



PROJECT MUSE®

Cradle of a Revolution? The Industrial Transformation of Louisiana's Lower Mississippi River

Barbara L. Allen

Technology and Culture, Volume 47, Number 1, January 2006, pp. 112-119 (Article)

Published by The Johns Hopkins University Press
DOI: 10.1353/tech.2006.0051



➔ For additional information about this article

<http://muse.jhu.edu/journals/tech/summary/v047/47.1allen.html>

Cradle of a Revolution?

The Industrial Transformation of Louisiana's Lower Mississippi River

BARBARA L. ALLEN

The 150-mile stretch of the lower Mississippi River that winds from New Orleans to Baton Rouge, once lined with indigo and cotton and sugar plantations, is today home to more than 150 petrochemical plants and petroleum processors. This part of Louisiana is among the most toxic places in the United States, the site of acrimonious struggles between industry and residents over air and water pollution and one of the cradles of the environmental justice movement. Now the petrochemical industry and the state of Louisiana are at a critical juncture. The choices they—and we—make will shape the environmental and economic future of the region.

The pattern of land use along the lower Mississippi, which conditions the interaction of industry, environment, and people, has roots in the eighteenth century. European colonists subdivided the land along the river between New Orleans and Baton Rouge into long, narrow plantations, each with some relatively high ground fronting the water and gradually sloping down through flat agricultural land toward swampland and bayou. The larger plantations typically were located on the straighter sections of the river; bigger and better docking facilities could be built there than at a bend, and the planters depended entirely on river transportation.¹

After the Civil War, the Freedmen's Bureau made numerous small land grants to extended family groups of newly freed slaves, often on or near the

Barbara Allen, a native of south Louisiana, has published extensively on environmental justice, science and expertise, and public health struggles in this region. She is the director of the Science and Technology Studies Program for Virginia Tech's National Capital Region campus and author of *Uneasy Alchemy: Citizens and Experts in Louisiana's Chemical Corridor Disputes* (2003).

©2006 by the Society for the History of Technology. All rights reserved.
0040-165X/06/4701-0009\$8.00

1. See Mary Ann Sternberg, *Along the River* (Baton Rouge, 1996), for a mile-by-mile description of the plantation history of the lower Mississippi River region.



FIG. 1 Triad Chemical Corporation's offices are located in the former Riverside Plantation house (1899), which is dwarfed by the immense facility directly behind it. (Photo by author.)

plantations they had previously worked.² But the larger plantations remained in the hands of white planters. The result was a pattern of large, contiguous blocks of open land under single ownership, many along straight sections of the river, separated by communities of freed blacks and poorer whites clustered in adjacent communities. When chemical and petroleum companies arrived in the area, they naturally preferred to deal with the large landowners (fig. 1), who could offer the best transportation facilities and the convenience of negotiating with a single seller rather than several sellers, some perhaps without clear title to their property.³ This history helps explain how predominantly African-American communities and petrochemical facilities came to exist in such close proximity along the river.

The first oil companies to locate in the region, Mexican Petroleum (now Amoco) and Standard Oil (now Exxon), were attracted by the advantages for transportation and the assurances of favorable treatment from

2. Records of the assistant commissioner for the State of Louisiana, Bureau of Refugees, Freedmen and Abandoned Lands, 1865–1869; Register of Applications of Freedmen for Land, vol. 77, M1027, roll 34, National Archives, Washington, D.C.

3. For a thorough discussion of land ownership and economic conditions leading to inequities in Louisiana's industrial development, see Barbara Allen, *Uneasy Alchemy: Citizens and Experts in Louisiana's Chemical Corridor Disputes* (Cambridge, Mass., 2003), ch. 1.

JANUARY
2006
VOL. 47

Louisiana politicians.⁴ The discovery of vast oil reserves in the Sabine Uplift was a decided bonus. By 1918 Standard Oil's facility at Baton Rouge was the company's largest refinery, handling not only midcontinent crude, but also local crude and imported Mexican oil. Tacit cooperative agreement among planters, state government, and outside interests in favor of commercial and industrial development had serious consequences for the local economy. When Standard Oil laid a \$2-million pipeline from the northern Louisiana oil fields to its new refinery in Baton Rouge in 1909, the company imported all of the skilled labor, materials, tools, and equipment, hiring only unskilled labor locally. Furthermore, because they controlled the transportation network, the oil companies were able to freeze out all but the largest producers, concentrating the industry in the state in a few corporate hands. This extractive economy persisted into the chemical era, supported by regulatory agencies and Louisiana's political elite.⁵

In the 1930s, as economic depression devastated other regions and sectors of the economy, the Gulf Coast experienced tremendous growth in both petroleum processing and chemical production. The technology of catalytic cracking allowed chemists and chemical engineers to process crude and petroleum distillates efficiently and precisely, and the region had an abundance of the raw materials on which the petrochemical industry depends: oil, natural gas, salt, water, and sulfur.⁶

Innovation in plant architecture was also key. In late 1938, Dutch Buettel, Dow Chemical Company's appointed Southern pioneer, took a fateful drive from Houston to the Texas coast and was fascinated by the natural-gas flares of the oil wells along the route. He spotted a saltwater estuary adjacent to the wells and thought it an ideal location for a new plant.⁷ Buettel made the risky but ultimately profitable decision that enclosing the plant's vast tangle of pipes and tanks in a building envelope, as in the north, would be unnecessary in the mild climate of the Gulf Coast and opted instead for what is now called an "open architecture." This saved a tremendous amount of investment capital and made Southern locations extremely competitive in the growing petrochemical industry. Low wages, a nonunion labor force, and regulatory freedom were other primary reasons for petrochemical companies' relocation to Southern states.⁸

Dow Chemical's postwar expansion typifies that of the petrochemical industry in the South during that period. The company sought to decentralize largely in response to the issue of pollution, fearing problems with

4. Henrietta M. Larsen, Evelyn H. Knowlton, and Charles Popple, *History of Standard Oil Company (New Jersey): New Horizons, 1927–1950* (New York, 1971), 3–4.

5. See Allen, ch. 1, for a longer discussion of the political economy of oil in the state in the early twentieth century.

6. Lee N. Davis, *The Corporate Alchemists* (London, 1984), 118.

7. Peter H. Spitz, *Petrochemicals* (New York, 1988), 89.

8. William Haynes, *Southern Horizons* (New York, 1946), 273.

water, waste, and disposal if its operations remained concentrated in Texas and Michigan. Fierce competition brought a change in plant economics. Automation processes made the hiring of most blue-collar workers obsolete. One regional journal of the period noted that “it is not uncommon to find new multi-million dollar plants operated by a handful of men.”⁹ As the chemical plants grew larger, the cost per unit of material decreased, most of the savings coming from labor economics. The growth curve for the Mississippi River chemical corridor became even steeper during the 1960s, thanks to factors such as Louisiana’s decision to reduce the tax on natural gas, cheap labor, and a political climate that minimized the problem of pollution.¹⁰ Companies were aware that with the passage of the 1965 federal Water Quality Act, pollution would soon be a major consideration, and the Mississippi River’s high discharge rate, which dispersed contaminants more rapidly than any other place along the Gulf Coast, made it an ideal location under the coming regulatory regime. And enforcement was less of a concern in Louisiana than elsewhere.

In 1964, the small African-American town of Geismar, now one of the centers of the environmental justice movement in Louisiana, was targeted for development by several companies. Multicorporation networks featuring an interconnected piping system and symbiotic production had by this time become common along the river, as one facility’s waste or product was another’s feedstock. Mobil, MonoChem, BASF, Morton, Allied, and others all bought riverfront property and began operations in the Geismar area, attracted by a lucrative government package: no local property taxes; stabilization of the riverbank by the Corps of Engineers, ensuring excellent docking facilities; new state highways, including the Sunshine Bridge, to make the small community accessible to all modes of transportation; and, last but not least, a “no politics attitude from the governor’s office.”¹¹ But the local residents—most owned their own homes and some were living on the same land their families had received from the Freedmen’s Bureau after the Civil War—were not seen as a potential labor pool for the new plants. As one trade journal put it, “the town has no manpower . . . most of the workers . . . commute.”¹²

Concerns about industrial pollution emerged over a decade later. In 1978, a young truck driver named Kirtley Jackson was hauling hazardous waste to open-disposal pits near Bayou Sorrel, just south of Baton Rouge.

9. H. McKinley Conway, “Automatic Processes for Southern Industry,” *Journal of Southern Research*, September–October 1952, 22.

10. Edystone C. Nebel III, *Factors Affecting the Location of the Petrochemical Industry in the Gulf South* (Baton Rouge, 1971), 51.

11. “Louisiana Oil Prospers by ‘No Politics’ Rule,” *Oil and Gas Journal*, 27 January 1964, 114.

12. “Petrochemical Boom Hits Tiny Town of Geismar,” *Oil and Gas Journal*, 4 May 1964, 50.

JANUARY
2006
VOL. 47

The waste from his truck reacted with the waste in the pit and Jackson was overcome by the fumes; he died instantly. That same year, a reform-minded attorney general, William Guste, hired Willie Fontenot as an environmental outreach specialist.¹³ For the next twenty-seven years Fontenot would help local citizens better understand and navigate the regulatory process of permitting and disposal, so that their voices could be heard.

Some of the first people to come forward with Fontenot's help were from small African-American communities that, because of historical circumstance, shared a fenceline with industry. Their fight against the poisoning of their communities marked the beginning of the environmental justice movement in the state, and Louisiana would see many watershed events that brought publicity to the national struggle.¹⁴ In 1989 hundreds of residents of the chemical corridor participated in the Great Louisiana Toxics March, a ten-day walk down the corridor from Baton Rouge to New Orleans. Around the same time, Greenpeace released a study alleging that cancer deaths in the chemical corridor were twice the national average.¹⁵ Though the state and the chemical industry countered with a joint study claiming no adverse health effects, environmental activists nicknamed the region Cancer Alley.¹⁶

The 1980s also saw the destruction of three predominantly African-American communities along the river from chemical-industry pollution. Morrisonville (founded 1790), Sunshine (founded 1874), and Reveille-town, an ex-slave settlement, were bought out and their citizens forced to move because of chemical exposure. Recently a fourth African-American community, the Diamond neighborhood in the town of Norco, has been bought out and dismantled by Shell Oil and Chemical Company.¹⁷ These

13. Jim Schwab, *Deeper Shades of Green* (San Francisco, 1994).

14. For a more in-depth discussion of the beginnings of the environmental justice movement in the United States, see Robert D. Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality* (Boulder, Colo., 1990); and Luke W. Cole and Sheila R. Foster, *From the Ground Up: Environmental Racism and the Rise of the Environmental Justice Movement* (New York, 2001). For a longer environmental history of the region, see Barbara L. Allen, "The Making of Cancer Alley: A Historical View of Louisiana's Chemical Corridor," in *Southern United States: An Environmental History*, ed. Donald E. Davis (Santa Barbara, Calif., forthcoming).

15. J. Timmons Roberts and Melissa M. Toffolon-Weiss, *Chronicles from the Environmental Justice Frontline* (New York, 2001), 47.

16. No one has been able to prove whether or not there is a higher incidence of cancer in the chemical corridor because most of the state's cancer data has been kept hidden. For an analysis of the lawsuits that citizens and medical researchers have filed to gain access to the data, see B. L. Allen, "The Problem with Epidemiology Data in Assessing Environmental Health Impacts of Toxic Sites," in *Environmental Exposure and Health*, ed. M. M. Aral et al. (Southampton, U.K., 2005).

17. Steve Lerner, *Diamond: A Struggle for Environmental Justice in Louisiana's Chemical Corridor* (Cambridge, Mass., 2005).

losses due to environmental degradation are thus a recent memory for many residents of the region—a memory recharged by Hurricane Katrina and its aftermath.

President Bill Clinton's 1994 Executive Order 12898 added steam to the environmental justice movement. The order states that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse effects of its programs, policies, and activities on minority and low-income populations." This decree helped fuel one of the biggest environmental justice battles in the United States to date.

In 1996, with the endorsement of Governor Mike Foster, the giant Japanese multinational Shintech applied for a permit to build a \$700 million polyvinyl-chloride plant, one of the largest in the world, on agricultural land near the town of Convent. The facility would have added over 600,000 pounds of toxic emissions to St. James Parish, which was already home to thirteen plants and ranked third in the state for industrial pollution. In 1997, with the help of the Tulane Environmental Law Clinic, the citizens of Convent filed two environmental justice complaints, one against the state regulators alleging bias, the other charging that the new plant's siting would violate Title VI of the 1964 Civil Rights Act. (Under Title VI, following Clinton's executive order, a plaintiff need not demonstrate intent to discriminate, only a discriminatory effect—a much easier burden of proof.) This was to be the first test using the Civil Rights Act for environmental justice purposes, and it made state regulators and industry nervous. Almost two years later, Shintech and its allies decided to drop their plans to build a new chemical plant in Convent before a landmark decision could be handed down and instead built a much smaller facility on the Dow Chemical campus in a nearby parish upriver.

Today Louisiana's corporate tax-exemption programs shelter plants like Shell's Norco facility and Exxon's Baton Rouge refinery. Thanks to the state's industrial-property tax exemption, those two companies avoided paying over \$175 million in taxes during the 1980s. The exemption dates to 1936, and it has become a corporate welfare roll in recent years. Although many Southern states offer this exemption, Louisiana is the only one that grants it without local approval or input. Since much of the tax revenue that corporations save would have gone to local schools and public facilities, the communities that house these industrial facilities are left underfunded and unable to provide adequate basic services. Many lack running water and municipal sewers, and others do not have even basic medical services. Louisiana ranks third in the nation in percentage of a family's income spent on health care. According to a seven-parish survey of residents living within a mile of the river, where industry is most heavily concentrated, 35 percent suffer from respiratory problems, 21 percent from allergy

problems, and 17 percent from other sinus problems, in addition to claims of elevated cancer rates.¹⁸

Louisiana now produces less than 7 percent by value of the nation's chemicals, but almost 13 percent of all the hazardous waste reported nationally. The plants along the chemical corridor produce ninety-eight major chemicals, eleven of which are recognized carcinogens. In 2001, the industry emitted or released over 145 million pounds of hazardous waste, according to its own reporting for the U.S. Environmental Protection Agency Toxic Release Inventory (TRI). Citizens have won some victories against polluters. But their main guide for decades through the legal and regulatory system, Willie Fontenot, was given a choice of retiring or being fired from his position as environmental liaison to the state attorney general's office in early 2005; taking college students on educational and fact-finding tours of communities in the petrochemical corridor in Louisiana is now evidently considered a breach of homeland security.¹⁹ Open-access websites with public information on evacuation and worst-case scenarios regarding industrial accidents have been shut down since 2003. In the name of national security, citizens and scientists in the region are being refused access to information on what chemicals are produced or stored at various facilities.²⁰ Proposed changes to criteria for the TRI would make reporting of hazards less complete and less frequent.²¹ None of this bodes well for the future of the environment in the chemical corridor.

But now all eyes are on Louisiana and New Orleans as they rebuild in the wake of Hurricanes Katrina and Rita. Perhaps globalization will lead the petrochemical industry to relocate plants to countries with looser regulatory structures so as to evade conflicts such as those that have been intensifying in Louisiana's chemical corridor. However, burgeoning communication networks outside the mass media and the globalization of the environmental justice movement may serve as prophylaxes against the simple transfer of polluting technologies and a business-as-usual attitude.

18. Raymond J. Burby, *Through Their Eyes: Survey Results of Lower Income Residents in the Louisiana Industrial Corridor—Seven Parish Combine Sample* (New Orleans, 1995), 2.

19. Mark Schleifstein, "Activists' Ally Snared in Security Net," *New Orleans Times-Picayune*, 5 April 2005.

20. See John D. Echeverria and Julie B. Kaplan, "Poisonous Procedural 'Reform': In Defense of Environmental Right to Know," Georgetown Environmental Law and Policy Institute, <http://www.law.georgetown.edu/gelphi/>, accessed 4 December 2005. For an extensive list of public information that has been removed or limited to approved access, see "Post 9/11 Age of Missing Information," Clary-Meuser Research Network, <http://www.mapcruzin.com/news/rtpost911.htm>, accessed 4 December 2005.

21. Under the Environmental Protection Agency's proposal, companies "would report their releases of toxic chemicals every other year instead of annually, and more chemicals would be eligible for less-detailed disclosures." Janet Pelley, "EPA Proposes to Relax TRI Reporting Rules," *Environmental Science and Technology A-Page Magazine*, 1 December 2005, 479A.

The history of the building of the petrochemical industry on the lower Mississippi holds cautionary lessons for the rebuilding of New Orleans. The importation of outside labor, materials, and corporations did little for the region's economy in the twentieth century. Industry did not employ local residents to any significant degree, and tax breaks depleted public coffers that funded schools and other services. The collusion of state government with wealthy planters and outside corporate interests encouraged policies that were harmful to the majority of local residents.

But a better future may be imagined. There is movement in the petrochemical industry to improve production processes in ways that reduce both the amount and the toxicity of waste. Proponents of "green chemistry" are developing new materials whose production by-products are nonhazardous.²² A city remade on sustainable environmental principles can weather coming storms better than one that simply reinscribes old technologies and their power structures on the damaged lower Mississippi River terrain.

22. "Green Chemistry Is the Design of Chemical Products and Processes That Reduce or Eliminate the Use and Generation of Hazardous Substances," Green Chemistry Institute, <http://www.chemistry.org/portal/a/c/s/1/acdisplay.html?DOC=greenchemistryinstitute.html>, accessed 27 November 2005; and Jody Roberts, "De-/Re-Constructing Green Chemistry" (Ph.D. diss., Virginia Polytechnic Institute and State University, 2006).