

Lake Providence Watershed Council

A photograph of a flooded area, likely a park or recreational area, with many trees and a wooden structure partially submerged in water. The water is murky and reflects the surrounding environment. The text is overlaid on the lower half of the image.

MANAGING LAKE PROVIDENCE WATERSHED RESOURCES

2022 Update

An Annual Report to the Louisiana Legislature

April 2022

To the Distinguished Members of the House Committee on Natural Resources and Environment and Senate Committee on Environmental Quality of the Louisiana Legislature, and to the People of the Great State of Louisiana

April 29, 2022

Dear Senators and Representatives:

We, the members of the Lake Providence Watershed Council, have completed this Annual report in accordance with House Concurrent Resolution No. 96 of the Regular Session 2020.

Specifically, the Lake Providence Watershed Council provides this update to the watershed management plan submitted to the legislature in April 2021. It is the intent of this Council, interested stakeholders, and all those involved in the project to preserve, protect, and enhance the quality of Lake Providence located in East Carroll Parish - now and for generations to come.

The citizens of Louisiana deserve to have a restored and viable Lake Providence. The lake restoration and revitalization can be accomplished through engineering, education, enticement, as well as, enforcement of existing and new regulations focused on best management practices.

This update report describes the on-going activities and efforts by the Lake Providence Watershed Council, East Carroll Parish Police Jury and local stakeholders, and offers background information, graphs, charts and maps, and further recommendations for your review. We look forward to any further guidance or feedback as we press forward with managing the Lake Providence Watershed Resources Project.

We appreciate the support of the Louisiana Legislature as we move forward with this plan of action.

Sincerely yours,

The Members of the Lake Providence Watershed Council

Lake Providence Watershed Fact Sheet

Lake Providence Watershed:

- East Carroll Parish
- Total area: ~17,000 acres
- Cultivated area: ~11,000 acres (64%)
- Developed area: ~1,600 acres (14%)
- Forested/Other Use area: ~2,700 acres (12%)
- Open water: ~1,700 acres (10%)
- Average Annual Precipitation: ~57 inches

Lake Providence

- Owned by the State of Louisiana
- Oxbow/horseshoe lake – abandoned meander of the Mississippi River
- Area: ~1,380 acres (3,200 acres with associated wetlands)
- Shoreline (including the Chute): ~74,000 feet (14 miles)
- Developed shoreline: ~46,000 feet (9 miles)
- Pool stage: ~90 feet above mean sea level (NGVD)
- Maximum depth: ~37 feet
- Average depth: ~12 feet
- Primary Outfall - Tensas Bayou spillway
- Secondary Outfall - Baxter Bayou Structure

Sources: LDWF, LDNR, LDOTD, NRCS

Members of the Lake Providence Watershed Council

(1) Kevin Wofford

Designee of the Commissioner of the Louisiana Department of Agriculture and Forestry
P.O. Box 631, 5825 Florida Blvd.
Baton Rouge, LA 70821-0631
Phone: (225) 925-3763/Email: kevin_w@ldaf.state.la.us

(2) Amanda Vincent

Designee of the Secretary of the Louisiana Department of Environmental Quality
P.O. Box 4314
Baton Rouge, LA 70821-4314
Phone: (225) 219-3188/Email: amanda.vincent@la.gov

(3) Tyler Lollis

Designee of the Secretary of the Louisiana Department of Health
1525 Fairfield Avenue, Room 569
Shreveport, LA 71101
Phone: (318) 361-7210/Email: Tyler.Lollis@la.gov

(4) Thomas Van Biersel, Vice Chairperson

Designee of the Secretary of the Louisiana Department of Natural Resources
P.O. Box 44487, 617 North Third Street
Baton Rouge, Louisiana 70804-4487
Phone: (225) 342-1813/Email: thomas.vanbiersel@la.gov

(5) Kristi Butler, Chairperson

Designee of the Secretary of the Louisiana Department of Wildlife & Fisheries
P.O. Box 98000, 2000 Quail Drive
Baton Rouge, LA 70898
Phone: (225) 765-2331/Email: kbutler@wlf.la.gov

(6) Katrina Jackson

Senator – District 34
4106 DeSiard St.
Monroe, LA 71203-4526
Phone: (318) 343-2877/Email: jacksonk@legis.la.gov

(7) C. Travis Johnson

Representative – District 21
200 Advocate Row, Suite D
Vidalia, LA 71373
Phone: (318) 336-5865/Email: hse021@legis.la.gov

(8a) Donna Winters

Appointed by the Senator from Senate District 34
3560 Hwy 134, Lake Providence, LA 71254
Phone: (318) 282-5210/Email: dbwd@yahoo.com

(8b) Mark Brown

Appointed by the Senator from Senate District 34
988 Oswalt Rd., Lake Providence, LA 71254
Phone: (318) 669-6606/Email: northend1961@gmail.com

(9a) Kenneth A. “Andy” Brister

Appointed by the representative from House District 21
Brister & Brister.
318 Morgan Street, PO Box 266
Lake Providence, LA 71254
Phone: (318) 559-5800/Email: andy@bristerlaw.com

(9b) Jim Lensing

Appointed by the representative from House District 21
Lensing, Lensing, Cunningham & Hager, Inc.
500 Lake Street, Lake Providence, LA 71254
Phone: (318) 669-5465/Email: jimlensing@gmail.com

(10a) Roger Clement

East Carroll Parish Police Juror - District 5
100 Luke Dr., Lake Providence, LA 71254
Phone: (318) 282-4609/Email: LWOC@bellsouth.net

(10b) Francis Lensing

Appointed by East Carroll Parish Police Jury
Lensing, Lensing, Cunningham & Hager, Inc.
500 Lake Street, Lake Providence, LA 71254
Phone: (318) 559-2648/Email: francisllch@bayou.com

(11) Reynold S. Minsky

Appointed by the East Carroll Parish Sheriff
506 Island Point Drive, Lake Providence, LA 71254
Phone: (318) 559-1613/Email: minsky@bayou.com

(12) Teddy Schneider

Appointed by the town of Lake Providence
2122 Highland Rd, Lake Providence, LA 71254
Phone: (318) 282-9033/Email: farm71254@gmail.com

Other Contributors to the Report

Ryan Daniel

Louisiana Department of Wildlife & Fisheries

Email: rdaniel@wlf.la.gov

Aimee Preau

Louisiana Department of Environmental Quality

Email: aimee.preau@la.gov

William Finkbeiner

Louisiana Department of Wildlife & Fisheries

Email: wfinkbeiner@wlf.la.gov

This second annual report update is submitted to the Louisiana Legislature, specifically the House Committee on Natural Resources and Environment, and the Senate Committee on Environmental Quality in accordance with HCR 96 of 2020. Ongoing Activities, Concerns and Maintenance Issues by the Lake Providence Watershed Council (LPWC) are as follows:

1. Meetings of the Lake Providence Watershed Council

The LPWC met in person at the Sheriff Annex in Lake Providence on July 7, 2021, September 29, 2021, and March 29, 2022, and by conference call on February 15, 2022, March 16, 2022 and April 25, 2022. The agendas and minutes of the council meetings can be found on the LPWC webpage on the LDNR website at <http://www.dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=1316>.

2. The Flood of June 2021

A historical rain event took place on June 10th, 2021. Major drainage areas within the Lake Providence Watershed received between 10 and 15 inches of precipitation, and areas of Southeast Arkansas received approximately 20 inches within a six hours period.

The lake was closed to navigation from June 10th to June 17th. Starting on June 10th, the lake level began to rise rapidly and submerged mostly piers at that time. By the time the water had crested, it was around 5 feet above the lake's pool stage and this lasted for well over a week (cover page picture and see Appendix A). Areas within the Baxter Bayou (Figure 1) and the Bayou Macon watersheds received the majority of the rainfall contributing to the swift rise. This rain distribution reversed the flow of Baxter Bayou, causing storm water to flow into the lake instead of out. All the water rushed in from the northern part of the lake and had to drain through Tensas Bayou on the south side causing a rapid rise in lake level, followed by a slow prolonged fall. This rainfall event was very unique in that very little rain was reported south of Lake Providence. The southernmost part of the parish reported only an inch or two, but several area farmers with land along Tensas Bayou were impacted as the lake began to drain and the bayou flooded their fields.

By early July 2021 the lake receded into its banks and was back close to pool stage again. As noted earlier, it took this long due to an influx of water coming in through the north end of the lake and having to drain out solely through the South, which has issues associated with backwater on Tensas Bayou.

3. Sediment influx from Jack Falls Bayou into the North Flats

In view of the series of high rainfall events during this past year, one of the most imminent threats to the viability of the lake is the massive intake of water at the north end from Jack Falls Bayou (Figure 1). Due to the fact that many acres of agricultural land drain through the lake from this source, silt is being deposited at an alarming rate. In 2021, for the first time substantial areas of silt bar were exposed for an extended period allowing for the germination of plants. LPWC also acknowledges that resolving this concern is costly and time consuming. However, it is vital if we are to continue enjoying the lake as we know it. Possible remedies that have been discussed are diversion to another flood plain, pumping into the Mississippi River, a sediment reservoir before entering the lake, and dredging of the lake.



Figure 1: Lake Providence subbasin. Colored in yellow are field planted in 2021 in corn, in green soybeans, and in red cotton. All other areas represent undeveloped or developed land and open water (data: USDA CropScape)

The water quality in the north end of Lake Providence continues to be the biggest concern as it relates to turbidity. For the most part Lake Providence has had little rainfall since October of 2021. The water level has been low and water clarity above average. In mid-March 2022, the lake experienced approximately 1.5 inches of rain in short period of time. When runoff entered the lake on the north end it created a distinct mud line that was easily visible from Highland Road near Ingleside Store. As of the end of March 2022, there was another rain event that amounted to around 3 inches and this event caused turbidity at a high level throughout the north half of Lake Providence. Again the rain fell in a short period of time causing soil particles to again enter the lake.

The work completed this past fall by East Carroll Police Jury (ECPJ) in Baxter Bayou and Tensas Bayou was a bright spot. After the rain events mentioned above the lake levels were easily able to handle the amount of water entering the lake through the drains of Tensas and Baxter Bayous. Both bayous were recently clear of brush and fallen timber to allow for water to exit the lake. Even Baxter had very little back flow back into the lake due to the open drainage work downstream.

Until the water drainage into the north end of Lake Providence is addressed there will be continued muddy waters entering the lake and siltation on the bottom of the lake. This occurring over an extended period of time will lead to a huge sand/mud bar covering many acres across the north end of Lake Providence.

4. The Clearing and Snagging of Baxter Bayou

During the second half of September 2021, the East Carroll Police Jury hired a private contractor to clean out Baxter Bayou. They started at Cotton Club Road and headed back east toward the Baxter Bayou control structure (Figure 2 and see Appendix B for photographs). Once this was completed there was discussion at the Police Jury level to go back to Cotton Club Road and start cleaning the bayou westward. However, due to recent rainfall this has not happened yet. A total of 148 hours were spent clearing and snagging approximately 3.5 miles of Baxter Bayou.

5. Ongoing and Planned Tensas River Clearing and Snagging

The Fifth Levee District has the responsibility for maintenance of Bayou Tensas south of Hwy 582. The District sprays the trees and brush along the banks. East Carroll Parish Police Jury performs maintenance of Bayou Tensas from Hwy 582 to Lake Providence (Figure 2). This section of the river was cleared of brush and debris in 2021. Typical clearing and snagging methods include the use of large tracked vehicles (with a sawing blade at the end of a long arm) being placed in the stream channel, thus disturbing the sediment in the bed of the channel and leading to increased sediment loading in the channel. Both the removal of the vegetation and the movement of the equipment in the channel tend to lead to bank destabilization and erosion. Typically use of the sawing blade causes woody/vegetative debris and sawdust to be deposited in the channel. The resulting sediment, debris, and sawdust can then be deposited downstream, potentially leading to flow impediments and adverse impacts to water quality including increased total suspended solids, low dissolved oxygen, increased nutrients, higher temperature, and increased fecal coliform concentrations. For reasons stated above, clearing and snagging activities are expected to adversely impact water quality including increased total suspended solids, low dissolved oxygen, increased nutrients, higher temperature, and increased fecal coliform concentrations.

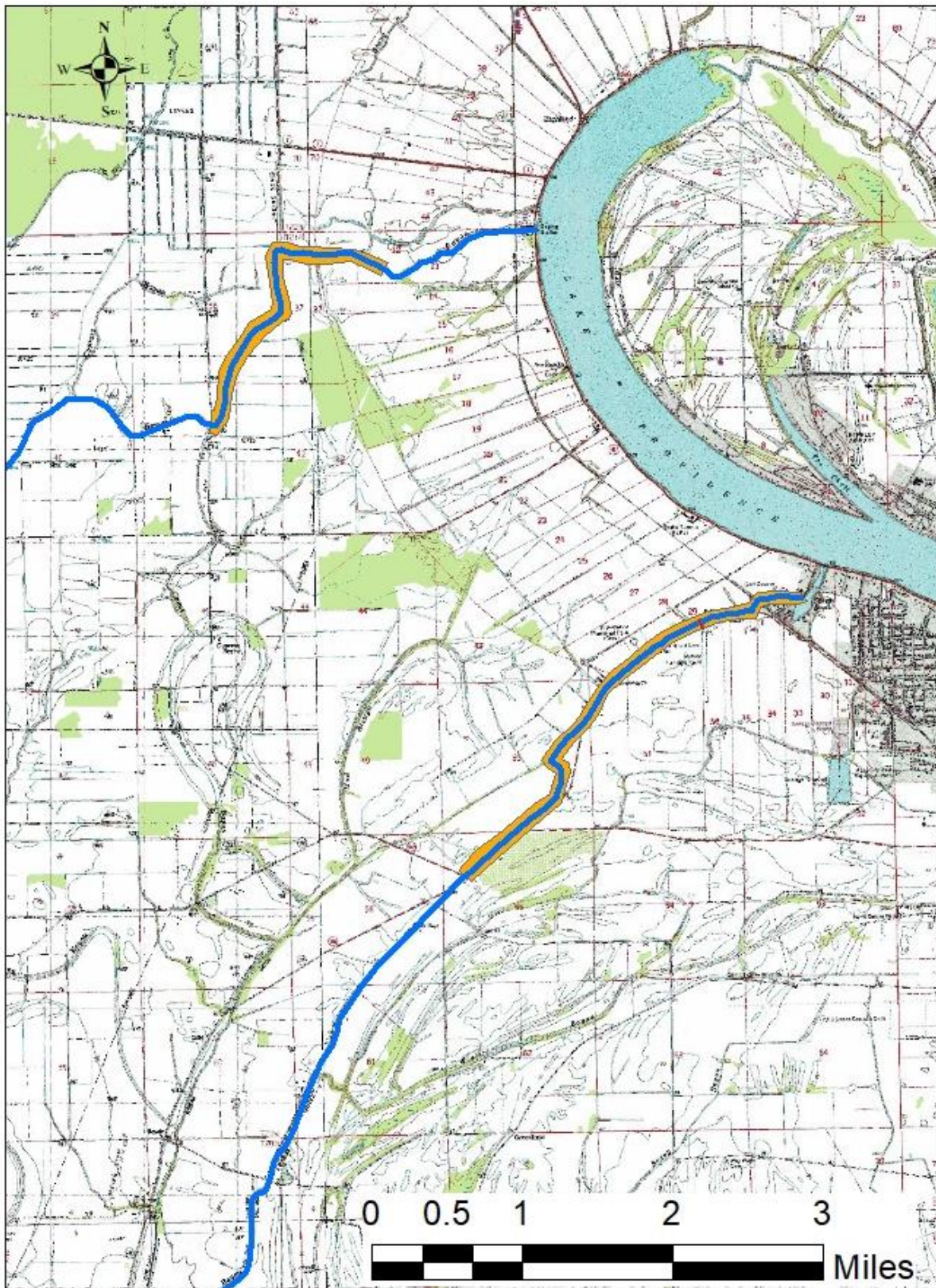


Figure 2: Areas of Baxter Bayou and Tensas Bayou that were cleared this past year (shaded in yellow along the bayous).

6. Ongoing damage and repairs to the Tensas Bayou Weir

This older weir, which is the primary drain for the lake, does not allow for lake level manipulation (Appendix C). It is in disrepair and being bypassed along its side (see news article in Appendix D). The East Carroll Parish Police Jury has placed cement bags on the structure to maintain its integrity. The East Carroll Parish Police Jury has been in contact with the LDOTD and has hired an engineer to prepare plans to replace the weir. Current estimates suggest that the work will begin in 2023.

7. Ongoing Damage to the Baxter Bayou Control Structure

Baxter Bayou only allows water to flow out of the lake at high stage, otherwise reverse flow can occur at time of unevenly distributed precipitation. Currently, the structure does not allow for lake level manipulation as the gate valve is in disrepair and can no longer be operated. In addition, the structure is bypassed by the flowing water, both along the side and beneath the structure. The recent clean out work of Baxter Bayou appears to be a success by judging the movement of water in a rain event that was approximately 3 inches in a short period of time (Appendix E).

8. Ongoing Lake Level Monitoring

The lake monitoring gage installed at the former swimming pier by the Louisiana Geological Survey was moved to a new location in September 2021 after a portion of the pier received damaged (e.g. collapse) during the June 2021 flood resulting in the gage no longer being able to be accessed from shore. The new location of the gage is on a private pier owned by the East Carroll Parish sheriff. Due to the pandemic restrictions and because the gage was not accessible for an extended period of time, some data (most of 2021) was lost, including that for the flood on June 2021 (Figure 3).

9. Louisiana Watershed Initiative

The East Carroll Parish Police Jury has had a representative participating in the Louisiana Watershed Initiative meetings since the onset of the program. After attending two meetings in Monroe in 2021, it appears to parish representatives that funding of program is aimed towards more populated areas at this time.

10. Current Plans to replace the Control Structures

As reported recently in an article printed in the Providence Journal (Appendix C), the East Carroll Parish Police Jury has been working for the past several years with the Louisiana Department of Transportation and Development to replace the weir on the Tensas Bayou. As reported in previous report, the weir built prior to 1970 to maintain the lake pool level, is in disrepair and currently being partially bypassed. Current estimates suggest that the work will begin in 2023. East Carroll Parish Police Jury submitted an \$800,000 request through capital outlay for the weir and drainage for FY22-23.

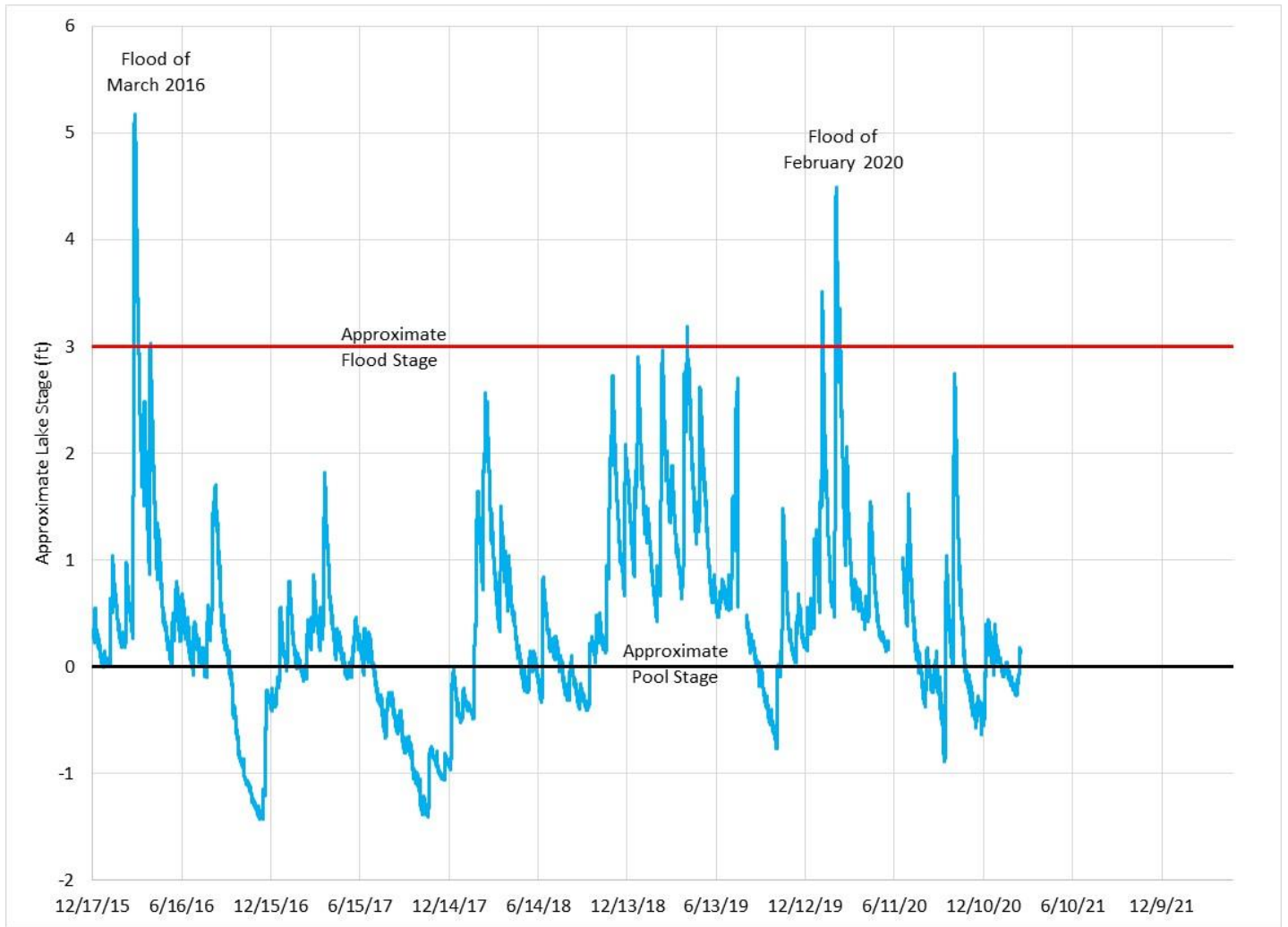


Figure 3: Recorded lake stage in feet above approximated pool stage (~90 ft.NAVD29).

11. NRCS MRBI Program Success and End of Funding

The Natural Resource Conservation Service Mississippi River Basin Initiative (NRCS-MRBI) Project continues to provide great opportunities for participants in the Lake Providence watershed area to get involved with improving various resource concerns, but mainly water quality in Lake Providence. There continues to be multiple conservation practices installed and implemented in the project area such as Cover Crops (340), Nutrient Management (590), Conservation Cover (329), Residue Management (345), and Grade Stabilization Structure (410). By continuing to implement these conservation practices, resource concerns such as soil erosion/health, poor water quality, and field sediment loss were all able to be addressed. If we continue to maintain these practices and adopt new innovative conservation practices or enhancements, we will continue to see the great success of water quality in the Lake Providence watershed.

12. LDEQ Nonpoint Source, Clean Water Act Section 319 Program

The LDEQ CWA Section 319 work to address the total dissolved solids (TDS) impairment has wrapped up in the Lake Providence watershed. LDEQ monitored water quality and provided data analysis to support the USDA

NRCS implementation of conservation practices to reduce nonpoint source runoff from agricultural land. Implementation of conservation practices ended in October 2020 and monitoring ended one year later, in October 2021. The TDS impairment was removed as of the 2020 Integrated Report, and the lake is fully supporting its Fish and Wildlife Propagation designated use. A success story was written and accepted by EPA in September 2020, and can be found here: https://www.epa.gov/sites/production/files/2020-09/documents/la_lake_providence_1907_508.pdf. Currently LDEQ is drafting a final report on monitoring activities to be submitted to EPA this year.

13. Ongoing Fisheries Data Collection

The East Carroll Bass Club of Lake Providence regularly holds two tournaments a year on the lake and its participants have brought in much better stringers in the past couple years.

In 2021, the Louisiana Department of Wildlife and Fisheries conducted gill net samples for evaluation of commercial species and lead net samples for crappie and sunfish. Gill net samples appeared normal with an abundance of buffalo fish and channel catfish. The length distribution of the crappie sample is shown in Figure 4. Overall, abundance was down slightly, though the population has a perfect size distribution. An interesting finding is that 76% of the crappie were black crappie, whereas in 2017 and 2018, they only comprised 8% and 11%, respectively. Black crappie prefer clearer (less turbid) conditions than white crappie. So, this could possibly be an indicator of less turbid conditions in the lake over past couple years, but definitely not conclusive. No fish samples are scheduled for 2022.

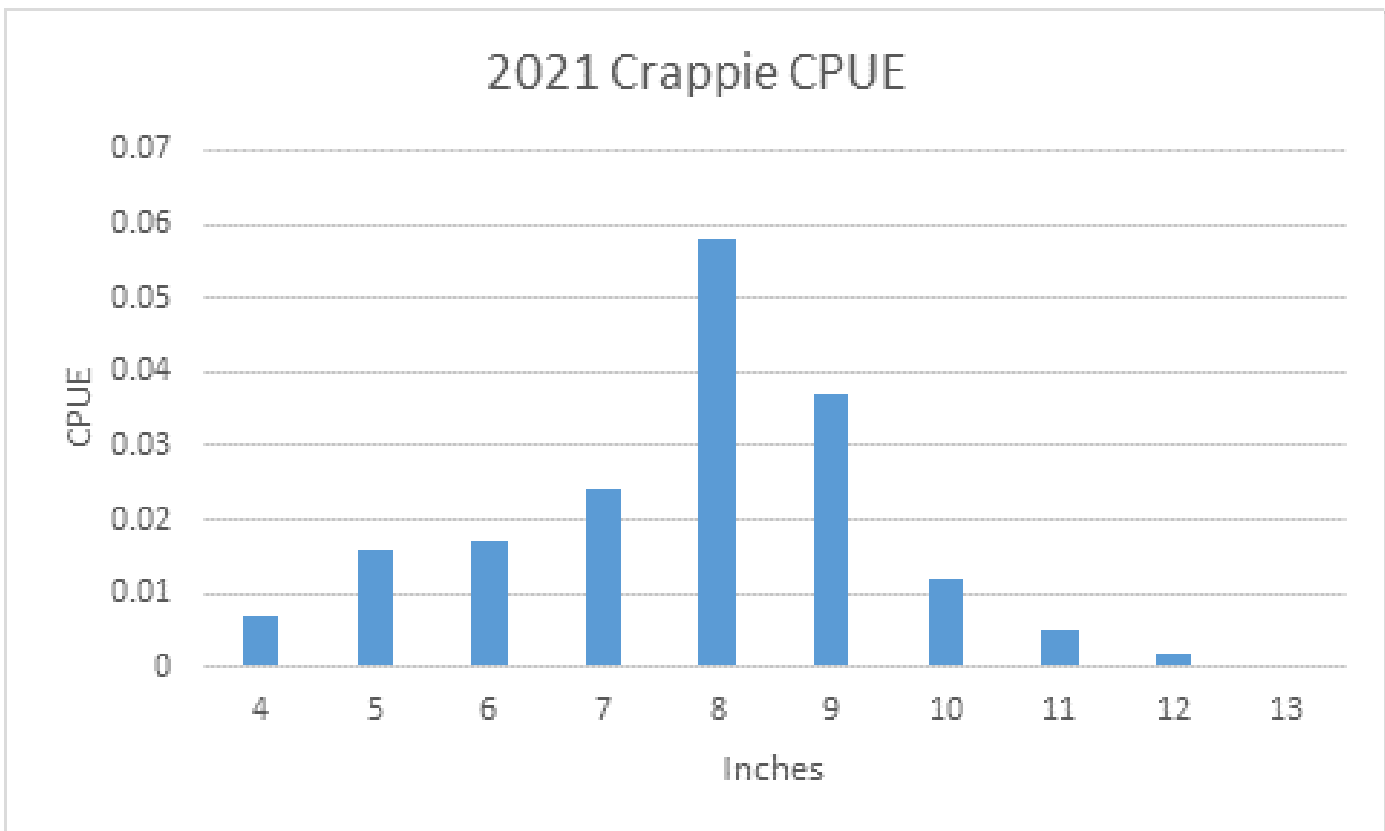


Figure 4: Catch Per Unit Effort (CPUE) rate for crappie in 2021.

14. Other Funding Sought and Supported

14.1 Capital Outlay

Since 2015, the East Carroll Parish Police Jury with the help of the LPWC has sought \$100,000 from Capital Outlay to perform a study of the Lake's hydrology. In addition, the East Carroll Police Jury submitted \$800,000 request through capital outlay FY22-23 to provide for the weir and other drainage projects.

14.2 U.S. Army Corps of Engineers Project on Lake Providence

Similarly, in collaboration with the United States Army Corps of Engineers (USACE) funds have been sought to perform an ecological study of the watershed. Both sources of funding have shown to be elusive to secure.

14.3 Louisiana Watershed Initiative

After attending two meetings in Monroe in 2021, it appears that funding of program is aimed towards more populated areas.

14.4 U.S. Army Corps of Engineers Project Cleaning Bayou Macon, Big Cowela and Tensas River

The USACE in Coordination with the Fifth Levee District has tried unsuccessfully to get some funds for trying to figure out what is going on in the watersheds. The Corps had some extra funds last fiscal year and they were able to get some surveys with those funds. The cross sections are not spaced as closely as they would want them to be, but it is what could collected with the funds available and is a start to this project. This year the Corps received additional funds and they are going to take the surveyed cross sections and build an hydrologic model so they can run some analysis and hopefully get more funds the following year.

This year will solely be building that model. The Corps may do some additional field work like finding out some bridge crossings and what structures are at those locations so they can put those in the model, as well as looking at the vegetation in the channel and along the banks.

Bibliography:

Lake Providence Watershed Council, 2016. An Interim Report to the Louisiana Legislature May 2016: report submitted to the House Committee on Natural Resources and Environment and the Senate Committee on Environmental Quality, pp. 125.

Lake Providence Watershed Council, 2020. An Interim Report to the Louisiana Legislature April 2020: report submitted to the House Committee on Natural Resources and Environment and the Senate Committee on Environmental Quality, pp. 42.

Lake Providence Watershed Council, 2021. An Annual Report to the Louisiana Legislature April 2021: report submitted to the House Committee on Natural Resources and Environment and the Senate Committee on Environmental Quality, pp. 19.

Appendix A
Photographs of the June 2021 Flood



Photo A1: Pier located on 2180 Island Point Dr which is the south end of lake directly across from The Dock restaurant on Hwy 65. Photo taken 6/12/2021 by Jim Lensing



Photo A2: Same Pier as pictured before a couple hours later. Photo taken 6/12/2021 by Jim Lensing



Photo A3: Sandbagging at the residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A4: Sandbagging at the residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A5: The residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A6: The residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A7: Sandbagging at the residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A8: Sandbagging at the residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.



Photo A9: The residence of 506 Island Point Dr which is the north end of Lake Providence. Photo taken 6/12/2021 by Reynold Minsky.

Appendix B
Photograph taken after Baxter Bayou
was Cleared and Snagged



Photo B1: Before picture of Baxter Bayou taken on 9/5/21 by Bo Holt which is the date work began near Cotton Club Rd.



Photo B2: Before picture of Baxter Bayou taken on 9/5/21 by Bo Holt which is the date work began near Cotton Club Rd.



Photo B3: After picture taken on September 10th following a 3-in rain. This photo is showing areas cleared on Baxter Bayou facing towards the structure. Photo taken on 9/10/21 by Bo Holt.



Photo B4: After picture taken on September 10th following a 3-in rain. This photo is showing areas cleared on Baxter Bayou facing towards the structure. Photo taken on 9/10/21 by Bo Holt.



Photo B5: Area near Baxter Bayou structure on September 18th. Photo taken on 9/18/21 by Bo Holt.



Photo B6: Area near Baxter Bayou structure on September 18th. Photo taken on 9/18/21 by Bo Holt.

Appendix C
Tensas Bayou Weir Photographs



Photograph C1: View north across the Tensas Bayou Weir (taken by Roger Clement on 3/29/22).



Photograph C2: View north across the Tensas Bayou Weir (taken by Roger Clement on 3/29/22).



Photograph C3: View north across the Tensas Bayou Weir (taken by Roger Clement on 3/29/22).

Appendix D
Tensas Bayou Weir News Article

PROVIDENCE JOURNAL

The Pulse of East Carroll Parish

Lensing, Lensing, Cunningham & Hager
P O Box 192
Lake Providence LA
71254

A CITY PO
03/1/2022

6th year - No. 11 - Lake Providence, LA

(Official Journal for East Carroll Parish)

Thursday, February 17, 2022 - \$1.00

Police jury redesigning Tensas Bayou weir

by Cassie Condrey

A crucial piece of East Carroll Parish infrastructure built before 1970 is currently undergoing a redesign and will be replaced in 2023. The weir in the Tensas Bayou, along Highway 134, that helps to control the elevation of the lake, is, as police juror Randy Walters puts it, “still functioning, but it’s only a matter of time before a weather event happens and it blows out.”

The Police Jury has been working with the Louisiana Department of Transportation and Development (DOTD) and Volkert (previously Denmon Engineering) on designing the new dam to meet modern standards and to better control both how low and how high the water in

the lake gets.

The funding will come from the DOTD, but will not be in play until 2023 due to legislative session schedules. For now, the police jury is working to have the design ready so that when the money is released, East Carroll will be ready to begin work immediately.

Juror Roger Clement, Chairman of the Roads and Drainage Committee, says that this is part of a broader effort to maintain the health of our lake. In 2021, during the dry season, the jury was able to clean out Baxter Bayou and began cleaning out the Tensas Bayou.

Both provide drainage for the lake when it is high, but because of debris, when big rains came, they were actually backing into the lake, bringing with them silt, as well as

debris, and preventing the lake level from normalizing. “We’ve seen the lake get very high in recent years, but these efforts should mean that

it won’t come up nearly as quickly, or stay up nearly as long,” says Clement.



Appendix E
Baxter Bayou Control Structure



Photograph E1: View southeast across the Baxter Bayou Control Structure (taken by Roger Clement on 3/29/22).



Photograph E2: View south across the Baxter Bayou Control Structure (taken by Roger Clement on 3/29/22).



Photograph E3: View southeast across the Baxter Bayou Control Structure (taken by Roger Clement on 3/29/22).