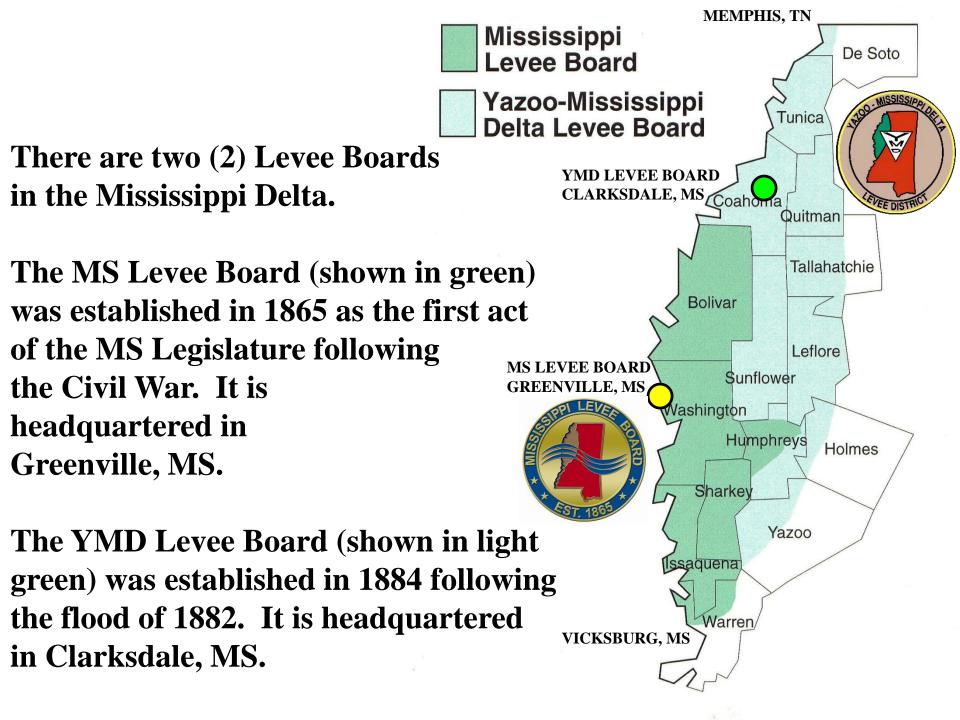
2019 MSU Extension Row Crop Short Course Overview of the 2019 Backwater Flood & the Yazoo Backwater Project





www.msleveeboard.com

December 3, 2019



2019 Backwater Flood

Why this happened:

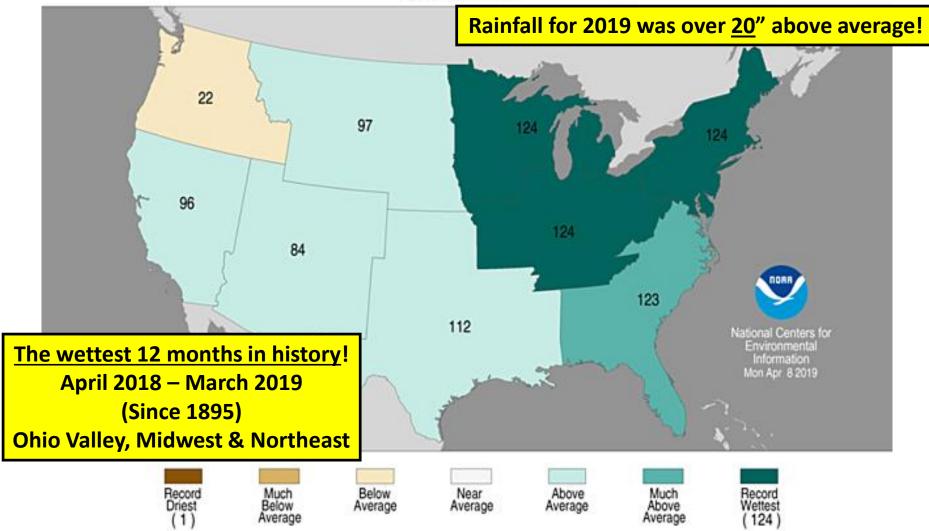
Historic Rainfall in MS River Valley Historic long duration MS River Flooding Historic 2019 Backwater Flood:

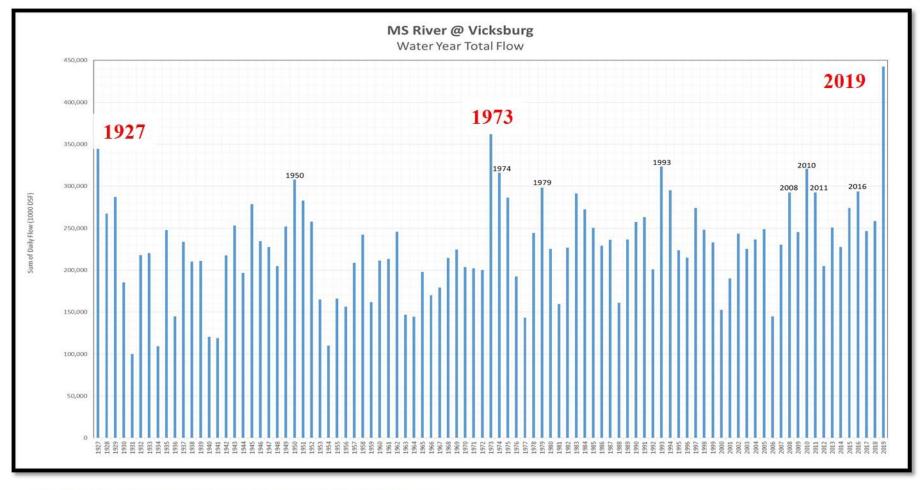
548,000 acres Flooded 231,000 acres of Crop Land Flooded 686 Homes Flooded **3 Highways Flooded** 2 People died **Economic Devastation Environmental Devastation The Solution – Finish the Pumps YBW Project – Accomplishments of the Balanced Project EPA Veto in 2008 Backwater Floods since the 2008 EPA Veto Recent changes in EPA Leadership Corps & EPA working together to find a solution**

Regional Precipitation Ranks

April 2018-March 2019

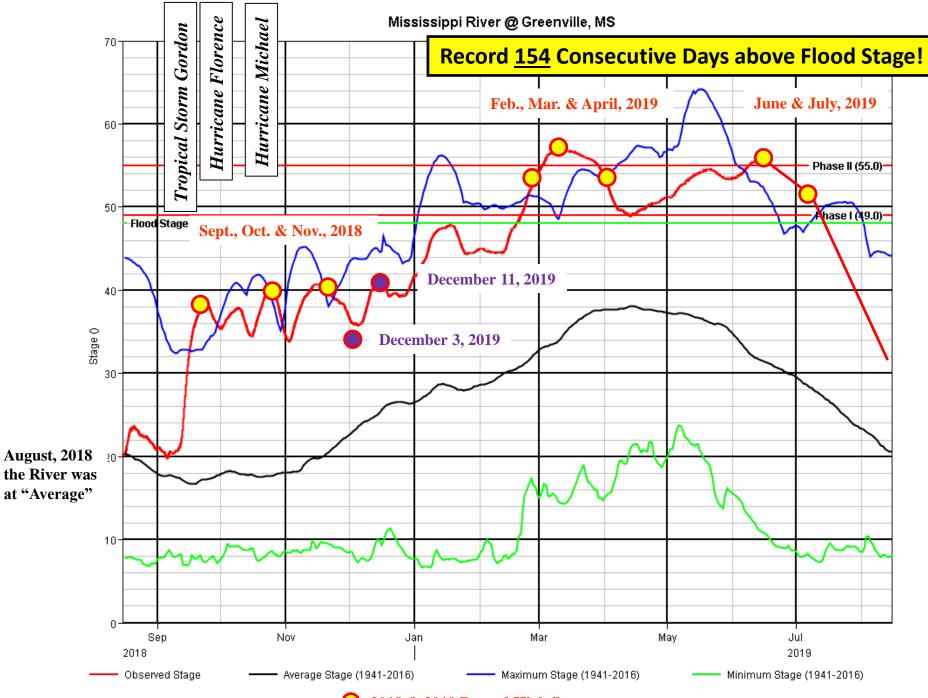
Period: 1895-2019





2019 RECORD SET ON THE MISSISSIPPI RIVER

Record Precipitation - from April 2018 until March 2019 - record precipitation for any 12 month period since 1895.
Cairo - a record 156 consecutive days above Flood Stage breaking the 1973 record of 97 days.
Greenville - a record 154 consecutive days above Flood Stage breaking the 1927 record of 115 days.
Natchez - a record 215 consecutive days above Flood Stage breaking the 1973 record of 90 days.
Red River Landing - a record 227 consecutive days above Flood Stage breaking the 1927 record of 152 days.
Baton Rouge - a record 212 consecutive days above Flood Stage breaking the 1927 record of 135 days.
Bonnet Carre Spillway - first time ever that it opened twice in one year.



2018 & 2019 Record High Stages

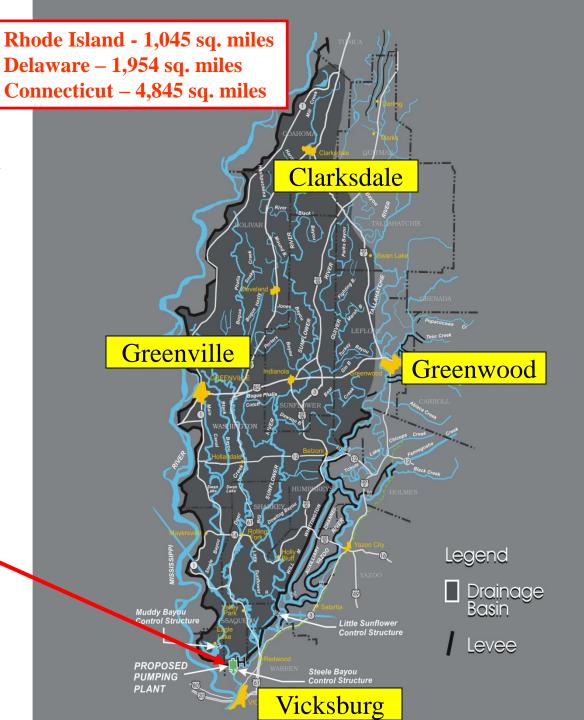
Drainage Basin to the Steele Bayou Structure

All the rainfall in the MS Delta shown on this map must exit through the Steele Bayou Structure to enter into the Yazoo River to the MS River.

4,093 square miles (2.62 Million Acres)



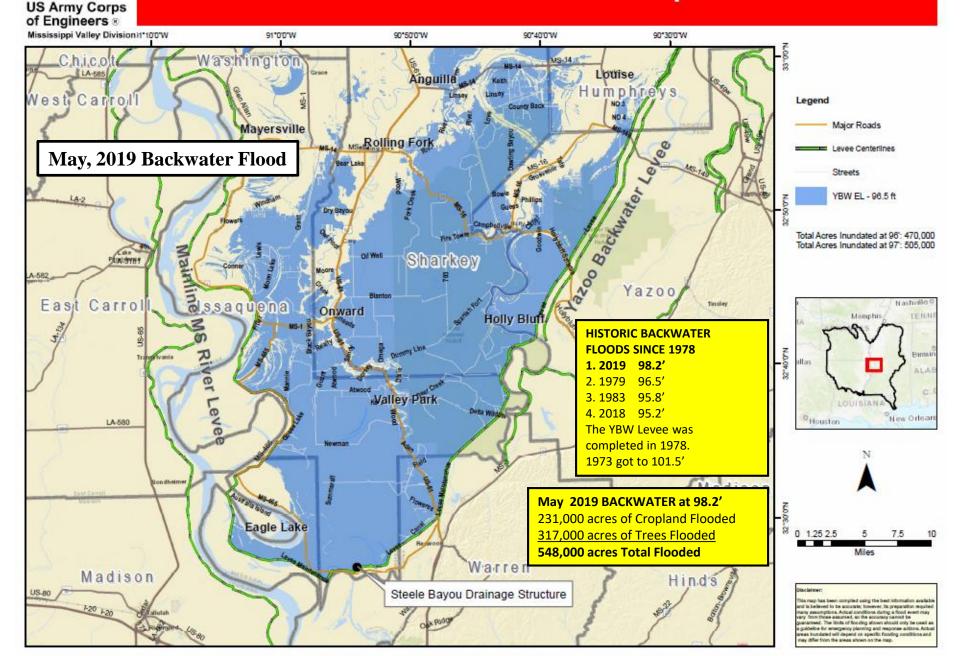
Steele Bayou Drainage Structure





Yazoo Backwater Area Inundation Map

28 FEB 2019 FOR OFFICIAL USE ONLY





Floweree, MS Backwater at 96.8' on March 19, 2019

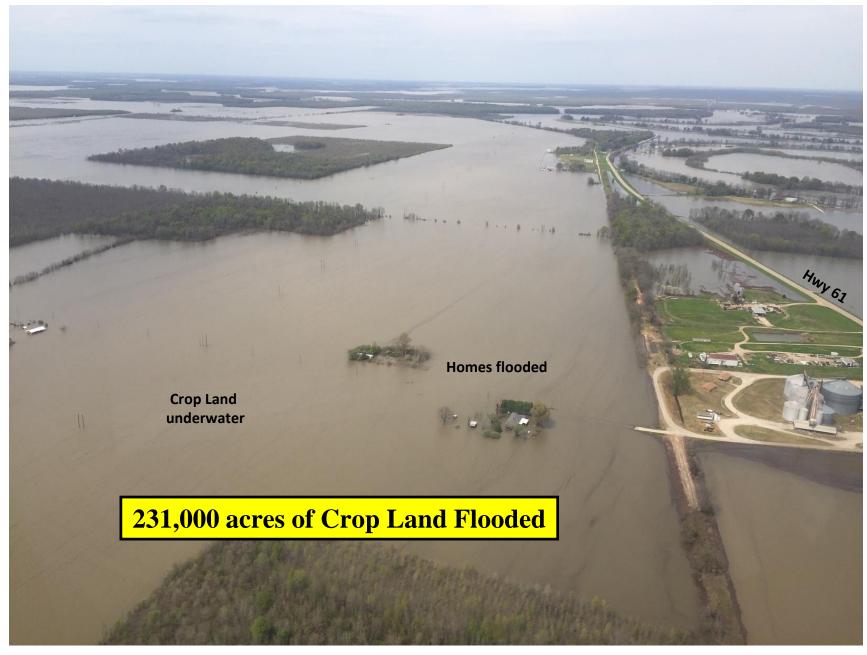








Hwy 61 – Hardee, MS Backwater at 96.8' on March 19, 2019



South of Valley Park, MS Backwater at 97.2' on March 29, 2019



Eagle Lake, MS Backwater at 97.0' on March 22, 2019



Eagle Lake, MS Backwater at 98.0' on May 19, 2019



May 20, 2019 Backwater at 98.0' Eagle Lake at 97.2'



Eagle Lake, MS

May 21, 2019 – Backwater at 98.0' Eagle Lake at 98.0'









Eagle Lake, MS Backwater at 98.0' on May 21, 2019

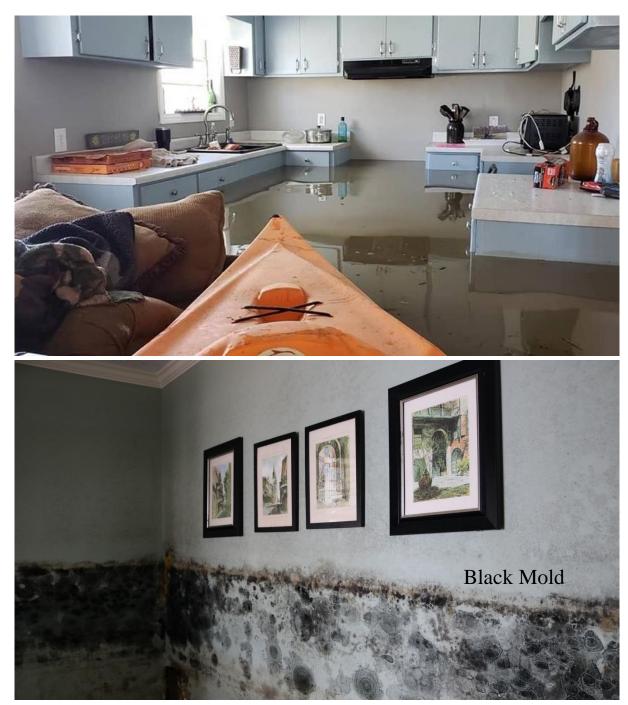


Eagle Lake, MS Backwater at 98.2' on May 24, 2019



Home flooded on Eagle Lake







Interior of Homes flooded by Backwater



Clean-up Process for the Interior of Homes flooded by Backwater





Cemeteries flooded by Backwater



FLOATING CASKET REMOVED FROM FLOODWATER July 2019



Deer Population seeking higher ground



Deer Population Worn-out by the long duration Backwater Flood



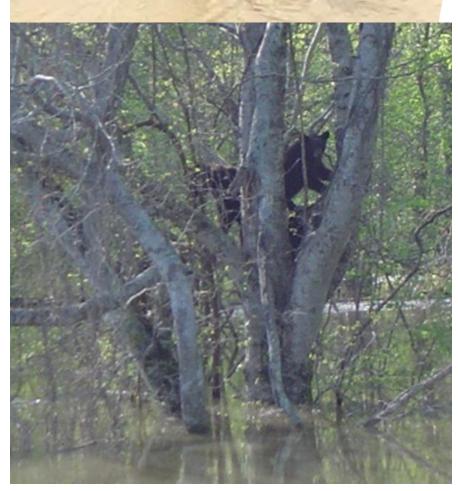




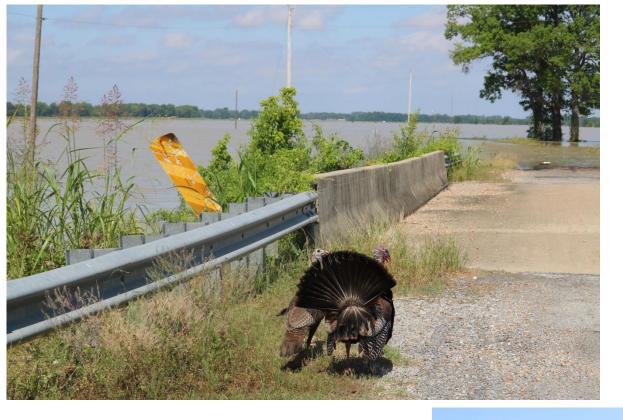
503 Dead Deer on the Levee



Rabbit stranded on a log Small animal population Decimated by the long duration Backwater Flood BEAR KILLED BY AN AUTOMOBILE WHILE ECSAPING THE FLOODWATER



Bears stranded in a tree



Turkeys seeking higher ground Turkey population Decimated by the long duration Backwater Flood









Lost all small tree regeneration on 317,000 acres of Woods.

DAMAGED AND DYING CRP TREES











)eer Creek Pilot

Guiding the South Delta for 142 years

June 20, 2019

Volume 143 Number 24

Rolling Fork, MS

\$1.00

Floodwaters prove deadly to local couple

HOLLY BLUFF- The news they would get Many in the South Del- would be devastating. According to Yazoo ta are mourning the loss of a young mother this week County Coroner Ricky after she and her boyfriend Shivers, an area farmer diswere found in floodwaters covered two bodies floating about a half-mile from this

small Yazoo County community last Saturday afternoon, while another Issaquena County woman is thankful her encounter with floodwaters had a much less



LaTamela Taylor

in floodwaters along Satartia Road around 5 p.m. Saturday. "He saw skid marks and looked over and saw the bodies." Shivers said.

Dorren Wilson

old Dorren Wilson of Vicks- Volunteer Fire Chief Glen burg, left her brother's Reams said. "I was the first ing Fork last Thursday night knew it was them." about 11:30 p.m. in her 2008 key County Sheriff Lindsey ams positively identified the escape the sinking car. Adams.

Taylor was reported miss- his department. ing, and by early Saturday morning, her friends and team recovered the car in car at 2:32 a.m. Friday. The ville resident Angela Stubbs family had taken to Face- what Adams said was much video shows the car travel- found herself in floodwabook pleading for help in more than 10 feet of wa- ling at a high rate of speed ters just off Highway 1 in Isfinding the missing couple. ter. The driver's side win- before spinning and sliding saquena County.

house in Vicksburg for Roll- one on the scene ... I just dow was down, according backwards into the floodwa-Reams said he helped was really no way to know couldn't make out what hap- er Brenda Peterson, Stubbs lor was 13-weeks pregnant Mazda, according to Shar- recover the bodies, and Ad- whether the couple tried to pened after the car sank.

young woman who was emeras on a nearby farm shop

By Friday morning, ployed as a dispatcher with Monday that security cam- disoriented," Adams said. At almost the same time A Yazoo County dive captured video of Taylor's and a county away, Mayers-

self and get to safety before

said she encountered deer on when she died, had not reto miss the animals and ran medical examiner's office as off the road and in to stand- of Monday afternoon. ing water.

Shivers, who said Tay-

A graduate of South The only occupant in Delta High School, Taylor her 2015 Chevy Impala, lived in Rolling Fork with Stubbs was able to free her- her young son.

On June 13, 2019 LaTamela Taylor (13 weeks pregnant) and Darron Wilson drown 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.

-Image courtesy of David Battaly, MEMA

tragic ending. "I heard it on the ra- Aerial drone images of Holly Bluff Road at the Big Sunflower bridge from May 30 shows just a small part of the more than LaTamela Taylor, 29, dio and responded since it 500,000 acres still inundated with floodwaters mid-June. With less than predicted rainfall and an equalization of the water on and her boyfriend, 34-year- was so close," Holly Bluff both sides of the Steele Bayou Draining Structure, the U.S. Army Corps of Engineers announced Wednesday morning that did Dearm Withers of Wellaws of Views and the Steele Bayou Draining Structure, the U.S. Army Corps of Engineers announced Wednesday morning that did Dearm Withers of Views and the Steele Bayou Draining Structure, the U.S. Army Corps of Engineers announced Wednesday morning that the structure's gates would be opened sometime during the day. According to that sher- calling 911. to Shivers, who said there ter. Shivers said the camera iff department's dispatch-

"I just believe they the road around 3 a.m. Fri- ceived reports from autop-Shivers also confirmed made a wrong turn and got day morning. She swerved sies performed at the state



Aerial Photos taken March 29, 2019

Mainline Levee in Louisiana Versus Mainline Levee in Mississippi

Louisiana – Dry Crop Land

<u>Question:</u> Why is MS flooding and LA not?

<u>Answer:</u> Louisiana has Pumps! Mississippi does not have a Pump!! Mississippi River

Mississippi

Near Eagle Lake, MS Crop Land at elevation 94' Underwater Backwater at 97.2'

Mississippi – Crop Land underwater



Eagle Lake, MS - Public Meeting – February 23, 2019



Valley Park, MS- Public Meeting – March 7, 2019



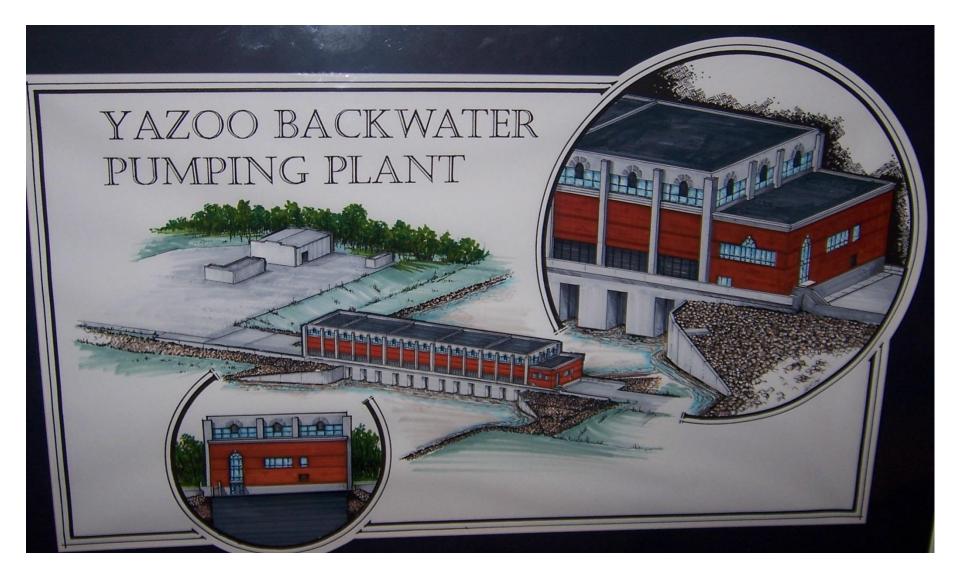
Holly Bluff, MS- Public Meeting – March 12, 2019



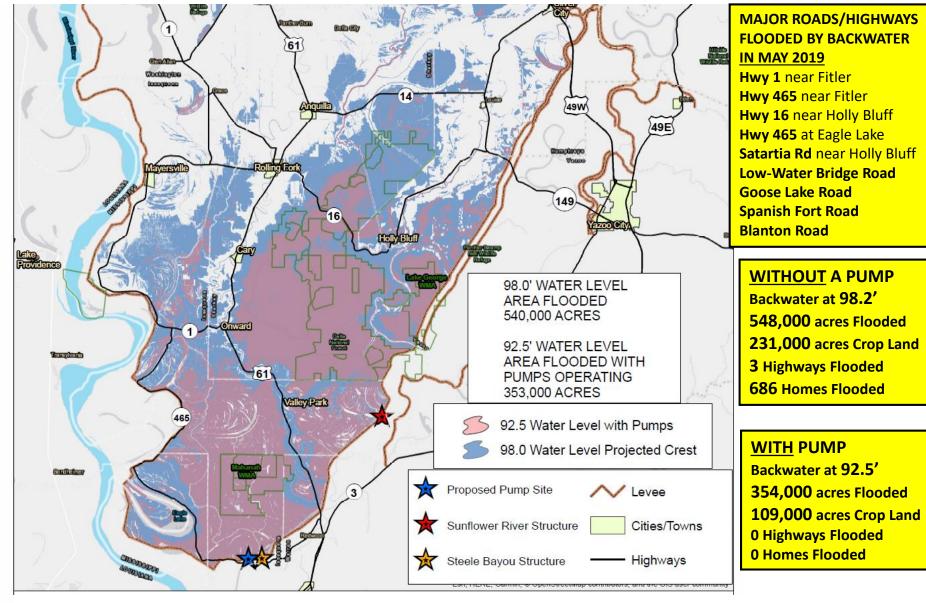
Rolling Fork, MS- Public Meeting – March 18, 2019

Public Meetings in Backwater Area

What is the Solution to stop Backwater Flooding?



Finish building the Yazoo Backwater Pumps!



Yazoo Backwater Pumps

Had the Pumps been in place the Backwater would have crested at **92.5'** instead of 98.2' (<u>5.7' lower crest</u>). At 92.5' **354,000 total acres** would be flooded instead of 548,000 acres (<u>194,000 less acres flooded</u>). At 92.5' there are **109,000 acres** of Crop Land flooded (<u>122,000 less acres of Crop Land flooded</u>). At 92.5' <u>no</u> homes would have flooded and <u>no</u> highways would have overtopped.

The Yazoo Backwater Project



Balancing Economics ...

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



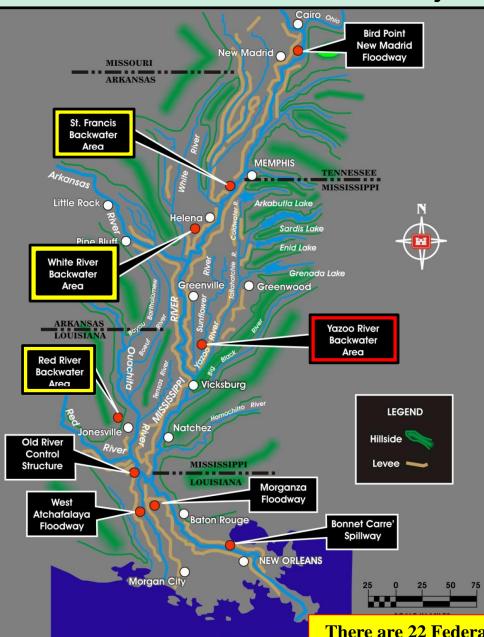


...with the Environment!

(Environmental Benefits with the Reforestation of up to 55,600 acres)

A Balanced Project that is good for People, Trees, Wildlife & Fish!

Backwater Areas of the MR&T Project



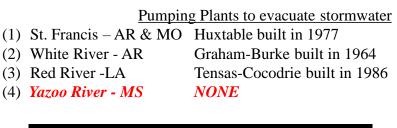
There are 4 Backwater Areas along the MS River

These Backwater Levees have Drainage Structures to allow

water to pass through the levee during lowwater and they can be shut during high water times to keep the MS River from backing into the basin.

During high water times when the gates are closed – any rainfall that occurs in the basin gets backed up behind the closed gates. A pump is required to remove the rainwater.

3 Backwater Areas have an adequate pump in place. Unfortunately the Yazoo Backwater Area does not have a pump in place!





There are 22 Federally Funded Pumping Plants within a 200 mile radius of the YBW Pump Site that are in operation today!

YAZ	OO BACKWATER PRO	DJECT		
	COMPROMISES			
a training and the second	BY THE RESIDENTS O			
The second second	THE SOUTH DELTA	and a second		
	Original Project (1982)	Recommended Plan (2007)		
Pump Capacity	17,500 cfs	14,000 cfs		
1 martine of	(25,000 cfs NED Plan)	¹ / ₂ the Pumping Capacity		
On/Off (elevation)	80'	87'		
	COMPLETA.	(1 year flood plain)		
Acres Flooded when	19,400 acres	216,200 acres		
Pumps turn on	Sally Constants of the second	11x more Flooding		
Reforested Land	Fee purchase Mitigation of	Reforestation Easements		
	6,500 acres	of 55,600 acres 9x more Mitigation		
Protecting Local	No	Yes		
County Tax Base	C Notice Contraction			

ACCOMPLISHMENTS OF THE YAZOO BACKWATER PROJECT RECOMMENDED PLAN

ENVIRONMENTAL BENEFITS – Reforestation of 55,600 acres

- 1. 19.2% Increase in Wetlands Resources.
- 2. 11.2% Increase in Terrestrial Resources.
- 3. 34.5% Increase in Aquatic Resources.
- 4. 52.8% Increase in Waterfowl (Duck Habitat) Resources.
- 5. Water Quality will improve with reforestation Reduces Sediment & Nutrients.
- 6. Water Quality will improve by reducing the duration of flooding on the forest land thus reducing the Mercury content in the water.
- 7. Endangered Species LA Black Bear & Pondberry have been addressed, in fact reforestation will provide additional habitat.
- 8. Reforestation Requires no Condemnation Maintains Private Ownership.
- 9. Protects the 1-year Aquatic Habitat.
- **10.** Raises Water Levels during Low-Flow season Irrigation and Fish Benefits.
- 11. Alleviates Forest Fragmentation.
- 12. Improves Recreation Opportunities in Area.
- 13. Provides for Positive Socio-Economic Benefits.

ECONOMIC BENEFITS – 14,000 cfs Pump

- 14. Lowers the 100-year Flood by 4.5'.
- **15. Reduces** Urban and Rural Structural Damages.
- 16. Provides Benefits to remaining Agricultural Lands.
- 17. Duration & Frequency of Floods will be greatly reduced.

The Corps released the YBW Project Final Report in November 2007



The YBW Project achieves both Economic and Environmental Benefits!

EPA attempting to use their veto authority found in Section 404(c) of the CWA

Rolling Fork, Mississippi

February 7, 2008

est argum.

50 Cents

EPA poised to veto pumps

RAY MOSBY Editor

ROLLING FORK-It took the Vicksburg District of the U.S. Army Corps of Engineers seven years and more than 10,000 pieces of paper to produce its reformulated Yazoo Backwater Project report. But now it is being given less than two weeks to show why the Environmental Protection Agency shouldn't veto it.

Perhaps the most controversial single flood control project in the country, the Yazoo Backwater Project, also known as the Yazoo Pumps, has for years drawn the staunch opposition of much of the environmental community. But among its opponents, only the EPA, which has virtually unchecked authority under the Clean Water Act, has the ability to administratively shut it down, And that's exactly what it is now

threatening

In a letter dated Friday to the Corps and the Mississippi Levee Board, which

An exercised Section 404 veto of the oject by EPA would be only the 12th the igency has issued in its history.

The federal agency communicated the numerous wetlands-related misgivings it had about the project following the release of the Corps' preliminary project report in 2000. While project proponents had believed that many of those differences had been resolved through negotiations between the two agencies, EPA remains clearly unconvinced

"EPA is initiating this 404(c) action based on the record to date and our assessment that the project may cause or contribute in significant degradation of the aquatic environment, including impacts to fish and wildlife," Starfield wrote. "We do not believe the potential impacts of the project, as currently proposed, can be adequately mitigated.

EPA continues to maintain that the proposed project would impact aquatic wetlands "on a massive scale," potential-





■ MID-DELTA EPA may veto pump project

Levee Board says it does not understand why EPA would try to stop a project that will provide benefits in the project area

TERRI FERGUSON ferguson@ddtonline.con

GREENVILLE - The Envionmental Protection Agency is taking steps that may stop the long-debated Yazoo Backwater pump project

EPA sent a letter on Friday stating that the agency is initiat-

ing a review that could veto the Backwater Project," Nimrod Yazoo Backwater Project, said. "The board does not underaccording to Peter Nimrod, stand why EPA would try to stop chief engineer of the Mississipa project that will provide benepi Levee Board. The Mississippi Levee Board is extremely disappointed that

fits in every environmental resource in the project area. In fact, with the reforestation of up the Environmental Protection to 55,600 acres of existing agriculture land back into bottom-Agency is considering initiation of a 404(c) veto of the Yazoo land hardwood trees, this pro-

ject will increase wetland functions by 19.3 percent, terrestrial benefits by 11.2 percent, aquatic benefits by 34.5 percent, and waterfowl benefits

by 52.8 percent." EPA has indicated that it is

Nimrod

willing to discuss this matter further with the U.S. Army Corps of Engineers, Nimrod said

"The board hopes that the Corps and EPA will reconvene and work these issues out and EPA will drop their pursuit of a 404(c) veto," Nimrod said. "The board is very concerned that while the project has been made more 'environmentally friendly,' leaving vast acreage and

See PUMP on A7

vould like to send us a letter to the editor, e-mail it to ddtletters@ddtonline.com

FOR THE PUMP PROJECT

We cannot begin to expose the irony of a federal agency called the "environmental protection agency" trying to kill a project that will only enhance the environment in every way if completed.

EPA trying to kill the Yazoo Backwater Project

he Mississippi Levee Board is appalled that after more than a decade of study, coordination and communication among the Environmental Protection Agency and the U.S. Army Corps of Engineers, the Yazoo Backwater Project is about to become the victim of an interagency policy dispute over the future of flood control. The EPA's proposed "veto" of the project, as described in its

February 1, 2008

W YAZOO BACKWATER PROJECT

Tuesday, March 18, 2008

Belta Demorrat Times

comment on pump project

EPA calls for

EPA: The construction and operation of the proposed pumps would degrade the critical functions of wetlands area

TERRI FERGUSON

terriferguson@ddtonline.com

ATLANTA, Ga. - The Environmental Protection Agency is calling for comment from the public about the long-debated Vazoo Backwater Droject

Engineers Civil Works propos-al designed to address flooding concerns affecting 630,000 acres of land between the Mississippi and Yazoo Rivers." according to the EPA statement. "The primary compo-

EP.	<mark>A Veto – Maj</mark>	or Issue # 1 - We	tlands
		se Hydrologic	CARL PARTY AND A DESCRIPTION OF STA
Existing	Wetland Fund	ctional Valves ~ 90	0,000 FCU's
	Acres	Functional Value (FCU's)	Relative Reduction To Functional Value
Total Wetlands Pump Losses	66,945	- 14,188	-1.6%
Reforestation Gains	55,600	+ 186,953	+20.8%
Recommended Plan – Pump & Tree	s	+ 172,765	+19.2%
			The EPA officially Vetoed the YBW Project in August 2008

The Corps assumed all Wetlands are sustained <u>only</u> by Backwater Flooding - they completely <u>ignored</u> annual precipitation.

EPA & Corps Wetland Verification



YAZOO BACKWATER PUMP PROJECT October 1, 2018





Flooded farmers

		Cleared	Acres	res Ag dam		Ag	Forested	Acres	All	Acres
	Elevation	Acres 2/	Benefited	Observed	With Project	Benefits	Acres 3/	Benefited	Acres 4/	Benefited
Pump On	87.0	37,000					45,000		203,000	
May 2008	92.2	98,000	61,000	\$91,081,000	\$34,136,000	\$56,945,000	87,000	42,000	344,000	141,00
June 2009	93.7	133,000	96,000	\$128,724,000	\$35,684,000	\$93,040,000	95,000	50,000	394,000	191,00
June 2011	90.0	71,000	34,000	\$68,725,000	\$35,684,000	\$33,041,000	84,000	39,000	280,000	77,00
May 2013	90.9	82,000	45,000	\$76,217,000	\$34,136,000	\$42,081,000	78,000	33,000	304,000	101,00
April 2015	90.7	80,000	43,000	\$72,444,000	\$33,469,000	\$38,975,000	76,000	31,000	283,000	80,00
January 2016	91.4	89,000	52,000	\$16,158,000	\$6,719,000	\$9,439,000	82,000	37,000	319,000	116,00
March 2016	92.0	99,000	62,000	\$51,528,000	\$19,156,000	\$32,372,000	86,000	41,000	337,000	134,00
May 2017	88.5	52,000	15,000	\$48,292,000	\$34,136,000	\$14,156,000	56,000	11,000	241,000	38,00
	95.2 \$52,700,000 ges Prevented w/ Pumps in place during Backwater Floods 2008-2018 \$372,749,000 ost for the Yazoo Backwater Pump Project (2007 estimate) \$220,000,000							2008 - 20	18	

If the Pumps had been in place in 2008 – the year EPA vetoed the Project – the \$220M Project Cost would have already been re-couped and we would have a net gain of \$152M today!



<u>Good Things Happening in 2017:</u>

Improve the Environmental Protection Agency

Solution – New EPA Leadership reforms the EPA

Senate confirmed Pruitt on February 24, 2017 In 2018 Andrew Wheeler takes Scott Pruitt's place







2.

Reduce Regulations

Solution – Eliminate proposed WOTUS, FFRMS, revised P&G

President Trump signed Executive Orders on Feb. 28, 2017 for WOTUS & Mar. 28, 2017 for FFRMS









3.New Assistant Secretary of the Army for Civil Works (ASACW) Solution – Appoint R.D. James

Jan. 25, 2018 Senate confirms R.D. James as ASACW (89-1 vote)



EPA's Andrew Wheeler & R.D. James ASACW





R.D. James





"This project is of critical import Mississippi. These issues of flood worsened as evidenced by the aft approximately 500,000 acres of t month. The use of water pumps v by lifting excess rainfall runoff fr Mississippi River." $\left[O \right]$

- Congressman Bennie Thomp



Instagram



"The recent devastating floc demonstrated the critical im flood control infrastructure. a commonsense solution to farmers, residents, and prop

- Senator Roger Wicker

\heartsuit \bigcirc \bigtriangledown Monday, August 26, 2019

Liked by benniegthompson and 37 others

sencindyhydesmith Appreciate Maj Gen Mark Toy and @usacehq officials for engaging in meaningful discussions as we continue to press for a resolution to persistent Yazoo Backwater flooding. And thanks to the Lower Mississippi River Museum and Riverfront Interpretive Site for hosting us for our Yazoo Backwater flood talks. They offer a virtual reality demonstration of Eagle Lake flooding.

"Similar flooding has occurred not once, but ten separate times since the EPA in 2008 prohibited the Corps from completing the final aspects of a 78-year-old comprehensive flood control effort...We can all agree that decisions made in 2008 have not only failed to meet the intent with respect to the environment, wildlife and habitat but also placed a tremendous burden on the lives and properties of thousands of Mississippians."

- Senator Cindy Hyde-Smith





Governor Bryant with Assistant Secretary of the Army for Civil Works, R. D. James, this week in Washington

MSEMA @ @MSEMA

Governor @PhilBryantMS and @MSEMA Executive Director Greg Michel met today at the White House with Rear Admiral Fears, Deputy Assistant to The President of the United States, on matters of #HomelandSecurity to discuss Delta Backwater #Flooding.

.@PhilBryantMS and @SenatorWicker calling for

revival of Yazoo pumps project in the face of historic Yazoo Backwater flood. #mswx #msleg

Phil Bryant 🤣 @PhilBryantMS

Agreed. I have had very positive meetings and conversations with the @EPA. They should revisit the 2008 veto of the pumps. We need them now. twitter.com/senatorwicker/...

3/21/19, 9:35 AM

6 Shares

"The Army Corps of Engineers continues to support the installation of the pumps. They believe after seven different reviews and studies, that the pumps would have substantial impact in the flooding in the Mississippi Delta, and we have the total and complete support of the Corps of Engineers, and now that the review is beginning, I am extremely encouraged that the pumps in the Yazoo Backwater area may be installed."

- Governor Phil Bryant



04











Backwater Tour with Gen. Scott Spellmon Corps Headquarters June 4, 2019





Backwater Tours



Significant changes since SEIS in 2007

- Period of record with backwater levee in place is >40 years (1978-2019)
- LIDAR based DEM with 10 meter resolution or less is available
- 7 years of groundwater monitoring well data is available



US Army Corps of Engineers®

Wetland hydrologic sources in the Yazoo Basin Rainfall dominated PRELIMINARY RESULTS: 92% of wetland hydrologic events occurred due to rainfall (w/ or Flood dominated w/o secondary flooding effects) 73% Rainfall maintained wetland 8% hydrology at 87% of study locations 19% CONCLUSION: Most wetlands Rainfall w/ flood would persist in the absence of flooding **Annual Precipitation sustains 92% of the** Wetlands in the Backwater Area – not Backwater Flooding!







Mary Walker – EPA Region IV Administrator

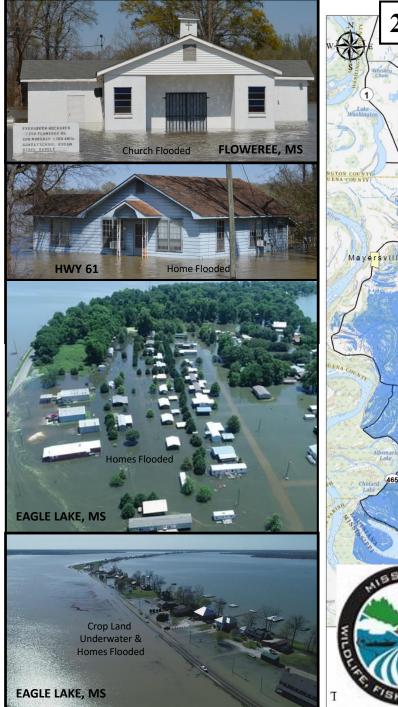


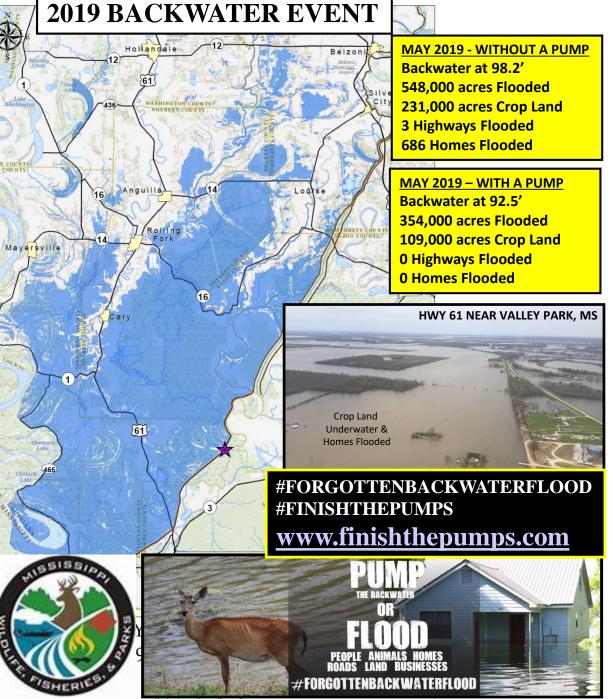
The EPA meet with the Corps on October 22, 2109 to discuss ways to enhance the project to make it more environmentally friendly so they could consider issuing a new permit based on a modified project. The Corps is working on this and will get back with the EPA before Christmas.



October 21, 2019 EPA Listening Session Rolling Fork, MS

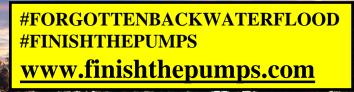






Please visit our web site for additional information. **www.msleveeboard.com**

QUESTIONS???



THE MS LEVEE BOARD: PROUD TO SERVE THE DELTA



