

CALCASIEU LOCK UPDATE

Inland Waterways Users Board
Meeting No. 93
Fort Smith, AR

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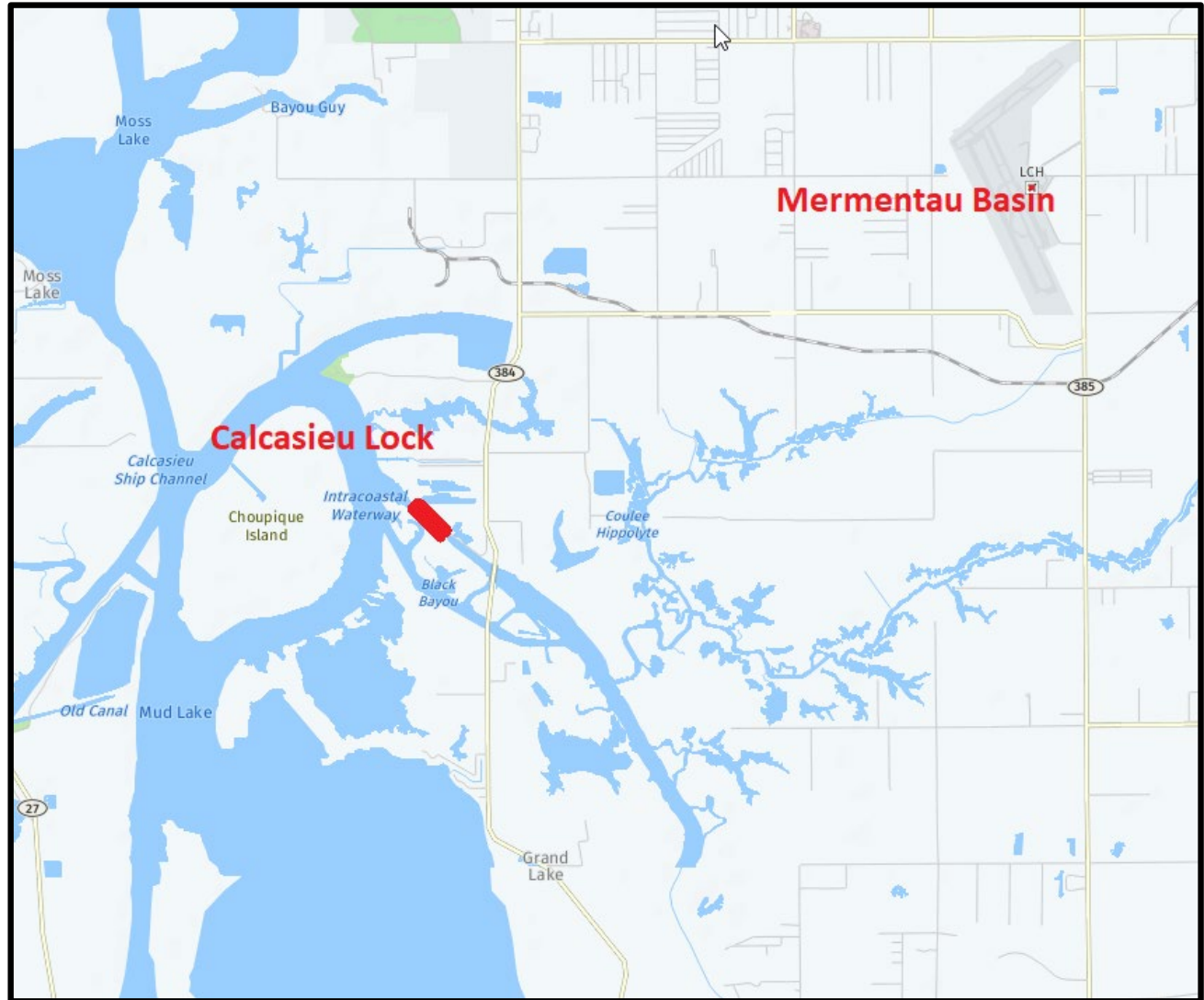
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Calcasieu Lock - Background

The original purpose of the Calcasieu Lock is to prevent saltwater intrusion from the west into the areas east of Calcasieu Lake.

A secondary purpose of the lock is to help drain the Mermentau Basin during heavy rain events. To accomplish this, the lock stays in the open position allowing freshwater to travel westward.

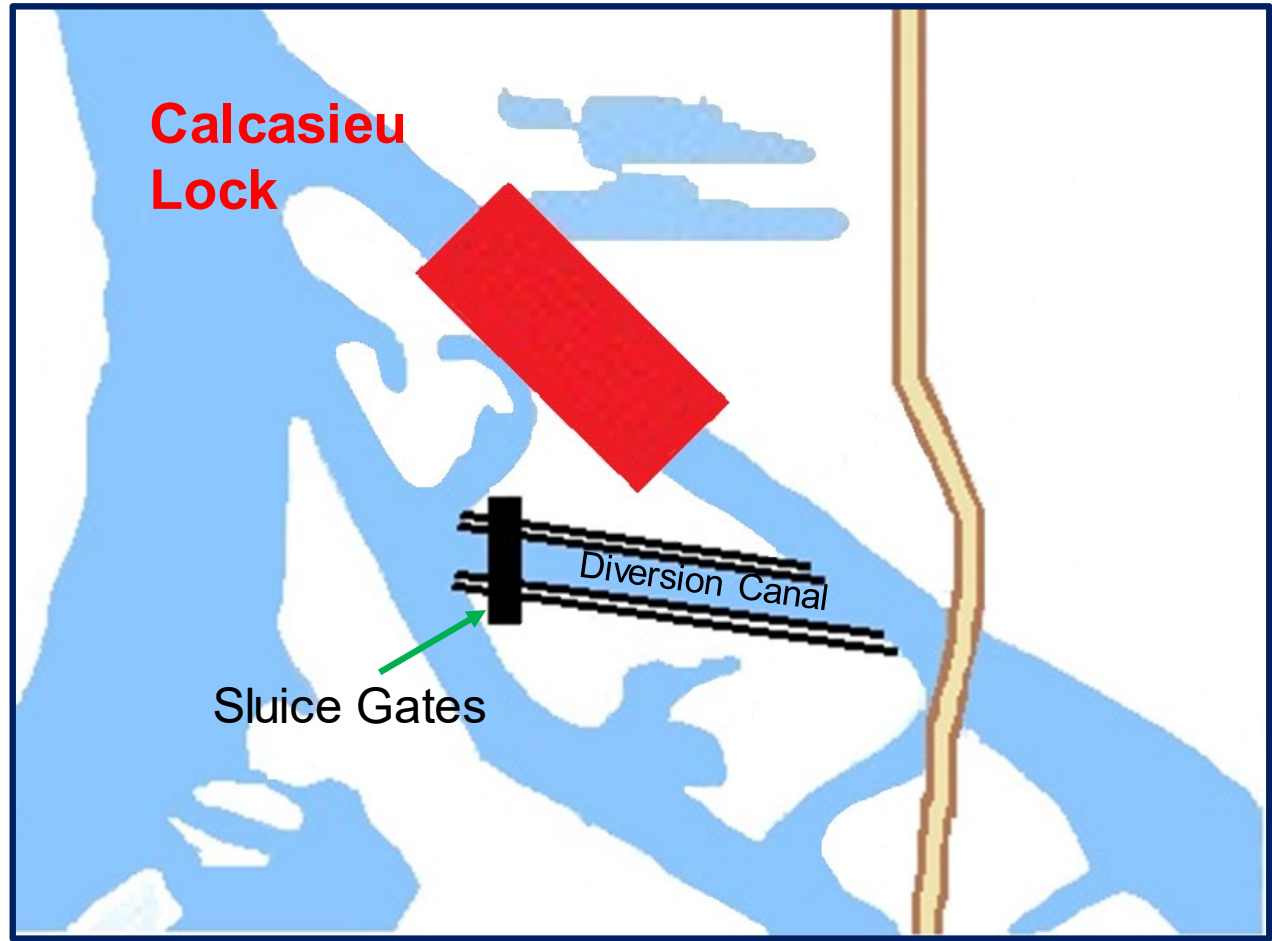
During these drainage periods, at one time vessels had a hard time navigating eastward through the open lock.



Calcasieu Lock – Project Features

A diversion canal was proposed to divert flood waters during drainage events in lieu of using the lock. Sluice gates would be added to close off the canal during times of low water to prevent saltwater intrusion.

The Ship Simulation modeling was conducted to determine if, in fact, the canal would allow for safely navigating thru the Calcasieu Lock during drainage events.





Calcasieu Lock – Ship Simulation

Results of 1st Simulation

- All eastbound transits on the east side of the lock could be compensated for and were mostly manageable.
- The 10-year flood events with the proposed diversion channel for westbound traffic was **unanimously deemed unfeasible by the pilots**. Pilots felt the amount of pull from the diversion channel on slower moving westbound tows caused too much of a concern for navigation.

Results of 2nd Simulation

- Westbound transits on the east side of the lock did NOT appreciably improve with modifications. Pilots said westbound was **still not** feasible.



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Path Forward ?



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Possible Course of Action # 1

Conduct a Post Authorization Change (PAC) investigation to develop a new design at a different location.

- Would require additional PED funds
- High risk of not finding a solution at the same or lower cost of the original project.
- There is an expectation of a higher construction cost due to the need to convey water under State Highway 384
- A higher cost would likely exceed the Section 902 limit

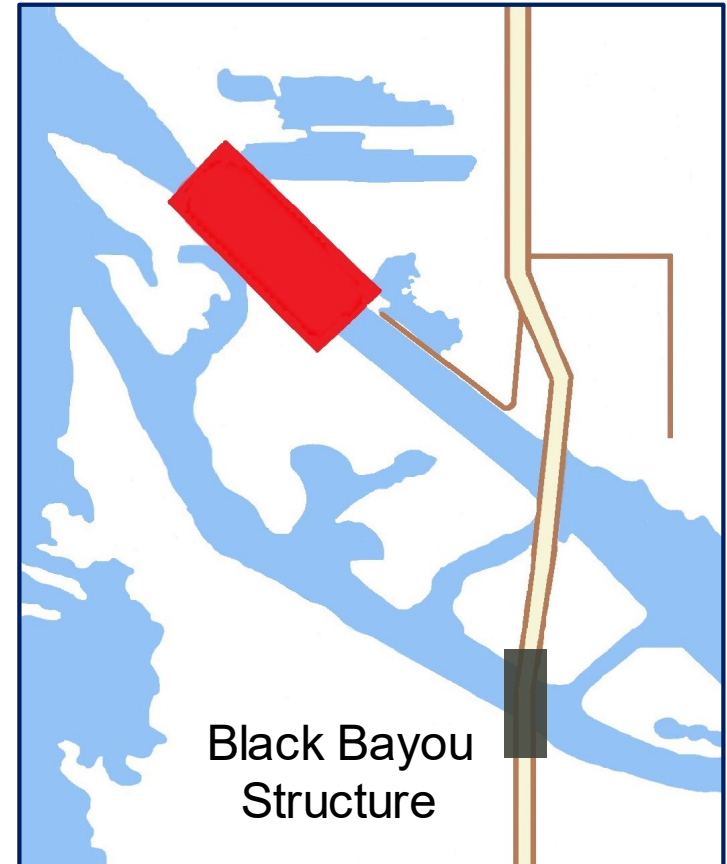


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Possible Course of Action # 2

Expand nearby Black Bayou Structure

- Consists of ten 10' x 10' box culverts with flap gates under highway
- Flow rate for the culverts when flowing full is 9,120 cfs.
- Design flows for the Federal project is 10,150 cfs
- Adding capacity would still be at considerable cost
- Benefits would only be from the additional 10% capacity
- Would require a PAC and an MOA with NRCS.

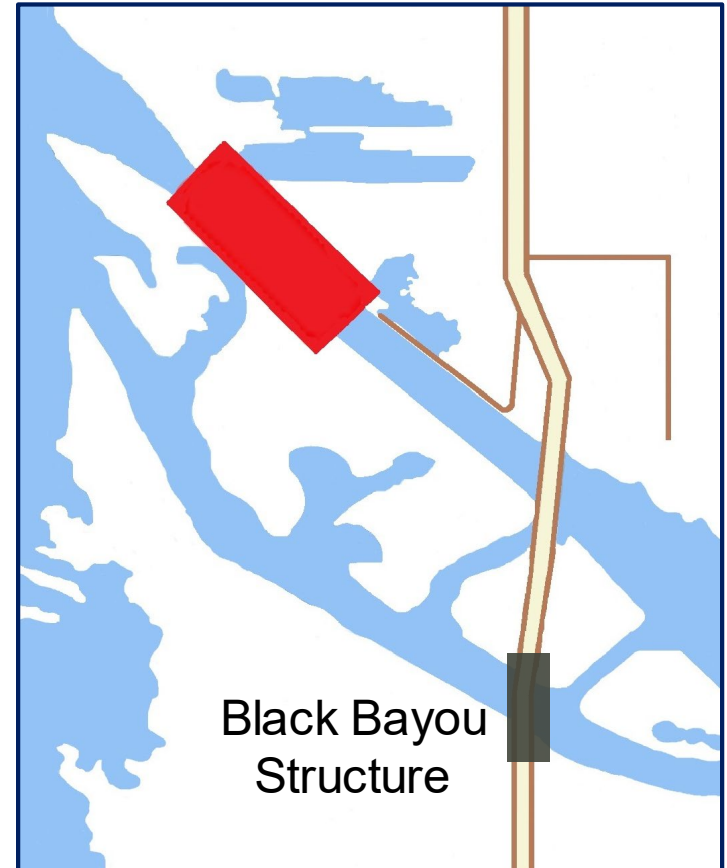


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Possible Course of Action # 3

Suspend Project

- No federal money would be spent on a high risk effort.
- 90% of the project's design capacity is now available via Black Bayou.
- However, 10% of the design capacity would not be provided.
- Anecdotal information is that delays have lessened over the years with the prevalence of more powerful tow boats that are able to traverse the current.





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Tentative Recommendation

With the completed Black Bayou Structure providing 90% capacity of the Corps project, the recommendation is to suspend the project. Since the operations of the Black Bayou structure are via flap gates and do not require “significant” operational triggers that must be negotiated or monitored, an MOA does not seem necessary to take advantage of the additional drainage capacity.



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Comments ?

Concerns ?

Suggestions ?