implementation.

Plumley said the House of Representatives and Senate Appropriations Committee have included \$55 million in their respective FY 2025 energy and water appropriations measures, aligning with the President's budget proposal. With the Administration, House, and Senate Appropriations Committee all proposing \$55 million for UMRR in FY 2025, the Corps anticipates being able to proceed with program implementation at \$55 million if the FY 2025 appropriations process is extended through a continuing resolution.

Plumley explained the anticipated internal program allocations at the \$55 million appropriation scenario for FY 2025, as outlined below. Plumley mentioned that programmatic activities in FY 2025 will center around strategic planning, preparing for UMRR's 40th anniversary in 2026, and selecting the next iteration of HREPs. In response to questions from Kirsten Wallace, Vanessa Perry, and Davi Michl, Plumley pointed to several other programmatic activities such as public participation and another iteration of the program's habitat needs assessment. Plumley explained that these other programmatic activities are integrated into the strategic planning deliberations. In response to a request from Kirk Hansen, Plumley agreed that a conversation is warranted regarding the relationship among UMRR and NESP ecosystem investment planning – i.e., a next iteration of the UMRR habitat needs assessment and NESP reach planning.

UMRR FY 2025 Work Plan

Regional administration and program efforts	 \$2,225,000
Regional science and monitoring	 \$15,925,000
Long term resource monitoring	 \$6,500,000
Science supporting rehabilitation/management	 \$7,950,000
Regional integration/adaptive management	 \$200,000
Habitat evaluation	 \$1,275,000
Habitat rehabilitation planning and construction	 \$36,850,000
St. Paul District	 \$9,900,000
Rock Island District	 \$13,925,000
St. Louis District	 \$12,925,000
Model certification	 \$100,000

HREP Implementation Report

The Beaver Island HREP construction is complete and a ribbon cutting ceremony is scheduled for October 1. Rock Island District will advance construction on other HREPs and initiate planning on a new project in FY 2025. The new project to begin planning has yet to be determined. Plumley reviewed the UMRR 10-year implementation strategy, including recent adjustments to account for realized project deliverables.

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. The process schedule for project selection anticipates that the UMRR Coordinating Committee will review and endorse fact sheets by the third quarter of FY 2025 – i.e., April 2025 through June 2025. Following the Coordinating Committee's endorsement of projects, the respective Districts will submit them to MVD for review and approval prior to initiating planning. The Rock Island District is allocating personnel to employ environmental justice analysis of potential projects.

Plumley acknowledged the UMRR partnership's consideration of how the program might advance environmental justice principles or objectives. Plumley anticipates further partnership discussions on environmental justice approaches through UMRR, including in the ongoing strategic planning process and at a possible future workshop.

Plumley explained the Corps' request for the information provided in individual fact sheet proposals, including type of material, transportation distance of construction materials, flow conditions, constructability issues, and water depths at feature locations. The Corps will need at least two to three weeks to develop cost estimates associated with those variables prior to submitting the fact sheets to the executive-level river teams. De-scoping will need to occur for projects with an estimated cost exceeding \$40 million. This includes the costs associated with planning, design, construction, and contingency.

Sabrina Chandler reported on the concerns being expressed by agency staff regarding the level of information being requested. Chandler said the instructions have caused confusion among the river teams

and that the level of information being sought is challenging from a workload perspective. The concern is also being heightened because the information being requested may become obsolete before project fact sheets are concerned for approval and moved into planning. Plumley explained that the Corps is coordinating with agency leaders and river team chairs to clarify and simplify the requests for information. The purpose of the request for more detailed information is to refine potential cost estimates. Plumley explained that recently completed feasibility study cost estimates were significantly higher than the corresponding 2020 fact sheet estimates. This gap has caused implementation challenges for the program. Plumley explained that the Corps has received bids for construction that are markedly different than the construction cost estimate. The Corps will monitor whether the issue is unique and short-term or whether it might represent a larger trend for UMRR HREPs.

Strategic Planning

Chrissa Waite updated the UMRR Coordinating Committee on the process and content of UMRR strategic planning. The purpose of the process is to support the strategic management of the UMRR program and to enhance collaboration among the partnership. The process involves a collaboration among the UMRR Coordinating Committee, strategic planning team, an independent facilitator (i.e., Waite), and various stakeholders, individuals, and organizations. The products or outcomes will include a program mission, vision, goals, objectives, and strategies as well as articulated strategic issues and response, an implementation plan and evaluation, and stronger relationships among the UMRR partners.

UMRR partners have successfully completed the first two phases of a strategic planning process: understanding strategic issues and developing strategic goals and objectives. UMRR agency partners were joined by several leaders in the conservation community for an in-person strategic planning session on July 23-25, 2024. The next phases of the strategic planning process are to draft strategies and actions, employ a public review process, and finalize the strategic plan.

Waite provided a preview of the July 23-25 highlights and outcomes, including statements of success, opportunity, partnership, weaknesses, threats, and critical issues. Plumley reflected on the cordial environment of the partnership collaboration at the strategic planning session, and thanked the various partner agencies and leaders for their contributions. Chandler echoed Plumley's acknowledgment of the partnership, and also commemorated Plumley for his leadership of the program in ways that facilitate healthy partnership collaborations. Kirk Hansen and Jim Fischer provided their gratitude for the facilitation and partnership participation in the strategic planning session, including the contributions of non-governmental individuals and organizations.

Brian Stenquist commended Waite for her effective facilitation leadership. In response to a question from Stenquist about anything that might be missing or any blind spots, Waite noted the value of the strong relationship among UMRR partners. The strength of the partnership is unique and an important asset, and maintaining the partnership, particularly with more frequent anticipated turnover, will require continuous care and feeding. Waite underscored the value of UMRBA in continuously maintaining consistency in partnership collaboration. *Authorizing Legislation*

Congress is drafting the Water Resource Development Act of 2024. On July 22, 2024, the House of Representatives passed its Water Resources Development Act of 2024 bill. The Senate passed its version of the legislation on August 1, 2024. The timeline for the two chambers to reconcile the legislation and proceed to enactment is unknown.

The current annual authorized appropriation for UMRR is \$90 million; with \$75 million authorized annually for HREP implementation and \$15 million authorized annually for long term resource monitoring. The House of Representatives and Senate are proposing to amend the appropriation limit for long term resource monitoring to \$20 million annually and \$25 million annually, respectively.

Memorandums of Agreement

The Corps has submitted to the Office of the ASA(CW) on July 11, 2024 a model Memorandum of Agreement (MOA) for the agency's use in advancing UMRR HREPs that are on federal lands and that are managed by a state or local government. Marshall Plumley will report to the UMRR Coordinating Committee when the ASA(CW)'s Office has reached a decision on the Corps' proposed model agreement. A similar agreement for NESP projects was developed and submitted at the same time.

UMRR Showcases

Thin Layer Placement: Lessons Learned from McGregor Lake HREP

John Henderson presented on UMRR's implementation of thin layer placement as a part of the McGregor Lake HREP. Thin layer placement is the strategic placement of small lifts (i.e., between 6 inches and 36 inches) of dredged material onto existing surfaces to raise the ground elevation to a more suitable hydraulic position for bolstering vegetation growth and survival. Henderson explained the state of knowledge of using thin layer placement as a restoration tool and the various considerations and factors for implementing thin layer placement at McGregor Lake HREP.

Henderson concluded that thin layer placement proved to be a worthwhile technique at McGregor Lake HREP and recommended that UMRR continue to test and refine the technique at future HREPs. Henderson offered the following questions for consideration in using the technique:

- What is the impact of material placement on top of and around existing vegetation?
- How can the design of thin layer placement be improved to increase constructability?
- What is the impact of flocculant on settlement times in large project features?

Kelly Keefe applauded the innovation and pointed to a change in Corps' policy to implement nature base solutions that is allowing for this kind of positive innovation.

Sturgeon Spawning Reef Planning at Robinson Lake

Kacie Grupa explained the analysis and planning of the Robinson Lake HREP to restore the conditions that support sturgeon spawning reef. Grupa explained the planning variables and thresholds for creating spawning reef conditions (i.e., water temperature, depth, velocity, and substrate) and how the Robinson Lake HREP was designed to generate the favorable conditions. Ultimately, the feasibility design includes four spawning reefs. The project is designed so that the reefs remain free of sediment.

Grupa offered the following suggestions for future projects intended to restore sturgeon spawning habitat: refine reefs to be aligned with water flows, analyze velocities for minimum substrate gradation to avoid mobilization, and refine chosen substrates.

Phytoplankton Assemblage Dynamics in Relation to Environmental Conditions in a Riverine Lake

Rob Burdis explained the results of a recent study on the phytoplankton assemblage dynamics in Lake Pepin, located in Pool 4. With monthly samples spanning from 2012 to 2014 in four locations in Lake Pepin, the results lend insight into the controlling variables affecting the phytoplankton assemblages. Year, month, and year and site showed the greatest statistical significance as influencing factors.

Program Reports

Long Term Resource Monitoring, Research, and Other Science

Fiscal Report

UMRR is planning to allocate \$13.85 million of its FY 2024 appropriation (i.e., \$55 million) to long term resource and monitoring. This includes \$5.5 million for base monitoring, \$1.5 million for scientific investigations using that base monitoring for analysis (analysis under base), and \$6.85 million for scientific investigation related to river restoration and management information needs. In FY25, total budget allocation for LTRM will increase to \$14.45 million: \$6.5 million for base monitoring, \$2 million for analysis under base, and \$5.95 million for science in support of restoration and management. This increase is in recognition of increasing base monitoring costs over the past several years.

Quarterly Progress Report

Jim Fischer reported that the accomplishments of the third quarter of FY24 include the publication of the following six manuscripts:

- 1) Reduction of large vessel traffic improves water quality and alters fish habitat-use throughout a large river.
- 2) Identifying conditions where reed canarygrass (*Phalaris arundinacea*) functions as a driver of forest loss in the Upper Mississippi River floodplain under different hydrological scenarios.
- 3) The where and why of large wood occurrence in the Upper Mississippi and Illinois Rivers.
- 4) Invasive Round goby *Neogobius melanostomus* distribution, relative abundance, and establishment in pools of the Illinois Waterway following 30 years of invasion.
- 5) Smallmouth buffalo (*Ictiobus bubalus* Rafinesque) population trends and demographics in the Upper Mississippi River System.
- 6) Distribution of invasive scud, *Apocorophium lacustre* (Vanhoffen, 1911) in the Illinois Waterway, USA: Do habitat and water quality variables influence spatial distribution and relative abundance?

Fischer said USGS provided several presentations about long term resource monitoring research and analysis at the June 2-7, 2024 Association for the Sciences of Limnology and Oceanography Annual Meeting.

Per the UMRR Implementation Planning Recommendations, USGS and the broader LTRM partnership are focused on evaluating floodplain vegetation change across the Upper Mississippi River System and researching the lower trophic contribution – i.e., zooplankton and phytoplankton.

Large-scale system topobathy acquisition of all Illinois River pools (La Grange to Lockport) and the southern portion of the Open River reach tracking to award contracts by September 30, 2024. Additionally, a pilot

study of the Lower Pool 13 HREP area will be awarded this fiscal year to support project planning and design.

A-Team Report

Matt O'Hara reported that the A-Team met on July 26, 2024. The A-Team reflected on the 2024 Science Meeting and discussed the ranking of science proposals. O'Hara noted that A-Team members called for additional time for review, perhaps by initiating the review process earlier in the year. In addition to programmatic updates by the Corps and USGS, Shawn Giblin presented information about nutrient loading trends at Trempealeau Lake and LTRM field stations shared their experiences and impacts of monitoring during summer flood conditions. The next A-Team meeting is scheduled for October 2024.

HREP Planning and Construction

Angela Deen, Julie Millhollin, and Brian Market reported on the progress in implementing UMRR HREPs, including the following milestones:

- MVD approved the feasibility report for the Big Lake HREP located in Pool 4.
- The St. Paul District is soliciting bids on Stage 1 of the Lower Pool 10 HREP.
- The Rock Island District submitted to MVD the Quincy Bay tentatively selected plan. Upon approval, the project would advance to construction.
- Construction on Beaver Island HREP is nearing completion, and the Rock Island District has scheduled a ribbon-cutting ceremony for October 1.
- Construction of HREPs in the Rock Island District is being affected by ongoing high water.
- The St. Louis District has submitted to MVD on July 30, 2024 the draft Feasibility Report for the West Alton Islands HREP. Upon approval, the project would advance to construction.
- The St. Louis District is currently solicitating a construction bid on Harlow Islands HREP, anticipating that construction will extend into FY 2025.

Communications

Simplifying Complex Communications

Greg Husak stated that the ultimate goal of communications is to encourage specific actions from the audience. Husak offered the following advice for simplifying complex communications:

- Use simple, high-level messages and allow time for the audience to absorb the information.
- Focus communications on the benefits to the audience (i.e., the why). It is imperative to understand the audience's perspective and to tailor the messages accordingly.
- Structure the communications strategy to be sequential and integrated.

Husak acknowledged that the current landscape, shaped by political events, social changes, and the pandemic, demands a more focused and engaging approach to communication. Traditional methods like posters are no longer effective, and people are less inclined to engage. It is essential to understand how the audience receives information and tailor the message to resonate with them.

Communications and Outreach Team

Rachel Perrine reported on the accomplishments and ongoing activities of the Communications and Outreach Team. On August 1, 2024, UMRR initiated a photo contest among UMRR partners in an effort to obtain visuals for use in UMRR's program materials and communications. The contest is scheduled to close on October 31. Other activities include posting on social media in conjunction with related broad scale events such as World Migratory Bird Day and World Rivers Day. Perrine also anticipates that the Communications and Outreach Team will support communications of the 2022 UMRR Report to Congress.

Partner Activities

UMRR Coordinating Committee members and partners shared the communications or engagements over the last quarter that relate to UMRR, as follows:

- Missouri Department of Conservation hosted public river boat tours on August 21 and September 28.
- Missouri Department of Conservation is participating in a water quality user perception survey that is being conducted by the University of Minnesota.
- The Mississippi River Parkway Commission convened its annual meeting on September 18-20, 2024 in Winona, Minnesota. The Commission discussed partnering opportunities with various organizations and individuals who work on Upper Mississippi River matters.
- The Minnesota Governor Tim Walz celebrated the annual Minnesota fishing opener on the Mississippi River at Lake City. The event included a tour of the Minnesota DNR mussel facility.
- The USFWS Upper Mississippi River Refuge celebrated its 100-year anniversary with various festivities hosted by the Service as well as partner organizations. Presentations of UMRR's habitat restoration and long term resource monitoring received positive response.
- Wisconsin DNR Office of Great Waters is employing a strategic planning process. The planning is largely focused on communications, engagement strategies, and community collaborations for monitoring, restoration, and science.

— On July 22, 2024, USFWS published a 'Fish of the Week' podcast episode about Smallmouth Buffalo. Levi Solomon and Kris Maxson of the Illinois River Biological Station were interviewed about the fish.

Other Business

Future Meeting Schedule

- November 2024 in Alton, Illinois
 - UMRBA quarterly meeting November 19
 - UMRR Coordinating Committee quarterly meeting November 20
- February 2025 through a virtual platform (not in-person)
 - UMRBA quarterly meeting February 25
 - UMRR Coordinating Committee quarterly meeting February 26
- May 2025 in La Crosse, Wisconsin
 - UMRBA quarterly meeting May 20
 - UMRR Coordinating Committee quarterly meeting May 21

Attendance List

UMRR Coordinating Committee Members

Kelly Keefe	U.S. Army Corps of Engineers
Sabrina Chandler	U.S. Fish and Wildlife Service, UMR Refuges
Jim Fischer	U.S. Geological Survey, UMESC [On behalf of Jeff Houser]
Dave Glover	Illinois Department of Natural Resources
Kirk Hansen	Iowa Department of Natural Resources
Grant Wilson	Minnesota Department of Natural Resources
Matt Vitello	Missouri Department of Conservation
Vanessa Perry	Wisconsin Department of Natural Resources

Others In Attendance

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Brian Chewning	U.S. Army Corps of Engineers, MVD
Thatch Shepard	U.S. Army Corps of Engineers, MVD
Angela Deen	U.S. Army Corps of Engineers, MVP
John Henderson	U.S. Army Corps of Engineers, MVP
Kacie Grupa	U.S. Army Corps of Engineers, MVP
Samantha Thompson	U.S. Army Corps of Engineers, MVP
Marshall Plumley	U.S. Army Corps of Engineers, MVR
Davi Michl	U.S. Army Corps of Engineers, MVR
Julie Millhollin	U.S. Army Corps of Engineers, MVR
Jessie Dunton	U.S. Army Corps of Engineers, MVR
Davi Michl	U.S. Army Corps of Engineers, MVR
Rachel Perrine	U.S. Army Corps of Engineers, MVR
Steve Gustafson	U.S. Army Corps of Engineers, MVR
Brian Johnson	U.S. Army Corps of Engineers, MVS
Brian Markert	U.S. Army Corps of Engineers, MVS
Jasen Brown	U.S. Army Corps of Engineers, MVS
John Peukert	U.S. Army Corps of Engineers, MVS
Ryan Swearingin	U.S. Army Corps of Engineers, MVS
Chrissa Waite	U.S. Army Corps of Engineers, SAC
Richard Vaughn	U.S. Department of Agriculture, NRCS
Kraig McPeek	U.S. Fish and Wildlife Service, Ecological Services
John Winter	U.S. Fish and Wildlife Service, Ecological Services
Matt Mangan	U.S. Fish and Wildlife Service, UMR Refuges
Christopher Churchill	U.S. Geological Survey, UMESC
Kristen Bouska	U.S. Geological Survey, UMESC
JC Nelson	U.S. Geological Survey, Midcontinent Region
Matt O'Hara	Illinois Department of Natural Resources
Greg Husak	Minnesota Department of Natural Resources
Neil Rude	Minnesota Department of Natural Resources
Rob Burdis	Minnesota Department of Natural Resources
Sammi Boyd	Wisconsin Department of Natural Resources
Brent Newman	Audubon
Anshu Singh	Corn Belt Ports
Chris Smith	Corn Belt Ports
Greg Orum	Idaho Power

Madeline Castle Senator Josh Hawley Kirsten Wallace Upper Mississippi River Basin Association Brian Stenquist Upper Mississippi River Basin Association Upper Mississippi River Basin Association Mark Ellis Natalie Lenzen Upper Mississippi River Basin Association Sadie Neuman Upper Mississippi River Basin Association Lauren Salvato Upper Mississippi River Basin Association Laura Talbert Upper Mississippi River Basin Association

ATTACHMENT B

Regional Management and Partnership Collaboration

- UMRR Quarterly Budget Reports (11/6/2024) (B-1 to B-3)
- UMRR 10 Year Outlook FY 24 FY 34 (11/6/2024) (*B-4*)

UMRR Quarterly Budget Report: Rock Island District FY2024 Q4; Report Date: Mon Nov 04 2024

Habitat Projects

		Cost Estimates		FY2024 Financials			
Project Name	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Beaver Island	-	\$25,288,000	\$25,288,000	-	-	-	\$23,751
Green Island, IA	-	\$16,600,000	\$16,600,000	\$131,858	\$1,900,000	\$2,031,858	\$561,882
Huron Island	-	\$15,773,000	\$15,773,000	\$2,383	-	\$2,383	\$2,502
Keithsburg Division	-	\$29,643,000	\$29,643,000	\$78,794	\$500,000	\$578,794	\$937,737
Lower Pool 13	-	\$26,083,000	\$26,083,000	-	\$550,000	\$550,000	\$706,967
Lower Pool 13 Phase II	-	\$20,000,000	\$20,000,000	\$8,035	\$600,000	\$608,035	\$420,932
Pool 11, WI	-	\$25,000,000	\$25,000,000	-	\$50,000	\$50,000	\$118,350
Pool 12 (Forestry)	-	\$9,000,000	\$9,000,000	\$45,550	\$600,000	\$645,550	\$554,989
Pool 18 Forestry	-	\$20,000,000	\$20,000,000	-	\$600,000	\$600,000	\$462,213
Quincy Bay, IL	-	\$25,000,000	\$25,000,000	\$68,096	\$700,000	\$768,096	\$513,963
Steamboat Island	-	\$41,977,000	\$41,977,000	\$54,700	\$8,200,000	\$8,254,700	\$8,027,103
Total	-	\$254,364,000	\$254,364,000	\$389,416	\$13,700,000	\$14,089,416	\$12,330,389

Habitat Rehabilitation

Subastagan	FY2024 Financials			
Subcategory	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	\$588,723
Total	-	-	-	\$588,723

Regional Program Administration

Subostogoty	FY2024 Financials			
Subcategory	Carry In	Allocation	Funds Available	Obligations
Adaptive Management	\$2,828	\$200,000	\$202,828	\$155,226
Habitat Eval/Monitoring	\$165,721	\$425,000	\$590,721	\$612,272
Model Certification/Regional HREP	-	\$100,000	\$100,000	\$53,227
Public Outreach	-	\$50,000	\$50,000	\$24,896
Regional Program Management	\$162,211	\$1,500,000	\$1,662,211	\$1,449,886
Regional Project Sequencing	-	\$125,000	\$125,000	\$98,885
Total	\$330,760	\$2,400,000	\$2,730,760	\$2,394,392

Regional Science and Monitoring

Subastagan/	FY2024 Financials			
Subcategory	Carry In	Allocation	Funds Available	Obligations
Long Term Resource Monitoring	\$174	\$5,500,000	\$5,500,174	\$6,878,535
Science in Support of Restoration/Management	-	\$8,350,000	\$8,350,000	\$8,234,875
Total	\$174	\$13,850,000	\$13,850,174	\$15,113,410

	Carry In	Allocation	Funds Available	Actual Obligations
Rock Island Total	\$720,350	\$29,950,000	\$30,670,350	\$30,426,914

UMRR Quarterly Budget Report: St. Louis District FY2024 Q4; Report Date: Mon Nov 04 2024

Habitat Projects

		Cost Estimates		FY2024 Financials			
Project Name	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Clarence Cannon	-	\$29,800,000	\$29,800,000	\$51,513	\$650,000	\$701,513	\$573,626
Crains Island	-	\$36,562,000	\$36,562,000	\$3,340	\$4,825,000	\$4,828,340	\$1,853,108
Gilead Slough	-	\$20,000,000	\$20,000,000	\$2,454	\$550,000	\$552,454	\$688,058
Harlow Island	-	\$37,971,000	\$37,971,000	-	\$925,000	\$925,000	\$4,677,806
Oakwood Bottoms	-	\$34,200,000	\$34,200,000	-	\$525,000	\$525,000	\$131,121
Piasa - Eagle's Nest Islands	-	\$26,746,000	\$26,746,000	-	\$3,950,000	\$3,950,000	\$2,366,670
Red's Landing Wetlands	-	\$16,573,680	\$16,573,680	-	\$475,000	\$475,000	\$331,716
West Alton Missouri Islands	-	\$14,500,000	\$14,500,000	-	\$400,000	\$400,000	\$368,329
Yorkinut Slough, IL	-	\$15,500,000	\$15,500,000	\$5,721	\$750,000	\$755,721	\$702,167
Total	-	\$231,852,680	\$231,852,680	\$63,028	\$13,050,000	\$13,113,028	\$11,692,601

Habitat Rehabilitation

Subostogoty	FY2024 Financials			
Subcategory	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	\$819,938
Total	-	-	-	\$819,938

Regional Program Administration

Subostogony	FY2024 Financials			
Subcategory	Carry In	Allocation	Funds Available	Obligations
Habitat Eval/Monitoring	-	\$425,000	\$425,000	\$628,632
Total	-	\$425,000	\$425,000	\$628,632

	Carry In	Allocation	Funds Available	Actual Obligations
St. Louis Total	\$63,028	\$13,475,000	\$13,538,028	\$13,141,171

UMRR Quarterly Budget Report: St. Paul District FY2024 Q4; Report Date: Mon Nov 04 2024

Habitat Projects

		Cost Estimates		FY2024 Financials								
Project Name	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations					
Conway Lake	-	\$7,413,000	\$7,413,000	-	-	-	-\$6,279					
Lower Pool 10 Island and Backwater Complex	-	\$32,428,000	\$32,428,000	\$78,068	\$5,000,000	\$5,078,068	\$8,092,957					
Lower Pool 4, Big Lake	-	\$39,500,000	\$39,500,000	\$29,071	\$250,000	\$279,071	\$305,601					
Lower Pool 4, Robinson Lake, MN	-	\$39,500,000	\$39,500,000	\$29,061	\$550,000	\$579,061	\$460,980					
McGregor Lake	-	\$20,336,695	\$20,336,695	\$60,065	\$350,000	\$410,065	\$222,295					
Reno Bottoms	-	\$38,965,000	\$38,965,000	\$21,379	\$5,000,000	\$5,021,379	\$1,243,095					
Total	-	\$178,142,695	\$178,142,695	\$217,644	\$11,150,000	\$11,367,644	\$10,318,649					

Habitat Rehabilitation

Subastagony	FY2024 Financials										
Subcategory	Carry In	Allocation	Funds Available	Obligations							
District Program Management	-	-	-	\$583,148							
Total	-	-	-	\$583,148							

Regional Program Administration

Subastagatu	FY2024 Financials									
Subcategory	Carry In	Allocation	Funds Available	Obligations						
Habitat Eval/Monitoring	-	\$425,000	\$425,000	\$366,107						
Total	-	\$425,000	\$425,000	\$366,107						

	Carry In	Allocation	Funds Available	Actual Obligations
St. Paul Total	\$217,644	\$11,575,000	\$11,792,644	\$11,267,904

FY 34	October 2033 - September 2034																																			Design Completion = 0	Construction Completion = 4				
FY 33	October 2032 - September 2033																																			Design Completion = 0	Construction Completion = 2				
FY 32	October 2031 - September 2032																																		Feasibility Completion = U	Design Completion = 0	Construction Completion = 2				
FY 31	October 2030 - September 2031																																	it: it:		Design Completion = 1	Construction Completion = 6				
FY 30	October 2029 - September 2030																																		Feasibility completion = 0	Design Completion = 2	Construction Completion = 2				
FY 29	October 2028 - September 2029					 Accession Accession																													Feasibility Completion = 2	Design Completion = 1	Construction Completion = 4				
FY 28	October 2027 - September 2028																																		Feasibility completion = 2	Design Completion = 5	Construction Completion = 1				
FY 27	October 2026 - September 2027																																		Feasibility completion = 1	Design Completion = 3	Construction Completion = 3				
FY 26	October 2025 - September 2026																																		Feasibility Completion = 4	Design Completion = 3	Construction Completion = 1				
FY 25	October 2024 - September 2025																																	11111		Design Completion = 5	Construction Completion = 0				
FY 24	October 2023 - September 2024																																	Cultur Completion - E		Design Completion = 1	Construction Completion = 1				
	Habitat Rehabilitation and Enhancement Projects	St. Paul District	INICUTEBOT LAKE, WI	LOWEL FOUL TU ISIAIIUS, IA, SLAGE I, II, & III Rend Rottoms MN/IA	Lower Pool 4, Big Lake, WI Stage I	Robinson Lake, MN	Bank Stabilization, Phase I, MN	TBD MVP	Rock Island District	Keithsburg Division, IL	Steamboat Island, IA	Beaver Island Stage I & II, IA	Lower Pool 13, IA	Green Island, IA	Pool 12 Forestry, IL	Quincy Bay, IL	Lower Pool 13 Phase II, IA	Pool 18 Forestry, IA	Lower Pool 11, WI	TBD MVR	St. Louis District	Clarence Cannon NWR. MO	Piasa and Eagles Nest, IL	Crains Islands. IL	Harlow, MO	Oakwood Bottoms, IL	Yorkinut Slough, IL	Swan Lake Flood Damage Rehabilitation, IL	West Alton, MO Islands	Gilead Slough, IL	Reds Landing, IL	Meredosia Island, IL	TBD MVS	upen easchility Dhasa		HKEP PØS PHASE	HREP Construction Phase	HREP M&AM/Sponsor O&M Phase(2)	(2) Physical features are turned over to the sponsor at construction completion	for Operation & Maintenance. Monitoring & Adaptive Management activities	Will Degin (עיתעא 2003) או מוופוועפען מוא אבו גוב ו במשווווע וויבייי.

ATTACHMENT C

Strategic Planning

- Upper Mississippi River Restoration Program Strategic Planning Draft Material (*C-1 to C-2*)
- UMRR Strategic Planning Exercise (C-3)

This version of the vision, mission, goals, and objectives have been reviewed by the Strategic Planning Team and the UMRR Coordinating Committee. They are still in draft form.

Draft Vision

A Healthier and More Resilient Upper Mississippi River Ecosystem that Sustains the River's Multiple Uses

Draft Mission

To collaborate with federal and state agencies and other organizations to create effective habitat restoration projects, generate advanced knowledge through monitoring and research, and engage partners to achieve the vision of the Upper Mississippi River Restoration Program.

Draft Goals

Goal 1: Improve understanding of the structure and function of the Upper Mississippi River ecosystem for better management.

Goal 2: Restore habitat to support the river ecosystem in the face of ongoing stressors and human-caused alterations.

Goal 3: Strengthen collaboration between program elements for efficient science and restoration efforts.

Goal 4: Enhance community engagement and communication using social science methods.

Goal 5: Foster an inclusive partnership to advance UMRR's mission.

Draft Goals & Objectives

Goal 1: Improve understanding of the structure and function of the Upper Mississippi River ecosystem for better management.

Objectives:

- 1.1: Maintain and enhance annual long-term monitoring efforts.
- 1.2: Measure and share the status and trends of river functions and resources every ten years.
- 1.3: Deepen understanding of the ecosystem through targeted research and data collection.

1.4: Anticipate how the ecosystem will respond to changes, especially climate change.

Goal 2: Restore habitat to support the river ecosystem in the face of ongoing stressors and humancaused alterations.

Objectives:

2.1: Address ecological needs through habitat projects based on the best knowledge available.2.2: Restore 60,000 to 80,000 acres of habitat by 2035, with all projects achieving success criteria within ten years of completion.

2.3: Explore and implement new restoration techniques and monitor their effectiveness.

Goal 3: Strengthen collaboration between program elements for efficient science and restoration efforts.

Objectives:

3.1: Develop a framework for ongoing collaboration between program elements.

3.2: Standardize how monitoring data is collected, stored, and shared to enhance learning across projects.

3.3: Improve the chances of successful restoration through targeted research at project sites.

3.4: Apply findings from long-term research more effectively throughout the restoration process.

3.5: Holistically use information from habitat projects in research and design.

3.6: Increase capacity of personnel and knowledge for better collaborative project planning and decision-making.

Goal 4: Enhance community engagement and communication using social science methods.

Objectives:

4.1: Continue implementing the current engagement and communication plan and update it by 2027.4.2: Assess and integrate the role of the Communications and Outreach Team into the overall engagement plan.

4.3: Use social science methods in engagement and communication strategies.

4.4: Create opportunities for community input on UMRR projects and activities.

Goal 5: Foster an inclusive partnership to advance UMRR's mission.

Objectives:

5.1: Create regular opportunities for new and existing partners and stakeholders to discuss key program topics.

5.2: Build and maintain trust within the partnership.

5.3: Address partner capacity issues to ensure ongoing support for the program.

UMRR Strategic Planning Quarterly Meeting Conversation

20 November 2024

<u>Purpose of Conversation</u>: To share where we are with the program vision, mission, goals, and objectives and to get feedback on high-level questions. In addition, to gather some feedback on public participation.

Instructions:

- 1) Individually, take some time to reflect on and answer the questions below.
- 2) Join a breakout group to discuss (both in the room and online).
- 3) Return to the large group to share highlights
- 4) Submit your worksheet in the room. Virtual participants can email to ltalbert@umrba.org.
- 1. What do you like about the current version of the mission, vision, goals, and objectives?

2. How would you improve any of them at this stage?

3. Who are 3-5 important stakeholders that we need to make sure we connect with during our public participation process?

4. Any other thoughts you have on the mission, vision, goals, objectives, and public participation?

ATTACHMENT D

Program Showcase Presentation

– Side Channel Restoration (*D-1 to D-2*)



ScienceDirect

Science of The Total Environment

Volume 871, 1 May 2023, 162132

Understanding ecological response to physical characteristics in side channels of a large floodplain-river ecosystem

Kristen L. Bouska a $\stackrel{ ext{theta}}{
ightarrow}$, Molly Sobotka b $\stackrel{ ext{theta}}{
ightarrow}$, Todd Slack c $\stackrel{ ext{theta}}{
ightarrow}$, Heather Theel d $\stackrel{ ext{theta}}{
ightarrow}$

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https://doi.org/10.1016/j.scitotenv.2023.162132 オ Get rights and content オ

Highlights

- Fish metrics and physical characteristics were analyzed in 52 side channels.
- Important metrics of physical characteristics differed based on fish response variable.
- From 1126 side channels, four classes were identified based on physical characteristics.
- Gradients in diversity and abundance of side channels have restoration implications.

PDF

Help

Abstract

Side channels in large floodplain rivers serve a variety of important ecological roles, particularly in reaches where habitat conditions have been degraded or diminished. We developed hypotheses regarding side channel ecological structure whereby we expected species richness of young-of-year fishes to generally be higher in shallower, more physically heterogeneous side channels with lower velocities, with differences based on reproductive guild. We also hypothesized species richness of adult fishes to be higher in side channels with greater heterogeneity that could support diverse foraging resources and provide refugia during extreme flow conditions. To test these hypotheses, we used a 28-year fish community dataset from the Upper Mississippi and Illinois Rivers. Across six study reaches, we assessed metrics of side channel physical size, heterogeneity, and connectivity that were hypothesized to explain variance of fish community response, while accounting for sitelevel factors across 52 side channels using multilevel models. We then used these side channel-level characteristics in a K-means cluster analysis to classify 1126 side channels across 32 reaches of the river system. Our results indicated that the relative explanatory contributions of physical metrics varied by response variable, providing varying evidence in support of our hypotheses, and indicating that different forms of heterogeneity matter in different ways. Side channel-level factors were more explanatory of fish community responses in side channels of upstream reaches compared to downstream reaches and percent wet forest was the most explanatory side channel-level factor of fish community responses across all models. Our classification of side channels indicated strong spatial contrasts in the abundance and diversity of side channels across reaches. Scaling up to understand how the diversity and abundance of different types of side channels contributes to landscape-scale ecological functions and processes would be useful for establishing targets for reach-scale physical heterogeneity.

Graphical abstract

PDF

Help

ATTACHMENT E

Program Reports

– FY2024 Milestones (October 2024) (*E1 to E21*)

Tracking	Milestone	Original	Modified	Date	Comments	Lead
number		Target Date	Target Date	Completed		
Aquatic Vege	etation Component					
2024A1	Complete data entry and QA/QC of 2023 data; 1250 observations.					
	a. Data entry completed and submission of data to USGS	30-Nov-2023		30-Nov_2023		Lund, Carhart, Fopma
	b. Data loaded on level 2 browsers	15-Dec-2023		1-Mar-2024		Schlifer
	c. QA/QC scripts run and data corrections sent to Field Stations	28-Dec-2023		1-Mar-2024		Sauer, Schlifer
	d. Field Station QA/QC with corrections to USGS	15-Jan-2024		1-Mar-2024		Lund, Carhart, Fopma
	e. Corrections made and data moved to public Web Browser	30-Jan-2024		1-Mar-2024		Larson, Schlifer, Caucutt
2024A2	Web-based: Creating surface distribution maps for aquatic plant species in Pools 4, 8, and 13; 2023 data	31-Jul-2024		31-Jul-24		Larson, Schlifer
2024A3	Wisconsin DNR annual summary report 2023 that combines current year observations from LTRM with previous years' data, for the fish, aquatic vegetation, and water quality components.	30-Sep-2024		1-Jul-24		Bartels, Kalas, Carhart
2024A4	Complete aquatic vegetation sampling for Pools 4, 8, and 13 (Table 1)	31-Aug-2024		31-Aug-2024		Lund, Carhart, Fopma
2024A5	Pool 4: Graphical summary and maps of aquatic vegetation current status and long-term trends.	30-Dec-2024				Lund
2024A6	Pool 8: Graphical summary and maps of aquatic vegetation current status and long-term trends.	30-Dec-2024				Carhart
2024A7	Pool 13: Graphical summary and maps of aquatic vegetation current status and long-term trends.	30-Dec-2024				Fopma
2024A8	Aquatic Vegetation Sampling Protocol Update	30-Sep-2024				Larson, Lund, Carhart, Fopma
		Inte	ended for distributic	, n		
Manuscript a	and data release: Sherman J, St. Clair K, Gray B, Larson D	M (in revision) Pre	dicting a continuous	causal variable		
given ordinal	outcomes and structural zeroes with application to sub	omersed aquatic ve	getation biomass. In	revision at USGS and	d Environmental and Ecolog	ical Statistics since December 2022.

Reviewed again March 2023. IP-149488.

Tracking	Milestone	Original	Modified	Date	Comments	Lead
number		Target Date	Target Date	Completed		
Fisheries Cor	nponent					
2024B1	Complete data entry, QA/QC of 2023 fish data; ~1,590 observations					
	a. Data entry completed and submission of data to USGS	31-Jan-2024		31-Jan-2024		DeLain, Dawald, Bartels, Hine, Kueter, Gittinger, West, Solomon, Maxson
	b. Data loaded on level 2 browsers; QA/QC scripts run and data corrections sent to Field Stations	15-Feb-2024		1-Mar-2024		lckes, Schlifer
	c. Field Station QA/QC with corrections to USGS	15-Mar-2024		15-Mar-2024		DeLain, Dawald, Bartels, Kueter, Hine, Gittinger, West, Solomon, Maxson
	d. Corrections made and data moved to public Web Browser	30-Mar-2024		30-Mar-2024		Ickes and Schlifer
2024B2	Update Graphical Browser with 2023 data on Public Web Server.	31-May-2024		31-May-2024		Ickes and Schlifer
2024B3	Complete fisheries sampling for Pools 4, 8, 13, 26, the Open River Reach, and La Grange Pool (Table 1)	31-Oct-2024		31-Oct-2024		DeLain, Dawald, Bartels, Kueter, Hine, Gittinger, West, Solomon, Maxson
2024B4	Sample collection and database increment on invasive carp age and growth: collection of cleithral bones	31-Jan-2024				Solomon, Maxson
2024B5	IDNR Fisheries Management State Report: Fisheries Monitoring in Pool 13, Upper Mississippi River, 202;. Includes Pool 12 Overwintering HREP Adaptive Management Fisheries Response Monitoring	30-Sep-2024		30-Sep-2024		Kueter
2024B8(D)	Database increment: Stratified random day electrofishing samples collected in Pools 9–11	30-Sep-2024		30-Sep-2024		Kueter
2024B9(D)	Database increment: Stratified random day electrofishing samples collected in Pools 16–18	30-Sep-2024		30-Sep-2024		Kueter
		Inte	nded for distributio	n		
Manuscript: / distribution t	A synthesis on river floodplain connectivity and lateral f to June 2024; IP-123678)	ish passage in the L	Jpper Mississippi Riv	er (2021B11; Journa	al Promised a finding and set o	f reviews in 6 weeks. Revised

Tracking	Milestone	Milestone Original Modified Date		Comments	Lead	
number		Target Date	Target Date	Completed		
Water Quali	ty Component					
2024D1	Complete calendar year 2023 fixed-site and SRS water quality sampling	31-Dec-2023		31-Dec-23		Jankowski, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
2024D2	Complete laboratory sample analysis of 2023 fixed site and SRS data; Laboratory data loaded to Oracle data base.	15-Mar-2024		1-Feb-2024		Yuan, Schlifer
2024D3	1st Quarter of laboratory sample analysis (~12,600)	30-Dec-2023		30-Dec-2023		Yuan, Manier, Burdis, Kalas, Johnson, L. Gittinger, Sobotka
2024D4	2nd Quarter of laboratory sample analysis (~12,600)	30-Mar-2024		30-Mar-2024		Yuan, Manier, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
2024D5	3rd Quarter of laboratory sample analysis (~12,600)	29-Jun-2024		15-Jun-2024		Yuan, Manier, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
2024D6	4th Quarter of laboratory sample analysis (~12,600)	28-Sep-2024		1-Sep-2024		Yuan, Manier, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
2024D7	Complete QA/QC of calendar year 2023 fixed-site and SRS data.					
	a. Data loaded on level 2 browsers; QA/QC scripts run; SAS QA/QC programs updated and sent to Field Stations with data.	30-Mar-2024		30-Mar-2024		Schlifer, Jankowski
	b. Field Station QA/QC; USGS QA/QC.	15-Apr-2024		15-Apr-2024		Jankowski, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
	c. Corrections made and data moved to public Web Browser	30-Apr-2024		30-Apr-2024		Schlifer, Jankowski
2024D8	Complete FY2024 fixed site and SRS sampling for Pools 4, 8, 13, 26, Open River Reach, and La Grange Pool	30-Sep-2024		30-Sep-2024		Jankowski, Burdis, Kalas, Johnson, L. Gittinger, Sawicki, Sobotka
2024D9	WEB-based annual Water Quality Component Update w/2023 data on Server.	30-May-2024		30-May-2024		Schlifer, Jankowski

Tracking	Milestone	Original	Modified	Date	Comments	Lead
number		Target Date	Target Date	Completed		
2024D10	Operational Support to the UMRR LTRM Element. Serve as in-house Field Station for USGS for consultation and support on various LTRM-wide topics	30-Sep-2024		30-Sep-2024		Bartels, Carhart, Kalas, Patschull
2024D11	Phytoplankton dataset updated	30-Dec-2024				Jankowski
2024D12	Carp, phosphorus, and winter conditions influence summer phytoplankton community dynamics across lotic-lentic gradient of a large, eutrophic river	30-Dec-2024				Jankowski, J. Larson
			On-Going	•	•	·
2019D12	Draft LTRM Completion Report: Assessment of Phytoplankton Samples collected by the Upper Mississippi River Restoration Program-Long Term Resource Monitoring Water Quality Component	30-Dec-2019	30-Sep-2024		Lead (Fulgoni) took new position, plan for completion is TBD	TBD and Jankowski
2020D12	Final LTRM Completion Report: Assessment of Phytoplankton Samples collected by the Upper Mississippi River Restoration Program-Long Term Resource Monitoring Water Quality Component	30-Mar-2021	30-Sep-2024		Lead (Fulgoni) took new position, plan for completion is TBD	TBD and Jankowski
		Int	ended for distributio	n		

Tracking	Milestone	Original	Modified	Date	Comments	Lead
number		Target Date	Target Date	Completed		
Spatial Data	Component					
2024SD1	Orthorectification of scanned photos (St. Louis District Mississippi River pools and Open River Reach, and the Illinois River pools)	30-Sep-2024				Schoen, Strassman
2024SD2	Pilot dataset and report of Real-Time Kinematic GNSS for use in remote or inaccessible vegetation locations	31-Dec-2023	30-Sep-24		Data in review. Delayed due to personnel changes.	TBD
2024SD3	Dataset of Applied UAS based ground penetrating radar to assist topobathy data collection	30-Sep-2024				TBD
2024SD4	Pilot dataset and report of material volumetrics using three methods	30-Jun-2024	30-Jun-25		Personnel changes	TBD
2024SD5	Report on conducting surveys over existing backwater sediment transects using ground penetrating radar during ice cover	30-Sep-2024				TBD
2024SD6	Maintenance ArcGIS server	30-Sep-2024				Rohweder
2024SD7	Data Set: Land Cover Change in the UMRS for newly developed pools: Stc, Alt, 17, 22, 6, 5, 5a, 24, 25.	30-Sep-2024				De Jager
2024SD8	Draft Report: Land Cover Change in the UMRS Key Pools	30-Sep-2024				De Jager
			On-Going			
2022SD7	Draft LTRM Completion Report: Pattern of Wild Rice Colonization (2022SD7)	30-Sep-2024				De Jager
2023SD9	Draft Report: Spatial Data Component Review and Future Objectives	30-Sep-2024				De Jager
		Inte	ended for distributio	n		
2021SD7 Tor	oobathy 2023 For the Upper Mississippi River System, S	OW/Strategic Plann	ning Document availal	ble upon request		

Tracking	Milestone	Original	Modified	Date	Comments	Lead
number		Target Date	Target Date	Completed		
Data Manag	ement	•				
2024M1	Update vegetation, fisheries, and water quality component field data entry and correction applications.	30-May-2024		30-May-2024		Schlifer
2024M2	Load 2023 component sampling data into Database tables and make data available on Level 2 browsers for field stations to QA/QC.	30-Jun-2024		30-Jun-2024		Schlifer
2024M3	Assist LTRM Staff with development and review of metadata and databases in conjunction with publishing of reports and manuscripts	On-going		Ongoing		Schlifer
UMRR Scien	ce Meeting		•			
2024SM1	2024 Science Meeting in La Crosse, wl	30-Jan-2024		18-Jan-2024		
2024SM2	Proposals distributed for review	4-Apr-2024		2-Apr-2024		
2024SM3	Proposals submitted as UMRR CC quarterly mtg read ahead	3-May-2024		6-May-2024		
2024SM3	Proposal recommendations presented to UMRR CC	22-May-24		22-May-2024		
Status and T	rends 3 rd edition			•		
2022ST4	Draft S&T3 Fact Sheet	1-Mar-24	30-Sep-2024		Info Needs planning & implementation is a higher priority	Authors
2022ST5	Final S&T3 Fact Sheet	30-Sep-2024	FY25			Authors
	•	•	Published FY24			
2021SD10 (2 under differe	021LP3): De Jager et al. 2024. Identifying conditions wl ent hydrological scenarios. Wetlands Ecology and Mana	nere reed canarygra agement. 10.1007/s	ass (Phalaris arundina 11273-023-09969-6	acea) functions as	a driver of forest loss in the Upp	er Mississippi River floodplain

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead				
Developing and A	Applying Indicators of Ecosystem Resilience to the	UMRS								
2024R1	Updates provided at quarterly UMRR CC meeting and A team meeting	Various				Bouska, Houser				
2024R2	Coordination of HARP data collection (see HARP SOW for additional milestones)	30-Sep-24	Ongoing	Ongoing	Fall coordination call currently being scheduled. Other coordination is completed via email, phone, and text (no official products).	Bouska				
2024R3	Submit draft Research Framework for Linking restoration actions and ecological responses	30-Sep-24	30-Sep-25		Re-prioritized due to hiring challenges w/Pool13 HARP	Bouska				
	On-Going									
2021R4	Submit resilience assessment synthesis fact sheet for USGS peer review	30-Sep-2021	31-Dec-2024		Re-prioritized due to hiring challenges w/Pool13 HARP. Initial delay due to work on Pool 13 HARP proposal and LTRM Implementation planning group	Bouska				
2022R2	Submit manuscript that investigates associations between general and specified resilience for peer review publication	30-Sep-2022	31-Dec-2024		Re-prioritized due to hiring challenges w/Pool13 HARP. Initial delay due to work on Pool 13 HARP proposal and LTRM Implementation planning group	Bouska				
Landscape Patter	n Research and Application			-	-					
2024LP1	Map Set: UMRS Contiguous Forest Areas (Pools 9, 12, OR2, LaG, 1, 2, 3, 7, 11, 10, Stc, Alt, 17, 22, 6, 5A, 5, 24, 25)	30-Sep-2024				Rohweder and De Jager				
2024LP2	Map Set: Aquatic Areas (Pools 1, 2, 3, 7, 10, 11, 17, 22, Alt, 5, 5a, 6).	30-Sep-2024	new date for Pools 17, 22, 5, 5a, 6 is xx/yy/zz		Pools 1, 2, 3, 7, 10, 11, and Alton at dissemination step of USGS review. IP-170515. Working Title : 2020 Aquatic Areas - Pools 1, 2, 3, 7, 10, 11, and Alton. Senior USGS Author: Ruhser, Janis.	Rusher, Rohweder, De Jager				
2024LP3	Map Set: Attributes of 2010-2020 forest loss areas (Pools 4, 8, 13, 26, 9, 12, OR2, LaG, 1, 2, 3, 7, 11, 10, Stc, Alt, 17, 22, 6, 5A, 5, 24, 25)	30-Sep-2024				Rohweder and De Jager				
2024LP4	Story Map: Land Cover Change (1989-2000-2010- 2020)	30-Sep-2024				Rohweder and De Jager				

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead		
2024LP5	Data Analysis: Effects of management actions and hydrological changes on forest succession at Reno Bottoms	30-Sep-2024		30-Sep-24	Data analysis complete and draft manuscript in review by co- authors with goal to submit for USGS review by 11/15/2024.	Trumper, De Jager, Van Appledorn		
On-Going								
2023LP1	Draft Report: 2020 Land Cover Change	30-Sep-2023	30-Sep-24		Initial rough draft is being revised. 2020 Landcover results delayed because of staff departures.	Rohweder and De Jager		
2023LP2	Data Analysis: Thresholds analysis of Reed canary grass habitat suitability.	30-Sep-2023	30-Sep-24	30-Sep-24	Analysis is complete, data release pending publication of associated manuscript (2023LP3)	Delaney and Rohweder		
2023LP3	Draft Report: Thresholds analysis of Reed canary grass habitat suitability	30-Sep-2023	30-Sep-24	13-May-24	Manuscript submitted to Wetlands on May 13, 2024 (IP- 164703)	Delaney, De Jager, Van Appledorn, Bouska, Rohweder		
2023LP4	Data Analysis: Detecting decadal changes in RCG dominance in wet meadows	30-Sep-2023	30-Sep-25		Analysis revealed need for updated dataset using 2020 landcover to provide comprehensive comparison between 2010 and 2020 across navigation pools 2-13. Funding Erin Hoy and Janis Ruhser to complete 2020 landcover classifications in FY25. Anticipate updated dataset and ms submitted to IPDS by 30-Sep-2025	Delaney, De Jager, Van Appledorn, Bouska, Rohweder		
2016LP3	Draft Manuscript: Review of Landscape Ecology on the UMR	NA	30-Sep-24			De Jager		
	Intended f	or distribution (s	ee "Published" s	ection for completed	products)			
2023LP3 Manusci the Upper Mississ	ript: Delaney, J.T., Van Appledorn, M., De Jager, N.R sippi River floodplain. Draft complete, At Ecosphere	., Bouska, K.L., Ro	ohweder, J.J. Dra	ft. Predicting Phalaris a	rundinacea (reed canarygrass) invasi	ion in forest understories of		

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead			
Eco-hydrologic Research									
2024EH1	Analysis of groundwater levels on floodplain forest experimental plots	30-Sep-2024	31-Dec-24		Loggers at Kain Switch pulled in October by field crews. Goal to integrate into draft manuscript with USACE and Univ MN coauthors this FY.	Van Appledorn			
2024EH2	Draft manuscript of underplanting growth and survival and relation to groundwater levels, surface flooding, and other environmental variables	30-Sep-2025				Van Appledorn			
			On-Going	-		1			
2023EH1	Draft report of backwater sedimentation patterns through time to support vulnerability modeling effort	30-Sep-2023	30-Sep-25		Delayed due to priority shift on LOCA-VIC-mizuRoute Scientific Investigations Report. Currently analyzing data. Work will be prioritized this FY.	Van Appledorn, Rohweder, DeJager, Kalas			
2023EH2	Draft manuscript of reed canary grass, wood nettle, and silver maple seedling distributions and persistence in the UMR floodplain across environmental gradients	30-Sep-2023	31-July_2024	See comments. Recommended for deletion in FY25Q1.	Kirsch retired. Substantially replaced by Delaney: IP-151054 (in review @ Ecosphere) and IP- 164703 (in review in Wetlands), and Data product (Kirsch & Van Appledorn, 2023 "UMR floodplain forest floor vegetation and inundation metrics", IP-144152), recently released on ScienceBase.	Van Appledorn, Kirsch			
2020EH02	Submit manuscript of temporal patterns in UMRS inundation regimes for peer review	30-Sep-2021	31-Dec-2024		Delayed due to change in priorities	Van Appledorn, De Jager, Rohweder			
2021EH02	Draft manuscript of UMRS floodplain forest classification	30-Sep-2021	30-Sep-2025		Analyses currently underway	Van Appledorn, De Jager, Raza			
Intended for distribution									
Manuscript: 2021	EH01 Draft manuscript of Temporal and spatial tree	nds of large wood	l in the UMRS ar	id potential eco-hydrolo	gic drivers. In review at journal. IP-1	.56995			

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead			
Acquisition and Interpretation of Imagery for Production of 2020 UMRS Land Cover/Land Use Data and Pool-Based Orthomosaics									
2024LCU4	Image processing, stereo model development, orthorectification, pool-based mosaicking, image interpretation, automation, QA/QC, and serving of 2020 LCU datasets for Pools 5-6, 17, and 22-25.	30-Sep-2024			All aspects complete for pools 6, 17, & 22 with final layers released for ScienceBase posting (p06 is posted, but pools 17 [IP-162169] and 22 [IP-164322] have not been posted). Pool 05a is in IPDS (IP- 172236) with dissemination expected by December. Pools 05 and 25 are in QA/QC with Pool 05 expected to enter IPDS by December and Pool 25 expected to enter IPDS by January. Pool 24 is prepared for automation with enter into IPDS expected by February.	Dieck, Strassman			
		In	tended for Distri	bution					
Aquatic Vegetatio	on, Fisheries, and Water Quality Research, Statistic	cal Evaluation							
			On-Going						
Manuscript: Evide Hydrobiologia, IP·	nce of functionally defined non-random fish comm 118040)	unity responses	over 25 years in a	a large river system (Icke	es; 2019B13 replacing 2015B17 and	2016B17; Resubmitted to			
Manuscript: A syr	ithesis on river floodplain connectivity and lateral fi	ish passage in the	e Upper Mississip	ppi River, (Ickes; Submitt	ed River Research and Applications,	IP-123678)			
Statistical Evalua	tion								
		In	tended for distri	bution					
Manuscript: Infer Temporal change	Manuscript: Inferring decreases in among-backwater heterogeneity in large rivers using among-backwater variation in limnological variables (2010E1; IP-027392; Gray; in journal review as " Temporal changes in water movement within and among floodplain lakes, by Brian R. Gray, Jim Rogala, Jon S. Hendrickson. and Jennifer Cochran Biederman")								

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead				
Pool 12 Overwint	ering HREP Adaptive Management Fisheries Respo	onse Monitoring								
2024P13d	Age determination of bluegills	1-Feb-2024		1-Feb-24		Keuter				
2024P13e	In-house databases updated	31-Mar-2024		31-Mar-24		Keuter				
2024P13f	Made available to program partners via Iowa Fish Mgmt. State Report	30-Jun-2024		30-Jun-24		Keuter				
	FY18 F	unded Science i	n Support of Res	toration and Managem	ent					
Conceptual Mode	Conceptual Model and Hierarchical Classification of Hydrogeomorphic Settings in the UMRS									
2019CM6	Submit Final LTRM Completion report on hydrogeomorphic conceptual model and hierarchical classification system	30-Jun-2020	30-Jun-2024		Pending update 7/19 Sent to SPN (USGS publishing hub). JNH updated modified target data from 30 Dec 2022 to June 2024	Fitzpatrick, Hendrickson, Sawyer, Strange				
Water Exchange	Vater Exchange Rates and Change in UMRS Channels and Backwaters, 1980 to Present									
2019WE4	Submit Final LTRM Completion Report	30-Mar-2020	30-Dec-2023		Draft report complete. Lead author retired and next steps are TBD.	Hendrickson				
Systemic analysis	of hydrogeomorphic influences on native freshwa	iter mussels			•					
2019FM9	Final LTRM completion report (changed to two manuscripts)	30-Jan-2023	31-Mar-2025		Both MS are in review by co- authors. Lead PI took a different job in Sep 2022 without completing the MS	Teresa Newton				
Using dendrochro	onology to understand historical forest growth, sta	Ind development	t, and gap dynan	nics						
2022DD1	Draft manuscript: Floodplain forest structure and the recent decline of Carya illinoinensis (Wangenh.) K. Koch (northern pecan); Part 2	30-May-2022	TBD	Pending update. brief update received 1 regarding modified tar 11/5/24	2/26/23. Follow up query get date sent 01/25/24 and	Grant Harley (U Idaho), Ben Vandermyde(USACE contact)				
Investigating vita	I rate drivers of UMRS fishes to support managem	ent and restorati	ion							
2019VR8	Data set complete (data delivered to Ben Schlifer, physical structures delivered to BRWFS)	30-Sep-2021	31-Dec-24	Initial age estimates ha species. Otoliths have b further otolith processi species, for biochronol- between MSU and IRBS dataset will be delayed discrepancies re-evalua	ve been provided by MSU for all been transferred to IRBS, where ing has been occurring, species by ogy purposes. Any age differences 5 will be re-evaluated. Final age until all otoliths are processed and ated.	Quinton Phelps				

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead				
		1	On-Going	1						
2019VR10	Submit draft manuscript (Drivers of vital rates)	31-Dec-2021	31-Dec-24		Thesis chapter completed.	Quinton Phelps, Kristen				
		In	tended for distri	bution						
Manuscript 2019 System. Journal o Muehler et al. Lat	nanuscript 2019VK11: Valentine, S. A., K. L. Bouska, and G. W. Whitledge. In review. Network connectivity contributes to native small-bodied fish assemblages in the Upper Mississippi River ystem. Journal of Freshwater Biology. IP-148246. Auehler et al. Latitudinal trends in population dynamics of Upper Mississippi River System Fishesthese results will now be incorporated into the Bouska et al. Vital Rates final report.									
	FY19 Funded Science in Support of Restoration and Management									
Reforesting UMR	S forest canopy openings occupied by invasive spe	ecies								
2019ref3	Draft LTRM Completion (changed to draft MS)	30-Apr-2021	30-Apr-24	18-Jul-24	Changed to journal rather than completion report. Target j Invasive Species Science and Management	Guyon and Cosgriff				
2019ref4	Final LTRM Completion (changed to journal submission)	30-Sep-2021	31-Mar-2025		draft manuscript submitted to UMESC for review in August; revisions resubmitted October 1; awaiting additional comments or approval to submit to j Invasive Plant Science and Management.	Guyon and Cosgriff				
A year of zooplar	kton community data from the habitats and pools	of the UMR	•	•		-				
2019zoo2	Draft LTRM Completion report on utility of zooplankton community monitoring for HREP assessment	30-Dec-2020	TBD		Sample collection delayed -Covid. Fulgoni new position & zooplankton ID delayed. Pending discusison re: value of completing.	Sobotka				
2019zoo3	Final LTRM Completion report on utility of zooplankton community monitoring for HREP assessment	30-Jun-2021	TBD		see above.	Sobotka				
2019zoo4	Draft LTRM Completion report on detailing differences between pools and habitats. Report will also investigate the potential investigate the potential impacts of Asian carp on the zooplankton community.	30-Dec-2020		22-Dec-23	In USGS review	Sobotka				

20132005 If Inal LTRM Completion report detailing differences between pools and habitats and investigating potential impacts of Asian carp on zooplankton community. 30 Jun 2025 30 Jun 2026 Sobotka Y19 Funded Illinois Waterway 2020 Lock Closure Intended for distribution Contract of Asian carp on zooplankton community. Y19 Funded Illinois Waterway 2020 Lock Closure Intended for distribution Contract of Asian carp on zooplankton community. Y19 Funded Illinois Waterway 2020 Lock Closure Intended for distribution Contract Solution of Large vessel traffic Improves water quality and alters fish habitat-use throughout a large river. Accepted May 2024 . Requires final BAO approval. 2022FSH1 Draft Manuscript: Fisheries and WC, Submit to IPUS UPUS45 Science in Support of Restoration and Management FY20 Funded Science in Support Restoration and Management FY20 Funded Science in Support Restoration and Management FY20 Funded Science in Support Restorated data release is in USSC review. IP- 147505. Status: at Bureau Approval stage as of 10/29/2024. Vaughan, Strange, Fitzpatrick, Van Appledorn, L. Savye Delaydrow to issue stata acquisition issues from USACE. Vaughan, Strange, Fitzpatrick, Van Appledorn, L. Savye Delaydrow to issue stata acquisitin from USACE M. Van Appledorn, L	Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead			
FY19 Funded Illinois Waterway 2020 Lock Closure Intended for distribution 2022FSH1 - Spear et al. Reduction of large vessel traffic improves water quality and alters finh habitar-use through bit a large river. Accepted May 2024 . Requires final BAO approval. 2023IWW Pre- and Post-Maintenance Aerial Imagery for Illinois River's Alton through Brandon Lock and Dams, 2019-2021. 1 Dec 2022. Final Completion Report. LTRMP-2019AERZ 2022IFSH1 Draft Manuscript: Fisheries and WQ. Submitted to IPDS (IP-159446) for review 11/7/2023. Currently in review at journal PY20 Funded Science in Support of Restoration and Management Mapping Potential Sensitivity to Hydrogeomorphic Change in the UMRS Riverscape and Development of Supporting GIS Database and Query Tool 2021H67 Submit Final LTRM Completion report on hydrogeomorphic change GIS database and query tool. all Nov 2024 11/05/2024: In USGS review, IP-147505, also at fureau Approval stage as of 10/2/92/024. Improving our understanding of historic, contemporary, and future UMRS hydrology by improving workflows, reducing redundancies, and setting a blueprint for modelling potential future 2021H1 Historic and Contemporary Hydrologic Database All Obsep-2021 2021H1	2019zoo5	Final LTRM Completion report detailing differences between pools and habitats and investigating potential impacts of Asian carp on zooplankton community.	30-Jun-2021	30 Jun 2025			Sobotka			
Intended for distribution Intended for distribution 2022FSH1 - Spear et al. Reduction of large vessel traffic improves water quality and alters fish habitat-use throughout a large river. Accepted May 2024 . Requires final BAO approval. 2023IWW Pre- and Post-Maintenance Aerial Imagery for Illinois River's Alton through Brandon Lock and Dams, 2019-2021. 1 Dec 2022. Final Completion Report. LTRMP-2019AERZ. 2022FSH1 Draft Manuscript: Fisheries and WQ. Submitted to IPDS (IP-159446) for review 11/7/2023. Currently in review at Journal Y220 Funded Science in Support of Restoration and Management Mapping Potential Sensitivity to Hydrogeomorphic Change in the UMRS Riverscape and Development of Supporting GIS Database and Query Tool 2021HG7 Submit Final ITRM Completion report on hydrogeomorphic change GIS database and query 30-Mar-2022 31 Nov 2024 11/05/2024: In USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associated data release Is in USGS review, IP- 14750S. Status: at Bureau Approval. Associ	FY19 Funded Illinois Waterway 2020 Lock Closure									
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2021HH1 Historic and Contemporary Hydrologic Database Release and Documentation 30-Sep-2021 30-Sep-2024 30-Sep-24 Submitted to IPDS ~30 Sep. Delayed due to issues data acquisition issues from USACE. M. Van Appledorn, L. Sawye 2021HH2 Draft LTRM Completion Report: document database and documentation development steps, database capabilities, and quantitative summaries of the hydrologic regime through time. 30-Dec-2021 30-Sep-2025 Postponed due to delays in data acquisition from USACE M. Van Appledorn, L. Sawye 2021HH3 Final LTRM Completion Report: document database and documentation development steps, database and documentation development steps, database capabilities, and quantitative summaries of the hydrologic regime through time 31-Mar-2022 31-Dec-2025 Postponed due to delays in data acquisition from USACE M. Van Appledorn, L. Sawye 2021HH3 Final LTRM Completion Report: document database capabilities, and quantitative summaries of the hydrologic regime through time 31-Mar-2022 31-Dec-2025 Postponed due to delays in data acquisition from USACE M. Van Appledorn, L. Sawye	Improving our un	derstanding of historic, contemporary, and future	UMRS hydrolog	y by improving v	workflows, reducing red	undancies, and setting a blueprint	for modelling potential future			
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2021HH3 Final LTRM Completion Report: document 31-Mar-2022 31-Dec-2025 Postponed due to delays in data acquisition from USACE M. Van Appledorn, L. Sawyer 2021HH3 of the hydrologic regime through time 31-Mar-2022 31-Dec-2025 Postponed due to delays in data acquisition from USACE M. Van Appledorn, L. Sawyer	2021HH2	Draft LTRM Completion Report: document database and documentation development steps, database capabilities, and quantitative summaries of the hydrologic regime through time.	30-Dec-2021	30-Sep-2025		Postponed due to delays in data acquisition from USACE	M. Van Appledorn, L. Sawyer			
Intended for distribution	2021HH3	Final LTRM Completion Report: document database and documentation development steps, database capabilities, and quantitative summaries of the hydrologic regime through time	31-Mar-2022	31-Dec-2025		Postponed due to delays in data acquisition from USACE	M. Van Appledorn, L. Sawyer			
	Intended for dist	rbution								

Upper Mississippi River Restoration Long Term Resource Monitoring Element

Science in Support of Restoration and Management Milestones Q4 Update

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead			
Understanding physical and ecological differences among side channels of the Upper Mississippi River System									
2021SC4	Final report on UMRR management implications submitted for USGS review	30-Sep-2022	Removal Pending Discussion		Results provided insufficient information to support this report. A similar item could be moved to the new Learning from HREPS group or removed.	Sobotka & McCain			
2021SC5	Manuscript on benthic invertebrate associations with side channel characteristics submitted for USGS and peer review	30-May-2023	30-Dec-24		Delayed due to macroinvertebrate processing time required. Graduate student making steady progress towards manuscript.	Sobotka & Vander Vorste			
Refining our Upper Mississippi River's ecosystem states framework									
		In	tended for Distri	bution					
Delaney, J. T., and	D. M. Larson. 2023. Using explainable machine lea	arning methods to	o evaluate vulner	ability and restoration p	potential of ecosystem state transiti	ons. Conservation			
Tool: Submersed	aquatic vegetation vulnerability evaluation applicat	tion (SAVVEA); (C	ompleted, 2021S	S10; Delaney and Larso	n, IP-142969)				

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
Augmenting the	UMRR fish vital rates project with greater species	representation f	or genetics and o	otolith microchemistry		1
2021VR3	Submit draft manuscript (genetics)	31-Dec-2022	31-Dec-24		Multiple delays occurred including the need for additional samples (frozen samples were low quality) and ensuring consistent methods with phase I genetics. Initial analyses have been completed with a few samples requiring re- sequencing.	Davis, Tan, Lamer
2021VR4	Submit draft manuscript (genetics - mimic/channel)	31-Dec-2022	31-Dec-24		Multiple delays occurred including the need for additional samples (frozen samples were low quality) and ensuring consistent methods with phase I genetics. Initial analyses have been completed with a few samples requiring re- sequencing.	Davis, Tan, Lamer
2021VR5	Submit draft manuscript (constructing management units)	31-Dec-2022	31-Dec-24		Delays in each individual component (vital rate, genetics, microchemistry) have pushed this product back	Bartels, Bouska, Davis, Lamer, Larson, Phelps, Tan, Whitledge
Functional UMRS	fish community responses and their environment	tal associations in	n the face of a ch	anging river: hydrologi	c variability, biological invasions, a	nd habitat rehabilitation
2021FF2	Draft manuscript: "Has large scale ecosystem rehabilitation altered functional fish community expressions in the Upper Mississippi River System?"	30-Sep-2021	30-Jun-2024		Pending update. Gatto departed for another position. Analyses complete manuscript in prep	Ickes and Gatto
2021FF3	Draft Manuscript: "Why aren't bigheaded carps (<i>Hypophthalmichthys</i> sp.) everywhere in the Upper Mississippi River System?"	30-Sep-2021	30-Jun-2024			Ickes and Gatto

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
Understanding la	ndscape-scale patterns in winter conditions in the	Upper Mississip	pi River System			
2021WL1	System wide spatial layers of habitat conditions	30-Sep-2022	30-Jun-2024		data submitted to the Environmental Data Initiative repository for publication at time of resubmission. Results will be integrated into LTRM Spatial Data Query Tool once manuscript is accepted for publication.	Mooney, Dugan, Magee
2021WL2	Draft manuscript: Landscape scale controls on overwintering habitat in a large river	30-Sep-2022	30-Jun-2024		Resubmitted to Canadian Journal of Aquatic & Fishery Sciences on 11/1/24. IP-167140. Lead author was on family leave and moved to a new job	Mooney, Dugan, Jankowski, Magee
2021WL3	Draft manuscript: Response of oxygen dynamics to ice and snow phenology in backwater lakes	30-Sep-2023	30-Dec-24		Analysis in progress; final data collection occurred May 2023.	Jankowski, Dugan, Burdis, Kalas, Kueter
2021WL4	Draft Manuscript: Patterns in sediment characteristics and oxygen demand across a winter riverine landscape	30-Sep-2023	30-Dec-24		MS Thesis in process of publication; manuscript in progress but lead author has taken another job. Kreiling and Jankowski working to move it ahead with his help.	Perner, Kreiling, Jankowski, Giblin
Forest Response	to Multiple Large-Scale Inundation Events	-		1		
2021FR3	Technical Report	1-Jun-2022	30-Sep-24		Delayed due to staffing shortages, hiring of new staff at NGREEC; modifying from technical report to manuscript. Shelby has a paper in revision.	Cosgriff, Guyon, De Jager

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
	FY22	Funded Science i	n Support of Res	storation and Managem	ent	
	Assessing Forest Development Processes	and Pathways in	Floodplain Fore	ests along the Upper Mi	ssissippi River using Dendrochrono	logy
2023dendro3	Coordination and scheduling for three to five virtual meetings; Meetings will address current objectives outlined in Activity 3 and future directions	1 March – 31 May 2024		first virtual meeting held 11-Sep-2023.	More discussion occurred at the Jan 2024 Science meeting. Subsequent meetings are planned. Reduced hours due to extended leave.	Windmuller-Campione and Van Appledorn
2023dendro4	Draft manuscript – Age data of floodplain forests of the Upper Mississippi River	30-May-2024	30-May-25		Data set took longer to finalize due to cross checking of age estimates. Reduced hours due to extended leave.	Windmuller-Campione and Van Appledorn
2023dendro5	Draft Manuscript – Growth dynamics of silver maple of the Upper Mississippi River	30-Sep-2024	30-May-25		Lead on paper was on sabbatical during spring and summer 2024	Windmuller-Campione and Van Appledorn
2023dendro6	Final report writing, edits on manuscript, and completion of all data storage	30-Nov-2024	30-May-25			Windmuller-Campione and Van Appledorn
Evaluating the LO	CA-VIC-mizuRoute hydrology data products for sc	ientific and mana	agement applica	tions in the UMRS	I	
2023Hydro3	ECB 2018-14 compliance completion	30-Sep-2023	30-Sep-24	Milestone will be removed in Q1 of FY25.	2023Hydro3: USACE climate preparedness and resilience community of practice lead recommended against completing an ECB 2018-14 compliance for this project because the LOCA-VIC- mizuRoute data were found unreliable for UMRR applications (documented in report IP-168496.	Sawyer and Van Appledorn
2023Hydro4	Annual update: Year 1	31-Dec-2023	16-Jan-24	16-Jan-24	Oral update to UMRR planned for UMRR Science Meeting in mid- January; date modified to align with UMRR Science Meeting dates	Sawyer and Van Appledorn

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
2023Hydro5	UMRS projected hydrology data and documentation release	30-Sep-2024	unreliable. No data and documentation will be released.	Remove Milestone starting Q1 of FY25	No data and documentation release anticipated, as LOCA-VIC- mizuRoute products were found to be unreliable for UMRS per evaluation results	Sawyer and Van Appledorn
2023Hydro6	UMRR webinar on UMRS projected hydrology data release	31-Dec-2024			No data and documentation release anticipated, as LOCA-VIC- mizuRoute products were found to be unreliable for UMRS per evaluation results	Sawyer and Van Appledorn
2023Hydro7	Virtual workshop or LTRM project team update for red pathway outcomes	31-Mar-2024	10-May-24	9-May-24	Update completed at UMRR Workshop May 7-9, 2024	Sawyer and Van Appledorn
2023Hydro8	Draft LTRM completion report	30-Sep-2024		23-Jul-24	In USGS review. IP-168496. Currently reconciling peer review comments.	Sawyer and Van Appledorn
2023Hydro9	Final LTRM completion report	30-Dec-2025				Sawyer and Van Appledorn
Putting LTRM's lo	ong-term phytoplankton archive to work to unders	tand ecosystem	transitions and i	mprove methodologica	l approaches	
2023Phyto1	System-wide phytoplankton community dataset	30-Sep-2023	30-May-24	1-Jan-24	Sample identification completed Dec 1, 2023 by contractor.	Jankowski
2023Phyto2	Draft Manuscript: Phytoplankton community composition over the past 20 years in the Upper Mississippi River: distribution of harmful taxa and relationships with environmental trends	30-May-2024	30-Sep-25		Dataset generation completed 1/1/24 and analyses underway.	Jankowski and others
2023Phyto3	Draft Manuscript: Relating phytoplankton communities to distinct vegetation recovery trajectories in Pools 4 and 13	30-May-2024	30-Sep-25		Dataset generation complete as of 10/31/24. Analysis and writing will occur in in FY25 and may be combined with 2023Phyto2 as a single manuscript.	Jankowski and others
2023Phyto4	Report: Assessment of FloCam for use on archived and fresh phytoplankton samples for LTRM sampling	30-Mar-2024	30-May-25		Automated image procedures are proving challenging to develop.	Larson, James

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
2023Phyto5	Draft Manuscript: Comparison of trends captured by microscopy and FlowCam phytoplankton community analysis	30-May-2024	30-May-25		(1) Contractor microscopy data delayed data analysis (2) scope was broadened by addition of UMRR SSRM FLAMe samples	Larson, James
Assessing long te	rm changes and spatial patterns in macroinverteb	rates through sta	ndardized long-	term monitoring		•
2023inv2	Laboratory identification of macroinvertebrates	30-Aug-2023	30-Sep-24		Delayed by large sample processing and ID workload	Manisha Pant
2023inv3	Screening level mayfly tissue analysis	30-Sep-2023	30-Jun-25		7/19/24: Some data received and exploratory analyses started. Running additional parameters with the extract at the EPA ORD lab that require a lot of time. Previous delay due to contract language issues.	Giblin, Pant
2023inv4	Annual summary	31-Dec-2023	30-Sep-24			Lamer
2023inv5	Complete data entry and QA/QC of 2023 data; 1250 observations.				2023inv2 delayed by large sample processing and ID workload	
	a. Data entry completed and submission of data to USGS (Includes contaminant data)	31-Jan-2024	30-Sep-24			State field station staff, Giblin
	b. Data loaded on level 2 browsers; QA/QC scripts run and data corrections sent to Field Stations	15-Feb-2024	30-Sep-24			Lamer, Schlifer
	c. Field Station and contaminant QA/QC with corrections to USGS	15-Mar-2024	30-Sep-24			State field station staff, Giblin
	d. Corrections made and data moved to public Web Browser	30-Mar-2024	30-Sep-24			Lamer, Schlifer
2023inv6	Field collection of macroinvertebrates	14-Jun-2024		14-Jun-24		State field station staff
2023inv7	Laboratory identification of macroinvertebrates	30-Aug-2024				TBD
2023inv8	Screening level mayfly tissue analysis	30-Sep-2024				Giblin

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
2023inv9	Annual summary	31-Dec-2024				Lamer
2023inv10						
	a. Data entry completed and submission of data to USGS (Includes contaminant data)	31-Jan-2025				State field station staff, Giblin
	b. Data loaded on level 2 browsers; QA/QC scripts run and data corrections sent to Field Stations	15-Feb-2025				Lamer, Schlifer
	c. Field Station and contaminant QA/QC with corrections to USGS	15-Mar-2025				State field station staff, Giblin
	d. Corrections made and data moved to public Web Browser	30-Mar-2025				Lamer, Schlifer
2023inv11	Draft LTRM Completion report or manuscript on contaminant sampling	30-Sep-2025				Giblin
2023inv12	Field collection of macroinvertebrates	14-Jun-2025				State field station staff
2023inv13	Laboratory identification of macroinvertebrates	30-Aug-2025				TBD
2023inv14	Annual summary	31-Dec-2025				Lamer
2023inv15		-		-		
	a. Data entry completed and submission of data to USGS (Includes contaminant data)	31-Jan-2026				State field station staff, Giblin
	b. Data loaded on level 2 browsers; QA/QC scripts run and data corrections sent to Field Stations	15-Feb-2026				Lamer, Schlifer
	c. Field Station and contaminant QA/QC with corrections to USGS	15-Mar-2026				State field station staff, Giblin
	d. Corrections made and data moved to public Web Browser	30-Mar-2026				Lamer, Schlifer
2023inv16	2023inv16 Draft LTRM Completion report or manuscript on macroinvertebrate sampling, trends, etc.					Lamer

Tracking number	Milestone	Original Target Date	Modified Target Date	Date Completed	Comments	Lead
	Published FY24					
2021LP3	De Jager et al. 2024. Identifying conditions where reed canarygrass (Phalaris arundinacea) functions as a driver of forest loss in the Upper Mississippi River floodplain under different hydrological scenarios 10.1007/s11273-023-09969-6 : De Jager et al. 2024. Identifying conditions where reed canarygrass (Phalaris arundinacea) functions as a driver of forest loss in the Upper Mississippi River floodplain under different hydrological scenarios 10.1007/s11273-023-09969-6 : De Jager et al. 2024. Identifying conditions where reed canarygrass (Phalaris arundinacea) functions as a driver of forest loss in the Upper Mississippi River floodplain under different hydrological scenarios 10.1007/s11273-023-09969-6					
2023LP5	Cooperator Report : Rohweder, J., De Jager, N., 2023, Attributes of Upper Mississippi River System contiguous forest areas. Cooperator report prepared for the U.S. Army Corps of Engineers' Upper Mississippi River Restoration – Long Term Resource Monitoring element. 29 p. https://www.usgs.gov/centers/upper-midwest-environmental-sciences-center/science/attributes-upper-mississippi-river					
2023LP5	Data Sets: Rohweder, J.J., and DeJager, N.R., 2023, Attributes of Upper Mississippi River System contiguous forest areas: U.S. Geological Survey data release, https://doi.org/10.5066/P9JM2AYX.					
2023LP6	Data Sets. Ruhser, J., 2023, 2020 Aquatic Areas - Upper Mississippi River System (Pools 4, 8, 9, 12, 13, 26, Open River 2 and La Grange). 2020 Aquatic Areas - Upper Mississippi River System - ScienceBase-Catalog. U.S. Geological Survey data release, https://doi.org/10.5066/P9X3UT0T					
	Van Appledorn, M., N. R. De Jager, and J. J. Rohweder. 2023. Low-complexity floodplain inundation model performs well for ecological and management applications in a large river ecosystem. Journal of the American Water Resources Association, https://doi.org/10.1111/1752-1688.13152					
2023LCU3	Image processing, stereo model development, orthorectification, pool-based mosaicking, image interpretation, automation, QA/QC, and serving of 2020 LCU datasets for Pools 1-3, 7, 11, and 50% of Pool 10, the St. Croix and lower Minnesota Rivers, and the Alton Pool of the Illinois River ScienceBase-Catalog https://www.sciencebase.gov/catalog/item/6102cbf7d34ef8d7055e7971					
2019IE3	Carhart, A.M., D. Drake, J. Fischer, J.N. Houser, K.J. Jankowski, J. Kalas, and E. Lund. 2024. Intrinsic and extrinsic regulation of water clarity in a large, floodplain-river ecosystem. Ecosystems. https://doi.org/10.1007/s10021-023-00895-5.					
2019FG5	Manuscript : IP-150741 Guyon, L., Strassman, A., Oines, A., Meier, A., Thomsen, M., Sattler, S., DeJager, N., Hoy, E., Vandermyde, B., and Cosgriff, R., 2023, Forest canopy gap dynamics: quantifying forest gaps and understanding gap – level forest regeneration in Upper Mississippi River floodplain forests. Associated data release: U.S. Geological Survey data release, https://doi.org/10.5066/P9Q5EKU1					

ATTACHMENT F

Additional Items

- Future Meeting Schedule (F-1)
- Frequently Used Acronyms (4-29-2022) (*F-2 to F-8*)
- UMRR Authorization and Operating Approach (12-23-2022) (F-9 to F-13)

QUARTERLY MEETINGS FUTURE MEETING SCHEDULE

	FEBRUARY 2025
	<u>Virtual</u>
February 25 February 26	UMRBA Quarterly Meeting UMRR Coordinating Committee Quarterly Meeting

	M AY 2025
	La Crosse, WI
May 20 May 21	UMRBA Quarterly Meeting UMRR Coordinating Committee Quarterly Meeting

Acronyms Frequently Used on the Upper Mississippi River System

AAR	After Action Report
A&E	Architecture and Engineering
ACRCC	Asian Carp Regional Coordinating Committee
AFB	Alternative Formulation Briefing
AHAG	Aquatic Habitat Appraisal Guide
AHRI	American Heritage Rivers Initiative
AIS	Aquatic Invasive Species
ALC	American Lands Conservancy
ALDU	Aquatic Life Designated Use(s)
AM	Adaptive Management
ANS	Aquatic Nuisance Species
AP	Advisory Panel
APE	Additional Program Element
ARRA	American Recovery and Reinvestment Act
ASA(CW)	Assistant Secretary of the Army for Civil Works
A-Team	Analysis Team
ATR	Agency Technical Review
AWI	America's Watershed Initiative
AWO	American Waterways Operators
AWQMN	Ambient Water Quality Monitoring Network
BA	Biological Assessment
BATIC	Build America Transportation Investment Center
BCOES	Bid-ability, Constructability, Operability, Environmental, Sustainability
BCR	Benefit-Cost Ratio
BMPs	Best Management Practices
BO	Biological Opinion
CAP	Continuing Authorities Program
CAWS	Chicago Area Waterways System
CCC	Commodity Credit Corporation
ССР	Comprehensive Conservation Plan
CEICA	Cost Effectiveness Incremental Cost Analysis
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CFS	Cubic Feet Per Second
CG	Construction General
CIA	Computerized Inventory and Analysis
CMMP	Channel Maintenance Management Plan
COE	Corps of Engineers
COPT	Captain of the Port
CPUE	Catch Per Unit Effort
CRA	Continuing Resolution Authority
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program

CSP	Conservation Security Program
CUA	Cooperative Use Agreement
CWA	Clean Water Act
CY	Cubic Yards
DALS	Department of Agriculture and Land Stewardship
DED	Department of Economic Development
DEM	Digital Elevation Model
DET	District Ecological Team
DEWS	Drought Early Warning System
DMMP	Dredged Material Management Plan
DNR	Department of Natural Resources
DO	Dissolved Oxygen
DOA	Department of Agriculture
DOC	Department of Conservation
DOER	Dredging Operations and Environmental Research
DOT	Department of Transportation
DPR	Definite Project Report
DQC	District Quality Control/Quality Assurance
DSS	Decision Support System
EA	Environmental Assessment
ECC	Economics Coordinating Committee
EEC	Essential Ecosystem Characteristic
EIS	Environmental Impact Statement
EMAP	Environmental Monitoring and Assessment Program
EMAP-GRE	Environmental Monitoring and Assessment Program-Great Rivers Ecosystem
EMP	Environmental Management Program [Note: Former name of Upper Mississippi River Restoration Program.]
EMP-CC	Environmental Management Program Coordinating Committee
EO	Executive Order
EPA	Environmental Protection Agency
EPM	Environmental Pool Management
EPR	External Peer Review
EQIP	Environmental Quality Incentives Program
ER	Engineering Regulation
ERDC	Engineering Research & Development Center
ESA	Endangered Species Act
EWMN	Early Warning Monitoring Network
EWP	Emergency Watershed Protection Program
FACA	Federal Advisory Committee Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FDR	Flood Damage Reduction
FFS	Flow Frequency Study
FMG	Forest Management Geodatabase
FONSI	Finding of No Significant Impact
FRM	Flood Risk Management

FRST	Floodplain Restoration System Team
FSA	Farm Services Agency
FTE	Full Time Equivalent
FWCA	Fish & Wildlife Coordination Act
FWIC	Fish and Wildlife Interagency Committee
FWS	Fish and Wildlife Service
FWWG	Fish and Wildlife Work Group
FY	Fiscal Year
GAO	Government Accountability Office
GEIS	Generic Environmental Impact Statement
GI	General Investigations
GIS	Geographic Information System
GLC	Governors Liaison Committee
GLC	Great Lakes Commission
GLMRIS	Great Lakes and Mississippi River Interbasin Study
GPS	Global Positioning System
GREAT	Great River Environmental Action Team
GRP	Geographic Response Plan
H&H	Hydrology and Hydraulics
HAB	Harmful Algal Bloom
HEC-EFM	Hydrologic Engineering Center Ecosystems Function Model
HEC-RAS	Hydrologic Engineering Center River Analysis System
HEL	Highly Erodible Land
HEP	Habitat Evaluation Procedure
HNA	Habitat Needs Assessment
HPSF	HREP Planning and Sequencing Framework
HQUSACE	Headquarters, USACE
H.R.	House of Representatives
HREP	Habitat Rehabilitation and Enhancement Project
HSI	Habitat Suitability Index
HU	Habitat Unit
HUC	Hydrologic Unit Code
IBA	Important Bird Area
IBI	Index of Biological (Biotic) Integrity
IC	Incident Commander
ICS	Incident Command System
ICWP	Interstate Council on Water Policy
IDIQ	Indefinite Delivery/Indefinite Quantity
IEPR	Independent External Peer Review
IGE	Independent Government Estimate
IIA	Implementation Issues Assessment
IIFO	Illinois-Iowa Field Office (formerly RIFO - Rock Island Field Office)
ILP	Integrated License Process
IMTS	Inland Marine Transportation System
IPR	In-Progress Review
IRCC	Illinois River Coordinating Council

IRPT	Inland Rivers, Ports & Terminals
IRTC	Implementation Report to Congress
IRWG	Illinois River Work Group
ISA	Inland Sensitivity Atlas
IWR	Institute for Water Resources
IWRM	Integrated Water Resources Management
IWS	Integrated Water Science
IWTF	Inland Waterways Trust Fund
IWUB	Inland Waterways Users Board
IWW	Illinois Waterway
L&D	Lock(s) and Dam
LC/LU	Land Cover/Land Use
LDB	Left Descending Bank
LERRD	Lands, Easements, Rights-of-Way, Relocation of Utilities or Other Existing Structures, and Disposal Areas
LiDAR	Light Detection and Ranging
LMR	Lower Mississippi River
LMRCC	Lower Mississippi River Conservation Committee
LOI	Letter of Intent
LTRM	Long Term Resource Monitoring
M-35	Marine Highway 35
MAFC	Mid-America Freight Coalition
MARAD	U.S. Maritime Administration
MARC 2000	Midwest Area River Coalition 2000
MCAT	Mussel Community Assessment Tool
MICRA	Mississippi Interstate Cooperative Resource Association
MDM	Major subordinate command Decision Milestone
MIPR	Military Interdepartmental Purchase Request
MMR	Middle Mississippi River
MMRP	Middle Mississippi River Partnership
MNRG	Midwest Natural Resources Group
MOA	Memorandum of Agreement
MoRAST	Missouri River Association of States and Tribes
MOU	Memorandum of Understanding
MRAPS	Missouri River Authorized Purposes Study
MRBI	Mississippi River Basin (Healthy Watersheds) Initiative
MRC	Mississippi River Commission
MRCC	Mississippi River Connections Collaborative
MRCTI	Mississippi River Cities and Towns Initiative
MRRC	Mississippi River Research Consortium
MR&T	Mississippi River and Tributaries (project)
MSP	Minimum Sustainable Program
MVD	Mississippi Valley Division
MVP	St. Paul District
MVR	Rock Island District
MVS	St. Louis District

NAS	National Academies of Science
NAWQA	National Water Quality Assessment
NCP	National Contingency Plan
NIDIS	National Integrated Drought Information System (NOAA)
NEBA	Net Environmental Benefit Analysis
NECC	Navigation Environmental Coordination Committee
NED	National Economic Development
NEPA	National Environmental Policy Act
NESP	Navigation and Ecosystem Sustainability Program
NETS	Navigation Economic Technologies Program
NGO	Non-Governmental Organization
NGRREC	National Great Rivers Research and Education Center
NGWOS	Next Generation Water Observing System
NICC	Navigation Interests Coordinating Committee
NPDES	National Pollution Discharge Elimination System
NPS	Non-Point Source
NPS	National Park Service
NRC	National Research Council
NRCS	Natural Resources Conservation Service
NRDAR	Natural Resources Damage Assessment and Restoration
NRT	National Response Team
NSIP	National Streamflow Information Program
NWI	National Wetlands Inventory
NWR	National Wildlife Refuge
O&M	Operation and Maintenance
OHWM	Ordinary High Water Mark
OMB	Office of Management and Budget
OMRR&R	Operation, Maintenance, Repair, Rehabilitation, and Replacement
OPA	Oil Pollution Act of 1990
ORSANCO	Ohio River Valley Water Sanitation Commission
OSC	On-Scene Coordinator
OSE	Other Social Effects
OSIT	On Site Inspection Team
P3	Public-Private Partnerships
PA	Programmatic Agreement
PAS	Planning Assistance to States
P&G	Principles and Guidelines
P&R	Principles and Requirements
P&S	Plans and Specifications
P&S	Principles and Standards
PCA	Pollution Control Agency
PCA	Project Cooperation Agreement
PCX	Planning Center of Expertise
PDT	Project Delivery Team
PED	Preconstruction Engineering and Design
PgMP	Program Management Plan

PILT	Payments In Lieu of Taxes
PIR	Project Implementation Report
PL	Public Law
PMP	Project Management Plan
PORT	Public Outreach Team
PPA	Project Partnership Agreement
PPT	Program Planning Team
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RCP	Regional Contingency Plan
RCPP	Regional Conservation Partnership Program
RDB	Right Descending Bank
RED	Regional Economic Development
RIFO	Rock Island Field Office (now IIFO - Illinois-Iowa Field Office)
RM	River Mile
RP	Responsible Party
RPEDN	Regional Planning and Environment Division North
RPT	Reach Planning Team
RRAT	River Resources Action Team
RRCT	River Resources Coordinating Team
RRF	River Resources Forum
RRT	Regional Response Team
RST	Regional Support Team
RTC	Report to Congress
S.	Senate
SAV	Submersed Aquatic Vegetation
SDWA	Safe Drinking Water Act
SEMA	State Emergency Management Agency
SET	System Ecological Team
SMART	Specific, Measurable, Attainable, Risk Informed, Timely
SONS	Spill of National Significance
SOW	Scope of Work
SRF	State Revolving Fund
SWCD	Soil and Water Conservation District
T&E	Threatened and Endangered
TEUs	twenty-foot equivalent units
TIGER	Transportation Investment Generating Economic Recovery
TLP	Traditional License Process
TMDL	Total Maximum Daily Load
TNC	The Nature Conservancy
TSP	Tentatively selected plan
TSS	Total Suspended Solids
TVA	Tennessee Valley Authority
TWG	Technical Work Group
UMESC	Upper Midwest Environmental Sciences Center

UMIMRA	Upper Mississippi, Illinois, and Missouri Rivers Association
UMR	Upper Mississippi River
UMRBA	Upper Mississippi River Basin Association
UMRBC	Upper Mississippi River Basin Commission
UMRCC	Upper Mississippi River Conservation Committee
UMRCP	Upper Mississippi River Comprehensive Plan
UMR-IWW	Upper Mississippi River-Illinois Waterway
UMRNWFR	Upper Mississippi River National Wildlife and Fish Refuge
UMRR	Upper Mississippi River Restoration Program [Note: Formerly known as Environmental Management Program.]
UMRR CC	Upper Mississippi River Restoration Program Coordinating Committee
UMRS	Upper Mississippi River System
UMWA	Upper Mississippi Waterway Association
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VTC	Video Teleconference
WCI	Waterways Council, Inc.
WES	Waterways Experiment Station (replaced by ERDC)
WHAG	Wildlife Habitat Appraisal Guide
WHIP	Wildlife Habitat Incentives Program
WIIN	Water Infrastructure Improvements for the Nation Act
WLM	Water Level Management
WLMTF	Water Level Management Task Force
WQ	Water Quality
WQEC	Water Quality Executive Committee
WQTF	Water Quality Task Force
WQS	Water Quality Standard
WRDA	Water Resources Development Act
WRP	Wetlands Reserve Program
WRRDA	Water Resources Reform and Development Act

Upper Mississippi River Restoration Program Authorization

Section 1103 of the Water Resources Development Act of 1986 (P.L. 99-662) as amended by Section 405 of the Water Resources Development Act of 1990 (P.L. 101-640), Section 107 of the Water Resources Development Act of 1992 (P.L. 102-580), Section 509 of the Water Resources Development Act of 1999 (P.L. 106-53), Section 2 of the Water Resources Development Technical Corrections of 1999 (P.L. 106-109), Section 3177 of the Water Resources Development Act of 2007 (P.L. 110-114), Section 307 of the Water Resources Development Act of 2020 (P.L. 116-260), and Section 8345 of the Water Resources Development Act of 2022 (P.L. 117-263).

Additional Cost Sharing Provisions

Section 906(e) of the Water Resources Development Act of 1986 (P.L. 99-662) as amended by Section 221 of the Water Resources Development Act of 1999 (P.L. 106-53).

SEC. 1103. UPPER MISSISSIPPI RIVER PLAN.

(a)(1) This section may be cited as the "Upper Mississippi River Management Act of 1986".

(2) To ensure the coordinated development and enhancement of the Upper Mississippi River system, it is hereby declared to be the intent of Congress to recognize that system as a nationally significant ecosystem and a nationally significant commercial navigation system. Congress further recognizes that the system provides a diversity of opportunities and experiences. The system shall be administered and regulated in recognition of its several purposes.

(b) For purposes of this section --

(1) the terms "Upper Mississippi River system" and "system" mean those river reaches having commercial navigation channels on the Mississippi River main stem north of Cairo, Illinois; the Minnesota River, Minnesota; Black River, Wisconsin; Saint Croix River, Minnesota and Wisconsin; Illinois River and Waterway, Illinois; and Kaskaskia River, Illinois;

(2) the term "Master Plan" means the comprehensive master plan for the management of the Upper Mississippi River system, dated January 1, 1982, prepared by the Upper Mississippi River Basin Commission and submitted to Congress pursuant to Public Law 95-502;

(3) the term "GREAT I, GREAT II, and GRRM studies" means the studies entitled "GREAT Environmental Action Team--GREAT I--A Study of the Upper Mississippi River", dated September 1980, "GREAT River Environmental Action Team--GREAT II--A Study of the Upper Mississippi River", dated December 1980, and "GREAT River Resource Management Study", dated September 1982; and

(4) the term "Upper Mississippi River Basin Association" means an association of the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, formed for the purposes of cooperative effort and united assistance in the comprehensive planning for the use, protection, growth, and development of the Upper Mississippi River System.

(c)(1) Congress hereby approves the Master Plan as a guide for future water policy on the Upper Mississippi River system. Such approval shall not constitute authorization of any recommendation contained in the Master Plan.

(2) Section 101 of Public Law 95-502 is amended by striking out the last two sentences of subsection (b), striking out subsection (i), striking out the final sentence of subsection (j), and redesignating subsection "(j)" as subsection "(i)".

(d)(1) The consent of the Congress is hereby given to the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, or any two or more of such States, to enter into negotiations for agreements, not in conflict with any law of the United States, for cooperative effort and mutual assistance in the comprehensive planning for the use, protection, growth, and development of the Upper Mississippi River system, and to establish such agencies, joint or otherwise, or designate an existing multi-State entity, as they may deem desirable for making effective such

agreements. To the extent required by Article I, section 10 of the Constitution, such agreements shall become final only after ratification by an Act of Congress.

(2) The Secretary is authorized to enter into cooperative agreements with the Upper Mississippi River Basin Association or any other agency established under paragraph (1) of this subsection to promote and facilitate active State government participation in the river system management, development, and protection.

(3) For the purpose of ensuring the coordinated planning and implementation of programs authorized in subsections (e) and (h)(2) of this section, the Secretary shall enter into an interagency agreement with the Secretary of the Interior to provide for the direct participation of, and transfer of funds to, the Fish and Wildlife Service and any other agency or bureau of the Department of the Interior for the planning, design, implementation, and evaluation of such programs.

(4) The Upper Mississippi River Basin Association or any other agency established under paragraph (1) of this subsection is hereby designated by Congress as the caretaker of the master plan. Any changes to the master plan recommended by the Secretary shall be submitted to such association or agency for review. Such association or agency may make such comments with respect to such recommendations and offer other recommended changes to the master plan as such association or agency deems appropriate and shall transmit such comments and other recommended changes to the Secretary. The Secretary shall transmit such recommendations along with the comments and other recommended changes of such association or agency to the Congress for approval within 90 days of the receipt of such comments or recommended changes.

(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.
- (B) Advisory committee. In carrying out subparagraph (A)(i), the Secretary shall establish an independent technical advisory committee to review projects, monitoring plans, and habitat and natural resource needs assessments.

(2) REPORTS. — Not later than December 31, 2004, and not later than December 31 of every sixth year thereafter, the Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, shall submit to Congress a report that —

(A) contains an evaluation of the programs described in paragraph (1);

(B) describes the accomplishments of each of the programs;

(C) provides updates of a systemic habitat needs assessment; and

(D) identifies any needed adjustments in the authorization of the programs.

(3) For purposes of carrying out paragraph (1)(A)(i) of this subsection, there is authorized to be appropriated to the Secretary \$75,000,000 for fiscal year 1999 and each fiscal year thereafter.

(4) For purposes of carrying out paragraph (1)(A)(ii) of this subsection, there is authorized to be appropriated to the Secretary \$15,000,000 for fiscal year 1999 and each fiscal year thereafter.

(5) Authorization of appropriations.—There is authorized to be appropriated to carry out paragraph (1)(B) \$350,000 for each of fiscal years 1999 through 2009.

(6) Transfer of amounts.—For fiscal year 1999 and each fiscal year thereafter, the Secretary, in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, may transfer not to exceed 20 percent of the amounts appropriated to carry out clause (i) or (ii) of paragraph (1)(A) to the amounts appropriated to carry out the other of those clauses.

(7)(A) Notwithstanding the provisions of subsection (a)(2) of this section, the costs of each project carried out pursuant to paragraph (1)(A)(i) of this subsection shall be allocated between the Secretary and the appropriate non-Federal sponsor in accordance with the provisions of section 906(e) of this Act; except that the costs of operation and maintenance of projects located on Federal lands or lands owned or operated by a State or local government shall be borne by the Federal, State, or local agency that is responsible for management activities for fish and wildlife on such lands and, in the case of any project requiring non-Federal cost sharing, the non-Federal share of the cost of the project shall be 35 percent.

(B) Notwithstanding the provisions of subsection (a)(2) of this section, the cost of implementing the activities authorized by paragraph (1)(A)(ii) of this subsection shall be allocated in accordance with the provisions of section 906 of this Act, as if such activity was required to mitigate losses to fish and wildlife.

(8) None of the funds appropriated pursuant to any authorization contained in this subsection shall be considered to be chargeable to navigation.

(f) (1) The Secretary, in consultation with any agency established under subsection (d)(1) of this section, is authorized to implement a program of recreational projects for the system substantially in accordance with the recommendations of the GREAT I, GREAT II, and GRRM studies and the master plan reports. In addition, the Secretary, in consultation with any such agency, shall, at Federal expense, conduct an assessment of the economic benefits generated by recreational activities in the system. The cost of each such project shall be allocated between the Secretary and the appropriate non-Federal sponsor in accordance with title I of this Act.

(2) For purposes of carrying out the program of recreational projects authorized in paragraph (1) of this subsection, there is authorized to be appropriated to the Secretary not to exceed \$500,000 per fiscal year for each of the first 15 fiscal years beginning after the effective date of this section.

(g) The Secretary shall, in his budget request, identify those measures developed by the Secretary, in consultation with the Secretary of Transportation and any agency established under subsection (d)(1) of this section, to be undertaken to increase the capacity of specific locks throughout the system by employing nonstructural measures and making minor structural improvements.

(h)(1) The Secretary, in consultation with any agency established under subsection (d)(1) of this section, shall monitor traffic movements on the system for the purpose of verifying lock capacity, updating traffic projections, and refining the economic evaluation so as to verify the need for future capacity expansion of the system.

(2) Determination.

- (A) In general. The Secretary in consultation with the Secretary of the Interior and the States of Illinois, Iowa, Minnesota, Missouri, and Wisconsin, shall determine the need for river rehabilitation and environmental enhancement and protection based on the condition of the environment, project developments, and projected environmental impacts from implementing any proposals resulting from recommendations made under subsection (g) and paragraph (1) of this subsection.
- (B) Requirements. The Secretary shall
 - (i) complete the ongoing habitat needs assessment conducted under this paragraph not later than September 30, 2000; and
 - (ii) include in each report under subsection (e)(2) the most recent habitat needs assessment conducted under this paragraph.

(3) There is authorized to be appropriated to the Secretary such sums as may be necessary to carry out this subsection.

(i) (1) The Secretary shall, as he determines feasible, dispose of dredged material from the system pursuant to the recommendations of the GREAT I, GREAT II, and GRRM studies.

(2) The Secretary shall establish and request appropriate Federal funding for a program to facilitate productive uses of dredged material. The Secretary shall work with the States which have, within their boundaries, any part of the system to identify potential users of dredged material.

(j) The Secretary is authorized to provide for the engineering, design, and construction of a second lock at locks and dam 26, Mississippi River, Alton, Illinois and Missouri, at a total cost of \$220,000,000, with a first Federal cost of \$220,000,000. Such second lock shall be constructed at or in the vicinity of the location of the replacement lock authorized by section 102 of Public Law 95-502. Section 102 of this Act shall apply to the project authorized by this subsection.

SEC. 906(e). COST SHARING.

(e) In those cases when the Secretary, as part of any report to Congress, recommends activities to enhance fish and wildlife resources, the first costs of such enhancement shall be a Federal cost when--

(1) such enhancement provides benefits that are determined to be national, including benefits to species that are identified by the National Marine Fisheries Service as of national economic importance, species that are subject to treaties or international convention to which the United States is a party, and anadromous fish;

(2) such enhancement is designed to benefit species that have been listed as threatened or endangered by the Secretary of the Interior under the terms of the Endangered Species Act, as amended (16 U.S.C. 1531, et seq.), or

(3) such activities are located on lands managed as a national wildlife refuge.

When benefits of enhancement do not qualify under the preceding sentence, 25 percent of such first costs of enhancement shall be provided by non-Federal interests under a schedule of reimbursement determined by the Secretary. Not more than 80 percent of the non-Federal share of such first costs may be satisfied through in-kind contributions, including facilities, supplies, and services that are necessary to carry out the enhancement project. The non-Federal share of operation, maintenance, and rehabilitation of activities to enhance fish and wildlife resources shall be 25 percent.

EMP OPERATING APPROACH

2006 marks the 20th anniversary of the Environmental Management Program (EMP). During that time, the Program pioneered many new ideas to help deliver efficient and effective natural resource programs to the Upper Mississippi River System (UMRS). These included the creation of an effective partnership of five states, five federal agencies, and numerous NGOs; a network of six field stations monitoring the natural resources of the UMRS; and the administrative structure to encourage river managers to use both new and proven environmental restoration techniques.

EMP has a history of identifying and dealing with both natural resource and administrative challenges. The next several years represent new opportunities and challenges as Congress considers authorization of the Navigation and Environmental Sustainability Program (NESP), possible integration or merger of EMP with NESP, and changing standards for program management and execution.

We will continue to learn from both the history of EMP and experience of other programs. Charting a course for EMP over the next several years is important to the continued success of the Program. EMP will focus on the key elements of partnership, regional administration and coordination, LTRMP, and HREPs.

The fundamental focus of EMP will not change, however the way we deliver our services must change and adapt. This will include:

- further refinements in regional coordination and management,
- refinement of program goals and objectives,
- increased public outreach efforts,
- development and use of tools such as the regional HREP database and HREP Handbook,
- exploring new delivery mechanisms for contracting,
- continued refinement of the interface between LTRMP and the HREP program components, and
- scientific and management application of LTRMP information and data.

The focus of these efforts must benefit the resources of the UMRS through efficient and effective management.