

TULANE ENVIRONMENTAL LAW JOURNAL

VOLUME 28

SUMMER 2015

ISSUE 2

The Reckoning: Oil and Gas Development in the Louisiana Coastal Zone

Oliver A. Houck*

I.	LES FEUX-FOLLETS	187
II.	LE FLOTANT	194
III.	LE REVEILLE.....	206
IV.	LE SOUS-SOL	210
V.	LA COMPAGNIE	221
VI.	LE PROGRAMME CÔTIER.....	232
	A. <i>Air Cushioned Vehicles</i>	240
	B. <i>Backfilling</i>	248
	C. <i>Mitigation</i>	257
	D. <i>Special Management Areas</i>	263
VII.	L'ENTENTE	266
VIII.	LE TOUT ENSEMBLE.....	278
	APPENDIX	284

* © 2015 Oliver A. Houck. Professor of Law, Tulane University. The independent research of Callie Casstevens, LL.M. 2012, Tulane University Law School; Brendan Hughes, J.D. candidate 2017, Tulane University Law School; Tom Sharp, J.D. 2011, Tulane University Law School; Sean Skinner, J.D. candidate 2015, Tulane University Law School; and Endre Szalay, J.D. 2011, Tulane University Law School; and manuscript assistance of Terence Alost, J.D. candidate 2016, Tulane University Law School; Stephanie Bruguera, J.D. candidate 2017, Tulane University Law School; Will Lindsey, J.D. candidate 2015, Tulane University Law School; Deirdre MacFeeters, J.D. candidate 2016, Tulane University Law School; Mary Rudolf, J.D. candidate 2016, Tulane University Law School; and Bethanne M. Sonne, J.D. candidate 2015, Tulane University Law School is acknowledged with gratitude, as is information provided by scientists, attorneys, academics, agency personnel, and citizen organizations referenced in this Article.

The past is never dead. It's not even past.

—William Faulkner¹

In May 2012, Senator Mary Landrieu of Louisiana addressed a hometown crowd at the University of New Orleans. She was keynoting a conference called “Restoring Our Coast,” with a panel of experts in tow. Our plight was urgent, she told the audience; the entire coast was disappearing and we would need major monies to turn the tide. When it came time for questions, a man in the audience named Walter Williams arose, a video shows him from the back, to inquire: “Why isn’t the oil industry being asked to pay for the part that they have damaged to the wetlands? . . . It’s in their own self-interest because they’re going to have pipes out in the Gulf, anybody?”²

Dead quiet in the hall. The panelists eyed each other with nervous smiles, visibly embarrassed. Senator Landrieu’s aide looked poleaxed. Sensing danger, the moderator quickly took them off the hook. “There’s silence,” he observed, smiling too, and then he changed the subject.³ Everyone in the room knew about the silence, and why. Williams had just asked the most taboo question in Louisiana, one that had been festering unanswered for more than half a century.

About a year later, the New Orleans levee board, revitalized as the South Louisiana Flood Protection and Levee Authority (Authority), asked itself the same question and came up with a different answer. It had reason to. The lessons of Hurricanes Katrina and Rita for the city were very present in mind. One was that 50 miles of marshes and cypress swamps that once buffered its levee system from Gulf storms were largely gone, shredded by oil industry canals.⁴ Storms came straight in, unimpeded. The Authority resolved to ask the industry that had dug up these wetlands, and made fortunes from them, to help repair the harm. In July 2013, it filed suit against 97 oil and gas companies for damages to the landscape below New Orleans and monies needed for their restoration.⁵ The lid blew off.

1. WILLIAM FAULKNER, *REQUIEM FOR A NUN* act 1, at 73 (1st vintage international ed. 2011).

2. Walter Williams, *Restoring Our Coast—Who Pays?*, YOUTUBE (May 17, 2012), <http://www.youtube.com/watch?v=d38IDTs7RA>.

3. *Id.*

4. See Petition for Damages and Injunctive Relief at 2-3, Bd. of Comm’rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., 29 F. Supp. 3d 808 (E.D. La. 2014) (No. 2:13-CV-05410) [hereinafter *Petition*].

5. Mark Schleifstein, *Historic Lawsuit Seeks Billions in Damages from Oil, Gas, Pipeline Industries for Wetland Losses*, TIMES-PICAYUNE (July 24, 2013, 9:30 AM), http://www.nola.com/environment/index.ssf/2013/07/historic_east_bank_levee_autho.html; see also Matt S. Landry, *A Louisiana Levee Board’s Lawsuit To Recover for Coastal Land Lost from Wetland*

The following day, Louisiana Governor Bobby Jindal, away at a convention in Las Vegas, issued an immediate press release condemning both the lawsuit and the Authority.⁶ He was “not going to allow a single levee board that ha[d] been hijacked by a group of trial lawyers determine flood protection” for South Louisiana.⁷ His point man on the coast, Garret Graves, echoed with his own comments about the levee board and its counsel: “It looks to me like SLFPA-E’s lawyer lost his senses when he got drunk on dollar signs.”⁸ Behind the tort-lawyer-as-demon rhetoric, of course, lay the most important power in the history of Louisiana: the oil and gas industry. The legal action was an assault on the kingdom.

This is a story about that kingdom, how it came to be, its pervasive reach, its resistance to meaningful restraints, and the collapse of the Louisiana coast, all of which became part of the ensuing conflict. Starting with the very setting, it is a uniquely Louisiana story.

I. LES FEUX-FOLLETS

If you were traveling in Louisiana, they would appear before you as a guiding light. They looked like balls of fire drifting up from the ground. They bounced off fence posts, sometimes lingering to play with the airy arms of Spanish moss hanging in the trees. Occasionally, they would even

Dredging, ABA WATER RESOURCES COMMITTEE NEWSL. 51 (Section of Env’t, Energy & Res., Am. Bar Ass’n, Chi., Ill.), May 2014, at 15. The Authority is also commonly referred to as the New Orleans levee board, and both names are used in this Article.

6. Mark Schleifstein, *Jindal Demands East Bank Levee Authority Drop Lawsuit Against Oil, Gas, Pipelines*, TIMES-PICAYUNE (July 24, 2013, 6:41 PM), http://www.nola.com/environment/index.ssf/2013/07/jindal_demands_east_bank_levee.html.

7. *Id.* (quoting Bobby Jindal, Governor of Louisiana) (internal quotation marks omitted). To which a member of the levee board replied (in part):

“The board takes its responsibility to protect the lives and property of those within our jurisdiction very seriously[.]” . . . “To continue to ignore an obvious cause of damage to the coast would, in our board’s opinion, be a dereliction of our duties. Laws that created our board after Katrina insured us of insulation of political pressure[.]” . . . “We respect the governor and the chair of CPRA. We take this independent action to fulfill our responsibility.”

Id. (quoting John Barry, Vice President, Southeast Louisiana Flood Protection Authority—East).

8. Mark Schleifstein, *Chevron U.S.A. Wants Flood Authority Lawsuit Against Oil, Gas, Pipeline Companies Moved to Federal Court*, TIMES-PICAYUNE (Aug. 13, 2013, 3:37 PM), http://www.nola.com/environment/index.ssf/2013/08/chevron_usa_requests_flood_aut.html (quoting Garret Graves, Chairman of the Louisiana Coastal Protection and Restoration Authority) (internal quotation marks omitted).

hurtle right at you. If you followed one, you could be sure it would purposely lose you in the swamp.

—Jerilee Wei, 2012⁹

It was everywhere, oil bubbling up from seeps in the Gulf of Mexico (Gulf), from salt domes in the ground, wisps of methane in the air, exploding, usually in tiny pockets, once big enough to set an entire island on fire for several months, phenomena of wonder. The Seneca Nation along the Mississippi River had showed Hernando DeSoto their secret: viscous springs that had medicinal properties and could be used to gum up cracks in the hulls of boats. The Americans who followed sold oil as a tonic (“snake oil”) and to lubricate wagon wheels.¹⁰ For petroleum, for a long time, that was pretty much it in America.

It was the Europeans who discovered more uses, for street lights in Poland as early as the 1500s and then for the manufacture of kerosene.¹¹ By the 1850s, Russians were drilling for oil in the ground. America’s first well came in 1859 at Titusville, Pennsylvania, followed by several unsuccessful attempts in Louisiana. In the late 1890s, Anthony Lucas came to Avery Island to manage the salt works there and changed the history of the region. He discovered that along with the salt came pockets of black goo: petroleum. Salt domes signaled oil. Lucas went out dome hunting, and in 1901, after a few failed efforts along the Louisiana border, he and a Texas wildcatter named W. Scott Heywood struck a lode near Beaumont, Texas, whose geyser shot 185 feet in the air and raged for seven days.¹² It made for impressive photographs. They went national. Ambitions flared.

Pennsylvania oilmen soon came south to try Louisiana again.¹³ Teaming up with the Heywood group, they picked a rice plantation near Jennings owned by one Jules Clement. Clement knew there was petroleum around. He could strike a match and watch the ground go up

9. Jerilee Wei, *The Education of a Cajun Traiteuse—Faith Healer—Part I*, HUBPAGES (Feb. 21, 2012), <http://jerileewei.hubpages.com/hub/The-Education-of-a-Cajun-Traiteuse---Faith-Healer---Part-I>.

10. KENNY A. FRANKS & PAUL F. LAMBERT, *EARLY LOUISIANA AND ARKANSAS OIL: A PHOTOGRAPHIC HISTORY, 1901-1946*, at 3-4 (1982).

11. DANIEL YERGIN, *THE PRIZE: THE EPIC QUEST FOR OIL, MONEY & POWER* 7-8 (2008); DIANNE M. LINDSTEDT ET AL., *HISTORY OF OIL AND GAS DEVELOPMENT IN COASTAL LOUISIANA* 10 (Geological Survey, Res. Info. Series No. 7, 1991). The description of early petroleum development is taken from these sources.

12. YERGIN, *supra* note 11, at 84-85.

13. *Louisiana Oil History: More Than 100 Years in the Making*, HOUMATODAY.COM (Oct. 31, 2007, 6:01 AM), <http://www.houmatoday.com/article/20071031/NEWS0101/710310321>; LA. GEOLOGICAL SURVEY, PUB. INFO. SER. NO. 9, *JENNINGS FIELD—THE BIRTHPLACE OF LOUISIANA’S OIL INDUSTRY* 2 (2001), available at <http://www.lgs.lsu.edu/dep/dep/dep/9jennings.pdf> (describing Jules Clement’s oil discovery).

in flares. He was a farmer, however, and feared that his rice crop might be poisoned and that his cattle would fall into the wells. He decided against a deal and padlocked his gates. Not to be denied, the consortium upped its offer to \$10.¹⁴ Inevitably, as it seems in hindsight, Clement folded. The well went in, struck oil, and, after a few contretemps, was eventually flowing at 7,000 barrels a day. Before it did, however, it ran uncontrolled for eight hours and covered Clement's rice field with a lake of oil and sand. It was a metaphor for what would come.

In the meantime, and fortuitously, petroleum was becoming valuable for much more than street lights and axle grease. Back in Europe, French inventors had been tinkering with internal combustion motors since the early 1800s, refined by mid-century to a small gas-fueled engine capable of propelling a carriage.¹⁵ German engineers improved the power ratio, and in 1885, Gottlieb Daimler followed with a stand-alone motor vehicle. The Americans soon entered the game and by the early 1900s, at least three dozen companies were building gas-fueled automobiles. While personal vehicles remained in their infancy, the immediate game changers were diesel engines the size of small buildings that were powering ships, heavy equipment, and energy plants. By the time World War I ended, petroleum had become a strategic resource, a military objective, and a deciding factor in the strength of nations.

And so the oil boom began, and in the United States no place more aggressively and lucratively than Louisiana. John D. Rockefeller, fast on his way to cornering the business, came to Louisiana as well, and in 1909, his Standard Oil Company completed a giant refinery on the Mississippi River at Baton Rouge.¹⁶ A looming permanence behind the state capital building, the refinery remains the largest in America, with state legislators ready at hand (another metaphor for what would come). “[I]nevitably,” wrote an investigator for the federal BP Commission over a century later, state governance became “soaked” in oil “like a pelican fishing a slick.”¹⁷

Corruption was not long to follow. As much money as there was to be made by pumping petroleum from the ground and refining it, far

14. TONJA KOOB MARKING & JENNIFER SNAPE, *LOUISIANA'S OIL HERITAGE* 10 (2012).

15. YERGIN, *supra* note 11, at 79. The description of oil development through World War I that follows is taken from this source.

16. TRANSFORMING NEW ORLEANS AND ITS ENVIRONS: CENTURIES OF CHANGE 164 (Craig E. Colten ed., 2000).

17. Jed Horne, *America's Energy Coast: Where Oil and Water Mix*, Draft Report to the National Oil Spill Commission (2008) (unpublished manuscript) (on file with author). Horne, a *Times-Picayune* investigative reporter and author, was contracted by the National Oil Spill Commission for this report.

easier money was to be made from brokering it to others and pocketing the proceeds. The model was piloted in 1921 by Albert Fall, President Harding's United States Secretary of the Interior, who had three naval petroleum reserves transferred to his agency and then leased the most valuable one, Teapot Dome, to two of his friends, with handsome returns for the favor.¹⁸ Smelling a rat, the *Wall Street Journal* began reporting on the affair, leading ultimately to Fall's conviction.¹⁹ The lesson learned in Louisiana, apparently, was that things like this should be kept more secret.

The man for the job was Huey Long, who would become Louisiana's best-known politician and who, at the time of his assassination, was on track to become the wealthiest as well.²⁰ Passing the bar exam after a single year at Tulane Law School,²¹ he took on an early case against the Rockefellers, who had denied independent producers access to their Standard Oil refinery.²² (Rockefeller, apparently, tolerated nothing independent.) Over the 10-year course of his lawsuit, Long found his enemy. Railing against the oil trust, he won the election to the Louisiana Railroad Commission, which promptly declared Standard Oil's pipelines to be a public utility subject to its regulation.²³ In 1929, now elected governor, he proposed an oil processing tax, which resulted in an open brawl in the legislature.²⁴ He "ran against Standard Oil" for all of his political life,²⁵ which would later prove deceptive.

Long set a new mode of governance for Louisiana: massive public works and welfare systems, highways, hospitals, and schools (he once quipped that he wanted to be remembered as the state's "Chief Thief for LSU"²⁶)—all based on oil revenues.²⁷ The corollary would be that, these

18. See LATON MCCARTNEY, *THE TEAPOT DOME SCANDAL: HOW BIG OIL BOUGHT THE HARDING WHITE HOUSE AND TRIED TO STEAL THE COUNTRY* 96-97 (2008).

19. BARBARA J. DAVIS, *THE TEAPOT DOME SCANDAL: CORRUPTION ROCKS 1920S AMERICA* 48 (2008).

20. See RICHARD D. WHITE JR., *KINGFISH: THE REIGN OF HUEY P. LONG*, at x-xii (2006); HARNETT T. KANE, *LOUISIANA HAYRIDE: THE AMERICAN REHEARSAL FOR DICTATORSHIP 1928-1940*, at 48-49 (1941). The description of Long's rise to power that follows is taken from these sources.

21. WHITE, *supra* note 20, at 11-12.

22. *Id.* at 60-61.

23. *Id.* at 47-48.

24. *Id.* at 62-63 (describing the oil processing tax), 67-69 (describing the brawl).

25. Labelling Standard Oil Company "the Invisible Empire," *id.* at 61, Long went on to declare, "I would rather go down to a thousand impeachments than to admit that I am the Governor of the state that does not dare to call the Standard Oil Company to account . . ." *Id.* at 61, 75.

26. SYLVIA FRANK RODRIGUE & FAYE PHILLIPS, *BATON ROUGE* 59 (2008).

revenues harvested, the golden goose would be left unmolested, an understanding with few consequences at the time but very large ones as adverse impacts of oil development appeared. To Louisiana oilmen, to this day, subsequent requirements to protect the environment amount to a breach of the deal. In 2013, Louisiana Senator Gerald Long (yes, a distant relative), offended by the New Orleans levee board lawsuit,²⁸ would claim that it violated “a ‘kind of a gentleman’s agreement.’”²⁹ He was perfectly sincere.

No more than Jules Clement on his rice farm in Jennings, however, could Huey Long resist the siphoning pull of oil money. In 1934, he founded Win or Lose Oil Company, with a business model based on inside dealing that, like Teapot Dome, could not possibly lose.³⁰ Long proceeded to lease state lands to himself and his associates at bargain rates, who would then re-lease the tracts at heavy markups to oil companies for their development. No one knew, and when it finally became known, well after Long’s death, no one did anything to reimburse the state.³¹ Heirs to Win or Lose Oil Company still float with the cream of society today.

At virtually the same time, an equally powerful politician was rising in oil-rich Plaquemines Parish, Leander “Judge” Perez, who did not let impeachment for misconduct on the bench deter him from public life or his judicial title.³² His game plan was hauntingly similar. As oil exploration marched toward him from the Texas border, much of the parish remained in public ownership and under the jurisdiction of local authorities. With an assist from Huey Long (for whom he had collected more votes from the parish than the total number of voters—some of them named rather brazenly “Babe Ruth,” “Charlie Chaplin,” and “Herbert Hoover”)—Perez, as the parish attorney, encouraged local levee

27. KANE, *supra* note 20, at 63-64.

28. Bd. of Comm’rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410, slip op. at 1 (E.D. La. Feb. 13, 2015).

29. Campbell Robertson, *Facing Fire over Challenge to Louisiana’s Oil Industry*, N.Y. TIMES (Aug. 31, 2013), http://www.nytimes.com/2013/09/01/us/facing-fire-over-challenge-to-louisianas-oil-industry.html?pagewanted=all&_r=0.

30. Michael Bastasch, *Corrupt La. Contract Delivers Millions to Family of Defunct Corporation*, DAILY CALLER (May 7, 2012, 6:13 PM), <http://dailycaller.com/2012/05/07/corrupt-la-contract-delivers-millions-to-family-of-defunct-corporation/>.

31. Lee Zurik, *Lee Zurik Investigation: ‘Dirty Deeds’ Cost Louisiana Hundreds of Millions*, FOX 8 NEWS (Aug. 7, 2013, 2:54 PM), <http://www.fox8live.com/story/18067615/lee-zurik-investigation-dirty-deeds-cost-louisiana-hundreds-of-millions>.

32. State v. Perez, 464 So. 2d 737, 740-41 (La. 1985); see also GLEN JEANSONNE, LEANDER PEREZ: BOSS OF THE DELTA, at xv-xvii (1977). The description of Perez that follows is taken from this source.

boards and school districts to acquire properties with high oil potential.³³ Under his wise counsel, they leased the tracts to a range of Perez's front companies (some appearing in subsequent court records under such aliases as "Mandrake"³⁴ and "Houdini"³⁵), which in turn resold the leases to genuine oil developers, mostly from Texas. Again, no one knew and no one would ever have known, nor have any idea of the monies involved, until a divorce proceeding among Perez's heirs revealed these extraordinary sources of revenue.³⁶

The oil industry not only molded the politics and economics of Louisiana, it molded the mind. Everyone had relatives who worked on the rigs or in service companies to the rigs; made machine parts for the rigs; crewed on mud barges, dredge barges, and/or tankers; laid pipe; ran computer programs and seismic tests; ran title and land surveys; provided legal work, insurance, and bank loans; and worked in the refineries or stores and bars that served the crews. Coastal residents called Texaco simply "the company," as if there were no other employer to mention.³⁷ Off season, the commercial fishers took welding jobs on the rigs as well, while recreational fishermen tied their boats to the stanchions below for red snapper and drum. The Louisiana Oilmen's Bass Invitational was formed,³⁸ Morgan City launched its annual Shrimp and Petroleum Festival (demonstrating "that oil and water really do mix"),³⁹ the Audubon Aquarium of the Americas featured an oil rig (with a plaque explaining its compatibility with fisheries),⁴⁰ and at a "Washington Mardi Gras," the queen and her court appeared one year in gowns topped by oil drilling platforms.⁴¹ The theme was "Louisiana Naturally." No one thought it the slightest bit odd.

In government, the Huey Long model held firm. Oil funded the state—and was otherwise left alone. The profits went to the corporate

33. See JEANSONNE, *supra* note 32, at xii-xxii, 76.

34. *Id.* at 79.

35. *Id.* at 79-80.

36. Frances Frank Marcus, *Shred of Paper Reverses Cash Flow in Louisiana*, N.Y. TIMES (Dec. 13, 1987), <http://www.nytimes.com/1987/12/13/us/shred-of-paper-reverses-cash-flow-in-louisiana.html>.

37. JASON P. THERIOT, AMERICAN ENERGY, IMPERILED COAST: OIL AND GAS DEVELOPMENT IN LOUISIANA'S WETLANDS 34 (2014).

38. *About LOBI*, LA. OILMEN'S BASS INVITATIONAL, <http://www.lobibass.com/about.html> (last visited Jan. 13, 2015).

39. Jason DeParle, *Minerals Service Operated Under a Mandate To Produce Results*, N.Y. TIMES, Aug. 8, 2010, at 1, 12 (internal quotation marks omitted).

40. *Gulf of Mexico Exhibit*, AUDUBON NATURE INST., <http://www.auduboninstitute.org/aquarium/exhibits-and-attractions/gulf-of-mexico> (last visited Jan. 13, 2015).

41. Interview with Clyde Lockwood, Prof'l Photographer, in Baton Rouge, La. (Aug. 13, 1983). Lockwood had attended this particular Mardi Gras as a guest of the queen's court.

headquarters in Houston, London, and the Netherlands, but Louisianans paid low taxes, had day jobs, and did not need a lot of education to maintain them.⁴² All part of the gentleman's agreement. Part of the feux-follets.

The party ran unquestioned until 2005, when two major hurricanes swept New Orleans, floated houses off their moorings, and drowned people in their beds. What happened to all that protection we had from the Gulf? Newspapers ran photos of marshes below the city, sliced and diced by oil and gas canals. An ambitious lawsuit blaming Katrina losses on this destruction failed by not proving exactly whose canals they were,⁴³ but an awareness of this vanishing landscape, of real jeopardy to the city, and even of possible recourse, was planted. Seeds waiting to grow.

Five years later came the BP disaster, the BP oil spill. When BP's Macondo well 50 miles south of New Orleans exploded, killing 11 workers on the spot and triggering the largest oil spill in U.S. history,⁴⁴ public anger against the company rose quickly, but it was soon transferred to the federal government, which had the nerve to put a hold on offshore exploration until the causes of the spill had been discovered and addressed.⁴⁵ As one coastal resident explained to an out-of-town reporter, "The spill makes us sad, [but 't]he moratorium makes us mad!"⁴⁶ The Louisiana Oil and Gas Association (LOGA) organized a "Rally for Economic Survival" in its heartland, Lafayette, featuring

42. See JOHN MAGINNIS, *THE LAST HAYRIDE* 6 (6th ed. 1994); Eric V. Thompson, *A Brief History of Major Oil Companies in the Gulf Region*, ARABIAN PENINSULA & GULF STUD. PROGRAM, U. VA., <http://www.virginia.edu/igpr/APAG/apagoilhistory.html> (last visited Feb. 4, 2015).

43. *Barasich v. Columbia Gulf Transmission Co.*, 467 F. Supp. 2d 676, 690 (E.D. La. 2006). The opinion went on to invite a new lawsuit that more directly linked the defendant companies to identified canal damage. See *id.* at 695.

By all accounts, coastal erosion is a serious problem in south Louisiana. If plaintiffs are right about the defendants' contribution to this development, perhaps a more focused, less ambitious lawsuit between parties who are proximate in time and space, with a less attenuated connection between the defendant's conduct and the plaintiff's loss, would be the way to test their theory.

Id. The levee board case would do just that. Bd. of Comm'rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410, slip op. at 2-3 (E.D. La. Feb. 13, 2015) (citing Petition, *supra* note 4, at 9-11).

44. Ocean Portal Team, *Gulf Oil Spill*, SMITHSONIAN, <http://ocean.si.edu/gulf-oil-spill> (last visited Mar. 14, 2015).

45. Peter Baker & John M. Broder, *U.S. Lifts the Ban on Deep Drilling with New Rules*, N.Y. TIMES (Oct. 12, 2010), <http://www.nytimes.com/2010/10/13/us/13drill.html>.

46. Michael Grunwald, *Katrina: A Man-Made Disaster*, TIME 72 (Nov. 24, 2010), http://content.time.com/time/specials/packages/article/0,28804,2032304_2032746_2035982-3,00.html (quoting Cherri Foytlin, author of a children's coloring book about coastal erosion).

bussed-in shipyard workers, state officials, and a can-you-top-this rhetoric against the moratorium and the President.⁴⁷ Newspaper editorials lamented for months following that the oil industry would flee to Brazil.⁴⁸ Meanwhile, and to the city's great fortune, offshore winds kept the BP oil spill offshore.⁴⁹ It slicked some of the fringes and closed down commercial fisheries, and some communities continue to struggle, but, all told, like Katrina and Rita, South Louisiana dodged the larger bullet. As did the industry as a whole.

Then came the levee board case.⁵⁰ Here was a bullet that could not be ignored. The Louisiana coast from Texas to Mississippi had been torn up by oil and gas for nearly a century and nowhere more dangerously than that immediately below the city of New Orleans. This landscape was not going to heal on its own. In fact, it was going the other way. Here was more than a clutch of wellheads on the horizon or the sheen of spilled petroleum; it was an entire ecosystem tanking, the largest ecological catastrophe in North America since the dust bowl. Of course the oil industry would fight back. Setting aside the money involved—which for some of the wealthiest corporations in the world would not really be a problem—80 years of engineering triumph, political dominance, and professional pride were on the line.

II. LE FLOTANT

“When you talk about dredging those canals, yes, it now appears to have been a pretty stupid thing to do” “But no one ever dreamed it would be an issue or that the coast would waste away.”

—John Laborde, Founder, Tidewater Marine, 2010⁵¹

47. Rong-Gong Lin II, *Gulf Oil Spill: Pro-Drilling Rally Attracts Thousands*, L.A. TIMES (July 21, 2010, 4:09 PM), <http://latimesblogs.latimes.com/greenspace/2010/07/gulf-oil-spill-industrysponsored-rally-pushes-back-at-obama-moratorium.html>.

48. David Hammer, *Maritime Industry Workers Question Whether Drilling Moratorium Is Worth the Economic Pain*, TIMES-PICAYUNE (June 4, 2010, 6:00 AM), http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/06/maritime_industry_workers_ques.html; Bruce Alpert, *Obama Vows Crackdown on Oil and Gas Industry in Wake of Gulf Oil Spill*, TIMES-PICAYUNE (June 1, 2010, 6:22 PM), http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/06/obama_vows_crackdown_on_oil_an.html. The projection of industry flight, which would rise again in opposition to the levee board lawsuit, was absurd on its face but tenaciously held. That the industry would indeed leave the state when the oil ran out was not noted, nor is it today.

49. Ashley Powers et al., *BP Claims Absolute Responsibility for Oil Cleanup*, L.A. TIMES (May 4, 2010), <http://articles.latimes.com/2010/may/04/nation/la-na-0504-oil-spill-20100504>.

50. Bd. of Commr's of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410 (E.D. La. Feb. 13, 2015).

51. David Hammer, *Louisiana Has Always Welcomed Offshore Oil Industry, Despite Dangers*, TIMES-PICAYUNE (July 18, 2010, 3:00 PM), <http://www.nola.com/news/gulf-oil-spill/>

If no one in the oil business ever dreamed this was happening, it was not because people were not saying it was happening. Even people in the oil business were saying it. It was because for decades, for over half a century, nobody wanted to hear it or act on it until fatally late in the game.

Granted, it is not easy to see what is happening from the ground. Marsh grass and rows of Roseau cane get in the way. You may drive past the butt end of a canal and see a tongue of brown water, the most innocent-looking object to be found. Ascend six feet to the cabin of a crew boat, go up to any altitude in a plane, or simply drive over bridges crossing the bigger waterways and a different scene swims into view. It resembles a war zone with prime marsh torn to rags, acres of no land at all, and a wide sweep of water spotted with remnant strips of grass. No quadrant is spared. A horizon of eroding pipelines and canals.

Dr. Gene Turner bends over his post-hole digger like a man possessed, jamming it into the spoil bank at his feet.⁵² The students around him offer to help, but Turner waves them off, intent on getting deep, fast. What comes up is packed mud from the adjacent canal, seven feet of it, weighing down on the edge of the marsh. At the bottom, he strikes pay dirt, the flattened stems of plants buried for decades still there, and under them lie the stems and roots of plants going down to what seems to be China. He hands up a mass for the group to feel. "Is that mineral or organic soil?" he asks. They are studying law, they have no clue, but what they are holding is clearly vegetation, roots and stems, the building blocks of the interior Louisiana marshes. With flushes of silt and nutrients, the marshes had constructed their own land, rising and falling with the water cycles, the living on top of the dead. The Acadians named it "flottant." It is not hard dirt with plants on top of it; the whole mass is alive.

Turner and crew step down from the spoil bank and out into the marsh behind, which is not easy. There are open ponds everywhere, every one of them a man-trap; one misstep and they would be hip deep in muck and trying to crawl. The only purchases for the foot are small blocs of grass tufts, unstable as hobby horses, hanging onto life. The group runs transect, counting the stems per yard. Like hair on a balding head, there are not that many. "Why is there so little marsh out here?" Turner asks. "What is happening?" One of the students ventures a

index.ssf/2010/07/louisiana_has_always_welcomed.html (quoting John Laborde, Founder, Tidewater Marine).

52. Taken from author-led student field trips in which Turner would also join. The Turner description that follows derives from this experience.

guess, “the spoil bank?” Turner’s eyes light up. Back on the bank they take a look at the marsh around them with new eyes, a wetland dying, an old green garment beyond wearing. Off in the distance is the water tower of the community of Cocodrie; how long it will remain there is anyone’s guess.

An hour later, the Turner team is at the edge of another marsh system a few miles away. The bayou is natural, winding, and has no banks at all. They step out from the boat onto the grass with trepidation, fearing another sink into the muddy suck of the earlier plot. Instead, delightfully, it holds; the plants stand close together, providing plenty of mass underfoot. However, it is a bit soggy where the bayou water filters in and out, making a few tiny cuts—it is better to step over these, but one can walk in straight lines for a football field or more. This is the old Louisiana marsh, a living museum now, which had grown for millennia and started disappearing rapidly in direct relation to the advent of the oil and gas industry. Quadrant by quadrant, jot for jot, in came the canals and out went the marshes. The data are compelling.⁵³ The time-lapse photographs are stunning.⁵⁴ It was not due to pollution. It was due to the way the industry chose to access its drill sites and then transport the product away.

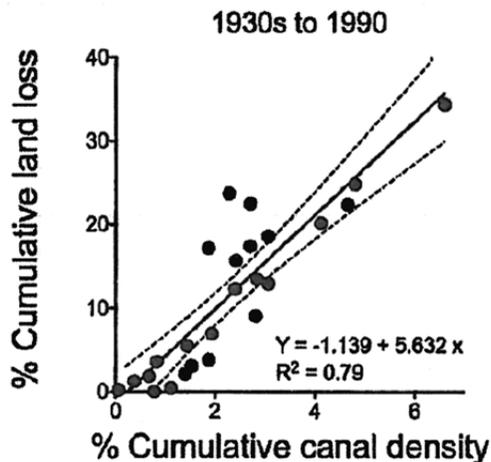
53. As Turner has explained:

“Where dredging canals happens, land loss happens. If you look at the Barataria or the St. Bernard Basin for different intervals of time, where land loss has been high, dredging has been high. Where land loss is low, dredging has been low. And if you plot the data, there’s a line that goes right through zero. The more you dredge, the more land loss you have.”

Mollie Day, *Coastal Loss, Coastal Cost*, GAMBIT WEEKLY (Apr. 15, 2008), <http://www.bestofneworleans.com/gambit/coastal-loss-coastal-cost/Content?oid=1249897> (quoting Eugene Turner, Dir., Coastal Ecology Inst., LSU).

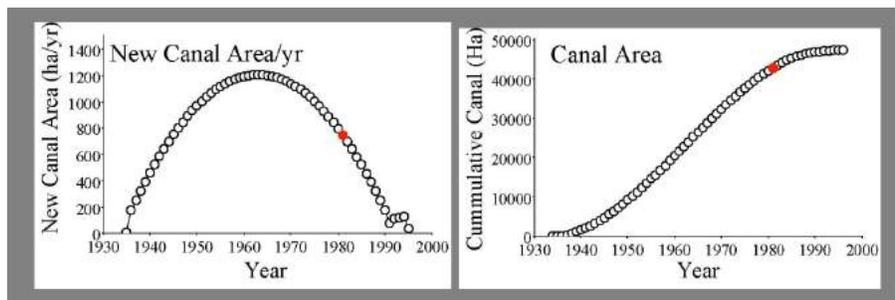
54. See Appendix.

Canal Density and Land Loss, 1930s to 1990



The correlation between canal density and land loss is linear.

The Legacy



As rates of canal dredging decline, canal area continues to increase.⁵⁵

Turner descends from a line of field biologists who had seen what was happening to their marshes and had tried to raise the alarm. One of the first was the remarkable Percy Viosca, a larger-than-life 1913 Tulane graduate otherwise impossible to define, so diverse were his interests in art, life, and every creature that buzzed, flew, or crawled.⁵⁶ A statue of a

55. E.U. Turner, *Notes on Canal and Spoil Bank Contributions to Louisiana's Coastal Land Loss*, DEPARTMENT OF OCEANOGRAPHY AND COASTAL SCIENCES, LSU (Oct. 21, 2013) (on file with author).

56. See Len Bahr, *Percy Viosca, Jr., Louisiana's Homegrown Audubon (Part 1)*, LACOASTPOST (Oct. 15, 2009), <http://lacoastpost.com/blog/?p=14494>; Nick Marinello, *For Goodness Sake*, TULANIAN (Jan. 25, 2008), http://tulane.edu/news/tulanian/goodness_sake.cfm.

bull frog, his favorite creature, now tops his tomb. Over the years, Viosca held every important wildlife post in Louisiana, including head of the Louisiana Department of Conservation, now the Louisiana Department of Wildlife and Fisheries (DWF) (the Conservation title soon went to an agency promoting oil development now within the Louisiana Department of Natural Resources (DNR)), until Governor Long swept into Viosca's office one day and announced that he and his staff were fired.

Viosca returned again under a new administration and began proselytizing about the wetlands that were even then disappearing, documenting saltwater intrusion and fingering the cause: "Man-made modifications in Louisiana wetlands, which are changing the conditions of existence from its very foundations, are the result of flood protection, deforestation, deepening channels[,] and the cutting of navigation and drainage canals."⁵⁷ He concluded, "Time is ripe for an enormous development of the Louisiana wetlands along new and [more] intelligent lines."⁵⁸

This was in 1925.

The coastal landscape that Viosca worried over was, pound for pound, the most productive ecosystem in North America, a commercial fishery that led the nation, a "sportsman's paradise" in migratory waterfowl, and an entire culture with its own music, language, and *joie de vivre*.⁵⁹ For an industry bent on getting oil out from underneath them, however, coastal wetlands were simply in the way. Dry-land techniques to access well sites and lay pipelines did not work on soils that could sink underfoot and swallow a drilling rig whole. Board roads in were costly and temperamental. When the price is right, however, it mothers invention, and two answers were soon found: submersible drilling barges that could be pushed or towed to the site and new floating draglines to clear the passage.⁶⁰ Given the soft soils, the "dredging [wa]s done rapidly and without trouble."⁶¹ Without the "'mighty' dredges," claimed an

57. Marinello, *supra* note 56 (quoting Percy Viosca Jr., Biologist, La. Dep't of Conservation) (internal quotation marks omitted).

58. *Id.* (quoting Percy Viosca, Jr., Biologist, La. Dep't of Conservation) (internal quotation marks omitted).

59. THERIOT, *supra* note 37, at 35-38.

60. SHERWOOD GAGLIANO, CANALS, DREDGING, AND LAND RECLAMATION IN THE LOUISIANA COASTAL ZONE 69 (1973).

61. THERIOT, *supra* note 37, at 25 (quoting Neil Williams, *Lafitte, Coastal Louisiana, Regarded as World's Deepest Commercial Field*, OIL & GAS J., July 1936, at 71, 72) (internal quotation marks omitted).

industry publication in 1963, scores of fields along the coast would not have been developed.⁶² It was a perfectly true statement, for its time.

By the 1940s, canal dredging was booming, ploughing the way for crew boats and oil rigs. By the early 1950s, one field below New Orleans at Venice “had evolved into an ‘island’ surrounded by a continuous eight-mile circular man-made canal and pierced by more than fifty individual access canals,” extending “inward from the main circle.”⁶³ Pipeline canals excavated from the side by floating barges carried oil “from more than one hundred wells about five miles away to a barge-loading terminal” to the outside world.⁶⁴ It was called the “Wagon Wheel.” Within two decades, over 50% of the marsh within the wheel had been lost to open water.⁶⁵ Today it has all but disappeared.

Photographs of the Golden Meadow oilfield, farther west of the Mississippi River, show a rabbit warren of “keyhole” slots for drill sites leading from intercrossing access canals, already badly eroded in 1983 when aerial photographs were taken.⁶⁶ One small quadrant held five long canals studded by more than 50 keyhole slips, a few with pumps still visible, most abandoned. None are filled in.

62. *Id.* at 26 (quoting Ed McGhee & Carl Hoot, *Mighty Dredgers, Little-Known Work Horses of Coastal Drilling, Producing, Pipelining, Now 25 Years Old*, OIL & GAS J., Mar. 1963, at 150, 150).

63. *Id.* at 28. The description of the wagon wheel that follows is taken from this source.

64. *Id.*

65. *Id.* at 28 n.31 (citing R. EUGENE TURNER & BILL STREEVER, APPROACHES TO COASTAL WETLAND RESTORATION: NORTHERN GULF OF MEXICO 55 (2002)).

66. WALTER B. SIKORA, AIR CUSHION VEHICLES FOR THE TRANSPORT OF DRILLING RIGS, SUPPLIES, AND OIL FIELD EXPLORATION OPERATIONS IN THE COASTAL MARSHES OF LOUISIANA 3 (1988).



(Sixth Biennial Report, State of Louisiana, Wild Life and Fisheries Commission, 1954 – 1955)

Golden Meadow Oil and Gas Field, 1982-1983



High- (above) and low-altitude photographs; arrows indicate pumping stations and “decayed, impounded marsh areas.”⁶⁷



67. SIKORA, *supra* note 66, at 3.

The Lafitte Oil and Gas Field in the Barataria Basin reveals another permutation: a landscape of large interlocking canal systems with spoil banks that effectively block sheet flow.⁶⁸ An accompanying report observed, “The majority of this marsh has either decayed and sunk beneath the mean low water level . . . or is in the process of doing so.”⁶⁹ The impounded areas, it explained, are “stagnant at the soil surface and are essentially lifeless with regard to the small benthic animals upon which juvenile fish and crustaceans such as shrimp and crabs feed.”⁷⁰ The marsh grasses, gradually stressed, “grow less vigorously, produce less organic matter[,] and eventually die.”⁷¹

These are but three oil fields. Their sisters span the entire coast, hundreds of them, most of them highly profitable, turning into dead zones, each year larger. No year smaller.

Then came a second boom. Following World War II, new markets for natural gas lit up the Northeast, bringing on new drilling pressures and the pipelines to serve them. Daring new routes such as Tennessee Gas Pipeline Company’s (Tennessee Gas) “Muskrat Line” cut 355 miles through “nearly impassable marshlands, treacherous swamps, and shallow bays to reach the [oil-rich] delta.”⁷² The industry trade journal *Petroleum Engineer* called it “one of the greatest construction feats in the history of pipelining,”⁷³ and that may well be true. Anyone with the misfortune to be stranded in the Louisiana marsh with a dead motor and a thousand mosquitoes has a tiny taste of what these men went through. In such circumstances, “saving the wetlands” is the furthest thing from one’s mind. There are now 191 separate pipeline systems running through Louisiana marshes from offshore rigs to inland transfer stations.⁷⁴ One can well imagine the profits and the justifiable pride in their construction. All the harder to accept, then or now, is the fact that they also contributed to a scenario of colossal harm.

Even within the industry, however, these impacts did not go unnoticed. Relatively early in its construction, one Muskrat Line engineer wrote, “When comparing the marsh areas with aerial photos that we have, we find that much of the terrain has changed and continues

68. *Id.* at 4-6.

69. *Id.* at 5.

70. *Id.*

71. *Id.*

72. THERIOT, *supra* note 37, at 42.

73. *Id.* at 43 (citation omitted) (internal quotation marks omitted).

74. *Id.* at 4.

to change day-to-day.”⁷⁵ Fact: Tennessee Gas personnel saw what was happening and reported it.

This was in 1955.⁷⁶

Then came a galaxy of yet bigger canals to serve industry tankers, barges, and crew boats: the Gulf Intracoastal Waterway, Calcasieu Ship Channel, Barataria Bay Waterway, Houma Navigation Canal, Mississippi River-Gulf Outlet Canal (MR-GO), Lower Atchafalaya River, and Bayous Chene, Boeuf, and Black Canals, and the list continues, with yet more begging for authorization today, all largely justified on the transportation of oil, gas, and petrochemicals, each channel deadly to the surrounding marsh.⁷⁷ The “Atchafalaya River and Bayou[s] Chene, Boeuf and Black, Louisiana” project, built to favor two oil rig manufacturers near Morgan City, sliced its way through 50 miles of the wetlands of Terrebonne Parish, the most rapidly disappearing terrain in the state.⁷⁸ The MR-GO, intended to speed travel for tankers of all kinds, destroyed more than 30,000 acres of swamp forest below New Orleans and left the city open to two devastating hurricanes, one month apart.⁷⁹ None of that damage has been repaired. The land is largely gone.

Pipelines and canals ate the coastal zone like PAC-MAN. Perhaps most sensitive were the cuts across barrier islands, soon attacked by wave action and widened in every storm.⁸⁰ The islands shrank, bifurcated,

75. *Id.* at 47 (citation omitted) (internal quotation marks omitted).

76. *Id.* at 46-47.

77. For a fuller description of these navigation projects, each one serving aspects of the oil and gas industry, see Oliver A. Houck, *Land Loss in Coastal Louisiana: Causes, Consequences, and Remedies*, 58 TUL. L. REV. 3, 45-48 & nn.169-70 (1983) (identifying, inter alia, 23 projects in the coastal zone). This section of the article concludes:

The larger navigation canals provide trunk access from which the companies can cut to new sites and corridors. They also provide access for the salt Gulf waters that reach up through them like arms of the sea to penetrate the interior canals and ditches. That the interior oil and gas system remains the larger network can be seen in any aerial photograph, and perhaps in the following example as well. The Corps of Engineers has been studying a proposed navigation canal entitled the “Bayou Barataria, Bayou Pecot Waterway” near the Barataria Bay in Jefferson Parish. This particular canal would traverse 5.7 miles of marsh, the hypotenuse of a triangle formed by two existing waterways. Within this small triangle of coastal marsh, Corps of Engineers planners counted fifty-six miles of oil and gas access canals—or ten times the length of that proposed.

Id. at 50-51 (citations omitted).

78. *S. La. Envtl. Council, Inc. v. Rush*, 12 Env’t Rep. Cas. (BNA) 1844, 1862 (E.D. La. 1978), *aff’d*, *S. La. Envtl. Council, Inc. v. Sand*, 629 F.2d 1005 (5th Cir. 1980).

79. See Gary P. Shaffer et al., *The MRGO Navigation Project: A Massive Human-Induced Environmental, Economic, and Storm Disaster*, 54 J. COASTAL RES. (SPECIAL ISSUE) 206, 206-24 (2009).

80. N.J. Craig, R.E. Turner & J.W. Day Jr., *Land Loss in Coastal Louisiana (U.S.A.)*, 3 ENVTL. MGMT. 133, 138 (1979).

trifurcated, and ultimately washed away, leaving thousands of acres of interior marshes behind them exposed to the force of the Gulf. This Lesson One of wetland canals—that the offsite harm greatly exceeds that of the project—has not been an easy one to comprehend. Nor is it a welcome one. Among other things, it would raise the bill due and owing for their repair.

Canals through the interior marshes repeated the story in different dress. Their soft banks sloughed off naturally and in automobile-sized lumps from the wakes of passing boats.⁸¹ They ushered in Gulf water with higher levels of salinity, which stunted interior vegetation, seared the roots, and killed them outright, and things fell apart.⁸² They replaced a network of living veins and capillaries with straight-line ditches that drained areas above them and flooded those below.⁸³ Left unchecked, the canals began to widen, doubling in size and continuing to expand until they literally ran out of marsh.⁸⁴ The ill-fated MR-GO, lightly trafficked as it was, swelled from an authorized width of 500 feet to over 1,000 and collapsed into Lake Borgne.⁸⁵ Square miles of dead cypress trees remained, naked, useless as a storm buffer, falling down.

81. See PERRY C. HOWARD ET AL., THE MISSISSIPPI RIVER GULF OUTLET: A STUDY OF BANK STABILIZATION 4-20 to -49 (1984), available at http://docs.lib.noaa.gov/noaa_documents/NOS/CZIC/95D827.pdf (providing analysis, graphs, and photographs of vessel-wake damages to canal banks). Vessel wakes aggravated the problem on canals of all sizes, oil and gas crew boats making an estimated 4,000 passes through the coastal zone each day. See George Getschow & Thomas Petzinger Jr., *Oil's Legacy: Louisiana Marshlands, Laced with Oil Canals, Are Rapidly Vanishing*, WALL ST. J., Oct. 24, 1984, at 1, 1.

82. LA. WILD LIFE & FISHERIES COMM'N, 1956-1957, SEVENTH BIENNIAL REP. 73 (1958) ("The net result has been drastic increases in salinity in some areas and a rapid deterioration of productive marsh and bay conditions.").

83. See GAGLIANO, *supra* note 60, at 3.

84. See W.B. Johnson & J.G. Gosselink, *Wetland Loss Directly Associated with Canal Dredging in the Louisiana Coastal Zone*, in PROCEEDINGS OF THE CONFERENCE ON COASTAL EROSION AND WETLAND MODIFICATION IN LOUISIANA: CAUSES, CONSEQUENCES, AND OPTIONS 60, 67-70 (Donald F. Boesch ed., 1982) ("Our regression analyses showed that berm and spoil bank together generally added 68 m[eters] to the width of the wetland corridor destroyed in canal construction. When the extra unauthorized canal width was included, the total corridor width was 81.7 m wider than the permitted canal. For a well-access canal permitted at about 21 m (65 feet) the total impacted width was typically about 103 m or five times the permitted canal width" (emphasis added)); see also Craig, Turner & Day, *supra* note 80, at 138 ("For example, assume an enlargement rate of 5% per year. This is equivalent to a doubling rate of 14 years. In 14 years, therefore, the present 2.6% canal density in Barataria Bay . . . may become 5.2% of the total area, or [approximately] 10.0% by the year 2001, 20% by 2020."). This canal widening should be distinguished from off-site effects *beyond* canal width, discussed below.

85. Shaffer et al., *supra* note 79, at 208; Ted Zwyer, *Federal Court Finds Army Corp of Engineers Liable for Mississippi River Gulf Outlet (MRGO) Levee Failure During Hurricane Katrina*, LEXISNEXIS.COM (Dec. 30, 2009, 7:32 PM), <http://www.lexisnexis.com/legalnewsroom/top-emerging-trends/b/emerging-trends-law-blog/archive/2009/12/30/federal-court-finds-army->

Placing spoil along canal banks did not solve the problem either; rather, it provoked a new one of its own. As noted on Turner's test plots near Cocodrie (about as far south as Louisiana goes), the spoil banks acted as tourniquets, stifling the exchange of water and nutrients and killing off wetlands at great distances from the channel.⁸⁶ Just how distant depends on local conditions, but best estimates put these impacts at between five and six times those of the authorized project.⁸⁷ With or without spoil banks, once the industry determined to go in behind dredges, the die was cast. Bad things were going to happen.

Misunderstanding these impacts has led to serious lowballing of canal harm. Industry and state estimates of losses due to oil and gas canals, based on the size of the projects themselves, do not pass Coastal Ecology 101. Like serial knife wounds, it is not the size of the blade that matters, but what the blades do to the body. Understanding the effects of canals in the real world raises estimates of canal damage from single-figure percentages to a conservative minimum of 36% of coastal loss,⁸⁸ a midrange up to 69%,⁸⁹ and reaching as high as 89%.⁹⁰ Those are large numbers.

corp-of-engineers-liable-for-Mississippi-river-gulf-outlet-_2800_mr-go_2900_-levee-failure-during-hurricane-katrina.aspx.

86. R.E. Turner et al., *The Impact and Mitigation of Man-Made Canals in Coastal Louisiana*, 16 WATER SCI. TECH. 497, 500 (1984).

87. See Craig, Turner & Day, *supra* note 80, at 139; see also ESPEY, HUSTON & ASSOCS., INC., LITERATURE REVIEW OF WETLAND LOSSES AND THE RELATIVE CONTRIBUTION OF THE PETROLEUM INDUSTRY TO THOSE LOSSES, at v (1988). The 1988 consultant report to the American Petroleum Institute found, "Based on the literature, one can assume that the total area affected by an oil and gas canal, both by direct and indirect impacts, is 5.7 times the actual permitted canal area." *Id.* at v. The Minerals Management Service study found that in Louisiana pipelines linked to the Outer Continental Shelf "covered 480 square miles of wetlands and land, and the navigation channels covered 137 square miles. That represents about 11 percent of the Louisiana coast." Mark Schleifstein, *Wetlands Loss Linked to Outer Continental Shelf Oil and Gas Pipelines in New Study*, TIMES-PICAYUNE (Oct. 5, 2009, 9:46 PM), http://www.nola.com/business/index.ssf/2009/10/wetlands_loss_linked_to_outer.html ("The report found a strong relationship between the time period when the canals and pipelines were built and the amount of space used for their construction to the amount of *land loss occurring within 500 feet of individual pipelines and within 1,640 feet of navigation canals* studied in Louisiana's delta and chenier plains." (emphasis added)). In both studies, the off-site effects were between 5 to 10 times those of the canal surface area. Taking the lower number, if pipeline and canal surface area has reached 11% of the zone today, then canal damage extends to over half the wetlands of South Louisiana.

88. See Shea Penland et al., *Process Classification of Coastal Land Loss Between 1932 and 1990 in the Mississippi River Delta Plain, Southeastern Louisiana*, U.S. GEOLOGICAL SURVEY (2000), <http://pubs.usgs.gov/of/2000/of00-418/ofr00-418.pdf>.

89. Independent studies attributed 69% of coastal loss to canal damage. William W. Scaife, R. Eugene Turner & Robert Costanza, *Coastal Louisiana: Recent Land Loss and Canal Impacts*, 7 ENVTL. MGMT. 433, 433 (1983).

90. U.S. ENVTL. PROT. AGENCY & LA. GEOLOGICAL SURVEY, EPA-230-02-87-026, SAVING LOUISIANA'S COASTAL WETLANDS: THE NEED FOR A LONG-TERM PLAN OF ACTION 10 (1987);

To New Orleans and other coastal parishes, losing the protections that these wetlands had provided was particularly threatening.

III. LE REVEILLE

We had little choice but to base our economy on the oil industry. After all, prior to that Terrebonne Parish was an agricultural community with a very productive fishing industry. Oil was good to us, but now we are left with the residue and devastation of our wetlands. Subsidence, erosion, useless canals by the hundreds, toxic waste, and whatever else we inherited when our area was, for all practical purposes, abandoned and left to deteriorate even further.

—Wm. Clifford Smith, President, T. Baker Smith & Son, Inc. (1989)⁹¹

“The idea that we’re mostly to blame is crap.”

—Don Briggs, President, LOGA, 2010⁹²

In 2010, immediately following the BP oil spill, federal agency heads and scientists were flown in to survey the damage.⁹³ They went out from New Orleans in small planes and helicopters, looking for the oil plume, expecting to see a wasteland of blackened marsh. What they actually remarked on was quite different, a landscape torn apart by an infrastructure that ran from horizon to horizon, an enormous construction site, what Louisiana likes to call a “working coast.” They were nonplussed. They were seeing more damage than a blowout could ever cause.⁹⁴

Of course, the Louisiana coast has always been a working coast; people have lived and worked here quite productively for centuries. No one ever mistook it for a wilderness. Coastal communities were also

Scaife, Turner & Costanza, *supra* note 89, at 440 (“[T]he land loss rates at zero canal density for all six regions [of the Louisiana coast] average 0.091 +/- 0.139% annually (mean +/- std. dev.) or about 11% of the overall land loss rates from 1955 to 1978 (0.8% annually) for the whole coast. The implication is that this annual rate of 0.09% represents the combined influence of all factors except canals. *Canals, therefore, may be responsible for 89% of the total land losses.*” (emphasis added)).

91. Statement by Wm. Clifford Smith, P.E., of Houma, La., To Be Included in the Record of a Public Hearing Held in Baton Rouge, Louisiana, on August 31, 1989, by Senator J. Bennet[t] Johnston on His Amendment No. 229 to S. 406 Which Provides for the Establishment of a Trust Fund for Wetlands Protection, Restoration, and Enhancement (statement by Wm. Clifford Smith, President, T. Baker Smith & Son, Houma, Louisiana (Sept. 11, 1989) (on file with author)).

92. Ken Wells, *Collapsing Marsh Dwarfs BP Oil Blowout as Ecological Disaster*, BLOOMBERG NEWS (Aug. 18, 2010), <http://www.bloomberg.com/news/2010-08-18/collapsing-louisiana-marsh-dwarfs-bp-oil-blowout-as-environmental-disaster.html> (quoting Don Briggs, President, La. Oil & Gas Ass’n).

93. Interviews with Officials of the National Marine Fisheries Service and the United States Fish and Wildlife Service, in New Orleans, La. (June 20, 2001).

94. *Id.*; see also Wells, *supra* note 92.

some of the first to see what was happening to their landscape and to speak up about it. In the words of an oysterman in 1953:

“That oil well can make for a living for one man no more than what one [oyster] reef can”. . . . “But that reef’s been there for thousands of years and oysters are prehistoric animals, they survived nature So when the oil’s gone, what’re we going to do for a living then?”⁹⁵

To be sure, most of them eventually participated in the industry—the pay was good, and the options were few—but they also spoke about what they saw, and others heard them. Some of the earliest state officials to listen were those of Percy Viosca’s old outfit, the DWF. What followed was a series of prophetic warnings.

It began, as one would imagine, with those creatures of commercial value that the DWF was responsible for managing. Muskrats were one, and as early as 1940, an agency biologist reported, “Through the digging of canals[,] good muskrat country can be readily and quickly ruined.”⁹⁶ Canal effects on oyster beds were even more clearly observed and problematic. Oysters were a major industry. The state began leasing seed grounds in the Gulf towards the end of the 1900s, and by 1960, over 70,000 acres were under contract, booming to 138,000 in the next ten years and to 400,000 at century’s end.⁹⁷ Gulf oysters made up two-thirds of the nation’s crop. At a 1953 conference on oil and gas impacts, James McConnell, the DWF’s oyster and water bottoms chief, spoke on the canal issue: “When currents are changed by these canals and where dredgings [spoil banks] are placed along the sides of the canal, in many cases currents are stopped entirely or the flow lessened noticeably, he said, ‘causing . . . changes in the ecology of a given area.’”⁹⁸ While he appreciated the value of the oil industry to the state, he continued, everyone should “recognize that there are other very old industries

95. THERIOT, *supra* note 37, at 55 (citation omitted). For interviews with Louisiana fishermen describing a similar effect today, see the recent documentary film, “Lube Job: How Louisiana Got Screwed.” Guy Hernandez, *Lube Job: How Louisiana Got Screwed*, VIMEO (Jan. 6, 2015, 5:12 PM), <https://vimeo.com/116104472> (trailer only).

96. THERIOT, *supra* note 37, at 38 (quoting LA. DEP’T OF CONSERVATION, FOURTEENTH BIENNIAL REPORT OF THE DEPARTMENT OF CONSERVATION, STATE OF LOUISIANA, 1938-1939, at 343 (1940)).

97. Walter R. Keithly, Jr., & Richard F. Kazmierczak, Jr., *Economic Analysis of Oyster Lease Dynamics in Louisiana*, Presentation at Louisiana State University Center for Natural Resource Economics & Policy titled *Challenges of Natural Resource Economics & Policy*, CNREP slide 11 (May 22, 2007, 1:30 PM), <http://www.cnrep.lsu.edu/2007/Presentations/Tuesday/2C%20Research%20on%20Oyster%20Oyster%20Industry/CNREP.Oyster%20Lease%20Dynamics%20in%20Louisiana.ppt> (PowerPoint Presentation).

98. THERIOT, *supra* note 37, at 54 (citation omitted).

here . . . that are now being seriously affected by these mineral operations.”⁹⁹

At the same conference, Lyle S. St. Amant, then an assistant administrator of the Fish and Game Division of the Louisiana Wildlife and Fisheries Commission who would go on to a storied career there, echoed McConnell’s sentiment, noting that while those seeking the mineral permits “represent[ed] only a small segment of the State’s population,” large areas of land affecting a greater segment of the population “may be ecologically changed,” and that “valuable game and fish populations belonging to a larger segment of the taxpayers may be totally destroyed or drastically reduced.”¹⁰⁰ Two years later, his colleague McConnell wrote Tennessee Gas about the Muskrat pipeline, stating, with notable prescience, that although harm to oyster bottoms was a concern, “we feel that the long range effects resulting in permanent ecological changes are by far the most serious.”¹⁰¹ The “[d]irect effects” involving “the path of the canal” he went on, were “comparatively small,” but “[e]cological and hydrographic changes may be permanent, . . . ‘and may affect extensive areas ten miles or more on either side of the canal.’”¹⁰²

This was also in 1955.

In a DWF publication that same year, yet another agency official, L.D. Young, addressed oil and gas development along the coast more generally, noting that “the area is yet unstable enough to react rapidly” (i.e., to degrade) to new construction, including levees and oil and gas canals.¹⁰³ He called for the pre-assessment of the impacts of these projects and precautionary measures in response¹⁰⁴—sixteen years ahead of the first law to do so.¹⁰⁵

None of these voices spoke against oil development. (They could not have and remained employed.) McConnell however, like Young, had proposed specific remedies, including backfilling the ditches and leveling the spoil banks, in effect restoring the scene.¹⁰⁶ For pipelines, it was often done. But not for the more ubiquitous canals.

99. *Id.* (citation omitted).

100. *Id.* at 54-55 (citation omitted).

101. *Id.* at 58 (citation omitted).

102. *Id.* (emphasis added) (citation omitted).

103. *Id.* at 81 (quoting L.D. Young Jr., *Our Policy on Wetlands*, LA. CONSERVATIONIST, July-Aug. 1955, at 12, 12-14); see also *Managing the Mysterious Louisiana Marshlands*, LA. CONSERVATIONIST, Oct. 1956, at 8, 9.

104. THERIOT, *supra* note 37, at 81.

105. See National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321, 4332(2)(c) (2012) (requiring environmental impact statements).

106. THERIOT, *supra* note 37, at 58 (citation omitted).

Meanwhile, scientists in and out of academia were also documenting the phenomenon. In the 1950s, a trade journal for Esso (today's Exxon) cautioned, "The land area may be lost through soil erosion due to current through flotation canals" and "cannot be repaired with a few passes of a bulldozer, some shovel work, and a little seeding."¹⁰⁷ A 1956-57 biennial report by the Louisiana Wildlife and Fisheries Commission noted "drastic increases in salinity" and "rapid deterioration" of the marshes around Barataria Bay Waterway.¹⁰⁸ In a 1959 report on drilling in the Rockefeller Wildlife Refuge and Game Preserve (an area supposedly demonstrating the compatibility of oil and wildlife for many years), a DWF researcher noted that the more than 20 miles of access canals there, within a few years, had enlarged by 20%.¹⁰⁹ In the early 1960s, a report out of Texas concluded that canal dredging could also be a reason for increased salinity in the Louisiana marshes.¹¹⁰ Dr. Van Lopik of Louisiana State University (LSU) echoed the findings of DWF scientists that "[m]any oil company canals, with their flanking spoil banks, cross the marsh giving rise to changes of drainage[,] and hence, vegetation. Thus, relatively minor modifications in marshland drainage may create many unforeseen problems."¹¹¹ By 1971, St. Amant of the DWF was even more emphatic, pronouncing that the canal effects for the most part were "irreversible and permanent" and represented a "true ecological upheaval."¹¹² By 1973, even the United States Army Corps of Engineers (Corps) recognized that "[o]nshore pipeline construction may cause irretrievable marshland loss."¹¹³ The word had gotten that far.

The bad news poured in through the 1970s. Dr. Sherwood Gagliano, in the vanguard of Louisiana's coastal science community, wrote that canals threatened to "seriously upset natural circulation

107. *Id.* at 82 (citation omitted) (internal quotation marks omitted).

108. LA. WILD LIFE & FISHERIES COMM'N, *supra* note 82, at 73.

109. THERIOT, *supra* note 37, at 68 (citing LEWIS G. NICHOLS, GEOLOGY OF ROCKEFELLER WILD LIFE REFUGE AND GAME PRESERVE, CAMERON AND VERMILION PARISHES, LOUISIANA 17-18 (La. Wildlife & Fisheries Comm'n, Technical Bulletin, 1959)).

110. *See id.* at 83.

111. Jack R. Van Lopik, Recent Geology and Geomorphic History of Central Coastal Louisiana 74-75 (May 7, 1955) (unpublished Ph.D. thesis, LSU) (on file with Coastal Studies Inst., LSU).

112. *See* THERIOT, *supra* note 37, at 109 (quoting Lyle S. St. Amant, *The Petroleum Industry as It Affects Marine and Estuary Ecology*, 24 J. PETROLEUM TECH. 385, 385-92 (1972)) (internal quotation marks omitted).

113. U.S. ARMY CORPS OF ENG'RS, FINAL ENVIRONMENTAL IMPACT STATEMENT: CRUDE OIL AND NATURAL GAS PRODUCTION AND OTHER MINING OPERATIONS IN NAVIGABLE WATERS ALONG THE LOUISIANA COAST 86 (1973).

patterns and water chemistry.”¹¹⁴ Canal excavation had made “the petroleum industry the greatest wetland canal builder,” he noted, adding that “[t]he addition of new channels is a continuous process, but no effort is made to fill in the old ones. When a canal is cut, it often becomes a permanent feature.”¹¹⁵ It was more than single canals, he went on, it was the “web” of them that “begin to coalesce[,] producing small lakes and bays.”¹¹⁶ More detailed studies identifying the mechanics and extent of the damage soon followed, most of whose authors went on to distinguished careers in Louisiana and beyond. In 1983, a single article cited the work of more than 20 professionals in the field, each investigating one aspect of canal damage or another.¹¹⁷ These reports were published and available to all. No one could fairly claim surprise by their findings, then or now. Whether one cared was another matter. Oil and gas were booming. This was the 1970s.

We are now into the fourth decade of canalization in the coastal zone. The cat is well out of the bag. Percy Viosca had said it. A lineup of high-ranking DWF officials had said it. Academics and independent scientists had said it, along with reports from the industry itself and the largest wetland construction agency in the nation. Oil and gas canal damage to the Louisiana wetlands was different, far more harmful than that in other environments, far more extensive than believed, and far more difficult to repair. The question was what Louisiana would do about it. But there was yet more to this scenario as well.

IV. LE SOUS-SOL

And it’s not just the over 10,000 miles of canals, it’s the trillions of barrels of oil they sucked from beneath us that collapsed major areas of the region below sea level. It’s not rocket science. It’s mud and gravity.

—Walter Williams, 2014¹¹⁸

In 2014, a New Orleans filmmaker used satellite imagery and Google Earth Pro to create a simulated low-altitude flight over coastal

114. GAGLIANO, *supra* note 60, at 1.

115. Donald Wayne Davis, Louisiana Canals and Their Influence on Wetland Development 126-27 (Apr. 9, 1973) (unpublished Ph.D. dissertation, LSU) (on file with Univ. Microfilms, LSU).

116. *Id.* at 142-44.

117. Houck, *supra* note 77, at 28-44 nn.96-162.

118. E-mail from Walter Williams, Filmmaker, to author (May 20, 2014, 14:50 CST) (on file with author). There are other factors working here, see discussion below, but the “mud and gravity” phrase does put the matter succinctly. *Id.*

wetlands south and west of New Orleans.¹¹⁹ As the film rolls, a macabre waterscape emerges and extends to the horizon, crisscrossed by relic spoil banks that once stood 8 to 10 feet above their canals, but now barely stand a foot or so above. There are virtually no wetlands. We could be looking at the last days of Atlantis. Not only has the marsh disappeared, the levees are following suit. Nothing else remains.

About 50 miles away, Dr. Kerry St. Pé, former Director of the Barataria-Terrebonne National Estuary Program, saw the same scene all around him: “We’re not just eroding,” he told a reporter a few years earlier, “we’re sinking.” “The oil and gas extraction has set off a collapse in our coast.”¹²⁰ As apparent as this might seem to the naked eye, and to governments in other parts of the world, it has dawned only gradually in Louisiana. What we have here is a still underrated impact of oil and gas development on coastal wetlands, already reeling from other blows.

It began with ground water. The state was forced to recognize the impact of subsurface water extraction some 40 years ago when an industrial zone near Baton Rouge, withdrawing 110 million gallons per day, sank four inches in five years and was on track to double that within five more.¹²¹ Similar instances of groundwater extraction-induced subsidence were found nearby in Houston, elsewhere in the United States, and abroad.¹²² Hydrocarbon extraction, too, was producing disturbing consequences in America, the “classic area” being Los Angeles where two production fields were linked to substantial drops in the land above.¹²³ Similar results followed in Venezuela’s famed Lake Maracaibo and sites in Russia, Indonesia, Malaysia, and the Norwegian North Sea, “causing concern for platform safety.”¹²⁴ Experience in the Netherlands has led to regulations requiring oil companies to routinely monitor and report rates of subsidence relating to extraction, as they go

119. *Id.*; see Walter Williams, *Golden Meadow. LA*, YOUTUBE (June 18, 2014), <https://www.youtube.com/watch?v=BmnsulltSr0>.

120. Wells, *supra* note 92 (quoting Kerry St. Pé, Dir., Barataria-Terrebonne, Nat’l Estuary Program).

121. William A. Wintz et al., *Subsidence and Ground Water Offtake on the Baton Rouge Areas*, LA. WATER RESOURCES RES. INST. BULL. NO. 6 (1970).

122. Clyde Haberman, *Crowded Bangkok Is Sinking Under Weight of Its Own Growth*, N.Y. TIMES (May 1, 1983), <http://www.nytimes.com/1983/05/01/world/crowded-bangkok-is-sinking-under-weight-of-its-own-growth.html>.

123. ANDREW GOUDIE, *THE HUMAN IMPACT: MAN’S ROLE IN ENVIRONMENTAL CHANGE* 207 (1981).

124. *Id.*; see Dirk Doornhof et al., *Compaction and Subsidence*, 18 OILFIELD REV. 50, 50-51 (2006).

forward.¹²⁵ Given the volumes of production in South Louisiana, inquiring minds might have gone further. Why they did not inquire invites speculation, but it seems unlikely that the state, dependent on this particular clutch of golden eggs, would want to fluster the goose, nor was the goose itself, making fortunes from Louisiana drilling, about to fluster on its own.¹²⁶ Further investigation would have to come from elsewhere, and it did. What emerges is a detective story with significant discoveries, still in motion.

One early allusion to the problem in Louisiana dates back to a Corps environmental impact statement on crude oil and natural gas production in 1973, noting that “[r]apid dynamic local subsidence has been noted in some neighboring areas to the west,” the cause of which “appears to have been withdrawal of gas, oil, water, salt, or sulfur from substrata.”¹²⁷ Nonetheless, it concluded, “Local subsidence has never been extensive enough in Louisiana to be considered significant concerning water changes in the total ecosystem.”¹²⁸ In brief, we were data short and interested-in-getting-it short. A sweep of related literature published ten years following stated that “[i]n the absence of more direct studies,” the impacts of subsurface oil and gas extraction “may never be proven.”¹²⁹ The evidence, it concluded, while suggestive, “remains circumstantial.”¹³⁰ And might well have so remained.

The log-jam was broken in 2002 by a geologist from another independent quarter, the United States Geological Survey (USGS), and it

125. See V.B.H. (GINI) KETELAAR, SATELLITE RADAR INTERFEROMETRY: SUBSIDENCE MONITORING TECHNIQUES ch. 2 (Freek D. van der Meer ed., 2009) (Subsidence Due to Hydrocarbon Production in the Netherlands), *available at* <http://www.springer.com/978-1-4020-9427-9>; see also E-mail from Robert Morton, Research Geologist, U.S. Geological Survey, to author (Jan. 26, 2015, 09:26 CST) (including a job description of a Shell subsidence engineer position available in Assen, the Netherlands, and describing the responsibilities of providing subsidence monitoring and reporting).

126. A DNR employee recently provided subsidence data on request, with the quick disclaimer, *sua sponte*, “but it has nothing to do with oil and gas extraction.” Interview by Brendan Hughes, Student, Tulane Univ. Law Sch., with Sarai Piazza, Ecologist, U.S. Geological Survey, in New Orleans, La. (Jan. 9, 2015). As for the industry, a former petroleum geologist for Chevron in Louisiana was advised that he could speak about any environmental issue he wished (“I could even bash the Army Corps of Engineers”), except for matters to do with oil and gas. Interview with Barry Kohl, Adjunct Professor, Dep’t of Earth & Env’tl. Scis., Tulane Univ., in New Orleans, La. (Jan. 5, 2015). The admonition is certainly appropriate, but it also suggests that whatever information industry geologists have about the adverse effects of subsurface extraction may not be fully aired.

127. U.S. ARMY CORPS OF ENG’RS, *supra* note 113, at 9.

128. *Id.*

129. Houck, *supra* note 77, at 58.

130. *Id.*

was a bombshell.¹³¹ Dr. Robert Morton was not new to the subject.¹³² Before entering government, he had worked as a petroleum geologist for a major oil company, with field assignments both offshore and in Lafourche Parish, where his later studies would center. He had witnessed subsidence first hand (“at times the pipe casing collapsed”) and did not expect his findings for the USGS to be dramatic or controversial.¹³³ He and two colleagues reported hydrocarbon production and resulting pressure losses in several large South Louisiana fields, each pumping out as much as 920 billion cubic feet of gas, 55 million barrels of oil, and 87 million barrels of brines and related waters—very big numbers.¹³⁴ Production showed large spikes, peaking in the 1970s, while pore pressure in the reservoirs went directly south, ultimately to near-zero, which is when the surface began to sink. Much like in earlier studies of surface canal impacts, the coincidence with oil and gas development was jot-for-jot. The highest subsidence rates closely tracked the maximum rates of fluid extraction.¹³⁵ The report concluded, “[T]he primary factor causing accelerated interior wetland loss in southcentral Louisiana between the 1950s and 1970s was accelerated subsidence and probably fault reactivation induced by rapid, large volume production of hydrocarbons (primarily gas) and formation water.”¹³⁶

Like nearly all advances in science, Morton’s 2002 report stimulated a variety of responses: geoscientists defending a thesis that reduction in river sediments was at the bottom of coastal collapse,¹³⁷ biologists who had shown that severed hydrology killed the marsh outright,¹³⁸ and geologists claiming that the collapse was driven by natural

131. Robert A. Morton et al., *Subsurface Controls on Historical Subsidence Rates and Associated Wetland Loss in Southcentral Louisiana*, 52 GULF COAST ASS’N OF GEOLOGICAL SOCIETIES TRANSACTIONS 767, 767 (2002). Antecedent studies had also found a hydrocarbon extraction-subsidence relationship in nearby Texas fields, see Thomas L. Holzer & Robert L. Bluntzer, *Land Subsidence Near Oil and Gas Fields, Houston Texas*, 22 GROUNDWATER 450, 450-59 (1984), but Morton’s article was the first to attract public attention in Louisiana. See Mark Schleifstein, *Coastal Erosion Theories Collide—One Blames Faults; Other, Oil Production*, TIMES-PICAYUNE, Sept. 3, 2003, at National-1.

132. Telephone Interview with Robert Morton, Research Geologist, U.S. Geological Survey (Jan. 19, 2015). The description of Morton’s background that follows is taken from this source.

133. *Id.*

134. Morton et al., *supra* note 131, at 769-70.

135. *Id.* at 776.

136. *Id.*

137. See Michael D. Blum & Harry H. Roberts, *The Mississippi Delta Region: Past, Present, and Future*, 40 ANN. REV. EARTH PLANET SCI. 655, 675 (2012).

138. E-mail from R. Eugene Turner, Professor, Dep’t of Oceanography & Coastal Studies, LSU, to author (Apr. 7, 2014, 14:05 CST) (on file with author) (“[T]here is perhaps some induced

faults as the delta slid toward the Gulf³⁹—in short, the scientific process at work.¹⁴⁰ More importantly, however, this back-and-forth stimulated further research that has formed a growing consensus about the relationship of oil and gas extraction to subsidence and the mechanics of how it has happened.

Morton and his colleagues went first¹⁴¹ and anchored their research in more field data from Terrebonne and Lafourche Parishes, where “former marshes are now submerged beneath water that averages 0.5 to 1.0 m[eters] deep,”¹⁴² a landscape in their words “drowned.”¹⁴³ They focused on a zone along the Gulf some 30 miles across, containing 17

subsidence where there is a great deal of fluid withdrawal (localized), but we cannot find an effect of fluid withdrawal on surface elevation around oil fields.”)

139. See Roy K. Dokka, *The Role of Deep Processes in Late 20th Century Subsidence of New Orleans and Coastal Areas of Southern Louisiana and Mississippi*, 116 J. GEOPHYSICAL RES. B06403, at 23 (2011) (crediting natural faulting as background, but groundwater extraction for the rapid changes of the late twentieth century); Sherwood M. Gagliano, *Effects of Earthquakes, Fault Movements, and Subsidence of the South Louisiana Landscape*, COASTAL ENVTS., INC. 5, 15 (Feb. 2005), <http://www.coastalenv.com/EffectofEarthquakeFaultMovementsandSubsidence.pdf> (seeking to persuade state officials to avoid known fault lines). Responses to these articles have served to limit their reach. See Robert A. Morton et al., *Rapid Subsidence and Historical Wetland Loss in the Mississippi Delta Plain: Likely Causes and Future Implications, Open-File Report 2005-1216*, U.S. GEOLOGICAL SURV. 33-35 (2005), <http://pubs.usgs.gov/of/2005/1216/ofr-2005-1216.pdf>; Torbjörn Törnqvist et al., *Mississippi Delta Subsidence Primarily Caused by Compaction of Holocene Strata*, 1 NATURE: GEOSCIENCE 173, 173-75 (2008) (describing the role of compaction independent of faulting); E-mail from John Lopez, Dir., Coastal Sustainability Program, Lake Pontchartrain Basin Found., to author (Feb. 21, 2009, 09:46 CST) (on file with author) (“My view is to assess the faults locally. Some areas have had high rates of subsidence due to faults [and] other[s] have not. . . . [T]he traditional oil and gas view is an oversimplified geologic concept and does not consider anthropogenic reactivation by fluid withdrawal, etc.”). Morton has responded to press inquiries by noting, ““The delta plain’s surface had thousands of years to adjust, and then it just fell apart in the 1960s and 1970s.”” Schleifstein, *supra* note 131. Gagliano responded in turn, asking, “If fluid withdrawal is a major cause of subsidence why haven’t the proponents of this theory not called for a moratorium on production and new exploration and development . . . ?” Sherwood Gagliano, Response to John Lopez, Comments of the Evening of Feb. 21, 2009 (2009) (unpublished transcript) (on file with author). His question could not have been serious. The merits of these critiques aside, that industry would seize on them to avoid responsibility for the impacts of both fluid extraction and canal dredging was inevitable, and continues in play. See Interview by Garland Robinette, Host of Think Tank, WWL Radio, with Chris McLindon, Geologist, Stone Energy, in New Orleans, La. (Jan. 7, 2015), audio available at <http://media.wwl.com/a/100676336/1-7-10am-garland-louisiana-coastline.htm?pageid=401029>.

140. In fact these theories are more compatible than meet the eye: subsurface extraction and canal dredging, for example, are coincident in time and collaborative in effect. The same could be said of both natural and induced faulting. Dokka’s groundwater extraction findings are likewise fully consistent with hydrocarbon extraction as well, with its extraordinary volumes of associated brine. See Dokka, *supra* note 139, B06403, at 16.

141. See Morton et al., *supra* note 139, at 1.

142. *Id.* at 1.

143. *Id.* at 39.

major production fields.¹⁴⁴ The five study sites ranged from 20,000 to 50,000 acres, some overlaying oil fields, others more distant.¹⁴⁵ Against a background of subsidence at 1 to 5 millimeters a year over the past 5,000 years, the rates spiked from 8 to 12 millimeters more between 1965 and 1993, go-go years for oil and gas production.¹⁴⁶ The collapse was most pronounced when close in proximity to production sites and came not from the surface down but from compaction below, where the petroleum sands lay.¹⁴⁷ A summary graph showed, as had the work of Turner and his colleagues previously, a close relation between peak production and surface loss.¹⁴⁸ Noting that the “[w]idespread nearly simultaneous collapse of marshes across the Mississippi delta plain appears to be unprecedented and not repeated in the geological record of the past 1,000 years,” the report concluded, “Surface and subsurface data strongly indicate that the rapid subsidence and associated wetland loss were largely induced by extraction of hydrocarbons and associated formation water.”¹⁴⁹

In sum, oil and gas development had put Louisiana’s coastal wetlands in a double bind, torn apart on top and undermined from below.

144. *Id.* at 4, fig.2.

145. *Id.* at 3, fig.1.

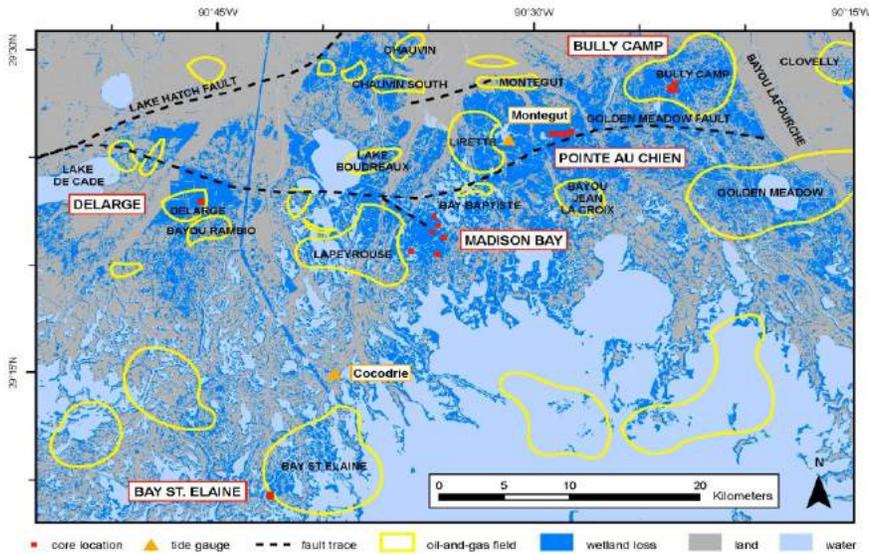
146. *Id.* at 1.

147. *Id.* at 12, fig.7; *id.* at 19. As Morton would later explain, the oil reservoirs in the study areas overlay each other like playing cards, no one dispositive but cumulatively significant. Telephone Interview with Robert Morton, *supra* note 132.

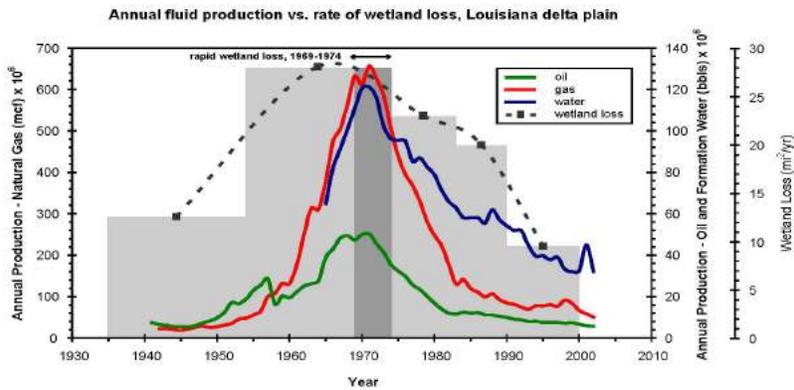
148. Morton et al., *supra* note 139, at 36, fig.25.

149. *Id.* at 1.

Subsidence Related to Subsurface Extraction of Oil and Gas, Louisiana:
Study Sites and Active Oil and Gas Fields, Terrebonne
and Lafourche Parishes

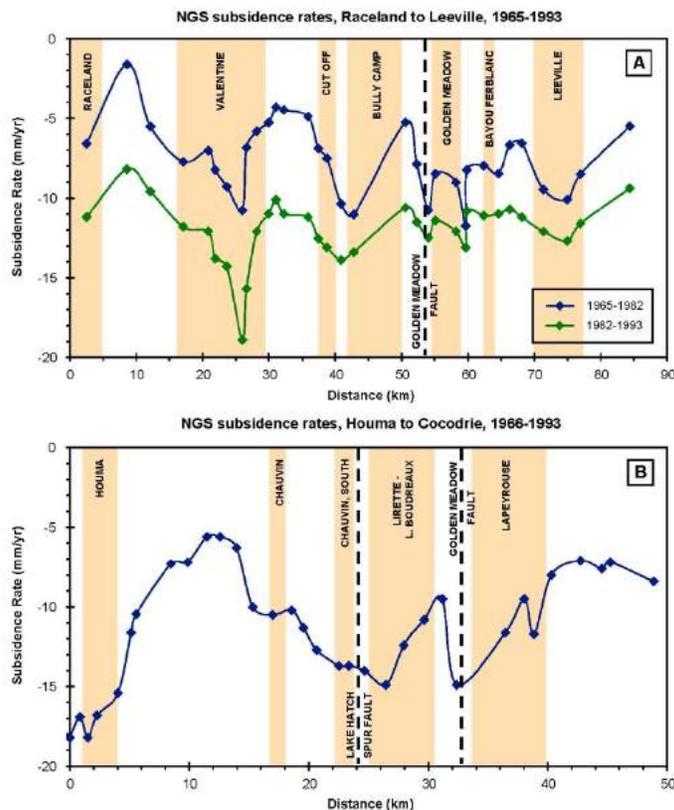


Hydrocarbon Production and Wetland Loss



The correlation, as with canals earlier, is direct.

Subsidence Rates and Subsurface Extraction



The plots on transects across the study area show a close spatial correlation between highest subsidence rates (indicated as valleys on the graphs), oil and gas production fields (shaded bars), and known fault lines (which mark some but not all of the declines). They also show that subsidence accelerated markedly (from top to lower line on Raceland to Leeville graph) during this period of high extraction.¹⁵⁰

Five years later, Morton and his colleagues returned to their sites for further study.¹⁵¹ Their 2005 report had predicted that over time, these fields exhausted, the subsidence rates would themselves subside.¹⁵² The 2010 research found that, as hypothesized, rates of collapse near the study fields had decreased from a high of 18 millimeters a year to as low

150. Robert A. Morton, Julie C. Bernier, John A. Barras & Nicholas F. Ferina, *Rapid Subsidence and Historical Wetland Loss in the Mississippi Delta Plain: Likely Causes and Future Implications*, U.S. GEOLOGICAL SURVEY (2005).

151. Robert A. Morton & Julie C. Bernier, *Recent Subsidence-Rate Reductions in the Mississippi Delta and Their Geological Implications*, 26 J. COASTAL RES. 555, 555 (2010).

152. Morton et al., *supra* note 139, at 1, 37-38.

as 3, a considerable tailing-off.¹⁵³ They went on to note the volumes extracted since oil and gas production began in the 1930s:

During the subsequent periods of production, which has lasted some 60 to 75 years, individual fields have produced on the order of hundreds of billions to trillions of cubic feet of natural gas, tens of millions of barrels of oil, and tens of millions of barrels of associated formation water with the produced water substantially exceeding the volume of produced oil.¹⁵⁴

They concluded with an observation seemingly directed to Louisiana itself, that “[d]espite numerous field studies around the world since the 1920s and acknowledgement by the petroleum industry that hydrocarbon production can induce subsidence,” the presence of this same phenomenon in the Mississippi Delta region “has been largely ignored.”¹⁵⁵

During this time, a better understanding was also emerging on the extraction-subsidence phenomenon. Today’s petroleum lies in layers of sand pressed under layers of mud and caps of salt.¹⁵⁶ As one petroleum geologist explained, “[W]e are looking for the sands.”¹⁵⁷ The sand grains themselves are irregular, packed together like jacks in a box and buffered by the petroleum and brines. Pumping out these fluids reduces the total mass below ground: depletion. It also reduces the pressure of the formation that kept the roof up: deflation. And it removes the buffer fluids that kept the sand grains apart, which now jam more tightly together: compaction. In all, it is a triple blow to the strata above, which begins to sink: weight and gravity. It may also depressurize formations along fault lines, triggering shifts: aiding and abetting.¹⁵⁸ The shallower the wells, the more localized and dramatic these effects.¹⁵⁹ The impacts of deeper wells are less pronounced, but may extend more widely.¹⁶⁰

153. Morton & Bernier, *supra* note 151, at 558.

154. *Id.* at 559 (citations omitted). In 2015, a colleague of Morton will publish the results of a similar investigation in the Cheniere Plain wetlands of southwest Louisiana, which are said to reflect those of the earlier ones, albeit not quite so dramatic. Telephone Interview with Julie C. Bernier, Geologist, U.S. Geological Survey (Jan. 24, 2015).

155. Morton & Bernier, *supra* note 151, at 559.

156. Gagliano, *supra* note 139, at 1-5 (“The salt behaves like silly putty working its way upward in the section along faults and fractures to form salt domes and in other places fanning out between bedding layers to form salt canopies. The folds and faults resulting from these movements form the traps that collect the rich deposits of oil and gas underlying both the onshore and offshore areas of south Louisiana.”).

157. Interview with Barry Kohl, *supra* note 126. The description of extraction impacts that follows is taken from this source.

158. *Id.*; *see also* Telephone Interview with Robert Morton, *supra* note 132.

159. Interview with Torbjörn Törnqvist, Chair, Dep’t of Earth & Env’tl. Scis., Tul. Univ., in New Orleans, La. (Jan. 5, 2015). Subsidence impacts depend, *inter alia*, on the nature of the formation and the depths of the wells. In general, sands and sediments become more

In 2011, Dr. Alex Kolker of the Louisiana Universities Marine Consortium presented a new method for calculating subsidence rates¹⁶¹ and found (no surprise by this time) that these rates fluctuated in relation to fluid withdrawal. Onshore oil production in the state was 114 million barrels in 1945, soared to 437 million barrels in 1968, and declined to 55.5 million in 2005, which, in sum, tracked onshore subsidence rates directly.¹⁶² “Taken together,” the study concluded, “these findings point to a tight coupling between fluid withdrawal, subsidence rates, and wetland loss.”¹⁶³ Extraction was by no means the sole suspect, but it was a significant one, and here were more generic measurements.

In 2014, the most recent piece fell into place with investigations by Dr. Chandong Chang and associates from Stanford University, who discovered that subsidence continued after production had ended.¹⁶⁴ Fluids were apparently leaking back into production cavities from adjoining areas. The first blitz of withdrawal lowered surfaces by up to 3.5 inches, followed by another potential 3.5 inches in succeeding years.¹⁶⁵ Seven inches is a serious drop on a coastal landscape. Similar to the effects of access canals, hydrocarbon extraction is a gift that keeps on giving.

A century ago, Upton Sinclair wrote, “It is difficult to get a man to understand something, when his salary depends on his not understanding it!”¹⁶⁶ Thirty years ago, there was widespread evidence on the impact of removing subsurface waters and similar data on extracting hydrocarbons from fields as widely placed as Los Angeles, the Netherlands, Venezuela, and Russia.¹⁶⁷ Despite the relevance of this experience, the state has remained resolutely immune to it, while the industry has (as with

consolidated the deeper one goes, compacting under pressure from above. While surface impacts are more pronounced at shallower depths, production from as deep as 9,000 feet had pronounced effects in Los Angeles and the Netherlands. Sherwood M. Gagliano & Johannes L. van Beek, *An Approach to Multiuse Management in the Mississippi Delta System*, in DELTAS: MODELS FOR EXPLORATION 223, 233-35 (Martha Lou Broussard ed., 1975), available at http://archives.datapages.com/data/hgssp/data/022/022001/223_hgs0220223.htm. The wells investigated by Morton and his coauthors went down over a mile. Morton et al., *supra* note 131, at 769-70.

160. See Chandong Chang et al., *Time-Dependent Subsidence Associated with Drainage-Induced Compaction in Gulf of Mexico Shales Bounding a Severely Depleted Gas Reservoir*, 98 AM. ASS'N OF PETROLEUM GEOLOGISTS 1145, 1155 (2014).

161. Alexander S. Kolker et al., *An Evaluation of Subsidence Rates and Sea-Level Variability in the Northern Gulf of Mexico*, 38 GEOPHYSICAL RES. LETTERS L21404, at 5 (2011).

162. *Id.* at 3.

163. *Id.* at 5.

164. See Chang et al., *supra* note 160, at 1147.

165. *Id.* at 1148.

166. UPTON SINCLAIR, I, CANDIDATE FOR GOVERNOR: AND HOW I GOT LICKED 100 (1935).

167. GOUDIE, *supra* note 123, at 207.

dredged canals) gone searching for other things to blame.¹⁶⁸ As of 2015, approximately 100 trillion cubic feet of natural gas and 12 billion barrels of oil have been extracted from the Louisiana coastal zone.¹⁶⁹ The brines and produced waters that came up with them at least equal the figure for oil.¹⁷⁰ That removing this colossal volume of material will impact the surface above is supported by the best evidence available from home and abroad, throw in a pinch of common sense. That this effect will be coupled with additional natural and human precursors does not make it go away. Full quantification of the impact may never be possible, nor is full reconciliation of what we know, nor is all that would be useful to

168. One of the challenges of this inquiry is that petroleum geology in Louisiana is almost exclusively practiced and researched by individuals currently employed by the oil and gas industry or contracted with it in various ways. Coincidence or no, the expertise and experience finding a connection between petroleum extraction and subsidence has come largely from persons independent of the industry or retired from it, and from other countries.

169. Research by Brendan Hughes, Student, Tulane University Law School, completed on January 13, 2015 (on file with author). Utilizing the GIS shape file for the Coastal Zone Boundary (CZB), it was possible to query the Louisiana DNR SONRIS database to determine production volumes for the wells within this zone; total production results were extracted from DNR data to include only production in the CZB. *SONRIS Interactive Maps—Oil/Hsd*, LA. DEP'T OF NATURAL RES., <http://sonris-www.dnr.state.la.us/gis/agsweb/IE/JSViewer/index.html?TemplateID=181> (last visited Feb. 28, 2015). The totals for both the state and the specific CZB area exclude the outer continental shelf (OCS). The chart below summarizes this information:

CZB Gas (MCF)	LA State Total Gas (MCF)	CZB % of State Total from CZB	CZB Crude (barrels)	LA State Total Crude (barrels)	CZB % of State Total Crude
97,329,681,516	144,950,715,992	67.15	11,983,419,692	13,689,647,600	87.54

Notes:

- MCF = Thousand Cubic Feet
- These figures do not include the extraction of brines and other produced waters.
- The DNR website states:
The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.
- The analysis also determined that there were approximately 637 oil fields, and 65,817 individual wells, within the CZB.

Id.

170. This estimate derives from the extraction figures in Morton's 2002 study, in which brines and produced waters exceeded produced oil. *See* Morton et al., *supra* note 131, at 769-70. Contrary to the assertion in Gagliano, *supra* note 139, that reinjection of produced waters would have offset the extraction, in the period of peak production and studied by Morton et al., the 1960s through the 1970s, industry preferred surface disposal of brines (it was cheaper), which was permitted under a series of state regulations until 1991. *See* Michael O. Waguespack, *Produced Waters in Coastal Louisiana*, 3 TUL. ENVTL. L.J. 7, 14-15 (1990); Charles C. Coffee, *New Regulations for Produced Water: Zero Discharge or Close Enough for Government Work*, 39 LA. BAR J. 369, 369 (1992).

know at hand, but the answer to none of these questions seems necessary to conclude that the effects are at the very least locally significant, quite probably widespread, and represent another steep price to be paid for the oil and gas hayride that Louisiana has so long enjoyed and is so reluctant to acknowledge.

V. LA COMPAGNIE

Standard [Oil] has done everything with the Pennsylvania legislature, except refine it.

—Henry Demarest Lloyd, 1881¹⁷¹

Not just in Pennsylvania, not just in the 1880s, and not just Standard Oil. By the 1970s, oil and gas interests were riding high in the Pelican State. The DWF, which had been first to sound the alarm over coastal canals, experienced an apparent amnesia and began taking the anomalous position that they provided beneficial habitat instead for fish and their spoil banks for rabbits and deer.¹⁷² Oil and gas development was managed by the drolly named Office of Conservation within the DNR,¹⁷³ whose budget was met by leasing minerals on state lands and whose mandate was to keep the revenues flowing.¹⁷⁴ In the words of the current Office of Conservation's Director, "This is what we do in this state."¹⁷⁵ For much of the twentieth century, undeniably true.¹⁷⁶ Oil funded Louisiana. What else mattered?

171. H.D. Lloyd, *Story of a Great Monopoly*, ATLANTIC, Mar. 1881, at 317, 322, available at <http://www.theatlantic.com/magazine/archive/1881/03/the-story-of-a-great-monopoly/306019/>.

172. See Ernest L. Edwards et al., *Constitutional and Policy Implications of Louisiana's Proposed Environmental Energy Tax: Political Expediency or Effective Regulation?*, 58 TUL. L. REV. 215, 261 (1983) (citing Judith Ann Monte, *The Impact of Petroleum Dredging on Louisiana's Coastal Landscape: A Plant Biogeographical Analysis and Resource Assessment of Spoil Bank Habitats in the Bayou Lafourche Delta 242* (Nov. 14, 1978) (unpublished Ph.D. dissertation, LSU) (on file with Coastal Studies Inst., LSU)).

173. Oil and gas conservation commissions first appeared in Texas with the mission to maximize production and reduce waste; environmental impacts did not cross the mind. See ERNEST E. SMITH & JACQUELINE L. WEAVER, *TEXAS LAW OF OIL AND GAS* § 8.1 (2014); E-mail from Jacqueline Weaver, Professor, Univ. of Hous. Law Ctr., to author (Jan. 29, 2015, 11:47 CST). Grafting environmental responsibilities onto these agencies has been, understandably, an awkward fit.

174. Edwards et al., *supra* note 172, at 252-53.

175. Julie Cart, *Louisiana's Love-Hate Relationship with the Oil Industry*, L.A. TIMES (Sept. 15, 2010), <http://articles.latimes.com/2010/sep/15/nation/la-na-oil-louisiana-20100915>.

176. In fact, the contribution of oil and gas revenues to the state budget has fallen from a peak of 70% in the 1970s to only 14% to date. Day, *supra* note 53 ("In addition, we pay rents, royalties, fees that add up to about 14 percent of the state budget. In the past, when my dad was in the state Legislature, we have paid upwards of 70 percent of the state budget." (quoting Chris John, President, Mid-Continent)).

The apex of the industry here by this time was neither New Orleans nor Baton Rouge, but, rather, Lafayette, halfway to Texas (where the skilled workers came from, and most of the monies went), its mammoth Oil Center Renaissance Association complete with the hotels and high rises of the petro-urban dream.¹⁷⁷ More dreamlike yet was the industry's biennial trade show, the Louisiana Gulf Coast Oil Exposition (LAGCOE), an extravaganza of technical equipment attended by, as described in William Faulkner Rushton's *The Cajuns*, "thousands of clean-scrubbed, crew-cut oil industry ole boys and their beehive-coiffed wives or mistresses."¹⁷⁸ They "[g]ush[ed] forth from helicopters, charter buses, and limousines" towards "garden-party tents floored with several varieties of petro-plastic grass."¹⁷⁹ The star of the show in Rushton's year, however, was "a regal, oil-black-gowned young woman" in a "costume heavily encrusted with gushing rigs hand-worked in pearls and rhinestones."¹⁸⁰ Abandoning her usual entourage of ladies-in-waiting, the "so-called Oil Drops," on this occasion, "Queen LAGCOE gleams out over it all with her scepter and enormous crown, topped with a gushing oil derrick made of aurora-borealis stones and, yes, of course, real diamonds."¹⁸¹ This was in 1977. Power has its privileges, none the least of which is its display.

The power reached everywhere. The reserves of oil and gas were overwhelming. The deal struck by Huey Long, oil-money-for-free-rein, became embedded like a faith, a reflex. It impacted governors, legislators, regulators, police juries, levee boards, construction firms, law firms, universities,¹⁸² courts,¹⁸³ and all who touched the industry in myriad

177. WILLIAM FAULKNER RUSHTON, *THE CAJUNS: FROM ACADIA TO LOUISIANA* 143 (1979).

178. *Id.* at 151.

179. *Id.*

180. *Id.* at 152.

181. *Id.*

182. The relationship to universities is troubling because of the reputation they enjoy for expertise and independence. As the levee board lawsuit controversy reached the Louisiana legislature, LSU's Center for Energy Studies (over \$200,000 in industry contributions) produced a study claiming that the state's "legal climate" (to wit: litigation over oil and gas damage to private properties) had "caused an exodus of oil and gas companies from the state." Patrick Flanagan, *Big Oil's Go-To Scholar at It Again*, ACADIAN BUS. (July 8, 2014, 8:49 PM), <http://theind.com/article-17820-big-oil's-go-to-scholar-at-it-again.html>. This study, however lightly supported in fact, became a "favored tool" of the industry seeking to quash the lawsuit. *Id.* The Center gained headlines again for an economic study relating to solar power, its Director having lobbied previously "for the elimination of renewable energy subsidies and the augmentation of fossil fuel subsidies." *Id.* (quoting C. Tucker Crawford, President, Gulf States Renewable Energy Indus. Ass'n). The Center is not alone. A few years earlier, an LSU economist was hired to tour Louisiana with the message that civil litigation against oil companies was "hammering local communities." See Jason R. Mayo, *Economist: Lawsuits Hurt Houma Job Growth*, DAILYCOMET.COM (June 16, 2004, 11:34 AM), <http://www.dailycomet.com/article/>

ways. Even Louisiana landowners, and coastal landowners in particular, were part of the web. For many, the land was not a resource in itself, but a means of accessing a resource: oil and gas royalties. Wetlands were simply an obstruction. In the 1980s, five private corporations owned one-quarter of the entire Louisiana coastal zone, two of them subsidiaries of General Motors.¹⁸⁴ The major shareholders of Louisiana Land and Exploration Company (LL&E) (comprising 937 square miles with gross earnings around \$1.2 billion in 1980 dollars) resided in Texas.¹⁸⁵ As the first years of environmental policy came on, the Land and Royalty Owners of Louisiana (LAROLA) became one of the industry's most active lobbies against wetland protections and pollution controls.¹⁸⁶ Even

20040616/BUSINESS/406160308?p=1&tc=pg. The industry-academia relationship reaches the state as well. The director of Louisiana's recently-established Water Institute of the Gulf, while at the University of Texas, supervised a study on "Fact Based Regulation" of the environmental impacts of natural gas fracking, presented to the American Association for the Advancement of Science and concluding that the impacts were minor. Charles G. Groat & Thomas W. Grimshaw, *Fact-Based Regulation for Environmental Protection in Shale Gas Development*, ENERGY INST., U. TEX. AUSTIN 50 (2012), http://www.uclaw.com/UploadedFiles/VEsite/Resources/ei_shale_gas_reg_summary1202%5B1%50.pdf; Vicki Vaughn & Jennifer R. Lloyd, *Prof Didn't Disclose Business Ties to Fracking*, SAN ANTONIO EXPRESS-NEWS (July 24, 2012), http://www.mysanantonio.com/news/local_news/article/Prof-didn-t-disclose-business-ties-to-fracking-3732083.php. When it surfaced subsequently that the study omitted consideration of certain fracking impacts, and that the supervisor was at the same time a highly-paid director of an oil and gas production company (not disclosed, apparently, to the University of Texas), he resigned from his position at Texas and was quickly hired by Louisiana. *Id.* The industry-state-academia relationship is most frequently seen, however, in the reticence of university researchers, dependent on outside funding, to speak on controversial issues at all. The consequences here are not industry-tinged reports but, rather, a cautious silence on matters of importance to the public at large.

183. With state judges elected through increasingly expensive political campaigns, the influence of corporate money is a fact of life. At least one study has shown a correlation in the Louisiana Supreme Court between contributions and voting records. *See* Vernon V. Palmer, *The Recusal of American Judges in the Post-Caperton Era: An Empirical Assessment of the Risk of Actual Bias in Decisions Involving Campaign Contributors*, GLOBAL JURIST, Nov. 2010, at 1, 24. More indirectly, the petroleum industry affects the federal bench as well. A federal district judge reviewing an industry challenge to the government moratorium following the BP blowout was required to divest his personal oil and gas stock portfolio in order to retain the case. Steven Mufson, *America's Petro-State*, WASH. POST, July 18, 2010, at B5. In a post-Katrina lawsuit claiming damages from major oil companies for contributing to property losses, the United States Court of Appeals for the Fifth Circuit scheduled, and then cancelled, an en banc hearing when a majority of its judges recused themselves for conflicts of interest, presumably for industry holdings. *See* *Comer v. Murphy Oil USA, Inc.*, 718 F.3d 460, 465 (5th Cir. 2013) (recounting history). None of this is to imply misconduct on the judiciary but, rather, that in significant measure it, too, is connected to oil and gas.

184. Tom Frazer, *Empires of Land Built on 'Worthless' Marsh*, TIMES-PICAYUNE, May 8, 1983, § 1, at 16. Not included in the fire was the National Audubon Society, which received "\$415,000 a year in oil and gas royalties from Conoco Inc." Getschow & Petzinger, *supra* note 81, at 26.

185. Frazer, *supra* note 184, at 16.

186. *See* MARTIN REUSS, *DESIGNING THE BAYOUS: THE CONTROL OF WATER IN THE ATCHAFALAYA BASIN 1800-1995*, at 267-68 (Texas A&M ed., 2004).

requirements intended to protect private lands hit a wall with LAROLA and often died there. In regard to oil and gas development, the state, the industry, and the larger landowners were one and the same.

By the late 1970s, as coastal canaling reached new heights, these relationships were an open secret. Leaders of the DNR and its Office of Conservation rotated in and out of industry, with an occasional stop in criminal court on the way.¹⁸⁷ These were among the most sought-after political appointments in Louisiana. In his tell-all book about the 1971 gubernatorial campaign, Clyde Vidrine, then an aide to Edwin Edwards (who would go on to win the election), described collecting donations from multiple aspirants for these positions (up to \$125,000 apiece for Commissioner of the Louisiana Department of Conservation) in plain envelopes and shoe boxes.¹⁸⁸ When asked what he would do when he won the election and could appoint only one donor, the governor replied, “I’ll be able to give ’em back what they gave and put whoever I want on the Board.”¹⁸⁹ To whom were they going to complain?

As the notion of environmental protection seeped southwards toward Louisiana, the oil industry fought hard (and successfully for a time) to prevent the state from establishing a separate environmental agency.¹⁹⁰ When the Louisiana Department of Environmental Quality (DEQ) was finally formed, the industry fought hard again (and with ultimate success this time) to keep regulation of oil and gas activity within the DNR and away from anything with the word “Environment” in its name.¹⁹¹ Edwards’ first appointment as Deputy Secretary of the DEQ, B. Jim Porter,¹⁹² moved on to the oil-friendly DNR before becoming president and chief lobbyist of the Louisiana Mid-Continent

187. *See, e.g.*, *United States v. Huls*, 841 F.2d 109 (5th Cir. 1988). This case describes the conviction of a DNR secretary, also the founder and owner of a Louisiana oil company, for concealing his interest in a lease that he had “relieved of the usual well depth and letter of oil credit requirements.” *Id.* at 110; *see also* Alan Sayre, *Former DNR Secretary Sentenced to 10 Years*, ASSOCIATED PRESS (June 5, 1987, 2:16 PM), <http://www.apnewsarchive.com/1987/Former-DNR-Secretary-Sentenced-To-10-Years/id-560d2b4efab20c7c5fd14b5063ad0320>.

188. CLYDE C. VIDRINE, *JUST TAKIN’ ORDERS: A SOUTHERN GOVERNOR’S WATERGATE 202-03* (1977).

189. *Id.* at 97.

190. *See* Charles M. Hargroder, *EWE and Environmentalists*, TIMES-PICAYUNE/STATES-ITEM, May 28, 1983, § 1, at 15 (“[Governor] Edwards actually proposed a separate department in 1975, but that proposal was strongly opposed by Robert K. Brookshire, executive vice-president of the Mid Continent Oil and Gas Association.”).

191. *Id.*

192. *History of the Department*, LA. DEP’T OF ENVTL. QUALITY, <http://www.deq.louisiana.gov/portal/ABOUT/HistoryoftheDepartment.aspx> (last visited Mar. 18, 2015).

Oil and Gas Association for the next two decades.¹⁹³ Subsequent appointments to both agencies, with a few notable exceptions, have also been something of a job-swap with oil, gas, and chemicals, reflecting what a recent federal EPA report characterized with unusual forthrightness as “a culture in which the state agency is expected to protect industry.”¹⁹⁴

This culture is not seen as a conflict. The petro-government relationship is more than a symbiosis of common interests, more even than an alliance—it is a single organism with interdependent moving parts, a company de facto in its own right that surfaces in myriad ways. In 2011, a *Times-Picayune* article revealed that the DNR was offering free fishing trips to out-of-town reporters, on the condition that their subsequent stories demonstrate how “the oil industry lives in harmony with recreational fishing.”¹⁹⁵ The DNR Undersecretary confirmed that his agency was spending \$10,000 on the campaign,¹⁹⁶ consistent with its stated mission “to facilitate an excellent working relationship with industry, with a strong emphasis on reaching mutual goals.”¹⁹⁷

193. See *Panelist Bio: Jim Porter*, LA. PUB. SQUARE, http://www.lpb.org/index.php/public-square/lps_bio/jim_porter (last visited Dec. 26, 2014).

194. OFFICE OF INSPECTOR GEN., EPA REPORT NO. 12-P-0113, EPA MUST IMPROVE OVERSIGHT OF STATE ENFORCEMENT 16 (2011).

195. Bob Marshall, *Marriage of Oil and Fisheries in Louisiana Is Not So Happy*, LENS (Feb. 25, 2011, 8:07 AM), http://www.nola.com/opinions/index.ssf/2011/02/marriage_of_oil_and_fisheries.html. These overtures to apparently independent parties are not infrequent and may be more direct as well. Following the Exxon Valdez oil spill, the corporation offered funding to a sociologist at the University of Wisconsin for an article critical of punitive damages—a central issue in the litigation. STEVE COLL, *PRIVATE EMPIRE: EXXONMOBIL AND AMERICAN POWER* 312-14 (2012). Exxon would, and did, submit the article in its court briefs and, whatever its impact, the Supreme Court issued a ruling severely limiting punitive damage relief. *Exxon Shipping Co. v. Baker*, 554 U.S. 471, 499-501 (2008). Indeed, the industry has discovered yet more direct ways to influence the legal process by authoring official opinions for state attorneys general, purportedly independent officials, on the regulation of methane gas emissions and of fracking on public lands. See Eric Lipton, *Energy Firms in Secretive Alliance with Attorneys General*, N.Y. TIMES (Dec. 6, 2014), <http://www.nytimes.com/2014/12/07/us/politics/energy-firms-in-secretive-alliance-with-attorneys-general.html>. The industry-written fracking letter was cosigned by the Attorney General of Oklahoma, and as head of the Republican Governor’s Association at the time, Bobby Jindal of Louisiana. At times, the bar may drop lower still. See *Prominent Lobbyist Recorded Soliciting Funds for Secretive Web of Nonprofits*, E&E NEWS (Oct. 31, 2014), <http://www.eenews.net/login?r=%2Fgreenwire%2F2014%2F10%2F31%2Fstories%2F1060008197> (subscription required) (asserting that an energy industry consultant solicited \$3 million to run a smear campaign against “environmental groups and their prominent supporters” through anonymous organizations, explaining that “[p]eople don’t know who supports us” (citation omitted)). Fortunately, in this case, at least one executive refused to buy into the proposition and recorded it instead. *Id.* How many others accepted the offer is unknown.

196. Marshall, *supra* note 195.

197. *Cabinet Department Report for the Commission on Streamlining Government*, LA. DIVISION ADMIN. (Aug. 18, 2009), <http://doa.louisiana.gov/doa/Presentations/Cabinet%20Dept%20Report%20to%20COSG%20081809%20-%20Part%201.pdf>.

Facilitating the relationship also included, apparently, the DNR's support for \$36 billion in royalty relief from federal offshore leases enjoyed by the industry over the next decade,¹⁹⁸ which of course meant less offshore revenue returned to Louisiana. Later that same year, the DNR Secretary received the Louisiana Mid-Continent Oil and Gas Association's Blue Heron Award for his key role in efforts to preserve and protect Louisiana's coast.¹⁹⁹ To wit: he had organized opposition to the federal moratorium following the BP blowout.²⁰⁰ How insisting on the continuation of evidently high-risk exploration without correcting what caused the disaster in the first place "preserved and protected" the coast was not explained, but perhaps it did not need explaining. To the industry and agencies directed to manage it, unfettered oil development *is* the coast. It is all of a piece.²⁰¹

That when the industry whistles the state jumps became yet more clear in Louisiana's response to a federal proposal to limit carbon emissions, primary drivers of sea level rise, now the greatest threat to the survival of coastal Louisiana. Whether or not on their own initiative, whether or not even written by them, the Governor's Office and no fewer than four state agencies sent separate (and highly similar) comments to the EPA, harshly critical of the proposal.²⁰² Oil and gas was pulling out the stops. The fact that Louisiana had so much to lose from rising seas, and was already losing football-field sizes of marsh in less time than it took to post these letters in the mail, was apparently immaterial.²⁰³ The

198. Marshall, *supra* note 195.

199. Bruce Alpert, *Oil and Gas Association Gives Environmental Award to Industry Regulator*, TIMES-PICAYUNE (Mar. 24, 2011, 3:55 PM), http://www.nola.com/politics/index.ssf/2011/03/oil_and_gas_association_gives.html.

200. Connie Hair, *'Enough is Enough'*, HUMAN EVENTS (July 22, 2010, 10:54 AM), <http://humanevents.com/2010/07/22/enough-is-enough/>.

201. This unity of purpose is not limited to state officials. Prior to the BP blowout, the Director of the Federal Offshore Leasing Program stated that his marching orders were to "expedite" offshore drilling, which he translated as "[l]et the good times roll" (his words). DeParle, *supra* note 39, at 1 (quoting Chris Oynes). Pushing production, he dismissed the prospect of catastrophic failure as "impossible," relying on the chief of his engineering team who was later fired for accepting gifts from an oil company and lying on his ethics form. *Id.* at 12-13.

202. See Letter from Governor Bobby Jindal, Governor of Louisiana, to Lisa Jackson, Adm'r, EPA (n.d.) (on file with author); Letter from Scott A. Angelle, Sec'y, DNR, to Lisa Jackson, Adm'r, EPA (Dec. 28, 2009) (on file with author); Letter from Harold Leggett, Sec'y, DEQ, to Lisa Jackson, Adm'r, EPA (Dec. 15, 2009) (on file with author); Letter from Stephen Moret, Sec'y, LED, to Lisa Jackson, Adm'r, EPA (Dec. 28, 2009) (on file with author); Letter from Curt Eysink, Exec. Dir., La. Workforce Comm'n, to Lisa Jackson, Adm'r, EPA (Dec. 22, 2009) (on file with author).

203. Mark Schleifstein, *Louisiana Is Losing a Football Field of Wetlands an Hour*, *New U.S. Geological Survey Study Says*, TIMES-PICAYUNE (June 2, 2011, 1:00 PM), http://www.nola.com/environment/index.ssf/2011/06/louisiana_is_losing_a_football.html.

same you-call-I-bark reflex would be seen soon again in the governor's reaction to the New Orleans levee board lawsuit²⁰⁴ that, at bottom, sought nothing more than industry money to help repair what it had destroyed. Restoring the coast was one thing; asking oil and gas companies to contribute was quite another.

The industry-state nexus reached its zenith with Louisiana's political elites, its delegation in Washington, D.C. Senator Russell B. Long, Huey's son (and, per Rushton, "Big Oil's most powerful paid political apologist on Capitol Hill") set the mold during Louisiana's first oil boom, chairing the Senate Finance Committee and sponsoring a range of tax favors.²⁰⁵ Senator J. Bennett Johnston chaired the Senate Energy and Natural Resources Committee, from which vantage he eliminated price ceilings on natural gas, expanded offshore drilling, and granted "royalty holidays" to corporations whose revenues exceeded those of half the nations of the world.²⁰⁶ Referred to by colleagues as the "Senator from Oil," Johnston has been frank about his "friendly relationship" with the industry,²⁰⁷ which he sees as one of mutual interest.²⁰⁸ Upon leaving public office, he joined the board of Chevron and launched a lobbying firm with the American Petroleum Institute as a principal client.²⁰⁹ The transition was seamless. Indeed, in some ways it was not a transition at all, simply a move to another part of the company.²¹⁰

204. See Schleifstein, *supra* note 6; Alex Woodward, *Jindal Signs Bill To Kill Levee Board Lawsuit*, GAMBIT WEEKLY (June 6, 2014, 12:35 PM), <http://www.bestofneworleans.com/blogofneworleans/archives/2014/06/06/jindal-signs-bill-to-kill-levee-board-lawsuit>; Bd. of Comm'rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410 (E.D. La. Feb. 13, 2015); see also Richard Rainey, *New Orleans City Council Asks Gov. Jindal To Veto Levee Board Lawsuit Bill*, TIMES-PICAYUNE (June 5, 2014, 6:01 PM), http://www.nola.com/politics/index.ssf/2014/06/new_orleans_city_council_asks.html.

205. RUSHTON, *supra* note 177, at 149; CQ ALMANAC 1977, SENATE FINANCE: THE FIEFDOM OF RUSSELL LONG 177-87 (33d ed. 1978), <http://library.cqpress.com/cqalmanac/document.php?id=cqal77-1202097#> (subscription required).

206. Ken Silverstein, *On Brining and Dining: How Pro-Oil Louisiana Politicians Have Shaped American Environmental Policy*, HARPER'S MAG. (Oct. 23, 2013, 8:00 AM), <http://harpers.org/blog/2013/10/on-brining-and-dining/>.

207. Oliver Houck, *Can We Save New Orleans?*, 19 TUL. ENVTL. L.J. 1, 20 (2006); Mufson, *supra* note 183.

208. Mufson, *supra* note 183 ("The fact that you were a friend of an industry that is important to your state doesn't mean you didn't believe it." (quoting Bennett Johnston, former U.S. Senator)).

209. *Id.*

210. Nor is the delegation reluctant to support individual permit applications from oil and gas and other wetland developers. One letter to the Corps urging approval of a large resort in the interior marshes of Grand Isle was signed by every member of the Louisiana delegation. See Letter from J. Bennett Johnston et al., Senator, to Lloyd K. Brown, Colonel, U.S. Army Corps of Eng'rs (Feb. 6, 1987) (on file with author). An EPA official working with Corps permitting staff has observed, "[T]he section chief spends half his time fending off complaints from the

The fidelity of the delegation to the industry's perspective has been total, if grounded apparently on information the industry provided. During enactment of the federal offshore leasing program, Senator Johnston told his colleagues: “The so-called danger from oil spills has simply not been proved. Not only has it not been proved, it has been disproved, and we need to get on with that drilling.”²¹¹ Even after the BP blowout, the industry continued to characterize the event as a “Black Swan” (quite incorrectly, it turns out), an occurrence occasionally spoken of but never seen.²¹² As all members from Louisiana seem to, he believed what the industry told him.²¹³

Johnston's Senate colleague in later years, John Breaux (best known quip: “My vote can't be bought, but it can be rented”)²¹⁴ was equally open about the relationship: “We supported them and they supported us.”²¹⁵ Co-chair of the Congressional Oil and Gas Caucus, Breaux waged a relentless campaign against federal wetland protections.²¹⁶ He, too, retired to form a lobbying firm which in one year reported \$41 million in lobbying revenue from Shell, Chevron, and others in the trade.²¹⁷ In one

delegation.” Interview with John Ettinger, Project Manager, EPA, in New Orleans, La. (Nov. 12, 2014). No matter what the percentage, this is the perception by people involved in the process, and there can be no doubt that the delegation intervention runs uniformly one way. One would be hard pressed to find an inquiry from Washington that sought more rigorous wetland protections, say nothing of permit denial.

211. DeParle, *supra* note 39, at 12 (quoting Senator J. Bennett Johnston).

212. Michelle Lodge, *Gulf Spill Is 'Black Swan' Event: Industry Insider*, CNBC (June 9, 2010, 1:12 PM), <http://www.cnbc.com/id/37593961#> (quoting a “top authority on oil reservoir management” and “former executive at Saudi Aramco”). As for unpredictability, a former Shell auditor reported some 44 “notable” blowouts worldwide prior to BP's accident, 11 of them in the Gulf of Mexico, including the Xtoc well off Mexico that took 6 months to staunch. See Oliver A. Houck, *Worst Case and the Deepwater Horizon Blowout: There Ought To Be a Law*, 40 *Env'tl. L. Rep.* (Env'tl. Law Inst.) 1103, 1103-05 (2010).

213. To be sure, the members have also strongly supported federal funding for coastal restoration, the initial legislation popularly called the Breaux Act for former U.S. Senator Johnston's colleague. Where they draw the line, apparently, is on asking the industry—beyond existing royalties—to pay its share. In this, too, they are responding to what industry tells them.

214. Thomas B. Edsall, *The Trouble with that Revolving Door*, N.Y. TIMES (Dec. 18, 2011, 9:00 PM), <http://campaignstops.blogs.nytimes.com/2011/12/18/the-trouble-with-that-revolving-door/>.

215. Mufson, *supra* note 183 (quoting former Senator John Breaux (D-La.)).

216. Silverstein, *supra* note 206 (caucus); Telephone Interview with Brent Blackwelder, Professor, Advanced Academic Programs, Johns Hopkins Univ. (Sept. 14, 2014). Blackwelder, President Emeritus of Friends of the Earth, was engaged in lobbying against Breaux's efforts to soften wetland protections at the time. Breaux's efforts were seconded, not unexpectedly, by former Senator Johnston, who sponsored legislation eliminating protection of up to 75% of wetlands across the country. See *Administration Says Up to 75 Percent of Wetlands Could Be Lost Under S 851*, [July 1995] *Daily Env't Rep.* (BNA) 632 (July 20, 1995).

217. Pete Brush, *Patton Boggs To Buy DC Lobbying Firm Breaux-Lott*, LAW360 (July 1, 2010, 6:33 PM), <http://www.law360.com/articles/178748/patton-boggs-to-buy-dc-lobbying-firm-breaux-lott> (subscription required).

of his last official acts, Breaux authored a piece in the *Wall Street Journal* supporting oil drilling in the Arctic National Wildlife Refuge.²¹⁸ Entitled “Let’s Drill for Oil,” he offered Louisiana as an example of a landscape where “there have been few adverse [environmental] consequences from drilling.”²¹⁹ No mention was made of a landscape dissected by pipelines and access canals.

Until the most recent election cycle, Senator Mary Landrieu was oil’s outspoken champion on Capitol Hill (Mid-Continent: “the [industry’s] biggest supporter in D.C.”²²⁰), supporting the preservation of \$24 billion in oil-industry tax breaks, personally asking President Obama to lift his deepwater offshore drilling moratorium, and even voting to open up Alaska’s Arctic National Wildlife Refuge to oil drilling.²²¹ Her colleague, David Vitter, son of a Chevron family, has been unstinting in his opposition to environmental programs even faintly touching the oil and gas industry²²² (favored expression: “[K]eep[] the ‘boot on the neck.’”²²³) With trademark sarcasm, he has also denied human contribution to climate change,²²⁴ a position even industry leaders have all but abandoned.²²⁵

218. John B. Breaux, *Let’s Drill for Oil*, WALL ST. J., Jan. 18, 2001, at A26.

219. *Id.*

220. Cole Avery, *For Mary Landrieu, Winning Back Oil and Gas Support Will Be Difficult*, TIMES-PICAYUNE (Nov. 20, 2014, 8:15 AM), http://www.nola.com/politics/index.ssf/2014/11/for_mary_landrieu_winning_back.html (quoting former Congressman Chris John).

221. Mufson, *supra* note 183; Silverstein, *supra* note 206; Jonathan Weisman, *Budget Vote Revives Bid for Arctic Oil Drilling*, WASH. POST (Mar. 18, 2006), <http://www.washingtonpost.com/wp-dyn/content/article/2006/03/17/AR2006031701802.html>. Among other credits, Senator Landrieu was also one of three Democrats voting to defeat a proposal to increase fuel efficiency standards for SUVs. See Lynn Garner, *Senate Committee Defeats Effort To Close SUV ‘Loophole,’ Boosts Clean Coal Funding*, 36 ENV’T REP. (BNA) 1043 (2005). The reach of oil is extensive.

222. See *National Environmental Scorecard: David Vitter*, LEAGUE CONSERVATIVE VOTERS, <http://scorecard.lcv.org/moc/david-b-vitter> (last visited Dec. 27, 2014).

223. Erica Martinson, *David Vitter Ready for Top GOP Environment Panel Job*, POLITICO (Nov. 13, 2012, 4:26 AM), <http://www.politico.com/news/stories/1112/83726.html> (quoting Senator David Vitter); Robin Bravender, *Senate Flip Would Spark Onslaught Against Obama Policies*, E&E NEWS (Oct. 10, 2014), <http://www.eenews.net/stories/1060007222> (on the neck of the EPA).

224. See Martinson, *supra* note 223 (“‘I’m a skeptic in terms of the left’s religion about human activity’ being responsible for climate change, Vitter said.”); see also Jordan Blum, *Vitter To Become Top GOP Senator on Environment Panel*, ADVOCATE (Jan. 4, 2013), <http://theadvocate.com/home/4815967-125/vitter-to-become-top-gop>; Michael O’Brien, *Vitter: Climate Change Evidence Often ‘Ridiculous Pseudo-Science Garbage,’* HILL (Aug. 14, 2009, 1:20 PM), <http://thehill.com/blogs/blog-briefing-room/news/lawmaker-news/54867-vitter-climate-change-evidence-often-ridiculous-pseudo-science-garbage>.

225. Brevity forbids reference to the Louisiana House of Representatives, but there is little difference in perspective or industry service. Former Congressman Chris John, for example, is now President of the Louisiana Mid-Continent Oil and Gas Association. Nor does it allow

With their delegation leading the pack, oil and gas corporations managed to forestall regulation of their brine discharges,²²⁶ to exempt their oilfield wastes as “non-hazardous” (This exemption “does not make sense,” an insider told *Harper’s Magazine*, but “[o]il interests . . . wanted the exemption. They got the exemption.”),²²⁷ to limit their responsibility to clean up contaminated aquifers,²²⁸ and, with an assist from the White House, to remove natural gas fracking from federal regulation altogether.²²⁹ This was not an industry simply careless about its impacts. It was, rather, one quite aware of them and hard at work to avoid paying the bill. So it would be with Louisiana’s coastal wetlands.

Meanwhile back in Baton Rouge, the story is similar, but, if anything, more overt. Natural resources committees of the legislature, stocked with members from the industry itself, exercise veto authority over all proposed state agency regulations, a process that has served to keep them as friendly to oil and gas interests as the legislative process itself.²³⁰ Harold Schoeffler, a Cadillac dealer and Sierra Club leader from Lafayette, described one Senate session in the 1980s treating a proposal to require backfilling of oil and gas canals:

It got roundly booed in committee, lost overwhelmingly, at which point an industry lobbyist came up to the committee members and passed out \$5000

description of the constantly revolving door between key delegation staff members and the oil industry. See, e.g., Bruce Alpert & Bill Walsh, *On the Hill—News from the Louisiana Delegation in the Nation’s Capital*, TIMES-PICAYUNE, Mar. 26, 2006, at National-6. Senator Landrieu’s legislative assistant for energy and environmental policy assumed a position with the American Petroleum Institute, representing some 400 oil and gas companies on Capitol Hill. *Id.*; Kevin Bogardus, *Former Landrieu Aide Lobbying for Shell Oil; Bracewell & Giuliani Tabled for RFS Fight*, E&E NEWS (Aug. 4, 2014), <http://www.eenews.net/login?r=%2Fgreenwire%2F2014%2F08%2F04%2Fstories%2F1060004034> (subscription required); Robin Bravender, *Hired Guns with Ties to Senate Leaders in Catbird Seat*, E&E NEWS (Dec. 17, 2014), <http://www.eenews.net/login?r=%2Fgreenwire%2F2014%2F12%2F17%2Fstories%2F1060010721> (subscription required).

226. JACK DOYLE, CRUDE AWAKENING: THE OIL MESS IN AMERICA: WASTING ENERGY, JOBS & THE ENVIRONMENT 154-55 (1994).

227. Silverstein, *supra* note 206 (citation omitted).

228. Ken Silverstein, *Secret Oil Company Memos on Pollution in Louisiana*, HARPER’S MAG. (Oct. 11, 2013, 8:00 AM), <http://harpers.org/blog/2013/10/secret-oil-company-memos-on-pollution-in-louisiana/> (“Our environmental legislative and regulatory group, under Pat O’Toole, has been effective in tempering state bills and proposed regulations which would have increased clean-up and disposal costs. Identified savings exceed some \$20 million. This work continues, and future savings are anticipated.” (quoting several industry documents, including one from a Unocal study)).

229. See *The Halliburton Loophole*, EARTHWORKS, http://www.earthworksaction.org/issues/detail/inadequate_regulation_of_hydraulic_fracturing#.VJRnk14AKA (last visited Dec. 27, 2014) (explaining the fracking exemption from federal regulation).

230. See LA. REV. STAT. ANN. § 49:968 (2014) (setting forth the review of Louisiana’s agency regulations and the veto procedures and authority of standing committees).

in envelopes . . . things were more open in the 1980's, you could call it a form of transparency. After which Louisiana State Representative Theriot came up to me and said, "Got to hand it to you Sierra Club. Every time you file one of these bills you make me so happy", slapping the envelope in his hand.²³¹

Not a great deal has changed, save for perhaps the nature of the envelopes. In 2013, LOGA's chief lobbyist told a writer from *Harper's Magazine* that she was brought out of retirement to protect, in a time of dramatic budgets to cut health and education, "'a lot of those exemptions'" she had "'helped win'" in previous decades.²³² She was also concerned by a recent court decision that, unless corrected in the legislature, might require cleanup of old and abandoned production sites, which "'undoes a lot of good we've won.'"²³³ Not to worry, however, she went on, "'There's a legislator who is holding a bill for us in case we need one this session.'"²³⁴

In fact, they would need one the next session. Perhaps the most naked display of oil power in Baton Rouge came the following year in response to the New Orleans levee board lawsuit, which prompted nearly twenty separate bills designed to terminate the case, each in a different fashion.²³⁵ (Few issues draw more than one bill, perhaps two.) Despite intensive lobbying by oil and gas interest groups and the Louisiana Association of Business and Industry (headed by the Governor's former Chief of Staff), the proposals ran into unexpected popular support for the lawsuit and came down to the final day of the session, when a hastily drafted measure was finally adopted.²³⁶ In his signing ceremony, flanked

231. Interview with Harold Schoeffler in New Orleans, La. (Feb. 28, 2011). Schoeffler, a past president of the Lafayette Chapter of the Sierra Club, was chairman of the Sierra Club's Acadiana Group and a lobbyist for the organization in Baton Rouge during this time.

232. Ken Silverstein, *Dirty South: The Foul Legacy of Louisiana Oil*, HARPER'S MAG. 45-46 (Nov. 2013), <http://harpers.org/archive/2013/11/dirty-south/> (subscription required) (quoting Ginger Sawyer, Lobbyist).

233. *Id.* at 47 (quoting Ginger Sawyer, Lobbyist).

234. *Id.* (quoting Ginger Sawyer, Lobbyist). The oil and gas industry's principle ally in the legislature, The Louisiana Association of Business and Industry, recently claimed "fundamental improvements" in the "judicial environment" from the 2014 legislative session: a ban on "contingency fee contracts" (for state recovery of damages from oil and gas activities), "legacy lawsuit reforms" (limiting private recovery from oil and gas activities), and a bill purporting to kill the levee board lawsuit. Capitol News Bureau, *Capitol Buzz: LABI To Target Judiciary Operations*, ADVOCATE (Jan. 6, 2015), <http://theadvocate.com/home/11186607-125/labi-to-target-judiciary-operations>.

235. See Jeff Adelson & Mark Ballard, *Jindal Signs Bill that Could Kill Wetlands Suit*, ADVOCATE (June 6, 2014), <http://theadvocate.com/home/9383128-125/jindal-signs-bill-that-would>.

236. *Id.*; Telephone Interview with John Barry, Former Vice President, Se. La. Flood Prot. Auth.—E. (June 9, 2014). Barry lobbied against the bill and attended the signing. One result of

by oil and gas company officials and lobbyists, Governor Jindal thanked the industry for its work on the bill, echoed by LOGA, which called it ““a huge victory for the oil and gas industry.””²³⁷ Given the dynamics in Louisiana just described, what was surprising was not that the bill passed but, rather, the degree of difficulty it encountered.²³⁸ For the previous decades of oil and gas development along the coast, however, the industry had no difficulty at all.

The background and history assist in understanding what happened and what did not happen with oil and gas drilling when environmental law came to Louisiana. There was little way that public law, no matter what it said, was going to be able to do its job.

VI. LE PROGRAMME CÔTIER

The act is not a directive to simply preserve all wetland areas, but instead is a resource management statute which practically precludes the Secretary from stopping any activity per se in the coastal zone.

—Winston Day, Secretary, DNR, 1983²³⁹

If you think yourself powerless, you are. Despite a new program that gave it authority to protect the coastal marshes, the DNR took an alternative path dictated by decades of history and the industry itself. Forced in the end by largely outside circumstances to act, it duly adopted rules governing coastal uses and then proceeded to grant virtually every dredging permit applied for, ignore technology that could have avoided new dredging, ignore measures to restore damage already incurred, and declare no areas (no matter what their natural values) off limits to oil production. The open season mindset continued, as did widespread dredging and ever-widening harm.

the last-minute haste was ambiguity in the bill’s language, which, ironically, invited argument that it did not cover the Authority at all. See Bob Marshall, *Oil, Gas Industry Lawyers Again Ask Federal Judge To Dismiss Levee Board Lawsuit*, LENS (Dec. 13, 2014), <http://theadvocate.com/news/neworleans/11061987-148/oil-gas-industry-lawyers-again>.

237. See Julia O’Donoghue, *Bobby Jindal Signs Bill To Kill Lawsuit Against Oil, Gas Companies*, TIMES-PICAYUNE (June 6, 2014, 12:35 PM), http://www.nola.com/politics/index.ssf/2014/06/bobby_jindal_signs_bill_to_kil.html (quoting Don Briggs, President, La. Oil & Gas Ass’n).

238. Almost as if intended to reassert the industry’s dominance, the very first Senate bill filed in the 2015 session—in the face of a \$1.6 billion deficit and with crippling budget cuts looming—was instead directed at killing, once again, the levee board case. See Julia O’Donoghue, *Louisiana Budget Shortfall in Higher Education, Health Care Will Worsen*, TIMES-PICAYUNE (Jan. 27, 2015, 8:30 AM), http://www.nola.com/politics/index.ssf/2015/01/louisiana_budget_shortfall_in.html.

239. Houck, *supra* note 77, at 148 (quoting Memorandum Entitled *CZM Objectives* from the Secretary, La. Dep’t of Natural Res., to Members of Coastal Management Section, La. Dep’t of Natural Res. (Mar. 10, 1983)).

As seen earlier, attempts to at least soften the blow began under the impetus of the DWF, which had led to push-barges for pipelines followed by backfill when done. As for canals to drilling sites, the DWF recommended plugging off the ends in order to arrest saltwater intrusion,²⁴⁰ but as any weekend fisherman saw, these plugs washed out over time and presented no obstacle to the incoming tide. Little more happened on the canal front, or might ever have happened, but for the advent of federal law. Which put the state in a bind.

There were two principal federal programs, each poking its nose into the Louisiana tent and potentially upsetting its unwritten compact with oil and gas. The Clean Water Act's (CWA) section 404 program²⁴¹ placed all wetland dredging under federal permit, unwelcome to any self-respecting state and yet more so to an industry accustomed to dealing instead with local officials who might appreciate the renewal of a hunting lease or 50-yard-line tickets to Tiger Stadium. Administered by the Corps, however, which had been digging its own navigation canals through the zone with enthusiasm, the 404 program presented little obstacle for decades to come, much of them marked by Corps resistance to the new law. The Corps of that era, by mission and training, was also part of the company.

The second law, the Coastal Zone Management Act of 1972 (CZMA), went to the heart of the action, Louisiana coast itself, and at first blush it looked like trouble.²⁴² Congress saw economic interests overwhelming coastal resources, some of them highly valuable and "extremely vulnerable" to human activity.²⁴³ Actual protections, however, would come through state programs that were to both "preserve" and "develop"²⁴⁴ these resources—marching orders that reflected the very conflict prompting the CZMA in the first place. Smelling a rat nonetheless, the Louisiana oil and gas industry opposed any state

240. THERIOT, *supra* note 37, at 59.

241. 33 U.S.C. § 1344 (2012). For the legislative history behind the Act and early implementation, see Oliver A. Houck, *Rescuing Ophelia: Avoyelles Sportsmen's League and the Bottomland Hardwoods Controversy*, 81 MISS L.J. 1473, 1479, 1484, 1488, 1494 (2012).

242. 16 U.S.C. § 1451 (2012). For a succinct description of the Act, see Oliver A. Houck & Michael Rolland, *Federalism in Wetlands Regulation: A Consideration of Delegation of Clean Water Act Section 404 and Related Programs to the States*, 54 MD. L. REV. 1242, 1294-99 (1995)).

243. 16 U.S.C. § 1451.

244. *Id.* § 1452.

involvement in the program.²⁴⁵ With its assistance, the state was managing the coast quite well already.

The CZMA held out a tempting inducement, however. Although federal funding was small, participating states were granted something close to a veto over federal activities that conflicted with state plans,²⁴⁶ a rare concession of national supremacy and an important one given the heavy federal presence in South Louisiana, the heartland of the Corps. Not wanting to miss out on new authority and secure in his ability to protect the industry, Governor Edwards quietly assured oil and gas interests that if they did not oppose a state coastal program, he would see to it that they got to approve it.²⁴⁷ Whatever else one might say about Edwards, this was the kind of deal he honored. After a false start with the Louisiana Division of Administration's Office of Planning and Budget, Louisiana vested the development of its program in the more powerful Louisiana Department of Transportation (DOTD) and Development, which, as the name implies, had not the slightest interest in coastal protection. In turn, the DOTD turned to a recent graduate from LSU's Coastal Studies Institute, Dr. Paul Templet, who, knowing nothing about the above arrangements, was asked to create a scheme for regulating coastal uses going forward. As it turned out, Templet cared a great deal about coastal protection.

Templet did his job. The program he came up with had two elements: a state coastal commission, separate and apart from existing state agencies, to oversee permit decisions, and a set of guidelines for coastal development.²⁴⁸ Both ran into trouble from oil and gas. The Louisiana Coastal Commission, which was composed of diverse interests including environmental group representatives, evolved as intended into an open forum for coastal decision making. One of its first hearings centered on the dredging of clam shells in coastal waters, a practice as old as oil and gas in the state, highly damaging in its own right, and equally entwined with state government.²⁴⁹ The shell hearings turned out to be contentious and embarrassing to both the dredgers and the state, a

245. Telephone Interview by Endre Szalay, Student, Tulane Univ. Law Sch., and Tom Sharp, Student, Tulane Univ. Law Sch., with Paul Templet, Former Sec'y, La. Dep't of Env'tl. Quality (Apr. 11, 2011).

246. 16 U.S.C. § 1456(c).

247. Telephone Interview by Endre Szalay and Tom Sharp with Paul Templet, *supra* note 245. The description of the program start-up that follows is taken from this source.

248. See U.S. DEP'T OF COMMERCE ET AL., LOUISIANA COASTAL RESOURCES PROGRAM, FINAL ENVIRONMENTAL IMPACT STATEMENT 76-77 (1980).

249. Oliver A. Houck, *Louisiana v. Lee and the Battle of Lake Pontchartrain*, 26 TUL. ENVTL. L.J. 1, 13-16 (2012).

bad augur for oil and gas dredging to come. Soon thereafter, the Commission had the audacity to actually reverse a state permit for an oil access canal.²⁵⁰ That was the last straw. The Commission was quickly abolished and the process turned over to the oil-and-gas-dominated DNR, where it has safely remained.²⁵¹

Templet's permit guidelines met a similar fate. He had written a highly prescriptive set of requirements covering every kind of activity in the zone, with particular attention to levees, pipelines, and canals.²⁵² Oil and gas interests were appalled and, exercising their option, stepped in. Rather than re-work Templet's prohibitions one by one, they instead sprinkled in a debilitating clause, liberally, like mushroom seeds. Some 44 of the 94 provisions that Templet had drafted, the ones most directly affecting oil and gas, would require industry to comply only to the "maximum extent practicable" (MEP).²⁵³ The term sounded strict on its face, but would be lost in the fine print that followed. Fed up with the interference, Templet resigned,²⁵⁴ and the MEP standard became an escape valve for continued destruction of the zone.

As the industry-approved guidelines explained, the MEP standard exempts any project where (1) the benefits "clearly outweigh" its impacts, (2) there are "no feasible and practical alternative locations," and (3) it serves "public" or "regional" interests or is "coastal water dependent."²⁵⁵ Oil and gas won all three. The tangible "benefits" from an oilfield would automatically outweigh any impact short of (perhaps) exterminating the Brown Pelican, and those same benefits made both "public" and "regional" interests obvious as well. As for being "coastal water dependent," of course the canals qualified; that is where the oil was, on the coast and under the water. Only number (2), the "no-alternatives" requirement, remained as a possible restraint. However, there was a catch here as well. The regulations required any alternatives to be of "established usefulness and efficiency" and to allow the activity "to be carried out successfully."²⁵⁶ New ways of doing things fell off the table. More expensive requirements fell away, too, unless they came in

250. *Id.* at 23 (citing Telephone Interview with Michael Wascom, Former Dir., La. State Univ. Sea Grant Law & Policy Program (June 2, 2011)).

251. *Id.*

252. LA. ADMIN. CODE tit. 43, §§ 701-719 (2014).

253. Office of Coastal Mgmt., *A Coastal User's Guide to the Louisiana Coastal Resources Program*, LA. DEP'T OF NATURAL RES., at IV-1 (2015), [http://data.dnr.louisiana.gov/LCP/LCPH ANDBOOK/FinalUsersGuide.pdf](http://data.dnr.louisiana.gov/LCP/LCPH%20ANDBOOK/FinalUsersGuide.pdf) [hereinafter *Coastal User's Guide*].

254. Telephone Interview by Endre Szalay and Tom Sharp with Paul Templet, *supra* note 245.

255. See *Coastal User's Guide*, *supra* note 253, at IV-1 to -2.

256. LA. ADMIN. CODE tit. 43, § 700 (defining "feasible and practical").

well below payout. As applied, and as its authors intended, the MEP standard was a green light for dredging. Industry lawyers had done their job.

Which is the way the DNR saw it too. As its Secretary, quoted above, later explained, the act “practically precluded” saying no. He was partially correct, but the limits on saying “no” were of the DNR’s own creation. It could have written more protective standards, it could have interpreted them more protectively, and it could have established oil-free zones to protect irreplaceable resources, as will be seen below. Other coastal states—California, Delaware—did just that.²⁵⁷ Under close industry supervision, Louisiana did not.

One’s view of what *did* happen depends largely on what one wants to have happened. To the industry, virtually guaranteed to receive its approvals, the remaining complaint was time, and speedy delivery became the goal. As late as 2007, the Permits and Mitigation Program Manager of the DNR’s Coastal Management Division would still be scolding his staff over permit delays.²⁵⁸ Supervisors would be “visiting with you personally,” he wrote, it was “YOUR duty” to keep the permits coming, and “you [COULD] be held accountable for them.”²⁵⁹ “Our constituency has been . . . most accommodating,” the memo continued, but the processing times have to drop “before they become a political liability for the people who have so graciously supported us.”²⁶⁰ The perspective reflected in the memo is not unusual for Louisiana officials, nor would it be considered anything to be ashamed of. Oil and gas interests were the public that the DNR serves and responds to. Over time, speedy delivery was achieved.²⁶¹

The merits of the permits themselves were a different story. A study of the first two years of the program found over 3,600 permit applications, of which only four were denied.²⁶² Not one of these denials

257. See *Am. Petroleum Inst. v. Knecht*, 456 F. Supp. 889, 931 (C.D. Cal. 1978), *aff’d*, 609 F.2d 1306 (9th Cir. 1979) (approving state limits on energy facility siting); *Norfolk S. Corp. v. Oberly*, 822 F.2d 388, 407 (3d Cir. 1987) (approving state ban of coal terminal).

258. E-mail from Rocky Hinds, Former Permits & Mitigation Program Mgr., Coastal Mgmt. Div., La. Dep’t of Natural Res., to Office of Coastal Management Division Staff, La. Dep’t of Natural Res. (Nov. 29, 2007, 10:59 CST) (on file with author).

259. *Id.*

260. *Id.*

261. OFFICE OF COASTAL MGMT., MONTHLY REPORT: OCTOBER 2013, at 6 (2013) (referring to a chart captioned “Coastal Use Permit Review Time”) (on file with author).

262. Houck, *supra* note 77, at 135 (citation omitted). Corps permits under CWA section 404 and state coastal use permits were coextensive in the Louisiana coastal zone and tracked each other one-for-one. *Id.*

related to proposed oil and gas activities.²⁶³ Two early permit applications illustrate the problem. One proposed a channel to a “wildcat” (low probability of success) well, that opened an oyster reef to saltwater intrusion.²⁶⁴ According to the DWF, the second canal, by oil giant Freeport-McMoRan, “would destroy [important] shallow-water feeding and spawning sites.”²⁶⁵ On these grounds, the DNR’s Coastal Management Division turned both applications down. The DNR secretary, on appeal, calling the actions of his staff “ecological overkill” and unfair to the industry, reversed the call.²⁶⁶ That the secretary himself had come from the oil business did not, he told the press, “shade his thinking.”²⁶⁷ Both of the permit reviewers left the agency shortly thereafter.²⁶⁸ As Templet would later note, “‘As long as you have permitting in [the] DNR, you’re not going to see permits being denied’”—a conflict the state and the industry very much intended.²⁷⁰

All the more remarkable then that from a collateral quarter, the Louisiana Geological Survey, came a measure of balance for DNR permitting. John Johnston was an oilman from Texas with a maverick personality and hands-on knowledge about drilling economics and technology, which the DNR’s Coastal Management Division sadly

263. *Id.*

264. *Dredging Permits Approval Draws Fire*, HOUMA COURIER, May 3, 1981, at 1 (on file with author).

265. *Id.*; Miles Trapolin, *Permit Denials Highlight Agency’s Coastal Battle*, DAILY COURIER, May 4, 1981, at 1.

266. *Dredging Permits Approval Draws Fire*, *supra* note 264; *see also* Trapolin, *supra* note 265.

267. *Dredging Permits Approval Draws Fire*, *supra* note 264.

268. The permit reviewers, William Burke and Jim Chambers, transferred from the DNR to the Louisiana Geological Survey, and Chambers subsequently to the EPA. Telephone Interview with Mrs. William Burke (Dec. 4, 2014); E-mail from Jim Titus, Project Manager, EPA, to author (Jan. 28, 2015, 15:36 CST) (on file with author).

269. Jen DeGregorio, *Oil and Gas Development Permits Overwhelmingly Approved by Louisiana*, TIMES-PICAYUNE (May 30, 2010, 6:03 AM), http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/05/oil_and_gas_company_developmen.html (quoting Paul Templet, former Secretary, La. Dep’t of Env’tl. Quality). Accordingly, DNR coastal personnel are quick to disavow environmental leanings. *See* Telephone Interview by Endre Szalay and Tom Sharp with Paul Templet, *supra* note 245 (stating that a staff scientist informed student researchers that “we’re not a bunch of tree huggers, you know”).

270. Templet continued: “When you’ve got those two missions conflicting and somebody’s got to choose which one we’re going to follow, well, guess where the money is. The money is in the development of oil and gas not in the protection of it, and the state wants the revenues.” Telephone Interview by Endre Szalay and Tom Sharp with Paul Templet, *supra* note 245. Or as oil historian Theriot said more gently: “The men and women who worked for the state’s coastal program became both custodians and promoters of Louisiana’s coastal wetland activities.” THERIOT, *supra* note 37, at 127.

lacked.²⁷¹ In 1984, he was detailed from the survey to review DNR permit applications,²⁷² which at the time were still proposing massive canals, up to a mile long and 75 yards wide.²⁷³ He launched a geological review process for each permit, relocating start and end points to shorten the path and requiring directional drilling from existing locations where feasible, rather than dredging a new path over to drill straight down.²⁷⁴ Johnston savors a moment when Exxon, flanked by its attorneys, brought in a scale model to justify a new channel a football field across.²⁷⁵ By midafternoon, they were joined by a company field man visiting the DNR for a different meeting and looking for a ride back to the plant. Curious about the model, the field worker pointed out a boat occupying half the canal slip and asked what it was. “The crew [sleeping] quarters [barge],” he was told.²⁷⁶ “Hell,” he replied, “we haven’t used those out there for the last ten years.”²⁷⁷ “That decision,” said Johnston, “became an easy one.”²⁷⁸

The industry resisted geological review for some time—the conversations described as “full and frank”—but Johnston made his recommendations stick.²⁷⁹ For one thing, he knew the business, and for another, he belonged to an agency with a less political culture. And for yet another reason, the DNR needed him. Some indication of the degree of latitude he enjoyed is reflected in the reaction of Governor Edwards to news of the new review process. Campaigning for reelection Edwards declared:

“I know of a specific situation where a well is not now being drilled because the Coastal Zone Commission is arbitrarily holding up on granting the last checkoff, and they are doing that on the theory that they want to look at the geology, which they have no right to ask for and wouldn't

271. Interview with John Johnston, Assistant Dir., La. Geological Survey, in Baton Rouge, La. (Aug. 2014).

272. *Id.*

273. Houck, *supra* note 77, at 30.

274. Interview with John Johnston, *supra* note 271. Johnston was backed in this initiative by section 719(b) of title 43 of the Louisiana Administrative Code, which provided:

To the maximum extent practicable, the number of mineral exploration and production sit as in wetland areas requiring floatation access shall be held to the minimum number, consistent with good recovery and conservation practices and the need for energy development, by directional drilling, multiple use of existing access canals and other practical techniques.

He was making what was written actually happen.

275. Interview with John Johnston, *supra* note 271.

276. *Id.*

277. *Id.*

278. *Id.*

279. *Id.*

understand if they saw. If I were governor I would get in and make them remove that kind of an arbitrary and unrealistic requirement.”²⁸⁰

It seems obvious that this complaint came from an oil and gas company. Yet, following the election, the process continued, and industry learned to live with it; in many instances it saved them money. The size of the canals fell by more than one-third.²⁸¹ Some time later, Johnston recalls a DNR official introducing him to a symposium as a “man who saved more [of the Louisiana] wetlands than anyone I know,” of which he is obviously proud.²⁸² On the other hand, that same introduction is also an admission of what was *destroying* more of the Louisiana coast than anything else: oil and gas industry canals, which continued apace, reduced in size but each day adding to the debacle.²⁸³

From the view of environmental protection, which was the rationale for the CZMA in the first place (no new law was needed to promote development), what evolved depends largely on whether one enjoys the donut or laments the hole. The number of occasions in which “public interests” or other reasons have led to the denial of a coastal use permit, anywhere in the five million acres of marsh, sand ridges, and cypress forest, approaches zero. In 2010, a quarter-century after the program began, a *Times-Picayune* study found that over the previous five-year period, 4,500 coastal permits had been issued.²⁸⁴ Again, while reduced in scale, not one was denied.²⁸⁵ On this basic question, little had changed.

So begins a history of slippage. As discussed below, even within the confines of state law, the DNR had the authority, and every reason, to

280. *Governor’s Quiz*, TIMES-PICAYUNE/STATES ITEM, Oct. 12, 1983, § 1, at 14 (quoting Governor Edwards, Governor of Louisiana).

281. Telephone Interview with Karl Morgan, Adm’r, Permits & Mitigation Div., Office of Coastal Mgmt., La. Dep’t of Natural Res. (Nov. 19, 2014).

282. Interview with John Johnston, *supra* note 271.

283. An independent review of dredging permits issued to 9 major oil companies between 1980 and 2009, extending well after the geological review process was in place, showed significant volumes of material removed:

Oil & Gas Co.	Chevron	Swift Energy	Exxon Mobil	Conoco Philips	Hunt Oil	BP	Shell	Stone Energy	Texaco
Coastal Use Permits	205	606	169	197	40	23	93	168	120
Cubic Yards Dredged	2,707,767	2,700,796	2,091,584	3,309,129	930,781	234,201	1,279,204	1,720,005	767,683

Aaron Viles, *Role of the Oil & Gas Industry in Mississippi River Delta Wetland Destruction and Responsibility for Recovery*, GULF RESTORATION NETWORK 2 (2009), http://www.healthygulf.org/sites/healthygulf.org/files/1009memo-oil_and_gas_accountability.pdf. Many more companies were permitted as well, of course, and their impacts were accumulative, but it suffices to say that the destruction continued.

284. DeGregorio, *supra* note 269.

285. *Id.*

provide special protections at least for those coastal areas of highest value. Further, even at the outset of the program, there were real-world opportunities to avoid dredging new canals at all and to restore the old ones before erosion mooted the question. None of these things happened. Instead, the game played out on the illusion that these harms could be mitigated by the creation of new wetlands, eating our cake and having it too. This did not happen either. As Gagliano told the *Wall Street Journal* in 1984, oil development could be compatible with coastal wetlands, but for “the attitude of many companies that ‘you take, take, take and give nothing.’”²⁸⁶ Which is what happened.

A. *Air Cushioned Vehicles*

[T]his hoverbarge could do so much for this state From land restoration to powering, pipelines[,] etc. . . . The state will have to eat thousands of abandon[ed] wells because they cannot dredge to get back to them to plug.

—Wayne Landry, United World Energy Corp., 2014²⁸⁷

Back in the first heyday of coastal oil development, dredging appeared to be the only way to access drilling sites in the wetlands. Board roads washed out, and log mats tilted—both were expensive and neither lasted.²⁸⁸ Marsh buggies left ruts of their own, and foundered. Following World War II, however—and most of the damage has come since that time—an entirely new technology came on line: air cushion vehicles (ACVs) that rode over wetlands and water with relative ease. The first hovercraft “flew” at England’s Farnborough Airshow in 1959, and a few years later, ACV ferries were carrying passengers and cargo across the English Channel.²⁸⁹ In the following years, they became workhorses in diverse environments, some far more harsh than South Louisiana. They carried big loads. They left little harm in their wake. The promise was there.

The industry saw it. The American Petroleum Institute published a paper in 1970 entitled “Air-Cushion Vehicles in Support of the Oil Industry,” concluding that “[t]he past year [1969-1970] has seen significant increase in [the] use of ACVs for oil-industry applications.”²⁹⁰

286. See Getschow & Petzinger, *supra* note 81 (quoting Sherwood Gagliano, former Geology Professor, LSU).

287. E-Mail from Wayne Landry, President & CEO, United World Energy Corp., to author (Oct. 2, 2014, 12:22 CST) (on file with author).

288. THERIOT, *supra* note 37, at 18-20.

289. ROBIN PAINE & ROGER SYMS, ON A CUSHION OF AIR 113 (Ian Large ed., 2012).

290. D.J. Iddins, *Air-Cushion Vehicles in Support of the Oil Industry*, DRILLING & PRODUCTION PRAC., Jan. 1970, at 233.

From the mid-1970s to the early 1980s, hoverbarges were supporting oil and gas operations in Abu Dhabi, Holland, Alaska, and Canada.²⁹¹ Aleyska, an oil industry consortium, constructed two hovercraft to ford northern rivers.²⁹² A joint venture between Standard Oil of Ohio (Sohio) and Shell proved ACV capacity to transport heavy equipment over the Alaskan tundra, alternately muck and ice.²⁹³ In test runs, the craft passed over bird eggs without cracking the shells and over a small shorebird (the phalarope) without injuring it.²⁹⁴ These results were published in the Proceedings for the Seventh Annual Offshore Technology Conference, concluding that ACVs could dramatically reduce logistical demands, impacts, and costs.²⁹⁵ Both the United Kingdom and Russia were testing them for oil drilling as well.²⁹⁶ Sohio was within weeks of a bid for construction when it hit a dry hole²⁹⁷—but the momentum was building.

All this was known in Louisiana as well. In 1980, Phoenix Hovercraft Corporation was formed in Houston to construct four overmarsh drilling barges for operation in wetlands and inland waters, and it filed for a patent the same year.²⁹⁸ It was reported to be securing machinery to build the vessels,²⁹⁹ but then went off radar in a widespread industry recession. Meanwhile, in nearby New Orleans East, Textron Marine Systems and its shipbuilding arm, Bell Halter Incorporated, were already building ACVs for the United States Department of Defense and expressed interest in adapting them for oil and gas access as well.³⁰⁰ A local manufacturer, a technology already proven in wetland environments, the stars seemed to be lining up.

291. Dan Turner, *The Use of Air Cushion Technology & Amphibious Equipment for Moving Small to Large Loads*, HOVERDRIL INC. 5 (Nov. 12, 2003) (on file with author); Donald J. Norton, *Voyageur Operations in Canada and North America*, HOVERING CRAFT & HYDROFOIL, May 1975, at 32, 32; see also P.J. Mantle, *Background to Air Cushion Vehicles*, HOVERING CRAFT & HYDROFOIL, July 1975, at 5, 10; Bob C. Thomas, *A Proposal for the Use of Air Cushion Vehicles in Alaska*, HOVERING CRAFT & HYDROFOIL, Feb. 1979, at 4, 14.

292. Turner, *supra* note 291, at 5.

293. Bob Williams, *Chances Good for Longer Arctic Drilling Season*, OIL & GAS J., Jan. 1982, at 54, 54-55.

294. SIKORA, *supra* note 66, at 95.

295. W.B. Stocking & J.J. Edwards, *The JEFF(A) Artic Logistics Demonstration Program*, 2 SEVENTEENTH ANN. OFFSHORE TECH. CONF. 409, 414 (1985).

296. SIKORA, *supra* note 66, at 38.

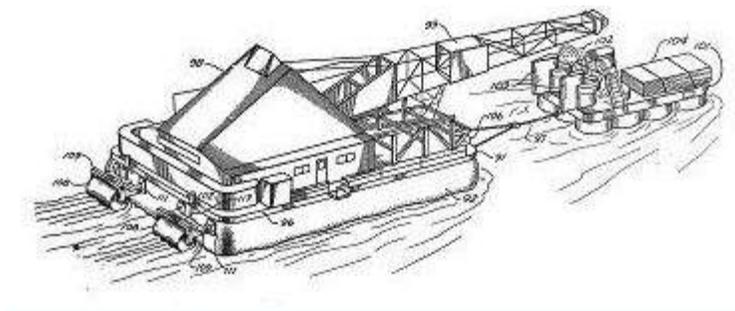
297. Telephone Interview by Sean Skinner, Student, Tulane Univ. Law Sch., with David Dickins, Founder DF Dickins Assocs., LLC (July 7, 2014).

298. U.S. Patent No. 268,918 (filed Oct. 16, 1980).

299. See Mar. Activity Report Inc., *Submersible Drilling Barge 'The Mr. Ray' Christened at McDermott Yard*, MAR. REP./ENGINEERING NEWS, Oct. 1981, at 8, available at <http://magazines.marinelink.com/Magazines/maritimeReporter/19811015/flash/?page=1>.

300. John Hall, *Textron Marine Buys Up Bell Halter*, TIMES-PICAYUNE, Mar. 3, 1988, at D-1.

ACV Early Patents for Oil and Gas Production



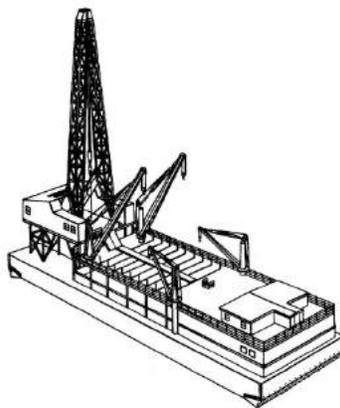
Air Cushion Drilling Vehicle

S 3908784 A

Abstract

An air cushion vehicle particularly useful for a drilling rig for oil wells and the like employed in arctic environments having open water, muskeg, ice, snow, and tundra is described. The vehicle includes a watertight compartmented chassis or platform about which is provided a flexible skirt for cooperation with a surface for minimizing air leakage therebetween. Global Marine, Inc., Los Angeles, Cal. (1975)

United States Patent [19]		[11]	4,416,210
Lacy, Jr. et al.		[45]	Nov. 22, 1983
[54]	DRILL BARGE TRANSPORT BY SURFACE EFFECT VEHICLES	3,662,853	5/1972 Love 180/121
		3,693,729	9/1972 Blurton et al. 114/264
		3,786,893	1/1974 Joyce et al. 180/121 X
[76]	Inventors: Ray S. Lacy, Jr.; Thomas P. Johnson, both of P.O. Box 205, Orange, Tex. 77630	3,840,089	10/1974 Allison 180/116
		4,279,603	7/1981 Harcourt et al. 440/90
[21]	Appl. No.: 167,722	FOREIGN PATENT DOCUMENTS	
[22]	Filed: Jul. 11, 1980	1207960	10/1970 United Kingdom 180/128



Phoenix Hovercraft Corp., Houston, Texas (1983)

ACVs in Transport

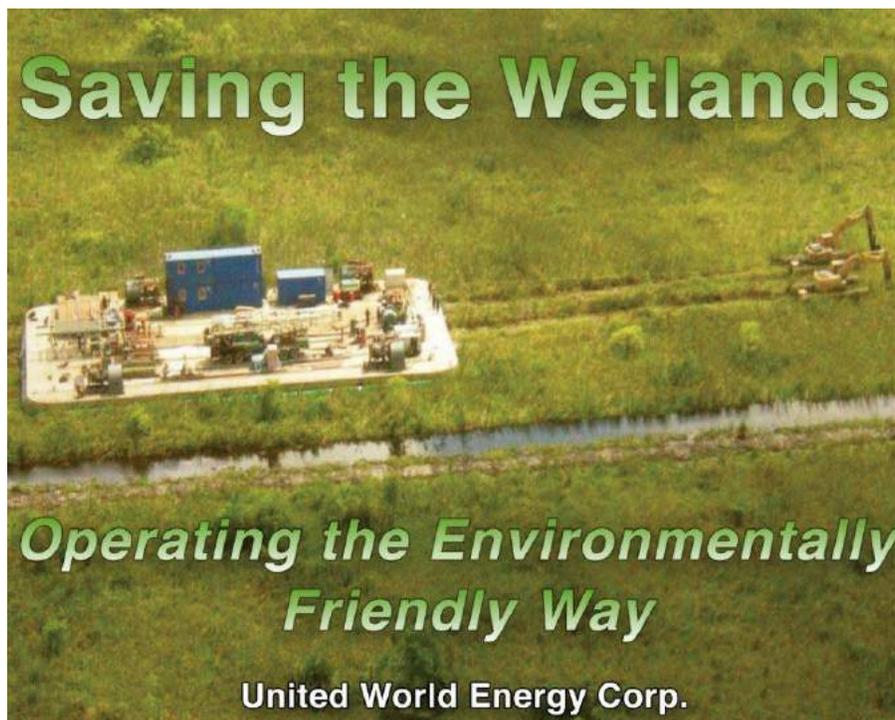


Pipeline transport, Bechtel Corp., designed by Hovertrans Solutions,
Abu Dhabi (1976)



Military transport, Textron Corp., New Orleans, La. (1983)

ACVs in Field Operations



ACV production platform in transit, United World Energy Corp., Suriname (2007)



ACV production platform in operation, United World Energy Corp., Suriname (2007)

At the same time, overmarsh vehicles received an unexpected boost from the Louisiana science community as well. Dr. Walter Sikora and his wife Jane, also a biologist, were recruited by LSU's Center for Wetlands Resources to work on coastal issues. Their investigation of the impacts of clamshell dredging led to major (and highly resisted) changes in state policy.³⁰¹ This research led naturally to examining the dredging of oil and gas canals as well, the damaging impacts of which prompted an inquiry into alternative means of access. Their report on ACVs was published in 1988, 50 single-spaced pages of text, with another 50 of appendices and references—it was the definitive work in the field.³⁰² It began with an appeal to “corporate innovation,” explaining that “[a]lthough seemingly a radical idea at first glance, the change over to the use of air cushion vehicles is no more radical than the change over to floating drilling rigs from stationary platforms . . . in the 1920’s.”³⁰³ A seemingly reasonable appeal.

The report generated momentum. It was circulated to all relevant Louisiana agencies: the legislature, industry leaders, and the Louisiana delegation. The state itself ordered 500 copies for distribution.³⁰⁴ Sikora also circulated videos of ACVs in action—a total cost with mailing, \$11.05.³⁰⁵ Both John Johnston and Jim Rives, who ran the coastal regulatory program at the time, supported the technology and went to several meetings of the industry itself, promoting its testing and adoption.³⁰⁶ (Per Johnston: “I came on so strong I was called ‘the air cushion’ guy”).³⁰⁷ They and Louisiana Senator Ben Bagert arranged a hearing before the Senate Natural Resources Committee in Baton Rouge.³⁰⁸ Which is where the wheels came off.

It is often said that the best way to introduce students to the workings of democracy is to have them attend a session of their lawmakers in action. In Louisiana, that might be the last thing you would want them to do. Legislators roll in like tardy schoolboys, turn their

301. See Houck, *supra* note 248, at 17-21.

302. SIKORA, *supra* note 66.

303. *Id.* at 8.

304. E-Mail from Walter B. Sikora, Retired Professor of Coastal Ecology, LSU, to author (Aug. 19, 2014, 02:36 CST) (on file with author).

305. WALTER B. SIKORA, VIDEO TAPE OF AIR CUSHION VEHICLES: A COMPANION TO: “AIR CUSHION VEHICLES FOR THE TRANSPORT OF DRILLING RIGS, SUPPLIES, AND OIL FIELD EXPLORATION OPERATIONS IN THE COASTAL MARSHES OF LOUISIANA” 1 (1989) (attachment to the report).

306. E-Mail from John E. Johnston III, Vice Chairman, La. Bd. of Prof’l Geoscientists, to author (Aug. 20, 2014, 13:41 CST) (on file with author).

307. Interview with John Johnston, *supra* note 271.

308. E-Mail from John E. Johnston III to author, *supra* note 306.

backs on witnesses, rise and leave in the middle of testimony, talk to each other in stage whispers, tweet, compare golf scores, check the latest on LSU athletics, and consult privately with lobbyists on how to vote. Turner described attending a hearing early in his career and looking forward to a “good discussion.”³⁰⁹ The committee’s vice-chairman arrived in a “short-sleeved and brightly colored shirt, open to his navel, and graced with a 6 inch medallion” that “swung around like a gong . . . knocking against the desk top.”³¹⁰ The session was about to open when another member arrived, at which point his colleagues burst into a rendition of “Happy Birthday.” It was a party. Turner’s “good discussion” did not take place.³¹¹ Years later, opening the ACV hearing, the chairman feigned surprise at the topic before them, exclaiming, “Hovercraft? What is that, nothing but an airboat on an inner tube? We don’t need it!”³¹² Laughter in the room. The hearing was effectively over. But not quite.

Textron Marine Systems, the first witness, soldiered on. As evidenced from an available PowerPoint presentation, the company was straightforward and affirmative, concluding that ACVs were “[a]n excellent alternative for transportation in wetlands”; “[c]an be used as a drilling platform”; “[t]echnology is mature and available,” the company was “[w]illing to work with oil companies to examine this subject,” the “[s]olution to the problem is available in Louisiana,” and “[ACVs c]ould be utilized by other states.”³¹³ The committee appeared unimpressed, indeed, uninterested. There were no questions. Sikora testified in his report as well about the harm from dredging and how ACV technology could save both money and the marsh.³¹⁴ Again, no questions.

Which would have ended the matter but for Senator Bagert, whose ACV bill had prompted the hearing. Bagert was a force to be reckoned with, a fiscal conservative with a bent for environmental protection, a

309. E-Mail from R. Eugene Turner, Professor, Dep’t of Oceanography & Coastal Studies, LSU, to author (Aug. 11, 2014, 17:14 CST) (on file with author). The description of the opening of the hearing that follows is taken from this source.

310. *Id.*

311. *Id.*

312. E-mail from Walter B. Sikora, Museum Assoc., Ga. Museum of Natural History, to author (Aug. 12, 2014, 01:52 CST) (on file with author).

313. Textron Marine Sys., *Louisiana State Senate Natural Resources Committee Testimony of Textron Marine Systems*, TEXTRON, INC. (1989) (slideshow outline provided via E-mail from R. Eugene Turner, Professor, Dep’t of Oceanography & Coastal Studies, LSU, to author (Aug. 11, 2014, 15:58 CST) (on file with author)).

314. SIKORA, *supra* note 66, at 7.

populist, and a fighter.³¹⁵ He had won boxing tournaments while in college and worked summers as a longshoreman; he also played piano and went on to write law texts. He was not about to let his bill die. In the end, the committee enacted his proposal, but tacked on industry-sponsored amendments that reduced it to a directive that the DNR solicit bids from industry to test the technology and then conduct a demonstration project—all “at no cost to the state.”³¹⁶ As the committee well knew, the DNR at the time was directed by B. Jim Porter, who was oil and gas in everything but name and would go on to run its largest lobby in Louisiana.³¹⁷ There is no record that the agency ever solicited bids, much less conducted a demonstration project. Textron Marine Systems conducted at least one demonstration at its New Orleans East facility,³¹⁸ but to little avail; it eventually abandoned the effort and returned to its armed services clients. The opportunity died.

One additional hurdle the DNR faced was its own reading of the guideline requirement for alternatives, such as ACVs, which seemed to exclude technology in use elsewhere, although not in Louisiana, in effect freezing a highly destructive status quo.³¹⁹ In contrast, the federal EPA was interpreting its similar CWA “best available technology” standards to include measures in use even in other countries and even those still on the drawing board.³²⁰ A case could be made that the Louisiana Constitution itself, as interpreted by the Louisiana Supreme Court, imposed a duty to evaluate harm-avoiding technologies like ACVs.³²¹ A duty never exercised.³²²

315. Interview with Ben Bagert, Attorney, Bagert Law Firm, in New Orleans, La. (Sept. 14, 2014).

316. LA. REV. STAT. ANN. § 49:214.27(E)(2) (2014).

317. *Louisiana Secretary of Natural Resources*, BALLOTPEdia, http://ballotpedia.org/Louisiana_Secretary_of_Natural_Resources#Appointments (last visited Jan. 7, 2015); *Panelist Bio: Jim Porter*, *supra* note 193; *Membership Directory*, LA. OIL & GAS ASSOC., <http://loga.la/loga/membership-directory/> (last visited Jan. 7, 2015) (consisting of more than 700 member organizations today).

318. Interview with Ronald J. Ventola, Former Chief of the Permitting Branch, Operations Div., New Orleans Dist., U.S. Army Corps of Eng'rs, in New Orleans, La. (Sept. 15, 2014).

319. See discussion Part VI.

320. See *Am. Frozen Food Inst. v. Train*, 539 F.2d 107, 132 (D.C. Cir. 1976); *Tex. Oil & Gas Ass'n v. EPA*, 161 F.3d 923, 936 (5th Cir. 1998).

321. See *Save Ourselves, Inc. v. La. Envtl. Control Comm'n*, 452 So. 2d 1152, 1160 (La. 1984) (requiring consideration of alternatives pursuant to article IX, section 1, of the state constitution).

322. Over this same period of time, federal wetland protection regulation 40 C.F.R. § 230.10(a), too, forbade wetland dredging where “practical” alternatives were available. ACVs, however, were never seriously considered. Interview with Ronald J. Ventola, *supra* note 318. Federal regulators, sensing no state or industry enthusiasm, dropped the same ball.

The root problem though, as both Rives and Johnston noted, was not law but industry resistance.³²³ Industry had little incentive to explore ACVs. Dredge permits were easy to get, the work was relatively cheap, there were few mitigating requirements—why would any sane company switch? The drillers, further, were joined at the hip to the dredging companies, another constituency feeding into the oil and gas lobby and the legislature in Baton Rouge. Some indication of how solidly the cards were stacked is that no oil or dredging witnesses even bothered to testify at the hearing on Bagert's bill. They weren't needed. At an industry convention later, a LOGA spokesman told Johnston that ACVs were "going nowhere,"³²⁴ and when he said things like that, they didn't.

Meanwhile, ACV technology has gone forward in other countries and environments with far less at stake than the Louisiana coastal zone: Suriname, the high Arctic, the Caspian Sea.³²⁵ Most recently, an independent Louisiana oil and gas company, United World Energy, has come forward with a proposal to use ACVs for work-overs and well closure, part of the proceeds of which would be used to school LSU engineering students in the technology.³²⁶ It would be a three-way win for the industry, the wetlands, and state education. This proposal, too, died.

Louisiana and its favored industry have had a problem with dredged canals for 80 years and a promising alternative for the past 50 of them. They have preferred the problem.

B. Backfilling

If you restore the hydrology, you can get marsh back.

—Dr. Eugene Turner, 2014³²⁷

In the fall of 2013, a swarm of lobbyists crowded the capitol building for a hearing on the New Orleans levee board lawsuit. It was a safe venue for the industry. The Chairman of the Louisiana Joint Transportation, Highways & Public Works Committee was Robert

323. Interview with Jim Rives, Former Adm'r, Coastal Mgmt. Div., La. Dep't of Natural Res., in New Orleans, La. (Aug. 30, 2014); Interview with John Johnston, *supra* note 271.

324. Interview with John Johnston, *supra* note 271.

325. *New Rig Design*, WORLD OIL, Dec. 2011, at 31, 31; *Projects: Air Cushion Vehicles (Hovercraft)*, DF DICKINS ASSOCS., LLC, <http://www.dfdickins.com/hovercraft.html> (last visited Jan. 7, 2015); *Eastproject Maturing Caspian Pipelay, Drilling/Construction Concepts*, OFFSHORE (Nov. 1, 2011), <http://www.offshore-mag.com/articles/print/volume-71/issue-11/italy-supplement/eastproject-maturing-caspian-pipelay-drilling-construction-concepts.html>.

326. Telephone Interview by Sean Skinner, Student, Tulane Univ. Law Sch., with Wayne Landry, President & CEO, United World Energy Corp. (July 9, 2014).

327. Amy Wold, *Proposals To Fill in Canals Not Gaining Much Traction*, ADVOCATE (Jan. 21, 2014), <http://theadvocate.com/news/7973623-123/proposals-to-fill-in-la>. In practice, getting industry to agree to one acre, much less to five, has been a struggle.

Adley,³²⁸ owner of Pelican Oil Company. He was as offended as anyone in the oil and gas business by the case and by its message: that the industry had caused major harm and that it could be mitigated by backfilling the canals with the very materials piled onto their banks. Adley opened by pronouncing his verdict on backfilling: it wouldn't work; the spoil would disappear "like sugar dissolves into water," citing a conversation with an unnamed member of the DNR's Coastal Management Division.³²⁹ In the back of the room, LOGA President Don Briggs chuckled with a colleague in agreement.³³⁰ The fact that research and demonstration projects over the previous 30 years had proven precisely the opposite—that backfilling had significant potential to restore the coastal marshes and that it would cost far less per acre than the state's own restoration proposals—was as irrelevant as weather on the moon. Once again, the company was closing ranks, and the coast would be the loser.

If the first rule of medicine is to do no harm, the second is to sew up whatever intrusion is necessary. With its dismissal of ACVs, Louisiana missed the first rule completely. It still had a chance to deliver on part two, however, and in fact at one point was leaning in this direction. According to Jason P. Theriot, describing the history of the industry, backfilling began as a recommendation from the state fish and game agency and became part of a compromise with Tennessee Gas during the gas boom following World War II.³³¹ Slow to broaden to include oil and gas access canals as well, the issue was nudged forward by permitting programs under CWA section 404 and the CZMA. To all appearances, backfilling in Louisiana became law. Section 705 of the Coastal Use Guidelines, even after their previously described industry scrubbing, required, "Areas dredged for linear facilities *shall be backfilled* or otherwise restored to the pre-existing conditions upon cessation of the use for navigation purposes to the maximum extent practicable."³³² Here, the MEP language did not eviscerate the requirement. There was no apparent reason, environmentally, economically, or socially, *not* to do it. Except for a reason not stated in the guidelines: the industry and its land and royalty owners did not want to.

328. See Kelly Connelly, *Lawmakers Poke Holes in Flood Protection Board Lawsuit*, WRKF 89.3 (Aug. 15, 2013, 5:00 AM), <http://wrkf.org/post/lawmakers-poke-holes-flood-protection-board-lawsuit-0>; Silverstein, *supra* note 206.

329. E-mail from Jonathan Henderson, Coastal Resiliency Organizer, Gulf Restoration Network, to author (Jan. 13, 2014, 17:54 CST) (on file with author).

330. *Id.*

331. THERIOT, *supra* note 37, at 56-58.

332. LA. ADMIN. CODE tit. 43, § 705(N) (2014) (emphasis added).

Over time, the backfilling requirement of section 705 gathered more scientific support than any other provision of the guidelines. The most detailed studies were those conducted by a group of LSU coastal researchers, including Drs. Sikora and Turner. Their initial study in 1985 looked at all known examples of backfilling from 1979 to 1984 and concluded that, where properly done, the technique restored natural hydrology and began the process of in-fill of the open canals.³³³ In 1987, Neill and Turner did a follow-up study of some 30 sites, confirming further progress.³³⁴ In 1994 and 2004, the 10- and 20-year marks, more follow-up studies showed more progress still.³³⁵ In 2008, analysis by Turner showed wetland recovery in 65% of the spoil areas and 25% of the formerly open canals.³³⁶ The wounds healed slowly, but once backfilled, they healed by natural processes, steadily over time.

These researchers were not alone. From 1979 to 1980, the Louisiana Offshore Oil Port excavated a 5-mile pipeline canal, which was then backfilled.³³⁷ Field studies done in 1985, a relatively short time later, showed a third of the spoil areas to be between 23% to 75% covered with renewed marsh.³³⁸ Although the backfill had not yet fully restored original conditions, “backfilling canals resulted in shallow water areas with higher habitat value for benthos, fish, and waterfowl than unfilled canals” and were comparable to surrounding wetlands.³³⁹ In 2010, a backfilling test on old oil and gas access canals in the Jean Lafitte National Park’s Barataria Unit compared success rates in two sections, one restored simply by pushing in the banks and the other by adding soil from other sources to hasten the process.³⁴⁰ Both demonstrated progress, and somewhat unexpectedly, the section with the soil enhancement showed no significant difference in the rate or nature of

333. Turner et al., *supra* note 86, at 497-504.

334. Christopher Neill & R. Eugene Turner, *Backfilling Canals To Mitigate Wetland Dredging in Louisiana Coastal Marshes*, 11 ENVTL. MGMT. 823, 825-35 (1987).

335. See R. Eugene Turner, James M. Lee & Christopher Neill, *Backfilling Canals To Restore Wetlands: Empirical Results in Coastal Louisiana*, 3 WETLANDS ECOLOGY & MGMT. 63, 77 (1994); Joseph J. Baustian & R. Eugene Turner, *Restoration Success of Backfilling Canals in Coastal Louisiana Marshes*, 14 RESTORATION ECOLOGY 636, 638-40 (2006).

336. Joseph J. Baustian, R. Eugene Turner, Nancy F. Walters & David P. Muth, *Restoration of Dredged Canals in Wetlands: A Comparison of Methods*, 17 WETLANDS ECOLOGY & MGMT. 445, 449 (2008).

337. THERIOT, *supra* note 37, at 122-23.

338. Robert K. Abernathy & James G. Gosselink, *Environmental Conditions of a Backfilled Pipeline Canal Four Years After Construction*, 8 WETLANDS 109, 118-19 (1988) (describing studies of the environmental conditions along 56 kilometers of a backfilled pipeline canal in 1985, four years after construction was completed).

339. Neill & Turner, *supra* note 334, at 823.

340. Baustian, Turner, Walters & Muth, *supra* note 336, at 446-47.

the recovery.³⁴¹ The existing spoils, even long consolidated in spoil banks, did the trick.

The same studies confirmed another phenomenon earlier described: the lateral damage from dredged canals.³⁴² The success of backfilling was no more confined to what happened inside the canal than was the impact of the canals in the first place. Long before the canal itself recovered, simply leveling the spoil banks was beginning to restore the neighborhood.

341. *Id.* at 453.

342. *See* Turner et al., *supra* note 86.

Backfilling

Jean Lafitte National Park, Jefferson Parish (2001-2005)³⁴³

Before backfilling



Recovery after 2 years



343. R. Eugene Turner, J. Baustian, E.M. Swenson & J.M. Lee, *Backfilling Canals To Restore the Coast*, DEPARTMENT OF OCEANOGRAPHY AND COASTAL SCIENCES, LSU (June 3, 2010) (on file with author).

Recovery after 4 years



Yet it did not happen. Like the ACVs, it was abandoned, and the reason is hauntingly similar. Per a former director of Jean Lafitte Park, where a successful trial had taken place, backfilling failed “because of opposition of landowners who want[ed] to keep [their] canals.”³⁴⁴ The landowner opposition seems counterintuitive—why would they want to destroy their own property?—until one realizes that these owners for the most part were not in it for the land but for the royalties. (Sikora, whose proposal to test ACVs in wetlands adjacent to New Orleans failed due to landowner opposition, referred to them as the “so-called landowners.”)³⁴⁵ Some owners apparently believed that the spoil banks would protect them from hurricanes, and yet others saw profit from charging fees to fishermen who used the canals and to deer and rabbit hunters on the spoil banks.³⁴⁶ In the background, there was always the possibility that oil companies would want to reaccess the wells for more production.³⁴⁷ There was small reason for anyone to care.

344. Wold, *supra* note 327 (quoting David Muth, Dir., Nat'l Wildlife Federation's Louisiana Coastal Campaign).

345. Walter Sikora, Comment to *Deja Voodoo: Is Marsh Management Coming Back to Life? (Part Trois)*, LACOASTPOST (June 2, 2009, 2:14 AM), <http://lacoastpost.com/blog/?p=8771>.

346. Wold, *supra* note 327.

347. Telephone Interview with Karl Morgan, *supra* note 281.

Stuck between two mandates, one from the industry and the other from section 705 requiring restoration “to the pre-existing conditions,”³⁴⁸ the DNR’s Coastal Management Division made one attempt to implement backfilling before retreating here as well. Prompted by the Sikora and Turner study in 1985, program administrator Joel Lindsey forwarded it up the chain to the DNR Secretary with a memorandum summarizing its conclusions:³⁴⁹ “even partial backfilling” of a canal was beneficial, creating a shallow lake occupied by marsh-typical organisms and reducing “waterlogging” in the adjacent wetlands, which allowed “marsh plant revegetation to occur.”³⁵⁰ The field work was characterized as “done in a professional manner,” “outstanding,” and “excellent.”³⁵¹ Criticisms received on the report were minor and would be addressed in the final version.

As it turned out, however, the merits of the criticisms mattered less than who was making them. Continental Land and Fur, a major royalty owner, opposed,³⁵² as did the state DWF, which concluded that “several recommendations stated in the report cannot be justified” and requested that “the report not be published in a final form until our concerns are addressed.”³⁵³

Meanwhile, industry contested the applicability of section 705 entirely. Backfilling was only required “upon cessation of use for navigation purposes,” which failed here twice over.³⁵⁴ First, a company might at some time want to go back and work over a rig or a drill in a different direction.³⁵⁵ And second, dear to the heart of the DWF, the canals in the meantime were “navigated” regularly by Louisiana fishermen.³⁵⁶ As a practical matter of course, under either rationale, section 705 would never apply—the argument repealed the law. As counterintuitive as these contentions may have been, they were sufficient to stymie backfilling within the DNR’s Coastal Management Division. The DNR announced a “temporary moratorium” on the requirement,

348. LA. ADMIN. CODE tit. 43, § 705(N) (2014).

349. Wold, *supra* note 327.

350. Memorandum from Joel L. Lindsey, Adm’r, Coastal Mgmt. Div., La. Dep’t of Natural Res., to Frank Simoneaux, Sec’y, La. Dep’t of Natural Res. (Dec. 30, 1983) (on file with author).

351. *Id.*

352. Letter from J.B. Miller, President, Cont’l Land & Fur Co., to Joel L. Lindsey, CMS/DNR Admin., DNR (Dec. 15, 1983) (on file with author).

353. Letter from Jesse J. Guidry, Sec’y, La. Dep’t of Wildlife & Fisheries, to Joel Lindsey, Adm’r, Coastal Mgmt. Div., La. Dep’t of Natural Res. (Nov. 29, 1983) (on file with author).

354. LA. ADMIN. CODE tit. 43, § 705(N).

355. Telephone Interview with Karl Morgan, *supra* note 281.

356. *Id.*

which in any event had been only rarely implemented.³⁵⁷ The Turner and Sikora study was sent for review to LSU's Center for Wetlands Resources, openly tied to another dredging industry at the time,³⁵⁸ which found it to be "inconclusive."³⁵⁹ The moratorium was never lifted.³⁶⁰

Enter Senator Bagert again, earlier seen in the ACV controversy, this time writing the Attorney General for his opinion on backfilling.³⁶¹ The task fell to Gary Keyser, Chief of the Land and Natural Resources Section for which the DNR was the principal client. Within two weeks, Bagert had his answer, which turned out to be that of the industry and the DNR, which, by this time, had given up the ghost. Parsing section 705 literally, Keyser noted that backfilling was not triggered until cessation of "navigation purposes," an "open-ended requirement" in his view that could include any navigation at all.³⁶² He noted in support of his conclusion that in the DNR's program, backfilling was "rarely required,"³⁶³ which of course was the reason for Bagert's inquiry in the first place. Keyser did not note that his interpretation nullified the provision. Nor did he consult with the author of the guidelines, Templet, who has subsequently written, "We intended that when the *original* purpose of the dredged canal was discontinued . . . then backfilling should occur."³⁶⁴ One reading the provision in the context of the guidelines as a whole might be inclined to agree.

Bagert, however, was not yet done. He had also filed a bill in the legislature on the question, stating that state permits for canal dredging for mineral purposes "shall require that any wetlands must be restored to their predredging state upon completion of *the well operation*" and "within *ninety days* of completion."³⁶⁵ The first phrase eliminated the

357. *Id.*

358. See Houck, *supra* note 248, at 19-20.

359. Telephone Interview with Joel Lindsey, Former Adm'r, Coastal Mgmt. Div., La. Dep't of Natural Res. (Aug. 2014).

360. *Id.* On a similar track, backfilling also came to the attention of the Corps' section 404 permitting program, when an unusually progressive district engineer proposed to his staff and a coordination group of state and federal agencies that as mitigation for the next major canal permit, the permittee be required to backfill a similar canal instead. To his surprise, the proposal was roundly criticized by both state and federal wildlife agencies for interfering with recreational users. At this point, the then-Colonel recalls, he "deep-sixed the idea," unwilling to "take heat [from industry] for something the agencies would not support." Interview with Maj. Gen. (Ret.) Thomas Sands (Sept. 15, 2014).

361. La. Op. Att'y Gen. 87-0469, 1987 WL 288413 (1987).

362. *Id.*

363. *Id.*

364. E-mail from Paul Templet, Professor of Env'tl. Studies, LSU, to author (Sept. 10, 2014, 18:44 CST) (on file with author).

365. S. 543, 1987 Leg., Reg. Sess. (La. 1987) (emphasis added).

“any navigation at all” loophole, and the second, the argument that oil and gas operations, like the cosmos, never end.³⁶⁶ The witness list in favor of Bagert’s bill included the most knowledgeable coastal scientists on this issue of the day: Drs. Turner, Sikora, and Gagliano, who had first published on the canal issue in 1973.³⁶⁷ A representative of the Louisiana Oyster Dealers and Growers Association also testified in support of Bagert’s bill.³⁶⁸ Sensing a real threat this time, Mid-Continent spoke in opposition, asserting somewhat surprisingly that backfilling might in fact harm areas where it was employed.³⁶⁹ Bagert countered with a proviso to his bill, exempting permits where the applicant made such a showing,³⁷⁰ but of course the “harm” issue was a red-herring. Senator Chabert, loyal friend of the industry, moved that the issue be deferred, which it was.³⁷¹ In effect, forever. Until nearly three decades later, when, to Senator Adley and the industry’s consternation, the New Orleans levee board lawsuit brought it back.³⁷²

Today, the 30 projects surveyed by Turner and his colleagues over the past four decades represent the sum total of all backfilling done in the Louisiana coastal zone.³⁷³ They constitute fewer than 10 restored miles of more than 10,000 miles of canals from the Texas border to Mississippi.³⁷⁴ Which amounts to 0.1%.

Sensible ideas, however, die hard. In 2012, following the success of the Jean Lafitte Park’s demonstration project, the Gulf Restoration Network undertook to estimate the potential for canal restoration in Western Terrebonne Parish and the upper reaches of Barataria Bay Waterway.³⁷⁵ The sites were chosen because they were still relatively intact wetlands, similar in soils and hydrology to Jean Lafitte Park and priority targets for restoration in the state master plan.³⁷⁶ Using geographic information system (GIS) and vegetative survey data, they identified more than 7,000 acres of spoil banks in this one region that

366. See discussion *supra* notes 361-363.

367. May 28, 1987 Hearing Before S. Comm. on Natural Res. (La. 1987).

368. *Id.*

369. *Id.*

370. *Id.*

371. *Id.*

372. Bd. of Comm’rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410, slip op. at 1-3 (E.D. La. Feb. 13, 2015).

373. E-mail from R. Eugene Turner, Professor, Dep’t of Oceanography & Coastal Studies, LSU, to author (Jan. 15, 2014, 10:53 CST) (on file with author).

374. *Id.*

375. Memorandum from Scott Eustis, Coastal Wetland Specialist, Gulf Restoration Network, to Cyn Sarthou, Aaron Viles, Matt Rota, Michelle Erenberg & Dan Favre (2012) (on file with author).

376. *Id.*

could be leveled to reclaim as marsh, about 10 square miles.³⁷⁷ Following up in 2014, a Masters of Environmental Management project by a Duke University student examined backfilling potential coast-wide, and just as important, its projected costs.³⁷⁸ It found over 100,000 acres damaged by canal banks, of which nearly half had the necessary features for success; refinement to the most promising sites reduced the target number to 26,627 acres.³⁷⁹ “[B]ased on the highest cost per acre estimate available,” this acreage could be successfully “backfilled for \$0.87 billion.”³⁸⁰ By comparison, the state’s master plan outlined a suite of techniques (none of them backfilling) to restore an area slightly less than 20,000 acres, at an estimated \$3 billion.³⁸¹ Nearly four times the cost per acre, for techniques less proven than simply pushing in the spoil banks and letting nature do the rest. Which, as we now know, it will.

C. Mitigation

“If I use 1 acre of land over here, I’ll mitigate 5 acres somewhere else.”

—Don Briggs, President, LOGA, 2010³⁸²

It seemed the perfect way out. Avoiding harm from dredging was impossible once ACVs were off the table, and backfilling, even if required, would take time to mend the wounds. Other measures to mitigate the damage became the only thing left, but how hard could they be? Harder than one could imagine.

Early mitigation measures, as discussed earlier, included leaving gaps in the spoil banks and plugging the canal ends with earthen berms. Neither worked well, but there was no requirement to develop better ones. In the absence of a Louisiana coastal program, federal regulators went first, spurred initially by a 1958 law requiring the offset of fish and wildlife impacts from water projects³⁸³ and then by the CWA in 1972. EPA permit guidelines under the CWA required the “minimization” of harm by, among other things, “[h]abitat development and restoration

377. *Id.*

378. Haigler “Dusty” Pate, Quantifying and Prioritizing Opportunities for Canal Backfilling in Louisiana 35 (May 2014) (unpublished M.E.M. project, Duke Univ.) (on file with Nicholas School of the Env’t, Duke Univ.).

379. *Id.* at 26.

380. *Id.*

381. *Id.* at 35.

382. Wold, *supra* note 327. More easily said than agreed to. For a discussion of the industry-led National Wetlands Coalition (NWC), see discussion *infra* notes 458-463 (opposing regulatory programs giving rise to mitigation requirements).

383. Fish and Wildlife Coordination Act, 16 U.S.C. § 662 (2012).

techniques.”³⁸⁴ Enter the notion of actually compensating for the loss. We could have our cake and eat it too. We simply made more cake.

In practice, the notion fared less well. An analysis of Corps wetland permitting between 1982 and 1987 found 226 permits issued in Louisiana authorizing the loss of over 10,000 hectares (22,000 acres);³⁸⁵ replacement mitigation was required in fewer than half of them, offsetting only 8% of the area destroyed.³⁸⁶ The success of even these offsets was not assessed; only 10% of the sites had received a single inspection to see if they worked.³⁸⁷ There were also serious differences in deciding exactly how much harm needed to be mitigated in the first place. One Corps notice described the impact of a pump station as only one acre of forested wetland—a de minimus amount—without considering that the pumps would drain over 9,000 acres of wetlands:³⁸⁸ Was the harm 1 acre or 9,000? The line-up on this question was clear, environmental agencies on one side, the Corps and the development community on the other. And the Corps was the agency issuing the permits.

What broke the impasse was a remarkable memorandum of agreement (MOA) between the EPA and Corps, drawing a new roadmap for wetland protection.³⁸⁹ Two more unlikely partners would be hard to find on the federal landscape, and it was a struggle from the start.³⁹⁰ In 1987, the EPA, weary of the conflict, asked the Conservation Foundation to establish a blue-ribbon panel for recommendations on a way

384. 45 C.F.R. § 230.75 (2014).

385. Jean C. Sifneos et al., *Effects of Section 404 Permitting on Freshwater Wetlands in Louisiana, Alabama, and Mississippi*, 12 WETLANDS 28, 28 (1992).

386. *Id.*

387. *Id.* at 31. The report noted discrepancies among Corps districts as well. *Id.* at 33-34. While the Mobile office accepted recommendations from the National Marine Fisheries Service about half the time, the New Orleans District accepted only about one-third, a discrepancy that Service personnel attributed to differences in the way “wetland benefits are considered.” *Id.* at 34.

388. *Id.* at 34.

389. Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Corps of Engineers Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines (Feb. 6, 1990) [hereinafter MOA]; see also NAT’L ACAD. OF SCIS., COMPENSATING FOR WETLAND LOSSES UNDER THE CLEAN WATER ACT 65-66 (2001).

390. See Houck, *supra* note 241, at 1479-84. During the legislative struggle to enact CWA section 404, dredging interests in the south refused to let permit authority slip away from its allies in the Corps, while environmentalists along the northern tier were loath to leave wetland protections to the largest dredging agency on earth. The result was a compromise: the EPA and the Corps would share the action, which led to running battles between the two for the next 20 years. *Id.*

forward.³⁹¹ Chaired by governors from three coastal states (and both political parties), the ensuing report articulated a new national policy: “[N]o overall net loss of the nation’s remaining wetlands.”³⁹² Within a year of its issue, the EPA and Corps arrived at their remarkable MOA, declaring “no net loss” as a national goal, to be achieved in the first instance by (1) harm avoidance and, if not possible, then (2) by its minimization, and then, and only then, for the harm remaining, (3) by mitigation.³⁹³ Although applicable in theory only to those two federal agencies, together they exercised permit authority over all Louisiana wetlands.³⁹⁴ In effect the federal MOA became Louisiana policy as well.

Unfortunately, it ran directly contrary to every instinct in Louisiana, which was that oil and gas came first, went where it wanted to go, and did what it wanted to do. Little would be, step (1), avoided. As for step (2), minimization, the state’s geological review reduced impacts to a degree, but widespread canaling continued. For this dredging then, with backfilling off the table, the MOA’s step (3), mitigation, far from the approach of last resort, became as a practical matter the first. As the commanding officer of the Corps District in Louisiana, with more section 404 business than the rest of the country combined, stated at the time: “It tells me the price I need to get for a permit.”³⁹⁵

The challenge remaining was to decide what that price would be. In the beginning, it meant the cost of buying acreage to replace the landscape lost.³⁹⁶ While championed by those who saw at least some tangible gain from what was otherwise total destruction, people soon realized that eliminating wetlands and then purchasing others was a losing sum game. Razing one’s house and saving the one next door still left the block one house short. The trick was not only to purchase new acreage but to improve it to the point that the resource lost in the ten

391. CONSERVATION FOUND., PROTECTING AMERICA’S WETLANDS: AN ACTION AGENDA—THE FINAL REPORT OF THE NATIONAL WETLANDS POLICY FORUM, at vii (1988).

392. *Id.* at 3.

393. MOA, *supra* note 389; *see also* Issuance of Nationwide Permits Notice, 67 Fed. Reg. 2020 (Jan. 15, 2002) (discussing public comments on the “no net loss” policy); NAT’L ACAD. OF SCIS., *supra* note 389, at 66.

394. Corps authority in Louisiana is divided between the New Orleans District (south) and the Vicksburg District (north); EPA authority is exercised through Region 6 in Dallas, Texas.

395. Richard Gorski, Colonel, New Orleans Dist., U.S. Army Corps of Eng’rs, Remarks at the National Association of Environmental Law Societies Conference’s Wetland Panel, at Tulane University Law School (Feb. 1990), *cited in* Oliver A. Houck, *More Net Loss of Wetlands: The Army—EPA Memorandum of Agreement on Mitigation Under the § 404 Program*, 20 *Envtl. L. Rep.* (Envtl. Law Inst.) 10,212, 10,215 n.57 (1990).

396. Interview with Ronald J. Ventola, *supra* note 318.

acres taken would be offset by the increases in the new.³⁹⁷ The ideal mitigation site was not a pristine wetland at all, but a degraded one—a failing cow pasture or an impoundment of dying cypress—that could be restored. This was a breakthrough moment. No net loss of wetlands would become, in theory, no net loss of wetland functions and a check on the losing-sum game.³⁹⁸

This approach, too, looked better on paper than in the field. Over the next ten years, Corps data claimed to have mitigated the loss of 9,600 wetland hectares by improvements on some 17,000 other hectares, a gain of 1.78 to one.³⁹⁹ Closer review popped the bubble. In eight studies covering seven states, investigators found that many mitigation projects that the Corps counted on were not initiated at all, and, where begun, only one of eight were completed.⁴⁰⁰ Compliance rates ran as low as 10%.⁴⁰¹ Turning to wetland functions—the purpose of the exercise in the first place—even where fully implemented, only a fifth of the projects achieved the conditions projected by their plans.⁴⁰² Factoring down for these gaps in performance, the study concluded that far from the almost 2:1 ratio claimed, “the section 404 permitting program ha[s] been fostering an 80 percent net *loss* of wetlands.”⁴⁰³ This was not going to be easy after all.

Bad news kept rolling in. In 2001, a National Academy of Sciences report arrived at similar conclusions in scathing terms.⁴⁰⁴ In 2009, a follow-up study of wetland mitigation projects in Florida found less than half meeting (or “clearly trending towards”) their predicted targets, aggravated by the fact that credits were handed out before most even got under way.⁴⁰⁵ Early in 2014, the EPA’s Office of Inspector General went

397. See generally U.S. FISH & WILDLIFE SERV., ESM 102, HABITAT EVALUATION PROCEDURES (HEP) (1980), available at <http://www.fws.gov/policy/ESM102.pdf>.

398. It was *not*, however, a means of securing net *gain* for restoration purposes. Len Bahr, *The Checkered Record of Wetland Mitigation—The Lesson of Downton Abbey*, LACOASTPOST.COM (Jan. 7, 2015), <http://www.lacoastpost.com/blog/?p=47491> (“[Y]ou cannot mitigate your way back to a better coast because mitigation is premised on destruction, so if you’re destroying things and then mitigating you’re never going to get ahead. That doesn’t mean that mitigation is not vital and important but it’s not a restoration strategy.” (emphasis omitted) (quoting Mark Davis, Dir., Tulane Inst. for Water Law & Policy)).

399. R. Eugene Turner, Ann M. Redmond & Joy B. Zedler, *Count It by Acre or Function—Mitigation Adds Up to Net Loss of Wetlands*, NAT’L WETLANDS NEWSL. (Env’tl. L. Inst., Washington, D.C.), Nov.-Dec. 2001, at 5.

400. *Id.*

401. *Id.* at 5-6.

402. *Id.* at 15.

403. *Id.* (emphasis added).

404. NAT’L ACAD. OF SCIS., *supra* note 389, at 3.

405. Kelly Chinniers Reiss et al., *Evaluation of Permit Success in Wetland Mitigation Banking: A Florida Case Study*, 29 WETLANDS 907, 907 (2009).

one step further to conclude that the agency's claims of meeting "no net loss" by means of mitigation were essentially fraudulent because they were based on the (astonishing, at this point in time) "assumption that all wetland mitigation projects will meet performance standards."⁴⁰⁶ Not so easy to do at all.

In the meantime, mitigation under the DNR's Office of Coastal Management, belatedly, was coming online.⁴⁰⁷ Taking the Corps' lead, it was to be calculated on a habitat-improvement basis, but there was no guidance for implementing it. The decisions were left instead to "best professional judgment," which, in practice, left permit writers at the mercy of industry lawyers and the political process.⁴⁰⁸ Who usually won the day. "When you see a low number of permits requiring mitigation," a DNR spokesman explained rather cheerily, "that indicates the work has been done to avoid those impacts."⁴⁰⁹ Partially true. Some impacts were reduced, as seen above, but as a scientist closely allied with the state program commented, "You can't just dredge it up and have no impact."⁴¹⁰ At the state level, mitigation became more an excuse to permit than a path to no net loss.

There was one remaining fly in the ointment, and it was lethal. It began with the simple question raised by the pump station discussed above: When it came to wetland dredging, how much harm needed to be mitigated? To state regulators and the oil and gas industry, the answer seemed obvious: the impact of a canal consisted of its length and width, throw in the spoil banks on either side.⁴¹¹ It was an easy calculation to make and one that completely ignored the harm occurring beyond the

406. Office of Inspector Gen., *EPA Needs To Clarify Its Claim of "No Net Loss" of Wetlands*, EPA 1-2 (Apr. 16, 2014), <http://www.epa.gov/oig/reports/2014/20140416-14-P-0191.pdf> (Report No. 14-P-0191). These conclusions are supported by the scientist who led the National Academy 2001 study saying that "emerging science is proving wrong some long-standing assumptions about restoration." Annie Snider, *EPA Promise of 'No Net Loss' Based on Faulty Assumptions—IG*, E&E NEWS (Apr. 16, 2014), <http://www.eenews.net/greenwire/2014/04/16/stories/1059998007> (subscription required) (quoting Joy Zedler, Professor, Dep't of Botany, Univ. of Wis.). Dr. Joy continued, "There's a big question mark there as to whether or not the kinds of wetlands that we're producing, which are often nutrient-rich or loaded with cattails or other invasive species, are actually functioning to clean water, or whether they are contributing in some way to poor water quality." *Id.*

407. *Office of Coastal Management*, LA. DEP'T OF NATURAL RES., <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=95> (last visited Jan. 20, 2015). The state program was launched in 1995. *Id.*

408. Telephone Interview with Karl Morgan, *supra* note 281. Fixed standards are the environmental regulator's best friend, precisely because they help offset political pressure.

409. DeGregorio, *supra* note 269 (quoting DNR spokesman Patrick Courreges).

410. *Id.* (quoting Denise Reed, a coastal scientist with the University of New Orleans). For the continuing major impact, see *supra* text accompanying note 80.

411. Telephone Interview with Karl Morgan, *supra* note 281.

project site: die-out that could extend hundreds of yards until running into the next canal wall. Coastal Ecology 101. Best estimates put this offsite damage at from 5 to 10 times that of the project.⁴¹² The canal and its spoil banks did not end the harm. They only began it.

For decades, over the protests of scientists and the environmental community, regulators refused to include offsite damage in their mitigation requirements. It was said to be “only temporary”⁴¹³ and “difficult to calculate.”⁴¹⁴ More to the point, it was opposed by an industry whose engineers and attorneys could nitpick whatever calculation was made. The upshot was that, even if everything required for compensation were actually performed (which as we have seen, was rarely the case), and even if it actually worked to replace wetland functions (which was even more rarely the case), Louisiana was giving away nearly six acres of wetlands for every one it even attempted to mitigate.⁴¹⁵ Without including offsite impacts, mitigation was a charade.

At which point Mother Nature took the podium. Hurricanes Katrina and Rita, imminent coastal collapse, and the need for restoration monies all prompted regulators to take more earnest steps toward mitigating coastal dredge and fill. The Corps’ New Orleans District adopted a method for calculating replacement requirements used in the Corps’ Charleston District since 2002.⁴¹⁶ The Charleston Method, as it came to be called, folded in the lateral effects on adjacent wetlands, resulting in more real-world assessments.⁴¹⁷ The footprint of the canal would no longer be measured by length times width but, rather, what it actually did. By the end of the decade, New Orleans personnel had modified the Charleston Method to include factors unique to Louisiana, but the process was in motion.⁴¹⁸

Louisiana rebelled. Prompted by developers of all stripes, members of the Louisiana delegation on both sides of the aisle railed against the Charleston Method, and in July 2014, its leading congressman tacked a provision prohibiting its use in the New Orleans District into a last

412. ESPEY, HUSTON & ASSOCS., INC., *supra* note 87, at v.

413. THERIOT, *supra* note 37, at 173.

414. Telephone Interview with Karl Morgan, *supra* note 281.

415. *See* sources cited *supra* note 87.

416. *Corps of Engineers, New Orleans District Modified Charleston Method: Guidebook for the Use of the Excel Workbook*, U.S. ARMY CORPS ENG’RS 1 (Feb. 2012), http://www.mvn.usace.army.mil/Portals/56/docs/regulatory/2012MVN_MCMGuidebook_2_09_2012.pdf.

417. *Id.* at 7.

418. *Id.* at 1.

minute, must-pass bill funding the entire government.⁴¹⁹ Representative Scalise (described as “a passionate protector of the refining and oil [industry] interests”)⁴²⁰ announced that the approach had “brought a devastating halt to many beneficial development projects all across Southeast Louisiana” (no such projects were identified) and that he would “fix this flawed mandate.”⁴²¹ That the “mandate” simply required agencies to stop giving away the Louisiana coastal zone like a free lunch—at the same time that the delegation was asking Congress to appropriate billions from American taxpayers to fix the harm—may never have occurred to him.

Or perhaps it did. The prospect of asking those who were actively destroying the zone, at considerable profit, to offset the harm they were inflicting was simply untenable. Full mitigation was not part of the deal.

D. *Special Management Areas*

“There ought to be parts of Louisiana that are free of oil and gas development, so that you can have marine sanctuaries and areas set aside only for fishing. . . . Other states have done that; Louisiana hasn’t done that.”

—Dr. Paul Templet, author of *Coastal Use Guidelines*
and former Administrator, DEQ, 2010⁴²²

Through the federal CZMA, Congress plainly intended to adopt Templet’s approach and encouraged the designation of special management areas (SMAs) to be protected with “increased specificity”⁴²³ through a “detailed and comprehensive statement of policies”⁴²⁴ for the uses at stake. State law adopting the DNR’s Office of Coastal Management (required to conform to federal law) included the identical

419. Bruce Alpert, *House Approves Water Bill with Amendments To Boost Corps of Engineers Funding*, TIMES-PICAYUNE (July 10, 2014, 10:22 PM), http://www.nola.com/politics/index.ssf/2014/07/house_approves_water_bill_with.html.

420. Jennifer A. Dlouhy, *New House GOP Leadership Adds Clout for Oil, Gas Industry*, HOUS. CHRON. (June 20, 2014, 9:57 PM), <http://www.houstonchronicle.com/business/energy/article/New-house-GOP-leadership-adds-clout-for-oil-gas-5568517.php>. 421. Alpert, *supra* note 419 (quoting Representative Steve Scalise). Scalise’s initiative was paralleled by Senator Landrieu in the other chamber, who feared that the Charleston Method (in effect full-cost accounting) could jeopardize a proposed \$10.3 billion levee project that would cause major wetland damage. *See id.*

421. Alpert, *supra* note 419 (quoting Representative Steve Scalise). Scalise’s initiative was paralleled by Senator Landrieu in the other chamber, who feared that the Charleston Method (in effect full-cost accounting) could jeopardize a proposed \$10.3 billion levee project that would cause major wetland damage. *See id.*

422. DeGregorio, *supra* note 269.

423. 16 U.S.C. § 1452(3) (2012).

424. *Id.* § 1453(17).

provisions but, as an option, to be determined by the DNR.⁴²⁵ In 1990, the legislature gave the DNR additional authority to designate smaller “special significant areas” (SSAs), those of particular “vulnerability” or with “special ecological values or productivity.”⁴²⁶ Neither provision flourished.

Not for want of good candidates. Oyster grounds, near-shore reefs, and nurseries for crab and other fisheries come to mind. Yet another would be the barrier islands, the state’s first line of defense against coastal storms and critical habitat for shorebirds.⁴²⁷ Right behind them come the remaining chenieres, coastal lines of oak trees that host millions of songbirds in migration,⁴²⁸ particularly in spring, where they crash to rest and feed after 500-mile journeys across the open Gulf. SMAs would seem to be naturals, small patches of the nearly 3 million-acre zone,⁴²⁹ easy to delineate and defend, but for the one flaw that haunts everything in South Louisiana: the prospect that there might be an area, no matter how small, no matter how vital to other resources, that oil, gas, and other development would be subject to special restrictions or, worse yet, could not go at all.

The DNR exhibited little appetite for the notion from the start. Even as the state was applying for federal approval of its coastal program, its accompanying impact statement rejected a zoning approach because it “would not allow sufficient flexibility for future decision-making,” given the possibility of “changing technology and advances in development alternatives.”⁴³⁰ The explanation is hardly convincing. Nothing would prevent the agency from allowing the use of a benign new technology in a protected area—air cushion vehicles come to mind. At issue here was whether *existing* technologies such as canal dredging would continue in every nook and cranny of the coastal zone, and the answer was yes. As the statement described, the program would focus on individual permits instead.

425. See LA. REV. STAT. ANN. § 49:214.29 (2014).

426. *Id.* § 49:214.41(F).

427. *NFWF Approves Additional \$144.5 Million for Louisiana Barrier Island Restoration*, NAT’L FISH & WILDLIFE FOUND. (Apr. 3, 2014), http://www.nfwf.org/whoweare/mediacenter/pr/pages/gulf-la-pr-14-0403.aspx#.VP#WT_nF-SO (quoting Jeff Trandahl, Exec. Dir. & CEO, NFWF).

428. *Louisiana Comprehensive Wildlife Conservation Strategy*, LA. DEP’T OF WILDLIFE & FISHERIES 98 (Sept. 2005), http://www.wlf.louisiana.gov/sites/default/Sites/pdf/page_wildlife/33691-wildlife%20Action%20Plan%20Details/la_wap_pdf.pdf.

429. 2 REPORT BY THE SECRETARY OF THE INTERIOR, THE IMPACT OF FEDERAL PROGRAMS ON WETLANDS ch. 8 (Mar. 1994) (Coastal Louisiana), *available at* <http://www.doi.gov/pmb/oepec/wetlands2/v2ch8/cfm>.

430. U.S. DEP’T OF COMMERCE ET AL., *supra* note 248, at 46.

The DNR's initial Coastal Management Division personnel saw the matter differently. In a summary of its first year of operation in 1980 to 1981, section managers reported an overwhelming number of permit applications (1,945), 75% of which were for oil and gas, some 80% of these for pipelines and access canals.⁴³¹ The program was not catching its tail, and they should know: they were responsible for making it work. "In attempting to achieve the [Louisiana Coast Resources Program] goals while at the same time trying to cooperate with landowners," their report went on, "it has become more evident that a logical management approach could be the development of designated special management areas."⁴³² The designations, selected for "their unique and valuable characteristics," would enable "more stringent condit[i]ons" including "[m]ethods of access," and increase "predictability of permitting."⁴³³ SMAs, the report concluded, would be a "realistic approach to a dynamic management process."⁴³⁴ Realistic, that is to say, until it ran into the company.

Like earlier recommendations for the use of ACVs and backfilling, this recommendation went nowhere. And despite the dramatic collapse of the coast since that time, the SMA approach remains dormant. "It is not . . . consistent with our coastal goals," the state head of coastal restoration told a reporter in 2010, "to say '[y]ou can't fish here anymore; you can't have a port system anymore; you can't have an energy industry anymore.'"⁴³⁵ He was of course slaying a false dragon. Nothing in the creation of SMAs could unhinge the port complexes that line the coast like checkout counters or put a dent in the Louisiana energy industry. As for the prospect of an SMA banning fishing, the end of fishing will come inevitably once the marshes that supported it have been destroyed—a catastrophe that SMAs were intended to avoid.

In the end, the obstacle to SMAs has been, once again, a mindset. The industry and its politicians like to describe South Louisiana as a "working coast,"⁴³⁶ as if husbanding small parts of it for other functions as vital as commercial fisheries and migratory birds were somehow

431. William W. Burke III & Joel L. Lindsey, *Louisiana Coastal Management: Overview of the First Year and Plans for the Future*, STATE PERSP. 13 (1981), <http://nsgl.gso.uri.edu/tcs/tcsw81001/tcsw81001.3.pdf>.

432. *Id.* at 14.

433. *Id.* at 14-15.

434. *Id.* at 15.

435. DeGregorio, *supra* note 269 (quoting Garret Graves).

436. Bruce Alpert, *Sen. Landrieu Adds Provision to Spending Bill Aiding Ports that Supply Oil and Gas Exploration*, TIMES-PICAYUNE (June 17, 2014, 6:01 PM), http://www.nola.com/politics/index.ssf/2014/06/sen_landrieu_adds_provision_to.html.

indolent. The state does not protect. Instead, it multiple-uses, and if that quickly boils down to a single dominant use, then coastal Louisiana has been dominated by that one use for the lifetimes of everyone now living. In this culture, areas with special protections are not going to thrive.

Today, the state with the greatest extent of coastal wetlands in America has but two SMAs. The first is an oil terminal, the Louisiana Offshore Oil Port, used by very large tankers.⁴³⁷ The second covers an island wildlife refuge and prohibits disturbance by public use.⁴³⁸ There have been no SSA designations at all. A current coastal management official has suggested a reason: any such proposal would have to pass through the Louisiana legislature.⁴³⁹ No further explanation was needed.

VII. L'ENTENTE

“Do we fix a problem that we’re concerend [sic] about, or do we spend all our time beating up on the oil industry—whatever that is?”

—R. King Milling, 2010⁴⁴⁰

“That the state won’t even put the oil industry in the conversation about who is responsible for coastal erosion and who ought to pay for it is laughable.”

—Camilo Salas, 2010⁴⁴¹

On a September evening in 1986, three environmental lawyers, a scientist, and a social worker huddled in the microscopic office of Michael Osborne in New Orleans.⁴⁴² There was considerable experience

437. *Coastal User’s Guide*, *supra* note 253, at IX-1.

438. *Id.*

439. Telephone Interview with Karl Morgan, *supra* note 281.

440. Horne, *supra* note 17 (quoting Interview by Jed Horne with R. King Milling, Chairman, America’s WETLAND Found., in New Orleans, La. (Oct. 14, 2010)). For a brief description of Milling’s involvement with the oil and gas industry and coastal issues, see discussion *infra* notes 483-486. As to whether asking an industrial sector to repair what its members have damaged is “beating up” on it, Congress has decided otherwise in two industry-wide compensation schemes for past environmental damage, one from the extraction of coal deposits, Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. §§ 1201-1328 (2012), and the other from the disposal of chemical wastes, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601-9695 (2012). That the coal and chemical industries benefitted the nation was beyond question. Nonetheless, Congress found their contribution to redressing their harms to be fair and necessary.

441. Wells, *supra* note 92. Salas is described in the article as having “made a study of Louisiana’s wetlands and its oil politics.” *Id.* He has not been involved in litigation against oil companies for coastal damage, nor with the levee board case. Telephone Interview with Camilio Salas, Attorney (Jan. 23, 2015).

442. Telephone Interview with Rob Gorman, Exec. Dir., Diocese of Houma-Thibodaux, Catholic Charities (Aug. 10, 2014); see also David Douglas Hanny, Interest Group Formation Through Resource Mobilization: The Case of the Coalition To Restore Coastal Louisiana 93

in the room. Osborne and Jim Tripp of the Environmental Defense Fund (EDF) had litigated a 50-mile navigation canal through Terrebonne Parish.⁴⁴³ Others had been involved in decades-long controversies over dredging in Lake Pontchartrain, channelizing the Atchafalaya Basin, oil and gas permitting, and in daily ministry to neighbors who were watching their landscape disappear, a horizon of assaults and no coherent response. The Corps lacked the mandate, the state lacked the initiative, and the parishes were doing little at all. They decided to write a citizen plan to save coastal Louisiana.

The early 1980s were a schizoid moment for the oil and gas industry in Louisiana. Despite economic ups and downs, it remained the dominant economic engine in the state.⁴⁴⁴ It was successfully resisting unwanted regulation locally and nationally. The annual petroleum jubilee in Lafayette remained in full swing. The major industry corporations, Exxon, Shell, Chevron, remained among the wealthiest in the world.⁴⁴⁵

On the other hand, the wetlands of America were becoming a national treasure, morphing at warp speed from wastelands to vital fisheries, nurseries, water purifiers, flood barriers, lynchpins of the Mississippi Flyway, irreplaceable resources to be protected and sustained. New data supported by GIS imagery provided indisputable evidence of Louisiana wetland losses and, zooming down, a labyrinth of access and pipeline canals running through.⁴⁴⁶ Studies by the Corps, Mineral Management Service, and the EPA all confirmed significant industry impacts,⁴⁴⁷ reaching even the *Wall Street Journal* in a series of articles on Louisiana and the oil and gas industry, the third of which was captioned, *Oil's Legacy: Louisiana Marshlands, Laced with Oil Canals, Are Rapidly Vanishing*.⁴⁴⁸ All of which must have felt to oil and gas interests like a state of siege. They had the option of accepting these findings—some of them coming from their own consultants⁴⁴⁹—and the

(July 1995) (unpublished Ph.D. dissertation, Okla. State Univ.) (on file with UMI) (discussing the organization and early history of the Coalition to Restore Coastal Louisiana (CRCL)).

443. S. La. Envtl. Council, Inc. v. Rush, 12 Env't Rep. Cas. (BNA) 1844, 1845 (E.D. La. 1978), *aff'd*, S. La. Envtl. Council, Inc. v. Sand, 629 F.2d 1005 (5th Cir. 1980). Tripp represented the Environmental Defense Fund (EDF) in these proceedings.

444. *About Louisiana: History & Culture*, LA. DIV. OF ADMIN., http://doa.louisiana.gov/about_economy.htm (last visited Dec. 28, 2014).

445. *Fortune 500: 1980 Full List*, FORTUNE, http://archive.fortune.com/magazines/fortune/fortune500_archive/full/1980/ (last visited Dec. 28, 2014).

446. THERIOT, *supra* note 37, at 148.

447. See discussion *supra* notes 87-89.

448. Getschow & Petzinger, *supra* note 81.

449. See ESPEY, HUSTON & ASSOCS., INC., *supra* note 87. A study commissioned by Mid-Continent concluded that wetland losses at selected study sites "were mainly directly attributable

responsibility that came with them, or to fight. They chose to fight. One of the flashpoints was the citizen coastal plan.

Coastal Louisiana: Here Today and Gone Tomorrow was a first (to a *Times-Picayune* reporter: “historic”⁴⁵⁰), and it would set the mold for state restoration plans to follow.⁴⁵¹ It was linked from the start with a rising environmental consciousness in coastal Louisiana spearheaded by the Catholic Church. A letter from Bishop Boudreaux to the Houma-Thibodaux Diocese urged parishioners to attend a meeting on the plan, referred to in the missive as the “Louisiana Coastal Wetlands Interfaith Stewardship Plan,” continuing: “[W]e are morally obligated, as stewards of God’s gifts, to protect and restore our coastal wetlands.”⁴⁵² In a region faithful to both the industry and to the Almighty, this was a new thumb on the scales.

The citizen plan itself made 19 recommendations, each quite specific, many within the reach of existing law.⁴⁵³ They fell into three categories: institutional (a restoration authority), structural (river diversions), and regulatory (oil and gas canals).⁴⁵⁴ The regulatory section focused on dredging.⁴⁵⁵ “While any single oil and gas canal . . . may have only a minor effect,” it read, “the cumulative impact of these canals on the coastal zone is devastating.”⁴⁵⁶ Actions needed on this front included tighter regulation, mandated backfilling, alternative access technologies, pipeline user fees (to fund restoration), and the early phase-out of new canals entirely.⁴⁵⁷ For the authors, it seemed axiomatic to stop destroying the very resources the region aimed to restore. This section relit a fire that industry had all but succeeded in quenching.

On the national level, oil and gas corporations were challenging new federal wetland protections across the board, principally CWA section 404. In 1989, sensing the federal “No Net Loss” policy in the wings, oil giants Exxon, Shell, Conoco, Texaco, BP America, and Arco Alaska teamed up with mining and real estate companies to form a lobby called in Orwellian fashion the National Wetlands Coalition (NWC),

to canal construction and widening.” LA. UNIV. MARINE CONSORTIUM, ENVIRONMENTAL IMPACT OF PRODUCED WATER DISCHARGES IN COASTAL LOUISIANA, at xii (1989).

450. THERIOT, *supra* note 37, at 146 (citation omitted).

451. COAL. TO RESTORE COASTAL LA., COASTAL LOUISIANA: HERE TODAY AND GONE TOMORROW? (1987), *available at* <http://www.gpo.gov/fdsys/pkg/C21C-gh541-5-c65-c64-1987/pdf/C21C-gh541-5-c65-c63-1987.pdf>.

452. Hanny, *supra* note 442, at 93 (citation omitted).

453. COAL. TO RESTORE COASTAL LA., *supra* note 451, at 1-5.

454. *Id.*

455. *Id.* at 2-3.

456. *Id.* at 10.

457. *Id.* at 1-5.

targeting both the CWA section 404 program and the upcoming MOA.⁴⁵⁸ The organization's chief lobbyist was a Louisiana product and a high school classmate of Louisiana representative Jimmy Hayes.⁴⁵⁹ Obliging, Hayes and his Louisiana colleague Billy Tauzin introduced a bill entitled, in a manner that quite belied its content, the "Comprehensive Wetlands Conservation and Management Act of 1995."⁴⁶⁰ Among other things, the Hayes-Tauzin bill removed the EPA entirely from wetland protection, required cash payments for any protections the Corps might impose, and turned the program over to willing states for the asking.⁴⁶¹ A grenade in sheep's clothing.

After a near-decade-long struggle, the NWC did not achieve either objective, but with a peculiarly Louisiana footnote. Only two nonindustry groups joined the NWC. One was the City of Los Angeles (the "Oil Queen of California"),⁴⁶² and the other was the Audubon Nature Institute in New Orleans, whose position on wetlands reflected that of its board chairman, a Louisiana oilman and major donor.⁴⁶³ From an industry point of view, one lesson learned was that to protect its interests going forward, it should have a more widespread coalition in tow. Which, a few years hence, it would achieve.

Back in Louisiana, meanwhile, Republican Governor David Treen had proposed to tax oil and gas passing through Louisiana as an offset to damage throughout the zone.⁴⁶⁴ First to hit the ceiling was Mid-Continent, declaring that Treen's bill "[r]epudiate[d] thirty years of official policy in which Louisiana, through its elected state officials and members of Congress, ha[d] told the nation that oil and gas exploration

458. See RUTHERFORD H. PLATT, *DISASTERS AND DEMOCRACY: THE POLITICS OF EXTREME NATURAL EVENTS* 118-20 (1999).

459. See John Lancaster, *Lobby Gains Ground in Effort To Add "Balance" to Wetland Laws*, WASH. POST, May 15, 1991, at A17. The NWC's chief lobbyist was Robert Szabo, who bridled at the suggestion that it was an industry group because it also included the Audubon Nature Institute. *Id.* For the connection of the Institute to the oil industry, see text accompanying *infra* note 463.

460. H.R. 1330, 104th Cong. (1995).

461. See *id.* The EPA is removed from the existing sections 404(b) and (c); the only protections provided require compensation under the new section 404(d); open-ended delegation is provided for under the new section 404(m).

462. See Cecilia Rasmussen, *The Gush of Oil Music to 'Queen's' Ears*, L.A. TIMES (July 11, 1999), <http://articles.latimes.com/1999/jul/11/local/me-54981>.

463. The Audubon Nature Institute Chairman was H. Leighton Steward, President and CEO of LL&E. *Swamped with Cash: Sidebar 5: What Is the National Wetlands Coalition?*, ENVTL. WORKING GRP. (Mar. 1, 1996), <http://www.ewg.org/sidebar-5-what-national-wetlands-coalition>.

464. H.R. 1660, 1982 Leg., Reg. Sess. (La. 1982). For a pro-con discussion of the proposal, see Edwards et al., *supra* note 172, at 219-22; Richard J. Pierce, Jr., *The Constitutionality of State Environmental Taxes*, 58 TUL. L. REV. 169 (1983).

and production in the wetlands are compatible with the environment.”⁴⁶⁵ The statement was impeccably true. This *had* been Louisiana’s version of the story, the egret and the oil rig on government brochures, Morgan City’s annual Shrimp and Petroleum Festival, and the poster child for drilling in the Arctic Wildlife Refuge, now running into trouble with the facts. Mid-Continent went on to describe Treen’s tax as ““a drastic departure from state policies that brought industry to Louisiana.””⁴⁶⁶ This statement was less true. What brought the oil industry to Louisiana and would keep it here until the last profitable drop was the presence of oil.

Governor Treen did not last long. His proposal contradicted a fundamental tenet of Louisiana politics: do nothing to oil and gas and collect the money. In a state notable for long-standing governors, even those whose conduct begged for removal, Treen was defeated at the end of his first term. A moral for everyone, always known, was retold.

The industry also fought back at the message underlying the tax, the wave of scientific studies, and the citizen plan. Oil and gas impacts were said to be exaggerated, temporary, even beneficial.⁴⁶⁷ Mid-Continent funded a report from three LSU geologists who measured the surface of oil and gas canals at less than 10% of the zone,⁴⁶⁸ which of course missed the point, offsite impacts, completely. Notwithstanding, “less than 10%” became the industry’s favorite statistic. Continental Land and Fur Company, with large lease holdings in fast-disappearing Terrebonne Parish, assured the press that state regulators were ““aggressively and stringently”” managing coastal activity and that with more environmental regulation, the oil and gas sector would ““look for new places to explore,””⁴⁶⁹ another familiar refrain. LL&E, the largest independent oil producer in America, went one step further. As an antidote to “Here Today and Gone Tomorrow,” it launched a public relations campaign featuring a film, “Countdown on the Coast,” which presented the phenomenon of land loss in Louisiana. Several experts were interviewed. The Corps’ Mississippi River levees were roundly blamed.⁴⁷⁰ No mention was made of the pipelines and canals. The LL&E

465. THERIOT, *supra* note 37, at 136 (quoting Mid-Continent in *Louisiana Wetlands Levy Seen Hitting Industry*, OIL & GAS J., May 1982, at 178).

466. *Id.* (citation omitted).

467. *See id.* at 147-58; *see also* Getschow & Petzinger, *supra* note 81 (““You could eliminate oil and gas dredging, and the wetlands erosion problem won’t go away.”” (quoting Mid-Continent lobbyist William Baily in 1984)).

468. THERIOT, *supra* note 37, at 153-54.

469. *Id.* at 155-56 (quoting George A. Strain, Vice President, Cont’l Land & Fur Co.).

470. *Id.* at 157.

campaign presaged the uncannily similar state and industry campaign to come: target the river levees, hide the oil and gas.

It could be that LL&E and its allies actually believed the no-harm doctrine they were propounding. The newer message that, yes, there was significant harm ran up against the bedrock of their lives. They had built the economy of Louisiana; how could that have been wrong? To this day, they are still looking for another, overriding cause: geologic faulting, Mississippi River management, as if other causes would somehow obviate their own. Thus we find LOGA's Donald Briggs, an intelligent and experienced professional, telling the media that the coastal collapse was due to hungry animals: "'I've got duck leases out there and I remember when they were covered in grass. They're all ponds now'. . . . 'It's not gone because of drilling. It's because nutria ate all the grasses.'"⁴⁷¹ What is more frightening, perhaps, he thought it was true.

But probably not. Oil and gas workers had noted the impacts on Louisiana wetlands since the 1950s.⁴⁷² By the end of the century, however, the industry was eager to expand into waters off Florida and North Carolina with equally sensitive coastlines and a more skeptical public.⁴⁷³ The message that its impacts were benign was an important calling card. Proof that it brought real harm instead not only threatened the psyche (which should never be underestimated), it threatened the bottom line. Oil and gas would need an environmental champion on its side, and from an unexpected corner, one appeared.

The citizen coastal plan, meanwhile, had spawned an organization to spur it forward, the Coalition To Restore Coastal Louisiana (CRCL), and a series of state and federal laws followed, providing for a comprehensive state plan and funding from existing oil and gas royalties.⁴⁷⁴ The industry would pay no more than it had been paying, but at least some revenues would now be held in trust for restoration. The CRCL itself, however, was running out of money, and Tripp suggested that it approach a New Orleans banker whom he and his brother had known at Deerfield Academy, an elite New England prep school and one

471. Cain Burdeau, *Oil Canals May Have Worsened Katrina*, USA TODAY (Jan. 21, 2008, 10:07 AM), http://usatoday30.usatoday.com/news/nation/2008-01-20-1628395846_x.htm (quoting Don Briggs, President, La. Oil & Gas Ass'n).

472. See discussion *supra* note 75.

473. Interview with Mark Davis, Dir., Tulane Inst. for Water Law & Policy, in New Orleans, La. (Dec. 20, 2014).

474. Hanny, *supra* note 442, at 15-17 (discussing the CRCL's progress); see also LA. REV. STAT. ANN. § 49:214.21-.61 (2014).

that forged bonds for life. The banker was named R. King Milling, and he was President of the Whitney Bank.⁴⁷⁵

The CRCL's leader at the time, Mark Davis, had come to Louisiana like many others for a year or two and stayed. A business major with a masters in tax, Davis understood a basic principle of banking, that (in his words) when making a loan "you want to know that your collateral will be there in thirty years."⁴⁷⁶ This would be his pitch to Milling: the bank's collateral was disappearing. They barely needed to make it. Milling immediately grasped the stakes involved. His bank had major holdings in St. Mary's Parish, wedged between Morgan City and the Gulf, and had backed investments throughout the region, including its infrastructure in oil and gas.⁴⁷⁷ This infrastructure also supported an industry with which his family had been deeply involved for generations. As he later recalled, "I'd really been hooked."⁴⁷⁸

It would be difficult to find a more impressive pedigree. At the turn of the last century, Milling's grandfather became a law partner in a firm whose members included former and future state governors (including the controversial Murphy Foster, 1892-1900), which soon relocated to the Whitney Bank building in New Orleans.⁴⁷⁹ By 1910, two Milling sons were firm partners, one of whom became the father of R. King Milling.⁴⁸⁰ The other son, King's uncle, formed the redoubtable LL&E that would play such a large role in the coastal story, and he brought a California subsidiary of Standard Oil to the firm as well.⁴⁸¹ By the 1940s, Milling clients included LL&E, the Miami Corporation, Continental Land and Fur Company, and the La Terre Corporation, whose combined holdings embraced much of the Louisiana coast between the Mississippi River and Lake Charles.⁴⁸² It goes without saying that King Milling

475. Interview with Mark Davis, Dir., Tulane Inst. for Water Law & Policy, in New Orleans, La. (Dec. 8, 2014). Davis directed the CRCL from December 1992 through 2006 and participated in the cited meeting. The other participant was Dr. Rod Emmert of LSU.

476. *Id.*

477. *Id.*

478. Bob Marshall, *The Louisiana Coast: Last Call—Coastal Restoration Crucial for Business*, WWNO (June 17, 2013, 11:58 AM), <http://wwno.org/post/louisiana-coast-last-call-coastal-restoration-crucial-business>.

479. Gregory E. Davies, *Robert Edward Milling, Winn, Orleans and St. Mary Prs. Louisiana*, USGWARCHIVES.NET, <http://files.usgwarchives.net/la/stmary/bios/milling.txt> (last visited Jan. 18, 2015) (describing Milling's personal history); *The History of Milling Benson Woodward*, MILLINGLAW.COM, http://www.millinglaw.com/index.php?option=com_content&task=view&id=2&Itemid=3 (last visited Jan. 18, 2015) (describing the history of the firm).

480. *The History of Milling Benson Woodward*, *supra* note 479.

481. *Id.*

482. *Id.*

would join the firm and that his practice would promote the fortunes of the oil and gas industry. Like Louisiana itself, it was in the DNA.

Following his initial meeting with the CRCL, Milling became the public face for coastal restoration for the next ten years, and a highly effective one.⁴⁸³ He spoke well, looked the part, and was patently sincere. He saw no conflict between saving his coast and protecting his industry. They were one and the same thing. He would go on to Chair the Governor's Advisory Commission on Coastal Protection, Restoration and Conservation (appointed by Governor Mike Foster, Murphy's grandson) and other public organizations with "Coastal" in the name.⁴⁸⁴ He stated his conviction early and often: coastal stakeholders needed to form a new band of brothers and fight towards a common objective: securing federal (public) funding to restore the zone.⁴⁸⁵ Oil and gas responsibility was not on the table. What followed was a massive, industry-led public relations campaign. The effort would be headed by a public relations expert and "one of the top campaign strategists in the country."⁴⁸⁶

The primary vehicle was a new organization sponsored primarily by the Shell Corporation called America's Wetland Foundation.⁴⁸⁷ It would sell the message that South Louisiana was important to all Americans, which implies that all Americans should then open their wallets in this hour of need, not unlike the American people's response to Hurricane Katrina.⁴⁸⁸ The organization went on to fund a "national poll," ostensibly surveying voters on such issues as "Do you think the federal government should . . . definitely be responsible for protecting coastal areas that supply energy to the U.S.?" and "Is it reasonable to expect we can drill for oil in the Gulf of Mexico and protect the environment of the Gulf Coast?," questions, like any push-poll, designed more to influence than to

483. See THERIOT, *supra* note 37, at 191.

484. John Pope, *Coastal Restoration Advocate King Milling Wins T-P Loving Cup*, TIMES-PICAYUNE (Mar. 21, 2009, 10:22 PM), http://www.nola.com/news/index.ssf/2009/03/coastal_restoration_advocate_k.html; Katina A. Gaudetnyt, *Gov. Foster Readies Launch of National Coast Campaign*, HOUMA TODAY (Aug. 8, 2002, 6:01 AM), <http://www.houmatoday.com/article/20020808/NEWS/208080306>.

485. See THERIOT, *supra* note 37, at 190-92.

486. *About Us: Staff: Valsin A. Marmillion*, MARMILLION.COM, <http://www.marmillion.com/subdetail.php?p=6&s=6&ss=3> (last visited Jan. 18, 2015).

487. *About Us: Who We Are*, AMERICA'S WETLAND FOUND., <http://www.americaswetland.com/custompage.cfm?pageid=280> (last visited Dec. 28, 2014) (describing America's Wetland Foundation's mission); *About Us: Sponsors*, AMERICA'S WETLAND FOUND., <http://www.americaswetland.com/custompage.cfm?pageid=252> (last visited Dec. 28, 2014) (listing America's Wetland Foundation's corporate sponsors).

488. See *About Us: Who We Are*, *supra* note 487.

ask.⁴⁸⁹ Unsurprisingly, the poll failed to ask the question that the oil and gas industry feared most might be asked, Is it reasonable to ask the oil and gas industry to pay for the damage it caused? The subject was taboo.

One early success came in 2005, when several America's Wetland Foundation leaders were looking for leverage to force the federal government to pay more for coastal restoration.⁴⁹⁰ The following January, after considerable internal debate, Governor Blanco was persuaded to challenge an upcoming lease sale off the Louisiana coast, on environmental grounds.⁴⁹¹ A contretemps of the filing was that Louisiana would be obliged to admit that oil and gas development had seriously damaged the coastal zone, meriting a greater percentage of revenue sharing—a sharp break from decades of industry denial.⁴⁹² The state's complaint indeed made this case,⁴⁹³ as did Senator Landrieu before her colleagues on Capitol Hill.⁴⁹⁴ The lawsuit was designed “to force a legislative solution,”⁴⁹⁵ and it did. In December 2006, Congress passed an act diverting more royalties on production in federal waters from other states to Louisiana.⁴⁹⁶ Happily, once again, oil and gas would pay no more than it had before. Other states would instead receive less, in effect paying the bill. Once the case settled, the serious-damage-from-oil-development language largely disappeared from view.

America's Wetland Foundation also launched a companion campaign, America's Energy Coast, with a publication entitled “A Region at Risk,” extolling Louisiana energy production and lamenting

489. Jim Kitchens, *National Poll*, AMERICA'S WETLAND FOUND. 2 (Aug. 29, 2011), <http://www.americaswetland.com/photos/082611-AWF-NatPollToplineResultsFINAL4Web.pdf>.

490. THERIOT, *supra* note 37, at 202-07.

491. *Id.*; Blanco v. Barton, No. Civ. A. 06-3813, 2006 WL 2366046, at *1 (E.D. La. Aug. 14, 2006).

492. The state had made one previous attempt to secure federal assistance through the CZMA consistency process, *see* Louisiana v. Lujan, 777 F. Supp. 486, 489-90 (E.D. La. 1991), which lost due to a failure of proof and the lateness of the claim. With a change in governors, this momentum lapsed, in part because, according to a member of the Louisiana Attorney General's Office handling the litigation, “the oil and gas industry was adamantly opposed and hostile to Louisiana's coastal zone management program at the time.” Carolyn R. Langford et al., *The Mouse That Roared: Can Louisiana's Coastal Zone Management Consistency Authority Play a Role in Coastal Restoration and Protection?*, 20 TUL. ENVTL. L.J. 97, 136-37 (2006).

493. *See generally* Complaint for Declaratory Judgment and Injunctive Relief at 21-22, Blanco v. Barton, No. Civ. A. 06-3813, 2006 WL 2366046 (E.D. La. Aug. 14, 2006).

494. *See* 152 CONG. REC. S8244-46 (daily ed. July 26, 2006) (remarks of Sen. Landrieu). “So this land is very fragile. Because of global warming, and because of other things, because of some of the canals were dredged back in the early days before we understood the degradation that can be caused, this coastal land is eroding.” *Id.* at S8246.

495. THERIOT, *supra* note 37, at 203 (citation omitted).

496. Gulf of Mexico Energy Security Act of 2006, S. 3711, 109th Cong. (as passed by Senate, Aug. 1, 2006).

that “Washington remains relatively quiet to urgent calls for action.”⁴⁹⁷ In October 2014, the group organized an “America’s Energy Coast Leadership Forum,” whose proceedings offered twelve “Observations and Recommendations,” of which finding “cooperative funding strategies” without “polarizing, partisan or parochial positions about coastal land loss” was high on the list.⁴⁹⁸ Yet more revenues should be claimed from offshore leasing (although no increases were proposed in the royalties themselves).⁴⁹⁹ No additional contribution was mentioned from the oil and gas sector. Indeed, the thrust of the document and indeed all America’s Wetland Foundation products is that the oil and gas industry, with its infrastructure at risk, is really the victim of coastal collapse in Louisiana, and not one of its primary causes. Even facing a funding shortfall of at least \$30 billion (and likely twice that) for coastal restoration, industry would continue to deal itself a pass.

Key to Milling’s success was enlistment of Jim Tripp in his approach. The two had become close, old school ties renewed by warm hospitality while Tripp was in New Orleans. The relationship was propitious. Speaking later of his role on the newly created Governor’s Advisory Commission on Coastal Protection, Restoration and Conservation, Milling explained, “‘What we tried to do’ . . . ‘was take members from environmental groups and have them sit at a table with Shell and other folks from the oil industry because at the end of the day we are all pragmatists.’”⁵⁰⁰ It worked. At an early meeting of the Commission in 2003, Tripp announced that “[t]he environmental community and the energy industry must be partners as one part of creating the political will” for coastal restoration.⁵⁰¹ The President of Shell Chemical echoed, “‘We must realize that we have been part of the problem and that we can be part of the solution.’”⁵⁰² It soon became clear, however, that neither Shell nor any other industry leader was about to recognize that it had been a significant part of the problem, nor that it had significant responsibility to solve it. Oil and gas would fund the America’s Wetland Foundation campaign. The EDF would work in

497. *A Region at Risk: Preventing the Loss of Vital National Assets*, AMERICA’S ENERGY COAST 3 (2009), <http://www.americasenergycoast.org/110409-AEC-RegionatRisk4.pdf>.

498. *Adaptation for Gulf Coast Resiliency & Sustainability: America’s Energy Coast Leadership Roundtable*, AMERICA’S ENERGY COAST 4 (Oct. 28-29, 2014), <http://americasenergycoast.org/121614-AEC-AdaptatonReportFINAL4Web4.pdf>.

499. *Id.*

500. Marinello, *supra* note 56 (quoting R. King Milling, President, Whitney Nat’l Bank),

501. THERIOT, *supra* note 37, at 193 (quoting *America’s Wetland Foundation Summit Proceedings Report (Preliminary)*, AMERICA’S WETLAND FOUND. 7 (Oct. 1, 2004), <http://www.americaswetland.com/photos/article/100104AWSummitProceedings.pdf>).

502. *Id.* (quoting Stacy Methvin, President, Shell Chem., LP).

tandem with it, bringing in the National Wildlife Federation and National Audubon Society as well—very desirable company.⁵⁰³ The message would include no reference to oil and gas impacts in the coastal zone.

All parties have kept to the understanding. America's Wetland Foundation's major donor list now identifies Shell as its "World Sponsor," and as "Sustainability Sponsors," Chevron, ConocoPhillips, and ExxonMobil,⁵⁰⁴ four of the wealthiest corporations in modern history. The state of Louisiana, for its part, has developed two master plans for coastal restoration, neither of them identifying or addressing the impacts of oil and gas canals.⁵⁰⁵ The latest (2012) plan, while asserting that it is "using every tool in the toolbox to protect and restore south Louisiana,"⁵⁰⁶ makes no reference at all to using backfilling as an available tool. Backfilling would imply harm, which would imply responsibility—the no-go zone. In 2014, following the filing of the New Orleans levee board lawsuit, the state Coastal Protection and Restoration Authority deleted references to oil and gas dredging from its website.⁵⁰⁷

The EDF and others have likewise muted their responses to these impacts and pulled back from other pressing coastal issues, including massive new levees⁵⁰⁸ and the Gulf dead zone,⁵⁰⁹ out of apparent concern

503. Exactly what the environmental groups received in return for their silence (or "focus," if one prefers) is not easy to see. The oil and gas industry has vital investments at stake throughout the coast and every hard-nosed reason to protect them, with or without the green groups. The America's Wetland Foundation and America's Energy Coast campaigns are financed and directed by oil and gas corporations and will continue to be so until either the oil or the coast are gone, whichever comes first. One would think that a priority of the national environmentalists would be to secure restoration funding from these corporations, commensurate with the damage caused, while they are still here.

504. *About Us: Sponsors*, *supra* note 487.

505. *Integrated Ecosystem Restoration and Hurricane Protection: Louisiana's Comprehensive Master Plan for a Sustainable Coast*, COASTAL PROT. & RESTORATION AUTH. (2007), <http://www.wyes.org/reshapingnola/wp-content/uploads/2011/05/ComprehensiveMasterPlan-MainReport.pdf>; *Louisiana's Comprehensive Master Plan for a Sustainable Coast*, COASTAL PROT. & RESTORATION AUTH. (2012), <http://www.lacpra.org/assets/docs/2012%20Master%20Plan/Final%20Plan/2012%20Coastal%20Master%20Plan.pdf> [hereinafter *2012 Plan*].

506. *2012 Plan*, *supra* note 505, at 33.

507. Evidence of this alteration can be seen using the Wayback Machine Internet Archive Engine, located at <http://archive.org/web/> (last visited Jan. 7, 2015).

508. The Corps' Morganza to the Gulf Project (\$10.7 billion estimated cost), Keith Magill, *Morganza: What It Would Take To Compromise*, DAILYCOMET.COM (June 23, 2008, 3:00 PM), <http://www.dailycomet.com/article/20080623/OPINION01/806230309>, over 72 miles long, will affect an estimated 4,400 km² of wetlands. See R. Eugene Turner, *Doubt and the Values of an Ignorance-Based World View for Restoration: Coastal Louisiana Wetlands*, 32 ESTUARIES & COASTS 1054, 1061 (2009).

509. See Oliver A. Houck, *Cooperative Federalism, Nutrients, and the Clean Water Act: Three Cases Revisited*, 44 Envtl. L. Rep. (Envtl. Law Inst.) 10,426, 10,434 (2014) (discussing Louisiana's opposition to limits on nutrients that create the dead zone).

for offending their new partners.⁵¹⁰ Instead, the groups have conducted their own public relations campaigns, beyond those of America's Wetland Foundation but focused on the same principles: the American public should pay to repair what, to a great extent, the oil and gas industry destroyed.⁵¹¹ As one group leader explained, "Don't we all drive cars?" as if that disposed of the question.⁵¹² For these and related purposes, the national groups have received corporate foundation grants of \$2 million a year, each, for multiple years.⁵¹³ It cannot be a comfortable position for these organizations to take, knowing what they know about oil and gas damage to the coast.⁵¹⁴ Their posture has been defended as mission focus, and it certainly is that. Dr. Len Bahr, coastal advisor to five former governors, has called it the "Silence of the Eco-lambs,"⁵¹⁵ and it is certainly that too.

For oil and gas impacts, the arrangement was now complete. All three major players were in sync. Until, from an unexpected quarter, the

510. In response to media's persistent inquiries about their position on oil and gas damages, the groups issued a press release that began, "Regardless of one's position on the [New Orleans levee board] lawsuit, the critical point that everyone can agree on is that when we lose wetlands in south Louisiana, we lose flood protection and our communities suffer," and went on to identify a range of responsible parties (oil and gas, agency regulators, landowners, and politicians), without mentioning that the industry was at the root of each of them. Bob Marshall, *Major Green Groups Keeping Mum on Flood Authority Lawsuit Opposed by Jindal*, LENS (Aug. 13, 2013, 4:03 PM), <http://thelensnola.org/2013/08/13/green-groups-keeping-mum-on-flood-authority-lawsuit-opposed-by-jindal/>. The New Orleans levee board lawsuit was said to provide "another forum" for "real discussion" of "collective steps" toward coastal restoration. *Id.*

511. The campaign of course does not say this directly; instead, it is directed at securing more federal funding, which of course comes ultimately from the public at large.

512. Telephone Interview with Karla Raettig, Exec. Dir., Md. League of Conservative Voters (Dec. 5, 2014). Between 2008 and 2011, Ms. Raettig directed the National Wildlife Federation's Louisiana Coastal Campaign.

513. *Id.*

514. The original citizens' coastal plan with its focus on oil and gas was drafted by several leaders of these groups. See COAL TO RESTORE COASTAL LA., *supra* note 451, at 1. A more contemporary private communication from one group member found:

I am in complete agreement with [Dr. Eugene] Turner that oil and gas canal dredging, plus Federal navigation canal dredging, plus sub-surface extraction of billions of gallons and cubic feet of hydrocarbons, were the most important proximate cause of the sudden collapse of much of the marsh platform over the last 80 years.

E-mail (anonymous) to author (Jan. 16, 2014) (on file with author).

515. Len Bahr, *Silence of the Eco-Lambs*, LACOASTPOST (July 1, 2010), <http://lacoastpost.com/blog/?p=24613>. The groups' inhibitions against criticizing the state may be (slightly) loosening. See Len Bahr, *Long Silent Eco-Lambs Finally Say, 'Baaa'*, LACOASTPOST (Jan. 22, 2015), <http://lacoastpost.com/blog/?p=47697> ("In an article in nola.com, thetimes-picayune [sic] Mark Schleifstein noted that for the first time in recent memory a coalition of three national and two local environmental groups spoke out against a policy decision by the state coastal protection and restoration authority (CPRA)."). The groups opposed a 5% reduction in coastal funding as part of across-the-board state budget cuts. *Id.* No mention was made of asking industry to make up the difference.

levee board went to court and re-raised the question that no one was willing to acknowledge was in the room.

VIII. LE TOUT ENSEMBLE

“[T]he story of oil has been the story of complicity and convergence. State interests and those of the industry eventually became all but indistinguishable. Put negatively, there is blame enough to go around. Politicians and the public profited in the near term from oil extraction’s worst practices but now face a price tag for ecological devastation well beyond Louisiana’s ability to pay without major support from corporate oil and the federal government.”

—Jed Horne, Investigator,
National Oil Spill Commission, 2009⁵¹⁶

The purpose of this Article has been to ask the questions of any history: why did these things take place, how, and with what effect? The setting is extreme. Louisiana is likely to lose the entire bottom of the state to the Gulf within the lifetimes of people living today. It is now, belatedly, engaged in what one high Corps official described as “a moon-shot”⁵¹⁷ not to restore the coast fully—which is impossible given what has been done to it and sea levels that are inexorably rising⁵¹⁸—but to retain parts of it for a foreseeable period of time. Cost estimates for simply holding a baseline come in at \$50 billion,⁵¹⁹ but of course no one really knows. Estimates for significant restoration rise to \$100 billion,⁵²⁰ and we have yet to know what measures will actually work to achieve that objective. The one thing certain is that it will cost a great deal of money, more money than ever spent on saving any natural resource in America.⁵²¹ A central question is: Who pays the bill?

516. Horne, *supra* note 17.

517. Bob Marshall & Brian Jacobs, *Louisiana’s Moon Shot*, PROPUBLICA/LENS (Dec. 8, 2014), <http://projects.propublica.org/larestitution/>.

518. Nearly every report on sea level rise tops the last. See Terence McCoy, *The Rate of Sea-Level Rise Is ‘Far Worse than Previously Thought,’ Study Says*, WASH. POST (Jan. 15, 2015), <http://www.washingtonpost.com/news/morning-mix/wp/2015/01/15/the-rate-of-sea-level-rise-is-far-worse-than-previously-thought-study-says/>.

519. Katherine Sayre, *Louisiana \$50 Billion Coastal Restoration Plan Would Inject Billions More into Economy Every Year, Study Finds*, TIMES-PICAYUNE (Mar. 27, 2014, 10:02 PM), http://www.nola.com/business/index.ssf/2014/03/louisiana_50_billion_coastal_r.html.

520. Bob Marshall, *Coastal Restoration Financing Is Uncertain, but Louisiana Has Ideas To Find \$50 Billion*, LENS (Apr. 2, 2014, 10:59 AM), <http://thelensnola.org/2014/04/02/coastal-restoration-financing-is-uncertain-but-state-has-ideas-for-more-money/#>.

521. The two most comparable efforts are those to restore the Everglades, at \$10.5 billion (see *Comprehensive Everglades Restoration Plan (CERP)*, NAT’L. PARK SERV., <http://www.nps.gov/ever/naturescience/ceerp.htm> (last visited Jan. 19, 2015)), and the Sacramento River Delta of California, at over \$30 million (see Gregory H. Golet et al., *Successes, Failures, and Suggested*

The answer of the company, now expanded to include several environmental organizations, is, all Americans will. Setting aside for the moment the ethics of dunning the general public while sparing those who caused so much of the damage and profited stupendously from it (an estimated \$960 billion from the coastal zone alone),⁵²² this is a very risky proposition, “a moon-shot” of its own. In an era of reduced government funding,⁵²³ bailing out Louisiana one more time may not score well in Washington D.C., particularly with the loss of both of the state’s veteran senators and the seniority they represent.⁵²⁴ Were you a banker, you might want to spread the risk, even at the risk of offending some of your clients. Short of another BP disaster, there are no other responsible parties around.

To be sure, the oil and gas industry is not the sole cause of coastal land loss, which all concerned (including the levee board) have freely acknowledged. South Louisiana is problematic terrain to begin with, the creature of a river that has been altered all the way down from the Canadian border and a substrate sinking slowly into Gulf waters. Nonetheless, the coast grew. Lower Mississippi levees and jetties took

Future Directions for Ecosystem Restoration of the Middle Sacramento River, California, S.F. ESTUARY & WATERSHED SCI., Oct. 2013, at 1, 5).

522. This estimate, stated in present-day value, is derived from DNR figures for production from the zone, see Research by Brendan Hughes, *supra* note 169, and an average price over the past 20 years based on DNR records of \$4.34 per MCF of natural gas, and \$44.91 per barrel of crude oil. See *Louisiana Natural Gas Wellhead Prices*, LA. DEP’T OF NATURAL RES., http://www.dnr.louisiana.gov/assets/TAD/Data/facts_and_figures/table19.htm (last updated Dec. 9, 2014) (reflecting natural gas price averages from 1960 to 2014); *Louisiana Average Crude Oil Prices*, LA. DEP’T OF NATURAL RES., http://dnr.louisiana.gov/assets/TAD/data/facts_and_figures/table17.htm (last updated Dec. 9, 2014) (reflecting crude oil price averages from 1960 to 2014). The resulting values were approximately \$422 billion for gas and \$538 billion for oil, which sum to approximately \$961 billion. These figures do not include the most recent production, which would nudge the figure towards an even trillion dollars in revenue, and growing.

523. Coastal levee authorities in particular are feeling the pinch in funding flood protection needs, see E-mail of Timothy R. Osborn, Navigation Mgr., Nat’l Oceanographic & Atmospheric Admin., to author (Dec. 10, 2014, 12:00 CST) (Subject: SE Coastal Louisiana Flood Protection Funding—West Bank (Southern and Western Side of the New Orleans Area) Mulls Campaign for Possible Flood Protection Tax Referendum):

A considerable challenge given the very recent defeat to raise funds in St. Bernard Parish by increasing the flood protection millage rate to 18.6 mills—a 67% increase. Over 60% of the St. Bernard Parish residents that voted on December 2nd voted against the proposed flood protection tax increase. The Lake Borgne Levee District (St. Bernard Parish) runs a deficit each year in its budget for operating and maintaining flood protection levees structures in the area. This has grown worse with transfer of additional structures from the USACE to the Levee District, which they must now pay to operate and maintain with local and state funding alone.

524. Senator Landrieu lost her seat in the 2014 elections; freshman Senator Bill Cassidy replaced her. Senator David Vitter replaced Senator John Breaux in 2004, but is now campaigning for the state governorship.

their toll as well, particularly near the river on its delta and high ground built from mineral soils. Nonetheless, the coast continued to thrive until well into the twentieth century, decades after the river levees arose.⁵²⁵ Meanwhile, the oil and gas industry began eating its way into the interior marshes,⁵²⁶ extracting unimaginable volumes of gas and fluids from below, and the wetlands went down like nine-pins.

There is not one human cause for the disaster in motion; there are several with interlocking responsibility to share. The Corps was the architect of the big levees and navigation canals, but at the constant urging of the state and its congressional delegation. The state, for its part, took only a mild swing at limiting oil and gas damage, even as it became widely known, dancing to the baton of an industry that fought tooth and nail against measures to avoid, then mitigate, and now compensate for the harm. The industry, to complete the triangle, was also a primary driver behind the Corps' navigation projects, besides dredging a spectacular network of its own. A fair allocation here might split the bill these three ways, but for the fact that oil and gas corporations and their partners—and it is at times difficult to distinguish among them—have made another arrangement.

The New Orleans levee board case was greeted with such alarm because it exposed the arrangement. When the state's coastal czar reacted by saying that it threatened state coastal "strategy,"⁵²⁷ he did not mean the state master plan, which does not deal with funding at all; indeed, it seems obvious that a lawsuit recovery would help make the master plan a reality. He had to have meant the other plan instead, the understanding with industry and selected others: silence on oil and gas responsibility; the bill goes elsewhere; together they make the sell.

This then was the landscape when the New Orleans levee board lawsuit was filed, seeking damages from responsible parties within the industry.⁵²⁸ It was not the first of its kind,⁵²⁹ but it was big, and it broke

525. The first Mississippi River levees go back to the founding of the city and grew under local management through the 1800s; the Corps became involved in the late 1800s for navigation purposes and in the early 1900s for flood control purposes as well. See REUSS, *supra* note 186, at 49-134; see also JOHN M. BARRY, *RISING TIDE: THE GREAT MISSISSIPPI FLOOD OF 1927 AND HOW IT CHANGED AMERICA* (1997). Not until the oil and gas boom in the coastal wetlands from the 1940s forward did the growth slope begin to turn, and turn sharply.

526. See R. Eugene Turner, Notes for the Expert Panel 1-5 (Oct. 28, 2014) (unpublished manuscript) (on file with author) (comparing organic soils of coastal marshes to mineral soils of the Mississippi bird-foot delta and their implications for coastal restoration).

527. See Robertson, *supra* note 29 (quoting Garret Graves: "There's a bigger strategy that they've come in and really screwed up." There was no elaboration of the strategy, but perhaps none was needed.).

528. See Petition, *supra* note 4, at 3.

open the omertà. Questions were raised. The media showed photographs of cut-over wetlands, fragmented and sinking, and they were not pretty. Several parishes filed similar actions.⁵³⁰ Public opinion polls showed wide support.⁵³¹ This was the biggest assault on the image of the industry since the days of Huey Long.

The company reacted at once. The governor went first, followed closely by his coastal advisor, denouncing trial lawyers and vowing to remove levee board members who supported the case.⁵³² State legislators, not to be outdone, introduced a near-record number of bills vying with each other to kill the case outright.⁵³³ Industry lawyers, for their part, succeeded in removing the lawsuit from state to federal court, despite the

529. Starting in the 1990s, landowners and local entities across Louisiana filed lawsuits seeking damages from a range of oil and gas activities—brine discharges, oil contamination, land erosion, and “non-hazardous” oil field wastes among them—all lightly (and belatedly) regulated by the state, and all causing significant damage. The subsequent course of this “legacy” litigation is a story of its own, still in motion, and one described by, *inter alia*, participants in the cases. See Loulan Pitre, Jr., “*Legacy Litigation*” and *Act 312 of 2006*, 20 TUL. ENVTL. L.J. 347, 347 (2007); J. Michael Veron, *Oilfield Contamination Litigation in Louisiana: Property Rights on Trial*, 25 TUL. ENVTL. L.J. 1, 1 (2011). These actions in turn became precedent for the suit filed by the levee board addressing broader wetland damage and more existential threats.

530. Mark Schleifstein, *Jefferson, Plaquemines Parishes File Wetland Damage Lawsuits Against Dozens of Oil, Gas, Pipeline Companies*, TIMES-PICAYUNE (Nov. 12, 2013, 4:19 PM), http://www.nola.com/environment/index.ssf/2013/11/jefferson_plaquemines_parishes.html.

531. *Poll Shows that Louisiana Residents Want Oil Companies To Pay for Damage Done to the Coast*, RESTORE LA. NOW (Nov. 22, 2013), http://restorelouisiananow.org/poll_shows. In another measure of public opinion, the Mayor of New Orleans, brother to then-Senator Landrieu, posed this question to the press, ““Did the oil and gas industry contribute to the deterioration of the coast?”” and then answered it: ““Absolutely it did. The principle is: If you broke it, you should fix it. That is clear.”” Jeff Adelson, *Mayor Landrieu: Up to Jindal To Hold Energy Companies Accountable for Wetlands Damage*, ADVOCATE (June 17, 2014), [http://www.the neworleansadvocate.com/news/9450861-171/mayor-landrieu-up-to-jindal](http://www.theneworleansadvocate.com/news/9450861-171/mayor-landrieu-up-to-jindal). At the same time, the President of Mid-Continent responded to the public swell with an editorial to which reader reaction was scathing. See Opinion Editorial, *Oil and Gas Industry Has Louisiana’s Best Interest at Heart: Chris John*, TIMES-PICAYUNE (Aug. 1, 2013, 11:00 AM), http://www.nola.com/opinions/index.ssf/2013/08/oil_and_gas_industry_has_louis.html. In a more conciliatory vein, the conservative columnist Quin Hillyer joined former levee board member John Barry in a call for a new tax on coastal energy development, similar to Governor Treen’s earlier proposal, see discussion *supra* note 464, in order to restore the “significant damage” it had left behind. Quin Hillyer & John M. Barry, *To Supplement Coastal Trust, Add a Coastal Levy*, ADVOCATE (Feb. 18, 2015), <http://theadvocate.com/news/acadiana/10418675-123/quin-hillyer-john-m-barry>. It seems a reasonable proposition.

532. Clancy DuBos, *David vs. Goliath: John Barry, New Orleanian of the Year 2013*, GAMBIT WEEKLY (Jan. 7, 2014), <http://www.bestofneworleans.com/gambit/david-vs-goliath/Content?oid=2295188> (discussing the removal of former levee board member John Barry); see Mark Schleifstein, *Gov. Jindal Again Trying To Remove East Bank Levee Authority President*, TIMES-PICAYUNE (Jan. 31, 2014, 6:02 AM), http://www.nola.com/environment/index.ssf/2014/01/gov_jindal_again_attempts_to_r.html (discussing the removal of former levee board president Tim Doody).

533. See Adelson & Ballard, *supra* note 235.

fact that there were no federal parties involved and its causes of action were based on state law.⁵³⁴ With industry lines into every power point in Louisiana, it was only a matter of time before one would deliver the coup.

In February 2015, on the Friday preceding Mardi Gras when heads were turned elsewhere, the federal court dismissed the case for failing to state a cause of action.⁵³⁵ None of the six legal claims survived. Parsing the legal arguments involved is for another article and another day. This particular Article is a history, and the court's disposition, if upheld on appeal, means among other things that the facts described here will not be vetted in court, presented under oath, cross-examined, ruled on, and communicated to the public at large.⁵³⁶ More importantly, it means that the day of reckoning for coastal harm has been postponed.

The parish claims for industry damages, smaller in scale, remain, and there are signs that they may have tempered the state's posture of denial. The governor's former coastal advisor, rather than calling the parishes "drunk on dollar signs,"⁵³⁷ said more recently that bringing energy companies to the bargaining table should be the goal of the new lawsuits.⁵³⁸ His remarks were echoed by the current director of the state restoration program, who stated that the industry "understands its liability" for damage to the coast,⁵³⁹ adding, "It's very difficult to see a future in which that . . . isn't there."⁵⁴⁰ That difficulty, however, may be in the eye of the beholder. LOGA's Don Briggs responded, "I do not believe that' 'I haven't spoken to any companies or representatives

534. Bd. of Comm'rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., 29 F. Supp. 3d 808 (E.D. La. 2014). The court viewed the lawsuit as "a collateral attack on an entire regulatory scheme," *id.* at 814 (a questionable perspective: when one seeks damages from an auto accident, one is not trying to run the highway patrol), and the restoration sought as impacting "coastal land management of Louisiana" (which is primarily a state function), and "national oil and gas markets" as well. *Id.* at 815 (also questionable: BP fines in the tens of billions did not affect oil and gas markets at all). Whether or not these conclusions were correct, once they were reached in the removal decision, the outcome on the merits was foreordained.

535. Bd. of Comm'rs of the Se. La. Flood Prot. Auth.—E. v. Tenn. Gas Pipeline Co., No. 13-5410, slip op. at 49 (E.D. La. Feb. 13, 2015).

536. Had there been a trial on the merits, the court might have seen the dredging conducted largely under state law, the harm claims more proximate, and their remedy more consistent with state restoration efforts. Depriving plaintiffs in any case from their day in court is an extraordinary action. At the time of this writing, the opinion seems certain to be appealed.

537. Schleifstein, *supra* note 8.

538. Schleifstein, *supra* note 530.

539. Bob Marshall, *Rapid Erosion of Louisiana Coast Only Expected To Accelerate*, ADVOCATE (Sept. 2, 2014), <http://www.theadvocate.com/news/neworleans/neworleansnews/10117846-123/rapid-erosion-of-louisiana-coast>.

540. *Id.* (quoting Kyle Graham, Exec. Dir., La. Coastal Prot. & Restoration Auth.)

of companies who think a global settlement is likely.”⁵⁴¹ There is evidently more work to be done.

Something will get done. Lawsuits do several things, and one of them is to educate people about what is happening around them. Such was the case with the tobacco litigation (who smokes these days?) and the run of crash-and-burn automobile lawsuits (new air bags, bumper standards). Such was the case as well with lawsuits to stop shell dredging in Lake Pontchartrain (pronounced dead and posted “No Swimming”) and to spare the Vieux Carre from a six-lane, elevated highway over Jackson Square (promoted by city leaders as urban revitalization). People woke up, and then things changed. It is late in the day to change oil and gas industry practices in the Louisiana coastal zone. There is only so much marsh left to destroy, and the big plays have gone out to deep water and upstate for fracking and shales. Opportunities remain to backfill the old canals, to access new work with overmarsh vehicles, to build new land in locations accessible to river sediments, and to help people relocate from disappearing landscapes and accelerating sea level rise, but these measures will cost a great deal of money.

Which returns us to the question that opened this Article and remains with us like an unhealed wound. The question can be dodged, but it will not go away.

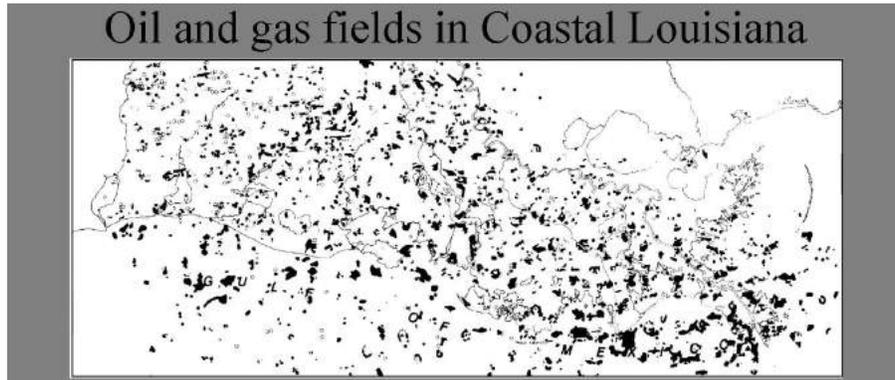
541. *LaPolitics: Tax Study Could Set Tone for 2015*, BUS. REP. (Sept. 12, 2014), <http://www.businessreport.com/article/lapolitics-tax-study-could-set-tone-for-2015> (quoting Don Briggs, who added his own solution: “We have to wait for the right kind of people to be put on the [Southeast Louisiana Flood Protection Authority—East] and it will take care of itself.”).

APPENDIX

Oil and Gas Production Fields, South Louisiana.....285
Oil and Gas Pipelines, South Louisiana.....285
Production Wells, Four Parishes286
Pointe aux Chenes.....288
Delacroix Island.....290
Legacy.....293



Oil and Gas Production Fields in South Louisiana (1981)



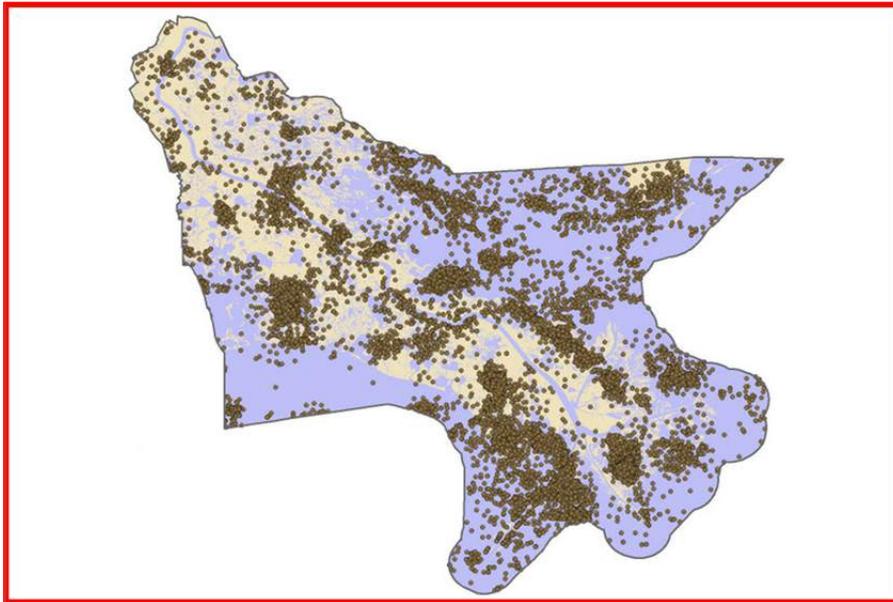
E.U. Turner, *Notes on Canal and Spoil Bank Contributions to Louisiana's Coastal Land Loss*, Department of Oceanography and Coastal Sciences, LSU (Oct. 21, 2013)

Oil and Gas Pipelines in South Louisiana

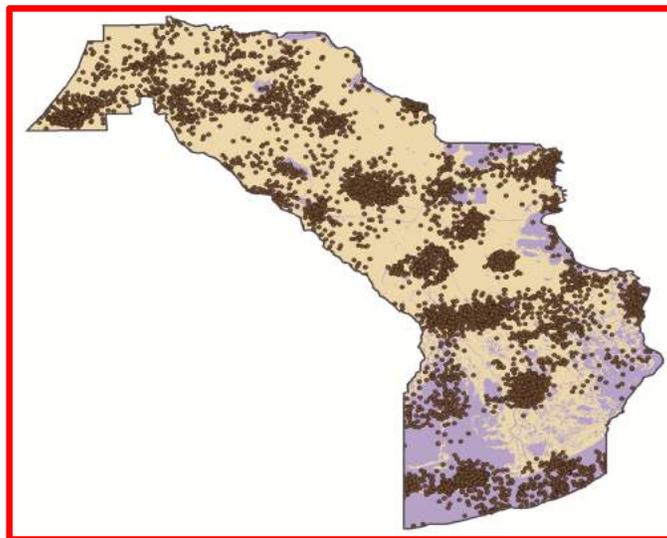


Refinery Maps and Other Oil & Gas Related Maps, Louisiana Department of Natural Resources, <http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=204>

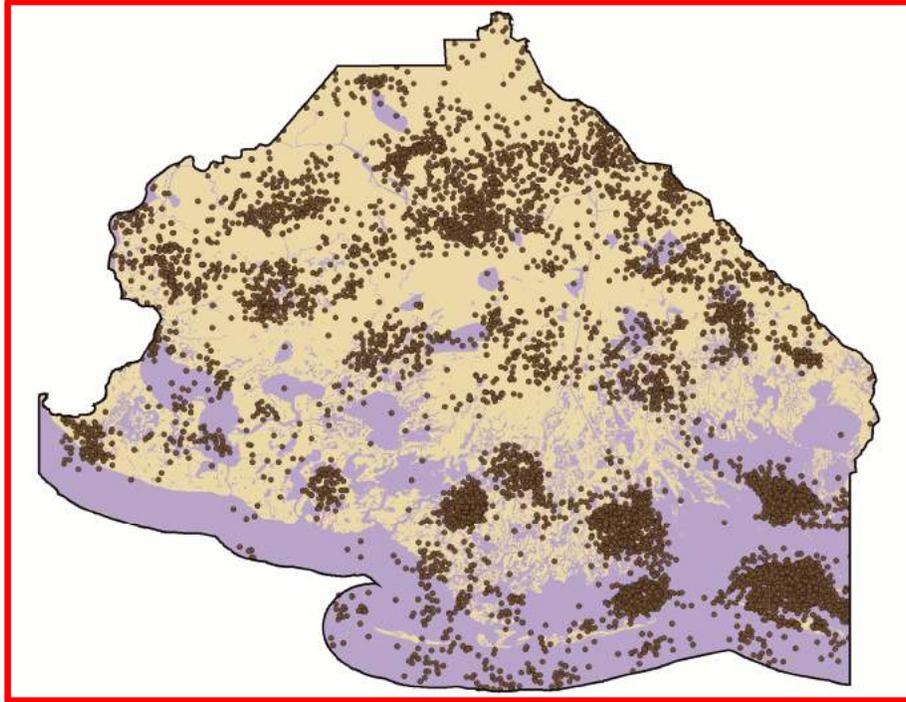
Oil and Gas Production Wells, Four Parishes
Courtesy of Dr. Don Davis, Sea Grant Scholar, LSU



Plaquemines Parish



Lafourche Parish

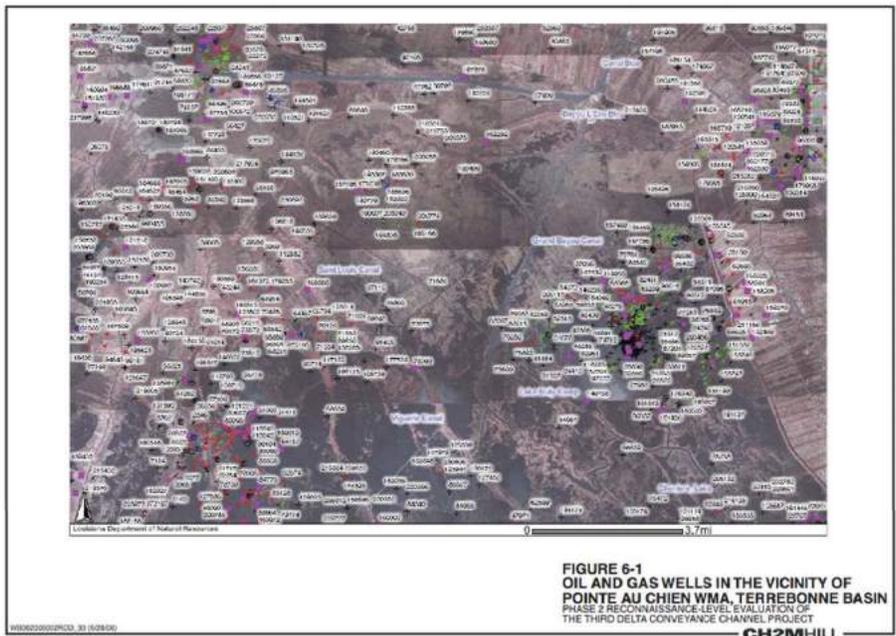


Terrebonne Parish



Cameron Parish

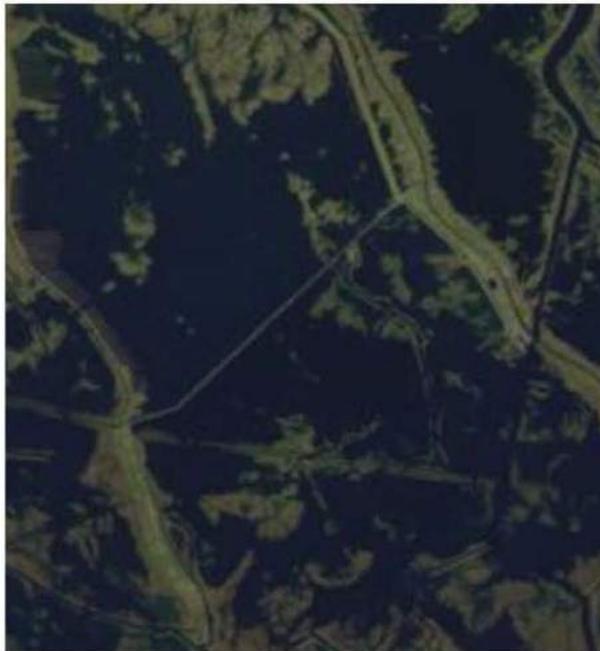
Pointe aux Chenes, Terrebonne Parish (2006)
Courtesy of John T. Arnold, Delta Environmental Law L.L.C.,
Baton Rouge, La.



Impact



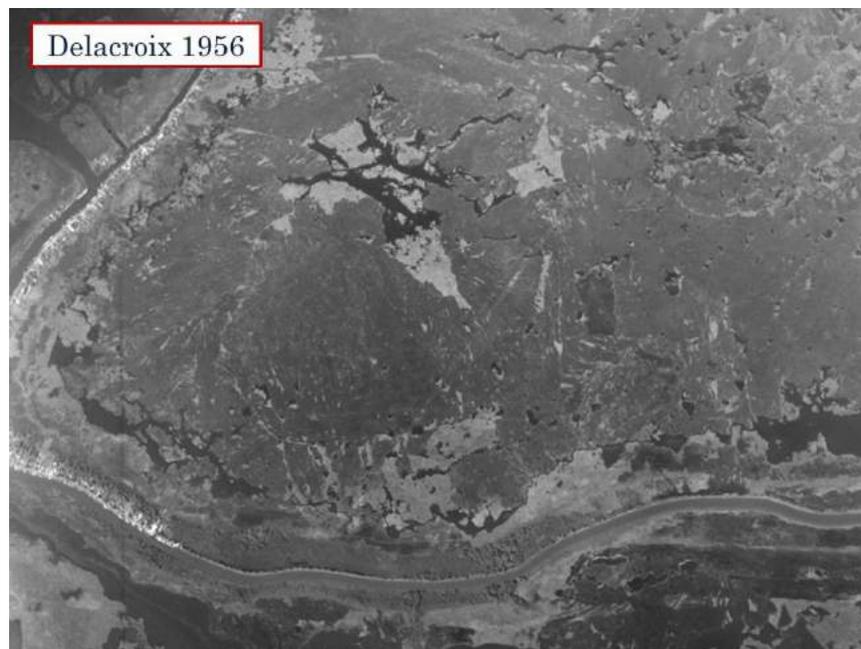
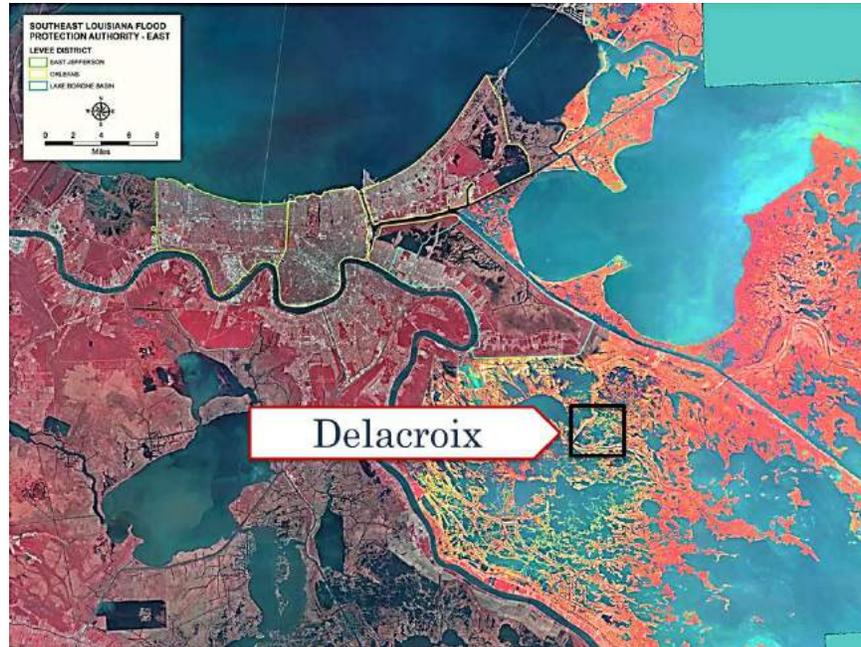
Pointe aux Chenes 1963, before oil production (over 90% wetland)

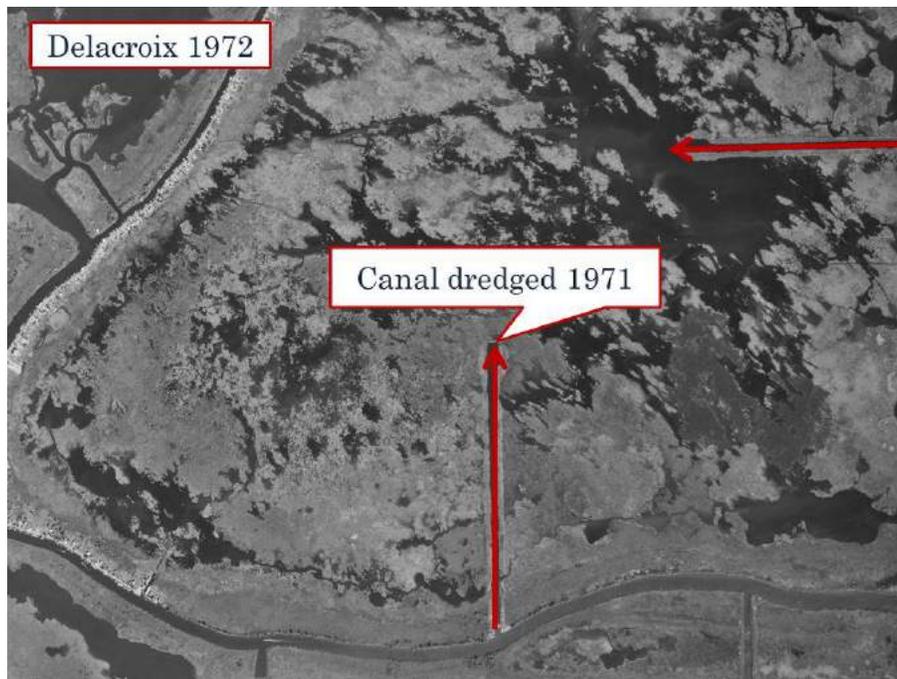
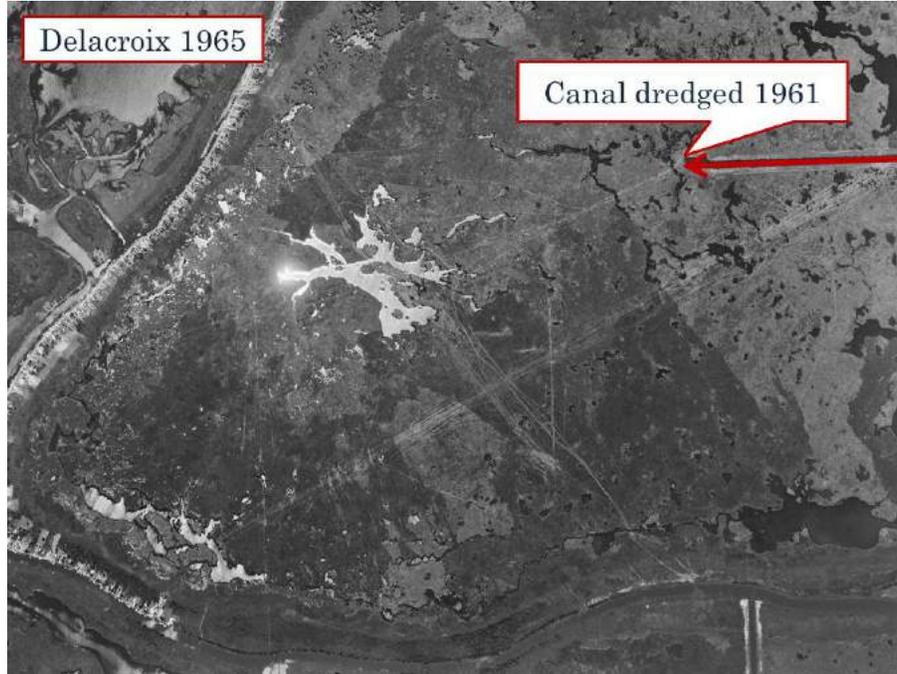


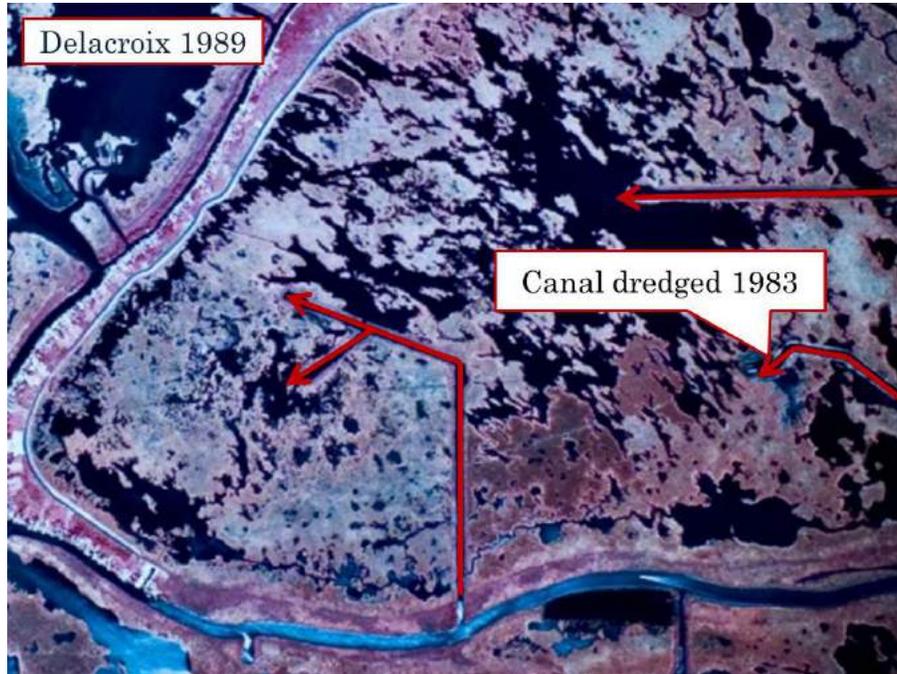
Pointe aux Chenes 2014, after oil production (over 90% water)

Delacroix Island, St. Bernard Parish
Southeast Louisiana Flood Protection Authority—East, Presentation to CPRA
(Jan. 15, 2014)

Proximity to New Orleans







Legacy

Courtesy of Jonathan Henderson, Gulf Restoration Network, New Orleans, La.



Plaquemines Parish



St. Bernard Parish



Jefferson Parish



Lafourche Parish



Terrebonne Parish



Vermillion Parish



St. Mary Parish



Cameron Parish