

**REPORT OF STUDY AND RECOMMENDATIONS  
REGARDING MANAGEMENT OF THE AMITE RIVER BASIN  
IN RESPONSE TO HCR 46 (2021 REG. SESSION)**

Submitted by:  
**Governor's Executive Assistant for Coastal Activities**  
January 13, 2022

Prepared by:  
**Coastal Protection and Restoration Authority**

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**EXECUTIVE SUMMARY**

Louisiana, and in particular the Amite River Basin (“ARB”), is regularly impacted by flooding and extreme rain events, which are increasing in both frequency and magnitude. Concern has arisen whether changes can be made to the management of the ARB to prevent or reduce the severity and impacts of flooding in the basin. “Management” in this context means watershed or floodplain management, including drainage, flood control, and water resources management.

As requested by House Continuing Resolution 46 of the 2021 Regular Session of the Louisiana Legislature (“HCR 46”), the Governor’s Executive Assistant for Coastal Activities coordinated a study of management of the ARB and flooding and projects within it. At the direction of the Governor’s Executive Assistant for Coastal Activities, the Coastal Protection and Restoration Authority (“CPRA”) performed the study, drawing on its own investigation, prior reports, and interviews with federal, state, regional, and parish government agencies with authority affecting management of the ARB. Also as requested by HCR 46, the Governor’s Executive Assistant incorporates and submits, as part of the report, recommendations prepared by CPRA for potential improvements to management of the ARB based upon this study. This report sets forth CPRA’s findings and recommendations.

Section 1 outlines the purpose and key concepts for this report, prior reports in relation to watershed management, and CPRA’s methodology for its study.

Section 2 analyzes the existing boundaries of the ARB and possible alternatives. CPRA recommends retaining the existing boundaries as described in the statutory authorization for the Amite River Basin Drainage and Water Conservation District (“ARBC”), but to incorporate a portion of the ARB previously excluded for reasons unrelated to watershed management.

Section 3 outlines the federal, state, regional, and local government agencies with authority affecting watershed management in the ARB. These agencies have overlapping responsibilities, but none amount to watershed management, with the sole exception of ARBC. The Legislature has granted ARBC “control” over watershed management in the ARB, but ARBC has not used that authority due to concerns that the Legislature would remove this authority and due to lack of funding. ARBC has focused almost exclusively on the Comite River Diversion Project and has not sought funding, taxes, or grants for watershed management or for projects beyond Comite.

Section 4 outlines the history of flood events in the ARB, most notably the disastrous 1983 flood and the even more devastating 2016 flood.

Section 5 outlines the history of drainage flood protection projects in the ARB. The key federal projects are the Amite River Diversion Project in the 1960s and the ongoing Comite River Diversion Project and East Baton Rouge Flood Control Project. Several other drainage and flood control projects have been or are being undertaken by the Parishes and the Pontchartrain Levee District (“PLD”), generally with federal disaster funds.

Section 6 outlines the problems identified regarding management of the ARB. The key impediments have been dispersed responsibility for watershed management; lack of a central manager to plan, coordinate, and control watershed management efforts; lack of watershed-level management; lack of funding for watershed management; and lack of an entity to exercise control of waterways of state and regional concern, as opposed to those of federal or strictly local concern. ARBC already has the authority necessary to address most of them, but has not exercised it. ARBC lacks the resources to do so, but has not sought the requisite funding.

Section 7 outlines recommendations to improve management of the ARB by addressing the problems identified in Section 6. Increasing ARBC’s technical capacity and local engagement so that it actively uses its authority to lead, design, and implement efforts to manage the ARB and providing adequate funding are essential to resolving these problems.

- A. Modify ARBC boundaries to include the entire ARB.** The existing ARBC boundaries encompass most of the ARB, but should be expanded to include the rest of the ARB south of Louisiana Highway 61. This would add Iberville Parish to the ARBC. The purpose is to encompass the entire basin and enable true watershed-level management.
- B. Change the ARBC composition to increase its technical capacity and local engagement.** Commission membership would be changed to the seven Parish Presidents within the ARB, or their designees; and six at-large Commissioners selected by the Governor from nominations by legislators within the ARB. The at-large Commissioners would be required to have professional qualifications, at least four in engineering or flood drainage-related fields; and would have staggered four-year terms for continuity. The new Board would be seated January 1 after enactment of the necessary legislation. The purpose is to improve ARBC’s technical capacity and coordination with local governments, which will help it to be a more proactive and capable leader of watershed management in the ARB.
- C. Require ARBC to prepare Annual Plans, a Watershed Master Plan, and regulations to implement watershed management.** All would require public input and legislative approval. The purpose is to prompt ARBC to systematically and continually analyze and pursue appropriate measures for management of the ARB.
  - 1. Annual Plans.** The Annual Plan would focus on planning for the near term and the projects to be implemented within three years. The first Annual Plan would be due one year after the new Board is seated.

2. **Master Plan; and consistency requirement.** The Master Plan would comprehensively address drainage, flood control, and water resource management within the ARB through construction and management of projects and programs, including regarding planning, permitting, and development, and waterway management. The first Master Plan would be due two years after the new Board is seated, and revised every six years. ARBC would be authorized to enforce its Master Plan, and political subdivisions within the ARB would be required to administer their functions consistently with the Plan.
  3. **Regulations.** The regulations would comprehensively address matters relating to watershed management in the ARB, including planning, permitting, project selection, conflict resolution among agencies, using best available science, outreach, coordination among agencies, obtaining federal and other funding, providing assistance to political subdivisions, agreements with public and private entities, maintaining projects, an appeal process, and defining qualifications for ARBC staff and contractors. The regulations would be due three years after the new Board is seated.
- D. **Require annual reporting to the legislators in the ARB.** The purpose is to ensure that the ARBC is knowledgeable regarding and responsive to the concerns in each part of the basin, expressed through the legislators representing these areas.
  - E. **Require 2/3 approval for projects.** Since actions in one part of the basin affect other parts, approval of projects would require approval by 2/3 of the total voting membership (not quorum).
  - F. **Require a watershed-level approach to management.** Since ARBC's primary purpose is regional coordination of management of the watershed, a watershed-level approach would be required.
  - G. **Improve ARBC's ability to obtain adequate funding through taxation or appropriations.** Lack of funding is the other fundamental problem with management of the ARB, along with lack of leadership. ARBC has no annual funding, has not sought grant funding, and has never levied any taxes except a now-expired tax limited to the Comite River Diversion Project. The taxing structure is too cumbersome, requiring passage in both the District and in each Parish within it; and should be simplified to require passage only in the District as a whole. In the meantime, however, annual appropriations by the Legislature are essential to enable ARBC to begin the planning and regulatory efforts recommended above.
  - H. **Authorize ARBC to exercise control over waterways of state and regional concern.** There is a gap in responsibility for maintaining waterways between the federal and local levels. ARBC would be given responsibility for managing and maintaining these waterways of state or regional concern in the ARB, notably the Amite, Comite, and Blind Rivers and Bayou Manchac, in relation to matters impacting watershed management.

**I. Miscellaneous recommendations.**

- 1. Technical assistance.** This would authorize ARBC to call upon CPRA for technical assistance, either instead of or in addition to DOTD.
- 2. Agreements for Projects and Plans.** This would clarify and emphasize ARBC authority to contract with any public or private entity for watershed management projects or plans, specifically addressing receiving and expending funds.
- 3. Agreements with Mississippi.** This would authorize ARBC to contract with the State of Mississippi regarding management of the ARB, with Governor approval, since the ARB extends into Mississippi.
- 4. Conflict waiver.** This would exclude public employee participation on the ARBC Board from government ethics or dual officeholding prohibitions to avoid unintended conflicts.
- 5. Meetings.** This would require ARBC to post its agendas online and to stream its meetings.
- 6. Statewide standards.** Enact statewide building standards to require two feet of freeboard above base flood elevation, to require no net fill, and to impose greater and uniform stormwater detention and/or retention requirements. This recommendation is not specific to ARBC, but would preclude any jurisdiction from obtaining an unfair advantage over others by adopting lax regulations, which in turn incentivizes construction that is more subject to flooding.

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## **1. INTRODUCTION.**

### **A. Purpose of this Report.**

Louisiana is regularly impacted by flooding and extreme rain events, which are increasing in both frequency and magnitude. The Amite River Basin (“ARB”) was particularly impacted by the catastrophic floods of 2016. Concern has arisen whether changes can be made to the management of the ARB in order to prevent or reduce the severity and impacts of flooding in the basin.

By definition, communities within the boundaries of a watershed (or basin) are hydraulically and hydrologically connected. As a result, decisions and actions in one area of a watershed, such as regarding land use, development, flood control, or drainage, may impact other areas of that watershed. This means that the severity and impact of flooding after rain events depend not only on the amount and intensity of rainfall, but also on the decisions and actions of government agencies and private parties within that watershed. Numerous agencies at various levels of government have authority, of varying nature and extent, that impacts these matters.

House Continuing Resolution 46 of the 2021 Regular Session of the Louisiana Legislature (“HCR 46”) requested the Governor’s Executive Assistant for Coastal Activities to “coordinate a comprehensive assessment and study relative to management of the Amite River Basin, including areas authorized under the federal Amite River and Tributaries Project.”<sup>1</sup> In particular, HCR 46 requested assessment of floodplain management in the ARB, including drainage, flood control, and water resource management. HCR 46 further requested the Executive Assistant to conduct and submit a report of this study, along with recommendations for statutory, rule, regulation, or policy changes to management of the ARB.

HCR 46 recognized that Governor John Bel Edwards has initiated the Louisiana Watershed Initiative (“LWI”), governed by the Council on Watershed Management (“CWM”), to reform the State’s approach to flood mitigation. The LWI program is pursuing a holistic, systematic approach to watershed management. HCR 46 anticipated that the requested study of the ARB would assist in LWI’s development of an overall scheme of management for the other watersheds in the State.

At the direction of the Executive Assistant, the Coastal Protection and Restoration Authority (“CPRA”) has performed the study requested by HCR 46. The purpose of this report is to present the results of that study, as well as recommendations for potential improvements to the management of the ARB based on the study.

### **B. Key Concepts.**

At the outset, explanation of a few key terms and their use in this report is essential.

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<sup>1</sup> Appendix 1 – House Continuing Resolution 46 (2021 Reg. Session).

### **i. Watershed and Basin.**

The term “watershed” is well-understood: “A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel.... The word ‘watershed’ is sometimes used interchangeably with drainage basin.”<sup>2</sup> A “watershed” and a “basin” are the same thing: the combination of the area that water drains *from* plus the area that water drains *to*.

However, there are many levels at which the “watershed” a particular area is located within can be defined, from as large as the entire Mississippi River watershed down to the watershed for a particular stream. At each level, the watersheds considered at the next lower level nest within it. The watersheds are referred to as “hydrologic units” and referenced by numeric “hydrologic unit codes” (or “HUCs”). The codes are 2, 4, 6, 8, 10, or 12 digits long, with the largest level having two digits, watersheds within it at the next smaller level adding two more digits, and so on. The level of a watershed is identified by the number of digits in the HUC, with the largest being referenced as a “HUC-2,” the next level as a “HUC-4,” and so on.<sup>3</sup>

The ARB is a HUC-8, part of which is located in the State of Mississippi. There are 59 HUC-8s partially or entirely within the State of Louisiana.<sup>4</sup> Since these are all “watersheds,” management to some degree is appropriate at this level (HUC-8). However, the LWI program, in agreement with earlier studies, notes that strict adherence to HUC-8 boundaries (or any other particular HUC boundaries) may not be the best solution for watershed-based management, due to the large number of HUC-8s, the practicality of population distribution throughout the state, the existence of pre-existing political jurisdictions, and managing shared threats and challenges among neighboring HUC-8 watersheds. Thus, management to some degree may be appropriate at other levels, at multiple levels, or with modifications to strictly HUC-based boundaries. This issue is discussed further below.

### **ii. Floodplain and Floodplain Management.**

The term “floodplain” is also well-understood: a “floodplain” is “any area of land within a watershed that is susceptible to inundation by floodwaters from any source.”<sup>5</sup> Thus, a floodplain

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<sup>2</sup> USGS, Watersheds and Drainage Basins, [https://www.usgs.gov/special-topic/water-science-school/science/watersheds-and-drainage-basins?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/special-topic/water-science-school/science/watersheds-and-drainage-basins?qt-science_center_objects=0#qt-science_center_objects). Last accessed 12/7/21.

<sup>3</sup> USGS, Hydrologic Unit Maps, <https://water.usgs.gov/GIS/huc.html>. Last accessed 12/7/21. See also Appendix 20 – CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase I Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018), p. B-1 – B-3.

<sup>4</sup> Appendix 11 – CPRA and DOTD, *Senate Concurrent Resolution 39 Response: Phase I Study – Exploring the Reorganization of Levee Districts and Other State-Created Entities with Flood Control Responsibilities* (2014), p. 24-27; Appendix 20 – CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase I Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018), p. III-44.

<sup>5</sup> FEMA, National Flood Insurance Program Terminology Index, <https://www.fema.gov/flood-insurance/terminology-index>. Last accessed 12/7/21.

is only a part of a watershed; specifically, the part of the watershed that may be flooded *when a particular type or magnitude of event occurs*. The most commonly used event considered for floodplain management purposes is the “base flood” that is an essential element of the Federal Emergency Management Agency (“FEMA”) National Flood Insurance Program (“NFIP”). The base flood is often referred to as the “100-year flood” because it is a flood having a 1% chance of occurring or being exceeded in any given year.<sup>6</sup> These are the areas shown on the FEMA Flood Insurance Rate Maps (“FIRMs”) for the NFIP.

Floodplain *management*, however, also includes actions affecting the floodplain itself, even if these actions are taken outside the floodplain itself. Actions within a watershed but outside of its floodplain may and often do affect the floodplain. Floodplain management therefore necessarily includes some actions, policies, or decisions outside of the floodplain itself. FEMA defines “floodplain management” broadly to include these matters: “Flood plain management means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and flood plain management regulations.” 44 CFR 59.1. This includes state and local zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as flood plain, grading, or erosion control ordinances), and other applications of police power that provide standards for the purpose of flood damage prevention and reduction. *Id.* FEMA also describes floodplain management as “a decision-making process that aims to achieve the wise use of the nation’s floodplains. ‘Wise use’ means both reduced flood losses and protection of the natural resources and function of floodplains.”<sup>7</sup>

Thus, “floodplain management” is synonymous with “watershed management.” In practice, the terms are generally used interchangeably as including actions outside the floodplain that *affect* the floodplain.

### **iii. Management.**

The term “management,” in relation to managing the ARB as requested by HCR 46, is subject to varying interpretations. It is well-defined in relation to floodplain or watershed management, as described above. There is general agreement that a watershed must be managed at the watershed level, though there is disagreement as to the *level* of watershed at which management should be exercised and the extent of that management at any particular level.

The LWI program has identified 8 regions across the State into which it recommended breaking down watershed management.<sup>8</sup> Steering committees for each region were given latitude

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<sup>6</sup> FEMA, National Flood Insurance Program Terminology Index, <https://www.fema.gov/flood-insurance/terminology-index>. Last accessed 12/7/21.

<sup>7</sup> FEMA, National Flood Insurance Program Terminology Index, <https://www.fema.gov/flood-insurance/terminology-index>. Last accessed 12/7/21.

<sup>8</sup> Appendix 20 – CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase 1 Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018); Appendix 25 – OCD, Master Action Plan for the Utilization of Community Development Block Grant Mitigation Funds (approved 2020).

to define the nature and extent of the functions that the managerial entity (“watershed body” or “watershed coalition”) would serve in managing that region. The regional steering committees were not consistent in recommending that the regional managerial entity have full control over watershed management.

The ARB is in LWI Region 7. The Goals and Recommended Authorities in the Governance Recommendation adopted by the LWI Region 7 Steering Committee were primarily in the nature of providing technical assistance to local entities, coordination for regional planning processes, outreach and educational efforts, and authority to cooperate, coordinate, and receive and distribute funds to local entities. There was a recommendation for the entity to have authority “to manage and facilitate regional planning processes,” but it is not clear how far this authority is intended to extend.<sup>9</sup> By contrast, the Legislature has already provided for “control” of watershed management, generally at the ARB HUC-8 level, as discussed further below. La. R.S. 38:3301 *et seq.*

In short, there may not be agreement as to the nature and extent of the “management” of the “basin” that may be intended. It may differ, depending on the level at which any particular management authority is exercised; the desired authority may be less controlling at a higher level watershed, such as the LWI Region 7 level, than at the HUC-8 level. Such differing levels of management may co-exist simultaneously. For example, the LWI Region 7 entity may exercise the authority recommended by the Region 7 Steering Committee, while another entity may exercise much greater control at the ARB HUC-8 level. In particular, the Amite River Basin Drainage and Water Conservation District (“ARBC”) already exists and already has the authority to exercise the statutorily provided control of floodplain management for most of the ARB. La. R.S. 38:3301 *et seq.* This issue is discussed further below.

This report will use the term “management” to signify “control,” in relation to programs, plans, regulation, and projects that affect or may affect flooding in the ARB.

### **C. Prior Reports.**

Numerous reports have been prepared in the recent past regarding watershed-based management and related issues, both statewide and in the ARB. This report seeks to minimize repetition of these prior reports to the extent possible, reiterating the primary conclusions and findings as necessary for this report, which focuses specifically on management of the ARB. Key among these prior reports are:

- CPRA and DOTD, *Senate Concurrent Resolution 39 Response: Phase I Study – Exploring the Reorganization of Levee Districts and Other State-Created Entities with Flood Control Responsibilities* (2014) (Appendix 11);
- GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (2015) (Appendix 12);

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<sup>9</sup> Appendix 28 – LWI Region 7, *Governance Recommendation* (approved 6/29/21).

- ARBC, *Proposed Basin Wide Floodplain Planning and Management Process* (2017) (Appendix 14);
- CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase 1 Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018) (Appendix 20);
- DOTD, *Senate Resolution 172 Response* (2019) (Appendix 21);
- OCD, *Master Action Plan for the Utilization of Community Development Block Grant Mitigation Funds* (approved 2020) (Appendix 25); and
- LWI, *Regional Watershed Management in Louisiana: A Guidebook to Local and Regional Entities, Their Authorities and Functions* (2021) (Appendix 27).

These prior reports, and the other reports and authorities cited herein, are included in the appendices to this report.

#### **D. Study Methodology.**

As requested by HCR 46, in performing this study, in addition to reviewing numerous previous reports and other materials, CPRA consulted with the following federal, state, and local governmental agencies with authority in the ARB:

- Amite River Basin Drainage and Water Conservation District (“ARBC”);
- Louisiana Department of Transportation and Development (“DOTD”);
- Louisiana Office of Community Development (“OCD”);
- LWI Steering Committee for Region 7;
- U.S. Army Corps of Engineers (“USACE”);
- Parishes in the ARB: Ascension Parish; City of Baton Rouge / Parish of East Baton Rouge; East Feliciana Parish (invited); Livingston Parish; St. Helena Parish; St. James Parish; and Iberville Parish; and
- Pontchartrain Levee District (“PLD”).

CPRA also met with legislators from areas within the ARB.

Also as requested by HCR 46, CPRA consulted these stakeholders regarding the subjects of the requested study:

- Boundaries of the ARB, currently and potential changes thereto;
- History of flood events in the ARB;
- Management of the ARB;

- Hurricane storm damage reduction, flood protection, and drainage infrastructure projects in the ARB, historically and currently, including protection afforded by the projects, community funding for the projects, and displacement of persons by the projects;
- Perceived inadequacies, inefficiencies, or other problems in floodplain management of the ARB, including regarding management authority, coordination among agencies with authority, regulations, policies, initiatives, actions, permitting, and funding; and
- Recommendations to improve management of the ARB.

CPRA distributed HCR 46 and questionnaires<sup>10</sup> outlining the subjects of this study to the interviewees prior to the scheduled meetings. ARBC provided a written response and materials,<sup>11</sup> and several of the other agencies also provided supplemental materials. CPRA also used its own resources to ensure that the study include the latest and most scientifically-reliable data and technology available. CPRA then utilized the responses and interviews, and its own resources, to prepare this report and the recommendations contained in it.

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<sup>10</sup> Appendix 2 – ARBC questionnaire; and Appendix 3 – Model stakeholder questionnaire form.

<sup>11</sup> Appendix 4 – ARBC response and production in response to questionnaire.

## **2. BOUNDARIES OF THE AMITE RIVER BASIN AND ITS MANAGEMENT.**

Among the items requested in HCR 46 is a proposal for “appropriate boundary lines for updating the management of flood control and other water resources within the Amite River Basin based on the latest and most scientifically-reliable data that is available relating to watersheds and the hydrology of the Amite River Basin.” Two areas of the ARB were excluded from ARBC jurisdiction, and it is recommended to include one of them in the ARB management area.

### **A. Hydrologic boundaries of the ARB.**

The ARB was mapped as part of the Amite River Basin Numerical Model project performed by Dewberry Engineers, Inc. for DOTD, funded by OCD from federal Community Development Block Grant (“CDBG”) funds for Hurricanes Gustav and Ike. This was done based on geomorphology and hydrology and U.S. Geological Survey data.

The ARB is shown in blue outline as “Amite River Basin Watershed” on Figures 1 and 2. As can be seen from the maps, the ARB extends into the State of Mississippi.



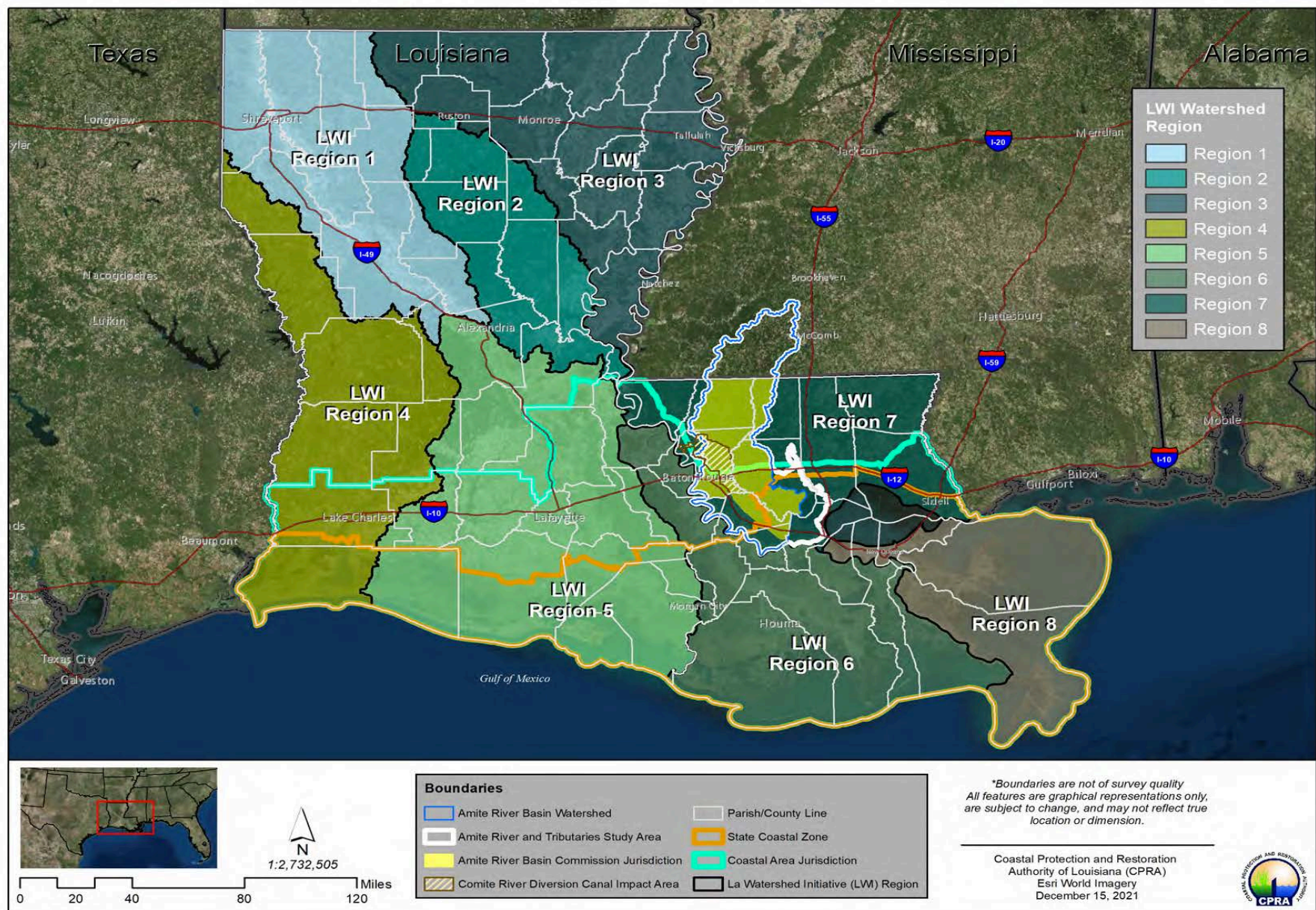


Figure 1 – Boundary Map (statewide)



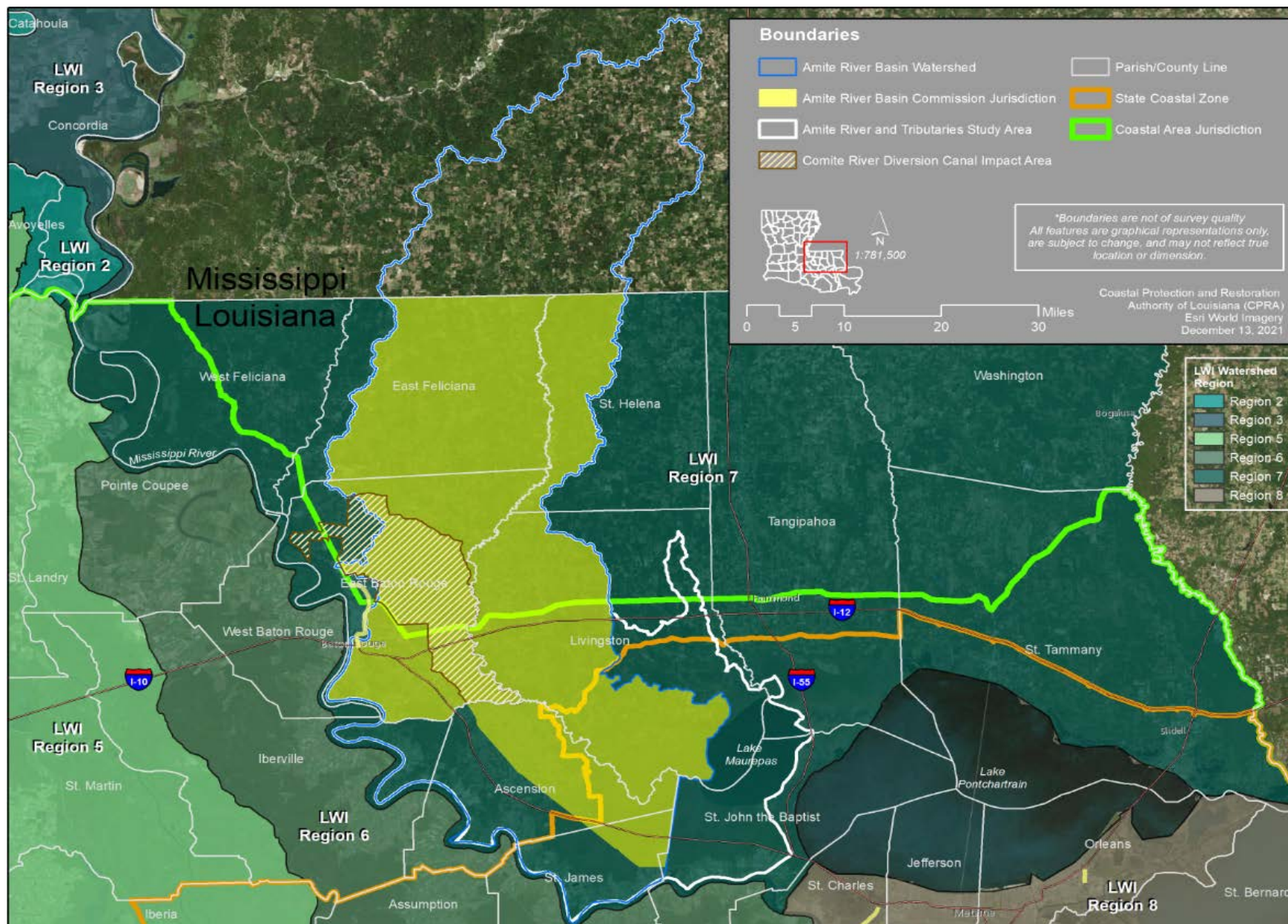


Figure 2 – Boundary Map (LWI Region 7)

## **B. Boundaries of ARBC management authority.**

The Louisiana Legislature did not expressly define the ARB, but defined it as a practical matter by defining the ARBC boundaries. La. R.S. 38:3301(A). Originally enacted in 1981, the statute now defines the ARBC boundaries as “that geographical area within the watershed limits of the Amite River and Tributaries Basin, more particularly defined” by a lengthy metes and bounds description.”

This definition was generated by ARBC itself, in consultation with legislators and local and state agencies. ARBC drew the definition by hand on physical maps, shown in black outline on [Figure 3](#). The Legislature adopted it by Acts 1999, No. 1045. The ARB is also shown on [Figure 3](#), in red outline.

The ARBC boundaries have never been mapped digitally. However, an approximation of the legal definition is shown on [Figures 1 and 2](#) in yellow highlight as “Amite River Basin Commission Jurisdiction.”

For the most part, the jurisdictional boundaries of ARBC correspond to the hydrologic boundaries of the ARB HUC-8, as seen on [Figures 1, 2, and 3](#). A small notch of East Baton Rouge Parish along the Mississippi River in the petrochemical plant area, and a much larger area south of Highway 61 containing an area of Iberville Parish (currently wholly excluded from the ARBC) and areas of Ascension and St. James Parishes (other areas of which are currently included) were excluded from the ARBC jurisdiction, even though they are within the ARB. The small area in East Baton Rouge Parish was reportedly excluded because it encompasses the petrochemical plants. The larger area south of Highway 61 was reportedly excluded to reduce conflict with Pontchartrain Levee District (“PLD”), which has jurisdiction and performs projects there. See [Figure 5](#), Pontchartrain Levee District and ARBC Jurisdictions.

The Legislature also defined a “Comite River Diversion Canal Impact Area,” largely but not entirely located within the ARBC jurisdiction. La. R.S. 38:3301(B). This is another lengthy metes and bounds description, also drawn by hand by ARBC on physical maps and adopted by the Legislature, intended to describe the area benefitted by the Comite River Diversion Channel Project. Its significance is solely to provide a taxing area specific to that Project, independent of the rest of the ARBC jurisdiction. This area protrudes from the full ARBC jurisdiction near Zachary, to the west, following the right of way of the diversion channel. This legal definition is shown in purple outline and yellow cross-hatch as “Comite River Diversion Canal Impact Area” on [Figures 1 and 2](#); and, as hand-drawn by ARBC, in black outline on [Figure 4](#).



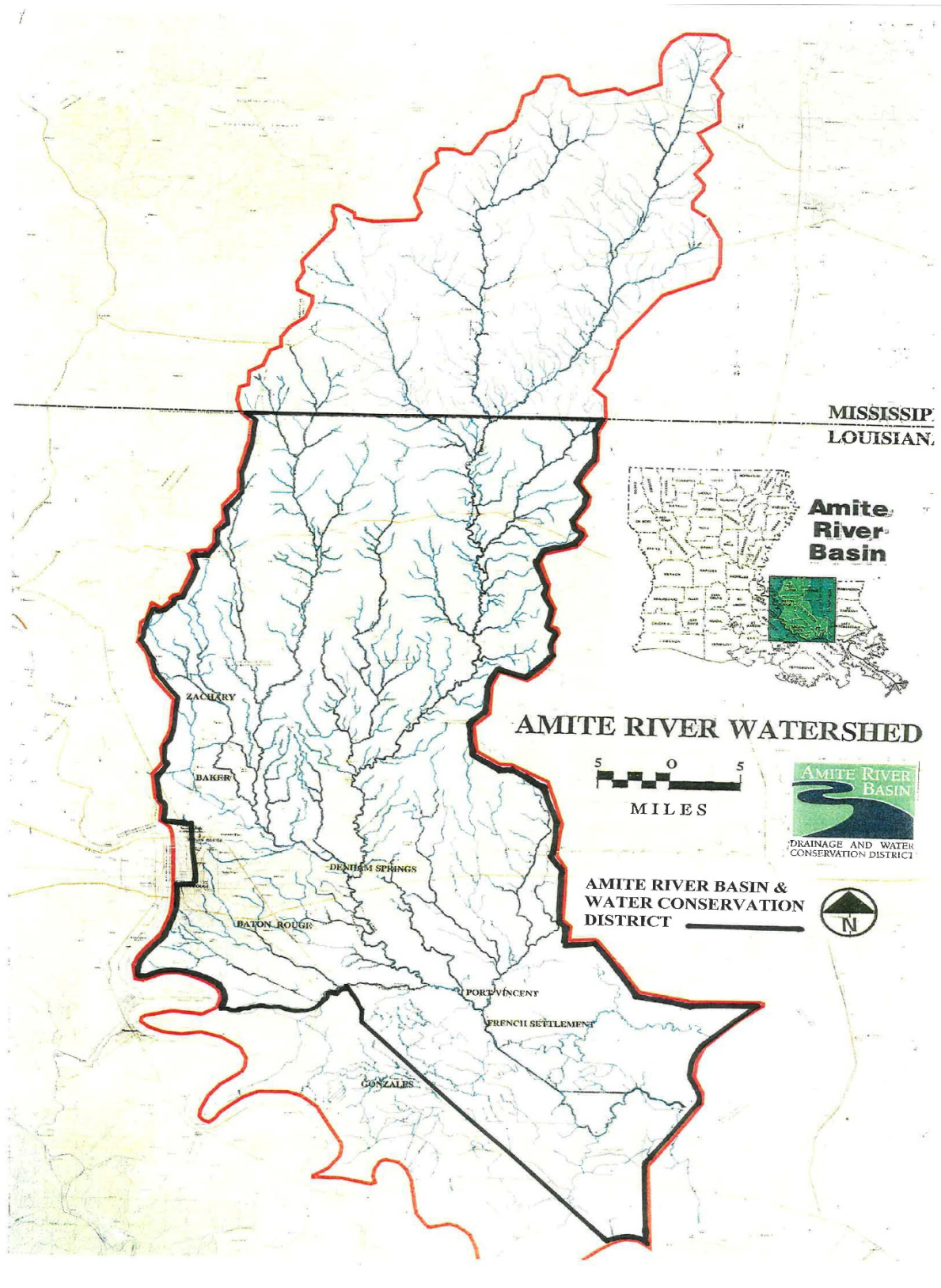


Figure 3 – ARBC Jurisdiction as Drawn by ARBC



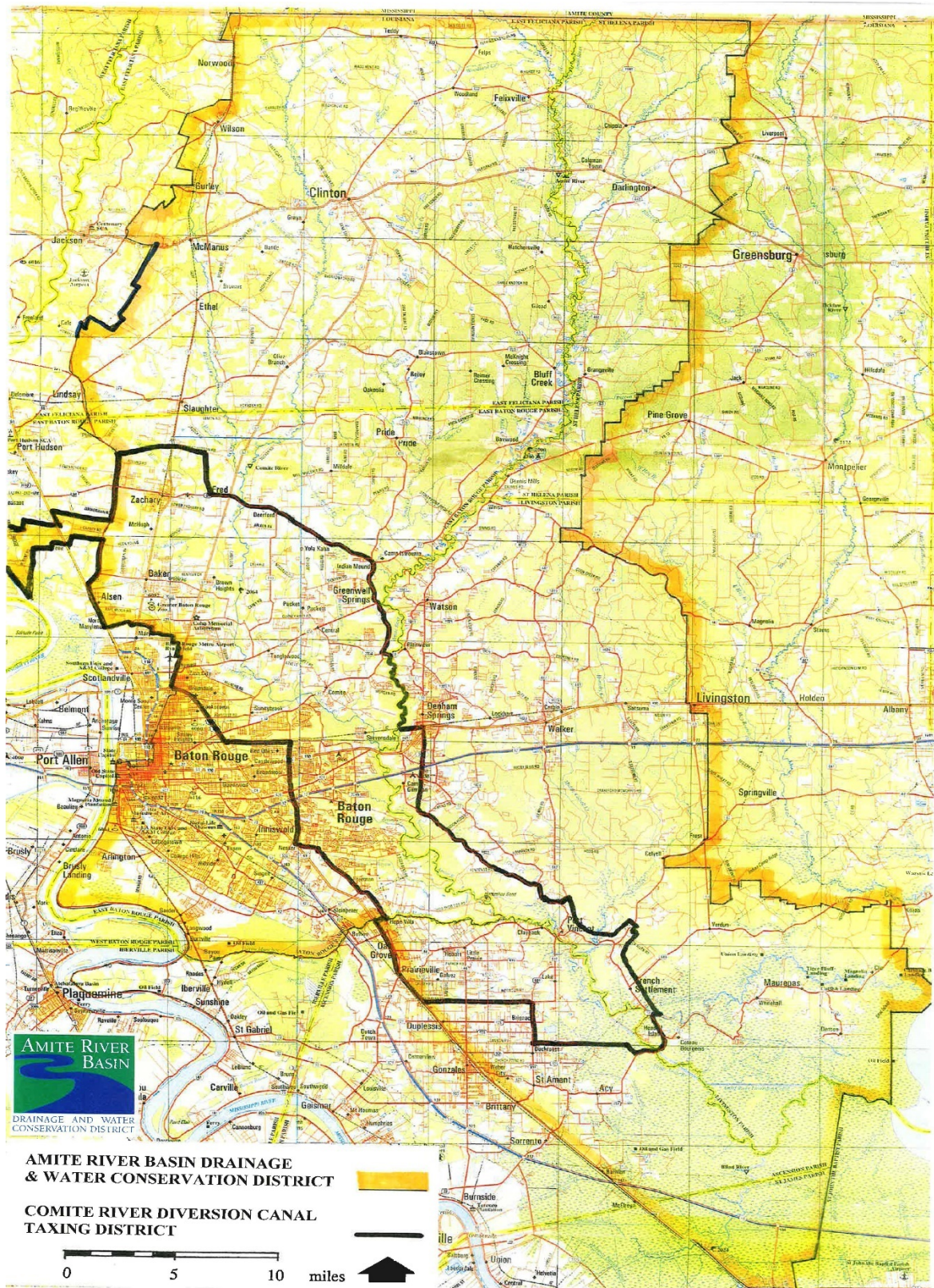


Figure 4 – ARBC Comite Impact Area Taxing Jurisdiction as Drawn by ARBC



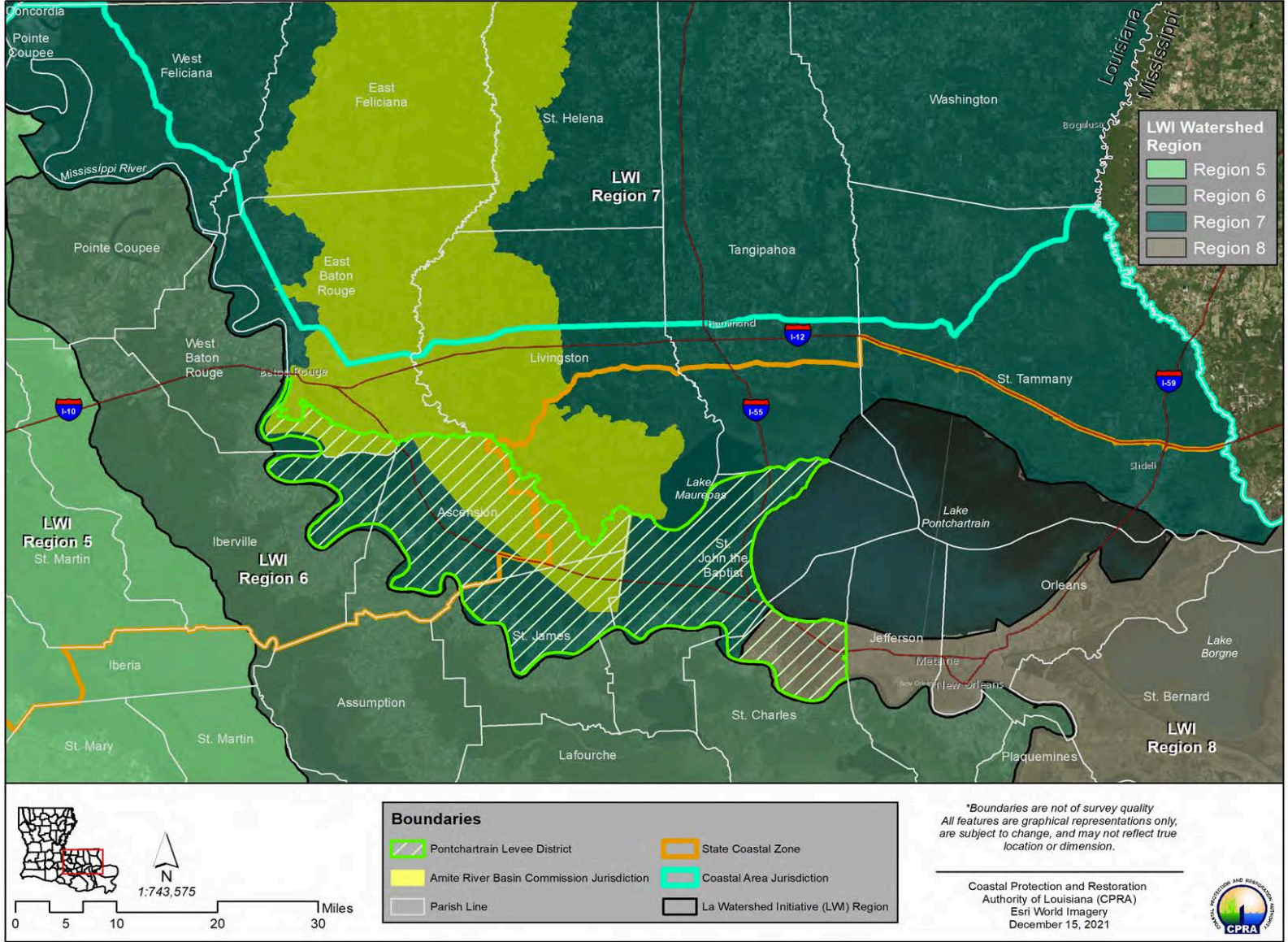


Figure 5 – Pontchartrain Levee District and ARBC Jurisdictions

### **C. Boundaries of the USACE AR&T study area.**

The U.S. Army Corps of Engineers (“USACE”) defined a study area for the Amite River & Tributaries (“AR&T”) studies from the 1960s through today. The Corps AR&T boundaries are shown on Figures 1 and 2 as the ARB (in blue outline) plus the area shown in white outline as “Amite River and Tributaries Study Area.”

For the most part, the AR&T study boundaries correspond to the hydrologic boundaries of the ARB HUC-8. The AR&T boundaries extend somewhat further to the south of the ARB, generally to Lake Pontchartrain, reportedly because the area is very flat and flooding in the ARB could therefore spill over to these other areas. However, these areas are not in the ARB, per its hydrologic definition, and including them in the ARB would complicate ARB management. Further, these areas tend to be subject to coastal as well as riverine flooding, adding further to the complication.

### **D. Boundaries of LWI Watershed Region 7.**

As discussed above, LWI Region 7 encompasses not only the ARB, but also all other territory in Louisiana west of the ARB to the Mississippi River, and all territory east of the ARB and north of Lake Pontchartrain to the Mississippi State boundary. The LWI Region 7 boundaries are shown in green shading as “Region 7” on Figures 1 and 2.

The LWI regional boundaries were developed through the LWI program to address watershed management at a higher level than the HUC-8s such as ARB. The concerns were that there should be a manageable number of regional watershed management entities statewide, and that 59 of them, one for each HUC-8, was too many. Further, most of Region 7 is in the higher level Lake Maurepas HUC-6, and so under extreme circumstances actions in one part of the region could impact ARBC and vice versa in relation to flood risk.<sup>12</sup>

However, ARBC and several of the parishes in the ARB and other areas of Region 7 were opposed to having what they considered to be far-flung parishes controlling development and projects in their localities. Specifically relative to the ARB, ARBC and several of the ARB parishes considered the issues confronting the ARB to be distinct from those further east, and did not consider impacts to be likely between the ARB and the rest of Region 7. They also did not want to have to compete with the North Shore for funding and attention from their watershed manager. As a result, the currently recommended management authority that the Parishes approved for LWI Region 7 is not very robust.<sup>13</sup> Also, the ARB is unique in that it is the only HUC-8 or other watershed that already has an existing statutorily-created watershed manager, namely, ARBC. The proposed authority for LWI Region 7 generally appears capable of coexisting with more direct control exercised at the ARB watershed level.

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<sup>12</sup> Appendix 25 – OCD, *Master Action Plan for the Utilization of Community Development Block Grant Mitigation Funds* (approved 2020), p. 121-122; Appendix 23 – Council on Watershed Management, Meeting Minutes, 8/19/19 meeting.

<sup>13</sup> Appendix 28 – LWI Region 7, *Governance Recommendation* (approved 6/29/21).

#### **E. Recommended boundaries for management of the ARB.**

There was no support for defining the ARB boundaries for watershed management purposes at a lower level than the HUC-8 definition, except for the existing exclusions as to ARBC authority along the Mississippi River in East Baton Rouge Parish.

The exclusion in East Baton Rouge Parish is a small area that encompasses relatively higher ground due to its proximity to the Mississippi River, and does not appear to have any significant history of flooding. It is an industrial area, the inclusion of which in ARB management has not been requested by any agency or by the industries present there. On Figures 1 and 2, it is not even shown as being within the ARB, due to absence of a direct digital drawing of the ARBC boundaries; though it is clearly visible as an exclusion on the hand-drawn Figure 3. It is not recommended to alter this existing exclusion.

It is recommended, however, to include the area south of Highway 61. Iberville Parish was in favor of being included, expressly stating the importance of its inclusion because it has no voice in the ARBC currently. Iberville Parish can be significantly affected by decisions in the rest of the ARB, particularly as floodwaters flow to Bayou Manchac. Ascension and St. James Parishes are already included in the ARBC, so including the rest of their geographical area within the ARB would merely be a change of degree rather than a fundamental change. Portions of PLD already overlap portions of ARBC, so again, as to potential conflict with PLD this would merely be a change of degree rather than a fundamental change. However, PLD does have several projects working in this area already, and has been very successful in working with the Parishes to implement drainage projects, even though this is outside of PLD's core levee responsibility. It will be important not to disrupt the ongoing projects and collaboration between PLD and the Parishes. Further, a good working relationship between PLD and ARBC will be important to ARBC exercising management in areas of joint authority, as discussed further below. Nevertheless, since PLD's core responsibility is levees and ARBC's is drainage, it is appropriate to incorporate this additional area of the ARB into ARBC.

It must be emphasized that this recommendation assumes and is dependent on other recommendations herein regarding changes to ARBC. As detailed below, ARBC has little experience or resources regarding drainage management or project implementation, so increasing its responsibilities must be contingent on modifying the agency and its operation so as to enable and incentivize successful management by the modified entity. In short, the recommendations herein are interdependent.

As to *expansion* of the ARBC jurisdiction, it is not recommended to add the additional areas from the USACE AR&T study area. The Corps AR&T includes a different HUC-8 basin outside of the ARB, the Tickfaw River Basin. While floodwaters flowed between the ARB and the Tickfaw Basin during the 2016 flooding, this was an extraordinary event and not representative of normal or normal flooding conditions. The Corps AR&T also includes the Blind River Basin, which is also outside of the ARB HUC-8. ARBC notes that the USACE Amite River Diversion Canal project in the 1950s connected the Amite River and the Blind River near the discharge of the Blind River into Lake Maurepas, and thus there is a basis for its inclusion in comprehensive



management together with the ARB. Both areas are very low in elevation and thus the basins are not as sharply defined as farther north, where there is greater geographical relief. In the south, water is more likely to flow between the ARB and outside areas. There was no request for the inclusion of either area within the ARB management, however, and doing so would add St. John the Baptist Parish to the ARBC, along with additional areas of Ascension, St. James, and Livingston Parishes. At this time, it is not recommended, though not unreasonable, to expand the ARBC jurisdiction to include these additional areas.

Further, at this time, it is not recommended to extend ARBC's jurisdiction to the full LWI Region 7 or to replace ARBC with or as the LWI Region 7 management authority. There is clearly an important role for the LWI regional authority in Region 7, as in the rest of the State, not least because it would be part of the statewide LWI program with immediate and full access to the resources, authority, and experience of that program; and because it would have greater capability to coordinate data- and experience-sharing from other areas, and to mediate disputes, by virtue of having a jurisdiction larger than the ARB. However, the members of LWI Region 7 have not yet been willing to grant it managerial control, and such control is essential to watershed management. Regardless of whether management at a greater watershed level than the ARB would be desirable, it does not seem to be a viable option at this time. By contrast, management at the ARB level (excepting the excluded areas) is already provided by existing law, as discussed below.

The fact that ARBC already exists is a very different situation than with respect to any other HUC-8 or other area within LWI Region 7 (or in any other LWI region). ARBC was originally created, and is still viewed by the Legislature in HCR 46, as a potential model for watershed management entities statewide. The ARBC model, if successful and accepted by the various stakeholders, may become a model for Region 7 and other regions. Since it already exists, utilizing it for managing the ARB would not create a new entity. Similar entities may not be needed in all other HUC-8s, but where they are, ARBC could be a model for them.

Again, this recommendation is contingent on ARBC actually exercising the control that the Legislature has already given it. As discussed below, ARBC has not exercised this control to date, largely limiting its activities to support for the Comite River Diversion Project and a handful of other tasks. Other recommendations are made below for changes to ARBC to prompt it to begin exercising its authority for watershed management in the ARB, and to fund it to enable it to do so. Without these types of changes, and without ARBC actually managing the watershed, there is little benefit to the ARB beyond the Comite River Diversion Project, and nothing that LWI Region 7 could not perform. Regardless of hesitation regarding direct watershed management at this higher level and the currently proposed weak managerial control by Region 7, if there *is* no watershed management at the ARB level, then weak management solely at the Region 7 level is superior to no watershed-level management at all.

Accordingly, if the Legislature does not wish to prompt and enable ARBC to exercise control, or if ARBC cannot be prompted to exercise that control, then it would be recommended that the LWI Region 7 boundaries be used instead and efforts made to increase the Region 7 authority to include watershed management, so as to provide some degree of effective watershed-oriented management in the ARB without the extra level of government.

### **3. MANAGEMENT OF THE AMITE RIVER BASIN.**

Myriad federal, state, and local agencies have authority affecting watershed management in the ARB. None, however, amount to control, except that of ARBC, which exists on the face of the statutes, but which ARBC has never exercised.

The federal agencies are not responsible for management, but for performing particular projects; providing funding for state and local projects; and managing the NFIP, which indirectly affects floodplain management by affecting the financial feasibility of development in the 100-year floodplain.

On the face of the statutes, ARBC is the lead agency in the state regarding management of the ARB, subject to oversight by CPRA within the Coastal Area. Other state agencies have particular authorities that affect the ARB, including administering federal and state funding for particular projects, overseeing recommendations regarding floodplain management, and permitting in the Coastal Zone, depicted on Figures 1 and 2 as the orange line. But only ARBC has direct managerial control.

The Parishes have primary control over drainage and drainage projects. However, on the face of the statutes, parish authority is subject to ARBC control as to floodplain management. Additionally, no Parish can manage the entire ARB, but at most only of the portions within their boundaries.

Levee districts, notably PLD, have responsibility to protect the lands of the district from flood, but this is generally with respect to levees. In the absence of a watershed manager in the ARB, PLD has stepped up to perform and assist the Parishes with drainage projects, though it has not extended so far as to address other aspects of watershed management.

#### **A. Federal level.**

In general, federal agencies have responsibilities that affect floodplain interests, but do not directly manage the ARB. As federal agencies, they are not subject to state law or management by state or local agencies, though they interact extensively with state and local agencies.

##### **i. United States Army Corps of Engineers (USACE)**

USACE does not perform watershed management in the ARB. Rather, USACE performs specific studies and projects as authorized by Congress, or pursuant to limited general authorities granted by Congress.

USACE's current authority for significant projects is limited to the AR&T authorization, including the Comite River Diversion Project and the East Baton Rouge Flood Control Project. Of the other original projects, only the AR&T East of the Mississippi River study remains, a draft of which resurrected the Darlington Reservoir Project. That study is currently stalled due to lack of a nonfederal sponsor as a result of environmental justice concerns, but may continue in relation to nonstructural (e.g., elevation) measures.

USACE has a Continuing Authorities Program authorization, which includes flood control as one authority. Local entities must approach the Corps with proposals. It is cost shared 50/50 for design and generally 65/35 for construction. However, it is limited to smaller scale projects, generally under \$5M, and is nationwide in scope and thus extremely competitive.

USACE also has a Planning Assistance to States program, which can assist states with floodplain management plans and designs. It is cost shared 50/50. It is also competitive across the nation and for smaller projects, and limited to design, not construction.

USACE also has a Flood Plain Management Services program, which is for small requests for planning and technical assistance such as providing GIS to a local entity to do a project, in the range of \$50,000 to \$100,000. There is no construction under this authority.

Finally, USACE has the Silver Jackets Program, which involves state-led teams to discuss projects and lessons learned. It is an idea-sharing and relationship-building program, not a design or construction program.

USACE is also responsible for review and permitting of floodplain wetland dredging, filling, and modification projects per the Clean Water Action Section 404. This is not managerial in nature, though USACE's decisions certainly affect the watershed.

## **ii. Federal Emergency Management Agency (FEMA).**

FEMA does not perform watershed management in the ARB. However, FEMA has substantial effect on development in and affecting floodplains, and thus on flooding impacts, through its insurance and grant authorities.

FEMA implements the National Flood Insurance Program ("NFIP") in conjunction with participating local communities. The NFIP provides federal flood insurance based on agreements with local governments to develop and adopt Flood Insurance Rate Maps ("FIRMs") and to adopt and enforce floodplain management requirements to reduce flood risks such as zoning codes, subdivision ordinances, building codes, and rebuilding restrictions. FEMA sets minimum standards for participation in the NFIP such as regarding development in Special Flood Hazard Areas as shown on the FIRMs, but these standards have the force of law only when they are adopted and enforced by state or local governments.<sup>14</sup>

In connection with the NFIP, FEMA administers the voluntary Community Rating System, which offers local communities the opportunity to reduce the cost of NFIP insurance premiums by improving floodplain management. Again, this is an incentive-based and not directly regulatory program.

FEMA also has responsibility for administering grants through the Pre-Disaster Mitigation ("PDM") grant program, the Hazard Mitigation Grant Program ("HMGP"), and the Flood Mitigation Assistance ("FMA") program, collectively referred to as the Hazard Mitigation

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<sup>14</sup> Appendix 19 – Congressional Research Service, Flood Resilience and Risk Reduction: Federal Assistance and Programs (2018), p. 37.

Assistance Grant Programs.<sup>15</sup> PDM and FMA are funded annually, while HMGP is funded by specific appropriations after disaster declarations, though all are subject to supplemental appropriations. None of these programs is regulatory, though appropriations or selections for grants may have or lead state and local agencies to implement significant impacts on planning, land use, and other efforts to mitigate floods.

### **iii. Other federal agencies.**

Several other federal agencies have responsibilities that affect the ARB, but none constitute watershed management.

U.S. Department of Housing and Urban Development (“HUD”) provides assistance and federal Community Development Block Grant (“CDBG”) funding through programs for disaster recovery and community development. OCD works with HUD to administer the CDBG funds to Louisiana municipalities and state entities in accordance with grant agreements and regulations. The latter must meet eligibility requirements to receive federal funds through the HUD programs.

U.S. Geological Survey collects and analyzes hydrologic data for major waterways.

The National Weather Service forecasts rainfall accumulation and river stages.

U.S. Environmental Protection Agency monitors water and floodplain ecosystem quality and reviews and permits point and non-point discharges under the Clean Water Act.

U.S. Fish and Wildlife Service monitors sensitive habitat under the Threatened and Endangered Species Act.

## **B. State Level.**

At the state level, CPRA has oversight authority regarding flood control within the Coastal Area, but this is generally directed at coastal resources and flooding. No other state agency has watershed management authority, although several state agencies have authorities that may impact watershed management.

### **i. Coastal Protection and Restoration Authority (CPRA).**

CPRA does not manage flood control directly, but exercises oversight authority control in the Coastal Area, in relation to coastal resources. In general, this is limited to hurricane storm damage risk reduction, not riverine flood control.

CPRA authority is generally limited to the Coastal Area (depicted by the green line on Figures 1 and 2). See La. R.S. 49:214.1(E), 214.2(1, 4, 10, 16), 214.5.2(A)(1, 2, 4, 11), 214.5.3(A)(1), 49:214.6.2(B), 49:214.6.3(B)(1). Approximately half of the ARB is outside of the Coastal Area, and thus outside of CPRA’s oversight.

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<sup>15</sup> Appendix 19 – Congressional Research Service, Flood Resilience and Risk Reduction: Federal Assistance and Programs (2018), p. 10.

Within the Coastal Area, CPRA has oversight of flood control, even by political subdivisions: “The exercise of any authority with respect to hurricane protection and flood control by a political subdivision within the Coastal Area is subject to the oversight and approval of the authority in accordance with rules and regulations adopted by the authority.” La. R.S. 49:214.6.3(B)(3). This is oversight authority, however, not direct management; and as explained below, is limited to coastal resources.

La. R.S. 49:214.3.1(A)(2) directs the Governor, through his executive assistant for coastal activities, to “coordinate the powers, duties, functions, and responsibilities of any state agency relative to integrated coastal protection.” In turn, integrated coastal protection is defined broadly as “plans, projects, policies, and programs intended to provide hurricane protection or coastal conservation or restoration, and shall include but not be limited to... infrastructure; ... flood control; water resources development; [and] diversions.” La. R.S. 49:214.2(11). Thus, through the executive assistant, CPRA has oversight authority over state agencies, but not direct management, except to the extent of requiring compliance or precluding interference with plans, projects, policies, and programs affirmatively undertaken by CPRA. It is also limited to coastal resources and the Coastal Area.

CPRA is “responsible for the implementation and enforcement of the [coastal] master plan and annual plan” and “shall implement the integration of hurricane protection, storm damage reduction, flood control, infrastructure, and coastal protection and restoration efforts in accordance with the Master Plan and Annual Plans.” La. R.S. 49:214.6.1. Pursuant to Executive Order JBE 2016-19 and predecessor orders under Governor Jindal, all actions of state agencies must be consistent with the Master Plan to the extent possible. Thus, insofar as state agencies are concerned, and limited to the Coastal Area where CPRA has jurisdiction, CPRA has oversight authority to the extent that it can preclude actions inconsistent with the Master Plan.

La. R.S. 49:214.3.1(B)(2)(d) authorizes the Governor, through his executive assistant for coastal activities, to “review and modify proposed coastal use permits prior to issuance to the extent that such permits would authorize activities which significantly affect integrated coastal protection projects or which significantly diminish the benefits of projects intended to protect, conserve or enhance coastal areas and to require the issuance of permits for public or private integrated coastal protection projects or plans.” Thus, through the executive assistant, CPRA has authority to reject or modify any application for a coastal use permit, insofar as it affects integrated coastal protection, which includes flood control and water resources development. Further, La. R.S. 49:214.6.2(C)(2) grants CPRA “oversight over the administration of all matters related to the study, planning, engineering, design, construction, extension, improvement, repair, and regulation of integrated coastal protection.” This is oversight authority, not direct management, except to the extent of requiring modifications to permits that would interfere with plans, projects, policies, and programs affirmatively undertaken by CPRA; and applies only in the Coastal Area.

The Flood Risk Resilience Program (“FRRP”) is the program through which nonstructural projects and corresponding policy recommendations in the Master Plan will be implemented. However, there are no project procurement or execution tasks overseen by CPRA relative to FRRP, and it is a project authority that does not convey regulatory authority over watershed management.

**ii. Louisiana Department of Transportation and Development (DOTD).**

DOTD exercises no watershed management authority. Rather, DOTD administers some aspects of some federal programs, manages funding and support for some flooding control projects, and provides technical assistance and advice to ARBC.

DOTD manages the NFIP at the state level, and several programs under the umbrella of NFIP. La. R.S. 38:84(B). This includes the Cooperating Technical Partner program, which generally provides funding for watershed mapping. This also includes managing the Community Rating System at the state level, insofar as assisting local communities developing and implementing plans to qualify for reduced NFIP premiums.

DOTD also manages the Statewide Flood-Control Program, as chair of the Floodplain Evaluation and Management Commission, which also includes CPRA, OCD, GOHSEP, DEQ, Association of Levee Boards of Louisiana, and others. La. R.S. 38:90.1 et seq. This program provides up to \$20 Million in annual funding to local communities for construction of flood control projects through the Transportation Trust Fund.<sup>16</sup> The program provides appropriations for projects that provide long-term solutions to flood problems and protect existing developments in flood-prone areas without encouraging further development in these areas.<sup>17</sup> The sponsoring authorities must provide local match of at least 10% of the project construction cost, furnish all property rights, and pay all operation and maintenance costs. La. R.S. 38:90.9.

Applications are reviewed by the Statement Flood Control Project Evaluation Committee, consisting of DOTD, the Louisiana Geological Survey, and the State Planning Office, which makes recommendations to the Joint Legislative Committee on Transportation, Highways and Public Works. The Joint Legislative Committee conducts public hearings on the list of recommended projects, and makes its own recommendation to the Legislature for a construction program to be funded during the regular legislative session. For approved projects, the local sponsors enter into agreements with DOTD regarding construction, operation, and maintenance obligations.<sup>18</sup> The Rural Grant Opportunity Program was created in 2018 to assist smaller municipalities and parishes by providing assistance with meeting the match requirement under the Statewide Flood Control Program. La. R.S. 38:90.4.1.

There is also a Floodplain Evaluation and Management Commission under La. R.S. 38:90.2, to systematically evaluate drainage and flooding problems in the State, and to review development proposals in each area to ensure that no development in one parish or municipality will have a negative or detrimental effect in any other parish or municipality. However, it was never funded.

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<sup>16</sup> Appendix 26 – DOTD, *Louisiana Statewide Flood Control Program, Guidelines and Procedures* (Oct. 2020 rev).

<sup>17</sup> Appendix 26 – DOTD, *Louisiana Statewide Flood Control Program, Guidelines and Procedures* (Oct. 2020 rev), p. I-2.

<sup>18</sup> Appendix 26 – DOTD, *Louisiana Statewide Flood Control Program, Guidelines and Procedures* (Oct. 2020 rev), p. I-3 - I-4.

Pursuant to La. R.S. 38:2(A), the functions of DOTD “shall comprise all of the administrative functions of the state in relation to the planning, design, survey and construction, operation, and maintenance and repair of ... levees, canals, dams, locks, spillways, reservoirs, drainage systems, irrigation systems, ... state planning, inland navigation projects, flood control and river improvement programs, ... and other public works.” However, the parish authority for drainage (addressed below) under the 1974 Constitution left little function as to drainage at the state level. DOTD authority is subject to the “superseding jurisdiction” of CPRA over all integrated coastal protection in the Coastal Area.

Nevertheless, pursuant to La. R.S. 38:2(A) and La. R.S. 38:5, DOTD is one of the nonfederal sponsors for the Comite River Diversion Project, along with City of Baton Rouge/East Baton Rouge Parish and ARBC. DOTD is also constructing some segments of the Comite project. However, East Baton Rouge Parish will operate and maintain the Comite project after construction is complete, and ARBC is responsible for the floodplain management aspects, so DOTD’s responsibility regarding this project does not amount to management of the ARB.

DOTD has statutory responsibility to provide advice and provide engineering services to the ARBC. La. R.S. 38:3305. However, ARBC has not called upon DOTD for this purpose.

### **iii. Office of Community Development (OCD).**

OCD has no authority regarding watershed management. Rather, OCD administers disbursement of HUD Community Development Block Grant (“CDBG”) and other funds for projects proposed by other state and local agencies. While primarily for disaster recovery, the funding can also be used for flood mitigation programs. OCD coordinates with local government to develop and submit the Action Plans required to access the funding, and to meet all regulatory requirements for program eligibility.

The CDBG funding received by HUD is extensive, involving billions of dollars. Currently, OCD has \$1.2B in funds from the 2016 flooding disaster, which is being administered through the LWI Program. Approximately \$400M of these funds has been allocated to projects submitted by state and local agencies. The remainder is under review in later tranches of proposed projects.

### **iv. Governor’s Office of Homeland Security and Emergency Preparedness (GOHSEP).**

GOHSEP has no authority regarding watershed management. Rather, GOHSEP administers disbursement of FEMA Hazard Mitigation Assistance Grant programs funds.

GOHSEP is responsible for supporting and providing oversight of state and local hazard mitigation plan development, as required for eligibility for FEMA mitigation assistance funds, through technical assistance, interagency coordination of emergency response, recovery, and mitigation efforts. This includes preparing the State Hazard Mitigation Plan.<sup>19</sup> However, this authority does not extend to watershed management, but is descriptive and hortatory.

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<sup>19</sup> Appendix 22 – GOHSEP, *Louisiana State Hazard Mitigation Plan* (2019).

**v. Louisiana Watershed Initiative (LWI).**

Executive Order JB-2018-16 created the Council on Watershed Management (“CWM”), composed of the Secretaries and Executive Directors of the OCD, DOTD, CPRA, GOHSEP, and the Department of Wildlife and Fisheries (“DWF”). Among CWM’s goals was developing and implementing a Louisiana Watershed-based Floodplain Management Program for watershed-based flood risk reduction at the state level. CWM’s program for this watershed-based approach is referred to as the Louisiana Watershed Initiative (“LWI”).

Neither the CWM nor any other entity in relation to the LWI program has authority regarding watershed management. While this may change in the future, at this time, LWI’s role is developing proposed standards and processes for floodplain management for other agencies to implement, promoting cooperation and communication among agencies with authority, and educating the agencies and public regarding watershed management and the necessity for watershed-based management.

**vi. Louisiana Department of Natural Resources (DNR).**

The DNR Office of Coastal Management is responsible for issuing state coastal use permits and overseeing local coastal use permitting for development in the Coastal Zone (depicted by the orange line on Figures 1 and 2). Under this authority, DNR obtains concurrence from state agencies and political subdivisions with authority affected by the proposed development, and requires compliance with their mitigation requirements for impacts within their authorities. Thus, DNR does not have direct managerial control over watershed management, but enforces requirements applicable to uses that impact resources within the authorities of other agencies, as well as its own. However, DNR has no authority over fastlands above 5 feet elevation or areas outside of the Coastal Zone, which describes most of the ARB. Accordingly, most of the ARB is outside of DNR’s coastal use permitting authority.

**vii. Louisiana Department of Wildlife and Fisheries (DWF).**

DWF provides comments and mitigation recommendations for all permits sought from state and federal environmental regulatory agencies, primarily DNR and USACE.

DWF also administers the Louisiana Natural and Scenic Rivers Act. The Act requires DWF to manage a permitting system for activities that have the potential to cause significant ecological impacts to designated Natural and Scenic Rivers. La. R.S. 56:1850. The Amite River from the Mississippi state line to La. Hwy. 37, the Comite River from Wilson-Clinton Hwy. to White Bayou, and Blind River from its origin to Lake Maurepas are all included. La. R.S. 56:1847. Therefore, any potential project that could affect the ecology of these rivers would require a permit from DWF. La. R.S. 56:1849. Clearing and snagging, and dredging are prohibited on these rivers without a permit due to potential harm to aquatic organism habitat, and permits for such projects, or others for flood control may be denied. La. R.S. 56:1853.

While this permit requirement does not prevent all removal of logs, debris, or blockages, and exceptions can be granted, it may delay or even preclude clearing, snagging, dredging, straightening, or other activities on the rivers, even if the purpose is flood control.



### **C. Amite River Basin Drainage and Water Conservation District (ARBC).**

Created in 1981, ARBC is a district encompassing the area defined by its jurisdictional boundaries. Management and control of the ARBC is vested in its Board of Commissioners. La. R.S. 38:3302. In turn, the Board's decisions are implemented through staff. For simplicity, this report will refer generically to "ARBC" as including its Board of Commissioners and staff, unless otherwise noted.

#### **i. Purpose.**

The Legislature created ARBC "to establish adequate drainage, flood control, and water resources development" within ARBC jurisdiction. La. R.S. 38:3302.

On its website, ARBC describes its purpose as:

To mitigate flood damage in the Amite River Basin, this Commission will serve as a multi-parish authority to accomplish flood control measures; facilitate cooperation between federal, state and local governing bodies to foster floodplain management; maintain and operate structures built under the auspices of the Commission; and coordinate river management within the basin.<sup>20</sup>

Similarly, ARBC's annual Financial Reports state that "The District was created by Act of Legislature in 1981 for the purpose of addressing regional flooding problems in the Amite River Basin."<sup>21</sup> The Reports also state that:

The District serves as a multi-parish authority to accomplish flood control measures, facilitate cooperation between federal, state and local governing bodies to foster flood plain management, maintain and operate structures built under the auspices of the [ARBC] and coordinate river management within the basin. It is charged with the responsibility to establish adequate drainage, flood control and water resources development including, but not limited to, construction of reservoirs, diversion canals, gravity and pumped drainage systems and other flood control works.<sup>22</sup>

The ARBC representatives interviewed for this study, Board President Edward Park, Board Vice President David Hoover, Executive Director Dietmar Rietschier, and outside counsel Larry Bankston, and their written response to the interview questions, agreed that ARBC's purpose is "control of all public drainage, flood control and water resources development, reservoirs, and diversion canals in the ARB." Thus, ARBC's understanding of its purpose matches its statutory purpose, which is to establish adequate drainage, flood control, and water resources development in the portion of the ARB within its jurisdiction.

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<sup>20</sup> <https://www.amitebasin.org/index.htm>. Last accessed 12/7/21.

<sup>21</sup> Appendix 29 – ARBC Financial Report for the Year Ended June 30, 2021, p. 6.

<sup>22</sup> Appendix 29 – ARBC Financial Report for the Year Ended June 30, 2021, p. 28.

**ii. Authority.**

By statute, ARBC is given robust authority in order to implement its purpose:

The board shall have the **authority to establish adequate drainage, flood control, and water resources development** to include but not be limited to construction of reservoirs, diversion canals, gravity and pumped drainage systems, and other flood control works. La. R.S. 38:3302.

[ARBC] shall adopt rules or **regulations for comprehensive drainage, flood control and water resources development**, reservoir, and diversion canal systems. La. R.S. 38:3306(A).

The board shall be vested with the **control of all public drainage, flood control and water resources development, reservoirs, and diversion canals** in the district. La. R.S. 38:3306(B).

The board shall have the **authority to construct and maintain drainage works of all types** either in cooperation with one or more parishes, municipalities, drainage districts, or other special districts within its territorial jurisdiction or upon its own undertaking. La. R.S. 38:3306(C).

This legislative authority expressly provides ARBC with control of watershed management in the ARB, to the extent of its jurisdiction, which as addressed above is nearly coextensive with the ARB itself. The Attorney General has opined that the ARBC's authority is sufficient to implement a comprehensive drainage and flood control program for the district, even generally superseding home rule charter authority in the event of conflict.<sup>23</sup>

Further, ARBC is authorized to issue bonds or levy taxes to raise funds, La. R.S. 38:3308, 3309; obtain engineering assistance from DOTD, La. R.S. 38:3306(B); buy or expropriate property, La. R.S. 38:3307(C), 3306(F); make all contracts, La. R.S. 38:3307(C); and "do and perform all things necessary to carry out [its] objects," La. R.S. 38:3307(C). Thus, Legislature has provided ARBC with the tools needed to exercise its statutory control over watershed management.

**iii. Performance.**

Rather than managing the ARB watershed, ARBC action has largely been limited to support for the Comite River Diversion Project, including preparing a floodplain management plan as required for that project and providing local matching funds for work on the project. The other activities of ARBC have been preparing reports regarding high water marks from the August 2016 and May 2021 floods in the ARB, efforts to improve mapping of the ARB for a floodplain computer model, funding a design study for the Amite River Diversion Weir rehabilitation project,

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<sup>23</sup> Appendix 9 – Louisiana Attorney General Opinion No. 94-41 (1994).

funding U.S. Geologic Survey water level gages on the Amite, and outreach to agencies in the form of occasional mailers or presentations.

The ARBC representatives agreed that ARBC has the statutory authority to control watershed management in the ARBC jurisdiction. They stated that they had not sought to do so, however, due to concern that the Legislature would remove that authority if ARBC attempted to exercise it, as a result of opposition by political subdivisions and others to limitations that ARBC management would impose on them, as well as lack of funding and the resulting lack of personnel. The ARBC representatives further stated that they had not sought to levy taxes to generate funds except for the Comite project because they anticipated failure of such efforts due to inability to show success as a result of lack of progress on the Comite project. They noted that centralized watershed management and tax initiatives might be received better today, due to the fresh history of flooding in the ARB, the progress now being made on the Comite project, and the efforts of the LWI program.

In its written response regarding this study, ARBC further stated that:

The legislation has an extremely broad mandate that is technically in conflict with other existing statutes related to home rule charter authority and other related statutes. ARBC has been advised that it cannot control “all ‘public drainage.’” At best we and local government can build and maintain public drainage. ARBC is only interested in REGIONAL drainage, meaning maintaining in good condition the major outfalls of the Basin. i.e. Maintenance of the Amite, Comite, Bayou Manchac and Blind Rivers. ARBC cannot mandate programs that the individual parishes do not support.

ARBC further responded that:

ARBC does not see its place [as being] to impose Basin wide regulations related to land use or construction;

ARBC is against the concept of regional regulations, like zoning, land use, development codes, etc. because this will create a new ‘regional government level’ in the field of surface water management;

By statute, ARBC has no regulatory authority [in relation to public drainage, flood control, water resources development, or floodplain management] and historically has not requested this power or authority; and

Any land use authority for ARBC would be considered as an interference by local government.

ARBC also noted that “ARBC would like to have more authority in terms of a holistic approach to Watershed Management.”

Thus, ARBC believes that it cannot actually exercise the “control” authority it has been given by the Legislature, due to home rule authority of local political subdivisions. This is incorrect, according to the Attorney General, who issued an opinion to ARBC in 1994 stating that

ARBC authority supersedes home rule charter authority as long as the ARBC action is appropriate and reasonable:

In conclusion, it is the opinion of our office that the District has legitimate authority and powers to implement a comprehensive drainage and flood control program for the district. Further, in the event of a conflict between the various municipal or parish home rule charters and the operations to be implemented by the Board of Commissioners, the Board will prevail provided its actions are within the scope of a valid exercise of the State's police powers, the benefits of which are commensurate with the burdens imposed. Flood and drainage control of an entire region of the state that is prone to flooding takes precedence over self-contained drainage systems within individual municipalities or parishes.<sup>24</sup>

Of course, the roles of other political subdivisions and other agencies with authority affected by watershed management must be taken into account, as a purely practical matter. It would also be appropriate for the ARBC to take a regional approach, meaning management on a watershed-based basis. Nevertheless, the broad authority granted by the Legislature is valid, as well as sufficient to enable ARBC to exercise the control granted to them.

ARBC suggested in its response for this study that it could do the following:

- Maintain the major water bodies in the ARB, such as the Amite, Comite, and Blind Rivers and Bayou Manchac.
- Act in the area of water resources development, which they interpret as benefits other than flood amelioration and losses, such as recreation opportunities, including along the middle reach of the Amite River Basin where surface mining.
- Act as mediator to resolve conflicts among political subdivisions regarding public drainage improvements.
- Act as the lead overseeing agency to formulate and develop regional flood loss amelioration projects and programs, in coordination with parish and local governments.
- Act as an overseeing, coordinating agency to address regional flooding in the ARB.

ARBC identified these and many other things that it believes it should be doing to manage the ARB, in its 2015 Floodplain Management Plan for the Comite project, and in its 2017 Proposed Basin Wide Floodplain Planning and Management Process.<sup>25</sup>

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<sup>24</sup> Appendix 9 – Louisiana Attorney General Opinion No. 94-41 (1994).

<sup>25</sup> Appendix 12 – GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (2015); Appendix 14 – ARBC, *Proposed Basin Wide Floodplain Planning and Management Process* (2017).

To date, however, ARBC has not done these things. Several of the ARB Parish Presidents and drainage directors noted that they received no assistance from ARBC; many had never heard from ARBC or the ARBC Commissioners from their own parishes; and some did not even know who their Commissioners were. Two had not even heard of the ARBC at all, until they were interviewed for this study. This appears to be a result of ARBC concentrating almost exclusively on the Comite project, rather than the ARB overall.

#### **iv. Staffing.**

At present, ARBC has only two employees – Executive Director Dietmar Rietschier and Executive Secretary Toni Guitrau. ARBC also has 13 Board Commissioners, but the Board is a policy body composed of part-time and unpaid (except as to per diems) appointees, not an implementation body. ARBC also relies on its outside counsel, Larry Bankston, and contractors such as engineer Bob Jacobsen.

This staffing is obviously insufficient for ARBC to implement its statutory authority to control watershed management in the ARB. The ARBC representatives agreed that more staff is needed to increase its involvement in watershed management, much less to exercise control: “if the ARBC is expected to fulfill the role of a Watershed Management agency, it will need more staff.” Additional legal and engineering capabilities could be provided by contracted consultants.

As to the Commissioners, two from each of the six Parishes within ARBC are appointed by the Governor from among nominations by the members of the Legislature serving that portion of each Parish; and one is appointed by the Governor from the District at large. La. R.S. 38:3303. There are no qualification requirements, other than that the Parish Commissioners must live in the Parish from which they are appointed. The current Board contains engineers, a surveyor, a businessman, a sheriff’s deputy, a paralegal, a business manager, and a retired Army Colonel, Attorneys and accountants have served previously. ARBC considers the current Commissioners to be qualified by virtue of their local knowledge regarding drainage and related matters, but recognized that it would be beneficial to the ARBC in fulfilling its purpose to have Board members with qualifications regarding drainage, flood control, water resources development, or floodplain management.

#### **v. Funding.**

For nearly 20 years after it was created, ARBC received annual appropriations through the State budget. This annual funding was terminated when ARBC obtained passage of a tax measure for the Comite River Diversion Project in 2000. Since that time, ARBC has neither sought nor received appropriations through the budget.

ARBC sought and in some instances received Capital Outlay funding, but only for the Comite River Diversion Project. ARBC neither sought nor received Capital Outlay funding for any other purpose.

ARBC has raised some revenues through selling dirt from, and issuing hunting leases on, excess property acquired for the Comite River Diversion Project. ARBC has also considered trying to start a mitigation bank on that property. At completion of that Project, however, the

property will likely be transferred to East Baton Rouge Parish, and these sources of revenue will terminate.

ARBC has authority to levy taxes both District-wide throughout the ARB, and in a sub-portion of its overall jurisdiction specifically for the Comite River Diversion Project, determined by the area expected to be benefitted by that project and referred to as the “Comite River Diversion Canal Impact Area.” All such taxes must be approved by the voters not only in the entire basin or the Comite Impact Area, respectively, but also separately by the voters in the portions of each Parish located therein. La. R.S. 38:3309. If a tax measure passes overall but the voters in any Parish reject it, the tax cannot be collected from them.

ARBC has sought to levy a tax only in the Comite Impact Area; ARBC has never sought a District-wide tax. Further, ARBC has never sought to levy a tax for any purpose other than the Comite project itself. In 2000, voters in the affected areas of Ascension, East Baton Rouge, and Livingston parishes approved a 10-year 3 mill tax for the specific purpose of funding ARBC’s local share of the Comite project construction. This tax was renewed in 2010 for another 10 years, but reduced to 2.65 mills. ARBC allowed the tax to expire in 2020 because no further funds are necessary to fund ARBC’s local share of the Comite project, which is limited to floodplain management planning. The estimated revenue from the tax was approximately \$2.3M per year at the outset, growing to approximately \$3M in the final years.<sup>26</sup>

ARBC has not sought any new taxes because they believe such a measure would fail until the Comite project is open.

ARBC retains approximately \$9.9M in funds from the Comite Impact Area tax. These funds are restricted to use for the purpose of performing ARBC’s obligations under its agreement with USACE for the Comite project. Having withdrawn from its Cooperative Endeavor Agreement with DOTD regarding land acquisition for the project, ARBC has essentially nothing left to do on the project beyond preparing the final Floodplain Management Plan in 2022 (its initial Plan was prepared in 2015 but must be updated to current conditions). ARBC is assisting with relocating some gas customers near Zachary whose gas service by the City of Zachary was cut off by the project; and is considering whether it has authority to use the remaining tax proceeds to provide funding to East Baton Rouge Parish for operation and maintenance of the project after completion. These funds cannot be used for other purposes without a rededication by the voters who approved it, and so cannot be used for watershed management.<sup>27</sup>

ARBC has neither sought nor obtained any grant funding – not even from the \$1.2B now being administered through the LWI program. ARBC considered seeking LWI funding to elevate structures in the Clinton area, but found that this was already being done by others through FEMA

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<sup>26</sup> Appendix 12 – GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (Nov. 2015), p. 1-1; Appendix 29 – ARBC Financial Report for the Year Ended June 30, 2021.

<sup>27</sup> *Downtown Dev. Dist. of City of New Orleans v. City of New Orleans*, 2018-0726 (La. App. 4 Cir. 5/8/19), 272 So.3d 917, 933; *West Feliciana Parish Government v. State*, 2019-00878 (La. 10/11/19), 286 So.3d 987, 998; Louisiana Attorney General Opinion No. ’08-0057 (Oct. 15, 2009).

funding. ARBC has not sought grant funding because it was not able to identify a project or program, although it is considering doing so for a maintenance program for the Amite and Comite Rivers. Despite urging by PLD, ARBC did not seek LWI funding for the Amite River Diversion Weir rehabilitation project, a \$5-8M project described further below, even though ARBC had earlier committed funds to the project and PLD and Livingston Parish had developed it into an essentially shovel-ready flood control project.

ARBC also retains approximately \$1.6M in unrestricted funds, which could be used for watershed management. However, ARBC's current annual expenses are approximately \$318,000, and it has little income, so its funds will be expended within a few years.

ARBC lacks funds to significantly expand the role it is performing in watershed management, including to hire the additional staff and pay for the legal and engineering contractors that would be needed to perform watershed management. However, ARBC has done nothing to seek additional funding.

#### **D. Parishes.**

Pursuant to La. R.S. 33:1236, management of drainage is a power vested in police juries and other parish governing authorities. Parish governing authorities are also authorized to enact ordinances and regulations regulating development activities within the parish. La. Const. art. 6, § 17. These development codes can, and often do, establish drainage requirements.

All parishes are authorized to adopt ordinances, rules, and regulations, including zoning and land use regulations, as necessary to comply with the National Flood Insurance Act. La. R.S. 38:84. All governing authorities are also authorized to prohibit obstructions to the natural flow of runoff waters within their jurisdictions. La. R.S. 38:214.1.

Parishes (and landowners) are also authorized to create gravity drainage districts on lands that drain by gravity within their boundaries. La. R.S. 38:1751 et seq. Such districts are subdivisions of the state, with “the power and authority to plan, construct, maintain and operate such works of improvement as land treatment for watershed protection, flood prevention works, irrigation improvements, recreation, municipal and industrial water storage, and fish and wildlife developments.” La. R.S. 38:1755, 1764. They may “open all natural drains which they deem necessary in their respective districts and perform all work connected therewith,” and “perform all other acts necessary to fully drain all the land in their districts and maintain the drainage when established.” La. R.S. 38:1767. They are authorized to levy taxes and issue bonds, if approved by the voters. La. R.S. 1783, 1784.

The ARB includes Ascension, East Baton Rouge, East Feliciana, Iberville, Livingston, St. Helena, and St. James Parishes, and a sliver of St. John the Baptist Parish. Iberville and St. John the Baptist Parishes are not included in the ARBC jurisdiction. Each parish governing authority has established its own development codes and ordinances regarding flood management, as well as drainage districts in certain parishes.

Thus, parishes (and gravity drainage districts within them) do have authority regarding watershed management, regarding drainage, drainage projects, and land use planning and zoning

that may affect watershed management. However, ARBC has superseding “control” of watershed management in the ARB, provided “its actions are within the scope of a valid exercise of the State’s police powers and the benefits of which are commensurate with the burdens imposed,” as opined by the Attorney General as discussed above regarding ARBC authority. Further, the jurisdiction and authority of each parish is limited to that parish; no parish can, by itself, perform watershed management for the ARB itself or at the ARB watershed level.

**i. Ascension Parish.**

Ascension Parish is governed by a Parish Council and has a Home Rule Charter form of government. The Parish has adopted a drainage master plan within its development code. Sec. 18-30 *et seq.* Two drainage districts exist within the parish: the East Ascension Consolidated Gravity Drainage District No. 1, and the West Ascension Gravity Drainage District No. 1, which includes the Gravity Sub-drainage District No. 1. The boards of these districts have the power to

open all natural drains in the district, to cut open new drains, and such other work of drainage as they may deem necessary; that they shall have full power and authority to enter into contracts for the construction of drainage works, or they may construct such drainage works under their own supervision, or with the aid and assistance of any governmental or state agency; and further they shall have full power and authority to do any and all things necessary and incidental to the carrying out of the purposes of said district.

Sec. 18-30.

**ii. East Baton Rouge Parish.**

East Baton Rouge Parish and the City of Baton Rouge are consolidated and governed by the Metropolitan Council. The City-Parish consolidated government has enacted a home rule charter. Drainage is overseen by the Department of Transportation and Drainage, and flood control is within the purview of the Mayor’s Office of Homeland Security and Emergency Preparedness. The parish adopted a 2018 Stormwater Master Plan outlining drainage and flood control projects within the City-Parish.

**iii. East Feliciana Parish.**

East Feliciana Parish is governed by a Parish Police Jury, which has established ordinances dealing with floods and flood control. Sec. 5A-31 *et seq.*; Sec. 5A-90 *et seq.*

**iv. Iberville Parish (not in the ARBC).**

Iberville Parish is governed by a Parish Council and has a Home Rule Charter form of government. The parish has promulgated ordinances regulating flood damage prevention. Sec. 7.5-1 *et seq.* The parish is not currently within or represented on the ARBC.

**v. Livingston Parish.**

Livingston Parish is governed by a Parish Council and has a Home Rule Charter form of government. The parish has established four gravity drainage districts within the parish – Gravity



Drainage District No. 1 (Sec. 58-80, 125), Gravity Drainage District No. 2 (Sec. 58-167 *et seq.*), Gravity Drainage District No. 5 (Sec. 58-206 *et seq.*), and Gravity Drainage District No. 8 (Sec. 58-244 *et seq.*). The boards of these districts were granted all of the powers necessary to effect gravity drainage works in their respective districts in conformity with the constitution and laws of the state.

**vi. St. Helena Parish.**

St. Helena Parish is governed by a Police Jury. The parish has promulgated Sec. 25-100 *et seq.* regulating drainage and levees in accordance with La. R.S. 38:214, 215, and 217-220.

**vii. St. James Parish.**

St. James Parish is governed by a Parish Council and has a Home Rule Charter form of government. The parish code of ordinances include a section regulating flood damage prevention. Sec. 50-19 *et seq.*

**E. Municipalities.**

Although La. R.S. 33:101 *et seq.* grants municipalities the power to establish planning commissions and promulgate codes to control the physical development of their cities and parishes, the powers outlined in La. R.S. 33:106 do not include the general power to manage drainage. That power is instead delegated to parish governing authorities under La. R.S. 33:1236.

Nevertheless, some municipalities within the ARB have established ordinances regarding aspects of flood control within their boundaries. The larger municipalities within the ARBC jurisdiction are the City of Baton Rouge (within a consolidated government with East Baton Rouge Parish), City of Denham Springs (Livingston Parish), City of Gonzales (Ascension Parish), City of Walker (Livingston Parish), City of Zachary (East Baton Rouge Parish), City of Baker (East Baton Rouge Parish), City of Central (East Baton Rouge Parish), Town of Clinton (East Feliciana Parish), Village of French Settlement (Livingston Parish), and Village of Port Vincent (Livingston Parish).

All municipalities are authorized to adopt ordinances, rules, and regulations, including zoning and land use regulations, as necessary to comply with the National Flood Insurance Act. La. R.S. 38:84. Municipal drainage authorities are also authorized to construct, operate, and maintain a public drainage system, and to issue bonds to raise revenue for such drainage systems. La. R.S. 38:90.17. All governing authorities are also authorized to prohibit obstructions to the natural flow of runoff waters within their jurisdictions. La. R.S. 38:214.1.

Thus, municipalities do have authority regarding watershed management, in relation to drainage, drainage projects, and land use planning and zoning that may affect watershed management. However, ARBC has superseding “control” of watershed management, provided “its actions are within the scope of a valid exercise of the State’s police powers and the benefits of which are commensurate with the burdens imposed,” as opined by the Attorney General as discussed above regarding ARBC authority. The jurisdiction and authority of each municipality

is limited to that municipality; no municipality can, by itself, perform watershed management for the ARB itself or at the ARB watershed level.

#### **F. Pontchartrain Levee District (PLD).**

PLD was established in 1895, and is governed by La. R.S. 38:291 *et seq.* PLD's jurisdiction is "that part of the parish of East Baton Rouge lying south of the city of Baton Rouge, and all those parts of the parishes of Iberville, Ascension, St. James, St. John the Baptist, and St. Charles, lying east of the Mississippi River." La. R.S. 38:291(L). This includes the portion of the ARB west of U.S. Highway 61 that is excluded from ARBC jurisdiction; but PLD and ARBC jurisdictions overlap in Ascension and St. James Parishes east of Highway 61.

As a levee district, PLD is responsible "for carrying into effect and perfecting a comprehensive levee system, having for its object the protection of the entire district from overflow" and "to insure the thorough and adequate protection of the lands of the district from damage by flood." La. R.S. 38:306(B). Similarly, PLD "may construct and maintain levees, drainage, and levee drainage, and do all other things incidental thereto," and "may do all drainage work incidental to or made necessary by the construction of the levee system in this or adjoining states." La. R.S. 38:301(A).

However, the right of the parishes in which the levees are located "to construct and repair levees and exercise the powers now conferred to it by law" is expressly preserved. La. R.S. 38:306(C). See also La. R.S. 38:181 (municipalities may build and maintain levees).

Levee and drainage districts "have control over all public drainage channels or outfall canals within the limits of their districts which are selected by their district." La. R.S. 38:113. However, PLD is a levee district, not a levee and drainage district.

PLD has no watershed management authority. Rather, its authority is in relation to the levees and drainage for or necessitated by the levees. PLD has partnered with government agencies within its jurisdiction to perform drainage projects within its authority, discussed further below. PLD did so largely because of the vacuum of any other entity assisting in this regard and PLD's extensive experience and success in managing projects to completion. The parishes interviewed were highly complimentary of PLD's efforts and assistance in these regards, generally commenting on their preference to work with PLD rather than ARBC, if given the election, because PLD is very responsive and has substantially greater experience and staff.

#### 4. FLOOD EVENTS IN THE AMITE RIVER BASIN.

While flooding in the ARB has undoubtedly always been an issue, studies beginning in the 20<sup>th</sup> century have documented significant basin flood events in 1921, 1928, 1942, 1947, 1953, 1957, 1962, 1964, 1967, March 1973, April 1977, April 1979, April 1983, August 1983, October 1985 (Hurricane Juan), January 1990, January 1993, January 1994, June 2001 (Tropical Storm Allison), and September 2008 (Hurricane Gustav);<sup>28</sup> and of course, the April and August 2016 floods. 1979 was the flood of record in the ARB until the April 1983 flood, which was in turn eclipsed by the August 2016 flood.

Five of the floods in the Amite River Basin between 1973 and 1990 are characterized by USACE as major floods.<sup>29</sup> Prior to 2016, based on the Amite River crest elevation at Denham Springs, the most severe floods were those occurring in April 1983 (41.50 feet, 112,000 cfs peak discharge), April 1977 (41.08 feet, 110,000 cfs peak discharge), January 1990 (39.88 feet, 96,700 cfs peak discharge), June 2001 (39.34 feet, 82,700 cfs peak discharge), and January 1993 (38.15 feet, 81,900 cfs peak discharge).<sup>30</sup>

**A. April 1983 flood.** Extensive flooding occurred in the ARB due to heavy rains that occurred between April 5 and April 8, 1983. Flood stages reached the highest levels in recorded history (at the time) along the Amite and Comite Rivers. Total rainfall for selected sites in the contributing watershed were reported as 14.04” in Clinton, 13.51” in Amite, 10.36” in Baton Rouge, 9.29” in Denham Springs, and 7.04” in Port Vincent.<sup>31</sup>

About 5,300 homes and 200 businesses were flooded.<sup>32</sup> 357,850 acres were inundated, and damages totaled \$171 Million. Governor Treen declared 11 parishes disaster areas and formally requested Federal aid from President Reagan for residents of these parishes. Ultimately, Ascension (78,400 ac, \$20.3 Million), Livingston (136,750 ac, \$83.8 Million), and East Baton Rouge Parishes (55,000 ac, \$65.2 Million) suffered the most inundation and damages, and were determined eligible for Federal Aid. Comparatively minor damages were suffered in Iberville

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<sup>28</sup> Appendix 15 – Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (Aug. 21, 2017), p. 32.

<sup>29</sup> Appendix 10 – USACE and DOTD, *Amite River & Tributaries, Darlington Reservoir Re-evaluation Study, Vol. 1* (September 1997).

<sup>30</sup> Appendix 12 – GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (Nov. 2015), p. 2-14.

<sup>31</sup> Appendix 8 – Gulf South Research Development Corp. for USACE, *April 1983 Floods – Amite River Basin, Final Report* (Dec. 1983), p. 2-5.

<sup>32</sup> Appendix 15 – Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (Aug. 21, 2017), p. 32.

(13,050 ac, \$26,300), St. James (38,700 ac, \$23,100), and St. John the Baptist Parishes (35,950 ac, \$180,000).<sup>33</sup>

By acreage, most of the inundation was suffered in the Blind River (115,750 ac), Amite River (82,400 ac), Colyell Creek (42,350 ac), New River (31,700 ac), and Comite River (25,000) stream basins, with lesser areas of inundation in the Grays Creek (15,800 ac), Hurricane Creek (3,000 ac), and other stream basins. By dollar amount of damages, however, the most damage was suffered in the Amite River (\$56.6 Million), Grays Creek (\$27.0 Million), Hurricane Creek (\$25.9 Million), Comite River (\$17.0 Million), Clay Cut Bayou (\$8.5 Million), New River (\$8.3 Million), Colyell Creek (\$6.6 Million), and Manchac (\$6.3 Million) stream basins.<sup>34</sup> USACE reported flood damages in Louisiana for 1983 to be \$651 Million.<sup>35</sup>

**B. October 1985 flood - Hurricane Juan.** Hurricane Juan became stalled along the Louisiana coast for several days, producing extremely high wind-driven water levels in Lake Maurepas, reportedly above 6 ft NAVD88, and 6-day rainfall totals of five to eleven inches throughout the ARB. Significant flooding occurred in the coastal wetlands and margins. Upstream portions of the ARB were largely unaffected.<sup>36</sup>

**C. June 2001 flood - Tropical Storm Allison.** Tropical Storm Allison stalled over the region, with 7-day rainfall totals of 19.66 inches in Baton Rouge; 14.07 inches in Denham Springs; and, 23.29 inches in Ascension Parish. The 7-day rainfall totals in parts of the lower ARB were considered a 100-year precipitation event. Due to a significant drought and very low soil moisture conditions present prior to the event, flood conditions in the upper and middle ARB were not as extreme.<sup>37</sup>

**D. March 2016 flood.** Significant flooding occurred in the ARB due to heavy rainfall. Flash flooding set records with historic rainfall and river crests damaging at least 12,000 homes in

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<sup>33</sup> Appendix 8 – Gulf South Research Development Corp. for USACE, *April 1983 Floods – Amite River Basin, Final Report* (Dec. 1983), p. 6, 78, 80.

<sup>34</sup> Appendix 8 – Gulf South Research Development Corp. for USACE, *April 1983 Floods – Amite River Basin, Final Report* (Dec. 1983), p. 6, 79, 80.

<sup>35</sup> Appendix 26 – Department of the Army, Office of the Chief Engineer, 1984; cited in DOTD, *Louisiana Statewide Flood Control Program, Guidelines and Procedures* (Oct. 2020 rev), p, I-1.

<sup>36</sup> Appendix 15 – Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (Aug. 21, 2017), p. 33.

<sup>37</sup> Appendix 15 – Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (Aug. 21, 2017), p. 33.

the state.<sup>38</sup> The March 2016 peak on the lower Comite River did not coincide with basin-wide heavy rains, and significant backwater flooding did not occur in the ARB.<sup>39</sup>

**E. August 2016 flood.** Catastrophic flooding occurred in the ARB (as well as other areas of the State) due to heavy rains from a slow-moving low-pressure weather system that occurred between August 11 and August 14, 2016. Rainfall exceeded 20” over a 48-hour period across a swath of East Baton Rouge, Livingston, and St. Helen Parishes, exceeding the 500-year storm. Areas around Baton Rouge received rainfall in excess of 24” over multiple days, with as much as 31” recorded in Watson, northeast of Baton Rouge. The Comite River, Amite River, Tickfaw River, and Tangipahoa River all rose to record heights. The rainfall led to widespread flash flooding and record river flooding, breaking many records previously set by the April 1983 flood. August 2016 was the wettest month on record for Louisiana, with a statewide average of 12.9”, topping the previous record of 9.71” set in August 1940.<sup>40</sup>

Governor Edwards declared a statewide state of emergency and President Obama declared a major disaster in 20 parishes. Huge numbers of homes and businesses flooded that had never seen water before, including many outside of the 100-year flood plain. 13 deaths were reported, many roadways were closed, and cellular communications networks were disrupted.<sup>41</sup>

Statewide, over 109,000 housing units were flooded: 77,000 owner-occupied homes; 22,000 renter-occupied homes; and 10,000 vacant units. Housing damage was most severe in East Baton Rouge (41,000 housing units) and Livingston (38,000 housing units), with 74% of the housing stock in Livingston Parish experiencing flood damages. The flooding caused \$3.8 Billion in residential housing damages and nearly \$1.3 Billion in contents losses, with \$1.3 Billion occurring in Livingston Parish and \$1.0 Billion in East Baton Rouge Parish. Over 90,000 automobiles were damaged, with almost \$380 Million in damages.<sup>42</sup>

Statewide, over 6,000 businesses were flooded, and 19,900 businesses were disrupted. This disrupted 278,500 workers, close to 14% of the Louisiana workforce. The vast majority were in East Baton Rouge Parish, with 8,000 businesses and 143,700 employees disrupted, with Livingston and Ascension also heavily affected. Economic losses were over \$1.1 Billion,

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<sup>38</sup> Appendix 20 – CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase 1 Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018), p. 11-4.

<sup>39</sup> Appendix 15 – Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (Aug. 21, 2017), p. 33.

<sup>40</sup> Appendix 16 – Kara M. Watson, et al., U.S. Geological Survey, *Characterization of Peak Streamflows and Flood Inundation of Selected Areas in Louisiana from the August 2016 Flood* (2017), p. 3; Appendix 13 – Dek Terrell, Ph.D. for Louisiana Economic Development, *The Economic Impact of the August 2016 Floods* (2016), p. 4.

<sup>41</sup> Appendix 13 – Dek Terrell, Ph.D. for Louisiana Economic Development, *The Economic Impact of the August 2016 Floods on the State of Louisiana* (2016), p. 4.

<sup>42</sup> Appendix 13 – Dek Terrell, Ph.D. for Louisiana Economic Development, *The Economic Impact of the August 2016 Floods on the State of Louisiana* (2016), p. 2-3, 12-15.

structural and equipment losses were \$850 Million, and inventory losses were over \$1.4 Billion. Once again, the vast majority of the damages were in East Baton Rouge Parish, with Livingston and Ascension Parishes also heavily affected. The flooding also caused over \$110 Million in agricultural losses.<sup>43</sup>

The 2016 flood is the current flood of record for the ARB.

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<sup>43</sup> Appendix 13 – Dek Terrell, Ph.D. for Louisiana Economic Development, *The Economic Impact of the August 2016 Floods on the State of Louisiana* (2016), p. 2-3, 7-12, 15-16.

## **5. HURRICANE STORM DAMAGE REDUCTION, FLOOD PROTECTION, AND DRAINAGE INFRASTRUCTURE PROJECTS IN THE ARB.**

Following are the significant drainage and flood control projects in the ARB, historically and ongoing or planned. Normal maintenance, develop-related, urban drainage work, and small projects, typically done by and within parishes or municipalities, are not addressed.

### **A. USACE, Amite River navigation work, 1880s through 1928.**

In the 19<sup>th</sup> century and into the 20<sup>th</sup>, the role of USACE in the ARB pertained primarily to navigation. In 1867, USACE surveyed Bayou Manchac and provided a cost to open it to “first class steamboat navigation” from Lake Pontchartrain to the Mississippi River, including locks.<sup>44</sup> It does not appear that this project was performed. A similar project was reported unfavorably on December 24, 1888, and also was not done.<sup>45</sup>

A project to remove obstructions in the Amite River between its mouth and a point 73½ miles above Bayou Manchac, a total distance of 110 miles, was instituted and some appropriations made, following a report of survey dated February 27, 1880. This project was for navigation purposes, not flood control. Various snagging and obstruction removal work was done on the Amite River, and some in Bayou Manchac, from 1881 through 1922.<sup>46</sup>

A “Pass Manchac Project” was completed in 1912 pursuant to the federal River and Harbor Act of June 24, 1910. It is unclear exactly what this project entailed, but it appears to relate to navigation in relation to Bayou Manchac. Another project entitled “Amite River and Bayou Manchac Navigation Project,” involving a 7 foot by 60 foot navigation channel from Denham Springs to Lake Maurepas, was completed in 1928.<sup>47</sup>

### **B. Louisiana Department of Public Works and East Baton Rouge Parish, stream improvements, 1953-1967.**

In 1953-1967, Louisiana Department of Public Works and East Baton Rouge Parish performed improvements to Wards Creek, Clay Cut Bayou, Jacks Bayou, Bayou Duplantier, and White Bayou.<sup>48</sup> It is unclear what these improvements involved, but in light of the small size of

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<sup>44</sup> Appendix 5 – Report of the Secretary of War, January 25, 1868.

<sup>45</sup> Appendix 6 – Letter from the Secretary of War, December 6, 1924, House of Representatives Document No. 473, 68<sup>th</sup> Congress, 2<sup>nd</sup> Session.

<sup>46</sup> Appendix 6 – Letter from the Secretary of War, December 6, 1924, House of Representatives Document No. 473, 68<sup>th</sup> Congress, 2<sup>nd</sup> Session.

<sup>47</sup> Appendix 24 – USACE, *Amite River and Tributaries, East of the Mississippi River, Louisiana, Draft Integrated Feasibility Study* (November 2019), p. 10.

<sup>48</sup> Appendix 24 – USACE, *Amite River and Tributaries, East of the Mississippi River, Louisiana, Draft Integrated Feasibility Study* (November 2019), p. 10.

these waterways, it was likely for drainage rather than navigation. ARBC has asserted that the work was for drainage improvement.<sup>49</sup>

**C. USACE, Amite River & Tributaries, Amite River Diversion Canal and other improvements, 1964.**

USACE performed channel improvements to the Amite River, Comite River, Blind River, and Bayou Manchac pursuant to the Amite River & Tributaries, Louisiana project approved by Congress in 1955. This included clearing and snagging Bayou Manchac from its mouth to Ward Creek; enlarging and realigning the Comite River from its mouth to Cypress Bayou; enlarging and realigning the Amite River between Bayou Manchac and a control weir (10 miles distance) and snagging the river intermittently elsewhere. It also included constructing a weir and diversion 19 miles long from the Amite River to the Blind River, including 1,500 feet of weir and a 5 foot by 20 foot boatway. The diversion and weir were intended to divert 25% of the Amite River flow in order to alleviate flooding, but as addressed below, is now in significant need of rehabilitation to reduce flooding. This work was completed in 1964.<sup>50</sup> Ascension Parish executed Acts of Assurances with USACE, agreeing to “maintain and operate all works in Ascension Parish, including the weir at the mouth of the Amite River Diversion Channel, as modified to provide boatway 20 feet wide with sill at -5 feet m.s.l., and that it will not permit the said boatway to further erode or enlarge.”<sup>51</sup>

**D. USACE, Amite River & Tributaries study and projects, ongoing.**

The Amite River & Tributaries (“AR&T”) study resulted from a resolution of the committee on Public Works of the U.S. Senate, which was adopted on April 14, 1967. The AR&T study resulted in the ongoing Comite River Diversion and East Baton Rouge Flood Control Projects, and the ongoing Amite River and Tributaries, East of the Mississippi River Feasibility Study.

**i. Comite River Diversion Project, under construction.**

Construction of the Comite River Diversion Project was authorized by Congress on August 17, 1999, but was finally fully funded only recently, by the Bipartisan Budget Act of 2018 (“BBA18”). This project involves constructing a diversion channel from the Comite River to the Mississippi River to convey floodwaters in order to provide urban flood damage reduction to reduce risks from rainfall events/headwater flooding for residents in the southern portion of the Comite River basin. The area benefitted, as originally determined, is the area of the Comite River

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<sup>49</sup> Appendix 12 – GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (Nov. 2015), p. 1-1.

<sup>50</sup> Appendix 24 – USACE, *Amite River and Tributaries, East of the Mississippi River, Louisiana, Draft Integrated Feasibility Study* (November 2019), p. 8, 10.

<sup>51</sup> Appendix 7 – Supplemental assurance between USACE and Ascension Parish Police Jury (May 7, 1963) (supplement to Act of Assurance between USACE and Ascension Parish Police Jury, September 25, 1956).



Diversion Canal Impact Area in which ARBC was authorized to levy a tax for that project, as discussed above.

The Project Cooperation Agreement for the project was signed by USACE, DOTD, ARBC, and the City of Baton Rouge/Parish of East Baton Rouge in 2001. DOTD agreed to provide the non-federal cost share, and did so with contributions from and through ARBC. However, federal funding was sporadic and continually a problem and the project languished until the project was fully federally funded by BBA18, following the disastrous 2016 floods.<sup>52</sup> The project is now under construction.

**ii. East Baton Rouge Flood Control Project, entering construction.**

This project was authorized for construction in 2007, but Congress did not appropriate funding until it was fully federally funded under BBA18. It involves channel improvements to lower Jones Creek, Ward Creek, Bayou Fountain, Beaver Bayou, and Blackwater Bayou. These improvements are clearing and snagging, channel enlargement, and installation of concrete rip rap. The project benefits East Baton Rouge Parish, which is the local sponsor.

**iii. Darlington Reservoir / East of the Mississippi River Feasibility Study, ongoing.**

The Darlington Reservoir project, which was proposed based on the original 1967 AR&T study, involved constructing a reservoir in the Darlington area to reduce flooding in the lower ARB by lowering stages on the lower Amite River, and providing flood protection to Denham Springs, Port Vincent, and eastern East Baton Rouge Parish. USACE rejected this project in the 1990s, however, due to a negative cost-benefit ratio.

After the 2016 floods, BBA18 funded a new East of the Mississippi River Feasibility Study to re-evaluate the entire AR&T study area to determine whether additional improvements for flood control are recommended, with particular reference to the Amite River, Bayou Manchac, Comite River, and their tributaries. While numerous potential projects were considered, the Darlington Reservoir again emerged as the recommendation in the draft report, this time with a positive cost-benefit ratio; along with nonstructural projects for elevating homes in the southern areas of the ARB.<sup>53</sup> However, the people who would be displaced by the Darlington project are economically disadvantaged, and the Governor therefore sought to pursue only the nonstructural projects. This study is currently past USACE's three-year time limit for completing such studies, and a request for exemption from that limit is pending. Whether it will receive this exemption is uncertain.

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<sup>52</sup> Appendix 18 – Louisiana Legislative Auditor, *Comite River Diversion Canal Project, Status and Reasons for Delays* (January 18, 2017).

<sup>53</sup> Appendix 24 – USACE, *Amite River & Tributaries, East of the Mississippi River, Louisiana, Draft Integrated Feasibility Study with Environmental Impact Study* (November 2019).

**E. PLD and East Ascension Gravity Drainage District, Laurel Ridge Levee Extension Project, Ascension Parish, entering construction.**

The Laurel Ridge Levee Extension Project is located in northeast Ascension Parish along the Amite River. It consists of extending the existing Laurel Ridge levee approximately 4.5 miles in order to protect additional properties in the Amite River floodplain against backwater flooding and high waters on the Amite River. The project will reduce flood stages by several feet and provide protection for a population of approximately 500 residents and 350 structures in Ascension Parish. The levee will consist of 7 gated outfall structures and one emergency overflow weir to utilize the existing water storage in the basin.<sup>54</sup>

The project is in the real estate acquisition phase. It is fully funded, and construction will begin once the necessary property rights are acquired. PLD paid for design and is paying for real estate acquisition, while the East Ascension Gravity Drainage District will pay for construction.

**F. PLD and Ascension Parish, Highway 22 Gapping Project, Ascension Parish, entering construction.**

Livingston Parish opposed the Laurel Ridge project on the grounds that it would cause flooding in Livingston Parish, and sued to preclude the Laurel Ridge project. A compromise was reached when by agreement to add the Highway 22 Gapping project in conjunction with the Laurel Ridge project. The Highway 22 project will consist of creating culverts and bridge structures in Louisiana Highway 22, which is an impediment to drainage to the swamp. This will provide significant relief for Livingston Parish.

The project is in the real estate acquisition phase. It is fully funded, and construction will begin once the necessary property rights are acquired. PLD paid for design and is paying for real estate acquisition, while the LWI program will pay for construction. PLD is managing construction, and Ascension Parish will operate and maintain it once complete.

**G. PLD, Bayou Conway and Panama Canal Drainage Improvement Project, Ascension Parish and St. James Parish, planned.**

This is a clearing and snagging project in Bayou Conway and the Panama Canal. The project is intended to reduce flooding to 65 square miles in southwest Ascension and north St. James Parishes.<sup>55</sup> PLD is working with Ascension Parish on it, but no progress has been made since 2018 as PLD has been unable to dedicate resources to it, in order to focus on its core levee function and the massive West Shore Lake Pontchartrain levee project. There is no funding currently designated for it.

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<sup>54</sup> Appendix 17 – PLD, *Progress Report* (2017).

<sup>55</sup> Appendix 17 – PLD, *Progress Report* (2017).

**H. PLD / Livingston Parish, Amite River Diversion Canal Weir Rehabilitation Project, Ascension Parish, planned.**

The project is located at the north head of the Amite Diversion Canal and the Amite River in Ascension Parish and adjacent to Livingston Parish. The existing weir was constructed by USACE pursuant to the federal AR&T project in 1964, with operation and maintenance responsibility delegated to Ascension Parish by agreement with USACE. The rehabilitation project is designed to reestablish the desired flow distribution between the Lower Amite River and the Amite River Diversion Canal – namely 75% Amite River/25% Diversion Canal, as opposed to the current 10% Amite River/90% Diversion Canal. The flows to the Lower Amite River have been substantially reduced by the degradation of the weir, causing the shift. The project involves rebuilding the weir and reshaping the existing boat way in order to reestablish the proper flow distribution. This will assist in restoring the ecosystem balance, and slow the deposition of excess silt in the river.<sup>56</sup>

PLD funded the project all the way to being a shovel-ready project, but was overextended and needed to focus on its core levee function instead. PLD therefore turned the project over to ARBC, but ARBC turned it over to Livingston Parish, which did not obtain funding for it. More recently, PLD suggested the project to ARBC and pursuing LWI funding for it, as its estimated cost of \$5-8M and significant flooding protection made it a good candidate. ARBC did nothing with the project, but it appears that Livingston Parish has now applied to LWI for funding to proceed with it. Ascension Parish does not appear to have undertaken any role in the current rehabilitation project.

**I. Bayou Manchac Regional Flood Risk project, PLD, Iberville, East Baton Rouge, and Ascension parishes, proposed.**

This project is only in its conceptual stages, but could involve clearing and snagging Bayou Manchac, installing one or more pump stations, and possibly installing flood gates. It would provide protection to areas of Iberville, East Baton Rouge, and Ascension Parishes.<sup>57</sup> A draft conceptual report is expected in Spring 2022 for further analysis.

**J. Iberville and East Baton Rouge Parishes, Bayou Manchac clearing, ongoing.**

Iberville and East Baton Rouge parishes signed a cooperative endeavor agreement to clear Bayou Manchac, which is the dividing line between them. The work is ongoing, out to Bayou Alligator.

**K. Alligator Bayou Flood Gate, 1951.**

A flood gate was constructed at Bayou Alligator to prevent water from the Amite River flooding portions of Iberville Parish.

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<sup>56</sup> Appendix 17 – PLD, *Progress Report* (2017).

<sup>57</sup> Appendix 17 – PLD, *Progress Report* (2017).

#### **L. HUD Community Development Block Grants (“CDBG”).**

HUD has provided substantial amounts of Community Development Block Grant (“CDBG”) grants, which OCD is distributing to local and state agencies. Most recently, \$1.2B was provided in BBA18 in response to the 2016 flooding. Projects submitted by local and state agencies are being evaluated through the LWI program. Approximately \$400M has been distributed for projects approved through LWI. The rest of the funds will be distributed as the other projects submitted by state and local agencies are evaluated and approved. The projects submitted and being evaluated include a variety of drainage-related projects, including drainage improvements, a diversion canal, channel improvements, stormwater detention, surge protection, watershed protection and studies, and acquisitions.<sup>58</sup>

In the past, other CDBG funds have been allocated to projects such as the Amite River Basin Numerical Model project through DOTD, which funded creation of a highly detailed and comprehensive model of the ARB for use in evaluating the effects of proposed projects and other such modifications in the ARB. CDBG grants from Hurricanes Gustav and Ike were used for this model, and also for drainage-related projects in Livingston, Ascension, and East Baton Rouge Parishes.

#### **M. FEMA Hazard Mitigation grants.**

Several parishes are obtaining or having obtained Hazard Mitigation Grant Program (“HMGP”) grants from FEMA for local flood mitigation projects. For example, East Baton Rouge Parish has obtained HMGP grants for the Port Hudson Pride Road Stream Bank Stabilization, Hurricane Creek Slope Paving Near Plank Road, Removal of Channel Restriction in Ward Creek at Siegen Lane, Box Culvert Replacement on Harrelson Lateral at Old Hammond, and Ward Creek Distributed Detention Project. Similarly, Livingston Parish Drainage Districts have obtained HMGP grants to increase drainage and drainage capacity, to create holding areas for water, increasing culvert and canal width to increase drainage. HMGP grants have a local match of 25%, with FEMA paying the remaining 75%.

#### **N. FEMA Flood Mitigation Assistance grants.**

FEMA Flood Mitigation Assistance grants have been made to East Baton Rouge, Livingston, and Ascension Parish to elevate private structures and, where appropriate, to acquire private property in lieu of reconstruction. Approximately 232 persons have benefitted from these efforts, 110 in East Baton Rouge Parish, 111 in Livingston Parish, and 11 in Ascension Parish. HMGP grants have a local match of 25%, with FEMA paying the remaining 75%; the federal share may be increased to 90% or even 100% for repetitive loss properties, if there is a repetitive loss strategy.<sup>59</sup>

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<sup>58</sup> Appendix 30 – LWI Project Applications in the Amite River Basin.

<sup>59</sup> Appendix 31 – FEMA FMA Projects in the Amite River Basin.

#### **O. Parish projects.**

In addition to their routine drainage functions, the ARB Parishes have performed or sought to perform some projects affecting the ARB. These are generally funded through the HUD and FEMA grants discussed above, and with other, more limited funding programs.

Livingston Parish, for example, has performed or applied for funding for the following:

Projects funded and in various stages of completion or completed:

- There were/are 4 bridge replacements with related drainage improvements, funded through FEMA.
- There were/are 9 projects where the number or size of culverts were increased, funded through FEMA.
- There are 5 creek/bayou channel improvement projects 4 of which are funded through FEMA and 1 by American Rescue Plan Act.
- There have been, or are being, about 525 miles of water ways cleared of storm debris utilizing Natural Resources Conservation Service (“NRCS”) or LWI funds.

Projects planned, with completed and submitted project applications.

- One bayou channel improvement with application made to LWI.
- Amite Diversion Canal Weir restoration and river channel improvement with application made to LWI.
- Application has been made to NRCS for funding to clear storm debris from water ways.

Thus, Parish projects are generally captured in the lists provided above, with limited exceptions such as NRCS funding.

## **6. PROBLEMS IDENTIFIED REGARDING MANAGEMENT OF THE ARB.**

There is widespread agreement that more must be done to manage drainage, flood control, and water resources throughout the ARB. The key impediments have been dispersed responsibility for watershed management; lack of a central manager to plan, coordinate, and control watershed management efforts; lack of watershed-level management; lack of funding for watershed management; and lack of an entity to exercise control of waterways of state and regional concern, as opposed to those of federal or strictly local concern. ARBC already has the authority necessary to address most of these impediments, but has not exercised it. ARBC lacks the resources to do so, but has not sought the requisite funding.

### **A. Dispersed responsibility for watershed management.**

As addressed above, numerous federal, state, regional, and local agencies have responsibilities for or affecting watershed management in the ARB. The result is a hodgepodge of responsibility, projects, and other actions and planning. This problem has been well-addressed previously.<sup>60</sup> While to some degree this is unavoidable due to the different purposes of the various agencies and their funding constraints, the disparate purposes, responsibilities, and constraints of the various agencies necessitates a central watershed manager to plan and coordinate, and where appropriate, to control their activities.

### **B. Lack of a central manager to plan, coordinate, and control watershed management efforts.**

ARBC already has responsibility for managing the ARB – it is vested with *control* of public drainage, flood control, and water resources development within its boundaries. And ARBC is the *only* entity with such central management responsibility in the ARB. But ARBC has not fulfilled that responsibility, and in fact believes that it cannot. The result is that there is no central manager to plan, coordinate, and control watershed management efforts.

At the federal level, there have been coordination efforts between USACE and ARBC and other local sponsors for particular projects. There has also been coordination between FEMA and HUD, with OCD, GOHSEP, LWI, other state agencies, parishes, municipalities, and PLD to use federal and other funding for particular projects. At the state level, there have been coordination between state and local agencies to fund particular projects, performed by the local agencies. And at the local level, there have been some joint projects and efforts to address the impacts of joint projects, as well as efforts between PLD and parishes to implement projects.

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<sup>60</sup> E.g., Appendix 11 – CPRA and DOTD, *Senate Concurrent Resolution 39 Response: Phase I Study – Exploring the Reorganization of Levee Districts and Other State-Created Entities with Flood Control Responsibilities* (2014); Appendix 20 – CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase 1 Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018); Appendix 21 – DOTD, *Senate Resolution 172 Response* (2019); Appendix 25 – OCD, *Master Action Plan for the Utilization of Community Development Block Grant Mitigation Funds* (approved 2020); Appendix 27 – LWI, *Regional Watershed Management in Louisiana: A Guidebook to Local and Regional Entities, Their Authorities and Functions* (2021).

But none of these efforts, with the exception of USACE feasibility evaluation for proposed AR&T projects, were coordinated or considered at the watershed level, or in conjunction with each other. Beyond individual project considerations, there has been no effort to coordinate federal, state, regional, and local drainage projects. Instead, the different jurisdictions have performed watershed management and related activities and planning in a largely uncoordinated fashion.

The same is true as to other drainage projects in the ARB. For the most part, drainage and flood control have remained the domain of individual parishes, whose authority is limited to their parish boundaries, but generally without addressing potential impacts to other portions of the ARB.

Further, there is no *planning* at the watershed level. While projects to address flooding concerns are crucial, efforts to manage development and actions in the ARB to avoid the need for corrective projects, to lessen the extent or impacts of flooding, and to coordinate resources, knowledge, and outreach and education are also crucial. Even departments within those jurisdictions (such as city or parish planning, zoning, and public works departments) may independently regulate or undertake activities that affect the watershed, inadvertently failing to recognize interdependencies and the cascading impacts of those activities. Varying standards for development between jurisdictions tend to result in driving development from more-restrictive areas to less-restrictive areas of the ARB, exacerbating exposure to potential flooding and in turn increasing the necessity for even more projects to address the increased drainage and flooding problems. Development follows the path of least regulation, which results in increased vulnerability to flooding overall.

The LWI program may lead to the creation of watershed-based management programs, and has already begun to provide tools, paradigm shift, a forum for discussion, and outreach to support watershed-level management, but does not presently have any management responsibility. Further, LWI Region 7 does not appear poised to exercise *control* of the watershed, but more of a coordinating and advisory function. Further, it does not appear poised to do so at the ARB watershed level, but at a significantly higher level than the ARB.

ARBC is well-positioned within its existing authority to be the central manager for the ARB. But despite its authority to control public drainage, flood control, and water resources management, ARBC has not exercised that control or engaged in centralized planning or coordination of such matters in the ARB. This failure apparently results from ARBC's concern that its authority would be removed if it attempted to do so – which negates the very power and responsibility that the Legislature gave to that agency. Instead, increasing ARBC's technical capacity and local engagement is needed.

### **C. Lack of watershed-level management.**

In addition to the lack of a central manager for activities that impact the ARB, there is also a lack of focus or attention at the watershed level, as opposed to the local level. Watershed management activities in Louisiana have historically been addressed within the confines of political jurisdictions. But as made clear through the creation and work product of the LWI program, and the work of the many other entities that have considered watershed management, decisions and actions in one area of a watershed may impact other areas of the same watershed.

Watershed-level management is essential to address drainage and flooding problems, by leveraging existing efforts, identifying work that needs to stop, start, or continue, recognizing the interdependencies inherent in floodplain management-related or relevant activities, and making significant advances in understanding, planning for, and mitigating flood risk.

ARBC is the only existing entity with the capability to manage the ARB at the watershed level. However, it has not been *directed* to do so, and its focus on the Comite River Diversion Project does not indicate an intent to manage the entire ARB, much less to do so at the watershed level. To implement the lessons learned through the LWI program, legislative instruction to focus on watershed-level management is needed.

Additionally, as addressed above, the exclusion of the ARB south of Highway 61 from the ARBC has excluded this important section of the basin from ARBC's ability to manage the ARB at the watershed level. This has also left Iberville Parish with no voice in the ARBC, despite the fact that it would be affected by decisions that ARBC may make.

#### **D. Lack of funding for watershed management.**

Lack of funding has been a major impediment to ARBC acting to exercise its statutory control of the ARB. ARBC has not even attempted to levy a tax to procure the necessary funding for this purpose. Nor has ARBC sought annual appropriations, capital outlay, or even federal, state, or private grant funding. ARBC did not apply for any LWI funding, even for the Amite River Diversion Weir project as suggested by PLD. It is essential to managing the basin that ARBC pursue tax, grant, and any other source of revenue for management activities and projects. Increasing ARBC's overall technical capacity and local engagement should address this impediment by prompting more aggressive attempts to seek funding.

Nevertheless, ARBC's existing tax levying structure is cumbersome and complicated, which unnecessarily impedes obtaining an appropriate and effective tax. The current structure requires every parish in the district to vote to assess a tax, even if a majority of voters in the overall District approve it. While the existing law would merely exclude the parishes that do not vote for a tax from having to pay it, the fact that the ARB *is* a watershed means that actions in one area benefit the entire ARB, rendering it unfair for any parishes within the basin to be able to refuse to pay for projects and work that benefit them. This also creates perverse incentive for voters to ride the coattails of other parishes willing to pay for their protection, or for voters to reject such taxes due to concern that other parishes would do so and stick them with the bill. The taxing structure unnecessarily impedes likelihood of success in obtaining voter consent to appropriate taxes for drainage purposes. Voter discretion would still be protected by requiring a majority of votes overall to vote for the project; and for projects that disproportionately benefit some portions of the ARB, by mechanisms for ensuring representative selection of ARBC Board members and requiring a supermajority to approve projects.

Taxes, even if successful, require significant lead time to introduce, explain to the voters, and obtain passage. In the meantime, immediate action is needed to manage the ARB. Accordingly, as was done at the creation of the ARBC and until the Comite tax was imposed, legislative appropriation of funding – adequate to the task – will be needed.



**E. Lack of an entity to exercise control of waterways of state and regional concern.**

Finally, there is a gap between the federal and local authorities regarding management of waterways of state and regional concern, including clearing and snagging or other management of rivers. Parishes feel that they are unauthorized to address the rivers, particularly those that border two parishes. No state agency has this authority and federal authority through USACE is limited to managing federal waterways or congressionally authorized projects. Further, watershed-level management necessitates that waterway management be done by the watershed manager. Waterways are a key aspect of watershed management, and it is crucial for watershed-level management of them. The concern is not for drainage ditches or minor waterways, which would remain under the control or oversight of parishes and municipalities because they are strictly local in effect and do not affect the watershed itself. Rather, the concern is for the major waterways, primarily the Amite, Comite, and Blind Rivers and Bayou Manchac.

DOTD analyzed the benefits of several techniques for waterway management, in response to Senate Resolution 172 of the 2017 Regular Session. These techniques included channelization, dredging, and clearing and snagging. DOTD's Senate Resolution 172 Response concluded that such activities typically reduce flooding both upstream and in the immediate project area, but the *amount* of flood reduction depends on the project's location within a watershed – any effect is much smaller or negligible in lower reaches with flatter slopes. Models were run specifically for dredging in the ARB, which supported these conclusions and demonstrated that the cost/benefit ratios for dredging in the lower reaches of the ARB are negative. Further, such activities may have negative unintended consequences such as reduced water quality, bank failures, and ecosystem impacts.<sup>61</sup> A watershed-based approach is essential to assessing and ensuring that the overall best interests of the watershed are furthered by such actions.

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<sup>61</sup> Appendix 21 – DOTD, *Senate Resolution 172 Response* (2019).

## **7. RECOMMENDATIONS TO IMPROVE MANAGEMENT OF THE ARB.**

Recommendations to improve management of the ARB fall into the categories of modifying the ARBC boundaries to include the entire ARB (other than the existing exclusion for the petrochemical plant area); changing the ARBC composition and imposing procedural requirements to increase its technical capacity and local engagement and prompt it to exercise the central manager responsibility with which it is already vested; requiring a watershed-level approach to management; improving ARBC's ability to obtain adequate funding through taxation or appropriations; and expressly authorizing ARBC to exercise control over waterways of state and regional concern.

These recommendations are interdependent; given ARBC's failure to exercise the control it already has, giving it additional jurisdictional area, responsibility, or funding may exacerbate existing problems or inactivity. Accordingly, it is recommended to implement these recommendations as a package.

### **A. Modify ARBC boundaries to include the entire ARB.**

As addressed in Section 2, it is recommended to modify the ARBC boundaries to include the entire ARB, other than the small petrochemical plant area along the Mississippi River in East Baton Rouge Parish. The ARB should be managed at the HUC-8 basin level, and the substantial exclusion from ARBC's authority south of Highway 61 should be eliminated and this area brought within ARBC authority, in order to enable ARBC to do so.

However, it must be noted that several projects are ongoing between PLD and parishes in this area. While PLD is not responsible for watershed management, it has successfully worked with the parishes, takes a regional approach, and is highly capable of implementing projects. It is therefore recommended to preserve PLD authority to continue with any projects identified by that agency prior to the effective date of any legislation implementing changes to ARBC. Whatever boundaries are ultimately implemented, ARBC should be directed to input those boundaries into a digital format with six months of any proposed legislation and make readily available to the public and all interested stakeholders and public entities.

### **B. Change the ARBC composition and impose procedural requirements to increase its technical capacity and local engagement.**

Improving ARBC's technical capacity and local engagement to prompt it to exercise watershed management can be promoted by changing the selection and thus the composition of its Board, requiring planning and regulations to implement that authority, and requiring reporting to the legislators whose districts encompass the ARBC. The experience with the Flood Protection Authorities has been that the way to change the current custom of a board is to change its makeup.

#### **i. Commission Membership.**

Incorporating the portion of the ARB south of Highway 61 into ARBC would add Iberville Parish to the ARBC. Accordingly, Iberville Parish should have representation on the ARBC. In order to maintain Board membership at 13 Commissioners, given the other recommendations

below, the Board would be composed of one Commissioner per Parish (seven total) and six Commissioners at Large.

**ii. Commissioner Qualifications.**

While it is important that Commissioners live in the ARB and the Parishes for which they serve, professional qualifications, particularly in drainage-related fields, is important for the ARBC Commission itself to have significant knowledge and insight into the watershed management matters for which they are responsible. The Flood Protection Authorities have experienced significant success with such requirements for professional qualifications in relation to levee matters, and a similar approach would be beneficial to watershed management. It is therefore recommended to impose qualification requirements for the six Commissioners at Large: all six should have at least 10 years of professional experience in their discipline, of which at least four should be engineers or professionals in a drainage-related field such as geotechnical, hydrological, or environmental science. Parish Commissioner designees are encouraged to be, but need not be, professionals.

**iii. Commissioner Selection.**

There is currently a disconnect between the parishes that implement much of the drainage work and are responsible to the voters for drainage problems. While some parish Presidents and drainage directors work with their ARBC Commissioners, some do not even know their Commissioners or the ARBC staff. It is likely that this is, at least in part, a result of the appointment process, whereby the legislators nominate Commissioners and the Governor approves them, apparently without consultation with the Parish governments in at least some instances. To resolve this disconnect and ensure a strong working relationship between the parishes and ARBC, it is recommended that the seven Parish Commissioners be the Parish Presidents or their designees, ex officio without appointment. For Parishes with drainage districts, the drainage district directors may be the designees.

As addressed above, the six Commissioners at Large would be required to have professional qualifications, primarily in drainage-related fields. These Commissioners at Large are recommended to be appointed by the Governor, subject to Senate confirmation, from nominations submitted by the Representatives and Senators whose districts include any portion of the ARBC. Each Legislator may nominate up to two persons meeting the qualification requirements, per vacant position. If no nominees meeting the qualification requirements are submitted for a seat, the Governor may choose his own. Nominees need not reside in the ARB or any particular Parish within it, in order to improve the field of potential nominees. This process preserves a legislative role in the selection process, while providing a larger pool from which to select. It also retains the Parishes as having a majority of Commissioners, sufficient to ensure local knowledge and to preserve local preference as to course of action.

**iv. Commissioner Terms.**

Continuity of experience is important to a successful Board. It is therefore recommended to retain the four-year terms for Commissioners, but to stagger their terms with three positions expiring every two years. This term limit would apply only to the Commissioners at Large, since the Parish Commissioners would be the Parish Presidents or their designees, so their terms would be co-extensive with the terms of the Presidents. Initial terms would be chosen by lot, as was done

with the Flood Protection Authorities. Commissioners at Large would be limited to two consecutive terms, as with the Flood Protection Authorities. The existing Board would be replaced effective January 1 following enactment of the amendment to implement these changes, in order to provide adequate time for their appointment, while jump-starting the new Board in furtherance of watershed management as soon as possible. Existing Commissioners would be eligible for reappointment, but only as Commissioners at Large.

**v. Watershed Master Plan.**

CPRA's Coastal Master Plan has been highly successful in prompting CPRA to consider and plan how best to systematically implement its responsibilities regarding coastal matters. A similar approach to watershed management is recommended, in order to prompt ARBC to plan what should be done and how, in order to implement control of the ARB. The ARBC Watershed Master Plan may be less robust than the CPRA Coastal Master Plan, but should still be sufficient to address the necessary considerations.

It is therefore recommended to require ARBC to develop a Watershed Master Plan for comprehensive drainage, flood control, and water resource management within the ARB ("watershed management") through the construction and management of projects and programs, including regarding planning, permitting, and development, and waterway management. The plan would address watershed management from both short-term and long-range perspectives, incorporate structural, management, and institutional components of both efforts, include a list of projects and programs required for this including a schedule and estimated costs, and explain why each project or program was selected and how it advances plan objectives. The plan must be consistent with the CPRA Master Plan. It is also recommended to provide for public outreach and public hearings in at least north, central, and south portions of ARB, so that citizens throughout the ARB would have a voice in developing the plan. The plan would also be subject to Legislative approval, as is the CPRA Coastal Master Plan. To provide a reasonable amount of time to prepare the plan but require completion with deliberate speed, ARBC would be required to submit its initial plan within two years after the new Board is in place. To keep the plan current and to enable its further development over time, ARBC would be required to review, revise, amend, and resubmit its plan every six years.

**vi. Consistency with the ARBC Watershed Master Plan.**

The ARBC Watershed Master Plan will not be successful unless it is enforceable. Pursuant to La. R.S. 49:214.5.2(A)(6), the CPRA Board is authorized to take action against any entity, including political subdivisions, to enforce compliance with the CPRA Master Plan. This authority has been essential to the success of the CPRA plan. Similarly, by Executive Order, the Governor has required compliance with the CPRA Coastal Master Plan by all state and local agencies plan. Similar authority applicable to political subdivisions is needed for the success of the ARBC plan. It is therefore recommended to similarly authorize ARBC to enforce compliance with the ARBC plan by political subdivisions and private persons, and to require that all political subdivisions administer their regulatory practices, programs, projects, contracts, grants, and all other functions vested in them in a manner consistent with the ARBC Watershed Master Plan and the public interest, to the maximum extent possible.

**vii. Annual Plans.**

While the CPRA Master Plan focuses on long-term planning and overall goals and standards, the CPRA Annual Plans are focused on planning for the near term and the projects to be implemented in the near future. This requirement has been successful in necessitating focus on planning projects and their funding. It is therefore recommended to require ARBC to develop annual plans for watershed management. The plan would include at least a 3-year projection of funding for projects and programs, including funding sources. The plan would be required to be consistent with the CPRA and ARBC Master Plans. It is also recommended to provide for public outreach and public hearings in at least north, central, and south portions of ARBC, so that citizens throughout the ARBC would have a voice in developing the plan. The plan would also be subject to Legislative approval, as are the CPRA Annual Plans. To provide a reasonable amount of time to prepare the plan but require completion with deliberate speed, ARBC would be required to submit the initial plan within one year after the new Board is in place.

**viii. Annual Report to ARB delegation.**

In addition to the legislative approval for the ARBC Watershed Master Plan and Annual Plans, requiring annual reporting to the Legislature regarding ARBC's progress, problems, proposed solutions, and other matters would further prompt ARBC to action. It is therefore recommended that ARBC be required to report annually to the Legislature. To focus on the ARB, it is recommended that the report be made to a committee of Representatives and Senators whose districts include any portion of the ARBC jurisdiction. While this committee would not have direct legislative authority, simply having to report to the legislators whose constituents are directly affected by ARBC action or inaction would create additional pressure on ARBC to fulfill its responsibilities.

**ix. Regulations for Watershed Management.**

ARBC already has authority to implement regulations, but has never done so. Beyond planning, implementation and enforcement of ARBC's authority as watershed manager requires regulations with which political subdivisions and private persons subject to its jurisdiction must comply. Promulgating regulations would also prompt ARBC to consider how best to actually implement its authority, including regarding its own operation, as well as regarding how it will manage other agencies or private activities. This would also require public participation and legislative oversight. It is therefore recommended to require ARBC to promulgate comprehensive regulations for watershed management within the ARB, including, insofar as they affect watershed management:

- Planning;
- Permitting;
- Selection of and performing projects;
- Resolution of conflicts among agencies;
- Use of best available science;
- Outreach to the public and agencies;

- Coordination with state agencies and political subdivisions regarding watershed management;
- Identifying, seeking, receiving, and expending federal and other funding for planning and projects;
- Providing assistance to political subdivisions in planning, designing and constructing projects, and identifying and obtaining funding;
- Agreements with public and private entities to identify, seek, receive, and expend funds;
- Maintaining projects once complete;
- Providing an appeal process; and
- Defining qualifications for staff and contractors.

These are key matters regarding which regulations are needed. Other matters regarding which regulations are needed will be identified by ARBC as it considers and develops its plans. ARBC, with its new Board and Master Plan, is best placed to determine the appropriate nature and level of regulation necessary to accomplish effective watershed management. Since the majority of Board members would be Parish presidents, this would likely be accomplished with due regard for local knowledge and authority, while the overall Board composition would provide sufficient expertise to accomplish effective management.

To provide a reasonable amount of time to promulgate the regulations after the Watershed Master Plan is complete, but require completion with deliberate speed, ARBC would be required to do so within three years after the new Board is in place. This would be a full year after the Watershed Master Plan is in place.

#### **x. Supermajority for Project Approval.**

In recognition that the primary purpose of the ARBC is regional coordination of watershed management, it is recommended to require approval of projects by 2/3 of the total voting membership (not quorum). It is recommended that everything else require approval by a simple majority of the total voting membership. This is the approach taken with respect to the Flood Protection Authorities.

#### **C. Require a watershed-level approach to management.**

As addressed above, ARBC can, but is not currently required to, manage the ARB at the watershed level that it is generally agreed is necessary to effective management of the ARB. It is therefore recommended to require ARBC to comprehensively manage the District at the watershed level as a single system.

#### **D. Improve ARBC's ability to obtain adequate funding through taxation or appropriations**

ARBC cannot perform watershed management without additional funding. It lacks any existing tax, its existing funds are insufficient to perform management, and it has little income and

even that will be eliminated once the Comite River Diversion Project is complete and all property turned over to East Baton Rouge Parish. While a more motivated ARBC with increased technical capacity and local engagement is more likely to pursue grants and other funding opportunities, action is needed immediately, while grant funding is uncertain and will take significant time.

**i. Taxing authority.**

To implement the ARBC as a watershed-level manager, and since the ARB is a basin, ARBC's tax levying structure should depend solely on District-wide approval, instead of also requiring approval in each parish independently. This would also avoid incentivizing voters in one parish voting against a tax in order to avoid potentially having to subsidize other parishes that vote against the tax. It is therefore recommended to require voting on taxes levied by the ARBC to be District-wide, voted upon as such, not by Parish.

**ii. Annual appropriation (non-statutory recommendation).**

In order to enable ARBC to begin its important work in implementing watershed management, including the requirements recommended above, it is recommended to provide funding for ARBC in the State annual budget. This would include sufficient funds to enable the planning and regulations recommended above, including consultants, at least until taxes could be levied to pay for it. This is similar to what was done at the creation of the ARBC, until the now-expired and limited-purpose Comite tax was imposed.

**E. Authorize ARBC to exercise control over waterways of state and regional concern.**

It was widely agreed that responsibility for managing and maintaining waterways of state or regional concern is needed, particularly in relation to matters impacting watershed management. It is recommended that this responsibility be given to ARBC, as to such waterways in the ARB, notably the Amite, Comite, and Blind Rivers and Bayou Manchac. This authority would exclude drainage ditches and smaller waterways of only local concern, which are best managed by the local government agencies in whose jurisdiction they are located.

**F. Miscellaneous Recommendations.**

**i. Technical Assistance.**

DOTD has statutory responsibility to provide advice and provide engineering services to the ARBC. La. R.S. 38:3305. However, ARBC has not called upon DOTD for this purpose, and its representatives interviewed for this study requested that CPRA provide this assistance. ARBC is partially inside and partially outside of the Coastal Area where CPRA has jurisdiction, and CPRA generally handles coastal matters rather than riverine. Nevertheless, CPRA has significant experience with drainage, flood control, and water resources management matters, and with oversight of other agencies such as the levee districts. Accordingly, it is recommended to authorize ARBC to call upon CPRA for technical assistance, either instead of or in addition to DOTD.

**ii. Agreements for Projects and Plans.**

ARBC already has authority to contract. However, other than regarding the Comite project, ARBC has generally failed to do so. It is recommended to clarify existing law to expressly authorize and direct ARBC to contract, as appropriate, with the federal government, the state, political subdivisions, or any other public or private entity to receive funds from them, to expend its own or other funds in furtherance of its purpose, and to perform any projects or plans for watershed management. As actions outside the ARB may affection drainage within it, it is also recommended to authorize ARBC to do so inside or outside of its jurisdiction, provided that the action benefits areas within its jurisdiction.

**iii. Agreements with Mississippi.**

The ARB extends into the State of Mississippi, and actions there may affect the ARB in Louisiana. It may therefore be desirable to reach agreements with Mississippi regarding management of or affecting the ARB. However, the Governor should be involved in interstate contracts such as this. It is therefore recommended to require ARBC to identify and consider matters regarding which an agreement with the State of Mississippi, agencies or subdivisions thereof, or interstate entities regarding watershed management may be beneficial to management of the basin in Louisiana, and subject to approval of the Governor, to contract with them for such purposes, including for doing projects.

**iv. Conflict Waiver.**

Since it is recommended that Parish Presidents or their designees serve on the ARBC, and they are all likely to be public employees, it is necessary to ensure that such participation is not prohibited by other laws. It is therefore recommended to provide that appointment of or voting by public servants to the ARBC shall not constitute violation of the Dual Officeholding and Dual Employment Law, La. R.S. 42:61 et seq., or the Code of Governmental Ethics, La. R.S. 42:1101 et seq. However, to avoid true conflicts of interest, such persons would be required to abstain from voting on any matter in which they or their immediate family have a personal financial interest, other than as a resident of the District.

**v. Meetings.**

ARBC is already subject to the Open Meetings law, but does not post its agendas online or stream its meetings, which are always held in Baton Rouge. This restricts public knowledge of upcoming matters to be addressed by ARBC, which is necessary for the public to decide whether to attend. It also restricts the public's ability to monitor the meetings. It is therefore recommended to required ARBC to post agendas for all District meetings on its website at least 24 hours before ARBC meetings; and to stream all District meetings live on the internet so that the public can view.

**vi. Statewide standards (recommendation outside of ARBC).**

The regulations to be promulgated by ARBC may include building standards. However, a few building standards have been identified by the LWI and other government agencies that are appropriate statewide, pursuant to federal grant requirements and the best available science: (1) requiring two feet of freeboard, whereby a building's lowest floor is required to be built to a height two feet above the minimum base flood elevation; (2) require no net fill, whereby if any fill is brought on to a site for the construction of a structure or access road, then an equal amount of



soil/material must be removed from the site; and (3) to impose greater and uniform stormwater detention and/or retention requirements. Statewide application precludes any jurisdiction from obtaining an unfair advantage over others by adopting lax regulations, which in turn incentivizes construction in locations and configurations that are more subject to flooding. The freeboard requirement and potentially the others are apparently under consideration by the Code Council, but if that Council does not adopt them, it is recommended that they be required by law.

## APPENDICES

1. House Continuing Resolution 46 (2021 Reg. Session)
2. ARBC questionnaire
3. Stakeholder questionnaire
4. ARBC response and production in response to questionnaire
5. Report of the Secretary of War, January 25, 1868
6. Letter from the Secretary of War, December 6, 1924, House of Representatives Document No. 473, 68<sup>th</sup> Congress, 2<sup>nd</sup> Session
7. Supplemental assurance between USACE and Ascension Parish Police Jury (May 7, 1963) (supplement to Act of Assurance between USACE and Ascension Parish Police Jury, September 25, 1956)
8. Gulf South Research Development Corp. for USACE, *April 1983 Floods – Amite River Basin, Final Report* (Dec. 1983)
9. Louisiana Attorney General Opinion No. 94-41 (1994)
10. USACE and DOTD, *Amite River & Tributaries, Darlington Reservoir Re-evaluation Study, Vol. 1* (September 1997)
11. CPRA and DOTD, *Senate Concurrent Resolution 39 Response: Phase I Study – Exploring the Reorganization of Levee Districts and Other State-Created Entities with Flood Control Responsibilities* (2014)
12. GEC, Inc. for ARBC, *Amite River Basin Floodplain Management Plan* (2015)
13. Dek Terrell, Ph.D. for Louisiana Economic Development, *The Economic Impact of the August 2016 Floods on the State of Louisiana* (2016)
14. ARBC, *Proposed Basin Wide Floodplain Planning and Management Process* (2017)
15. Bob Jacobsen, PE for ARBC, *August 2016 Flood Preliminary Report – Amite River Basin* (2017)
16. Kara M. Watson, et al., U.S. Geological Survey, *Characterization of Peak Streamflows and Flood Inundation of Selected Areas in Louisiana from the August 2016 Flood* (2017)
17. PLD, *Progress Report* (2017)

18. Louisiana Legislative Auditor, *Comite River Diversion Canal Project: Status and Reasons for Delays* (January 18, 2017)
19. Congressional Research Service, *Flood Resilience and Risk Reduction: Federal Assistance and Programs* (2018)
20. CPRA, DOTD, OCD, DWF, and GOHSEP, *Phase 1 Investigation: Louisiana Statewide Comprehensive Watershed Based Floodplain Management Program Development* (2018)
21. DOTD, *Senate Resolution 172 Response* (2019)
22. GOHSEP, *Louisiana State Hazard Mitigation Plan* (2019)
23. Council on Watershed Management, Meeting Minutes, 8/19/19 meeting
24. USACE, Amite River & Tributaries, East of the Mississippi River, Louisiana, *Draft Integrated Feasibility Study with Environmental Impact Study* (November 2019)
25. OCD, *Master Action Plan for the Utilization of Community Development Block Grant Mitigation Funds* (approved 2020)
26. DOTD, *Louisiana Statewide Flood Control Program, Guidelines and Procedures* (Oct. 2020 rev)
27. LWI, *Regional Watershed Management in Louisiana: A Guidebook to Local and Regional Entities, Their Authorities and Functions* (2021)
28. LWI Region 7, *Governance Recommendation* (approved 6/29/21)
29. ARBC Financial Report for the Year Ended June 30, 2021
30. LWI Project Applications in the Amite River Basin
31. FEMA Flood Mitigation Assistance Projects in the Amite River Basin