Delta Council
Flood Control Committee
Update on the Yazoo Backwater Project

May 19, 2021

www.msleveeboard.com
The Mississippi Levee Board is responsible for:

- **212** miles of Levees and
- **350** miles of Interior Streams
The Yazoo Backwater Project

Balancing Economics …
(Flood Control Benefits with a 14,000 cfs Pump)

…with the Environment!
(Environmental Benefits with Supplemental Low Flow Groundwater Wells and Reforestation)

A Balanced Project that is good for People, Trees, Wildlife & Fish!
1927 MS River Flood - 16.6M acres flooded, 700,000 people displaced, 162,000 Homes flooded.

1941 FCA - Arkansas abandons the Eudora Floodway & MS realizes this will flood the MS South Delta. Congress authorizes the YBW Project – Drainage Structures, Backwater Levees & Pumps.

1973 Backwater Flood - 630,000 acres flooded in the MS South Delta.

1928 FCA - Congress passes the 1st comprehensive Flood Control Project. The “MR&T Project” consists of Levees, Floodways & Cut-offs.

1960’s - The Corps starts constructing the Drainage Structures & Backwater Levees.

1978 - The Drainage Structures and Yazoo Backwater Levees are completed.

1986 - The Corps starts building the YBW Pump Project - 17,500 cfs Pump turned on at 80’. However the 1986 WRDA places cost-sharing on YBW Project. Project stops.

2007 - Corps releases the 2007 YBW Project – 14,000 cfs Pump turned on at 87’.

1996 - 1996 WRDA removes the cost-sharing on YBW Project.

2008 - EPA vetoes the Yazoo Backwater Pumps located in Issaquena Co., MS.

2020 - Corps completes the NEPA environmental documentation.

2021 – Record of Decision (ROD) is signed January 15, 2021.

2019 Backwater Flood - 548,000 acres, 686 homes and 3 Highways flooded; 2 people died, wildlife, trees & the environment decimated. Corps & EPA work together to develop a new YBW Project with Pumps in Warren Co., MS.
HISTORICAL BACKWATER EVENTS
Since 1978

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Flood Level</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>(May 15)</td>
<td>101.5’</td>
<td>&gt;630,000 acres</td>
</tr>
<tr>
<td>2019</td>
<td>(May 23)</td>
<td>98.2</td>
<td>548,000 acres</td>
</tr>
<tr>
<td>2020</td>
<td>(April 23)</td>
<td>96.9’</td>
<td>500,000 acres</td>
</tr>
<tr>
<td>1979</td>
<td>(May 4)</td>
<td>96.5’</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>(June 7)</td>
<td>95.8’</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>(Mar 25)</td>
<td>95.2’</td>
<td>444,000 acres</td>
</tr>
<tr>
<td>2009</td>
<td>(June 4)</td>
<td>93.7’</td>
<td>394,000 acres</td>
</tr>
<tr>
<td>1997</td>
<td>(April 8)</td>
<td>93.3’</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>(May 6)</td>
<td>92.5’</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>(May 7)</td>
<td>92.2’</td>
<td>344,000 acres</td>
</tr>
<tr>
<td>2016</td>
<td>(Mar 21)</td>
<td>92.0’</td>
<td>337,000 acres</td>
</tr>
<tr>
<td>1984</td>
<td>(May 29)</td>
<td>92.0’</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>(April 15)</td>
<td>91.8’</td>
<td>331,000 acres</td>
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</table>
2019 Backwater Flood - 686 Homes Flooded
South of Valley Park, MS
Backwater at 97.2’ on March 29, 2019

2019 Backwater Flood – Ag Damages
231,000 acres of Crop Land Flooded
0 acres planted in the MS South Delta!

2019 Backwater Flood – Timber Damage
317,000 acres of Trees Flooded
Lost all small tree regeneration!
Tara Wildlife Executive Director Gilbert Rose - “60% to 80% of the deer Tara Wildlife had before the 2019 Backwater Flood have not returned to the area. The deer that are there are noticeably smaller, skinnier and their antler development is way behind schedule. We estimate it will take 5 years to rebuild the deer herd.” Tara canceled their 2019-20 deer season.

Raccoons ate all the Turkey Eggs, Alligator Eggs & Turtles Eggs.
On June 13, 2019 LaTamela Taylor (13 weeks pregnant) and Darron Wilson drowned when their car slipped off in the Backwater near Holly Bluff, MS. Their car was found 10' underwater. These 2 people died because of the EPA decision to veto the Pumps in 2008.
Yazoo Backwater Area – MS South Delta - Issaquena & Sharkey County, MS

- **71%** of the population is minority.
- **30%** of the population lives below the poverty line.
- Flooding has caused undue hardships and economic losses to these residents.
- The Corps has concluded that the Proposed Plan will benefit low-income and minority populations in the Study Area.
- The vast majority of homes in these communities would be protected from flooding.
- Highways and roads throughout these communities will be protected from flooding.
- These communities would benefit from reduced damage to agriculture crops.
- Improvements in resources for subsistence fishing & hunting for these residents.
- The “no action” alternative would continue temporary displacement of these communities because minority and low-income residents would remain vulnerable to flooding.

If the Yazoo Backwater Pumps are built – they will help the minority and impoverished communities!
Pump Support – National Level

MS House of Representatives
Passes a Resolution of Support for the Pumps
January 29, 2020
VOTE 121-1

MS Senate
Passes a Resolution of Support for the Pumps
February 18, 2020
VOTE 51-0

Pump Support – Mississippi Level

American Farm Bureau Federation
Wrote a letter of Support for the Pumps
June 5, 2019

The Nature Conservancy
Wrote a letter of Support for the Pumps
August 2, 2019

MS Department of Wildlife, Fisheries & Parks
Passes a Resolution of Support for the Pumps
June 19, 2019

Pump Support – National Level

MS Forestry Commission
Wrote a letter of Support for the Pumps
July 29, 2019

Pump Support – National Level

We are fully supportive of the new Yazoo backwater pump project”- Ashlee Smith, CEO, Mississippi Wildlife Federation

MS Forestry Commission
Passes a Resolution of Support for the Pumps
March 10, 2020
## YAZOO BACKWATER PUMP PROJECT

March 9, 2021

<table>
<thead>
<tr>
<th>Observed Elevation</th>
<th>W/Project Elevation</th>
<th>Total Acres Flooded</th>
<th>Crop Land Flooded</th>
<th>Ag Damages Prevented by Pump</th>
<th>USDA Crop Insurance Payments</th>
<th>Total Crop Value (Not Produced)</th>
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<tbody>
<tr>
<td>Pump On</td>
<td>87.0</td>
<td>203,000</td>
<td>37,000</td>
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<td></td>
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<tr>
<td>May 2008</td>
<td>92.2</td>
<td>87.0</td>
<td>344,000</td>
<td>103,000</td>
<td>$61,372,000</td>
<td>$15,585,556</td>
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<td>June 2009</td>
<td>93.7</td>
<td>89.8</td>
<td>394,000</td>
<td>133,000</td>
<td>$62,431,000</td>
<td>$41,594,564</td>
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<td>June 2011</td>
<td>90.0</td>
<td>87.0</td>
<td>280,000</td>
<td>71,000</td>
<td>$33,041,000</td>
<td>$62,622,590</td>
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<td>May 2013</td>
<td>90.9</td>
<td>87.0</td>
<td>304,000</td>
<td>82,000</td>
<td>$42,081,000</td>
<td>$19,262,626</td>
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<td>April 2015</td>
<td>90.7</td>
<td>87.5</td>
<td>299,000</td>
<td>80,000</td>
<td>$35,293,000</td>
<td>$22,710,060</td>
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<td>January 2016</td>
<td>91.4</td>
<td>88.1</td>
<td>319,000</td>
<td>89,000</td>
<td>$21,581,000</td>
<td>$28,571,269</td>
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<tr>
<td>May 2017</td>
<td>88.5</td>
<td>87.0</td>
<td>241,000</td>
<td>52,000</td>
<td>$14,156,000</td>
<td>$15,491,464</td>
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<td>March 2018</td>
<td>95.1</td>
<td>92.7</td>
<td>440,000</td>
<td>162,000</td>
<td>$25,565,000</td>
<td>$14,957,491</td>
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<tr>
<td>May 2019</td>
<td>98.2</td>
<td>95.1</td>
<td>548,000</td>
<td>231,000</td>
<td>$57,268,000</td>
<td>$84,366,779</td>
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<tr>
<td>April 2020</td>
<td>96.8</td>
<td>93.9</td>
<td>496,000</td>
<td>200,000</td>
<td>$53,240,000</td>
<td>$46,571,931</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$146,838,548</td>
</tr>
</tbody>
</table>

**Benefits** - Total Ag Damages Prevented w/ Pumps in place 2008-20:
- $406,028,000

**Benefits** - USDA Crop Insurance Payments 2008-20:
- $351,734,330

**Benefits** - Total Crop Value (Not Produced) 2019-20:
- $324,491,770

**Total Benefits - 2008-2020**:
- $1,082,254,100

**Total Costs - YBW Project (Pumps, Well Fields & Mitigation)**
- ($400,000,000)

**Total Benefit ($1.080M) minus Project Cost ($400M)**
- $682,254,100
Yazoo Backwater Pumps

Had the Pumps been in place the Backwater would have crested at 95.2' instead of 98.2' (3.0' lower crest). At 95.2' 444,000 total acres would be flooded instead of 548,000 acres (104,000 less acres flooded). At 95.2' there are 164,000 acres of Crop Land flooded (67,000 less acres of Crop Land flooded). At 95.2' no homes would have flooded and no highways would have overtopped.
Corps Modified Yazoo Backwater Project  
As submitted to EPA on December 20, 2019

Proposed Project will provide net gains in every environmental resource category (wetlands, terrestrial, aquatic & waterfowl)

**ECO-SYSTEM RESTORATION IN FALL**

New Well Fields along the levee to pump water into MS Delta Streams during the low-water season in the Fall to provide critical habitat for fisheries, aquatics, mussels, wildlife & the environment.

**FLOOD CONTROL IN SPRING**

New location for Pumps in Warren Co. at Deer Creek

New Wetland data showing that 87% of the Wetlands in the YBW Area are sustained by Annual Precipitation – not sustained by backwater flooding

New 40 Year P.O.R. – 1978-2019

New LIDAR elevation data

Original location for Pumps in Issaquena Co. at Steele Bayou

Corps meeting with EPA January 15, 2020
ENVIRONMENTAL ENHANCEMENTS & IMPROVEMENTS

1. Construct 34 new Supplemental Low Flow Groundwater Wells along the levee to pump water into MS Delta Streams during the low-water season in the Fall to improve habitat for fisheries, aquatics & mussels. This will also help recharge the groundwater aquifer.

2. Net gain in all environmental resource categories (wetlands, terrestrial, aquatic & waterfowl) with the Proposed Plan.

3. New data shows that 87% of Wetlands in the area are sustained by rainfall – therefore pumping high water doesn’t destroy Wetlands.

4. Pumps will use natural gas instead of diesel, reducing the carbon footprint.

5. Pumps will remove significant acres out of the flood providing habitat for wildlife to survive during backwater floods.

6. Pumps will reduce flood duration, minimizing adverse impacts to fisheries of Dissolved Oxygen (DO) in standing warm water and Methyl Mercury levels that occur with standing water.

Drainage Basin
To Pumps
4,093 Sq. Miles
2.62M Acres
140 miles long x 50 miles wide

Original location for Pumps in Issaquena Co. at Steele Bayou

Greenville, MS
Sunflower Basin 82%
Steele Bayou 18%
Drainage Basin

Legend

□ Drainage Basin

/ Levee

Clarksdale, MS
Greenwood, MS

(34) new Supplemental Low Flow Groundwater Wells along the levee.
**2020 Yazoo Backwater Project**

**List of Accomplishments**

**NON-STRUCTURAL COMPONENT - REFORESTATION**
Will offer a Reforestation Easement on 2,700 acres of ag land located below 87’.
1. Removes all developed land under 87’ preventing future damages.
2. Provides additional reforestation above compensatory mitigation.

**COMPENSATORY MITIGATION**
1. Acquire 2,405 acres of existing low-lying ag land to reforest to offset any unavoidable losses due to the Pump.
2. Incorporate a Monitoring and Adaptive Management Plan to be able to make sure the project meets environmental, social, and economic goals.

**Drainage Basin To Pumps**
- 4,093 Sq. Miles
- 2.62M Acres
- 140 miles long x 50 miles wide

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**Original location for Pumps in Issaquena Co. at Steele Bayou**

**Deer Creek Ridge**

**Sunflower Basin 82%**

**Steele Bayou 18%**

**Greenville, MS**

**Greenwood, MS**

**Clarksdale, MS**

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**Legend**
- Drainage Basin
- Levee
2020 Yazoo Backwater Project
List of Accomplishments

STRUCTURAL COMPONENT - PUMP
14,000 cfs Pumping Plant at Deer Creek will turn on at 87’ to reduce height and duration of backwater floods.
1. Lowers the 100-Year Flood to 95.2’
   (matches the 2018 Backwater Flood).
2. Lowers the 200-Year Flood to 96.2’.
3. Lowers the 500-Year Flood to 97.5’.
   (lower than the 2019 Flood of 98.2’).
4. The Base Flood Elevation (BFE), which is the 100-Year Flood, is lowered 5.1’ from the current BFE of 100.3’ to 95.2’.
5. This 5.1’ reduction removes all homes out of the BFE and will significantly lower Flood Insurance Premiums.
6. This 5.1’ reduction removes 148,000 acres of ag land out of the BFE.
7. At 95.2’ no homes will be flooded.
8. At 95.2’ there will be no highways flooded.
9. 95.2’ will eliminate the access and flooding issues for the heavily populated Eagle Lake.
10. 95.2’ will prevent overtopping of the Muddy Bayou Structure – protects Fish & Property.
11. New Pump location at Deer Creek will capture water coming out of the larger Sunflower Basin before it inundates the smaller Steele Bayou Basin – thereby slightly reducing flood levels. Eliminates the need to construct a new Hwy 465 Bridge.
### Summary Comparison of the 2007 vs. 2020 Yazoo Backwater Projects

<table>
<thead>
<tr>
<th>Category</th>
<th>2007 Recommended Plan</th>
<th>2020 Recommended Plan</th>
<th>Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stream enhancement</td>
<td>None</td>
<td>34 wells to add water in low flow periods</td>
<td>Enhances aquatic resources, fish, mussels</td>
</tr>
<tr>
<td>Adaptive Management plan</td>
<td>None</td>
<td>Monitoring provides information for changes if needed</td>
<td>Focused on further minimizing possible adverse environment impacts if necessary</td>
</tr>
<tr>
<td><strong>New Information</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10 Additional years of flooding</td>
<td>Not available</td>
<td>Flooded 9 out of 10 years; catastrophic 2019 flood</td>
<td>New information on flood frequency, duration and damages, supporting need for Project</td>
</tr>
<tr>
<td>Mapping upgrades; higher resolution</td>
<td>30-meter LiDAR</td>
<td>10-meter LiDAR</td>
<td>Increased accuracy of land and wetland delineations</td>
</tr>
<tr>
<td>New wetland data</td>
<td>Broad assumptions overestimated potential wetland impacts</td>
<td>Accurate wetlands data shows wetlands sustained by rainfall not floods</td>
<td>More accurate assessment of impacts of project. Wetlands (sustained by rainfall and groundwater) see fewer adverse impacts from flood water removal</td>
</tr>
<tr>
<td>Wildlife damage from flooding</td>
<td>Assumed flooding benefit to habitat</td>
<td>Data shows flood damage to fish &amp; wildlife habitat</td>
<td>Clarifies how fish and wildlife benefit from removing flood water &amp; reducing flood duration</td>
</tr>
<tr>
<td><strong>Design changes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Location</td>
<td>Steele Bayou</td>
<td>Deer Creek</td>
<td>Minimizes construction impacts. No new Hwy 465 Bridge needed. Slight Flood Reduction.</td>
</tr>
<tr>
<td>Pump fuel</td>
<td>Diesel</td>
<td>Natural gas</td>
<td>Minimizes emissions, carbon footprint</td>
</tr>
<tr>
<td>Low Flow management</td>
<td>Operation of the Steele Bayou water control structure to maintain water elevations between 70.0 and 73.0 feet, NGVD, during low water periods</td>
<td>Will maintain the current operation of the Steele Bayou water control structure by maintaining water levels between 68.5 and 70.0 feet, NGVD, during low flow periods</td>
<td>Provision of water during low flow periods is better met by 34 wells upstream than by retaining water downstream. Provides enhanced environmental benefit. Observations during recent Backwater Floods prove that stagnant pooled water creates low Dissolved Oxygen (DO) levels and also increases Methyl Mercury levels which kill fish.</td>
</tr>
</tbody>
</table>

**Photos taken in May 2019**
Work in 2021 (FY 2021)

On March 9, 2021 the Vicksburg District Corps officially received the $9.2M for the YBW Project. The Vicksburg District has started the Pre-Construction Engineering & Design for the Yazoo Backwater Project. They are collaborating directly with the USF&WS and the USFS on Pondberry and wetland monitoring & adaptive management. They are also implementing work on cultural resources for the pump site and the well sites along with the Heritage Study that was agreed to in the Programmatic Agreement (PA) with the State Historical Preservation Officer (SHPO).

They will be looking to acquire the right-of-way needed for the Pump site later this year. The Corps also has initiated discussions with MDEQ on acquiring a State Water Quality Certificate.
Yazoo Backwater Project Lawsuits

Lawsuit #1 American Rivers vs. EPA
Announced on January 12, 2021 – Filed officially on March 1, 2021. American Rivers is suing the EPA because EPA is letting the Pumps move forward. They are upset with EPA Region 4 Administrator Mary Walker’s November 30, 2020 letter to the Corps stating that “EPA has determined that the proposed project is not subject to EPA’s 2008 Final Determination.” They believe the new Project is still dead under the 2008 EPA Veto.

Lawsuit #2 American Rivers vs. Corps & USF&WS
Filed on April 14, 2021 – American Rivers is suing the Corps & USF&WS because they didn’t go into formal consultation over the endangered Pondberry Plant. It’s hard to believe this – especially since the Pondberry has been decimated by continuous flooding over the past few years! Pondberry doesn’t survive when submerged under water for months at a time! The Pondberry needs the Pumps to be able to survive!

Future Lawsuit # 3 American Rivers vs. MDEQ
As soon as MDEQ issues the Corps a State Water Quality Certificate - these same extremists will sue MDEQ issuing the Corps a Permit.

The Mississippi Levee Board has hired a Washington DC Lawfirm and has intervened on behalf of the EPA in their lawsuit. The Mississippi Levee Board will intervene on behalf of the Corps, USF&WS and MDEQ.
The Mississippi Levee Board: Proud to Serve the Delta

Please visit our website for additional information.

www.msleveeboard.com

Questions???

#ForgottenBackwaterFlood
#FinishThePumps

www.finishthepumps.com