

**SAVING THE FORGOTTEN CROWN JEWEL OF LOUISIANA'S  
WETLANDS: POLITICAL CHALLENGES TO PRESERVING THE  
ATCHAFALAYA RIVER BASIN**

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**Abstract:** While a great deal of funding has gone towards restoring wetlands on the southeastern coast of Louisiana, the more interior wetlands of the Atchafalaya Basin to the west have received far less attention and funding. The Atchafalaya Basin provides critical ecosystem and economic services that warrant better protection from unsustainable logging, sedimentation, and unmitigated oil development. Addressing these threats is difficult not only because of the ecological complexity of the Atchafalaya system, but also because of the nature of Louisiana's politics and different views of Atchafalaya stakeholders. This article considers the importance of the Atchafalaya, threats to its continuity, challenges to addressing these threats, and proposed ways forward offered by different stakeholders within the conservation community.

## INTRODUCTION

Louisiana is losing its wetlands. Recognizing the detriment of this loss to ecosystems and economies, the State of Louisiana has invested heavily in coastal wetland restoration. For example, in 2019, the state and federal government spent more than \$450,000 per acre to create bird habitat on Queen Bess Island (west of the mouth of the Mississippi River).<sup>1</sup> The projected lifespan of the island is only a couple of decades, after which the island may be under water due to sea level rise.<sup>2</sup> The Queen Bess Island restoration is one of many such short-lived projects that the state and federal government are funding in the name of wetland restoration.<sup>3</sup> While Queen Bess Island is now part of a State-managed refuge, much of the land for other projects are privately owned, and restoration comes with no easement or conditions to ensure that landowners will maintain the restored habitat.<sup>4</sup>

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<sup>1</sup> See Louisiana Trustee Implementation Group (LA TIG), *Phase 2 Restoration Plan/Environmental Assessment #1.1: Queen Bess Island Restoration* (2019), [https://www.gulfspillrestoration.noaa.gov/sites/default/files/2019-03%20LA%20Final%20QB%20RP%20EA%201.1%20031419\\_508%20Compliant.pdf](https://www.gulfspillrestoration.noaa.gov/sites/default/files/2019-03%20LA%20Final%20QB%20RP%20EA%201.1%20031419_508%20Compliant.pdf) 2-6. (hereinafter *LA TIG*)

<sup>2</sup> *Id.* at Appendix B-1.

<sup>3</sup> Simultaneous restoration projects include the Rabbit Island Restoration Project; Lake Borgne Marsh Creation; Barataria Basin Ridge and Marsh Creation: Spanish Pass Increment; Terrebonne Basin Ridge and Marsh Creation; and Shoreline Protection at Jean Lafitte National Historical Park and Preserve. Other projects may occur at a later time. See LA TIG, *Final Restoration Plan #1: Restoration of Wetlands, Coastal, and Nearshore Habitats; Habitat Projects on Federally Managed Lands; and Birds* (2017), [http://www.gulfspillrestoration.noaa.gov/sites/default/files/FINAL%20LA%20TIG%20final%20RP%20%231\\_508.pdf](http://www.gulfspillrestoration.noaa.gov/sites/default/files/FINAL%20LA%20TIG%20final%20RP%20%231_508.pdf); see also La. Coastal Prot. and Restoration and Authority (CPRA), *Louisiana's Comprehensive Master Plan for a Sustainable Coast* (2017), [http://coastal.la.gov/wp-content/uploads/2017/04/2017-Coastal-Master-Plan\\_Web-Book\\_CFinal-with-Effective-Date-06092017.pdf](http://coastal.la.gov/wp-content/uploads/2017/04/2017-Coastal-Master-Plan_Web-Book_CFinal-with-Effective-Date-06092017.pdf) (listing proposed coastal restoration projects).

<sup>4</sup> *E.g.*, LA TIG, *Large Scale Barataria Marsh Creation: Upper Barataria Component* (BA-207) at 45 (2020), <https://www.gulfspillrestoration.noaa.gov/sites/default/files/2020-07%20LA%20Public%20Final%20RP.EA%203.3%20Barataria%20Marsh%20Creation.pdf>.

Meanwhile, about one hundred miles northwest of Queen Bess Island, some of North America's most important wetland habitats are seriously degrading due to human activity. These wetlands are part of the Atchafalaya Basin—the largest contiguous block of wetlands in the United States.<sup>5</sup> The Basin is situated along the Atchafalaya River, a 135-mile long distributary of the Red and Mississippi Rivers that empties into the Gulf of Mexico.<sup>6</sup> Decades of noncompliance with development permits, piling of dredged material (“spoil”) along canal rights-of-way, and lack of enforcement have resulted in sedimentation that has eliminated some wetlands in the Basin and devastated water quality in others.

This article explains what is happening to the Basin, why it matters, and actions that state and federal government entities could take to preserve it. The focus is on the most ecologically vital parts of the Atchafalaya Basin, which include some 885,000 acres of forested wetlands and 517,000 acres of marshland.<sup>7</sup> The article expands on work by The Nature Conservancy's Bryan Piazza published in 2014,<sup>8</sup> which called attention to the importance of the Basin and threats to its continuity, by delving deeper into the political forces that hamper Basin restoration. It also draws heavily on the work of Dean Wilson, the executive director of the Atchafalaya Basinkeeper, who has worked with a coalition of environmental groups to advocate for Basin conservation. The article admittedly oversimplifies some of the complexities of Basin management for the sake of brevity, but preserves the nuance and overarching stakeholder disagreements regarding management goals. Section 2 explains the ecological and economic importance of the Basin. Section 3 outlines historic and ongoing threats to the Basin, while Section 4 explains the obstacles to addressing these threats. Finally, Section 5 discusses proposed restoration recommendations.

## 1. THE SIGNIFICANCE OF THE ATCHAFALAYA RIVER BASIN

Traveling through the waters of the Atchafalaya by boat is akin to stepping into a postcard of an iconic landscape that is so often associated with Louisiana culture. Cypress trees rise from the middle of the water, their knees poking out of the surface, their branches decorated with moss. There remain just a handful of the old growth trees—those that are hollow and provide homes for the last black bears in this part of North America. The cypress trees here have withstood decades of hurricanes and lightning strikes. Each season is different, from the winters when the waters can dry up completely to the lively springs when the swamp is a symphony of migrating birds.

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<sup>5</sup> Bryan Piazza, THE ATCHAFALAYA RIVER BASIN: HISTORY AND ECOLOGY OF AN AMERICAN WETLAND, at 70 (2014).

<sup>6</sup> Atchafalaya Basinkeeper, About the Basin, <https://www.basinkeeper.org/the-atchafalaya-basin> (last visited June 18, 2020) (hereinafter “About the Basin”).

<sup>7</sup> About the Basin, *supra* note 6.

<sup>8</sup> Piazza, *supra* note 5.

Place-based peoples, including the Cajuns, have made their living from this ecosystem for generations.<sup>9</sup>

### 1.1. Ecosystem services

The Atchafalaya Basin is among the most productive fish and wildlife areas in North America,<sup>10</sup> supporting 35% of all forested wetlands in the lower Mississippi River floodplain.<sup>11</sup> These wetlands filter pollution and serve as a carbon sink.<sup>12</sup> The Basin's cypress-tupelo swamps are adapted to withstand severe weather events, providing a buffer to slow storm surges from hurricanes and tropical storms.<sup>13</sup>

Crawfish are a critical part of this ecosystem, serving as food for fish and birds.<sup>14</sup> Thousands of migratory birds—almost 300 species—rely on the Basin for habitat.<sup>15</sup> The Basin also provides habitat for white-tailed deer, bobcat, coyote, alligator, beaver, mink, otter, muskrat, armadillo, fox, opossum, and Louisiana black bear, along with hundreds of other fish and wildlife species.<sup>16</sup>

### 1.2. Economic services

Together with the Mississippi River, the Atchafalaya River has the largest drainage basin in North America and the third largest basin in the world.<sup>17</sup> The Basin is managed by the U.S. Army Corps of Engineers as a critically important spillway:

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<sup>9</sup> Atchafalaya Basin Advisory Committee, et al., *State Master Plan Management Plan* (June 1998) [http://www.dnr.louisiana.gov/assets/docs/Atchafalaya\\_Basin/StateMasterPlan.pdf](http://www.dnr.louisiana.gov/assets/docs/Atchafalaya_Basin/StateMasterPlan.pdf) (hereafter “Atchafalaya Plan 1998”).

<sup>10</sup> U.S. Fish and Wildlife Service, *The Atchafalaya, America's Greatest River Swamp, A Proposal to Establish the Atchafalaya Fish, Wildlife, and Multi-Use Area*; Presented to the Atchafalaya Basin Agency Management Group for Consideration in the Development of Alternatives at 6 (1978).

<sup>11</sup> Piazza *supra* note 5, at 68.

<sup>12</sup> *Id.* at 150-51; Cliff R. Hupp, et al., *Sediment Trapping and Carbon Sequestration in Floodplains of the Lower Atchafalaya Basin, LA: Allochthonous Versus Autochthonous Carbon Sources*, 124 JGR GEOBIOSCIENCES at 663 (Mar. 2019).

<sup>13</sup> Piazza *supra* note 5, at 80; Thomas W. Doyle, et al., *Structural Impact of Hurricane Andrew on the Forested Wetlands of the Atchafalaya Basin in South Louisiana*, J. OF COASTAL RSCH. 354 (Spring 1995) (noting that the cypress-tupelo forests weathered Hurricane Andrew in 1192 better than other species).

<sup>14</sup> Jerald Horst, *Crawfish: It's what's for dinner*,

[https://www.louisianasportsman.com/columns/creature-feature/crawfish-its-whats-for-dinner/#:~:text=Red%20swamp%20crawfish%20\(top\)%20and,species%20in%20the%20Atchafalaya%20Basin](https://www.louisianasportsman.com/columns/creature-feature/crawfish-its-whats-for-dinner/#:~:text=Red%20swamp%20crawfish%20(top)%20and,species%20in%20the%20Atchafalaya%20Basin) (last visited June 18, 2020); U.S. Fish and Wildlife Service (FWS), *Atchafalaya National Wildlife Refuge Managed as part of Sherburne Complex* (Aug. 2006), [https://www.fws.gov/uploadedFiles/atchafalaya\\_brochure.pdf](https://www.fws.gov/uploadedFiles/atchafalaya_brochure.pdf).

<sup>15</sup> FWS, *supra* note 14.

<sup>16</sup> Hardin Waddle, *FY 2018 Annual Plan, Atchafalaya Basin Program Supplement: History & Economics of the Basin*, LA. DEP'T OF NAT. RES. at 6 (2018), [http://www.dnr.louisiana.gov/assets/OCM/ABP/2018\\_Plan/Supplemental\\_Narrative.pdf](http://www.dnr.louisiana.gov/assets/OCM/ABP/2018_Plan/Supplemental_Narrative.pdf); *Amphibian Monitoring in the Atchafalaya Basin: Fact Sheet 2011–3056*, USGS (2011), <https://pubs.usgs.gov/fs/2011/3056/pdf/FS11-3056.pdf>.

<sup>17</sup> Piazza, *supra* note 5, at 46-47.

it has the capacity to absorb immense quantities of water, protecting South Louisiana and much of the Lower Mississippi River Valley from major Mississippi River floods. After the Great Flood of 1927 along the Mississippi River, levees were constructed to contain the Basin,<sup>18</sup> and in 1964, the original Old River Control Structure (known as the Low Sill) came into operation to control water flow to the Atchafalaya.<sup>19</sup> The Auxiliary Structure was added in 1986, along with a hydropower plant in 1990.<sup>20</sup> Through these structures, the Army Corps allocated 30% of the water flow to the Atchafalaya River and 70% to the Mississippi River.<sup>21</sup> The goal was to ensure that the Atchafalaya would not overtake the Mississippi River, which would eliminate the established communities, ports, and industries depending on the Mississippi River's flow.<sup>22</sup>

About 30 miles downriver from the Old River Control Structure is the Morganza Spillway. The Army Corps is able to divert additional water through the Morganza Spillway and Floodway towards the Atchafalaya Basin in order to prevent flooding to the southeast along the Mississippi River.<sup>23</sup> The Army Corps has opened the floodgates of the Morganza Spillway only twice—during the floods of 1973 and 2011.<sup>24</sup> Further downriver is an additional floodway, the West Atchafalaya Floodway, which has never been opened.<sup>25</sup>

Beyond flood control, the Basin supports substantial recreational and commercial fisheries.<sup>26</sup> Approximately 90% of wild crawfish sold in Louisiana comes from the Atchafalaya Basin, enabling the cultural survival of the Cajun fishing

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<sup>18</sup> “The eastern and western levees of the floodway were constructed about twenty-five miles from each other, walling off the Basin and effectively reducing its extent to 26 percent of the 3,222 square miles that the historic basin formerly occupied within its natural ecological boundaries.” C.E. Richard, *Book Review: The Atchafalaya River Basin: History and Ecology of an American Wetland*, 4 THE AAG REVIEW OF BOOKS 69 (2016).

<sup>19</sup> Piazza, *supra* note 5, at 21; Ivan H. Nguyen, *et al.*, *Mississippi River and Old River Control Complex Sedimentation Investigation and Hydraulic Sediment Response Model Study*, U. S. Army Corps of ENG'RS 7 (2011); Army Corps, Old River Control 9 (2009), <https://www.mvn.usace.army.mil/Portals/56/docs/PAO/Brochures/OldRiverControlBrochure.pdf>.

<sup>20</sup> *Id.*

<sup>21</sup> John McPhee, *The Control of Nature: Atchafalaya*, THE NEW YORKER (Feb. 16, 1987), <https://www.newyorker.com/magazine/1987/02/23/atchafalaya> If the flow of the Mississippi River were too little, navigation upriver could become impossible, and saltwater intrusion from the ocean could destroy New Orleans's water supply and the surrounding environment. See Martin R Reuse, DESIGNING THE BAYOUS: THE CONTROL OF WATER IN THE ATCHAFALAYA BASIN, 1800-1995, at 209 (1998).

<sup>22</sup> McPhee, *supra* note 21. If the flow of the Mississippi River were too little, navigation upriver could become impossible, and saltwater intrusion from the ocean could destroy New Orleans's water supply and the surrounding environment. See Reuse, *supra* note 21, at 209.

<sup>23</sup> Brian Rentfro, *Morganza Floodway History* (2017), <https://www.mvd.usace.army.mil/Portals/52/docs/MRC/Morganza.pdf?ver=2017-07-27-143010-100>.

<sup>24</sup> *Id.*

<sup>25</sup> Piazza, *supra* note 5, at 351.

<sup>26</sup> FWS, *supra* note 14; Piazza, *supra* note 5, at 220-222, 225.

communities who harvest the crawfish.<sup>27</sup> The average annual commercial harvest is estimated at 80 to 100 million pounds.<sup>28</sup> The Basin is also important for oil and gas production and transport, with 1 million barrels of oil and 43,500 million cubic feet of natural gas produced annually as of 2011.<sup>29</sup>

### 1.3. Continuity of services

In the face of sea level rise, erosion, and subsidence, Queen Bess Island Restoration and similar coastal restoration projects undertaken by the State are not likely to last longer than a couple of decades. Projects to divert sediment from the Mississippi River will have longer lasting effects, but will eventually be overtaken by the pace of sea level rise.<sup>30</sup> Coastal wetlands losses throughout Louisiana are projected to range from 42% to 99% by 2100.<sup>31</sup> In contrast, wetlands at the Atchafalaya River Delta are projected to persist under all but the highest scenario for sea-level rise by 2100.<sup>32</sup> It follows that wetlands in the “interior” of the Atchafalaya Basin should withstand sea level rise for a much longer time, providing important ecosystem and economic services to the residents of Louisiana and beyond. But, as discussed in the next section, there are a number of historic and ongoing threats to the Basin.

## 2. THREATS TO THE BASIN

### 2.1. Logging

While cypress trees make for beautiful furniture and homes, their harvest can never be sustainable. Cypress trees grow slowly over hundreds of years. Saplings do not survive when submerged for long periods.<sup>33</sup> Prolonged flooding resulting from the levee system has increased submergence in parts of the Basin, decreasing sapling

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<sup>27</sup> *Id.*

<sup>28</sup> LSU Ag Center, *Louisiana Crawfish Production Manual* 50 (2017), [https://freshwater-aquaculture.extension.org/wp-content/uploads/2019/08/Louisiana\\_Crawfish\\_Production\\_Manual.pdf](https://freshwater-aquaculture.extension.org/wp-content/uploads/2019/08/Louisiana_Crawfish_Production_Manual.pdf); Crawfish Production, <https://www.welovecrawfish.com/crawfish-industry.htm> (last visited July 6, 2020).

<sup>29</sup> Douglas Carlson, et al., *2011 Atchafalaya Basin Inundation Data Collection and Damage Assessment Project*, Louisiana Geological Survey, Report of Investigations no. 12-01 (2012).

<sup>30</sup> See LA TIG, Draft Environmental Impact Statement for the Mid-Barataria Sediment Diversion, Table 4.2-4 (Delft Model-projected Cumulative Net Changes in Retained Sediment Volume and Land Area under Action Alternatives Relative to No Action Alternative) (2021) (showing that the net gain of the 50-year sediment diversion project is only 10,000 acres); Torbjörn E. Törnqvist, et al., *Tipping points of Mississippi Delta marshes due to accelerated sea-level rise*, 6 SCIENCE ADVANCES 1, 3 (suggesting that submergence of the remaining ~15,000 km<sup>2</sup> of marshland in coastal Louisiana is probably inevitable).

<sup>31</sup> Patty Glick, et al., *Potential Effects of Sea-Level Rise on Coastal Wetlands in Southeastern Louisiana*, 63 J COASTAL RESEARCH 211, 226 (2013).

<sup>32</sup> *Id.* at 227.

<sup>33</sup> Atchafalaya Basin Keeper, *Logging*, <https://www.basinkeeper.org/logging> (last visited July 9, 2020) (hereafter “Logging”); Piazza, *supra* note 5, at 225.

survival rates.<sup>34</sup> Since they grow so slowly, young trees cannot compete with faster growing invasive species and predators such as nutria.<sup>35</sup>

Prior to European settlement in Louisiana and the growth of the timber industry, there were an estimated 8 to 10 million acres of old growth cypress forest in the state.<sup>36</sup> By 1848, only about 2.3 million acres remained.<sup>37</sup> Logging peaked in the 1910s, eliminating virtually all of the old growth forest.<sup>38</sup> Only about 840,000 acres of forests (including cypress as well as other trees) were able to regenerate after the era of intensive logging.<sup>39</sup>

In 2000, companies began logging the remaining second growth cypress and tupelo forests.<sup>40</sup> By 2006, cypress-tupelo forests were logged at a rate of 20,000 acres per year and over 83,000 acres had been logged in the Atchafalaya and Maurapas Basins areas alone.<sup>41</sup> None of the areas logged grew back with cypress-tupelo forests.<sup>42</sup>

Rather than being used to build traditional homes and furniture (as claimed by the timber industry), the timber was converted to mulch and marketed as “environmentally friendly.”<sup>43</sup> Atchafalaya Basinkeeper spearheaded a coalition of groups known as the Cypress Shield Campaign. The Campaign exposed the origin of the “environmentally friendly” mulch by following logging trucks and photo documenting the mulch production, from the sawmills to the sales at Home Depot, Lowes, and Wal-Mart.<sup>44</sup> The mulch bags had a false address from Florida.<sup>45</sup> The campaign worked to educate vendors on the origin of the mulch. As a result, Wal-Mart stores throughout Louisiana and Lowes and Home Depot stores near the coast stopped selling the mulch, which vastly reduced the market. New logging operations

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<sup>34</sup> Logging, *supra* note 33.

<sup>35</sup> *Id.*, Piazza, *supra* note 5, at 225.

<sup>36</sup> Logging, *supra* note 33.

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*; Atchafalaya Plan 1998, *supra* note 9, at 3-2.

<sup>39</sup> Logging, *supra* note 33.

<sup>40</sup> *Id.*

<sup>41</sup> *Id.* This figure is based on overflights sponsored by the Atchafalaya Basinkeeper. *See id.*; *see also* DeWitt H. Braud, Anthony J. Lewis, and John Sheehan, *Data and Procedures for Delineating Activities Related to Coastal Wetland Forest Removal in South Louisiana from 2000 through 2006*, La. Dept. of Environmental Quality, Baton Rouge, LA (2007) (based on Landsat imagery, estimating a loss of 65616 acres of forested wetlands in the Atchafalaya Basin between 1999 and 2006).

<sup>42</sup> Logging, *supra* note 33.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> Interview with Dean Wilson, Atchafalaya Basinkeeper, Apr. 25, 2020.

stopped in 2016.<sup>46</sup> Thus, for the moment, much of the threat of logging has ceased. But there is no policy preventing logging in the future.<sup>47</sup>

## 2.2. Sedimentation

The Atchafalaya River is a distributary to the sediment-rich Mississippi and Red Rivers.<sup>48</sup> The Atchafalaya River carries the entire sediment load of the Red River and historically carried about 35% of the Mississippi River.<sup>49</sup> With the construction of the hydropower plant in 1989 as part of the control structure, the Army Corps established an annual target of diverting 65% of Mississippi River sediment (along with all the Red River sediment) to the Atchafalaya River.<sup>50</sup> Sediment can remain in the Atchafalaya's backswamps and lakes, turning Basin wetlands into dry land.<sup>51</sup> As early as 1979, the U.S. Environmental Protection Agency highlighted the problem of sedimentation and called for measures to improve the flow.<sup>52</sup> The U.S. Geological Service estimated that between 1932 and 2001, nearly 2.5 billion cubic meters of sediment accumulated in the Basin.<sup>53</sup> Sedimentation in Basin lakes is particularly problematic, since they provide some of the only deep-water, higher oxygen habitats in the Basin.<sup>54</sup> With sedimentation allowing for more and more dry land, only about 13 percent of the Atchafalaya Basin is covered by water during low-water periods.<sup>55</sup> There is a great irony in the loss of wetlands due to sedimentation, while coastal wetlands at the mouth of the Mississippi are starving for lack of sediment.

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<sup>46</sup> *Id.*

<sup>47</sup> See Paul C. Chadwick, *Overview and Planning Process of the East Grand Lake Water Quality Improvement and Sediment Management Plan*, La. Dept. Nat. Res. (2010) 5 <http://www.dnr.louisiana.gov/assets/OCM/ABP/EastGrandLakeSummaryReport8152010.pdf> (suggesting that cypress logging is a long-term goal of the proposed East Grand Lake restoration project).

<sup>48</sup> *Id.*

<sup>49</sup> C.R. Hupp, et al., *Recent sedimentation patterns within the central Atchafalaya Basin*, 28 LOUISIANA WETLANDS 127 (2008).

<sup>50</sup> Nguyen, *supra* note 19 at 9 (referring to 13 December 1989, a Memorandum of Agreement established between the Corps of Engineers, the Town of Vidalia, Louisiana, and the Catalysis Old River Hydroelectric Limited Partnership, to establish an acceptable mode of operation for the S.S. Murray, Jr. Hydroelectric Plant); Hupp et al, *supra* note 49.

<sup>51</sup> Atchafalaya Basinkeeper, Sedimentation, <https://www.basinkeeper.org/threats> (last visited July 9, 2020); Piazza, *supra* note 5, at 40, 200.

<sup>52</sup> Johannes L. van Beek, *Hydraulics of The Atchafalaya Basin Main Channel System, Considerations from a Multiuse Management Standpoint Environmental Protection Agency*, EPA-600/4-79-036 (1979) 2, 8.

<sup>53</sup> Charles R. Demas, et al., *The Atchafalaya Basin--River of Trees*, USGS Fact Sheet 021-02 (2002), <https://babel.hathitrust.org/cgi/pt?id=uc1.31822030852073&view=1up&seq=1>.

<sup>54</sup> Piazza, *supra* note 5, at 200.

<sup>55</sup> Chadwick, *supra* note 47, at 3.



In recognition of the impacts of flood management to the Basin’s hydrology, the State of Louisiana developed an Atchafalaya State Master Plan in 1998.<sup>56</sup> The plan was supposed to be led by the Louisiana Department of Natural Resources,<sup>57</sup> the same agency that manages permitting and revenue for the oil and gas industry. The agency issued annual plans that loosely address impacts to the Basin while also addressing “the needs of .... resource users of the Atchafalaya Basin.”<sup>58</sup> Act 570 of the 2018 Regular Session transferred the Program and associated authorities to the Coastal Protection and Restoration Authority (CPRA).<sup>59</sup>

The Basinkeeper asserts that State projects carried out with the aim of improving water quality and sediment management plan, including the Beau Bayou and Buffalo Cove projects, have actually contributed to sedimentation.<sup>60</sup> Comments filed by a coalition of the Basinkeeper and other stakeholders argue that the East Grand Lake project proposed in CPRA’s FY2018 plan and subsequent plans will further contribute to sedimentation.<sup>61</sup>

As shown in Figure 1, the 2018 project design<sup>62</sup> calls for a fraction of the features that were proposed in a previous design (from 2012)<sup>63</sup> but not funded. The Nature Conservancy worked with the State of Louisiana to propose the 13 features that comprise the 2018 design.<sup>64</sup> The features include both “inputs” or “flows” of water to the project area and “outputs” or “drains” taking water out of the project

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<sup>56</sup> CPRA, 2021 Atchafalaya Basin Program Annual Plan New Project Development Guidelines and Criteria (2019) [http://coastal.la.gov/wp-content/uploads/2019/01/ARB-Project-Development-Solicitation\\_Guidelines-and-Criteria\\_091619.pdf](http://coastal.la.gov/wp-content/uploads/2019/01/ARB-Project-Development-Solicitation_Guidelines-and-Criteria_091619.pdf) (hereafter “Project Guidelines”).

<sup>57</sup> Atchafalaya Plan, *supra* note 9 at 2-2.

<sup>58</sup> Project Guidelines, *supra* note 56.

<sup>59</sup> 2018 La. Acts No. 570.

<sup>60</sup> Comments on behalf of Atchafalaya Basinkeeper, Gulf Restoration Network, Louisiana Crawfish Producers Association – West and Sierra Club Delta Chapter, *Comments on the DRAFT Atchafalaya Basin Program Annual Plan Fiscal Year 2021*, 5 (Feb. 15, 2020) <https://static1.squarespace.com/static/5afdef23a2772c8ce5112639/t/5ea89e875c1bc24c716a83f6/1588108936456/2.15.20+ABK+et+al.+Comments+CPRA+FY+2021.pdf> (hereafter “Basinkeeper Comments 2020”).

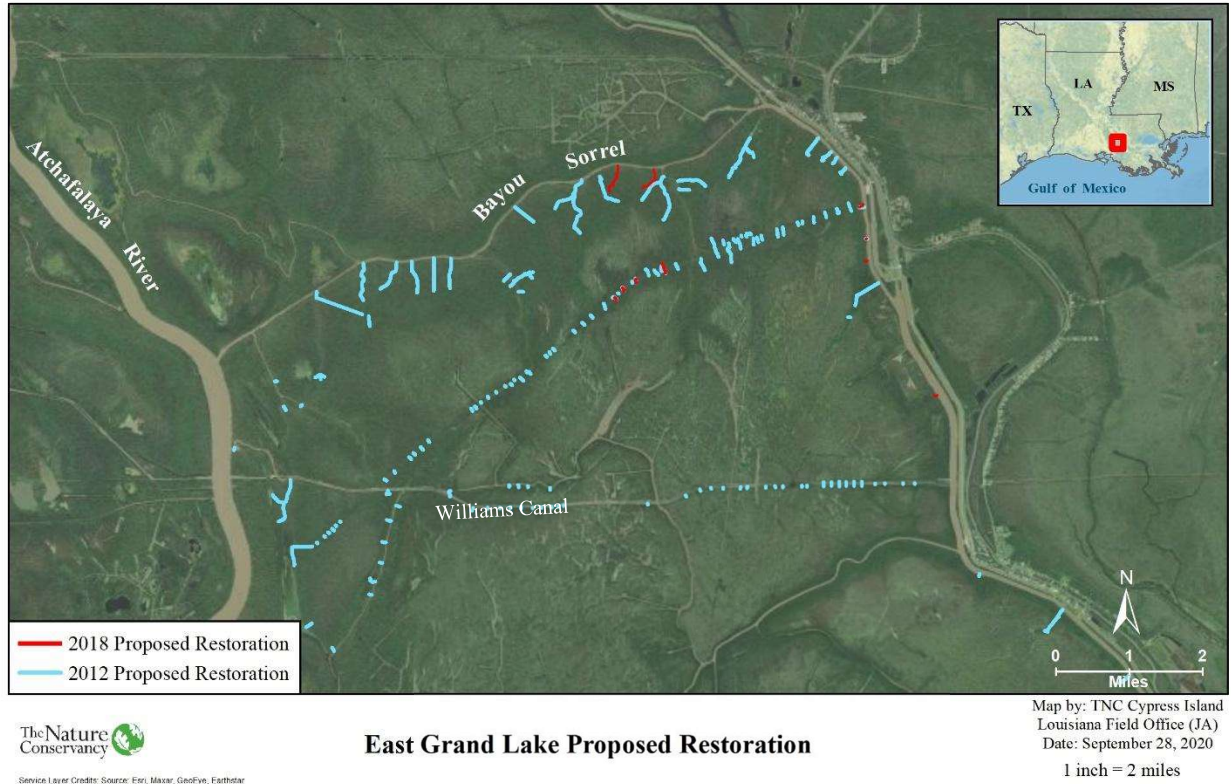
<sup>61</sup> Atchafalaya Basinkeeper, Gulf Restoration Network, La. Crawfish Producers Ass’n-West, Sierra Club Delta Chapter, *Comments re: East Grand Lake Project (MVN 2016-01163-CM, WQC 180312-01)* (Apr. 19, 2018) <https://static1.squarespace.com/static/5afdef23a2772c8ce5112639/t/5ea88a6c1e4c862482f3ec95/1588103797119/ABK+et+al.+EGL+Comments+%28MVN+2016-01163-CM%2C+WQC+180312-01%29+1+of+4.PDF> (hereafter “Basinkeeper Comments 2018”).

<sup>62</sup> La. Dept. of Natural Resources, *FY 2018 Annual Plan, Atchafalaya Basin Program* (2017), [http://www.dnr.louisiana.gov/assets/OCM/ABP/2018\\_Plan/Supplemental\\_Narrative.pdf](http://www.dnr.louisiana.gov/assets/OCM/ABP/2018_Plan/Supplemental_Narrative.pdf); U.S. Army Corp. of Engineers, *ENG FORM 4345, Application for Department of the Army Permit, MVN 2016-01163-CY* (Mar. 19, 2018), <https://www.mvn.usace.army.mil/Missions/Regulatory/Public-Notices/Article/1468140/mvn-2016-01163-cm/>.

<sup>63</sup> La. Dept. of Natural Resources, *FY 2012 Draft Annual Plan, Atchafalaya Basin Program* (2011), [http://www.dnr.louisiana.gov/assets/docs/Atchafalaya\\_Basin/2012-draft-annual-plan.pdf](http://www.dnr.louisiana.gov/assets/docs/Atchafalaya_Basin/2012-draft-annual-plan.pdf).

<sup>64</sup> Personal communication with Joe Baustian, The Nature Conservancy (Sept. 25, 2020).

area.<sup>65</sup> All of the features are located on property that the Nature Conservancy purchased for the purpose of experimentation and restoration.<sup>66</sup>



**Figure 1: Comparison of 2012 and 2018 plans for East Grand Lake restoration (credit: Joseph Baustian)**

Comments filed by the Basinkeeper and other environmental groups suggest that the original project recognized the potential for sedimentation and would have created gaps along Williams Canal (an east-west-running pipeline right-of-way) to facilitate water and sediment flow south of the canal.<sup>67</sup> The later design excludes these gaps, generating concern that areas to the north of the canal would fill with sand and silt.<sup>68</sup> The comments rely on a report prepared by coastal scientist Ivor van Heerden,<sup>69</sup> based on satellite images of sedimentation in various sites throughout the

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> Basinkeeper Comments 2020, *supra* note 60, at 4.

<sup>68</sup> *Id.*

<sup>69</sup> Dr. Ivor van Heerden gained the reputation as a maverick scientist after the publication of a critique on levee failures during Hurricane Katrina and a lawsuit with Louisiana State University, which

Atchafalaya.<sup>70</sup> This report finds that the 2018 design would send large amounts of suspended sediment (897 cubic meters over four months) into stagnant swamp waters.<sup>71</sup>

The Nature Conservancy’s scientists have a different set of assumptions than those relied on by Ivor van Heerden, particularly regarding the amount of sediment that is likely to enter the lake and the effect of subsidence.<sup>72</sup> The Nature Conservancy views the problem with State efforts as one of funding—while many projects are proposed, not all are fully funded or completed.<sup>73</sup> For example, the Buffalo Cove project was done in stages, such that an “input” for water was constructed without the corresponding “drain” needed to improve flow.<sup>74</sup> Another example comes from the Fiscal Year 2021 Atchafalaya plan. The plan provides for a project to remove spoil banks at Henderson Lake, but CPRA is not funding the project.<sup>75</sup>

The Nature Conservancy agrees that in some areas in the Basin, including Grand Lake (different from East Grand Lake), sediment can accumulate in deltas when a deep canal is connected to a river.<sup>76</sup> But the Nature Conservancy suggests that the Grand Lake sediment resulted from fishermen cutting an opening to improve their access.<sup>77</sup> While some stakeholders advocate for closing canals, others rely on the canals for local transportation.<sup>78</sup>

### 2.3. Unmitigated oil development

Across south Louisiana, from the Atchafalaya wetlands to the more easterly coastal wetlands, oil and gas canals (dredged for navigation) have permanently altered flow patterns.<sup>79</sup> Along the coast, the effect has been salt water intrusion and

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terminated van Heerden’s employment. See Mark Schleifstein [https://www.nola.com/news/environment/article\\_6851241d-1c3b-5b5e-ac50-b4db0ddcf0b0.html](https://www.nola.com/news/environment/article_6851241d-1c3b-5b5e-ac50-b4db0ddcf0b0.html).

LSU spent nearly \$1 million on legal fight over firing of coastal researcher Ivor van Heerden, NOLA.COM (Apr. 3, 2013).

<sup>70</sup> Ivor L. van Heerden, Expert Report on Proposed East Grand Lake Project (2018) <https://static1.squarespace.com/static/5afdef23a2772c8ce5112639/t/5ea86e457baaaa53d7a5ca49/1588096608668/Ivor+final.final.pdf>. The study is based on Light Detection and Ranging (LiDAR) images developed by a remote sensing method that demonstrates water depth by using a pulsed laser to distances to Earth.

<sup>71</sup> *Id.* at 11.

<sup>72</sup> Personal Communication with Brian Piazza, Karen Gautreaux, and Joe Baustian, The Nature Conservancy (July 22, 2020).

<sup>73</sup> Personal Communication with Brian Piazza and Karen Gautreaux, The Nature Conservancy (July 9, 2020).

<sup>74</sup> *Id.*

<sup>75</sup> CPRA, Atchafalaya Basin Program, Fiscal Year 2021 Annual Plan (2020) 3 <http://coastal.la.gov/wp-content/uploads/2019/01/CPRA-FY21-ABasinPlan-12.18.19.pdf>.

<sup>76</sup> Personal Communication with Brian Piazza, Karen Gautreaux, and Joe Baustian, The Nature Conservancy (July 22, 2020).

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> Piazza, *supra* note 5, at 180.

the death of vegetation, leading to more open water.<sup>80</sup> In the Atchafalaya Basin, canals can serve as conduits that convey sediment into back swamp environments, resulting in accretion and wetland degradation.<sup>81</sup> “Spoil banks” left on the side of east-west-running canals block sediment from flowing toward the coast, reducing circulation and impacting water quality.<sup>82</sup> If gaps are created in the spoil banks to allow water to pass, the sediment-laden water can create deltas that add to the blockage.<sup>83</sup>

In 2011, a portion of a pipeline canal controlled by Enterprise Products Partners, L.P. (Enterprise) collapsed or was opened, allowing sediment to create a 17-acre island on Grand Lake.<sup>84</sup> Enterprise took no corrective action.<sup>85</sup> Rather than require Enterprise to take corrective action, Louisiana Department of Natural Resources (LDNR) applied for an Army Corps permit<sup>86</sup> to remove the island by suction-dredging the sand and returning it to the Atchafalaya River.<sup>87</sup> But the permit Army Corps issued provided for a different scope of work, authorizing LDNR to use the dredged material to repair Enterprise’s pipeline canal.<sup>88</sup> The modified permit was issued without public notice.<sup>89</sup> The dredging occurred during high water, such that much of the material flowed freely into wetlands and filled them with sediment.<sup>90</sup> Ultimately, the entire island was not removed, and it is expected that Grand Lake will fill once again with sediment.<sup>91</sup> In 2020, Atchafalaya Basinkeeper and others filed suit against the Army Corps of Engineers, challenging the LDNR permit for Grand Lake due to lack of public review of the modified permit.<sup>92</sup>

A more well-known pipeline controversy is that of Bayou Bridge, a project aimed to connect Louisiana oil and gas hubs at Lake Charles and St. James. In June 2018, during monitoring overflights to track pipeline construction across the Atchafalaya Basin, the Basinkeeper identified unauthorized tree clearing activities on a 38-acre parcel of private property in St. Martin Parish.<sup>93</sup> The Basinkeeper and

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<sup>80</sup> *Louisiana's Disappearing Wetlands*, Southeastern Louisiana University, <https://www2.southeastern.edu/orgs/oilspill/wetlands.html> (last updated: July 12, 2010).

<sup>81</sup> Piazza, *supra* note 5, at 70, 182; van Beek, *supra* note 52, at 8.

<sup>82</sup> van Beek, *supra* note 52, at 8.

<sup>83</sup> *Id.*

<sup>84</sup> Atchafalaya Basinkeeper, Grand Lake, <https://www.basinkeeper.org/grand-lake> (last visited July 1, 2020) (hereafter “Grand Lake”).

<sup>85</sup> *Id.*

<sup>86</sup> Clean Water Act Section 404, 33 U.S.C. § 1344.

<sup>87</sup> Grand Lake, *supra* note 83; Army Corps, Joint Public Notice MVN-2015-02209-WPP (Feb. 15, 2016)

<sup>88</sup> Army Corps, Permit No. MVN-2015-02209-WPP (Sep. 29, 2017); Complaint at 3, 53.

<sup>89</sup> Complaint ¶ 6, Atchafalaya Basinkeeper, Louisiana Crawfish Producers Association-West Case, and Healthy Gulf v. U.S. Army Corps of Engineers, et al., (No. 20-01106) (E.D. La. Apr. 03, 2020) (hereafter “Complaint”).

<sup>90</sup> Grand Lake, *supra* note 84.

<sup>91</sup> *Id.*

<sup>92</sup> Complaint, *supra* note 89.

<sup>93</sup> Atchafalaya Basinkeeper, Landowner Lawsuit - Atchafalaya Basin, <https://www.basinkeeper.org/abk-in-action> (last visited Oct. 7, 2020).

others sued for an injunction against pipeline construction in federal court<sup>94</sup> and joined state court litigation in which Energy Transfer Partners (the pipeline's proponent) sued for eminent domain and the landowner sued for trespass. Landowners argued that eminent domain was not warranted on grounds that the pipeline would be contrary to the public interest.<sup>95</sup> The state court ruled that a trespass had occurred and awarded \$150 in damages, but considered the take to be an appropriate use of eminent domain.<sup>96</sup> The federal court granted an injunction that was overturned on appeal.<sup>97</sup>

Bayou Bridge Pipeline construction moved forward in the midst of a high-water period without any sediment controls.<sup>98</sup> Mounds of dirt and mud spewed into wetland areas; along with a sheen on the river presumably caused by diesel oil released from excavators.<sup>99</sup> Sediment, trash, and debris blocked waterways.<sup>100</sup> In July 2020, a state appeals court found Energy Transfer Partners liable for trespass and awarded \$30,000 to landowners.<sup>101</sup>

## 2.4. Climate change

While the Basin can withstand sea level rise far better than the Louisiana coast, it is not immune to other aspects of climate change. The Basin is flooding more frequently and inundated periods are lasting longer.<sup>102</sup> Native grasses are disappearing while invasive aquatic vegetation spreads.<sup>103</sup> In 2019, the Basin was dry for only three weeks.<sup>104</sup> The constant flooding and increased water levels have negative effects on cypress and other trees. Continuous flooding can reduce growth,

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<sup>94</sup> *Atchafalaya Basinkeeper v. U.S. Army Corps of Eng'rs*, 894 F.3d 692 (5th Cir. 2018).

<sup>95</sup> *Bayou Bridge Pipeline, LLC v. 38 Acres, More or Less, Located in Parish of St. Martin, State of Louisiana No. 87011 Reasons for Judgment* (La. 16th D. Dec. 6, 2018).

<sup>96</sup> *Id.*

<sup>97</sup> *Atchafalaya Basinkeeper*, supra note 94.

<sup>98</sup> *Atchafalaya Basinkeeper, Atchafalaya Advocates Ask Federal Judge to Block Bayou Pipeline as Floodwaters Rise* <https://www.basinkeeper.org/atchafalaya-advocates-ask-federal-judge-to-block-bayou-pipeline-as-floodwaters-rise> (last visited Oct. 7, 2020) (hereafter "Atchafalaya Advocates"); Sharon Kelly, *Lawsuit Seeks to Halt Bayou Bridge Pipeline Construction Amid High Waters, Permit Violations*, DESMOG (Jan. 24, 2019) <https://www.desmogblog.com/2019/01/24/lawsuit-seeks-halt-bayou-bridge-pipeline-construction-amid-high-waters-permit-violations>; Motion For A Preliminary Injunction at, *Atchafalaya Basinkeeper, Louisiana Crawfish Producers Association-West, Gulf Restoration Network, Waterkeeper Alliance, and Sierra Club and Its Delta Chapter, v. U.S. Army Corps Of Engineers Defendant, and Bayou Bridge Pipeline, LLC, and Stupp Bros.* (No. 18-23) Memorandum In Support Of Second Motion For A Preliminary Injunction (Jan. 23, 2019 M.D. La.).

<sup>99</sup> *Atchafalaya Advocates*, supra note 98.

<sup>100</sup> *Id.*

<sup>101</sup> *Bayou Bridge Pipeline, LLC v. 38 Acres, More or Less, Located in St. Martin Parish, No. 19-565*, 2020 WL 4001135 at \*36 (La. App. 3 Cir. July 15, 2020).

<sup>102</sup> Interview with Dean Wilson, Executive Director, Atchafalaya Basinkeeper, (Apr. 25, 2020).

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

increase susceptibility to disease, and impede germination.<sup>105</sup> Dry periods are important to allow saplings to grow and limit invasive species such as hyacinth by stranding them on dry land.<sup>106</sup> Dry periods also benefit rabbit, deer, bobcat, black bear, and plants that serve as food for crawfish.<sup>107</sup>

### 3. CHALLENGES TO ADDRESSING THREATS

#### 3.1. Management disagreements

Basin management conflicts arose as early as the 1930s, when levee construction impeded traditional Cajun lifeways, and have continued to the present.<sup>108</sup> The conflicts are not just between stakeholders, but also between scientific approaches,<sup>109</sup> different forms of knowledge,<sup>110</sup> and different people. Nowhere is this better illustrated than the disagreement between environmental non-profits about how to restore the Basin. On the one hand is the Nature Conservancy, perhaps the largest environmental group in the world,<sup>111</sup> armed with a large team of Western science researchers and deep-pocketed funders including Enterprise Products.<sup>112</sup> On the other is the coalition of the Atchafalaya Basinkeeper, Gulf Restoration Network, Louisiana Crawfish Producers Association (LCPA)-West, and Sierra Club's Delta Chapter, which rely on the 2018 van Heerden report, the 1979 EPA report, and the water experience of the Cajun fishermen represented by LCPA-West and the Basinkeeper. The coalition has opposed various projects led by the State of Louisiana, while the Nature Conservancy largely supports these projects.

Disagreements are not as simple as local knowledge versus Western scientific knowledge. The Nature Conservancy has also reached out to local fishers for their knowledge,<sup>113</sup> though different people may have different local knowledge and few

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<sup>105</sup> Piazza, *supra* note 5, at 214; Interview with Dean Wilson, Executive Director, Atchafalaya Basinkeeper, (Apr. 25, 2020).

<sup>106</sup> *Id.* at 249.

<sup>107</sup> Interview with Dean Wilson, Executive Director, Atchafalaya Basinkeeper, (Apr. 25, 2020).

<sup>108</sup> Reuse, *supra* note 21, at 12.

<sup>109</sup> *Id.*

<sup>110</sup> Piazza, *supra* note 5, at 241.

<sup>111</sup> *Nature Conservancy*, Forbes, <https://www.forbes.com/companies/nature-conservancy/#7d2d76c541d2> (last visited Dec. 10, 2020).

<sup>112</sup> *See, e.g.*, Joseph J. Baustian, et. al., Hydrologic connectivity and Backswamp Water Quality during a Flood in the Atchafalaya Basin, *USA 35 River Res Applic.* 430 (2019); *see also* Email from the Nature Conservancy to members (Jul 14, 2017) (listing Enterprise as a funder for the Nature Conservancy's Atchafalaya River Basin - Phase II proposal to the North American Wetlands Conservation Council) (on file with the author).

<sup>113</sup> Interview with Brian Piazza, Director Freshwater and Marine Science, and Karen Gautreaux, Director Government Relations, The Nature Conservancy (July 9, 2020).

people, if anyone, fully understand the entire Basin system.<sup>114</sup> Some may know a local area well, but this knowledge may not transfer to a different part of the Atchafalaya given the complexity of the system. Agencies and Western scientists do not have a system for valuing, vetting, and certifying those with local knowledge that is most pertinent to a particular project. Further, neither CPRA nor the Army Corps have done a comprehensive analysis of sedimentation and species change throughout the entire Basin.<sup>115</sup> The large amount of private ownership, discussed in the next subsection, could complicate such an analysis.

### 3.2. Ownership

An important issue in Atchafalaya management is ownership of lands and waters, which determines public access and management possibilities. The legal and factual issues regarding access and management are incredibly complex and nuanced, with each case standing on its own merits. The legal system has grappled with these complexities for centuries. And the legal landscape changes as often as water levels and water courses change in the Basin.

As a generalization, inland non-navigable water beds and bottoms which are not the sea, arms of the sea, or seashore may be privately owned.<sup>116</sup> In contrast, the underlying lands of Louisiana's navigable waters are supposed to be in public ownership, insusceptible of private ownership.<sup>117</sup> With sea level rise and subsidence, areas along the southeast Louisiana coast are becoming permanently inundated, such that they could be considered publicly owned.<sup>118</sup> But the State of Louisiana has been reluctant to assert public ownership over these waters.<sup>119</sup>

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<sup>114</sup> Mattijs J. van Maasackers, *Environmental Restoration in the Atchafalaya Basin: Boundaries and Interventions* (June 2009) (Master's Thesis, Massachusetts Institute of Technology) (on file with author).

<sup>115</sup> CPRA did sponsor a study to develop recommendations for implementing the Louisiana Sediment Management Plan, but this focused on coastal wetland restoration rather than the problem of sedimentation in the Atchafalaya. Steven G. Underwood, Louisiana Sediment Management Plan (LASMP): Recommendations for an Implementation Strategy (2012).

<sup>116</sup> Declaration of Purpose, La. R.S. 9:1115.1 (current through the 2020 Second Extraordinary Session); Ownership of Beds of Non-Navigable Rivers or Streams, La. C.C. Art. 506 (current through the 2020 Second Extraordinary Session).

<sup>117</sup> See Alienation of Water Bottoms, La. Const. Art. 9, § 3 (current with amendments through Jan. 1, 2021); Public Things, La. C.C. Art. 450 (current through the 2020 Second Extraordinary Session); Public Policy Respecting Ownership of Navigable Waters and Beds Thereof, La. R.S. 9:1107 (current through the 2020 Second Extraordinary Session); Declaration of Policy; Public Trust, La. R.S. 41:1701 (current through the 2020 Second Extraordinary Session); *Miami Corp. v. State*, 173 So. 315, 323-24 (La. 1936).

<sup>118</sup> *Id.*

<sup>119</sup> See Tristan Baurick, *Lawmakers Reject Effort to Make Louisiana Coastal Waters Public*, The Times-Picayune (Apr. 18, 2018, 6:30 PM), [https://www.nola.com/news/environment/article\\_816f57f7-169b-5a0f-8fb8-73b0c69399d6.html](https://www.nola.com/news/environment/article_816f57f7-169b-5a0f-8fb8-73b0c69399d6.html). Bills that sought to address the situation have failed to pass, including Provide for Public Access to the Running Waters of the State, L.A. H.B. 391, Regular Session (2018).

As discussed in Section 3.2., the Atchafalaya Basin's interior wetlands are disappearing not due to sea-level rise and subsidence, but to sedimentation that converts them to dry land. Louisiana law considers "alluvion" formed along rivers and streams through the process of accretion to belong to the riparian owner.<sup>120</sup> Thus, private landowners along Atchafalaya waterways who wish to develop dry lands for whatever purpose have no incentive to fight against sedimentation. Indeed, landowners opposed a project to remove sediment at Grand Lake on grounds that it would interfere with their alluvion.<sup>121</sup>

In the Atchafalaya Basin, where over half of the Basin is privately claimed,<sup>122</sup> the State has declined to assert or protect public ownership. In particular, the 1998 Atchafalaya Master Plan states that navigable manmade canals, including pipeline canals, remain in private ownership.<sup>123</sup> Further, it says that riparian landowners own the land between the high and low watermark of State-owned water bodies.<sup>124</sup> As such, private landowners in the Basin are largely free to fill in wetlands, create canals, harvest timber, and otherwise alter the ecosystem.

It is true that there are theoretical limits to private landowners' ability to fill in wetlands, including the Clean Water Act requirement for permits to discharge in wetlands considered to be navigable waters.<sup>125</sup> But such processes are not always followed. For example, in the late 2000s, a private landowner (Mallard Basin, Inc.) dug over two miles of ditch in wetlands, drained the water out of Fisher Lake, and installed a dam and metal water control devices to artificially control the flow and levels of water in 600 acres of hardwood swamp and lake—all without obtaining legally-required permits.<sup>126</sup> These actions altered the hydrology of 600 acres or more in an area designated as critical habitat for the Louisiana black bear.<sup>127</sup> The Basinkeeper brought this information to the attention of the Army Corps but no

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<sup>120</sup> Alluvion and Dereliction, La. C.C. Art. 499 (current through the 2020 Second Extraordinary Session). In contrast, there is no right to alluvion along lakes. Shore of the sea or of a Lake. La. C.C. Art. 500 (current through the 2020 Second Extraordinary Session).

<sup>121</sup> *E.g.*, Letter from Williams, Inc. to LDNR re Atchafalaya Basin Program, Louisiana DNR CUP Number P20150965 (Nov. 20, 2015); Letter from Weeks Family, LLC. to LDNR re Atchafalaya Basin Program, Louisiana DNR CUP Number P20150965 (Nov. 20, 2015); Letter from Kyle/Peterson Management Corp. to LDNR re Atchafalaya Basin Program, Louisiana DNR CUP Number P20150965 (Nov. 20, 2015), available at [http://sonlite.dnr.state.la.us/sundown/cart\\_prod/cart\\_crm\\_view\\_cmnt?pcup\\_num=P2015096](http://sonlite.dnr.state.la.us/sundown/cart_prod/cart_crm_view_cmnt?pcup_num=P2015096). All three letters say, "Therefore, the proposed dredging of Little Bayou Pigeon by the Atchafalaya Basin Program, Louisiana DNR will extend outside of the current MLW and onto accretion owned by Williams, Inc. as the riparian owner. For this reason, we hereby object to the above referenced permit."

<sup>122</sup> Piazza, *supra* note 5, at 166.

<sup>123</sup> Atchafalaya Plan 1998, *supra* note 9, at 4-5.

<sup>124</sup> *Id.*

<sup>125</sup> Permits for Dredged or fill Material, 33 U.S.C. § 1344.

<sup>126</sup> Complaint, Louisiana Crawfish Producers Association-West, v. Lieutenant General Robert L. Van Antwerp (M.D. La. Mar. 22, 2011) (No. 11-461) (hereafter "2011 Complaint").

<sup>127</sup> *Id.*



enforcement action resulted. When environmental groups sued Mallard Basin, Inc., the Corps granted “after-the-fact” permits.<sup>128</sup> There was no environmental review under NEPA<sup>129</sup> and no consultation with the U.S. Fish and Wildlife Service under the Endangered Species Act<sup>130</sup> regarding the impact on black bears.<sup>131</sup> In 2011, the Atchafalaya Basinkeeper, Louisiana Crawfish Producers Association West, and Louisiana Environmental Action Network unsuccessfully brought suit to invalidate the permits.<sup>132</sup>

Conservation easements are one way that government entities could protect privately claimed lands. In 1986<sup>133</sup> and again in 2007,<sup>134</sup> Congress authorized the Army Corps to purchase such easements as well as lands in fee simple. The 1998 Atchafalaya Master Plan expressed support for the Army Corps to purchase two types of easements over all privately claimed lands in the Basin (about 338,000 acres).<sup>135</sup> “Development” easements would limit structures interfering with flood control, while “environmental” easements would control clearcutting and limit habitat conversion.<sup>136</sup> At the time of the 1998 Master Plan, the Army Corps had already purchased 33,000 acres in fee simple and established easements on about 31,500 acres.<sup>137</sup>

But easements provided limited protection: all present uses were allowed to continue along with new oil and gas activity as well as timber harvest (except for certain species of certain sizes).<sup>138</sup> And due to lack of appropriations, only a small portion of the intended easements were effectuated.<sup>139</sup> In short, the state and federal governments have relatively limited control over the Atchafalaya Basin. As suggested in the next subsection, these governments have done relatively little to exercise the control they do have.

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<sup>128</sup> *Id.* at 13, *citing* Nationwide Permit 7, MVN-2010-1032-WLL (July 6, 2010), Permit MVN 2010-01080-

WLL (Oct. 6, 2010).

<sup>129</sup> Cooperation of Agencies; Reports; Availability of Information; Recommendations; International and National Coordination of Efforts, 42 U.S.C. § 4332(C).

<sup>130</sup> 16 U.S.C. § 1536; 50 C.F.R. § 402.02 (2012).

<sup>131</sup> 2011 Complaint, *supra* note 126.

<sup>132</sup> *See id.*

<sup>133</sup> Water Resources Development Act of 1986, Pub. L. No. 99-662, 100 Stat. 4142, (Nov. 17, 1986), Sec. 601.

<sup>134</sup> Water Resources Development Act of 2007, Pub. L. No. 110-114, 121 Stat. 1125 (Nov. 8, 2007), Sec. 3075.

<sup>135</sup> Atchafalaya Plan 1998, *supra* note 9, at 3-8

<sup>136</sup> *Id.* at 5-1.

<sup>137</sup> *Id.* at 4-1, 5-1.

<sup>138</sup> *Id.* at 5-2; Piazza, *supra* note 5, at 242.

<sup>139</sup> Piazza, *supra* note 5, at 242.

### 3.3. Agency influence

In Louisiana, there is a long history of agencies being heavily influenced by the oil and gas industry as well as by legislators who are in turn influenced by the oil and gas industry and powerful corporate landowners. Likewise, there is a history of Army Corps projects with little environmental benefit and no economic benefit to anyone except the promoters.

Professor Oliver Houck, who has written extensively on the impacts to Louisiana's wetlands from both Army Corps and oil and gas activities, wrote of the Army Corps, "its activities have always been tied to a Congress with its own view about big construction projects that send money back home."<sup>140</sup> In other words, when members of the Louisiana Congressional delegation support an action that benefits local industry, be it oil and gas or contractors who rearrange wetlands, the Army Corps supports the action, too. Houck tells the story of a \$33 million (in 1968 dollars) Army Corps project in the Lower Atchafalaya to cover 8,000 acres of wetlands with dredged spoil so two shipyard companies could more quickly transport their rigs to the Gulf.<sup>141</sup> The Army Corps (and the court) found that the benefits of this project justified the costs.<sup>142</sup> Houck emphasizes that a number of Army Corps personnel have resisted wasteful and unlawful actions.<sup>143</sup> But these personnel have too often been "overruled by their superiors or by Congress itself."<sup>144</sup>

The Army Corps has been a reluctant enforcer of the oil and gas industry permits it is charged with managing in the Atchafalaya Basin. The Basinkeeper has made records requests for enforcement actions against pipelines known to be in violation and learned that no enforcement actions were taken.<sup>145</sup> Part of the problem may be limited funds designated for enforcement.<sup>146</sup> According to the Basinkeeper, the regulatory division of the Corps lacks a boat to enforce violations in the Basin.<sup>147</sup> Previously, the Basinkeeper used their own boat to bring Corps personnel to see violations.<sup>148</sup> Later, around 2012, Corps personnel reportedly said they were not

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<sup>140</sup> Oliver A. Houck, *Breaking the Golden Rule: Judicial Review of Federal Water Project Planning*, 65 RUTGERS L. REV. 1, 6 (2012).

<sup>141</sup> *Id.* at 25.

<sup>142</sup> *S. La. Envtl. Council v. Hunt*, No. 74-698, 18 (E.D. La. May 17, 1974).

<sup>143</sup> Houck, *supra* note 140, at 6.

<sup>144</sup> *Id.* at 23.

<sup>145</sup> Personal Communication with Dean Wilson, April 25, 2020.

<sup>146</sup> *See, e.g.*, Louisiana Senator John Kennedy's announcement of Army Corps funding for 2020, with just 1% designated for enforcement, and none of that for the Atchafalaya. Sen. Kennedy announces funding for Army Corps of Engineers civil works projects (Feb. 12 2020), <https://www.kennedy.senate.gov/public/2020/2/sen-kennedy-announces-funding-for-army-corps-of-engineers-civil-works-projects>.

<sup>147</sup> Personal Communication with Dean Wilson, April 25, 2020.

<sup>148</sup> *Id.*

allowed in boats belonging to fishers and the Basinkeeper.<sup>149</sup> Yet Corps personal are still allowed to go in oil and gas industry boats.<sup>150</sup>

The Corps is not the only agency that has avoided taking enforcement action against the oil and gas industry in Louisiana. Houck offers insight on why oil and gas company violations remain largely unaddressed. He refers to a “gentlemen’s agreement” through which environmental impacts would be ignored so long as the oil and gas industry continued to produce jobs and revenues.<sup>151</sup> Even after Hurricane Katrina and the BP Oil Spill, when the State of Louisiana became painfully aware of the connections between wetlands destruction and detriment to state residents, the agreement to avoid hampering the oil and gas industry has continued. State legislators intimately involved in the industry have passed bills to snuff out any lawsuit that might require the industry to take responsibility for its actions.<sup>152</sup>

### 3.4. Lack of attention and funding

The amount of attention, effort, and funding going to restore coastal wetlands in Louisiana, particularly the eastern part of the state, dwarfs that going to the Atchafalaya Basin. CPRA’s Fiscal Year 2021 Annual Plan for coastal protection calls for 68 restoration projects to be constructed at a cost of nearly \$6 billion.<sup>153</sup> In contrast, CPRA’s Fiscal Year 2021 Annual Plan for the Atchafalaya Basin refers to just five projects, only three of which are funded, including the East Grand Lake project.<sup>154</sup>

The attention on the eastern coastal wetlands is understandable for two reasons. First, most of the money going toward coastal restoration comes from 2010 BP oil spill settlement funds.<sup>155</sup> Projects funded with this money must somehow be tied to the injury resulting from the BP spill,<sup>156</sup> which was farther away from and less detrimental to western Louisiana. Second, with all of the sediment flowing down the Atchafalaya River, its two main outlets are gaining 2,240 acres of land a year.<sup>157</sup> With a projected land loss of 58,700 acres from Barataria Basin and the Birdfoot Delta

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<sup>149</sup> *Id.*

<sup>150</sup> *Id.*

<sup>151</sup> Oliver A. Houck, *The Reckoning: Oil and Gas Development in the Louisiana Coastal Zone* 28 TULANE ENV. L. J.191 (2015).

<sup>152</sup> An example is Louisiana Senate Bill 359 (2020), an effort to remove the authority of coastal parishes that have sued oil companies for damage to coastal wetlands. See *Plaquemines Parish v. Total Petrochemicals & Refining USA, Inc., et al* (No. 61-002 E.D. La.).

<sup>153</sup> CPRA, FY 2021 Atchafalaya Plan at 41-42. This includes a little more than \$4 million for two Atchafalaya projects—a boat launch and campgrounds.

<sup>154</sup> CPRA, FY 2021 Atchafalaya Plan, *supra* note 74.

<sup>155</sup> *In Re: Oil Spill By The Oil Rig “Deepwater Horizon” In the Gulf of Mexico, Consent Decree Among Defendant BP Exploration & Production Inc., The United States of America, and the States of Alabama, Florida, Louisiana, Mississippi, and Texas*, Case No. 10- 04536 (E.D. La. Apr. 4, 2016)

<sup>156</sup> *Id.* at ¶19.

<sup>157</sup> Carol Rasmussen, *NASA Studies a Rarity: Growing Louisiana Deltas*, Sea Level News (Feb. 8, 2017) <https://sealevel.nasa.gov/news/73/nasa-studies-a-rarity-growing-louisiana-deltas>.

alone by 2070,<sup>158</sup> the degradation of the interior Atchafalaya Basin may seem less urgent.

#### 4. PROPOSED WAYS FORWARD

Policymakers in Louisiana can do little on their own to stop the effects of climate change on the Basin. There are straightforward actions to mitigate the effects of oil and gas development, but it seems clear under the “gentlemen’s agreement” with industry that no such actions will be taken. As such, the battle for restoration and conservation takes place on a micro-scale, project by project, and sometimes lawsuit by lawsuit.

A coalition of environmental groups and the Louisiana Crawfish Producers Association have developed a set of management principles and projects aimed at restoring the Basin ecosystem that existed prior to levee construction (to the extent possible).<sup>159</sup> The principles and projects are broad and go beyond the current State of Louisiana’s Atchafalaya Management Plan, and would require a policy shift towards a more holistic restoration approach.

First, the coalition proposes a series of gates and pumps along the Basin’s levees.<sup>160</sup> This proposal recognizes that levees have severed channels that would have conducted rainfall into the Basin, such that heavy rainfalls can flood areas on the side of the levees opposite from the Basin. The proposed gates could be left open when water levels are low, allowing water and sediment to flow freely.<sup>161</sup> When water levels are high, the gates could be closed and the pumps could move water from outside the levees into the Basin.<sup>162</sup>

Second, the coalition calls for sediment to be managed and contained in the main Atchafalaya River channel, away from swamps, lakes and bayous, to maintain the floodplain’s ability to handle floodwaters.<sup>163</sup> Fulfilling this vision would involve building channels to reconnect some of the cutoff waterways, allowing fish, crustaceans, and fishers to move throughout the Basin. For example, Jakes Bayou, which was cut off from the main river channel around 1970, could be reopened to

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<sup>158</sup> LA TIG 2021, Environmental Impact Statement for the Mid-Barataria Sediment Diversion (forthcoming).

<sup>159</sup> Atchafalaya Basinkeeper, Gulf Restoration Network, Louisiana Crawfish Producers Association-West and Sierra Club Delta Chapter, *Atchafalaya Basin Master Plan for Flood Protection, Ecological Enhancement, Wetland Protection, and Coastal Restoration* (2016) (on file with author) (hereafter “Basinkeeper Plan”).

<sup>160</sup> *Id.*

<sup>161</sup> *Id.*

<sup>162</sup> *Id.*

<sup>163</sup> *Id.* This recommendation mirrors that of the Environmental Protection Agency more than four decades ago: “The most effective alternative for achieving maximum long-term use for flood control at a minimum cost to the environment is to enhance the development of the channel in the direction of its ultimate stable conditions while simultaneously minimizing sedimentation in the backwater areas.” van Beek, *supra* note 52, at 2.

minimize the sediment coming into it from the main river channel.<sup>164</sup> In contrast, waterways that have the effect of leading sediment into bayous and lakes could be closed. For example, Coon Trap, which was opened in the early 1990s, has directed sediment into various bayous and Grand Lake and could be closed.<sup>165</sup> That said, stakeholders who rely on canals like Coon Trap to access fishing sites may oppose closure. And there may be scientific dispute regarding which channels need to be opened or closed.

A potential project that could divert some sediment from the Atchafalaya to coastal wetlands is the “Increase Atchafalaya Flow to Terrebonne” project outlined in CPRA’s 2012 and 2017 Coastal Master Plans.<sup>166</sup> The goal is to divert river water at the south end of the Basin around Bayou Boeuf Lock where the river intersects with the Gulf Coast Intracoastal Waterway. BP oil settlement funds (\$415 million) have been appropriated for the engineering and design of this project (through 2022) but no funds have been appropriated for construction.<sup>167</sup> If constructed, the project could help build coastal wetlands, at least until they are overtaken by sea level rise.

The environmental-crawfish producers coalition proposes a similar large-scale diversion: suction dredging the area known as Lower Grand Lake/Six Mile Lake (above Morgan City) and transporting the sediment via pipeline to the eastern coast.<sup>168</sup> The idea is that Grand Lake would continue to accumulate sediment over time, making it a renewable source of material for coastal restoration.

The Nature Conservancy has taken a different approach to Basin conservation focused on their research and partnership building with government, landowners, and private entities. They have not argued for policy changes. Rather, they conduct research on the land they purchased with the support of private landowners for the purpose of restoration experiments.<sup>169</sup> Through these experiments, they are able to measure accretion rates and changes in flowrates.<sup>170</sup> They have used information gained from these experiments to contribute to proposals for State-sponsored projects on other lands.<sup>171</sup> The Nature Conservancy serves on the Louisiana Society of American Foresters (LASAF) Cypress Management Committee, which includes representation from the State and cypress logging proponents,<sup>172</sup> and which asked

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<sup>164</sup> Basinkeeper Plan, *supra* note 159.

<sup>165</sup> *Id.*

<sup>166</sup> The Army Corps was authorized to be the lead federal agency for this project. *See* Water Resources Development Act of 2007, Pub. L. No. 110–114, § 7006(e)(3)(A), 121 Stat. 1041, 1277 (codified as amended at 33 U.S.C. §§ 2201-2355 (2007)).

<sup>167</sup> CPRA, FY 2021 Atchafalaya Plan, *supra* note 75.

<sup>168</sup> Basinkeeper Plan, *supra* note 159.

<sup>169</sup> Interview with Bryan Piazza, Director, Freshwater and Marine Science & Karen Gautreaux, Director of Government Relations, The Nature Conservancy (July 9, 2020).

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

<sup>172</sup> LASAF Cypress Management Committee <http://lasaf.homestead.com/cypresscommittee.html> (last visited Oct. 12, 2020).

Wal-Mart to reconsider its suspension of cypress mulch sales.<sup>173</sup> The Nature Conservancy's close ties with private landowners,<sup>174</sup> companies such as Shell Oil,<sup>175</sup> and the State are vexing to the environmental groups who see landowners as part of the problem. What the Nature Conservancy sees as coalition building,<sup>176</sup> other environmental groups see as greenwashing.<sup>177</sup>

The gulf between the views of groups whose missions include Basin conservation suggests the need for broader, more participatory research to determine which approaches will result in restoration and which will not. The State of Louisiana should not agree to cooperate exclusively with one particular conservation group, as it appears to have done with the Nature Conservancy.<sup>178</sup> Rather, it needs a comprehensive process that assesses the entire Basin system, to the extent practical given private ownership. It appears that the State of Louisiana embarked on a LiDAR satellite analysis in accordance with the FY2010 Atchafalaya Plan, but it is not clear how this study has been used.<sup>179</sup> Further, there is a need for better cost-benefit analysis of proposed projects that estimates how long a project would last and appraises the ecological benefits. Given the uncertainties regarding costs, benefits, and efficacy, it would be important to move forward with small, pilot projects that can be stopped when shown to be ineffective. There could be citizen science

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<sup>173</sup> Letter from LASAF to Wal-Mart, (Sept. 18, 2007) (on file with the author).

<sup>174</sup> Amy Wold, Nature Conservancy buys land near Bayou Sorrel for Education Purposes, *THE WASH. TIMES*, (July 11, 2015) <https://www.washingtontimes.com/news/2015/jul/11/nature-conservancy-buys-land-near-bayou-sorrel-for/> (“For A. Wilbert’s Sons LLC, the company that owns and manages a total of 125,000 acres for stockholders, the sale is a good one for the company and a good fit for how they want to see the land maintained.”)

<sup>175</sup> The Nature Conservancy, *Atchafalaya River Basin Initiative* (2016), <https://www.nature.org/media/louisiana/atchafalaya-river-basin-initiative-report-2016.pdf>

<sup>176</sup> *Id.*; Press Release, The Nature Conservancy, Louisiana The Atchafalaya River Basin Initiative (2016) (on file with author) (“we are working with the state, partners and stakeholders to develop a decision making process that fully engages stakeholders in designing the future Atchafalaya, places landowner vision at the forefront, and promotes science-based decisions”).

<sup>177</sup> Basinkeeper, *Corruption*, <https://www.basinkeeper.org/corruption> (last visited Oct. 13, 2020).

<sup>178</sup> See Memorandum of Understanding Between the La. Dep’t of Nat. Res. Atchafalaya Basin Program (ABP) & The Nature Conservancy (TNC) (Dec. 17, 2015) (on file with author) ; Letter from Dean A. Wilson, Exec. Director, Atchafalaya Basinkeeper to Don Haydel, Director, ABP (Jan. 13, 2016) (on file with author) (expressing interest to be included in the MOU); Letter from Don Haydel, Director, ABP, to Dean Wilson, Exec. Director, Atchafalaya Basinkeeper (Mar. 23, 2016) (on file with author) (rejecting Basinkeeper’s request to join the MOU); see also E-mail from The Nature Conservancy to members (Jul. 14, 2017) (on file with the author) (indicating that the state contributed matching funds for The Nature Conservancy’s Atchafalaya River Basin - Phase II proposal to the North American Wetlands Conservation Council).

<sup>179</sup> See Press Release, La. Dep’t of Nat. Res., Atchafalaya Basin Natural Resource Inventory Assessment System Now Available Online (July 5, 2011), <http://www.dnr.louisiana.gov/assets/OCM/ABP/NEWSRELEASENRIAS.pdf>. The link to the study results does not work. South Wings has partnered with Atchafalaya Basin to carry out these studies, but they lack the imprimatur of a university or state-sponsored study. See generally *Cypress Ecosystem Protection*, SOUTHWINGS, <http://www.southwings.org/our-work/cypress/> (last visited Oct. 10, 2020).

partnerships that train and compensate local residents and fishers for monitoring such projects.

Of course, the success of pilot projects depends on the political will of the agencies to carry them out in a transparent way, and to change management direction based on scientific data and local observations. The success of such projects also depends on cooperation from landowners and land claimants, who may not (in the absence of some sort of compensation, easement, or legal requirement) even permit citizen-scientists to enter project sites.

## CONCLUSION

Louisiana's wetlands are at risk of disappearing. For those on the coast, only so much can be done to stem the tide of sea level rise. In contrast, there is still a possibility to preserve and restore the Atchafalaya Basin. State plans for the Atchafalaya warrant more attention from the conservation community and other stakeholders. Preservation and restoration are not just an environmentalist agenda, given the importance of the Basin for flood control and commerce. The challenges to preservation and restoration are mainly political. But the lack of meaningful regulation of the oil and gas industry may be so deeply entrenched in Louisiana's political power structure as to be unresolvable outside of litigation.

By comparison, hydrological management is more feasible to address. Yet it is also political, given disagreements regarding ownership and access and the differing stakeholder visions.

This article highlights a major difference of opinion about the effects of introducing new flows from canals into backswamp areas. The Nature Conservancy supports the East Grand Lake project to improve understanding of Basin hydrology, while the Basinkeeper's coalition with Sierra Club's Delta Chapter, Gulf Restoration Network, and LCPA-West believes that the project will simply fill in the swamp. There are very different estimations of the amount and consequences of sedimentation associated with the project. The coalition fears that the project is not an experiment worth pursuing, as it would continue a trend of failed projects changing wetlands to dryland forest.

Still, as shown by the many construction projects going forward to restore southeast Louisiana's coast, there is a willingness on the part of the State to engage in wetland restoration. Going forward, CPRA should conduct transparent research to map sediment accumulation at various points throughout the Atchafalaya, rather than just relying on the Nature Conservancy's research on a single parcel of land. It would be helpful (and potentially politically feasible) to lobby Congress for sufficient appropriations for the Army Corps to purchase the conservation easements

previously authorized for Atchafalaya protection.<sup>180</sup> Once these easements are implemented, it is possible that additional easements could be secured to authorize pilot restoration projects and limited entry for the purpose of monitoring these projects. It will be critical for any restoration project to be continually informed by both science and local knowledge, and for plans to change course if the data shows that the project is ineffective.

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<sup>180</sup> See Water Resources Development Act of 1986, Pub. L. No. 99-662, § 601, 100 Stat. 4082, 4142; see also Water Resources Development Act of 2007, Pub. L. No. 110-114, § 3075, 121 Stat. 1041, 1125 (codified as amended at 33 U.S.C. §§ 2201-2355 (2007)).