Upper Mississippi River Restoration Program Coordinating Committee Quarterly Meeting

February 24, 2021

Highlights and Action Items

Program Management

- The Corps of Engineer's FY 21 appropriations and workplan included approximately $502 million for construction of twelve ecosystem restoration programs and projects across the nation.

- **UMRR has obligated over $11.2 million, or 33.8 percent, of its $33.17 million FY 21 funds to-date.**

- UMRR's FY 21 internal allocations are as follows:
  - Regional Administration and Program Efforts – $1,250,000
    - Regional management – $1,000,000
    - Program database – $100,000
    - Program support contract – $100,000
    - Public outreach – $50,000
  - Regional Science and Monitoring – $10,400,000
    - Long term resource monitoring – $5,000,000
    - Regional science in support of restoration – $3,800,000
    - Integration & Adaptive Management – $200,000
    - Habitat project evaluations – $1,125,000
    - Report to Congress – $275,000
  - Habitat Restoration – $21,520,000
    - Rock Island District – $7,020,000
    - St. Louis District – $7,125,000
    - St. Paul District – $7,275,000
    - Model certification – $100,000

- **The President's FY 22 budget has not yet been released but is anticipated to be released in March or April.** It is not atypical for the release of the President's budget to be delayed in a year with a change in the Administration.

- Since its inception, UMRR has completed 56 projects and restored 106,000 acres. From FY 12 – 20, UMRR restored, created, improved, or protected 31,370 acres, approximately 10 percent of the 332,000 acres restored nationally. There are currently 24 projects in planning, design, or construction that would restore over 65,000 acres by 2030. High water in 2018 and 2019 delayed completion of some projects, but two projects, Conway Lake and Ted Shanks, are anticipated to be completed in FY 21 and will account for 4,310 of those acres.

- The Statements of Significance, developed by the UMRR Coordinating Committee, will be a living document that will be updated as necessary and serve as resource for other efforts. It will be used to inform the 2022 Report to Congress, communication and outreach materials being developed by UMRR Communications Team, and discussion on desired future condition. **The Communications Team reviewed the statements of significance and is preparing a memo with feedback for the UMRR Coordinating Committee.**

- On February 10, 2021, the UMRR Coordinating Committee held a virtual meeting to discuss the review of the 2013 UMRR Joint Charter of Consultative Bodies. The Committee recommended that the Joint Charter include additional context regarding UMRR's purpose, vision, mission, and a reference to the 2015-2025 Strategic Plan. No additional consultative bodies will be added to the Charter at this time. **The UMRR Coordinating Committee also reviewed the A-Team's suggested edits to the A-Team's Charter language. The Coordinating Committee accepted the majority of the A-Team's suggested changes and provided some revised language for the A-Team to consider. The A-Team will review and respond to the comments prior to the Coordinating Committee's May 26, 2021 quarterly meeting.**

- On a February 16, 2021 call, the 2022 Report to Congress Scoping Team reviewed a draft survey regarding the 2015-2025 UMRR Strategic and Operational Plan to identify linkages between the survey items and the Report to Congress. The survey will seek input regarding progress achieved since 2015, priorities for the next five years, and the issue areas to include in the 2022 Report to Congress. **A revised survey will be provided to the UMRR Coordinating Committee for review prior to distribution to the broader UMRR partnership.**

- **The 2022 Report to Congress Scoping Team completed a draft outline for the report. The outline includes six chapters with details to guide content development:**

Chapter 1 – Strategic Direction	Chapter 4 – Interagency Partnership and Recognition
Chapter 2 – Enhancing Habitat	Chapter 5 – Implementation Issues
Chapter 3 – Enhancing Knowledge	Chapter 6 – Conclusions and Recommendations

  The draft outline will be sent to the UMRR Coordinating Committee to coordinate any necessary agency review and a meeting will be scheduled in late-March to early-April to discuss feedback.

- The UMRR Coordinating Committee will soon initiate a process to develop a desired future condition for the UMR ecosystem. A qualitative narrative approach is anticipated. The discussion will include reflection on many previous efforts including the Statements of Significance, Habitat Needs Assessment-II, the Strategic Plan Review and the 2011 NESP Report, among others. A small *ad hoc* group will be assembled to further outline the process for this discussion.

- **On December 9, 2020, Congress passed the 2020 Water Resources Development Act, increasing the UMRR HREP annual appropriation limit to $40,000,000 and LTRM to $15,000,000. The UMRR Coordinating Committee will convene a meeting in the future to discuss how additional dollars would benefit habitat and the state of science in the UMR.**

Communications

Rachel Perrine and Jill Bathke are co-leading the UMRR Communications Team. The team is finalizing a draft UMRR flyer, with a goal for seeking the UMRR Coordinating Committee's approval in summer 2021. The flyer is geared toward a general audience with limited knowledge of UMRR and will highlight the value of the UMRS and benefits of UMRR in the context of water, wildlife, and way of

life. The team also reviewed and discussed the UMRR draft storyline and will provide written comments to the Coordinating Committee. **At the next meeting, the Communications Team will discuss development of an inventory of existing outreach materials and how UMRR can recognize and celebrate its 35th anniversary and Earth Day.**

UMRR Showcase Presentations

- Rachel Hawes provided an update on the Pool 12 Forestry HREP. It is the first UMRR HREP to focus specifically on forestry and will encompass 4,000 acres. Project objectives include:
  - Enhance and promote continued forest health and growth in existing quality floodplain forests.
  - Increase topographic diversity and elevation where significant forest loss and decline occurs from increased flooding.
  - Enhance and increase the pool coverage extent, patch size, and successional diversity of floodplain forest communities.
  - Restore and maintain large contiguous patches of forest communities by reduction in canopy gaps converted to invasive species.
  - Enhance and increase habitat corridors and connectivity (focus is on forest-dependent and migratory species).

  Foresters and partner agencies completed timber inventory data collection. Data was then entered into an interactive ArcGIS web map geodatabase, which will be used to inform the feasibility efforts and drive project success. The geodatabase includes plot and site level health and age characteristics and other existing data layers, such as inundation duration, can be overlayed to inform data analysis and decision-making.

- Kirsten Schmidt summarized her work on wild celery winter bud dynamics in Pools 4, 8, and 13 of the UMR. This work was undertaken as one of the projects from the 2018 UMRR Science meeting. The Upper Mississippi River Great Lakes Region (UMRGLR) Joint Venture is an important area for canvasback ducks and mainly serves as stopover sites and wintering areas. Canvasbacks are a specialist feeder and utilize their sloped bill when diving underwater to reach the below ground structures of wild celery. Previous large-scale losses of wild celery are associated with declines in canvasback populations. Habitat objectives for the UMRGLR are based on the food limitation hypothesis that suggests food availability can affect body condition, timing of migration, distribution of birds and subsequently productivity and survival. Daily ration models (DRMs) are used to estimate the population of birds an area can support by incorporating food energy density and the energetic demands of a target duck or guild. LTRM vegetation monitoring collects data annually on presence/absence and relative abundance in pools 4, 8, and 13, but rake sampling methods do not sample underground vegetation structures on which canvasbacks like to feed. To estimate underground bud availability based on rake scores, substrate cores were taken in autumn and spring from LTRM vegetation sites where above ground biomass information was collected in the summer. Using a weighted logistic regression, Schmidt found that there is approximately 90 percent chance of finding wild celery winter buds at sites with an average rake score of 1 and 100 percent change at sites with an average rake score of 1.7. A weighted linear regression showed a positive linear relationship between average rake score and bud counts up to rake scores of two. At a rake score of two, managers can estimate about 490 buds per meter squared. Closed areas to waterfowl hunting had higher winter bud counts in autumn and spring. By using LTRM rake sampling and other factors to estimate underground structures, organizations that base management decisions on waterfowl food availability now have a more accessible and affordable means of estimating wild celery buds on an annual basis. Schmidt will be joining the USFWS as a wildlife biologist at the Two Rivers National Wildlife Refuge.

NESP Update

- In FY 20, NESP was allocated $4.5 million that was used to advance designs on three navigation projects and five ecosystem projects. The Corps allocated **$5 million in FY 21 that will be used to prepare all three navigation projects and four ecosystem projects to be construction ready by the end of FY 21.** These projects include:
  - Navigation – Lock 25 lockwall modifications, Lock 14 mooring cell
  - Navigation – Systemic mitigation – Moore's Towhead
  - Ecosystem – Twin Islands, Alton Pool Islands, Pool 2 wingdam notching, Starved Rock habitat restoration and enhancement

  Feasibility for Lock 22 fish passage was advanced to the TSP milestone in December 2020 with design nearly 35 percent complete.

Habitat Restoration

- MVP's planning priorities include Reno Bottoms and Lower Pool 10. Reno Bottoms used the forest succession model to evaluate alternatives and TSP selection is anticipated in August 2021. A TSP was selected for Lower Pool 10 in fall 2020 and a draft report is anticipated for review in summer 2021. Lower Pool 10 presents another opportunity for beneficial use of dredged material. The district's design priority is addressing repairs on three islands and backwater areas at Harpers Slough. The project's design was approved in January 2021 and a construction contract is ready to advertise. The District requested use of existing funds to advertise this bid. Construction at Conway Lake is complete and final grading, seeding, and tree planting are scheduled for spring 2021. A virtual ground breaking ceremony for Bass Ponds was held November 6, 2020 and construction is approximately 40 percent complete and ahead of schedule. Construction at McGregor lake is approximately 5 percent complete. All five of the recently selected HREP fact sheets have been approved. The first project, Lower Pool 4 - Big Lake is anticipated to begin in fall 2021.

- MVR's planning priorities include Steamboat Island, Lower Pool 13, Green Island, and Pool 12 Forestry. Steamboat Island was approved by MVD on January 22, 2021. The Pool 12 Forestry PDT held a kickoff meeting in December 2020 and is identifying project goals and objectives. MVR's design priorities include Keithsburg Island and Steamboat Island Stage I. The 100 percent review was completed for Keithsburg Division Stage II plans and specs and the PDT sent the dam/floodplain permit letter to the IL DNR in February 2021. A design contract will be advertised following permit issuance. The 35 percent review for Steamboat Island Stage I started on January 29, 2021. Tree planting was completed at Pool 12 Overwintering Stages II and III and Huron Island Stage II. ERDC's aquatic vegetation for Huron Island Stage III may have been affected by the recent extreme cold winter weather. MVD approved the fact sheets for the Lower Pool 11 and Pool 18 forestry habitat projects.

- MVS's planning priorities include West Alton Islands, Oakwood Bottoms, and Yorkinut Slough. The feasibility study for West Alton Islands is scheduled to start in spring FY 21. The Oakwood Bottoms feasibility report is anticipated to be approved in spring FY 21. Hydrology and hydraulic modeling for Yorkinut Slough is nearly complete. Plans and specs for Piasa and Eagles Nest Phase II and Crains Island Phase II are both anticipated to be completed in fall 2021. A construction contract was awarded for the Piasa and Eagles Nest rock structure. The sediment deflection berm is nearly complete at Crains Island. Reforestation and pump station warranty work continue at Ted Shanks. The pump station at Clarence Cannon is expected to be operational by late summery 2021. Fact sheets with MDC and USFS as sponsors will be sent to MVD for approval later this year. The District is preparing maps for discussions with IDNR and USFWS to prioritize newly identified HREP fact sheets for each sponsor.

Long Term Resource Monitoring and Science

- Accomplishments of the first quarter of FY 21 include publication of the following manuscript and completion reports:
  - Species specific wet-dry mass calibrations for common submersed macrophytes in the Upper Mississippi River
  - Upper Mississippi River System weighted wind fetch analysis
  - Backwater net sedimentation rates
  - Four-band aerial imagery testing and acquisition for 2020 Land Cover/Land Use mission

- **The Status and Trends Report 3rd Edition is being revised to address partnership feedback. The final version of the report is anticipated to be released in summer 2021.** Jeff Houser will present a summary of the report at the Upper Mississippi River Conservation Committee's annual conference on March 18. **Chapter leads will present on their respective chapters at the annual meeting of the Mississippi River Research Consortium to be held virtually on April 22-23, 2021. Following report finalization, a summary brochure will be created for use in outreach and communication activities. A small group will be convened to discuss a strategic rollout for the UMRR Status and Trends Report.**

- UMRR's FY 21 LTRM allocation is $6.3 million ($5.0 million for base monitoring and $1.3 million for analysis under base) with an additional $2.5 million available for Science in Support of Restoration and Management. Previously funded science activities for FY 21 include LTRM base monitoring overage, IWW monitoring, COVID-related safety expenditures, graphical assistance on the Status and Trends report, and adjustments to FY 20 proposals. **The UMRR Coordinating Committee unanimously endorsed using $1.99 million to fund the five recommended FY 21 Science in Support of Restoration and Management projects:**

— FY 20 stable states proposal (remainder)	$77, 573
— Landscape patterns (FY 22-24)	$390,733
— Resilience (FY 22-24)	$671,066
— Ecohydrology (FY 23)	$212,685
— Land Cover / Land Use Processing (FY 24)	$638,029

- The A-Team met via webinar on January 25, 2021. Topics discussed included macroinvertebrate sampling and research needs, continued impacts of COVID-19 on agency policies and potential impacts to the 2021 field/work season, possible processes for LTRM implementation planning in response to increased UMRR authorization, and revisions to the roles and responsibilities of the A-Team outlined in the 2013 UMRR joint Charter of consultative bodies. The macroinvertebrate subgroup will develop a proposal including methods and budgets in a format that allows for comparison and prioritization by the A-Team relative to other science needs. The A-Team agreed unanimously on revisions to the A-Team's charter language and submitted a revised charter to the UMRR Coordinating Committee. The A-Team received comments from the Coordinating Committee that sparked additional discussion that will be addressed at the A-Team's next meeting. The A-Team's next meeting will be held via webinar in the second half of April, not to coincide with the MRRC annual meeting.

- On February 17, 2021, an email was sent to the UMRR Coordinating Committee indicating that planning activities were needed to address UMRR's increased authorization in WRDA 2020 and to enhance the program's capabilities to better meet science and restoration needs and effectively execute dollars in outyears, should the opportunity arise. Planning objectives would be to address currently unmet information needs for the UMRS and promote further integration of the UMRR program elements. **The Coordinating Committee agreed that a small group should be convened to discuss and layout a process for implementation planning for consideration by the Coordinating Committee. Issues to be discussed include using a facilitated planning approach with neutral facilitator, identifying participants to ensure vertical representation of the program, and the timeline for implementation planning.**

Other Business

- The LTRM components biennial meeting will be held virtually March 30-31, 2021.

- Subsequent to the meeting, on March 1, 2021, the UMRR Coordinating Committee indicated their support via email for UMRR to partially fund a workshop to utilize structured decision making related to the implementation of water level management for ecological purposes.

Upcoming quarterly meetings are as follows:

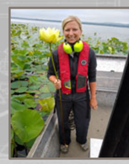
- **May 2021 – Remote**
  - UMRBA quarterly meeting – May 25
  - **UMRR Coordinating Committee quarterly meeting – May 26**
- **August 2021 – TBD**
  - UMRBA quarterly meeting – August 10
  - **UMRR Coordinating Committee quarterly meeting – August 11**
- **November 2021 – TBD**
  - UMRBA quarterly meeting – November 16
  - **UMRR Coordinating Committee quarterly meeting – November 17**

UMRR COORDINATING COMMITTEE - REGIONAL MANAGEMENT AND PARTNERSHIP COLLABORATION

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

23 February 2021

Upper Mississippi River Restoration
Leading · Innovating · Partnering




US Army Corps of Engineers

REGIONAL MANAGEMENT AND PARTNERSHIP COLLABORATION

- FY 2020 Fiscal Update and FY 21 Outlook
- Statements of UMRR National Significance
- 2013 UMRR Joint Charter Review
- 2015-2025 Strategic and Operation Plan Review
- 2022 Report to Congress
- Desired Future Condition
- UMRR Authorization

USGS science for a changing world

US Army Corps of Engineers

USDA

PUBLIC

UMRBA

NGOs

FINANCIAL REPORTING

UMRR Quarterly Budget Report: St. Paul District
FY2021 Q1; Report Date: Thu Feb 11 2021

Habitat Projects

Project Name	Cost Estimates			FY2021 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Bass Ponds, Marsh, and Wetland	-	$6,300,000	$6,300,000	-	$300,000	$300,000	$172,961
Conway Lake	-	$7,413,000	$7,413,000	$39,645	$300,000	$339,645	$96,867
Harpers Slough	-	$13,675,000	$13,675,000	-	-	-	-$14,345
Lower Pool 10 Island and Backwater Complex	-	$17,000,000	$17,000,000	$12,700	$350,000	$362,700	$120,118
McGregor Lake	-	$23,550,000	$23,550,000	-	$5,875,000	$5,875,000	$51,341
Reno Bottoms	-	$10,000,000	$10,000,000	$105,337	$450,000	$555,337	$87,005
Total	-	$77,938,000	$77,938,000	$157,683	$7,275,000	$7,432,683	$513,947

Habitat Rehabilitation

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	$252,951
Total	-	-	-	$252,951

Regional Program Administration

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
Habitat Eval/Monitoring	-	-	-	$106,870
Total	-	-	-	$106,870

	Carry In	Allocation	Funds Available	Actual Obligations
St. Paul Total	$157,683	$7,275,000	$7,432,683	$873,767

FINANCIAL REPORTING

UMRR Quarterly Budget Report: Rock Island District
FY2021 Q1; Report Date: Thu Feb 11 2021

Habitat Projects

Project Name	Cost Estimates			FY2021 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Beaver Island	-	$25,288,000	$25,288,000	$40,000	$1,225,000	$1,265,000	$62,742
Green Island, IA	-	$14,600,000	$14,600,000	-	$500,000	$500,000	$105,897
Huron Island	-	$15,773,000	$15,773,000	$43,278	$100,000	$143,278	-$572
Keithsburg Division	-	$29,643,000	$29,643,000	-	$3,545,000	$3,545,000	$322,894
Lower Pool 13	-	$25,288,000	$25,288,000	$42,444	$350,000	$392,444	$119,645
Pool 12 (Forestry)	-	-	-	$84,173	$500,000	$584,173	$95,214
Pool 12 Overwintering	-	$20,876,822	$20,876,822	$99,267	-	$99,267	$119,379
Rice Lake, IL	$7,280,000	$13,459,763	$20,739,763	-	-	-	$2,990
Steamboat Island	-	$41,977,000	$41,977,000	$50,000	$350,000	$400,000	$48,874
Total	$7,280,000	$188,899,585	$196,179,585	$359,384	$7,020,000	$7,379,384	$877,024

Habitat Rehabilitation

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	$116,647
Total	-	-	-	$116,647

Regional Program Administration

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
Adaptive Management	-	$200,000	$200,000	$127,500
Habitat Eval/Monitoring	-	$1,125,000	$1,125,000	$45,279
Model Certification/Regional HREP	-	$100,000	$100,000	$11,467
Public Outreach	-	$50,000	$50,000	$7,817
Regional Program Management	-	$1,200,000	$1,200,000	$317,989
Regional Project Sequencing	-	$275,000	$275,000	$3,573
Total	-	$2,950,000	$2,950,000	$513,761

Regional Science and Monitoring

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
Long Term Resource Monitoring	-	$5,000,000	$5,000,000	$4,627,576
Science in Support of Restoration/Management	-	$3,800,000	$3,800,000	$1,700,146
Total	-	$8,800,000	$8,800,000	$6,327,722

	Carry In	Allocation	Funds Available	Actual Obligations
Rock Island Total	$359,384	$18,770,000	$19,129,384	$7,835,154

FINANCIAL REPORTING

UMRR Quarterly Budget Report: St. Louis District
FY2021 Q1; Report Date: Thu Feb 11 2021

Habitat Projects

Project Name	Cost Estimates			FY2021 Financials			
	Non-Federal	Federal	Total	Carry In	Allocation	Funds Available	Actual Obligations
Clarence Cannon	-	$29,800,000	$29,800,000	-	$850,000	$850,000	$82,241
Crains Island	-	$36,562,000	$36,562,000	$6,228	$4,000,000	$4,006,228	$819,503
Oakwood Bottoms	-	$29,000,000	$29,000,000	-	$350,000	$350,000	$303,219
Piasa - Eagle's Nest Islands	-	$26,746,000	$26,746,000	-	$825,000	$825,000	$29,501
Rip Rap Landing	$2,848,000	$6,464,000	$9,312,000	-	$150,000	$150,000	-
Ted Shanks	-	$29,506,000	$29,506,000	-	-	-	$6,857
West Alton Missouri Islands	-	-	-	-	$275,000	$275,000	$31,914
Yorkinut Slough, IL	-	$8,500,000	$8,500,000	$2,718	$225,000	$227,718	$68,687
Total	$2,848,000	$204,549,000	$207,397,000	$8,947	$7,125,000	$7,133,947	$1,341,922

Habitat Rehabilitation

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
District Program Management	-	-	-	$148,128
Total	-	-	-	$148,128

Regional Program Administration

Subcategory	FY2021 Financials			
	Carry In	Allocation	Funds Available	Obligations
Habitat Eval/Monitoring	-	-	-	$11,143
Total	-	-	-	$11,143

	Carry In	Allocation	Funds Available	Actual Obligations
St. Louis Total	$8,947	$7,125,000	$7,133,947	$1,501,193

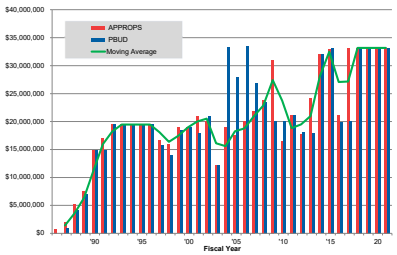
FY21 PLAN OF WORK

	Budget	Obligations 1st Qrt.
TOTAL FY21 Program	**$33,170,000**	**$10,210,114**
Regional Administration and Program Efforts	**$ 1,250,000**	**$325,806**
Regional Management	$ 1,000,000	
Program Database	$ 100,000	
Program Support Contract (UMRBA)	$ 100,000	
Public Outreach	$ 50,000	
Regional Science and Monitoring	**$10,400,000**	**$ 6,622,082**
LTRM (Base Monitoring)	$ 5,000,000	
UMRR Regional Science In Support Rehabilitation/Mgmt. (MIPR's, Contracts, and Labor)	$ 3,800,000	
UMRR Regional (Integration, Adapt. Mgmt.)	$ 200,000	
Habitat Evaluation (split between MVS,MVR,MVP)	$ 1,125,000	
Report to Congress	$ 275,000	
District Habitat Rehabilitation Efforts (Planning and Construction)	**$21,520,000**	**$ 3,262,226**
Rock Island District	$ 7,020,000	
St. Louis District	$ 7,125,000	
St. Paul District	$ 7,275,000	
Model Cert.	$ 100,000	**30.3%**

FY21 PLAN OF WORK

	Budget	As of last week
TOTAL FY21 Program	**$33,170,000**	**$11,226,277**
Regional Administration and Program Efforts	**$ 1,250,000**	
Regional Management	$ 1,000,000	
Program Database	$ 100,000	
Program Support Contract (UMRBA)	$ 100,000	
Public Outreach	$ 50,000	
Regional Science and Monitoring	**$10,400,000**	**33.8%**
LTRM (Base Monitoring)	$ 5,000,000	
UMRR Regional Science In Support Rehabilitation/Mgmt. (MIPR's, Contracts, and Labor)	$ 3,800,000	
UMRR Regional (Integration, Adapt. Mgmt.)	$ 200,000	
Habitat Evaluation (split between MVS,MVR,MVP)	$ 1,125,000	
Report to Congress	$ 275,000	
District Habitat Rehabilitation Efforts (Planning and Construction)	**$21,520,000**	
Rock Island District	$ 7,020,000	
St. Louis District	$ 7,125,000	
St. Paul District	$ 7,275,000	
Model Cert.	$ 100,000	

UMRR PROGRAM APPROPRIATION/BUDGET HISTORY



FY1985 to FY2020

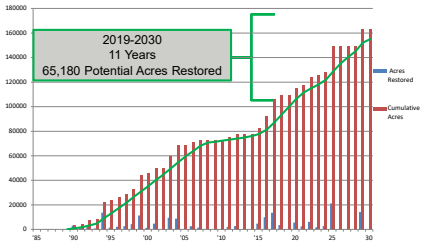
FY 21 APPROPRIATIONS & WORKPLAN NATIONAL PERSPECTIVE

Hamilton City, CA	$ 22,000,000
South Florida Ecosystem Restoration, FL*	$250,000,000
Missouri River Fish and Wildlife Recovery*	$ 29,700,000
Albeni Falls Dam (Fish Passage), ID	$ 68,100,000
Upper Mississippi River Restoration*	$ 33,170,000
Assateague, MD	$ 600,000
Chesapeake Bay oyster Recovery, MD*	$ 5,000,000
Poplar Island, MD	$ 14,500,000
Lower Cape May Meadows, NJ	$ 400,000
Espanola Valley Rio Grande, NM	$ 56,000,000
Lower Brule, Sioux Tribe	$ 7,029,000
Columbia River Fish Mitigation*	$ 15,677,000
Total	$502,176,000

FY 22 APPROPRIATIONS

President's Budget	$ March/April
House	TBD
Senate	TBD
FINAL APPROPRIATION	?

ACRES RESTORED

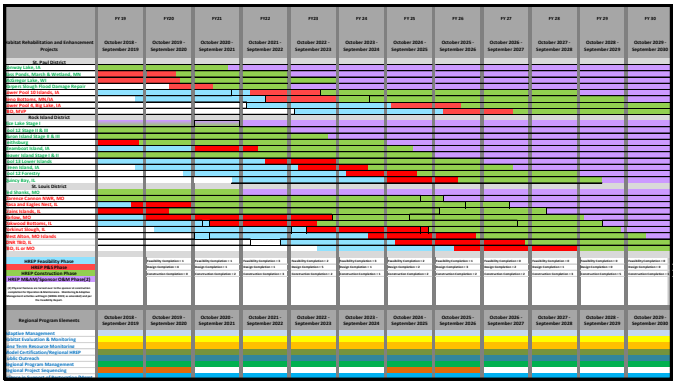


FY1985 to FY2030

AQUATIC ECOSYSTEM RESTORATION NATIONAL PERSPECTIVE

Acres of habitat restored, created, improved or protected (annual)	FY 2012 – 2020
Nationally	332,657
UMRR	31,370

Planned FY 2021 UMRR
4,310 Acres



STATEMENTS OF SIGNIFICANCE

- Standalone document?
- Next steps –
  - Used to inform the Report to Congress
  - Useful for Communications and Outreach Materials
  - Inform discussion on desired future condition
  - Communication and Outreach Team feedback to UMRR CC

2013 UMRR JOINT CHARTER REVIEW

- 10 February UMRR CC Call
  - A-Team Charter Review
  - Other language changes and/or additions
- A-Team Charter
  - Two suggestions were made:
  - Remove the line "e.g., through operationalizing adaptive management at the project or larger scale" from the A-Team's responsibility #7
  - A potential rewording for Role #3 was suggested as "3. Advise the UMRR CC regarding the technical implications of decisions affecting LTRM, including policy, programmatic, and budget matters."
- Other potential changes
- Next Step: Complete edits and distribute to UMRR CC

2015 - 2025 STRATEGIC AND OPERATIONAL PLAN REVIEW

- Partnership Survey
  - Initial draft survey discussed at the 16 Feb RTC Scoping Team Call
  - Content includes:
    - Demographics
    - Success criteria from the Strategic Plan
    - Prioritization of actions for the next 5 years
  - Results can inform the RTC
- Next Step: Revisions to the survey based on feedback and adding clarifying language related to its purpose, audience, background, objectives. Survey will inform a brief report on the mid-point review of the strategic plan.

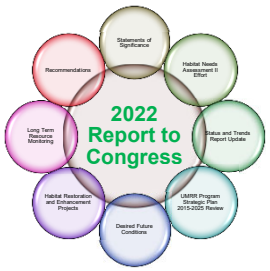
2022 REPORT TO CONGRESS

Completed
- Habitat Needs Assessment II
- Statements of Significance

In Progress
- Strategic Plan Review (2021)
- Status and Trends Report (2021)

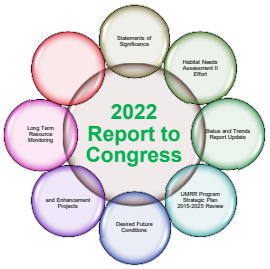
Future efforts
- Desired Future Condition (2021)
- Recommendations (early 2022)

Ongoing
- HREPs (early 2022)
- LTRM (early 2022)



2022 REPORT TO CONGRESS

- Scoping Team Meetings on 3 Nov, 15 Dec 2020 and 16 Feb
- Draft Report Outline
  - Chapter 1 – Strategic Direction
  - Chapter 2 – Enhancing Habitat
  - Chapter 3 – Enhancing Knowledge
  - Chapter 4 – Interagency Partnership and Recognition
  - Chapter 5 – Implementation Issues
  - Chapter 6 – Conclusions and Recommendations
- Next Step:
  - UMRR CC Review (2 weeks)
  - Meeting Mid to late March
  - Writing assignments to follow



2022 UMRR Report to Congress

Start Date	Finish Date	Activity
	Nov 2018	*HNA II Complete*
	3 Jun 2020	RTC Planning Mtg #1
	29 Sep 2020	RTC Planning Mtg #2
	3 Nov 2020	RTC Scoping Team Mtg #1
	15 Dec 2020	RTC Scoping Team Mtg #2
	16 Feb 2021	RTC Scoping Team Mtg #3
	Feb 2021	*Statements of Significance Complete*
Nov 2020	Mar 2021	Report Outline Complete
	Summer 2021	*Status & Trends Complete*
	Aug 2021	*Desired Future Conditions Complete*
	Aug 2020	*2015-2025 Strategic Plan Review Complete*
Mar 2021	Sep 2021	Draft RTC Sections
Sep 2021	Nov 2021	Draft RTC
Dec 2021	Jan 2022	RTC Editing
Jan 2022	Jan 2022	In Progress Review (IPR) #1 w/ USACE vertical team
	Feb 2022	Draft RTC Complete
Mar 2022	Apr 2022	UMRR Partner Review
	Apr 2022	Letters of Support
May 2022	Jun 2022	Mississippi Valley Division Review
June 2022	Jun 2022	In Progress Review (IPR) #2 w/ USACE vertical team
Jun 2022	Jul 2022	HQ/ASA(CW) Draft Report Review
	Aug 2022	Final Draft RTC Complete
Aug 2022	Sep 2022	Mississippi Valley Division Review
Oct 2022	Nov 2022	HQ/ASA (CW) Final Review & Approval
Nov 20 2022	Nov 30 2022	Final delivery of RTC

DESIRED FUTURE CONDITION

- Upcoming Effort
  - Qualitative narrative
  - 2011 NESP Report
  - HNA II
  - HREPs
  - Status & Trends
  - Statements of Significance - Threats
  - Strategic Plan review
- Recommend a small group lead
  - Process development
  - Assemble narratives from previous efforts
  - Provide feedback to UMRR CC

WRDA 2020 CHANGES TO UMRR

SEC. 308. UPPER MISSISSIPPI RIVER SYSTEM ENVIRONMENTAL MANAGEMENT PROGRAM.
Section 1103(e) of the Water Resources Development Act of 1986 (33 U.S.C. 652(e)) is amended—
(1) in paragraph (3), by striking "$22,750,000" and inserting "$40,000,000"; and
(2) in paragraph (4), by striking "$10,420,000" and inserting "$15,000,000".

HREP $40,000,000 + LTRM $15,000,000

$55,000,000

DISCUSSION

UMRR COMMUNICATION AND OUTREACH TEAM - UPDATE

Rachel Perrine, USACE-RPEDN-PD-F @ MVR

Communication and Outreach Team Goal

Develop, organize , and implement clear and updated communication materials to support the success of the UMRR program

Communication and Outreach Team Progress

August & September 2020: recapped past success and identified priorities and future efforts

October 2020-February 2021: Developed, reviewed, and completed updated Program Flyer

CURRENT STATUS

November 2020-February 2021: Reviewed and discussed UMRR draft storyline to support the Coordinating Committee

FUTURE GOALS

- Communication & Outreach Materials Inventory
- Communication & Outreach Material Needs
- Revisit Communication & Outreach Plan
- Refine Lower Illinois River Pilot Project

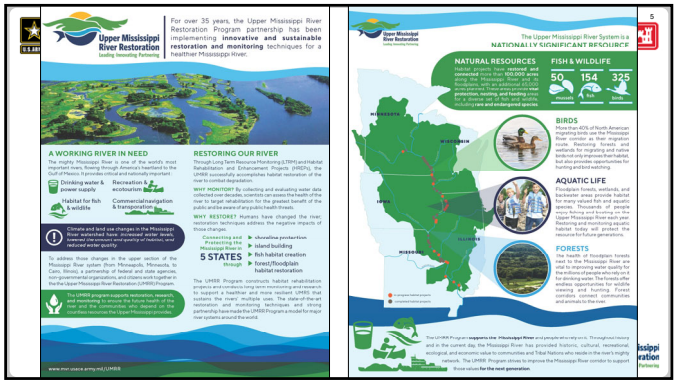
Updates to UMRR Program Flyer

Audience: General public, including legislators, who have limited/no knowledge of the UMRR program

Goal: Highlight how the program benefits the public
Ecological and social benefits of the UMRR program
Public values
3 W's → Water, Wildlife, and Way of Life

More: Infographics and updated, diverse photos

Less: Jargon, acronyms, and words



Communication and Outreach Team – Next Steps

Coming Up!

Communication and Outreach Materials Inventory

↓

Communication and Outreach Materials Needs

Future

Refine Lower Illinois River Pilot Project

Revisit Communication and Outreach Plan

UMRR Communication and Outreach Team

Points of Contact:

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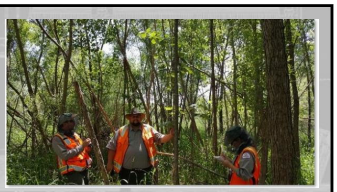
Jill.C.Bathke@usace.army.mil

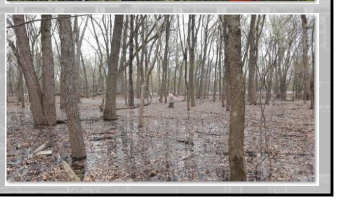
Rachel Perrine
USACE-RPEDN-PD-F @ MVR
Rachel.E.Perrine@usace.army.mil

Upper Mississippi River Restoration

UMRR POOL 12 FLOODPLAIN FOREST HREP

Rachel K. Hawes
Project Manager
Mississippi Valley Division - Rock Island District
24 February 2021

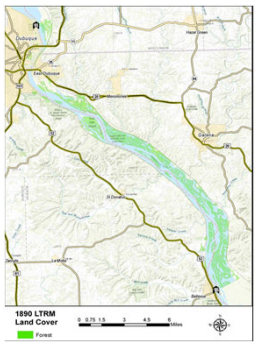




US Army Corps of Engineers

PROJECT OVERVIEW

- First UMRR HREP focused on Forestry
- Kick off workshop held in December 2020
- Project Footprint:
  - 4,000 acres of interconnected backwaters, secondary channels, wetlands, islands, floodplain, and aquatic habitat
  - Pool 12 - RMs 557.0 - 583.0
- Project Partners:
  - U.S. Fish and Wildlife Service
  - Iowa Department of Natural Resources
  - Illinois Department of Natural Resources
  - Wisconsin Department of Natural Resources



PROJECT OBJECTIVES

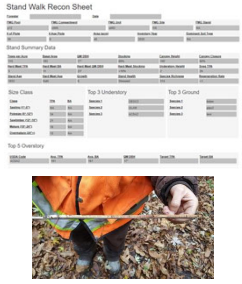
- Enhance and promote continued forest health and growth in existing quality floodplain forests.
- Increase topographic diversity and elevation where significant forest loss and decline occurs from increased flooding.
- Enhance and increase the pool coverage extent, patch size, and successional diversity of floodplain forest communities.
- Restore and maintain large contiguous patches of forest communities by reduction in canopy gaps converted to invasive species.
- Enhance and increase habitat corridors and connectivity (focus is on forest- dependent and migratory species).

Current Status: The Project Delivery Team is refining the Project Objectives into SMART objectives.

DATA COLLECTION

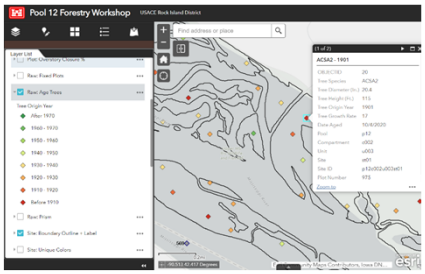
Foresters and partners agencies completed Timber Inventory data collection.

Data collection fields included:
- Species
- Diameter
- Health class
- Height class
- Origin Year
- Overstory Closure
- Canopy Height
- Regeneration Rate
- Woody Understory Species
- Herbaceous Ground Species

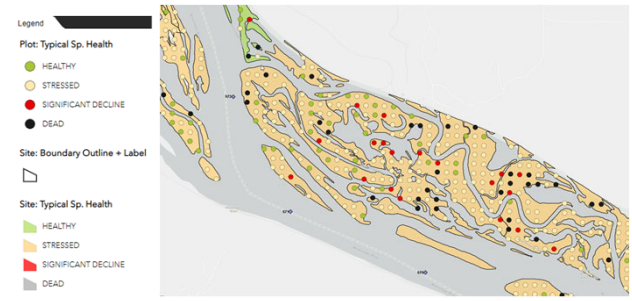


POOL 12 FORESTRY GEODATABASE

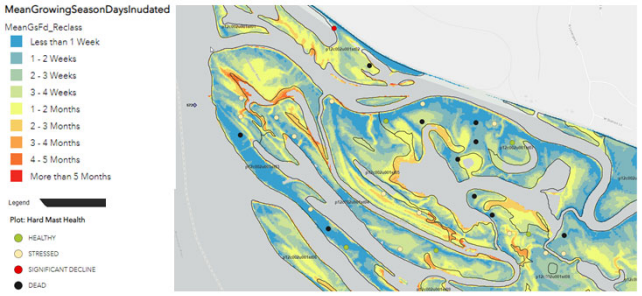
- USACE Geospatial Engineering teammate transformed the timber inventory data into an interactive ArcGIS Web Map.
- ArcGIS Web Map is being used to inform the feasibility efforts and drive project success.



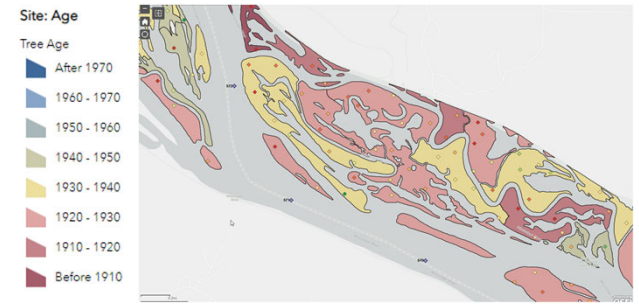
GEODATABASE – SITE HEALTH



GEODATABASE – GROWING SEASON INUNDATED



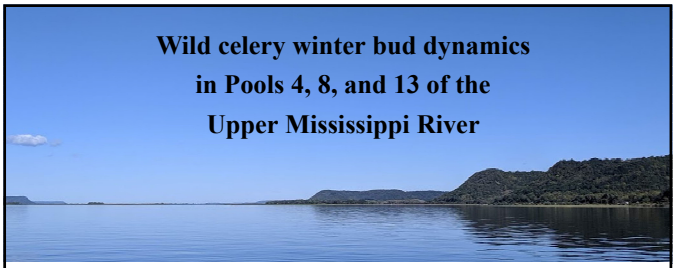
GEODATABASE – SITE AND PLOT AGE



CLOSING

- Thank you for the opportunity to share the great work of our Pool 12 Forestry Project Delivery Team today.
- Any questions?

Wild celery winter bud dynamics in Pools 4, 8, and 13 of the Upper Mississippi River



Kirsten Schmidt[1] Jacob Straub[2] Benjamin Sedinger[1] Stephen Winter[3]

[1]University of Wisconsin – Stevens Point
[2]State University of New York – Brockport
[3]United States Fish and Wildlife Service

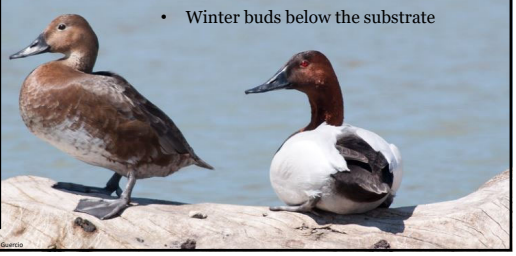
Canvasback

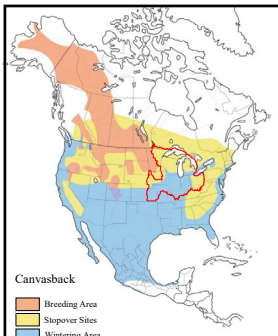
Aythya valisineria

Canvasback

Aythya valisineria

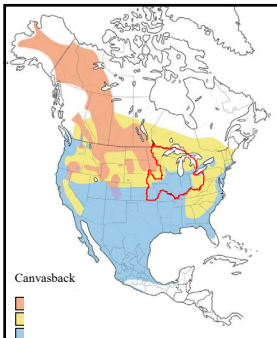
- Wild celery, *Vallisneria americana*
  - Submerged below the water surface
  - Winter buds below the substrate





Upper Mississippi River Great Lakes Region Joint Venture

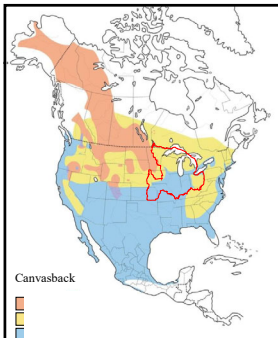
map source: The Cornell Lab of Ornithology



Upper Mississippi River Great Lakes Region Joint Venture

- Food limitation hypothesis
  - Food can limit waterfowl populations
  - Objectives are expressed as acres needed of each habitat
  - Acres of habitat are calculated using **Daily Ration Models**

map source: The Cornell Lab of Ornithology



Upper Mississippi River Great Lakes Region Joint Venture

- Food limitation hypothesis
  - Food can limit waterfowl populations
  - Objectives are expressed as acres needed of each habitat
  - Acres of habitat are calculated using **Daily Ration Models**

- **The Upper Mississippi River is a vital migration corridor for canvasbacks**

map source: The Cornell Lab of Ornithology

SAV Monitoring in the UMR

- Goal of the Long Term Resource Monitoring Element (LTRM) is to monitor aquatic vegetation over a long period of time
  - Since 1998
- Rake samples are collected in Pools 4, 8, and 13 by LTRM in summer

Upper Mississippi River Restoration

SAV Monitoring in the UMR

- Goal of the Long Term Resource Monitoring Element (LTRM) is to monitor aquatic vegetation over a long period of time
  - Since 1998
- Rake samples are collected in Pools 4, 8, and 13 by LTRM in summer

Methodology does not sample underground structures

Upper Mississippi River Restoration

Objectives:

1. Determine what variables can be used to predict wild celery winter bud presence and abundance
2. Estimate wild celery winter bud food biomass and energy available

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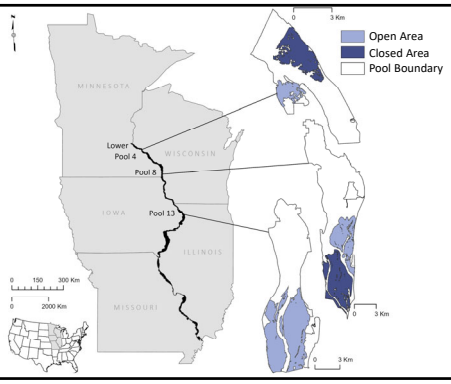
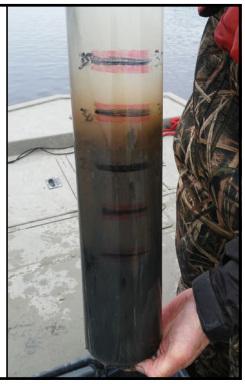


Substrate Cores
(Autumn/Spring)

- 3 sub sample substrate cores per site
  - Retrieved from the same locations as LTRM summer rake samples
- Autumn sampling in Pools 4, 8, and 13
  - Total of 747 sites 2,241 cores total
- Spring sampling in Pool 8
  - Total of 161 sites 483 cores total
- Sampling occurred before birds arrived



Plants in substrate cores were identified and dried

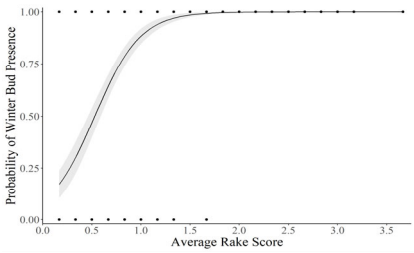
Objective 1 Results

Determine what variables best predict wild celery bud presence and abundance

What variables best predict wild celery bud <u>presence</u>?

- Weighted logistic regression
- Response: wild celery bud presence or absence in substrate cores
- Predictor variables:
  - Rake score
  - Pool
  - Designation
  - Year
  - Water depth
- Interactions and non-linear relationships
- Stepwise approach and AICc

What variables best predict wild celery bud <u>presence</u>?

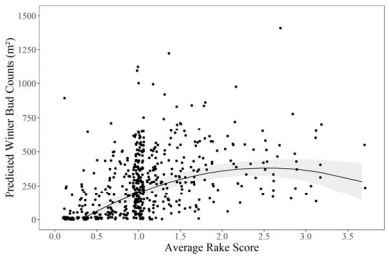


Parameter	β	95% CIs
Intercept	-2.3	-2.9 – -1.7
Rake	4.3	3.6 – 5.1

What variables best predict wild celery bud <u>counts</u>?

- Weighted linear regression
- Response: wild celery bud counts in substrate cores
- Predictor variables:
  - Rake score
  - Pool
  - Designation
  - Year
  - Water depth
- Interactions and non-linear relationships
- Stepwise approach and AICc

What variables best predict wild celery bud <u>counts</u>?



Rake² + Designation + Pool + Season

adjusted $R^2 = 0.32$

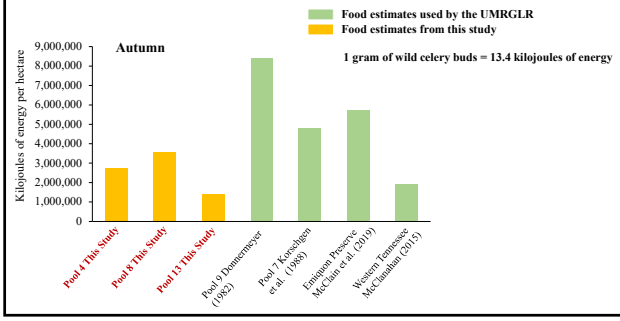
$$Bud\ Count = -115.2 + (393.1 \times Average\ Rake) + (-77.7 \times Average\ Rake^2) + (56.8 \times Closed\ to\ waterfowl\ hunting) + (77.3 \times Pool\ 8) + (18.6 \times Pool\ 13) - (60.4 \times Spring)$$

Discussion

- The relationship between rake score and winter bud count is consistent with previous work between wild celery aboveground biomass and rake score
  - Data limited at higher rake scores
- Closed areas to waterfowl hunting had higher winter bud counts in autumn and spring
- Raking saves time and money
  - core samples took 2.75 hours per site
  - rake sites took 15 minutes

Management Implications

- Managers can use a more affordable and time saving sampling method to monitor wild celery buds more often
  - Current estimates from core samples are limited



Acknowledgements

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Brice Prairie Conservation Association

Graduate Committee
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Dr. Benjamin Sedinger, Graduate Advisor, UWSP
Dr. Stephen Winter, U.S. Fish and Wildlife Service
Dr. Scott Hygnstrom, UWSP

Staff from the Department of Natural Resources, U.S. Geological Survey, U.S. Fish and Wildlife Service, and volunteers

Student technicians and volunteers

Contact information:
Kirsten Schmidt
kschm107@uwsp.edu

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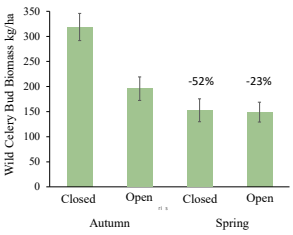
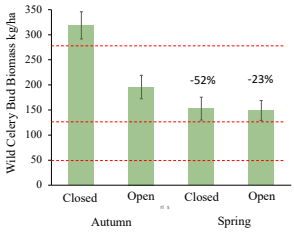
Discussion



- **Closed area depletion**
- Foraging threshold

Discussion

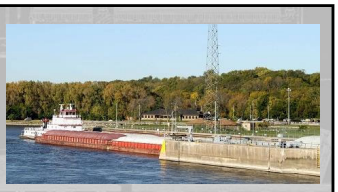


- Closed area depletion
- **Foraging threshold**

NAVGATION AND ECOSYSTEM SUSTAINABILITY PROGRAM UPDATE

Andrew Goodall, P.E., PMP
NESP Program Manager

UMRR-CC Quarterly Meeting
24 February 2021



US Army Corps of Engineers

FY20 WORK PLAN FUNDING RECAP

- $1.5M received in the FY20 Work Plan for Ecosystem Preconstruction Engineering and Design (PED) efforts and $3.0M received for Navigation PED efforts.
- Designs were advanced for both NAV and ECOS projects.

NAVIGATION - LOCK 25 LOCKWALL MODIFICATIONS

Project Goal

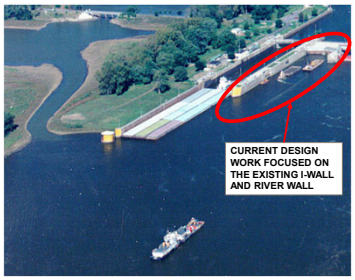
- Modifications include installation of floating mooring bitts, line hooks, and kevels and filling in the unused miter gate, machinery, and anchorage recesses with concrete

Long-term benefits

- The project prepares the existing lockwalls for the future 1200' lock

Current Status

- FY21 – Construction Ready



NAVIGATION - LOCK 14 MOORING CELL

Project Outcome

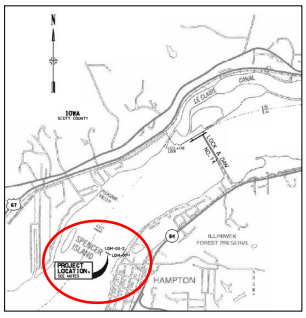
- Provide a mooring location for tows entering lock 14 (one cell)
- Efficiency is gained when a waiting tow can moor, or wait, in a more efficient location for approaching the lock.
- A mooring facility located in the right location can provide this efficiency.

Long-term benefits

- Time savings for each approaching tow

Current Status

- FY21 – Construction Ready



NAVIGATION - SYSTEMIC MITIGATION MOORE'S TOWHEAD – ILLINOIS WATERWAY RM 76

Project Outcome

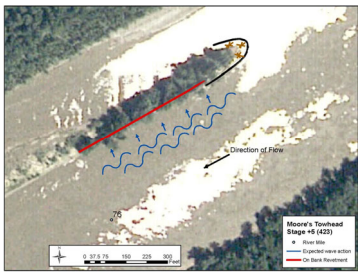
- Stabilize current erosion
- Benefits to fisheries resources
- Mitigate for any potential increase in erosion and degradation due to incremental increase in navigation traffic

Long-term benefits

- Habitat for fish, birds, and other species that utilize area around island
- Maintain valuable island habitat

Current status

- FY21 – Construction Ready



ECOSYSTEM - TWIN ISLANDS – ILLINOIS WATERWAY RM 38

Project Objectives

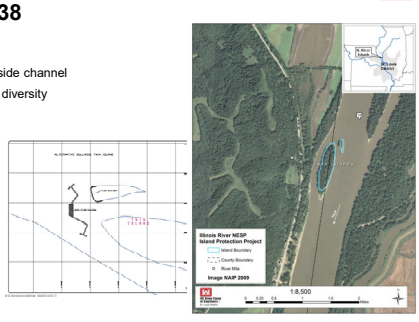
- Maintain existing islands and side channel
- Increase channel geomorphic diversity
- Improve aquatic habitat

Key Project Features

- Bullnose Dike
- Head of Island Revetment

Current Status

- Public review complete
- FY21 – Construction Ready



ECOSYSTEM - ALTON POOL ISLANDS – ILLINOIS WATERWAY RM 38-40

Project Objectives

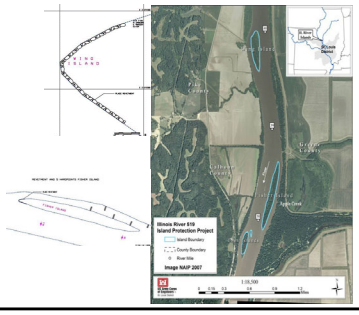
- Decrease deposition of sediment from Apple Creek
- Decrease amount of sediment eroding from heads of islands
- Prevent loss of islands and associated side channels

Key Project Features

- Head of island revetment
- Alternating hard points inside channel

Current Status

- FY21 – Construction Ready



ECOSYSTEM - POOL 2 (MISSISSIPPI RIVER) WINGDAM NOTCHING

Project Objectives

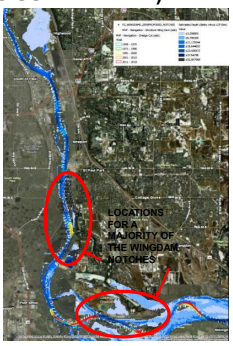
- Notch 30 wing dams to improve channel border habitat for fish.
- 23 proposed to have a single notch, 7 with a double notch

Key Project Features

- Wingdam notching

Current Status

- FY21 – Construction Ready



ECOSYSTEM - STARVED ROCK HABITAT RESTORATION AND ENHANCEMENT

Project Objectives

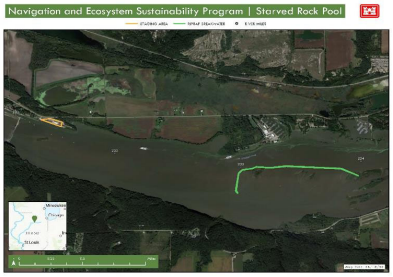
- Restore submerged aquatic vegetation
- Increase the area and quality of resting and feeding habitat for migratory waterfowl
- Improve spawning and nursey habitat for native fish

Key Project Features

- Riprap breakwater construction

Current Status

- FY21 – Construction Ready



ECOSYSTEM - LOCK 22 FISH PASSAGE

Project Objectives

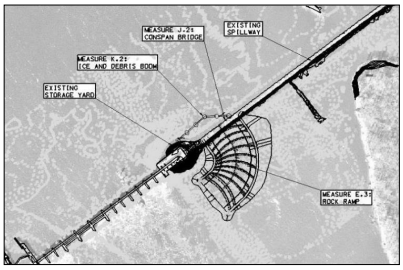
- Increase the opportunity for fish passage through the dam,
- Increase access to upstream habitats

Key Project Features

- See the image

Current Status

- Feasibility study was advanced to the TSP (Tentatively Selected Plan) Milestone – achieved in December 2020
- Design is at nearly 35% completion



FY21 WORK PLAN FUNDING

- $2.375M received for Ecosystem PED activities
- $2.625M received for Navigation PED activities

- Only initial coordination activities have occurred.

PROGRAM REPORTS

- Habitat Restoration
  - District Reports

ST. PAUL DISTRICT (MVP)

PLANNING

- **Reno Bottoms HREP – Pool 9, MN/IA**
  - Public outreach, video & flyer
  - Finalizing measures, evaluating model results
- **Lower Pool 10 HREP – Pool 10, IA**
  - Successful TSP Milestone meeting
  - Completing draft report for reviews

DESIGN

- **Harpers Slough HREP – Pool 9, IA**
  - Flood Damage Repair, Letter Report
  - P&S Approved
  - Advertisement TBD

CONSTRUCTION

- **McGregor Lake HREP – Pool 9, WI**
  - Pre-Construction Meeting (22 Oct)
  - 5% Complete
- **Bass Ponds, Marsh & Wetland HREP – MN River**
  - Groundbreaking (6 Nov)
  - 40% Complete
- **Conway Lake HREP – Pool 9, IA**
  - 100% complete – Habitat dredging & rock
  - Spring – Grading & plantings

New Fact Sheets

- MVD Approved 5 Fact Sheets
- Fall 2021: Lower Pool 4, Big Lake

ST. PAUL DISTRICT PHOTOS

Harpers Slough HREP Flood Damage

McGregor Lake HREP – Granular placement

ROCK ISLAND DISTRICT (MVR)

PLANNING

- **Steamboat Island HREP – Pool 14, IA/IL**
  - MVD approved the report on 22- Jan
  - MOA was sent to the sponsor for signature
- **Lower Pool 13 HREP – Pool 13, IA/IL**
  - DQC review for chapters 1-3 completed in Jan
  - PDT is working on feature dependency relationships and further refinement
- **Green Island HREP – Pool 13, IA**
  - DQC review for chapter 1-3 completed in late Jan
- **Pool 12 Forestry – Pool 12, IA/IL/WI**
  - Kickoff workshop was held on 1-3-Dec
  - PDT is working on goals and objectives

DESIGN

- **Keithsburg Division Stage II – Pool 18, IL**
  - 100% review completed in Jan
  - PDT sent the Dam/Floodplain permit letter to the IL DNR on 4-Feb
- **Steamboat Island Stage I – Pool 14, IA/IL**
  - 95% review started on 29-Jan

CONSTRUCTION

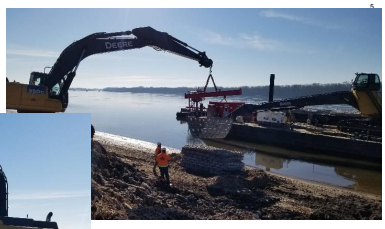
- **Pool 12 Overwintering, Pool 12, IL**
  - ***Stage II –*** plantings completed; Contractor has demob for the winter
  - ***Stage III –*** plantings completed;
- **Keithsburg Division Stage I, Pool 18, IL**
  - Contractor has demob for the winter
- **Huron Island, Pool 18, IA**
  - ***Stage II –***BPA- completed tree planting in November; Spring planting scheduled for April
  - ***Stage III –*** EDRC will be back in the spring
- **Beaver Island Stage IB, Pool 14, IL**
  - Contractor has demob for the winter

FACTSHEETS

- Pool 11 and Pool 18 approved on 1-Dec

ROCK ISLAND DISTRICT

Keithsburg HREP



ROCK ISLAND DISTRICT

Beaver Island HREP TSI

ST. LOUIS DISTRICT (MVS)

PLANNING –

West Alton Islands, MO, HREP (Pool 26)
- Initiate Feasibility Study 2nd Qtr FY21

Yorkinut Slough, IL HREP (IL River)
- Continue Feasibility Planning
- Habitat Evaluation Workshop

Oakwood Bottoms, IL, HREP (Open River)
- Draft Feas Rprt approval 2nd Qtr FY21

DESIGN –

Piasa & Eagles Nest, IL HREP (Pool 26)
- Finalize Phase II P&S 4th Qtr FY21
  - future award pending funding availability

Crains Island, IL HREP (Open River)
- Finalize Phase II P&S 4th Qtr FY21
  - future award pending funding availability

Oakwood Bottoms, IL, HREP (Open River)
- Continue 4 P&S packages
- Pump Station, Well Pumps, North & South Units

CONSTRUCTION –

Crains Island, IL HREP (Open River)
- Earthwork & Pile Removal

Piasa & Eagles Nest, IL HREP (Pool 26)
- Rock Structure Construction (pending weather & water levels) FY21

Clarence Cannon Refuge, MO (Pool 25)
- Pump Station
- Exterior Berm Setback

Ted Shanks, MO HREP (Pool 24)
- Reforestation
- Warranty Work
- Closeout 4th Qtr FY21

New Fact Sheets
- Finalize MDC, FS, & INDR/TNC new facts sheets
- Sponsor Review
- Submit to MVD for Approval

ST. LOUIS DISTRICT

Recent Publication: Species specific wet-dry mass calibrations for common submersed macrophytes in the Upper Mississippi River

Eric Lund and Deanne Drake. 2021. Aquatic Botany, 169

Background

- Plant biomass typically reported as dry mass per unit area
- Determining dry mass is a time- and labor-intensive process that is impractical for large scale assessments (e.g., LTRM)
- Published data on dry:wet mass ratios for individual submersed species is limited
- Wet mass (WM) can be quickly measured in the field
- Can it be used to reliably estimate dry mass from WM ?

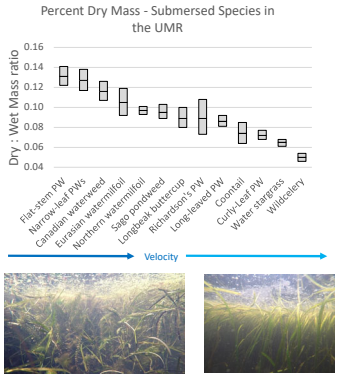
Key Findings

- All thirteen submersed species examined from the UMR exhibited a predictable linear relationship between wet and dry mass
- Species-specific wet:dry mass ratios of 5-0 – 13.1% estimated in this study supplement (and were comparable to) previously published data for some species and represent novel data for others
- Dry mass can be estimated from wet mass

…Key Findings (Lund and Drake 2021) cont.

Percent dry mass appears to be associated with habitat:

- lowest dry mass estimates (i.e., highest water content) for species previously associated with higher flow;
- highest estimates for species associated with no or low flow



LTRM Completion Report: Upper Mississippi River System Weighted Wind Fetch Analysis (1980, 2000, 2010/2011)

Jason Rohweder and Jim Rogala

Background

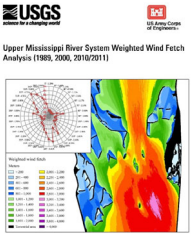
- Wind fetch: unobstructed distance that wind can travel over water in a constant direction
- Greater fetch → larger wind-generated waves
  - Island erosion
  - Sediment resuspensions

Purpose

- Examine how fetch varies over time and space within the UMRS for potential management applications.

Approach

- Wind fetch from 36 directions (10-degree increments) was calculated and then a weighted wind fetch output was developed
- Separate outputs were developed for
  - 1989 land cover
  - 2000 land cover
  - 2010/2011 land cover
  - Difference between 1989 and 2000
  - Difference between 2000 and 2010



LTRM Completion Report: Upper Mississippi River System Weighted Wind Fetch Analysis (1980, 2000, 2010/2011)

- Map to right shows maximum weighted wind fetch for every pool/reach of the UMRS.
  - Red – larger fetch
  - Green – smaller fetch
- Bar Chart shows maximum fetch for each of the three land cover data sets (1989, 2000, 2010/2011

Rohweder, J., Rogala, J., 2020, Upper Mississippi River System Weighted Wind Fetch Analysis (1989, 2000, 2010/2011). Contract report prepared for the U.S. Army Corps of Engineers' Upper Mississippi River Restoration – Long Term Resource Monitoring element. 26 p.

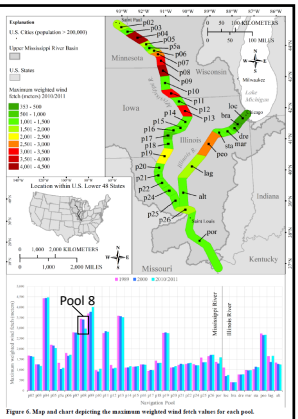
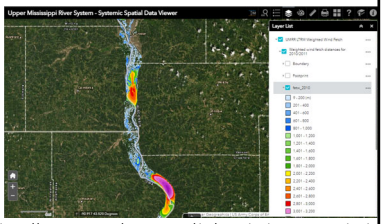


Figure 6. Map and chart depicting the maximum weighted wind fetch values for each pool.

UMRS Wind Fetch Data Products now available

Jason Rohweder and Jim Rogala

- Completion report (previous slides)
- Systemic model output incorporated into the "Upper Mississippi River System - Systemic Spatial Data Viewer"
- Systemic raster datasets representing weighted wind fetches for 1989, 2000, and 2010/2011 and the difference in weighted wind fetch between 1989 and 2000 and between 2000 and 2010/2011

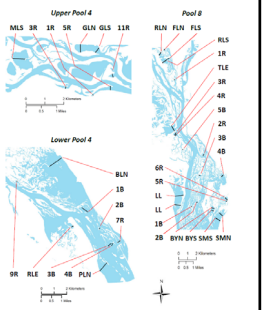


https://umesc.usgs.gov/management/dss/umrs_land_cover_viewer.html

LTRM Completion Report: Backwater Net Sedimentation Rates

Jim Rogala, John Kalas, Rob Burdis. 2020.

- Net sedimentation rates of UMR backwaters from P4 & P8 were calculated for a 20-year period by measuring bed elevation changes between 1997 and 2017
- Data collected along randomly selected transects in Pool 4 and Pool 8 established in 1997

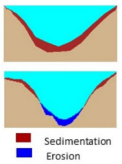


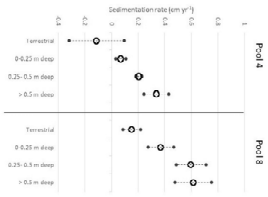
Citation: Rogala, J.R., J. Kalas, and R.M. Burdis. 2020. Rates and Patterns of Net Sedimentation From 1997-2017 in Backwaters of Pools 4 and 8 of the Upper Mississippi River. A completion report submitted to the U.S. Army Corps of Engineers' Upper Mississippi River Restoration Program from the U.S. Geological Survey, LTRM-2018ST4. 23 pp. Location of supporting data: https://doi.org/10.5066/P9D467M3

LTRM Completion Report: Backwater Net Sedimentation Rates

Jim Rogala, John Kalas, Rob Burdis. 2020.

- Average sedimentation rates were lower than most reported previously
- Rates were highly variable within backwaters
- Higher rates tended to be associated with deeper areas; shallower areas typically exhibited lower rates





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LTRM Completion Report: Four-Band Aerial Imagery Testing and Acquisition for 2020 Land Cover/Land Use Mission

Larry Robinson. 2020.

Upper Mississippi River Restoration

UMRS Status and Trends Report

- Currently we are:
  - Finishing revisions based on partnership input
  - Assembling response to reviewers for each agency that submitted comments
  - Working with USGS desktop publishing office to improve several of the figures and maps for inclusion in the report
  - Goal: Final report available this summer

UMRR MONITORING AND SCIENCE UPDATE

Karen Hagerty
Rock Island District
24 February 2021



US Army Corps of Engineers

UMRR MONITORING & SCIENCE FY21

2 SOWs in FY21

SOW for LTRM base monitoring
$5.0M

SOW for science in support (analysis under base)
$1.3M

Both SOWs <u>together</u> are equivalent to a fully funded UMRR LTRM element $6.3M

Science in Support of Restoration & Management
$2.5M

TOTAL: $8.8M

UMRR MONITORING & SCIENCE FY21

Already funded for FY21:

A. LTRM Base Monitoring	$6,300,000
B. IWW monitoring (FY21)	$ 175,813
C. COVID costs (FY20)	$ 36,626
D. FY20 proposal adjustments (IL rates)	$ 16,614
E. Graphical assistance S&T	$ 12,248
F. LTRM balance	$ 118,280
G. Support adjustments (2 proposals, WQ sonde)	$ 28,447
Subtotal	**$6, 688,028**

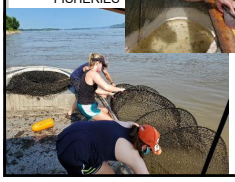
UMRR MONITORING & SCIENCE FY21

Science in Support of Restoration and Management: Recommended for funding

1. FY20 Stable States proposal (remainder)	$ 77,573
2. Landscape patterns (FY22-24)	$ 390,733
3. Resilience (FY22-24)	$ 671,066
4. Ecohydrology (FY23)	$ 212,685
5. Land Cover / Land Use processing (FY24)	$ 638,029
Subtotal	**$1,990,086**

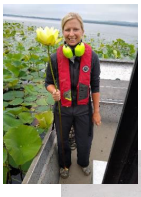
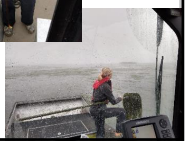
UMRR LTRM MONITORING IN ACTION

FISHERIES

WATER QUALITY

AQUATIC VEGETATION

PROGRAM REPORTS

- Long Term Resource Monitoring and Science
  - LTRM Implementation Planning

LTRM IMPLEMENTATION PLANNING

- WRDA 2020 presents an opportunity for the partnership to think strategically about how best to enhance the Programs capabilities to better meet science and restoration needs while preparing to effectively execute resources in outyears, should the opportunity arise.
- Address currently unmet information needs for the UMRS and further integration of the UMRR Program elements.
- Informal UMRR Management Team discussions.
  - 16 Feb discussion with UMRBA to review previous efforts

LTRM IMPLEMENTATION PLANNING

- Scope
  - What is the necessary scope of implementation planning for LTRM at this time?
  - Due to the urgency to clearly identify how the program would use and benefit from increased appropriations for LTRM, how should UMRR focus on identifying and prioritizing actions at a finer scale to meet unmet information needs across the partnership?
  - Should we utilize a structured analysis to detail an implementation process or plan that prioritizes actions to address the program's more immediate information needs?
  - A neutral facilitator will be engaged for this effort. Suggestions would be appreciated.

LTRM IMPLEMENTATION PLANNING

- Planning Team
  - Who should be involved?
  - Can we task a small work group to develop a draft planning scope with direction from the Coordinating Committee?
  - If yes, what size of working group is appropriate and who should participate?