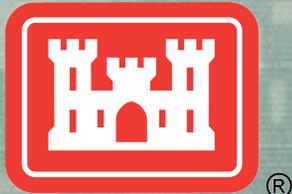


# Locks and Dam 53 Wicket Replacement

August 12 – November 4 2015

Craig Moulton, PE  
Chief, Maintenance Section  
Louisville District



US Army Corps of Engineers  
**BUILDING STRONG**



# Overview

- L&D 53 History
- Dam Condition
- Dive Deflector Box
- Contract and Repair
- Lessons Learned
- Way Ahead



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# Locks and Dam 53

- Built 1929, Temporary 1200' built 1980
- Replacement by Olmsted Locks and Dam circa 2018



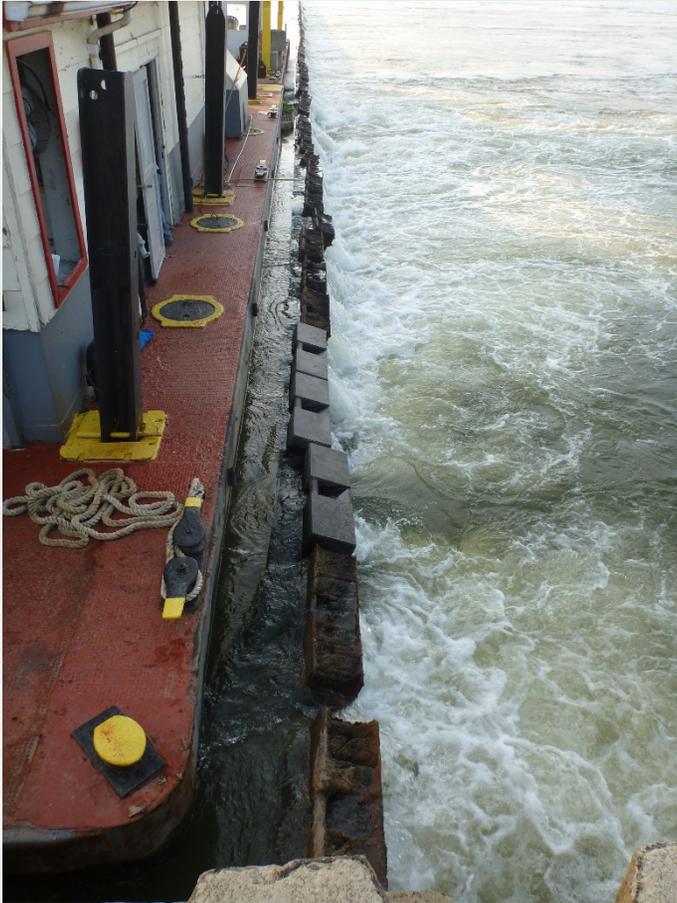
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# Dam Condition

- 75% of wickets were “critical” or worse
- Cannot set dam past 4 missing wickets
- Due to condition, cannot use dive box



# Dam Condition



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# Dive Deflector Box

- Self-supporting
- Max 6fps flow or 14ft head
- Weight: 50T
- Works at L&D 52 and 53



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# Contract and Repair

- Goal: 2 wickets “holes”
- Contract required towboat, crane barge, and excavator barge
- Crane barge uses GOV installed anchors
- 12 hour “active” shift daily
- Inactive and active rates



# Contract and Repair

- CJ Mahan
- M/V Christine Elaine
- Manitowoc 2250
- Cat 385
  
- \$3.4M



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# Contract and Repair



**STRONG**®

# Contract and Repair



**BUILDING STRONG®**

# Contract and Repair



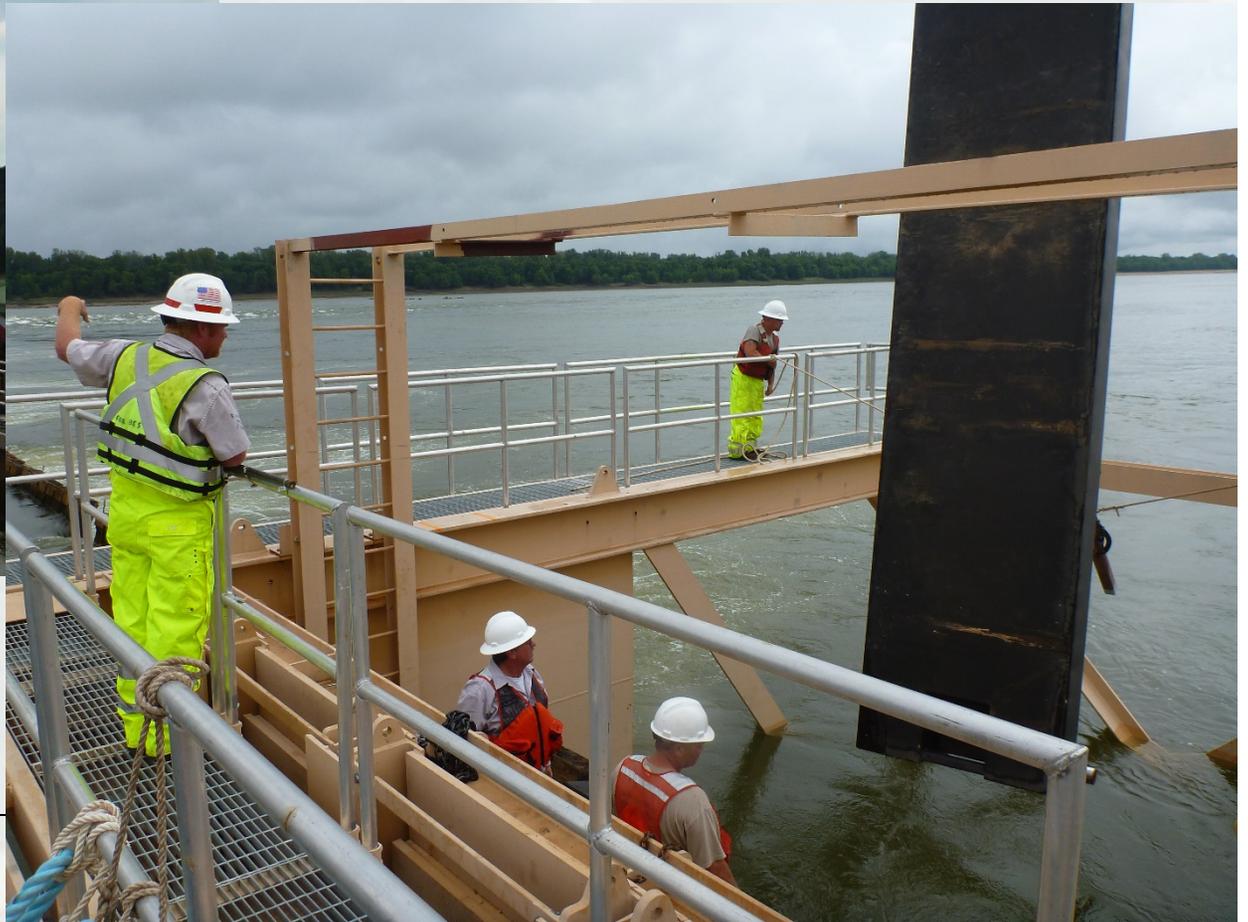
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# Contract and Repair



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# Contract and Repair



# Contract and Repair

- 64 Wickets Replaced
- 48% Critical
- \$1.4M remaining



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# Lessons Learned

- Dig Small Buckets



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# Lessons Learned

- No handrails on access walkway



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# Lessons Learned

- Electric winches



# Lessons Learned

- Combine crews
- Leave contract relatively open
- Track active/inactive days
- Minimize required KTR notification



# Way Ahead

- 37 wickets remaining
- Requires 17 active days
- Based on average rate, \$1.4M will get all 17 settings
- Contract was suspended at end of season, plan to reactivate this summer



# Questions?

