RED RIVER VALLEY ASSOCIATION ANNUAL CONVENTION

Craig Pierce, Deputy for Programs and Project Management and Chief, Programs and Project Management Division

Michael Biggs, P.E., CFM, PMP Chief, Hydraulics & Technical Services Branch

Dennis Shannon, PE
Chief, Operations Tech Support Branch

U.S. Army Corps of Engineers – Little Rock District

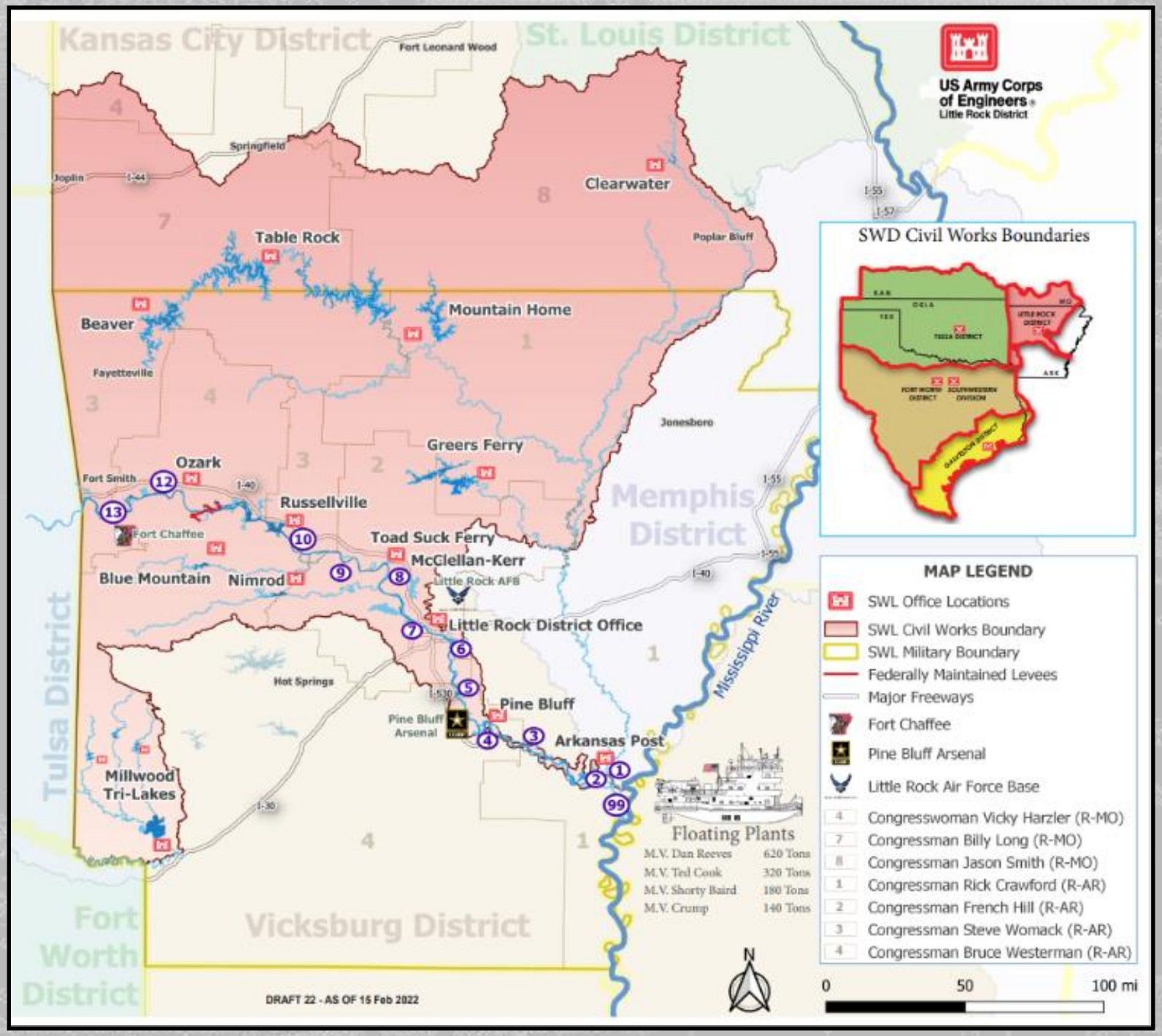
23 February 2023

US Army Corps of Engineers®

LITTLE ROCK DISTRICT

EST. 1881

US Army Corps of Engineers®



LITTLE ROCK DISTRICT MISSION

District snapshot

~800 Civilian Personnel

42% Veterans

1 of 3 Medical Support Teams in the Nation

Emergency Management

526 Disaster Response Volunteers since 2011

25 Emergency Response events since 2011

CIVIL WORKS – planning, designing, constructing, operating & maintaining critical water resource projects across the region

2 states

200+ Civil Works Projects

$9.5B executed FY22

NAVIGATION

11+M tons of cargo transported annually

$24B annual export / import traffic

308 miles of navigation channels

2 survey vessels
4 floating plants

FLOOD RISK REDUCTION

33+M acre-feet of flood storage

Sponsor maintained levee systems

REGULATORY

2,400 completed actions in FY22

$875M total flood damage prevented FY22

WATER SUPPLY

30 water supply agreements

479k acre-feet of water supply storage

$5.1M annual revenue returned to the U.S. Treasury (FY20)

HYDROPOWER

7 USACE-owned hydroelectric power plants

1060.3 megawatt hours produced

334,000 households supplied with clean, renewable energy a year

$221M Annual benefit to the nation

RECREATION

164 recreation areas

5,514 campsites

18.8M visits annually

313 recreation areas

MILITARY

nationally recognized knowledge and experience

Little Rock Airbase

Pine Bluff Arsenal

REAL ESTATE

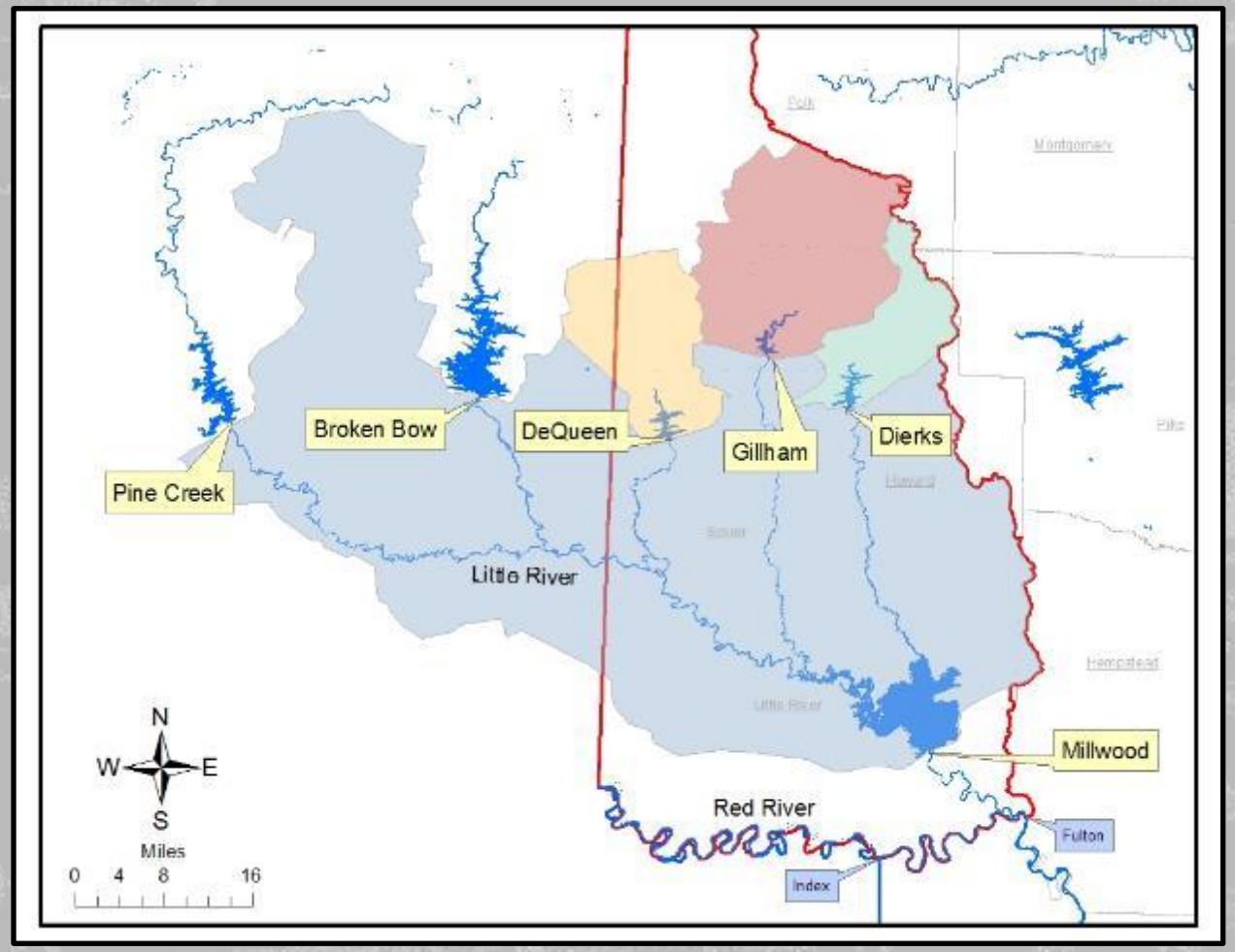
$130M reported FY22 revenue for leased recreational lands

2022 Hydrology

Little River: Less than average rainfall across the Little Rock District reached Level 1 drought. The Little River Basin received less than average rainfall across the basin, from 11.2” below normal at Gillham to 15.7” below normal at DeQueen. Only 4 weeks, in 2022, saw positive Palmer Drought Indices in SW Arkansas. However, the Little River Basin experienced two minor events in April and May with a peak releases near 20,000 cfs out of Millwood.

Arkansas River: Rainfall for the water year on the Arkansas River Basin in Arkansas was slightly above average with most locations receiving near or above average rainfall. Rainfall along the mainstem river varied from 81% of normal at Mills Dam to 123% of normal at Terry Lock and Dam with average rainfall at 106% of normal. There were 3 minor flood events for the year with a peak flow of about 250,000 cfs at Van Buren on May 6th.

LITTLE RIVER BASIN



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MILLWOOD TRI-LAKES MAJOR MAINTENANCE

FY 2022 Highlights

Work Package	Project Location
Okay Levee Repairs	Millwood
Sluice Gate Rehab	Dequeen, Dierks, Gillham Control Structures
Relief Drains Installed	Millwood East Embankment
Limit Switch Installation	Millwood Control Structure

MILLWOOD TRI-LAKES RECREATION AND NATURAL RESOURCES

FY 2022 Highlights

Project	Visitation	Collections
Dequeen	203,546	$128,674
Dierks	241,049	$119,616
Gillham	125,643	$101,310
Millwood	357,049	$131,530

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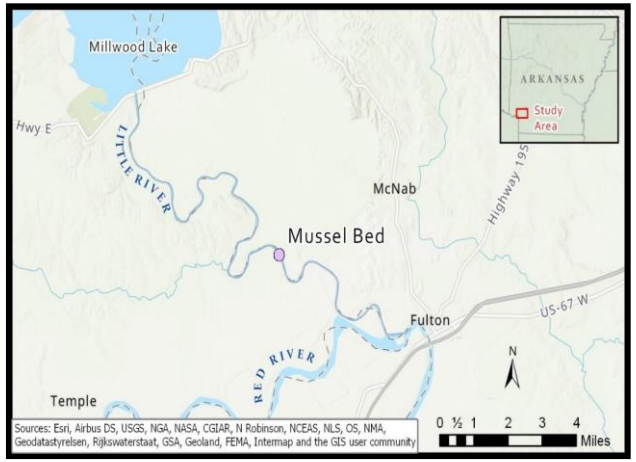
MUSSEL BED EXPOSURE D/S OF MILLWOOD LAKE

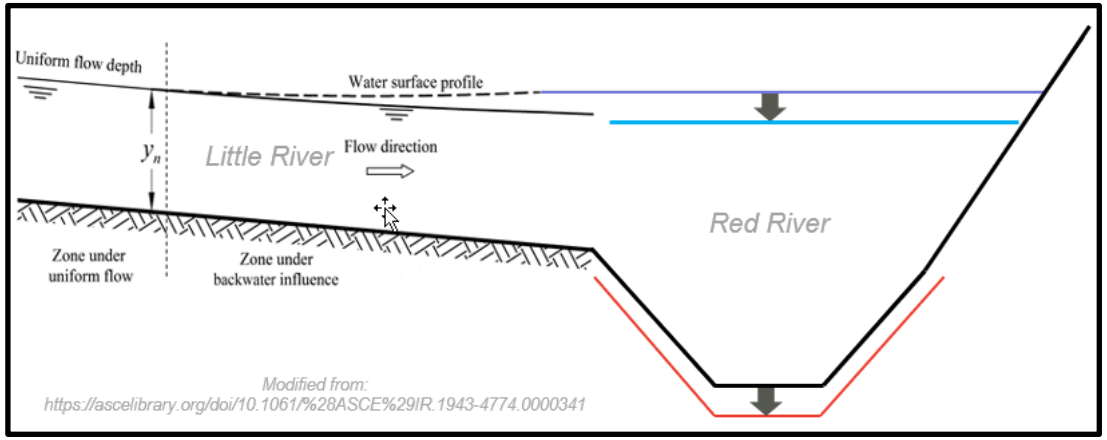
Issue:

- Dec. 2021 mortality of Ouachita Rock Pocketbook (ORP) mussels, an endangered species
- Mussel bed between Millwood Dam and confluence of Little & Red Rivers



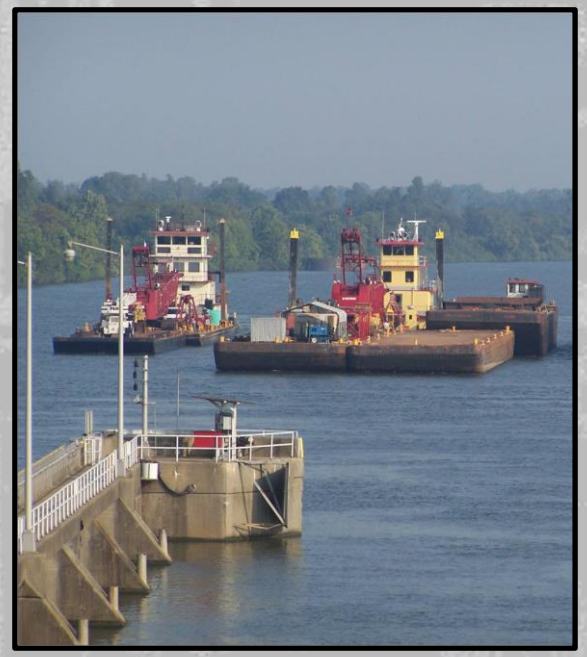
Current Status:

- Analysis pinpointed long-term degradation of Red River as driver
- Ongoing coordination with USFWS on site conditions and MW releases



U.S. ARMY CORPS OF ENGINEERS
MKARNS 2030

Dennis Shannon, PE
Chief, Operations Tech Support Branch
U.S. Army Corps of Engineers
Little Rock District (SWL)
Feb 2023



McClellan-Kerr Arkansas River Navigation System (MKARNS), MKARNS 2030

U.S.ARMY

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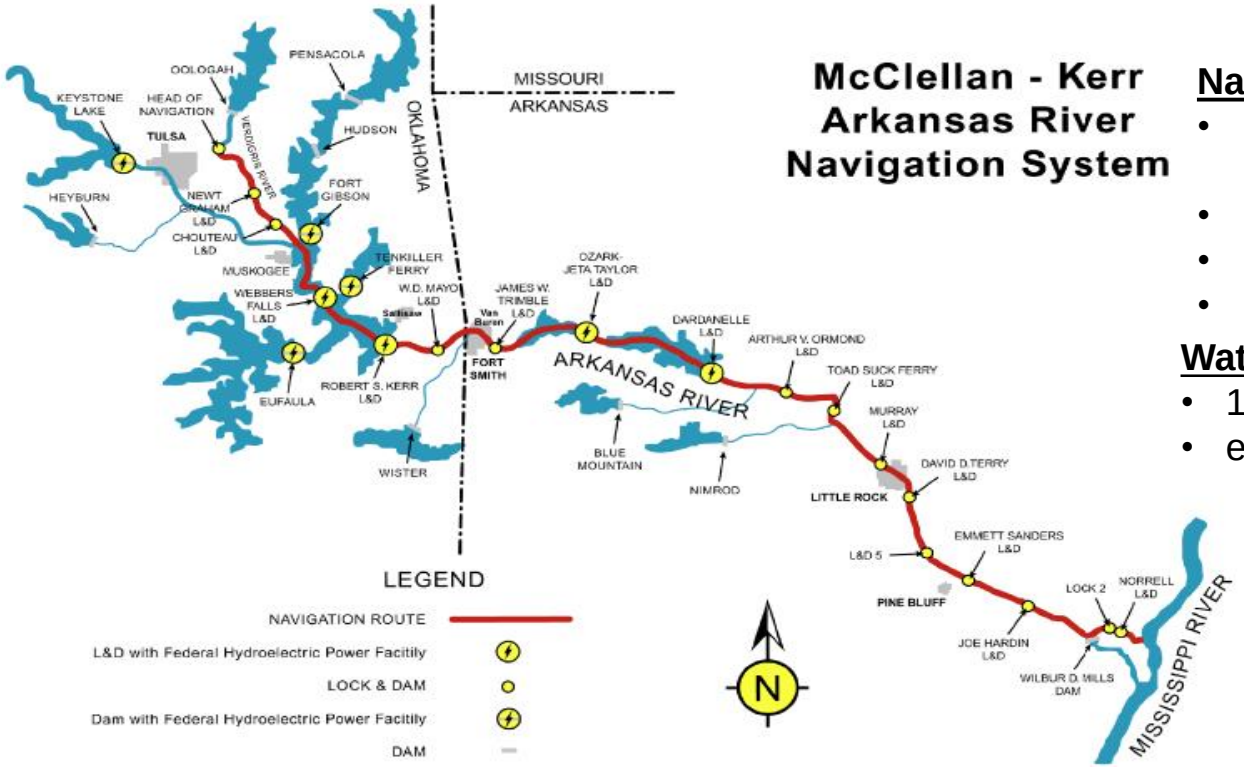
Project location and Value to the Nation



Navigation numbers:

- 445-miles of navigation channel.
- 9’ depth x 150’-300’ width
- 18 Locks (110’ wide x 600’ long)
- 4 federal hydropower facilities

Waterborne commerce:

- 10,932,172 tons annually
- equivalent of 437,287 trucks or 109,322 railcars, respectively

MKARNS 2030

- A long-range plan to position the system to meet shipping demands for the next 50 years.
- A joint effort between USACE, stakeholders, construction and navigation industries.
- Takes into consideration major projects underway by USACE and private industry that will prepare the system for the future.
- USACE and private industry partners have a vision for the MKARNS looking beyond 2030.

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MKARNS 2030 PDT

The MKARNS 2030 PDT is a multidiscipline team made up of members from SWT and SWL. The goal of the team is to envision and strategically plan for what the MKARNS will look like in the next 10 years. This includes planning for the management of all work associated with the 3-Rivers project, the 12-foot Channel project, execution of annual O&M and special items funding, and the potential Infrastructure Bill funding. The team is focused on efficient regional management of all the upcoming work as a system rather than disparate parts, appropriate surging of the regional/system capabilities to manage the work through 2030, planning for sustainable long-term capabilities to proactively manage maintenance needs after 2030, and a comprehensive communication plan to communicate with all stakeholders to encourage appropriate investment on the MKARNS.

MKARNS 2030 PDT

Southwest Division

- Richard Turner

Little Rock/Tulsa Districts

- Rodney Beard
- Mike Biggs
- Kirk Boston
- Josh Hendricks
- Ed Johnson
- Michelle Lay

Little Rock/Tulsa Districts

- Aaron McGee
- Shawn Painter
- Keith Rice
- Tomas Rofkahr
- Dennis Shannon
- Kenneth Todd
- Jay Townsend

Stakeholders

- David Yarbrough
- Fred Taylor
- Phyllis Harden
- Cassandra Caldwell
- Thaddaeus Babb
- Mike Metzler
- Kimbra Scott
- Perry Russell
- Parker McClellan

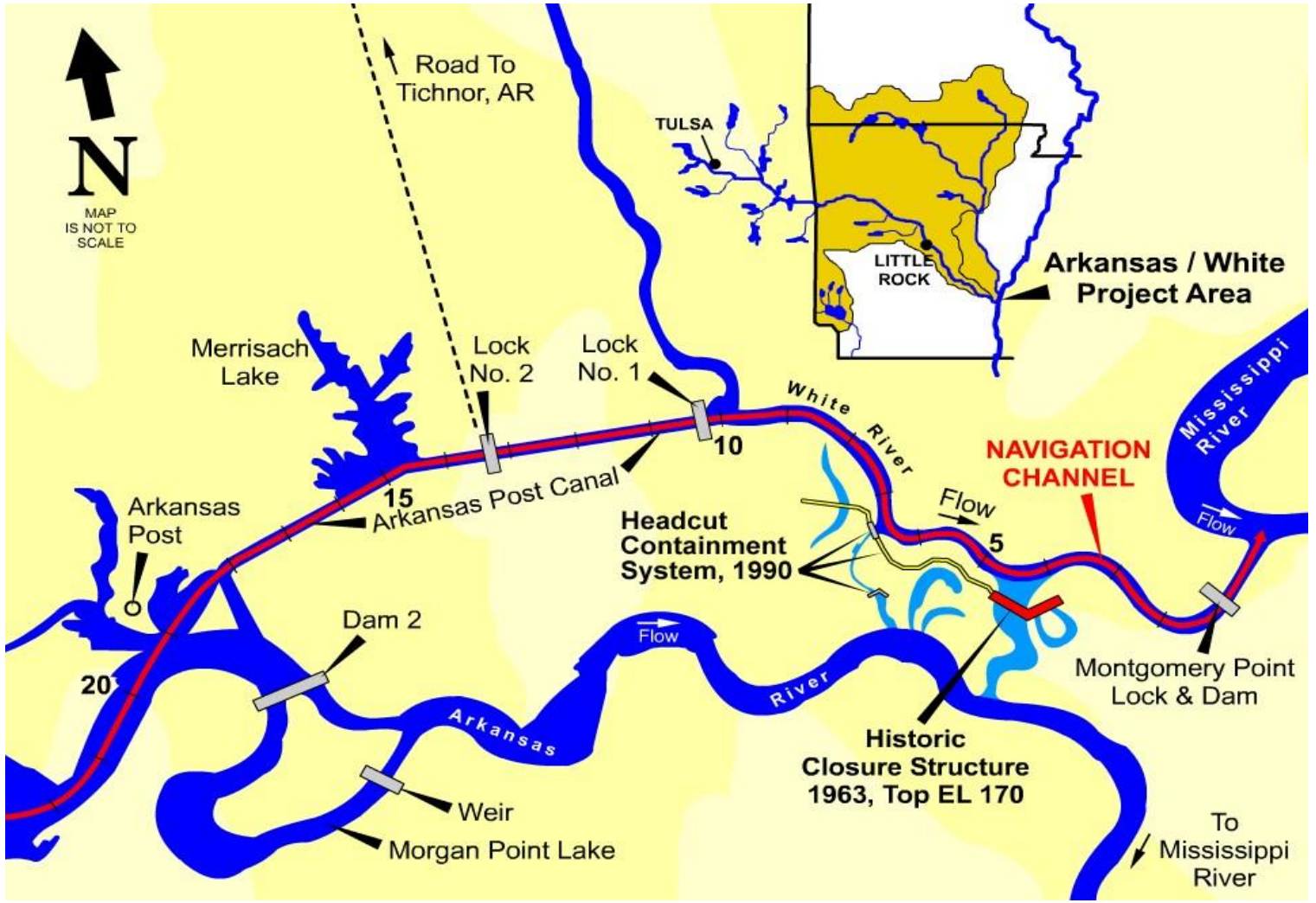
MKARNS 2030 Collaboration

- 6 April – meeting in Fort Smith – Ops SWL, SWT
- 3 May – meeting at Port of Catoosa w/ stakeholders
- 4 May – meeting at Fort Smith w/ stakeholders
- 5 May – meeting at Port of Little Rock w/ stakeholders
- 6 May – WebEx meeting w/ Pine Bluff stakeholders
- 28 June – meeting in Fort Smith w/ stakeholders
- 14 July – WebEx meeting with Pilots and Port Captains
- 27 July - WebEx meeting with stakeholders
- 21 Sep – WebEx meeting with stakeholders
- 24-26 Jan 2023 – MKARNS River Manager’s Workshop
- 13 April 2023 – AOPOA Meeting in Fort Smith

MKARNS 2030 Team Meetings Roll Up

- Potential Quick Wins
- Moderate Challenges
- Major Projects
  - **Three Rivers Project – complete construction, phases 1 and 2**
  - **110-ft Lock Stoplog Construction – construction at all MKARNS Locks**
  - **12-Foot Channel – develop proposed COA, funding, implementation, etc.**
  - **Tow Haulage Units – funding, upgrades, installs**
  - **Educate the Public about MKARNS**
  - **Attract Industry investment and economic growth to MKARNS**

MKARNS Three Rivers Project



MKARNS Three Rivers Project

- Phase I – contract award July 2022 ($175.85M)
  - Design-build construction of hydraulic weir at the location of the historic cutoff structure
- Phase II – BCOES Certification 30 Sep 2022
  - Design-Bid-Build construction of hydraulic containment structure; modification of Owens Weir and Culverts

MKARNS 12-foot Channel

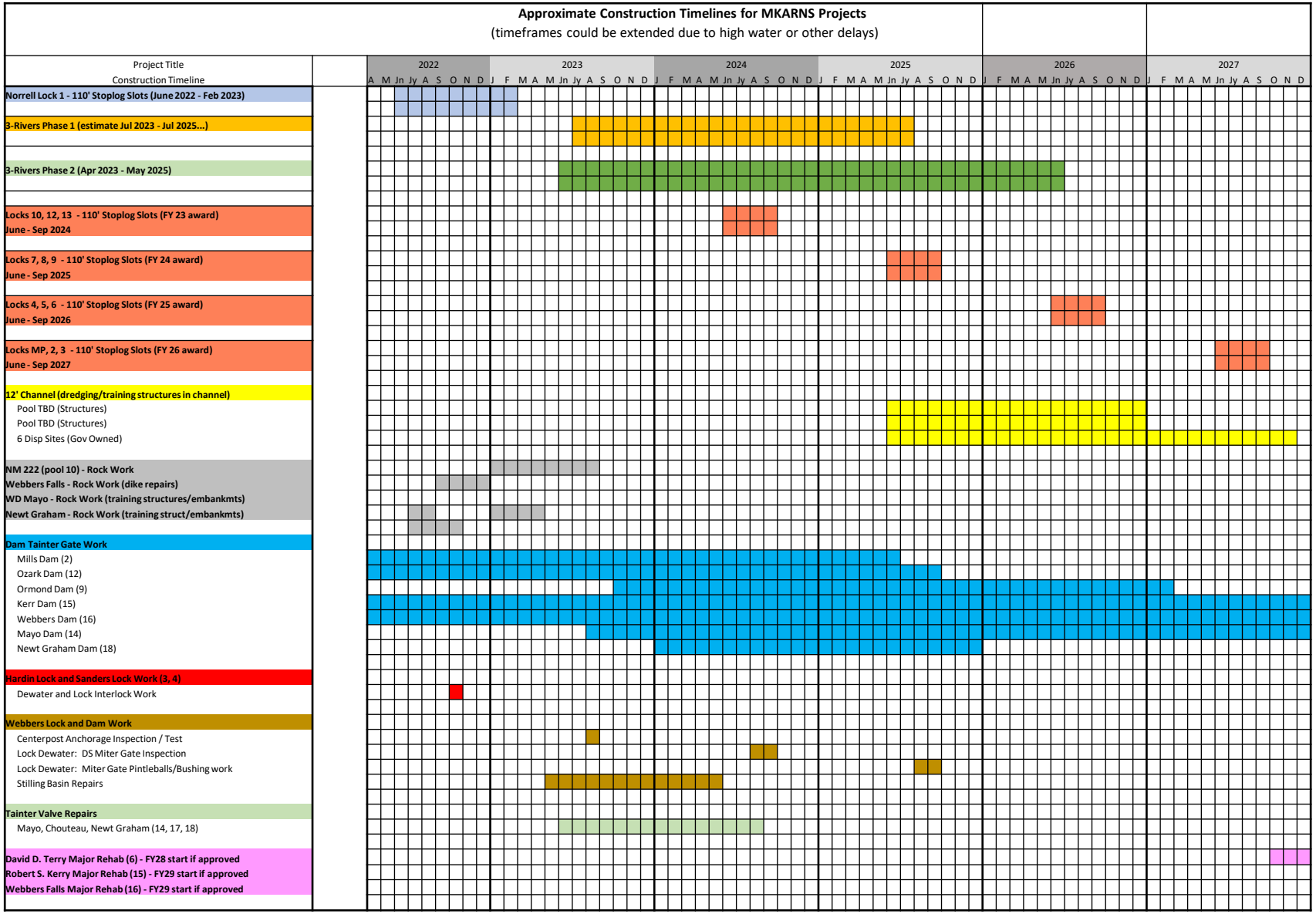
- Received $92.6M in funding from BIL
- Little Rock and Tulsa District project
- Current Status
  - Project Planning
  - Data Collection, Hydrologic Modeling
  - NEPA Update, Economic Update
  - Cost Estimate

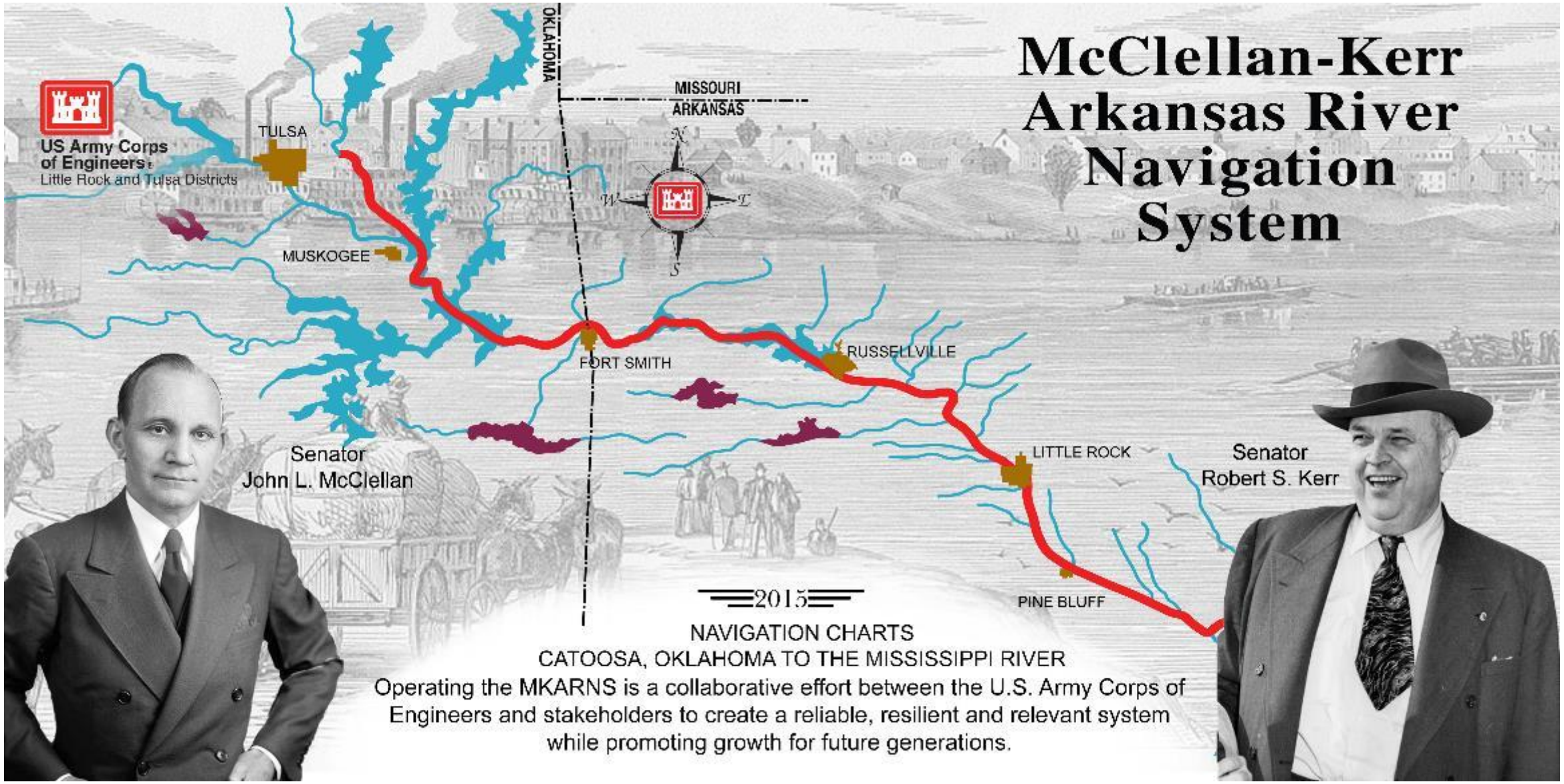
MKARNS – Other Projects

- Lock 110-ft Stoplog Slots
  - Norrell Lock – essentially complete
  - 3 Lock Sites per year
- Tow Haulage Units
  - Murray Lock upgrade (AR Waterways Comm)
- Dam Tainter Gate Repairs
- Major Rehab Evaluation Reports

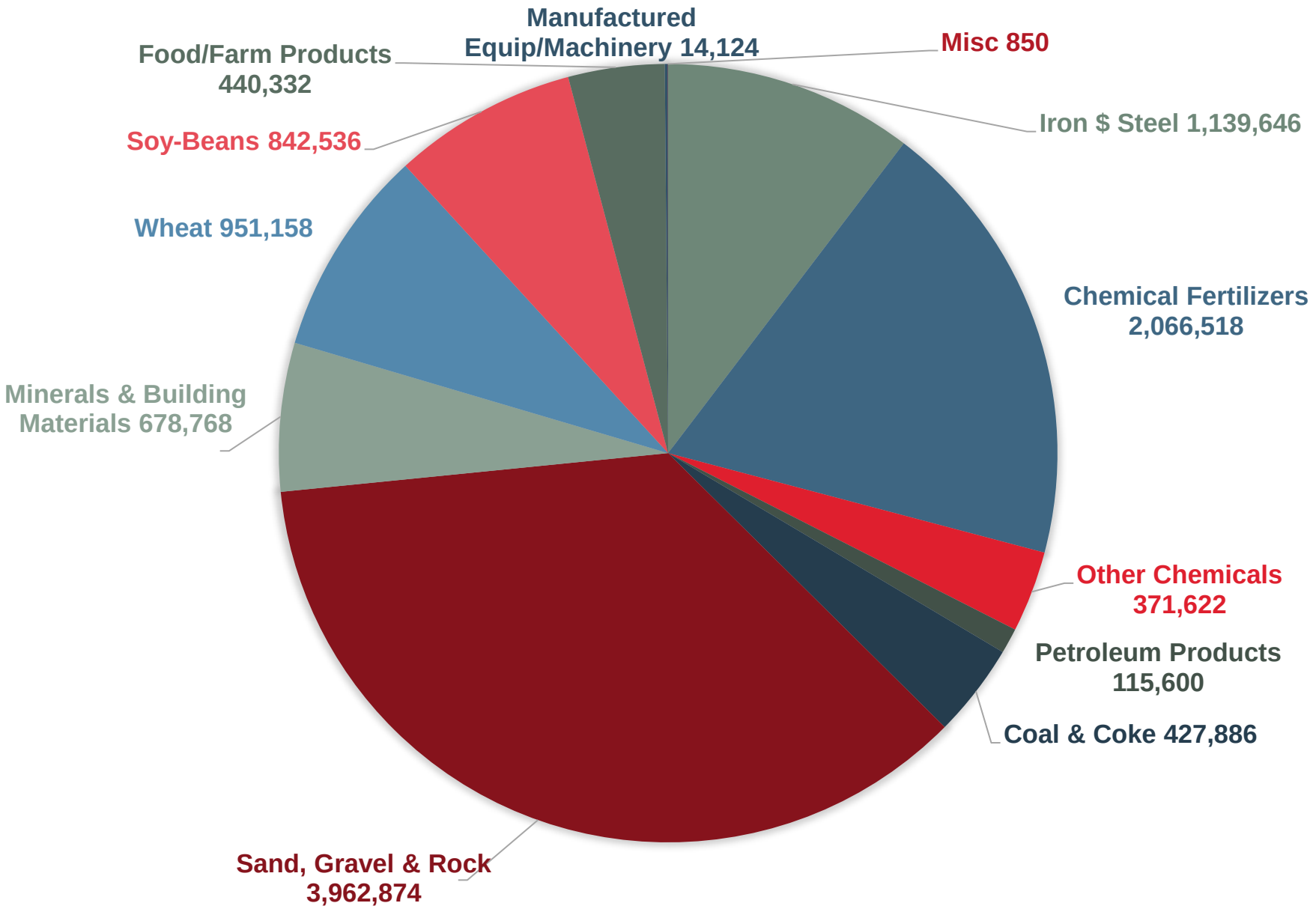
MKARNS 2030 Construction Schedules

Approximate Construction Timelines for MKARNS Projects
(timeframes could be extended due to high water or other delays)




McClellan-Kerr
Arkansas River
Navigation
System
US Army Corps
of Engineers
Little Rock and Tulsa Districts
TULSA
MUSKOGEE
OKLAHOMA
MISSOURI
ARKANSAS
FORT SMITH
RUSSELLVILLE
LITTLE ROCK
PINE BLUFF
Senator
John L. McClellan
Senator
Robert S. Kerr
2015
NAVIGATION CHARTS
CATOOSA, OKLAHOMA TO THE MISSISSIPPI RIVER
Operating the MKARNS is a collaborative effort between the U.S. Army Corps of Engineers and stakeholders to create a reliable, resilient and relevant system while promoting growth for future generations.

MKARNS Commodity Tonnage CY 22



MKARNS Calendar Year Tonnage of Commodities Shipped	
CY 22	11,011,732
CY 21	10,696,553
CY 20	10,322,279
CY 19	8,480,645
CY 18	10,932,172
CY 17	11,918,919
CY 16	11,542,149
CY 15	9,962,334
CY 14	11,719,572
CY 13	12,139,821

Highlights of FY23 SWL

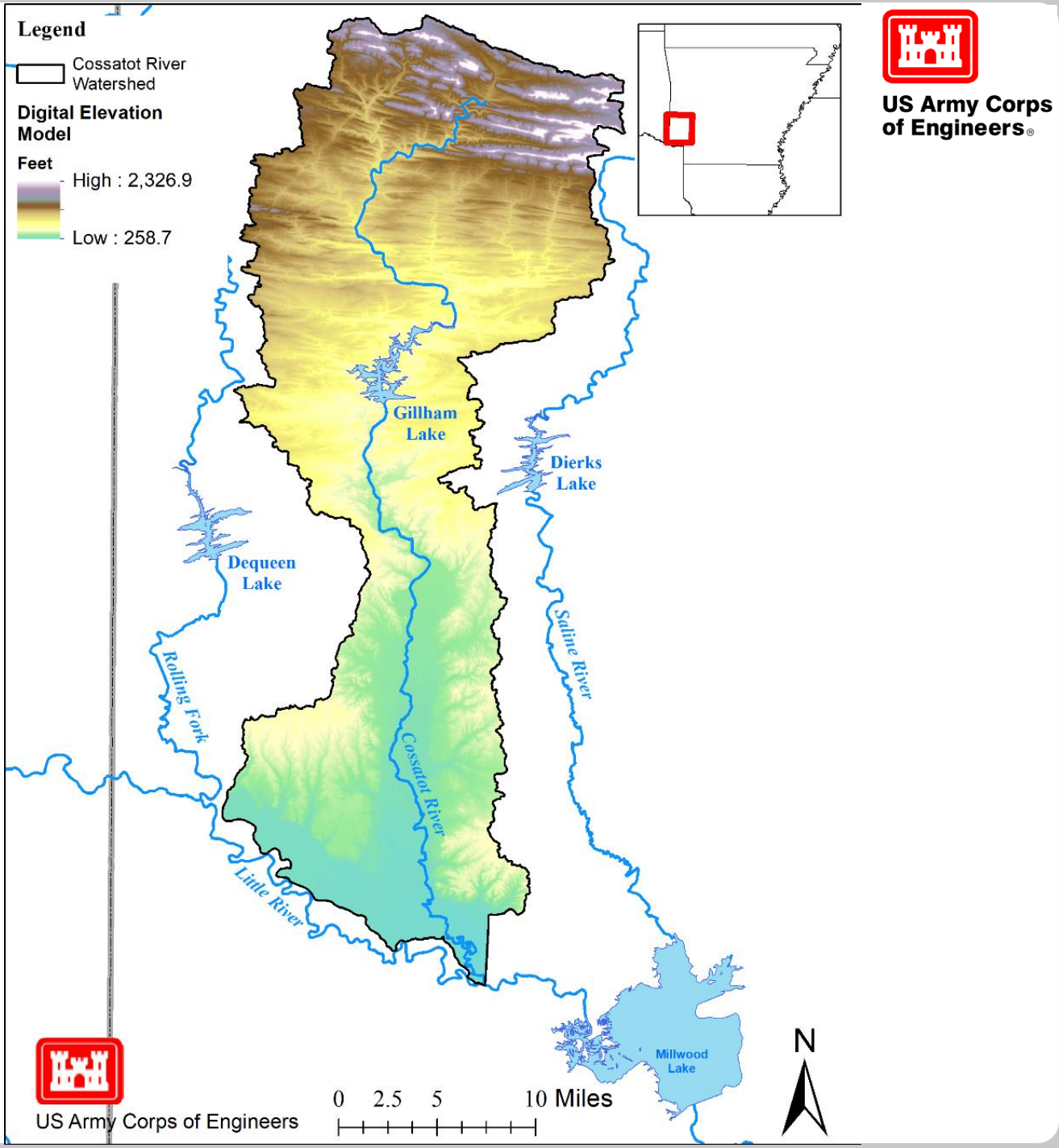
Lock 3	Maintenance Dewater September/October 2022
MKARNS	Three Miter Gate designs to be completed
Locks 10 & 13	110-ft stoplog conversion designs to be completed
MKARNS	New training structure at NM 222 construction to be completed in March 2023
Lock 1	110’ Stoplog Conversion construction to be completed in March 2023
Mills & Ozark Dams	Tainter Gate Rehabilitation continued; Ozark to be completed late FY23
Ormond Dam	Tainter Gate Rehabilitation contract to be awarded

Plans for FY24 SWL

Locks 10, 12, & 13	110-ft stoplog conversion to be constructed
Locks 7, 8, & 9	110-ft stoplog conversion designs to be completed
Mills & Ormond Dams	Tainter Gate Rehabilitation continued
Sanders Lock & Dam	Left Embankment Repairs

COSSATOT SUSTAINABLE RIVERS PROGRAM

Percina pantherine
Leopard Darter



Publications

Photograph looking downstream from Gillham Dam,
taken by Victor Kuykendall (U.S. Army Corps of Engineers).

COSSATOT RIVER AND GILLHAM LAKE, ARKANSAS

Sustainable Rivers Program 2022

Abstract

This report details the current available data and literature for the Cossatot River to identify flow-dependent fish, mussels, and other species in the River, examine changes in these species over time, and look at alterations in the flow regime that potentially could have caused these changes.

Hart, R.M., Quinn, J., Lynch, D., Moles, K., Witsell, T., and Phillip, C.L.

Photograph of the Cossatot River, taken by Dustin Lynch (Arkansas Natural Heritage Commission).

COSSATOT RIVER AND GILLHAM LAKE, ARKANSAS, FLOW RECOMMENDATIONS AND WORKSHOP SUMMARY

Sustainable Rivers Program 2022

Hart, R.M.[1], Quinn, J.[2], Lynch, D.[3], Moles, K.[2], Posey, W.[2], Davidson, C.[4], Wentz, T.[5], Fore, J.[6], Keen, N.[1], and Bostwick, D.[1]

[1]U.S. Army Corp of Engineers; [2]Arkansas Game and Fish Commission; [3]Arkansas Natural Heritage Commission; [4]U.S. Fish and Wildlife Service; [5]Arkansas Department of Agriculture - Natural Resource Division; [6]The Nature Conservancy

Contact Information

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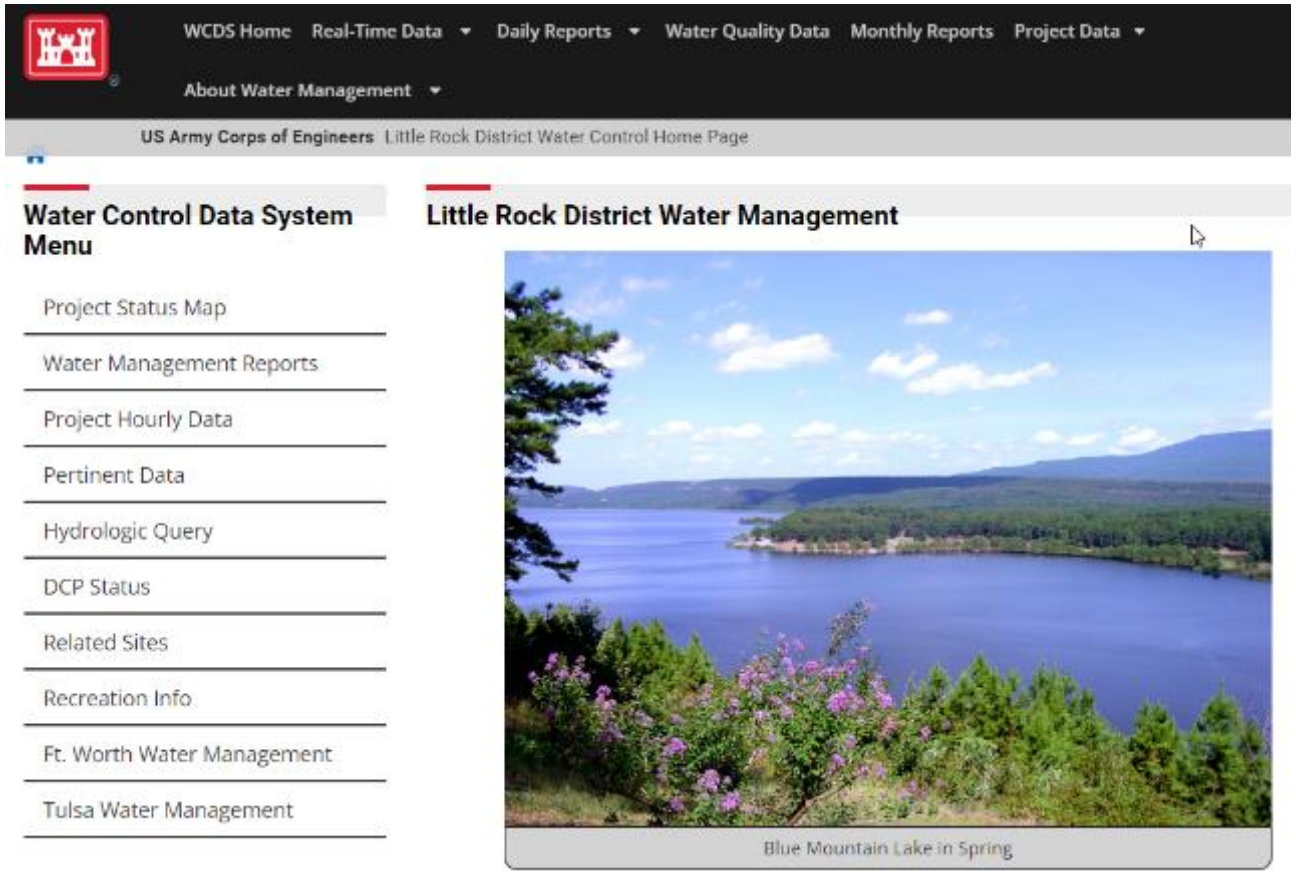
- Tiffany Smith, Operations Manager, Millwood Tri-Lakes, 501-324-6612
- Michael Biggs, P.E., CFM, Chief, Hydraulics & Technical Services Br, 501-324-6232

Website: www.swl.usace.army.mil

Face book: https://www.facebook.com/littlerockusace

Little Rock District Water Management Webpage

http://www.swl-wc.usace.army.mil/



New Format
Same information; easier to use on mobile devices

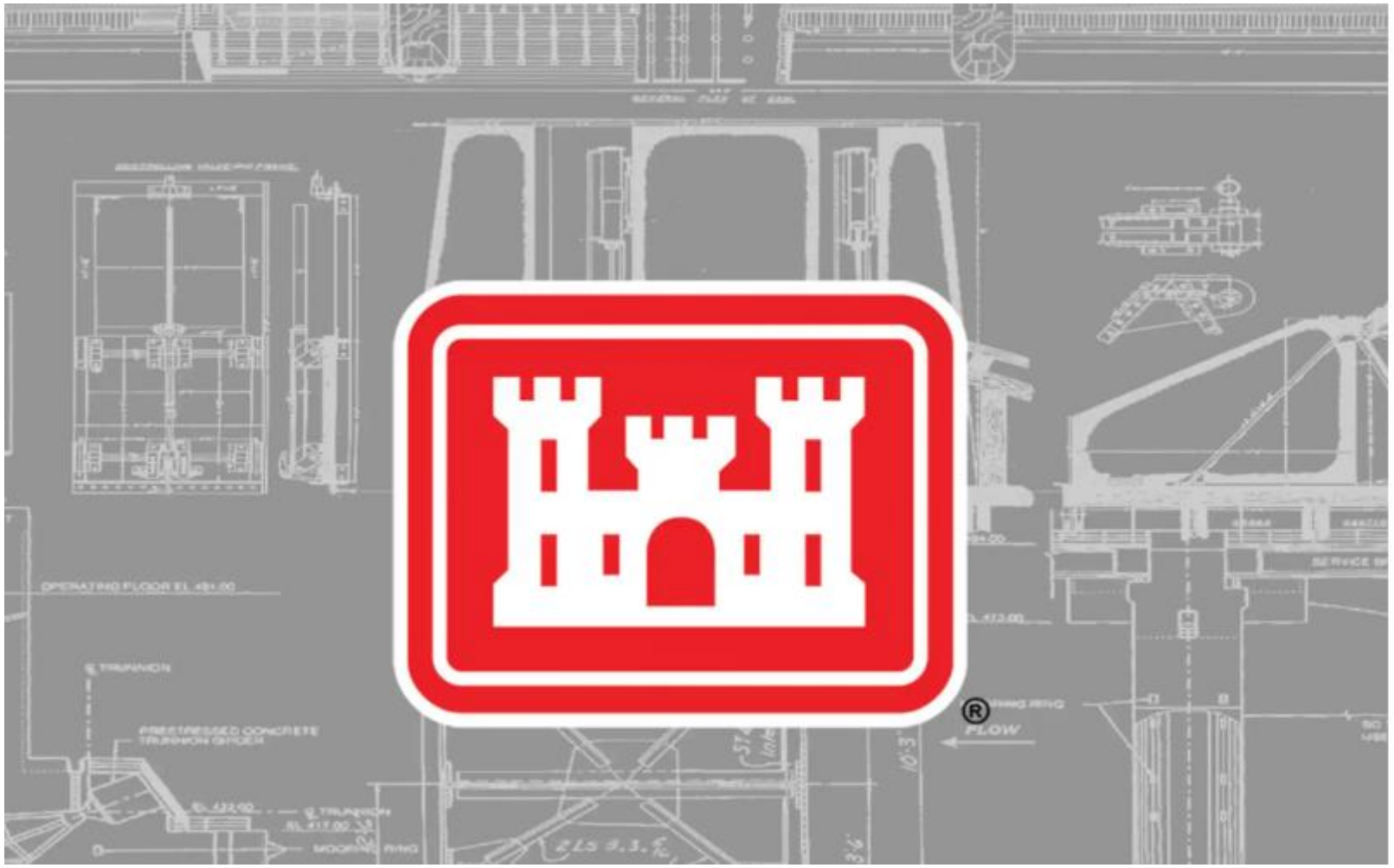
Current Conditions:
Summary of lake elevations, flood storage in use, and trend For SWL lakes; and river stage flood stage, and regulating stage,
with trend for key river gage stations.

Daily Reports:
Current forecasts for ***Lakes*** and the ***Arkansas River*** (MKARNs)

Real-Time Data:
Graphical or tabular data for reservoirs, MKARNS, or stream
gages

Little Rock District Online

https://about.me/USACELittleRock



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WORK

Little Rock District

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- Industry shippers, anglers, boaters and paddlers now have the latest river stage and flow rates for their favorite rivers and creeks on a smart phone or tablet.
- Use the SWPA icon to view hydropower generation schedules for the next day or the USGS icon to view stream gage forecasts.

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