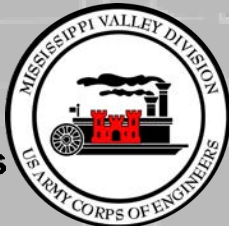


# MISSISSIPPI VALLEY DIVISION LOW WATER

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US Army Corps  
of Engineers®





# EVENT SUMMARY - MISSISSIPPI RIVER LOW WATER

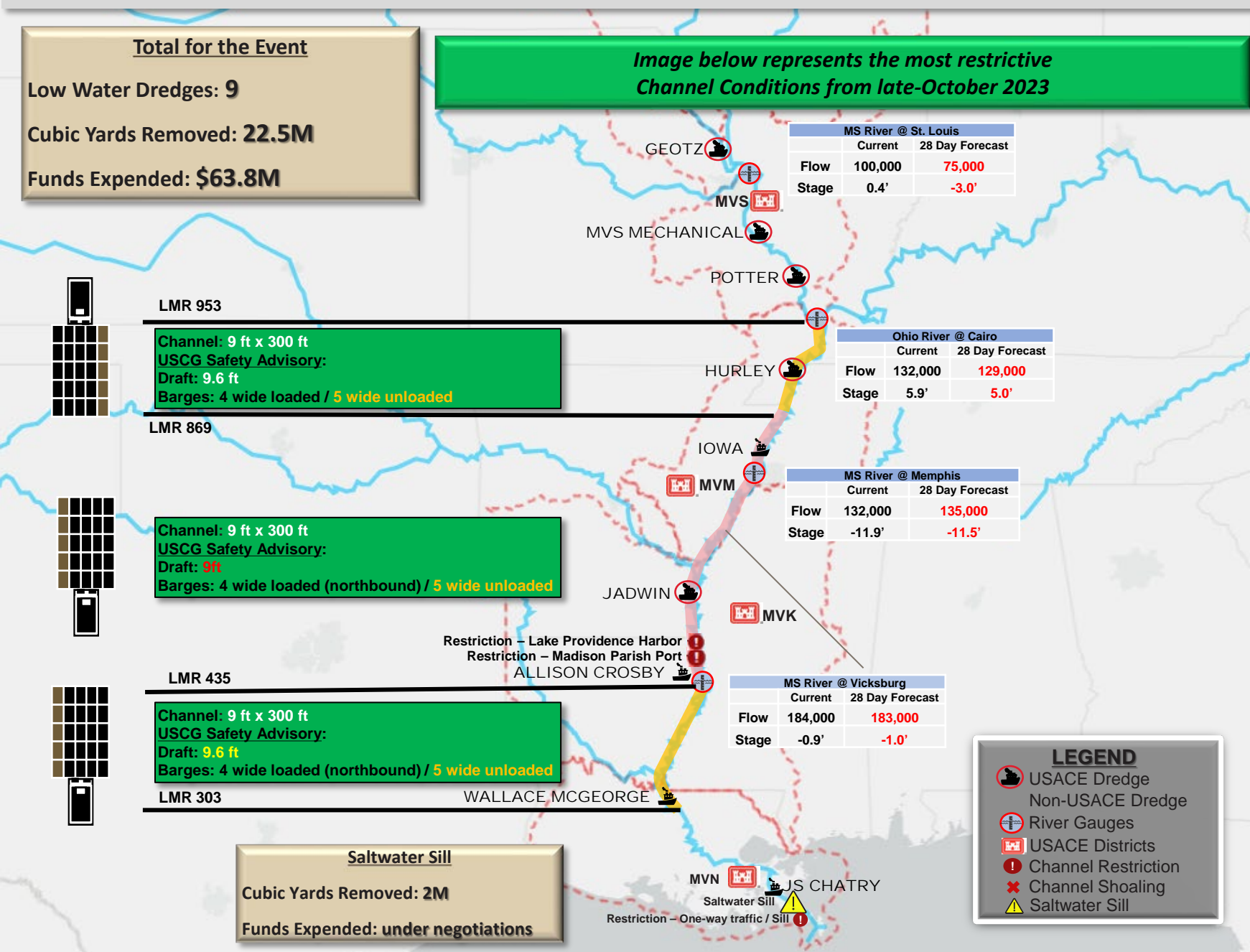
Total for the Event

Low Water Dredges: 9

Cubic Yards Removed: 22.5M

Funds Expended: \$63.8M

Image below represents the most restrictive Channel Conditions from late-October 2023



## Timeline of Event

JUN 2023	Start Multi-MSC Low Water Action Team	MVD Regional Shallow Draft Team coordinates Proactive Dredging (Middle & Lower Miss. River)
JUL 2023	MVN constructs Saltwater Wedge	
AUG 2023		
SEP 2023	MVN augments Saltwater Wedge	Dredging focus Middle Miss. River
OCT 2023	Min. Average Low stages south of Cairo, IL	
NOV 2023	Missouri River flows reduce	
DEC 2023	Ice Bite risk	
JAN 2024	Min. Average Low St. Louis	
FEB 2024	Return to average river stages	

## Key Points:

- Late-October 2023 was the most restrictive period with 9 ft. draft restriction and barge configuration no greater than 4 wide northbound.
- In total, 9 Dredges directly supported the low water emergency.
- At the lowest stages, 11 of 17 harbors between Memphis and Vicksburg Districts were below 9-foot depth.



# LESSONS LEARNED



## What Went Well

- Localized queue management aboard dustpan dredges
  - Having industry rep on board to manage queue
- Using LOMA to place emergency Electronic-Aids to Navigation
  - Nightly buoy uploads from USCG
- Proactive dredging
  - Availability of dredges to move to trouble spots was key
  - Supplemental funding to keep working
- Using the M/V GRUGGETT help USCG with channel patrol
- Good communication, information sharing, coordination with navigation industry
- Having a robust Channel Improvement Program
  - Dikes
  - Revetment
  - Dredging

## What Needs Improvement

- Coordination between USCG Sectors
  - Short part of Mississippi River is Sector Ohio Valley
- Reporting of River stages
  - St. Louis District does not have the 28-day experimental forecast
- Limited access to boat ramps for survey vessels
- River gages require extra maintenance with low water





# NEXT STEPS

- USCG is updating the Waterways Action Plan
- MVD is completing 2024 Low Water AAR
- Industry discussing USCG borders
- POTTER & JADWIN recapitalization efforts
- Stress importance of early and complete funding for harbor dredging
- **KEEP OPEN COMMUNICATION and GOOD RELATIONSHIPS with Industry and USCG!**





# DISCUSSION

## Lower Mississippi River Low Water Comparison

### 2022-2023 Statistics

Location Name	MM	MM	Groundings	Closures	Hours Closed
New Madrid	850	889	4	3	90.7
Caruthersville	786	850	7	3	59
Osceola	736	786	6	5	242.4
Memphis	663	736	9	6	417.5
Helena	589	663	8	7	71.7
Rosedale	537	589	2	2	21.3
Greenville	487	537	10	7	333.7
Lake Providence	437	487	2	2	12.8
Vicksburg	364	437	0	0	0
Natchez	303	364	1	0	0
<b>Total</b>			<b>49</b>	<b>35</b>	<b>1249.1</b>

\*Running Total Since Extreme Low Water Began OOA 02SEP22

### Estimated Impact

Vessel Voyages	1,032
Barges	14,669

\*Dredging data was removed from this data set to reflect data collected for the 2023-2024 low water season.

VS

### 2023-2024 Statistics

Location Name	MM	MM	Groundings	Closures	Hours Closed
New Madrid	850	889	0	0	0
Caruthersville	786	850	3	2	46.1
Osceola	739	786	4	3	43.6
Memphis	663	739	5	3	50.3
Helena	589	663	2	1	13.5
Rosedale	537	589	1	1	10
Greenville	487	537	5	0	0
Lake Providence	456	487	3	1	9.6
Vicksburg	364	456	13	10	186.3
Natchez	303	364	7	1	4.5
<b>Total</b>			<b>43</b>	<b>22</b>	<b>363.9</b>

\*Running Total Since Extreme Low Water Began September 2023

### Estimated Impact

Vessel Voyages	395
Barges	6,553

### Statistical Comparison

Total Groundings Decreased by	12.24%
Total Closures Decreased by	37.14%
Total Hours Closed Decreased by	70.87%
Total Vessel Voyages Impacted Decreased by	61.72%
Total Barges Impacted Decreased by	55.33%

Wow!





## CURRENT IMPACTS

- Lock closed to operations because of improperly operating gate on 28 March.
- 65 Tows on turn at IHNC Lock as of 10 April at 1600.
- 38 Tows on turn at Algiers Lock as of 10 April at 1600.
- 0 tows on turn at Port Allen Lock, traffic is going around through Algiers Lock.
- 101 tows locked through IHNC since reopening
- MVN has seen a significant traffic build up at Algiers Lock due to the closure of Port Allen.
- MVN has cancelled scheduled work on the Bayou Boeuf Lock hinges to 1) keep the main GIWW open and 2) divert crews and equipment to IHNC and Port

IHNC Lock Gate 2 Pin



Gate Resting on Concrete Recess as Result of Hinge Assembly Failure



## WAY FORWARD

- Heavy lift crane BROWNLEE went down due to electrical issues on 1 Apr. **Replaced with a contract heavy lift crane on 2 Apr.**
- Repair crew onsite.
- MVN OD Machine Shop is acquiring materials for the internal hinge and anchorage components.
- Current repair cost ROM for IHNC is approx. \$1M.

### IHNC Repair Schedule:

- 31 Mar – Equipment in route to IHNC Lock.
- 1 Apr – Equipment and crew arrived IHNC Lock. Brownlee went down before securing gate. Walkway removed.
- 2 Apr – Contract crane onsite. Secured gate, began disassembly of upper hinge, determined anchorage plate is cracked and will need to be replaced.
- 3 Apr – Begin anchorage repairs.
- 4 Apr – Continue anchorage repairs.
- 5 Apr – Continue anchorage repairs. Repair/replace upper hinge components.
- 6 Apr – Reassemble gate hinge, verify gate alignment.
- 6 Apr – Gate testing, inspection of canal end gates once river end is operational, restore lock to operation.

# PORT ALLEN LOCK

## CURRENT IMPACTS

- Lock closed to operations because the river-end miter gate became inoperable on 30 March.
- BROWNLEE diverted to IHNC, Hired Labor Unit C mobilized. Equipment arrived on 2 April. **MVK mobilizing Big Juicy heavy lift crane and internal dive team.**
- MVN OD Team met with MVK personnel and concrete company onsite on 1 April to work through repair plan details.
- Current repair cost ROM for Port Allen is between \$1.5M-\$2.5M.

## Port Allen Lock Repair Schedule

- 2-5 April – Hired Labor Unit C arrives onsite. Fabricates and installs upper tieback system prior to Big Juicy arrival.
- 5 April – MVK Heavy Lift Crane Big Juicy and dive team onsite, secure gate with jacking and tieback system.
- 7-11 April – Concrete removal.
- 12-21 April – Weld repairs and testing.
- 22-23 April – Reinstall concrete.
- 24 April – Gate testing and adjustments, river end gate inspection, lock reopened.

Port Allen Lock



Failed Anchorage and Location

