

FY21 RSM IPR



MVK/CHL, Victoria Bend Comprehensive Assessment, Keaton Jones and Viviana Berrios-Williamson

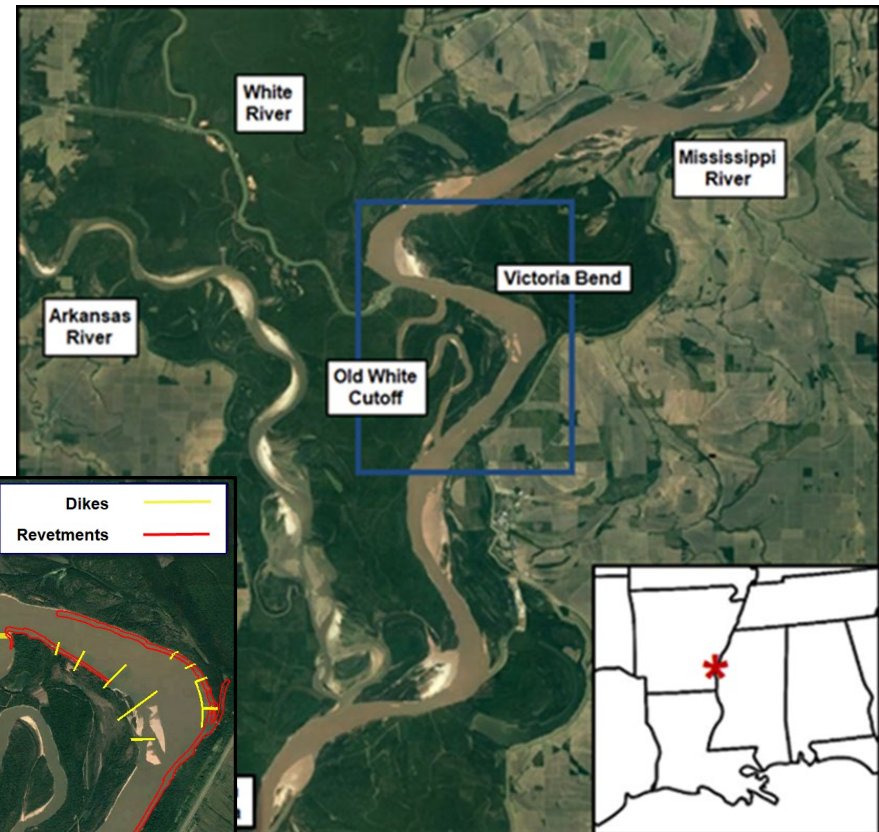
BLUF: Multidisciplinary project balancing USACE's navigation and environmental mission. Focused on managing sediment to reduce channel maintenance and improve navigation while maintaining quality habitat.

Challenge/Objectives

- Historically complex reach and heavily engineered
- Still requires routine dredging
- Tight bend, difficult navigation
- Major flow split
- Federally endangered species

Approach

- Geomorphic Assessment
- Environmental Assessment
- Numerical Modeling
- River Engineering



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District/Other USACE PDT Members

- Casey Mayne, CHL
- David Biedenbarn, CHL
- Keaton Jones, CHL
- Jack Killgore, EL
- Todd Slack, EL
- Coral Cruz, MVK
- Dustin Herr, MVK
- Viviana Berrios-Williamson, MVK

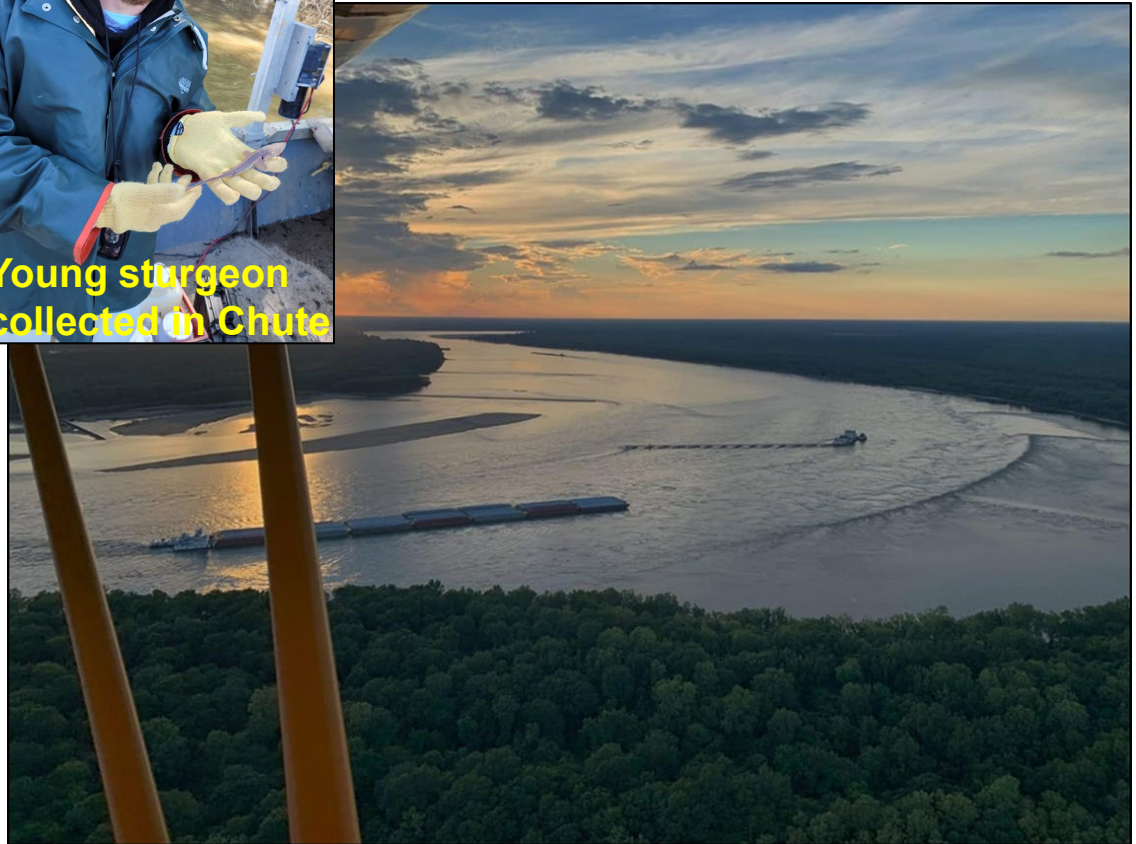


Stakeholders/Partners

Angie Rodgers, U.S. Fish and Wildlife Service

Leveraging/Collaborative Opportunities

- MVD MRG&P Program
- MVK Channel Improvement Program



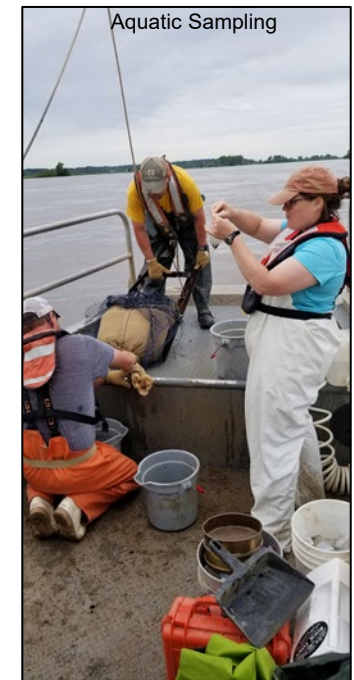
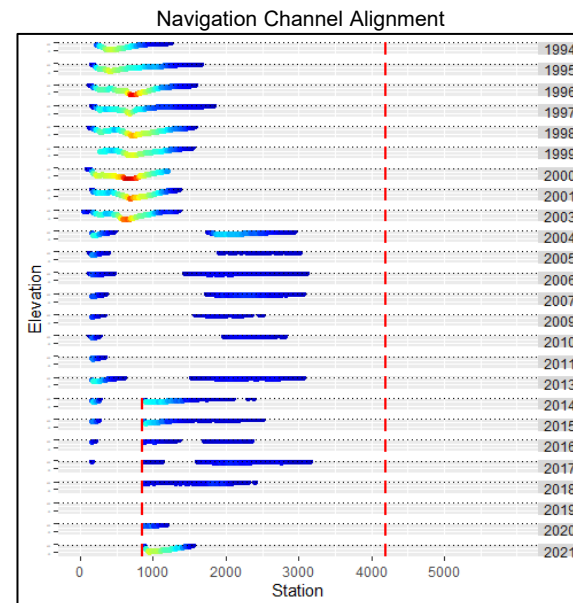
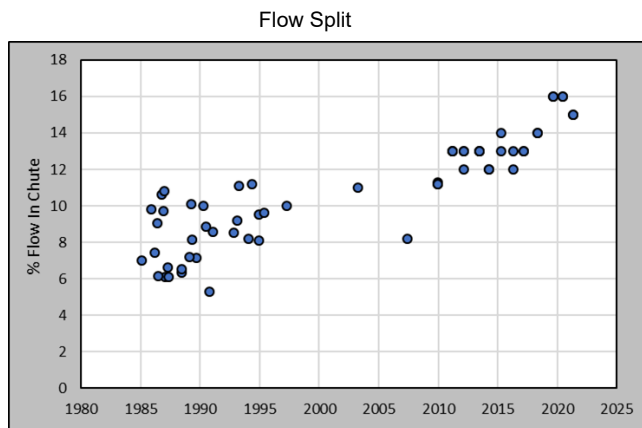
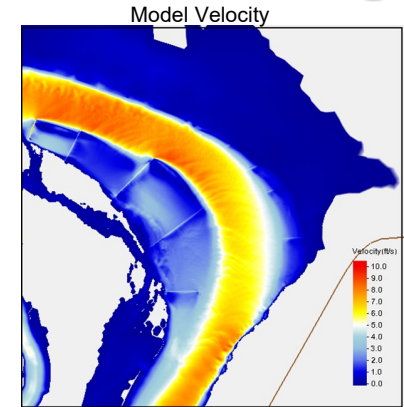
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Accomplishments/Deliverables

- Developed and validated 2D AdH model to test alternatives and examine hydraulic variables
- Detailed geomorphic assessment of Victoria Bend and side channel which highlighted the increasing size of the side channel
- Baseline aquatic sampling and data assessment
- Finalizing recommended actions and technical report



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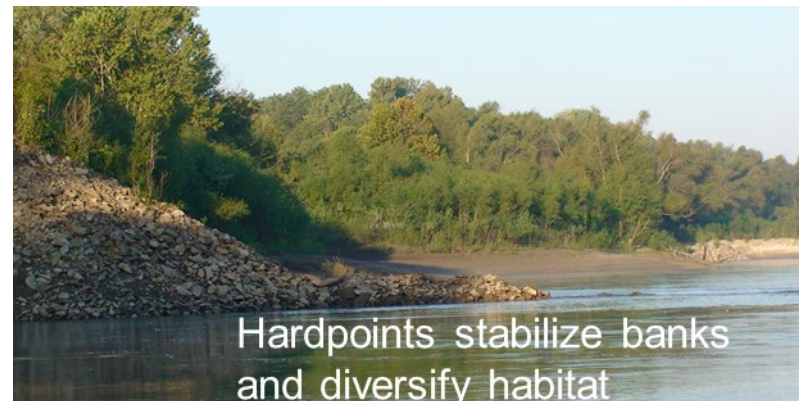
What challenges did you face to get your project to implementation and how did you move past them? If not yet implemented, what is your path forward to construction?

Dike construction on the LMR is often an iterative process without making extreme changes. A 1st phase of extending and raising dikes was constructed in 2020 and a 2nd phase will depend on the river's response. Ultimately, decision is made by MVD/MVK Channel Improvement Program.

- Potential 2nd phase recommendations
 - Side channel stabilization
 - Increase flows and transport capacity through the main channel
 - Further consideration of bendway weirs

What were your lessons learned that you think might benefit other Districts?

- Value of numerical model as a tool to assist with layout of river training structures
- Importance of monitoring and managing flow splits
- Importance of coordination between environmental and river engineering teams



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How is this project benefiting the USACE and Nation?

There are major costs associated with closing the LMR to navigation. In 2019, Victoria Bend was shut down for 13 days while dredging was performed. This resulted in a queue of nearly 100 tows and an estimated cost to the towing industry of \$33 million due to delays.

The results and better understanding of this region from this project will hopefully lead to

- Reduce dredging and costs
- Shortening of navigation closures at Victoria Bend
- Increased availability of important habitats for endangered species

