

2023 ILWW PORTS ANNUAL MEETING

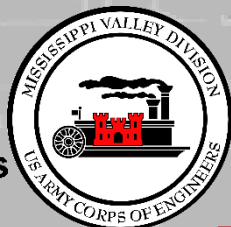


Marshall Plumley
Regional Program Manager
St. Paul District
Rock Island District
St. Louis District

31 August 2023



US Army Corps
of Engineers®



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UPPER MISSISSIPPI RIVER RESTORATION PROGRAM (UMRR)



- WRDA 1986 authorized USACE to implement the UMRR to address the impacts of commercial and recreational navigation & rehabilitate degraded habitat
- For the past 35 years, the UMRR program has enhanced multiple-uses of the river and leveraged partnership-led management for ecosystem science and restoration



Primary UMRR Elements

- ❖ Habitat rehabilitation and enhancement projects (HREP)
- ❖ Long term resource monitoring (LTRM)





UPPER MISSISSIPPI RIVER RESTORATION PROGRAM

Upper Mississippi River System

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

NATURAL RESOURCES

Habitat projects have restored and connected more than 100,000 acres along the Upper Mississippi River, with an additional 65,000 acres of habitat projects planned for the next decade. These projects provide vital habitat for diverse fish and wildlife species, including rare and endangered species.

FISH & WILDLIFE

50



mussels

154



fish

325



birds



BIRDS

More than 40% of North American migrating birds use the Mississippi River corridor as their migration route. Restoring forests and wetlands improves bird habitat and provides opportunities for hunting and birdwatching.



AQUATIC LIFE

Wetlands and backwater lakes provide habitat for many valued fish and aquatic species. Millions of people enjoy fishing and boating on the Upper Mississippi River System each year.



FORESTS

Forest corridors provide habitat for wildlife species, opportunities for wildlife viewing and hunting, and connect communities and animals to the river. The health of floodplain forests and wet prairies along the river contribute to improved quality of drinking water for millions of people.



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UPPER MISSISSIPPI RIVER RESTORATION (UMRR)

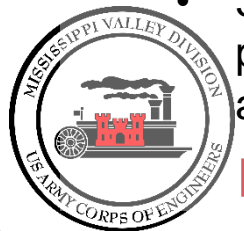


Program

- 35 Years of Providing A Healthier and More Resilient Upper Mississippi River Ecosystem that Sustains the River's Multiple Uses.
- Authorized WRDA 1986 (Nations first Ecosystem Restoration Program)
- Diverse partnership of five states, five federal agencies, UMRBA, numerous NGOs and the public
- Strong administration support resulting in full funding in FY 17 – FY 22 (\$33M/YR) / FY 23 \$55M / FY 24 PBUD \$55M
- WRDA 2022 increase annual authorization to \$90M
- Combines Large River Science and Restoration (HREP/LTRM)

Habitat Rehabilitation and Enhancement

- 62 completed projects, impacting 119,720 acres
- 24 projects currently in planning, design, and construction that will benefit >76,000 acres
- 3 project completions in 2021 approx. 6,000 acres
- 3 project completions in 2022 approx. 10,000 acres
- 30+ years of applying lessons learned to new projects & depth of expertise across three Districts and the partner agencies



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Long Term Resource Monitoring and Science

- Extensive research and analysis have improved our understanding of the Upper Mississippi River System
- 30+ years of data (centrally stored, publicly available)
- Standardized design and methods across 6 study reaches and a range of conditions
- Interagency partnership provided a network of infrastructure, expertise and collaboration
- Fully integrated with habitat restoration efforts
- System Habitat Needs Assessment and Status and Trends
- 567 peer reviewed publications

Priorities

- Leveraging science and partnership for innovative ecosystem restoration
- World class monitoring, research, and analysis
- Increased understanding allows ability to work with natural river processes
- 2023 – 2024 HREP Selection & Prioritization
- 2024 – Next UMRR Strategic Plan
- 2024 – Future HREP Selection
- 2024 – LTRM Information Needs

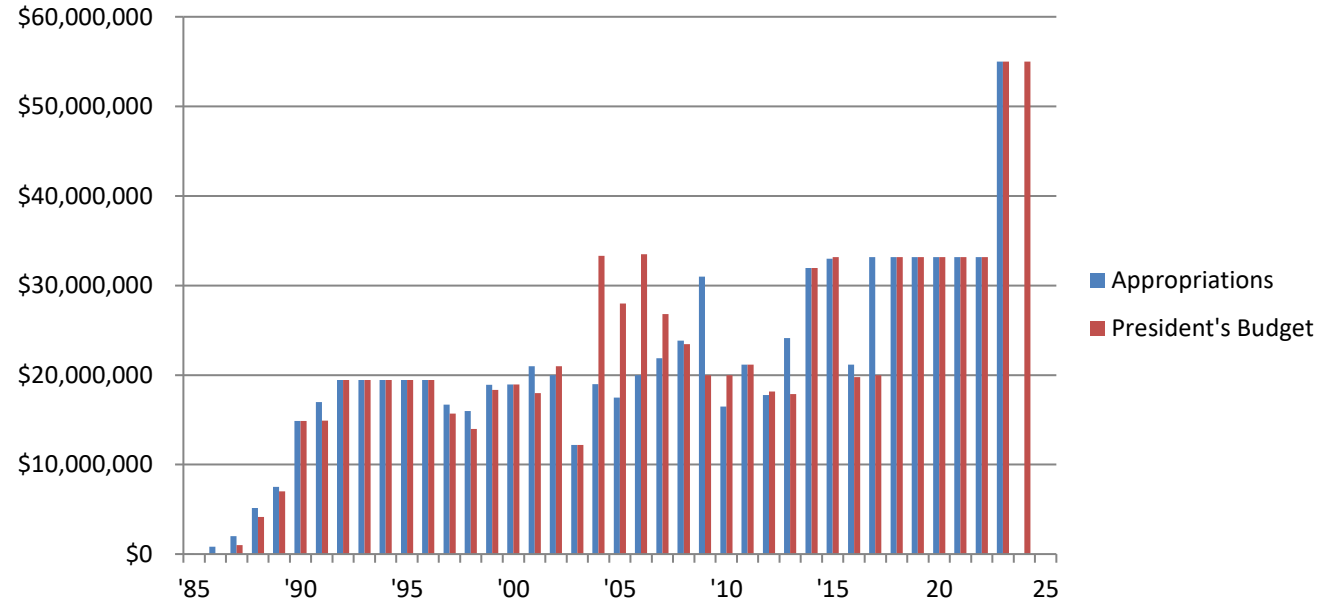




FUNDING



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



Fiscal Year	Total Obligated
2011- 2016 Average	97.0 percent
2017	92.0 percent
2018	99.1 percent
2019	99.1 percent
2020	98.5 percent
2021	98.8 percent
2022	98.5 percent
2017 - 2022 Average	97.7 percent



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HABITAT REHABILITATION AND ENHANCEMENT PROJECTS

Restoring and Protecting the Nationally Significant Mississippi River Ecosystem



Submerged and Emergent Aquatic Vegetation Restoration MVP, MVR, and MVS



Pool 8 Island Restoration MVP



Beaver Island Protection MVR

1986-2022: 62 Completed Projects 119,720 Acres



McGregor Lake Beneficial Use Island Creation MVP



Pool 12 Forest Restoration MVR

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Clarence Cannon Water Control Structure MVS

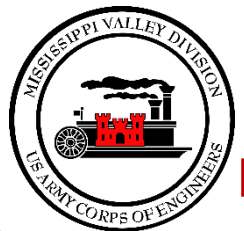
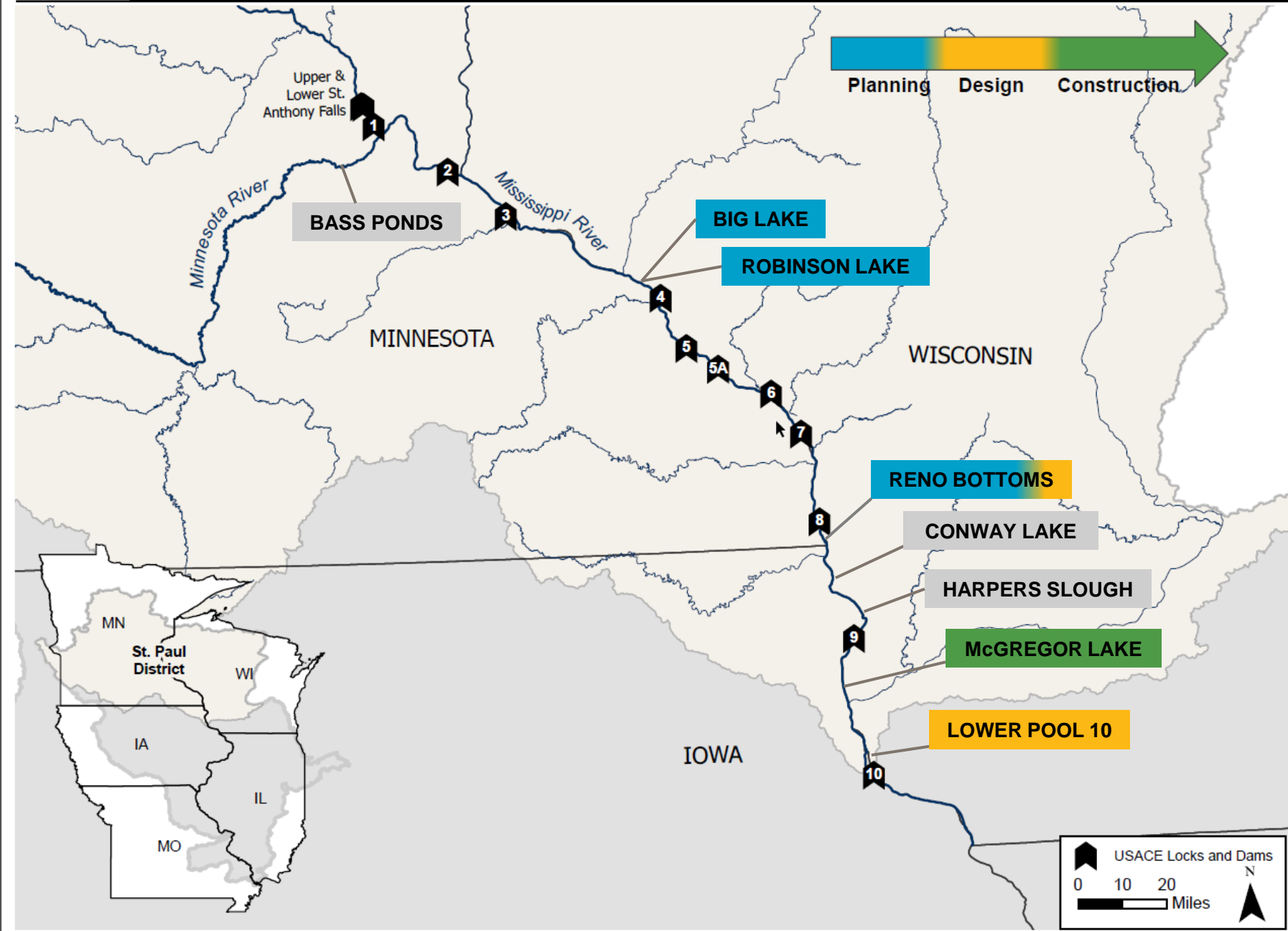


Lake Odessa Water Level Management MVR





St. Paul District - Current Habitat Rehabilitation and Enhancement Projects

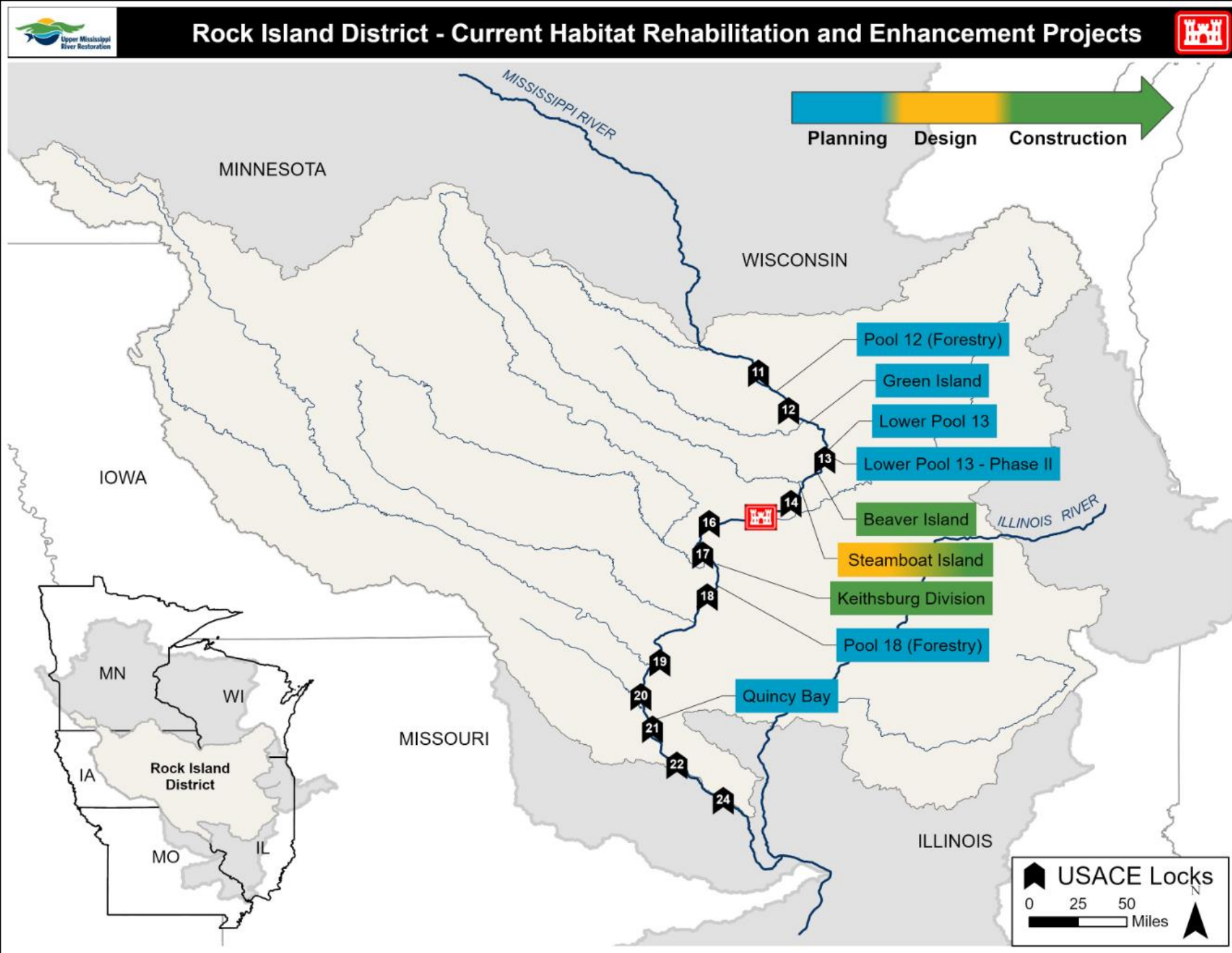


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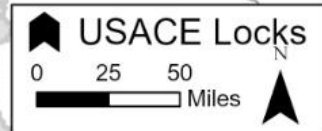




Rock Island District - Current Habitat Rehabilitation and Enhancement Projects

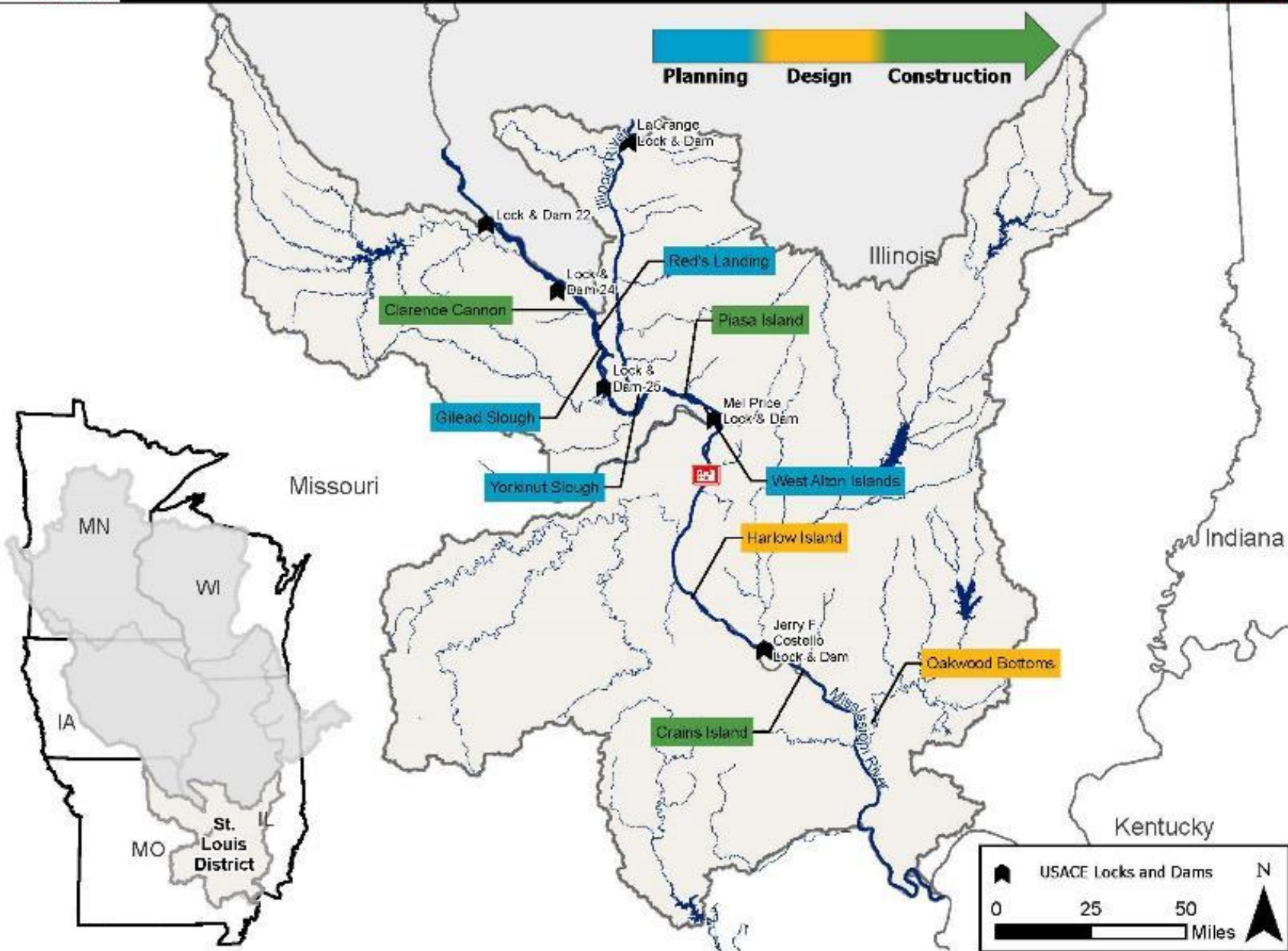


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St. Louis District - Current Habitat Rehabilitation and Enhancement Projects



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LONG TERM RESOURCE MONITORING ELEMENT

Advance Knowledge for Restoring and Maintaining a Healthier and More Resilient
Upper Mississippi River Ecosystem



Long-term monitoring of 6 study reaches (by 5 state agencies)

- Water quality (1993 - present)
- Aquatic vegetation (1998 - present)
- Fish (1993 – present)

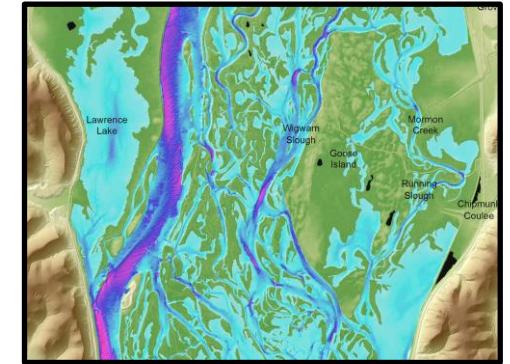
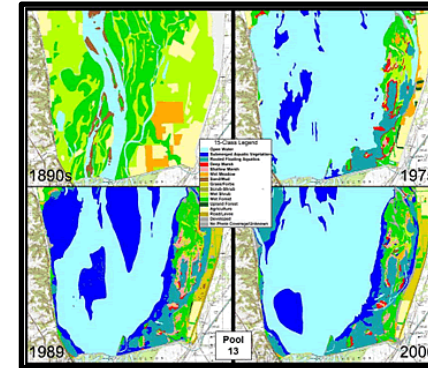


- Assess ecological status and trends of UMRS
- Understand the structure and function of the ecosystem and its ecological resilience
- Inform the restoration and management of the UMRS



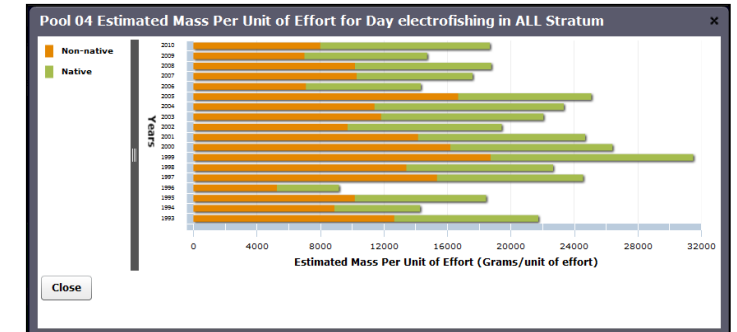
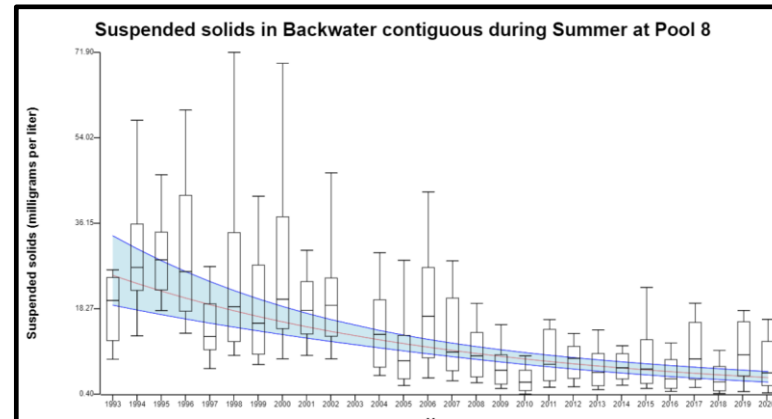
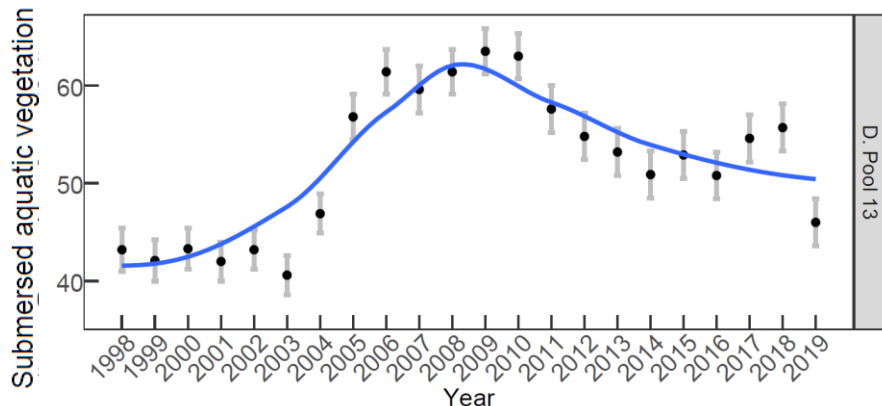
USGS Science Lead

Systemic land cover data--Seamless elevation data



Data and Information Delivery

<https://umesc.usgs.gov/ltrm-home.html>





2022 Status and Trends Report



- The 2022 *Ecological Status and Trends Report* summarizes analyses of two and a half decades of long-term monitoring data from the UMRS
- Has allowed UMRR staff and partners an incomparable ability to detect long-term trends, understand variation over time, and observe complex river patterns.
- The emphasis of the 2022 Status and Trends report is the detailed water quality, aquatic vegetation, and fisheries data from six unique study areas**

Indicator		Upper Mississippi River				Illinois River	
		Upper Impounded			Lower Impounded	Unimpounded	La Grange
		Pool 4	Pool 8	Pool 13	Pool 26	Open River	
Water quality	Main channel suspended solids (flow-normalized)	▼	▼	■	▼	▼	
	Main channel nutrients (flow-normalized)	Nitrogen	■	■	▲	■	▼
		Phosphorus	▼	▼	▼	▼	■
	Chlorophyll a (algae)	Main channel	~	■	■	■	~
		Backwater	~	▼	■	■	■
	Backwater hypoxia	Summer	~	~	~	~	~
Winter		▲	~	~	■	■	
Aquatic vegetation	Submersed aquatic vegetation prevalence	▲	▲	~	■	■	
	Invasive submersed species	▼	▼	▼	◆	◆	
	Aquatic vegetation diversity	~	▲	~	■	■	
	Free-floating plant dominance	▼	▼	▼	◆	◆	
	Emergent vegetation	▲	▲	■	■	◆	
Fisheries	Fish community	■	■	■	■	■	
	Lentic fishes	▲	▲	■	■	▲	
	Lotic fishes	■	■	■	■	■	
	Nonnative fishes (excluding <i>Cyprinus carpio</i> [common carp])	■	■	■	▲	■	
	Forage fishes	▼	■	■	▼	▼	
	Recreationally valued native fishes	■	▲	▲	▼	▼	
	Commercially valued fishes	Native	■	▲	▲	■	▼
		Nonnative	▼	▼	▼	▼	▼

EXPLANATION

- ▲ Significant long-term increase
- ▼ Significant long-term decrease
- No trend
- ◆ No data available or analyzed
- ~ Dynamic trend or midperiod minimum



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