

The Courtableau-Teche-Vermilion Watershed in Acadiana

Fix our Flooding Problems for the Next 100 Years



More Flooding

A Cooperative Effort of the Acadian Group Sierra Club and the
Acadiana Citizens for Flood Prevention

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Contents

Overview of Watershed 3

Flood Types 3

Recap of the Flood of August 2016..... 4

 Acadiana + Regional Impacts 4

Our Work Regarding Minimizing Future Flood Risk..... 4

Why are we Flooding? 4

Historical Overview 5

The Current Risk..... 6

Our Project Recommendations Objectives..... 7

Regional Project Recommendations to Lower Stages in the Courtableau –Teche-Vermilion Watershed.. 7

Flooding Rules 7

Fix our Flooding Problems for the Next 100 Years - What Can You Do To Help This Effort? 8

 Important takeaways: 8

 Important Contact Info: 8

 For More Information Contact..... 8

Illustrations 9

 Our Watershed..... 9

 Alexandria LA Bayou Rapides Drainage Gate at Red River 10

 Bordelonville LA Bayou Des Glasises Abandoned Drainage Gate..... 10

 Near Port Barre LA Bayou Courtableau Drainage Gates at Levee 11

 Lake Fausse Pointe – Our watershed’s main flood plain 12

 Near St. Martinville – Keystone Lock and Dam..... 12

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Overview of Watershed

The Courtableau-Teche-Vermilion watershed in Acadiana extends north to Boyce LA (North of Alexandria LA) and includes several major bayous and canals in the northern part of the watershed. These bayous include (but not limited to) Bayous Des Glasises, Rapides, Rouge, Cocodrie, and Chicot. All of the above mentioned bayous do drain south and connect to the major bayous and rivers in Acadiana in some fashion. The watershed is bordered on the east by the West Atchafalaya Floodway West Guide Levee and on the west by the Chicot Hills (roughly parallel to I49). There is a flood gate Bayou Courtableau at the West Atchafalaya Floodway West Guide Levee approximately 1 mile south of US190 that drains some of water from the north and central part of the watershed into the floodway when water levels are low enough in the basin. Additionally, there are 2 overflow weirs immediately upstream of the gate that allow excessive flood waters to drain into the West Atchafalaya Floodway West Guide Levee Borrow Pit and down to the flood plain at lakes Dautrive and Fausse Pointe near Lourieville LA.

The overall watershed size is approximately 1,000,000 acres. All of the water in the watershed eventually drains into the Gulf of Mexico. The watershed immediately to our west is known as the Mermantau watershed and this paper does not address any issues or recommendations for that watershed.

Flood Types

There are several types of flood events that could potentially happen in our watershed. These flood types include:

- Major River Floods (Red, Atchafalaya, Mississippi)
- Storm Surge Floods (from hurricane type events)
- Major Rainfall Event Floods (such as 2016 or Hurricane Harvey in Houston)

We are protected from major river floods by the levee systems and control structures put in place by the US Army Corps of Engineers (USACE) after the great flood of 1927.

At this time we know the USACE is studying potential projects to protect from storm surge events for St. Mary, Iberia, and St. Martin Parishes.

This paper and our recommendations address major rainfall event floods in our watershed as we believe this is our major flood risk at this time.

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Recap of the Flood of August 2016

Acadiana + Regional Impacts

Our watershed had approximately 10,375+ homes flooded. Additionally numerous businesses were either flooded or were adversely impacted

The state of Louisiana had 84,900+ homes flooded in 2016.

Louisiana FEMA Flood Insurance, Grants, and Loans Payouts totaled approximately \$4.259 Billion for the 2016 event. The flood event has led to revised flood maps that has and will increase future flood insurance rates.

Our Work Regarding Minimizing Future Flood Risk

After the flood of 2016 we began an analysis of the event. Analysis included research of historical data regarding past flood remediation projects, analysis of stream gauge data (level and flow) collected during and after the event, and analysis of other data provided by some governmental entities like the USGS high water mark survey conducted after the event.

Additionally we made many field trips to the area flood control resources and many meetings with both the USACE, local water management and governmental entities in an effort to better understand what were the causes of the 2016 flood event and if the event impact could have been minimized.

We also hosted a public meeting at the Southside Library in Jan 2018 attended by >200 people to present our findings at that time.

In addition to the above efforts we developed a predictive math model that forecast the frequency of flooding on the Vermilion river.

After 1000's of man-hours of work we then developed a list of 9 project recommendations of which 2 are already underway.

Why are we Flooding?

During the last 50 years several events and projects were executed in the watershed that impacted local and regional drainage in the watershed. These include(North to South):

The Red River Navigation project executed in the 1980's raised pool stages in the Red that impacted Bayou Rapides drainage into the Red River. As a result most of the water from Alexandria and north is draining south eventually ending up in Bayou Courtableau and potentially eventually into the Teche and Vermilion. We have heard reports that Alexandria is considering installing a major pumping system to pump water out of the city into the river.

During the Mississippi river flood of 1973 a drainage gate near Bordelonville LA on Bayou Des Glasises was damaged and subsequently abandoned. This gate drained the bayou into the Atchafalaya river just north of Simmesport LA during low water periods in the Atchafalaya river. The bayou has a watershed of about 270 square miles. As a result all drainage from this area now drains via the Bayou Des Glasises

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Diversion Canal in Moureauxville LA into the the West Atchafalaya Floodway West Guide Levee Borrow Pit and down to Bayou Courtableau. Our Project Recommendation #3 addresses this deficiency.

Because of these 2 items nearly 100% of the water from the northern part of the watershed now drains into bayou Courtableau.

The flood gates on Bayou Courtableau at the West Atchafalaya Floodway West Guide Levee was deemed undersized in the USACE report to the Mississippi River Commission in 2007. This was noted that due to the abandonment of the proposed Eastern Rapides-South Central Avoyelles drainage project it was recommended that these gates be enlarged.

This USACE report to the Mississippi River Commission also noted that a bayou Cocodrie , Boeuf, and Courtableau drainage project that was authorized in 1941 was only 57% completed by 2007. Our Project Recommendation #1 addresses these deficiencies.

The Teche-Vermilion Fresh Water project built in the 1980's now keeps the Bayou Courtableau at a higher level to ensure freshwater flow in the Teche and Vermilion during low water periods to greatly improve water quality and prevent salt water intrusion. The higher water level in Courtableau minimized retention in several flood plain areas(lowland swamps) in St. Landry Parish. The project did not include any additional resources to quickly lower water levels in Courtableau when a major rain event threatens the region. Our Project Recommendation #1 also addresses this deficiency.

The Vermilion river has an authorized channel depth of -9 ft below mean low Gulf median (low tide) and an authorized channel width of 100 ft from the Gulf of Mexico to the head of navigation near the US 90 bridge near the Lafayette Airport. A detailed USACE channel survey was executed in May 2017 which illustrated that the river is 100% out of spec for it's entire length in Lafayette Parish and significantly out of spec for Vermilion Parish north of Perry. This condition greatly hinders river drainage as was noted during the 2016 flood event, where it took 34 days for the river to go below 10' flood stage at Surrey while at Perry the river got to below flood stage in 4 days and it took 55 days for the river to return to the pre flood stage at Surrey Street. Our Project Recommendation #2 addresses this item.

Historical Overview

The Vermilion experienced 3 MAJOR floods in the 1940's including a flood August 9 1940 that was about 7' HIGHER than the 2016 flood. As a result some major projects were executed in the 50's including dredging the Vermilion and the building the gates at Bayou Courtableau.

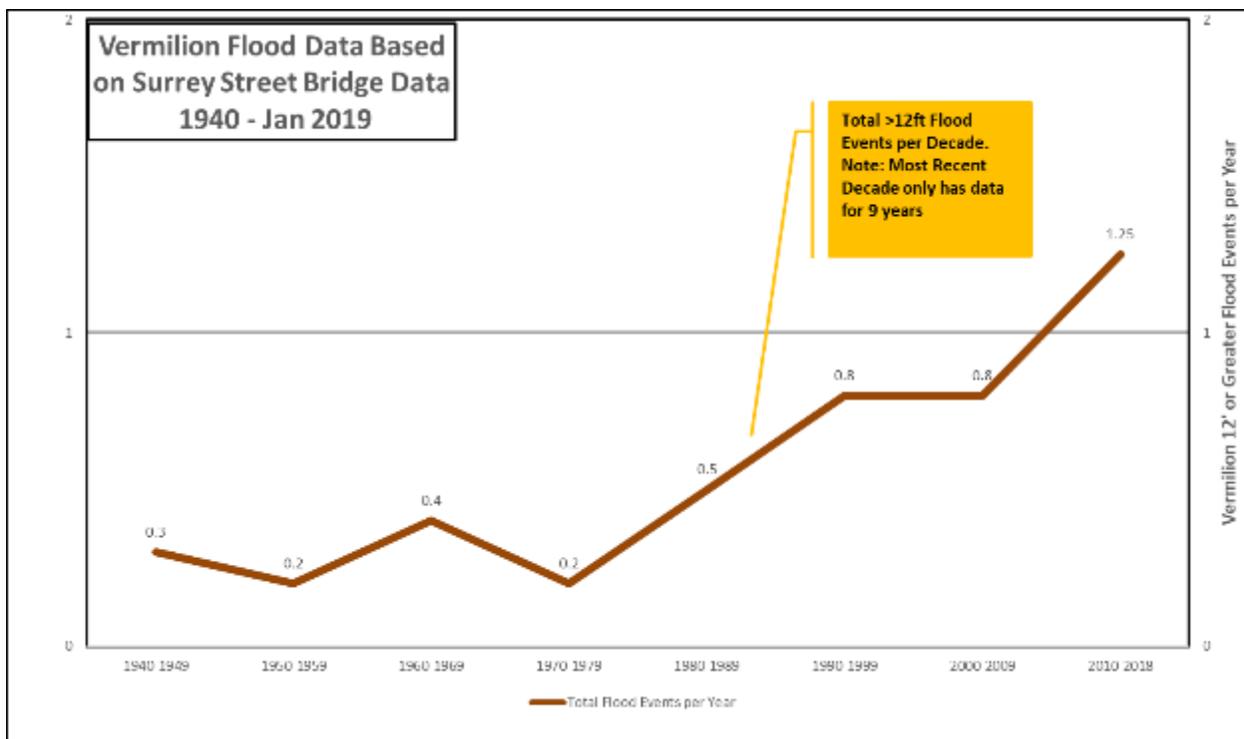
As a result of these efforts we experienced NO additional major floods for 65 years until the flood of 2016. The question is "Will we have to experience 2 more major floods before we take action?"

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The Current Risk

Basin levels dictate effectiveness of the existing Bayou Courtableau drainage gates in moving flood water from the northern part of the watershed into the West Atchafalaya floodway. As an example, the levels in the basin since Dec 2018 have been very high and are expected to remain high until this summer making these gates largely ineffective for managing these flood waters.

The frequency of flooding on the Vermilion is increasing as we have experienced 5-12' Flood Events in the last 24 Months. This is up from an average of 1-12' flood per year during the earlier years of this decade and 1-12' flood every 5 years prior to the decade of the 1970's. See below trend.



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Our Project Recommendations

Objectives

First- Divert as much water as possible out of the watershed into the Atchafalaya river, the West Atchafalaya Floodway, and our watershed's floodplain at Lake Fausse Pointe.

Second- Increase the efficiency of the existing in-watershed rivers and tributaries and existing controls to move the remaining water into the Gulf of Mexico.

Regional Project Recommendations to Lower Stages in the Courtableau –Teche-Vermilion Watershed

Please note all of our project recommendations were derived from projects documented in USACE correspondence or projects proposed by local parish officials.

1. Encouraging the U.S. Army Corps of Engineers to complete the Bayou Cocodrie and Tributaries Project (also includes Bayou Boeuf and Bayou Courtableau) flood plan as part of the current Atchafalaya Basin Plan including enlarging gates on the West Atchafalaya Spillway and constructing new gates at the Borrow Pit Levee.
2. Direct the U.S. Army Corps of Engineers to maintenance dredge the Vermilion River to the depth and width of the original 1950s dredging. Further to conduct an annual inspection to insure that this bayou depth and width is maintained.
3. Provide a replacement for the closed Bayou Des Glaises flood gate in Avoyelles Parish.
4. Support efforts by St. Martin Parish to drain Cypress Island Swamp into the Bayou Teche below the Keystone Dam.
5. Request the U.S. Army Corps of Engineers to utilize the Keystone Locks as an emergency Flood Control Resource.
6. Place two drains into Lake Martin allowing this lake to become part of the Cypress Island retention zone.
7. Support efforts of St. Mary Parish Officials and Coastal Zone Management Authorities to maintenance dredge the principal outlet of the Teche-Vermilion System, The Jaws Outlet, to West Cote Blanche Bay. This critical channel is presently closed due to extreme silting creating shoals forcing this water 20 plus miles west to Vermilion Bay.
8. Develop and Execute a Regional Flood Prevention Operational Plan. The objective of this plan is to coordinate efforts of the entities that control existing flood management resources. This plan has been written and submitted to the entities for adoption.

Note there are many more regional flood mitigation projects that should be addressed in our watershed that are not listed here. However, we believe the above projects are the most important and should be executed first.

Flooding Rules

Rule #1 – Flood Waters do NOT know anything about Parish or Political Boundaries

Rule #2 – Water flows DOWNHILL until the DOWNHILL is filled then it BACKS UP to the Area it came from

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Fix our Flooding Problems for the Next 100 Years - What Can You Do To Help This Effort?

Important takeaways:

The local parishes efforts cleaning their ditches and coulees and building some retention ponds are very commendable but **not sufficient** to reduce our risk of another major flood event like 2016.

We also need to focus on **Regional Wide Watershed Projects** that:

- 1st- Divert as much water as possible out of the watershed into the Atchafalaya river, the West Atchafalaya Floodway, and our watershed's floodplain at Lake Fausse Pointe.
- 2nd- Increase the efficiency of the existing in-watershed rivers and tributaries and existing controls to move the remaining water into the Gulf of Mexico.

Insist that our local political leaders come together and coordinate efforts amongst the parishes to support regional projects that reduce the risk of another major flood. **Coordination and consensus are essential** as these projects in many cases involve Federal entities including US House of Representatives for funding and USACE for execution. They also include the State of Louisiana(GOSEP) and the parishes themselves as a local sponsor for some of the project funding and execution.

Please be aware of our history of flooding events. We believe calling the 2016 event a 500 year flood is a disservice as 2 even worse events and at least 2 nearly equally bad floods happened in a span of 20 years until the community took action to fix the problems in the 1950's. We now face similar conditions.

Important Contact Info:

Rapides Parish Police Jury President Craig Smith 318.473.6660

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US Representative Ralph Abraham 202.225.8490

US Senator Bill Cassidy 202.224.5824

US Senator John Kennedy 202.224.4623

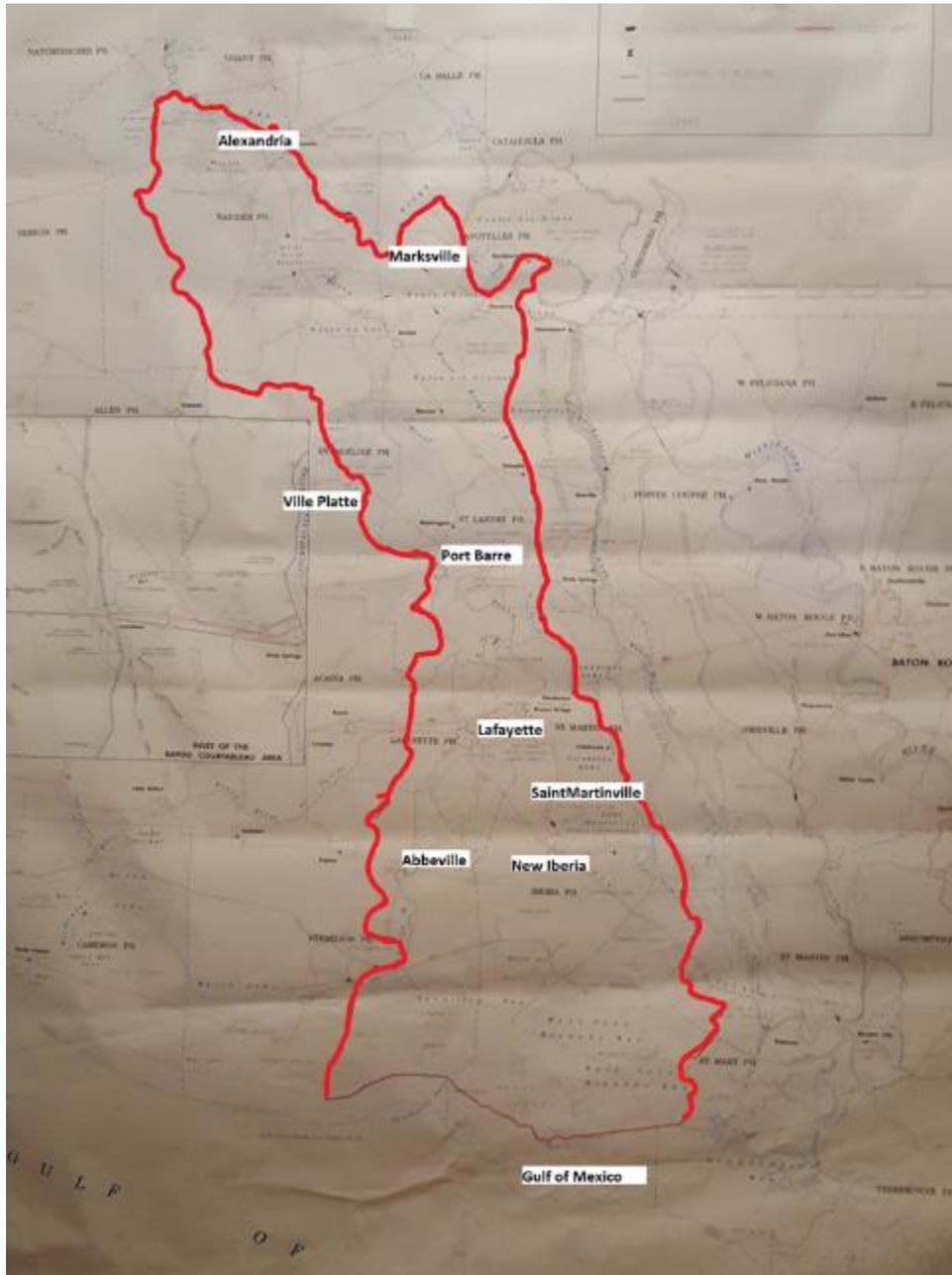
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Our Watershed

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Alexandria LA Bayou Rapides Drainage Gate at Red River



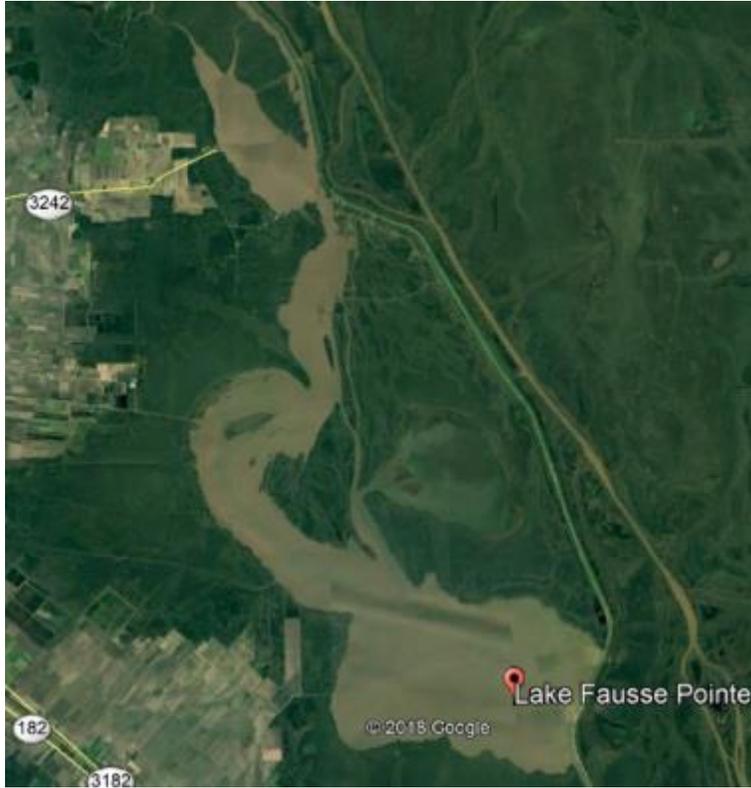
Bordelonville LA Bayou Des Glaises Abandoned Drainage Gate

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Near Port Barre LA Bayou Courtableau Drainage Gates at Levee

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Lake Fausse Pointe – Our watershed’s main flood plain



Near St. Martinville – Keystone Lock and Dam