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Toxic Exposure

Landmark Cases in the South and the Rise of Environmental Justice Activism

As minorities grew increasingly concerned about exposure to environmental hazards in the late 1970s and early 1980s, two events led them to consider the broader implications of living in close proximity to hazardous industrial facilities. These were the contamination of the waterways around Triana, Alabama, with pesticides from a manufacturing facility and the siting of a hazardous waste landfill in Warren County, North Carolina. A third region—Cancer Alley in Louisiana—is also discussed in this chapter because of its significance in amplifying awareness of environmental hazards in minority communities. This chapter shows how rural communities played an important role in raising public awareness of EJ issues.

The cases discussed in this chapter are also important because they helped to establish the master frame for many of the EJ claims that arose vis-à-vis minorities and exposure to hazards. These landmark cases also helped to establish organizing and legal strategies, as well as policy agendas. The cases also provided some of the early opportunities for scholars to examine the relationship between environment and social justice.

Triana—DDT Contamination and Toxic Fish Consumption

When residents of the small, predominantly Black rural settlement of Triana, Alabama, discovered that they were poisoned with dichlorodiphenyltrichloroethane (DDT) in 1978, they wondered how race and poverty were related to their exposure. Beginning in 1947, DDT—an insecticide widely used to spray crops and kill mosquitoes—was manufactured in the Calabama Chemical Company facility located about six miles from Triana. Calabama operated on land leased from the U.S. Army at the sprawling Redstone Arsenal complex. In

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1954, Olin purchased the Calabama Chemical Company and continued to manufacture DDT at the plant till 1970 (*Olin v. Insurance Company*, 1992; Roberts, Laughlin, Hsheih, and Legters, 1997).

While in business, the plant operated seven days a week producing between one to two million pounds of DDT monthly. Waste water contaminated with DDT was released into brick-lined trenches running alongside the factory. The trenches transported the effluents from the Olin factory to an acid-neutralization pit and a series of drainage ditches that emptied into a stream—the Huntsville Spring Branch. The two most contaminated streams were the Huntsville Spring Branch and Indian Creek. Both tributaries empty into the Tennessee River at Triana. Roughly 75% of the residents of Triana are Black (*Olin v. Insurance Company*, 1991; U.S. EPA, 1986b, 2002; Reich, Perkins, and Cutter, 1985).

The lives of Triana residents were inextricably linked to what went on in the DDT-manufacturing facility. Contaminated waste water from the factory traveled less than a mile before emptying into the Huntsville Spring Branch. Triana residents fished for and consumed contaminated fish from Indian Creek; they also used the creek and the Tennessee River for their drinking-water supply till 1967. That year a well was constructed in Triana, and water was piped to residents' homes (Kreiss et al., 1981; *Olin v. Insurance Company*, 1992). DDT is a chemical that poses danger to human health. It is associated with increased risk of pancreatic and breast cancer, non-Hodgkin's lymphoma, hypertension, impaired neural functions, liver disease, reduced psychomotor function, obesity, elevated cholesterol, and reduced fecundity and other reproductive problems (Kreiss et al., 1981).

Contamination of Local Waterways

Though Olin representatives testified in court that the company believed it operated a "closed plant," that is, a facility that did not allow its product (DDT) or byproducts to escape into the environment, the plant released DDT almost continuously during its operation. Records show that even before Olin acquired the plant, DDT was escaping into local tributaries. In 1948, Calabama's manager, Benton Wilcoxin (who continued to manage the plant after Olin bought it), discovered that DDT was settling in the waste-water trenches. In 1952, the Army, concerned about chemical leakage from the plant, set maximum levels of 10 parts per million (ppm) DDT for the effluents. The Army also

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established a zero permissible level of DDT for the Huntsville Spring Branch. Nonetheless, three years later, Olin engineers found DDT in the waste-water trenches. DDT was again found in samples analyzed from the trenches in 1957 and 1961. While events unfolded at Olin, research evidence was mounting that DDT was harmful to humans and the environment. By the mid-1950s, researchers and DDT manufacturers were aware that the chemical was very toxic. In fact, Olin began putting warning labels on some of its DDT products between 1957 and 1958 that alerted users that the products should not be used near children, fish, or wild fowl (*Olin v. Insurance Company*, 1991, 1992). As early as 1959, the U.S. Fish and Wildlife Service reported that there was a 97% drop in the number of double-crested cormorants at the Wheeler National Wildlife Refuge (parts of which abut the Redstone Arsenal). Fourteen hundred acres of the refuge were contaminated with DDT, and by 1963 there was also a 90% decrease in the number of red-shouldered hawks (Press, 1981; Maynard, Cooper & Gale, 1995; U.S. EPA, 1983). Rachel Carson's 1962 book, *Silent Spring*, also provided strong evidence that DDT was harmful to wildlife and humans.

During the 1960s, the Army increased the testing of nearby creeks as public awareness of the dangers of DDT grew. After a buildup of DDT was observed at the confluence of the Olin drainage ditch and the Huntsville Spring Branch in 1963, the Public Health Service was asked to conduct a study. The Public Health Service found toxic levels of DDT in the Huntsville Spring Branch and that the fish in the creek were dying from exposure to the chemical. The study also found traces of DDT at a dam more than 100 miles downstream of the Olin plant. Toxicity data in the Public Health Service report indicate that fish exposed to 25% concentration of Olin's effluents died within an hour of exposure. The study expressed concern for the health of fish and wildlife and for people consuming them. However, it was several more years before local Blacks who were subsistence anglers and who consumed large quantities of fish from the creeks around the Olin plant were tested and warned about DDT contamination. In 1964, the Tennessee Valley Authority (TVA—which has jurisdiction over the Tennessee River watershed) also conducted a study of the Huntsville Spring Branch and found that it was polluted with DDT. That same year, the Army notified Olin that it had lowered the limit of DDT permissible in the effluents to 80 parts per billion (*Olin v. Insurance Company*, 1991, 1992).

Nonetheless, the Olin plant continued to pollute the waterways with DDT throughout the 1960s. In 1965, Olin began running its effluents through a settling tank in an attempt

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to filter out contaminants and reduce water pollution. The tank filled up quickly, collecting more than 12,000 pounds of DDT-tainted materials in a four-month period. Court documents also show that Olin executives were notified that DDT was being released by the plant. A 1967 conference concerning pollution at the Redstone Arsenal concluded that pollution in the Huntsville Spring Branch was dangerous to aquatic life. Finally, in August 1969, the Army began procedures to close the facility on the grounds that Olin had violated its lease by releasing DDT into local streams. When a new filtering system failed to stem the flow of DDT from the plant, the Huntsville facility closed on June 30, 1970. Six months later, the federal government banned all DDT use in the U.S. except for emergency purposes (*Olin v. Insurance Company*, 1991, 1992; Reich, Perkins, and Cutter, 1985).

When Olin's manufacturing facility closed, the company left behind about 417 tons of DDT in the water and sediments of Huntsville Spring Branch–Indian Creek tributaries (U.S. EPA, 1983, 1986b). A 1972 Army study found extensive water pollution in the area around the defunct Olin plant. Fish in area streams also had high levels of DDT in their systems. Based on the results of the tests, the Environmental Protection Agency (EPA) ordered the Army to clean up the facility. In 1978, TVA conducted another study of DDT contamination in waterways downstream of the Redstone Arsenal and found very high levels of DDT in the fish. The report also expressed concern for the people in the area who ate the contaminated fish. The report was made public, and it was at this juncture that the residents of Triana learned that they might be contaminated with DDT (*Olin v. Insurance Company*, 1991, 1992; Maynard, Cooper & Gale, 1995; Press, 1981; Hollis, 1980; Reynolds, 1980; NIH, 1997).

Shortly after the 1978 TVA study was released, the EPA ordered the Army to develop a remediation plan for the Huntsville Spring Branch. The Army argued that it was not responsible for cleanup because the Wheeler Wildlife Refuge is just outside the Redstone Arsenal boundary. Eventually the Army acquiesced and collaborated with the EPA and the Fish and Wildlife Service to resolve the problem (Noland, 1979). The Centers for Disease Control (CDC) analyzed samples of fish caught in Indian Creek in 1979 and found they had an average of 226 milligrams per kilogram (mg/kg) of DDT residues. The Food and Drug Administration's action level for DDT is set at 5 mg/kg (Kreiss et al., 1981).

Residents Tested

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The lack of concern for local residents shown by wildlife managers, some government agencies, the Army, Calabama Chemical Company, and Olin did not escape the notice of Triana's residents. Though evidence of DDT contamination was identified as early as 1948 and research indicating that the chemical might be harmful to humans began surfacing in the 1950s, Blacks who lived close to the Olin plant and who drank contaminated water and ate large quantities of toxic fish were not tested or alerted to the problem till three decades after the problem was first identified. Clyde Foster, then mayor of Triana and one of the plaintiffs in the lawsuits discussed in the following section, argued that the TVA knew of the contamination but did not warn or test Triana's residents (Haggerty, 1980: 14).

In another interview, Foster charged that state and federal agencies knew of the excessive levels of DDT in fish consumed by Triana residents for years but refrained from making the information public because they wanted to use Triana's residents as "guinea pigs." The police chief, Joe Fletcher, echoes Foster's sentiments. Fletcher thinks the Army knew of the contamination for a long time. He argues, "They knew it was there… . They should have come down and told us about it in 1964, when we were incorporated" (Noland, 1979: 15).

The first round of testing of residents began in December 1978. The CDC collected blood samples from 12 residents. Analysis showed that one of the test subjects had DDT and DDE (dichlorodiphenyldichloroethylene) levels that were twice as high as any level previously recorded in the medical literature. The CDC conducted a more extensive study in 1979 in which 518 people were tested; 86.9% of the study participants were Black. Participants ranged in age from a few weeks to 90 years old. Adults had resided in Triana for an average of 24.9 years. There were several ways in which Triana residents were exposed to DDT. Routes of exposure included consumption of locally caught fish, imbibing water from local creeks, spraying of nearby cotton fields, and working in the pesticide-manufacturing facility. However, the primary source of exposure was through fish consumption. The median fish consumption was 4.3 fish meals per month; however, some study participants reported consuming fish once or twice daily (Kreiss et al., 1981).

The study found that the average DDT level in the study population was 159.4 nanograms per milliliter (ng/ml). However, six participants had between 1,000 and 2,820.5 ng/ml of DDT in their systems. A third of the sample had DDT levels that were greater than 500 ng/ml, and 28% had levels of DDT and its derivatives in their blood that

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were ten times the U.S. average. At the time of the study, the U.S. average for DDT levels in people 12 to 74 years was 15 ng/ml. The study found that DDT levels were higher in Blacks than in Whites and higher in males than in females. The study also found that age was the strongest predictor of DDT levels—the oldest respondents had the highest levels of DDT. Prior to this study, it was assumed that chronic exposure to DDT resulted in a steady-state condition in which intake of the pesticide would match the levels at which it is excreted from the body. The CDC study indicated that DDT continued to accumulate in the body over time (Kreiss et al., 1981).

Lawsuits

In July 1979, 32 commercial fishermen filed suit against Olin (*James v. Olin*, 1979). They argued that they suffered personal injury and property damage from the DDT contamination. Two months later, the state of Alabama also filed suit against Olin (*Alabama v. Olin*, 1979). A second CDC study was published in 1980 showing very high levels of DDT in the blood serum of Triana residents. The study also revealed that Triana residents had high levels of polychlorinated biphenyls (PCBs) in their blood stream. The discovery of PCBs in residents' bloodstream triggered a search for the source of the cancer-causing agent, but no major source of PCBs was found (Redstone Arsenal, 1980).

In 1980, three lawsuits were filed against Olin by residents and one by the U.S. government (*Freeman v. Olin*, 1980; *Parcus v. Olin*, 1980; *Charest v. Olin*, 1981; *United States v. Olin*, 1980). At the time, 866 of the 1,158 residents of Triana were Black (U.S. Census Bureau, 1980). The three citizens' suits (*Freeman v. Olin, Parcus v. Olin*, and *Charest v. Olin*) were brought on behalf of 1,200 residents living downstream of the Redstone Arsenal. The suits alleged that plaintiffs had eaten fish from the streams and had consumed water from the creeks and rivers. Plaintiffs were compensated $10,000 apiece. In all, 15 lawsuits (including class-action suits) were filed by individuals and government agencies (*Olin v. Insurance Company*, 1991, 1992; McGovern, 1997). The Redstone Arsenal site was declared a Superfund site in 1981. In December 1982, Olin reached an agreement with the EPA to clean up the Wheeler Wildlife Refuge as well as the Huntsville Spring Branch and Indian Creek tributaries. As part of the agreement, Olin promised to lower the level of DDT in catfish to 5 ppm by 1997 (catfish is used as an indicator species, and 5 ppm is the federal tolerance level for DDT), to excavate new channels and divert the flow of Huntsville Spring

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Branch and Indian Creek around the most contaminated portions of the tributaries, and to bury contaminated sediments in place. The agreement also called for Olin to provide $24 million ($19 million of which went to satisfy personal injury claims) to help residents in the contaminated area (U.S. EPA, 1983, 1986, 2002). Additional lawsuits were filed, and eventually more than 13,000 plaintiffs filed suit against Olin, the TVA, and the Army (residents of six counties were eligible to file claims). All the lawsuits were eventually settled for more than $80 million (*Olin v. Insurance Company*, 1991; McGovern, 1990, 1997).

Continued Monitoring

Federal agencies continued to monitor the waterways around the Olin plant for decades. A 1985 study of the aquatic ecosystem found that levels of DDT contamination in Indian Creek and Huntsville Spring Branch was still extremely high (Reich, Perkins, and Cutter, 1985). From 1980 to 1998, the TVA and other agencies collected fish samples in the lower Tennessee River basin (including samples from the Huntsville Spring Branch and Indian Creek). The Alabama Department of Environmental Management issued consumption advisories warning people not to eat the fish from Huntsville Spring Branch and Indian Creek because it was contaminated with DDT, dichlorodiphenyldichloroethane, DDE, and PCBs (Knight and Powell, 2001).

In 1997, the National Institutes of Health funded a study to examine the link between exposure to DDT and breast cancer (NIH, 1997). Breast exams and mammograms were conducted on 228 women aged 19 to 91; 80% of the study participants were Black. Though the study did not establish a link between breast cancer and DDT levels, it found that DDT and DDE levels in the blood serum of the study participants were very high (Rusiecki et al., 2006). Despite these results, community activists report that Triana women are dying from breast cancer (Associated Press, 2002).

Warren County—PCB Landfill

PCB Contamination

Though the Triana case was compelling, it was the events that occurred in Warren County, North Carolina, that changed everything. That is, the images of Black protestors lying face up across a rural road while a large dump truck filled with PCB-laced dirt inched toward

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them garnered much interest and shocked the nation. In 1982, residents of the predominantly Black Warren County (North Carolina) began protesting the construction of a chemical-waste landfill near Afton in which the state planned to bury 400,000 cubic yards of soil tainted with PCBs (LaBalme, 1988). The contamination occurred when a contractor (Robert Burns and his two sons) hired by Robert Ward of the Ward Transformer Company of Raleigh, North Carolina, to dispose of hazardous wastes sprayed approximately 12,850 gallons of PCB-tainted fluids along 210 miles of roads at 51 different sites in 14 counties in North Carolina in 1978. Ward Transformer bought, stored, rebuilt, and resold used electrical equipment including transformers (*United States v. Ward*, 1984, 1985).

At first, Burns was paid $1.70 per gallon to remove the adulterated fluids from Ward Transformer's facility and ship them to a Youngsville (Pennsylvania) warehouse for storage. When this proved too costly, Burns and Ward changed plans three months into the operation and decided to dump the remainder of the contaminated oil somewhere remote. They conjured up a plan to dispose of the oil at Fort Bragg's impact range. Two truckloads were dumped at Fort Bragg in late June 1978. However, Burns and Ward decided to dump the rest of contaminated oil elsewhere because the truck was getting stuck in the sandy soil at Fort Bragg and the oil was not readily absorbed by sand. Consequently, the two conspired to spray the contaminated fluids along remote, rural roads (*United States v. Ward* , 1982b; *United States v. Burns*, 1986).

All the modifications needed for the truck to carry out the operation were done at a Ward Transformer facility with the aid of company employees. PCB-laced fluids were dumped from an enclosed truck outfitted with a 750-gallon tank and piping connected to a nozzle which extended from the rear right side of the truck. The nozzle was opened to allow fluids to escape while the truck was in motion (*United States v. Ward*, 1985; *Warren County v. North Carolina*, 1981).

In July and August, Burns and his sons sprayed the contaminated fluids along secluded roadways in eastern North Carolina. The spill was first discovered at Fort Bragg when discolored grass and stained earth was noticed along 11 miles of roadway. Similar discoloration was spotted later on rural roadways in eastern counties. Test of soil samples showed that the concentration of PCBs was as high as 14,800 ppm in some samples (*United States v. Ward*, 1982b, 1982c, 1985).

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Once the contaminated soil was discovered, the state considered several plans before deciding to bury the soil in a landfill. The state evaluated 90 sites in 20 counties as potential disposal sites before settling on the Warren County site. Many of the sites were ruled out because they did not meet two EPA criteria: the bottom of the landfill should be at least 50 feet above the groundwater level and the site should have thick, relatively impermeable soil formations such as large-area clay pans. The chosen landfill site, located about 3.5 miles south of Warrenton and about 2.5 miles north of Afton, is in a rural, agricultural area. In December 1978, North Carolina applied for approval for the site to be used as a landfill. A public hearing—attended by hundreds of residents—was held in January 1979 in Warrenton. At the meeting, the state requested that the EPA waive three of its regulations—the requirement that the groundwater be at least 50 feet below the landfill bottom (the groundwater was seven feet below the surface at the chosen site), the need for an artificial liner (the state argued that soil compaction would be enough to prevent leaks), and the need for an underliner leachate-collection system (LaBalme, 1987; Exchange Project, 2006).

When residents voiced their concerns about the site, the state was ordered to conduct further soil tests. The results of the tests were submitted to the EPA in March. The Warren County site was approved on June 4, 1979 (*Warren County v. North Carolina*, 1981; *Twitty v. North Carolina*, 1987; LaBalme, 1987). Activists hired their own consultant—Dr. Charles Mulchi, a soil expert from the Department of Agronomy at the University of Maryland. Mulchi argued that the soil at the Warren County site did not meet compaction criteria as it would not form a protective layer when compressed. He also argued that the kaolinite (soil/clay mixture) found at the selected site had a high chemical-exchange capacity (LaBalme, 1987; Exchange Project, 2006). Residents were also concerned about the landfill because PCB is known to cause cancer and other illnesses. Despite opposition to the landfill, Governor Hunt framed the siting of the landfill as a "public good" and assured residents that the health of North Carolinians would be safeguarded in "the finest manner possible" (LaBalme, 1987). Seeking to assure residents that the site would employ the best available technology in landfill design, state and EPA officials referred to the facility as the "Cadillac of landfills" (Stocking, 1993).

Opposition to the Landfill

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Opponents of the plan to bury wastes at the Warren County site filed two lawsuits in 1979 to halt plans for the landfill. One lawsuit was filed by landowners living adjacent to the landfill site (*Twitty v. North Carolina*, 1981) and the other by the Warren County Board of Commissioners and the county manager (*Warren County v. North Carolina*, 1981). Warren County argued that the disposal of the PCBs in the landfill was a public nuisance and that the process by which the site was approved was defective as it allowed impermissible waivers of EPA regulations. The county questioned the timing of the preparation of the environmental impact statement and the level of detail it contained about the landfill design. The county also argued that the decision to establish the landfill was arbitrary and capricious. The county, which passed a law banning the disposal of PCBs within its limits (on August 21, 1978), argued that the plan to dump PCB-tainted soil in Warrenton violated its ordinances. In enacting the ordinance, the county noted that the area was "particularly unsuited for the disposition of PCB's because there is a generally high … water table in the county and most of the soils of the county are highly permeable, so that there is a substantial likelihood that, if stored or disposed of in the county, PCB's would eventually seep into the ground water supply" (*Warren County v. North Carolina*, 1981). The court, relying on EPA documents, struck down the Warren County ordinance by arguing that though states and local jurisdictions had some discretion in imposing more stringent disposal guidelines than those in federal regulations, states or local jurisdictions could not take action that would stymie the "national goal of properly disposing of hazardous chemical substances… . It would be a matter of national concern if … states [refused] to share in the national responsibility for finding safe means for the proper disposal of hazardous substances" (*Warren County v. North Carolina*, 1981).

The landfill site was designed so that excavation for the disposal site was no closer than seven feet above the water table and the contaminated soil at least 14 feet above the high-groundwater mark. A leachate-detection system would be put in place as well as both an artificial and a compacted-clay liner. After the PCB-tainted soil was buried, the landfill would be capped with three feet of compacted soil, an artificial liner, and a foot of topsoil. The case was decided in November 1981. The court ruled in favor of the defendants, the state of North Carolina. It argued that the environmental impact statement was in order as it provided enough details of the landfill design and that statutory and regulatory requirements were met by the state (*Warren County v. North Carolina*, 1981). The district court also ruled against the plaintiffs in another case—*Twitty v. North Carolina*—that made

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arguments similar to those made by Warren County. The plaintiffs argued that the bottom of the landfill should be at least 50 feet from the historical high-water mark. The court rejected the plaintiff's argument, claiming instead that the design of the landfill would be adequate to protect public health. The court came to this conclusion because it felt that since the landfill is located on a ridge that is above the 100-year flood level, the bottom of the waste would be a minimum of 10 feet above seasonal high waters (*Twitty v. North Carolina*, 1981).

The NAACP also filed a lawsuit in 1982 that explicitly linked race to exposure to environmental hazards. The organization argued that the driving force behind the decision to construct the landfill near Afton was the fact that the community was predominantly Black, rural, and poor. However, District Court Judge W. Earl Britt disagreed. He contended, "There is not one shred of evidence that race has at any time been a motivating factor for any decision taken by any official—state, federal or local—in this long saga" (*NAACP v. Gorsuch*, 1982).

The state acquired a 142.3-acre tract of land from Warren County residents Carter and Linda Pope, on which it built a 19.3-acre landfill to bury the 40,000 cubic yards of contaminated soil. In response to citizens' concerns about future landfill expansion, the county reached an out-of-court settlement with the state in which the county acquired the deed to the remainder of the property. There is also a restrictive covenant on the landfill site that bars any other kind of hazardous or radioactive wastes from being disposed of at the site (*United States v. Ward*, 1985; *Twitty v. North Carolina*, 1981, 1987; Exchange Project, 2006).

At the time the site was chosen, Warren County had the highest percentage of Blacks of any county in the state; it was also one of the counties with the lowest income. Warren County was 60% Black, and the unincorporated Shocco Township in which the landfill was located was 66% Black. Yet Blacks constituted only 22% of the state's population. Warren County was one of the four poorest counties in the state (LaBalme, 1988; U.S. GAO, 1983).

The dumping and capping took place quickly. Wastes began arriving at the landfill on September 15, 1982. By then, activists had organized an EJ group—the Warren County Citizens Concerned About PCBs. Five hundred protestors met the first truck at the Coley Springs Baptist Church in Afton; 55 people were arrested on the first day of protests by state patrol officers dressed in full riot gear. The protests received national attention. Army

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troops from Fort Bragg were also called in to quell the six weeks of protests in which 523 adults and children were arrested, including the congressional delegate from Washington, D.C., Walter Fauntroy, and members of the United Church of Christ Commission for Racial Justice (*Twitty v. North Carolina*, 1981; *Warren County v. North Carolina,* 1981; *United States v. Ward*, 1985; Thompson, 1998; LaBalme, 1988; *New York Times*, 1982a, 1982b, 1982c). These protests made headline news, and the pictures of residents blocking the road to the dump by lying down across it were printed in leading newspapers.

The last of 7,000 truckloads of tainted soil arrived at the landfill on October 27, and the landfill was capped by late November of that year. Even before the landfill was capped, there were signs of trouble. Heavy rains from a hurricane caused erosion and the accumulation of about 500,000 gallons of water at the site before the capping was concluded. Three months after the site was capped, residents photographed gas bubbles in the liner; they also reported a gurgling sound coming from the landfill (LaBalme, 1988; Exchange Project, 2006).

Problems continued to surface at the landfill, and the parties fought for a long time about additional remediation costs. By 1993, about 1.5 million gallons of water was trapped in the landfill. Warren County residents demanded and got the government to remediate problems at the site (Leavenworth, 1993; Exchange Project, 2006).

Criminal Charges and Cleanup Costs

Criminal charges were filed against the Burnses and the Ward Transformer Company. Robert Burns confessed to dumping the contaminated fluid along roadways and was arrested. On January 22, 1979, Robert Ward was indicted by a federal grand jury on eight counts of knowingly and willfully causing PCBs to be disposed of illegally. He was convicted on all eight counts in May 1981. Ward's conviction was upheld by the court of appeals in 1982. The U.S. Supreme Court denied Ward's petition to hear the case in 1982 (*United States v. Ward,* 1982b, 1982c, 1985).

In January 1982, the federal government brought suit against Robert Ward and the Ward Transformer Company to recover expenses incurred in the PCB cleanup. The state intervened in the case to recover its cleanup costs from the Ward Transformer Company also. Funding for the cleanup was provided from the EPA's Superfund program, which came about through the Comprehensive Environmental Response Compensation Liability

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Act (CERCLA) of 1980, and state funds. In all, $2.4 million was taken from the Superfund trust to cover the cost of cleanup. In addition, the U.S. Army spent $430,000 to remove contaminated soil from Fort Bragg, and North Carolina spent $450,000 on the cleanup. The case against Ward Transformer was finally settled in 1985. The court found that the company was liable for the cleanup costs (*United States v. Ward*, 1982a, 1984, 1985; CERCLA, 1980).

Studies Commissioned

During the protests, activists claimed that the landfill site was chosen because the township in which it was located was predominantly Black. Though activists did not succeed in blocking the landfill, their organizing led to important outcomes. They formed an effective EJ organization. They also formed a voter-registration foundation that resulted in Warren County becoming the first county in North Carolina where a majority of the members of the Board of County Commissioners were Black (Exchange Project, 2006).

Activists and protestors, including Representative Walter Fauntroy, also wondered whether the siting of the facility was a fluke or whether there was a tendency to site hazardous facilities in minority communities. This question led to the commissioning of two reports to examine the relationship between race, class, and the siting patterns of hazardous facilities. The first study, conducted by the U.S. General Accounting Office (GAO) focused on the southeastern United States (U.S. GAO, 1983), and the second—conducted by the United Church of Christ Commission for Racial Justice—was a national study (UCC, 1987). Both of these widely cited studies had a significant impact on mobilizing minority communities to organize around environmental issues and on the growth of the EJM. They were among the earliest studies to link race with the increased likelihood of living close to hazardous facilities and toxic waste sites. Unlike other early studies in the genre, they were widely circulated among minority activists and in minority communities.

Cancer Alley

Though events in Triana and Warren County took center stage in the late 1970s and early 1980s, during that time, rural communities in Louisiana were also trying to cope with an onslaught of industrial hazards that eventually garnered international attention. A 1978

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Washington Post article used the term “Cancer Alley” to describe a heavily industrialized corridor where cancer occurred in high frequencies among the population. But the article was not describing southeastern Louisiana; it was referring to northeastern New Jersey (*Washington Post*, 1978). For the next nine years, communities such as Rutherford and Newark lived with the ominous-sounding moniker. Then, in 1987, the *Washington Post* published another article in which the tiny community of St. Gabriel, Louisiana, called Jacobs Drive—a street in the hamlet—Cancer Alley because there were 15 cancer victims in a two-block stretch. Half a mile away, there were seven cancer victims living on one block.

The meandering stretch of the Mississippi River from Baton Rouge to New Orleans used to be known as “petrochemical corridor,” but since reports of the numerous cancer cases occurring in the small rural communities on both sides of the river surfaced, the entire area has become known as Cancer Alley. There are about 135 petrochemical plants in Cancer Alley. Cancer Alley includes the parishes (counties) of St. James, Ascension, East Baton Rouge, West Baton Rouge, Iberville, St. John the Baptist, St. Charles, Jefferson, Orleans, Plaquemines, and Assumption (Perlin, Sexton, and Wong, 1999; Maraniss and Weisskopf, 1987). Cancer Alley has hundreds of industrial facilities that include oil refineries, chemical-manufacturing facilities, and solid waste dumps (B. Wright, 2005; Lerner, 2005; Roberts and Toffolon-Weiss, 2001). A 2002 study found that Louisiana had the second-highest cancer death rate in the country (National Center for Health Statistics, 2002; Centers for Disease Control, 2002).

Cancer Rates

The most recent cancer data show that Louisiana has the second-highest male cancer rate in the country (trailing only Mississippi). While the national average for male cancers in 2008 was 532.6 per 100,000, Louisiana’s rate was 609.6 per 100,000. The state ranks twelfth overall for male and female cancers combined. The national combined male and female cancer rate is 462.1 per 100,000, while that rate is 490.4 per 100,000 in Louisiana. Louisiana has the third-highest male cancer death rate in the country. In 2008, the male cancer death rate was 261.1 per 100,000; at the time, the average U.S. male cancer death rate was 215.7. Louisiana has the fourth-highest female cancer death rate in the U.S. While the average U.S. female cancer death rate was 148.4 per 100,000 in 2008, it was 163.4 per

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100,000 in Louisiana. Louisiana has the second-highest combined male and female cancer death rate. The combined cancer death rate is 203.0 per 100,000 in Louisiana; in comparison, the national average is 175.8 per 100,000 (U.S. Cancer Statistics Working Group, 2012).

Cancer is the second-leading cause of death in the U.S., causing one in four deaths in the country. A study of cancer death rates from 1999 to 2008 shows that Blacks are more likely to die from cancer than any other racial group is. In 2008, the death rate from all cancers was 472.3 per 100,000 for Blacks, 460.5 per 100,000 for Whites, 358 per 100,000 for Hispanics; 294.8 per 100,000 for Asians and Pacific Islanders, and 270.4 per 100,00 for Native Americans (U.S. Cancer Statistics Working Group, 2012; Eheman et al., 2012).

The Shell Oil Company (which has facilities in Cancer Alley) conducted its own research on mortality and cancer rates in Cancer Alley. The study, published in 2004, concluded that overall cancer and mortality rates for White males in Cancer Alley was significantly lower than rates for the corresponding Louisiana population. The study also argued that the incidence of lung cancer in Cancer Alley were similar to or lower than rates found elsewhere in Louisiana. White females in Cancer Alley had similar mortality patterns to White males. The mortality rates of non-White males and females in Cancer Alley were similar to corresponding populations elsewhere in the state. The study conceded that cancer rates were higher in Louisiana than the average for the U.S. as a whole (Tsai, Cardarelli, Wendt, and Fraser, 2004).

Another Shell-sponsored study compared the incidence of cancer among employees at two petrochemical plants in southern Louisiana and the general population of that part of the state. This study concluded that there was little evidence to indicate there was any association between the incidence of cancer and employment at the two petrochemical facilities. Though the study found an increased risk of bone cancer, the researchers concluded that the bone cancer is unlikely to be due to occupational exposures (Tsai, Chen, et al., 2004).

Toxic Releases

Public concern over exposure to hazardous compounds and materials is warranted. Though the overall on- and off-site releases and disposal of toxic chemicals and hazardous wastes have been declining, dropping by 30% between 2001 and 2010, there is still cause for

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concern. In 2010, the 20,904 facilities across the country that filed Toxics Release Inventory (TRI) information with the EPA reported releasing or disposing of 3.9 billion pounds of toxic chemicals in the air, in the water, on land, and through underground injection. The facilities also generated 21.8 billion pounds of production-related wastes (U. S. EPA, 2010).

Concern about toxic chemicals and hazardous wastes is high in Louisiana because a large number of industrial facilities are located in the state; many of these cluster along waterways such as the Mississippi River. The highest concentration of these facilities is found along Cancer Alley. The older facilities are much more egregious polluters than newer ones are (U.S. EPA, 2000b). In 2011, Louisiana's 361 TRI facilities reported releasing or disposing of 122.2 million pounds of toxic chemicals and hazardous wastes on-site and 8.6 million pounds off-site. These facilities also managed 2.4 billion pounds of production-related wastes. The 11 parishes in Cancer Alley account for 63.5% of the on- and off-site releases and disposal of toxic chemicals and hazardous materials in Louisiana. The parishes also account for 46.4% of the toxic chemicals found in production-related wastes managed in the state (see table 1.1) (U.S. EPA 2011d, 2011e).

The population of many of the small towns in Cancer Alley is primarily Black and low income. Despite the large number of industrial facilities, unemployment is high in many communities, and most residents do not have a college education. In Geismar and St. Gabriel alone, there are 18 industrial facilities in a 9.5-square-mile area. Industrial accidents and accidental releases are common occurrences in Cancer Alley. For instance, in 1994, Condea Vista (Conoco), located in Lake Charles, reported 39 chemical accidents that released 129,500 pounds of chemicals. The following year, Condea Vista reported 90 accidental chemical releases. In 1997, the company was charged with contaminating local ground-water supplies with between 19 and 47 million pounds of ethylene dichloride (EDC—a suspected human carcinogen). In 1999, hundreds of unskilled laborers filed suit against Condea Vista, claiming they were exposed to EDC while cleaning up a spill from a leaking underground pipeline that carried the chemical inland from barges at Conoco's docks. On Christmas Eve, 1997, a 500,000-gallon storage tank at Borden Chemicals & Plastics in Ascension Parish blew up (the explosion was heard for miles), forcing the closure of Route 1 (the only entry and egress route for several communities) and the evacuation of residents (U.S. EPA, 2000a; Conoco EDC Litigation, 2002).

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Table 1.1. Releases and Disposal of Toxic Chemicals and Hazardous Materials Cancer Alley

Jurisdictions	Total on- and off-site disposal or release (in pounds)	Quantities of TRI chemicals in total production-related wastes managed (in pounds)
Louisiana	130,753,129	2,378,348,448
Cancer Alley parishes		
Ascension	18,035,670	186,226,585
Assumption	34,843	724,551
East Baton Rouge	9,183,812	141,476,012
Iberville	7,337,184	1,776,822
Jefferson	16,535,680	56,465,832
Orleans	28,543	120,043
Plaquemines	1,143,742	442,531
St. Charles	19,883,325	567,609,719
St. James	4,840,523	76,931,843
St. John the Baptist	4,943,883	49,380,072
West Baton Rouge	1,093,141	22,225,497
Parish total	83,060,346	1,103,379,507
Parish percentage	63.52	46.39

Source: Compiled from U.S. EPA 2011d.

Exposure to pollution is high on the agenda of Louisiana's municipalities and parishes. A survey conducted by the Louisiana Department of Environmental Quality (LDEQ) found that local ordinances, water quality, and solid wastes were the top issues of concern for municipalities and parishes. More than 60% of them listed these as top concerns. This is not surprising since the report indicates that more than 75% of the state's 480 regulatory water bodies are listed as "impaired." Most of the 11 parishes that did not meet the EPA's standards for ozone were in Cancer Alley (LDEQ, 2009).

Opposition to the Siting and Operation of Facilities

ALSEN—LANDFILLS AND HAZARDOUS WASTES AT THE NORTHERN GATEWAY

Though Triana and Warren County received much publicity, residents of Alsen began their fight for environmental justice earlier than either of the aforementioned communities. Alsen, an unincorporated village north of Baton Rouge, is the northern gateway to Cancer Alley. It is a small community of about 1,100 residents, 98.9% of whom are Black. Most of Alsen residents own their homes, and 77.4% are owner occupied; 19.4% of the residents are below the poverty level. In 1970, Rollins constructed what was at the time the fourth-largest hazardous waste landfill in the U.S. in Alsen; the facility also has an incinerator (Bullard 1990; Motavalli, 1998).

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Longtime resident and leader of the Coalition for Community Action Mary McCastle began to organize the community in 1976 (Schwab, 1994). In a 1988 interview, the 72-year-old grandmother claimed that residents had no warning that Rollins was siting a facility and that once it was constructed, people did not know what was being dumped (Bullard, 1990). The Rollins facility was cited for violating federal and state environmental laws a hundred times between 1980 and 1985. Other industrial facilities can be found in Alsen; these include plastics plants, lead smelters, landfills, tank-car washers, petroleum coke yards, and resin makers. There are two Superfund sites in the community also. In late 1980, residents stepped up efforts to organize to reduce the contamination of their community. They founded the North Baton Rouge Environmental Association to oppose two landfills that were proposed for their community. In 1981, some community residents filed a $3 billion class-action lawsuit against Rollins and in 1987 reached a settlement with the company for a lot less. The litigants received between $500 and $3,000, and for that they gave up their rights to bring any further litigation against the company. However, when a wealthy White property owner who lived adjacent to Rollins sued the company for the death of his cattle after water spilled onto his pasture; he received $500,000 (Bullard, 1990, 1994; Motavalli, 1998).

After residents contacted the LDEQ about illnesses (such as skin rashes, irritation of the eye, and breathing problems) and pungent odors, the LDEQ found that Rollins was dumping in the landfill eight substances for which it had no permit. Cyanide was also found in every sample taken at the Rollins facility (Schwab, 1994). Hazardous waste is big business for Rollins; the company generates more than $69 million annually from this enterprise. When Rollins applied for a permit to burn PCBs at the Alsen incinerator during the mid-1980s, opposition grew, and national groups such as Greenpeace and the Sierra Club joined residents in their fight. Opponents succeeded in preventing Rollins from burning PCBs at the facility (Bullard, 1990).

ROLLINS DOWN THE RIVER—UNION'S PCB-DISPOSAL FACILITY

In 1984, Rollins began operating a PCB-disposal facility in Union, Louisiana, in St. James Parish. The facility was located about a quarter mile from the Romeville Elementary School. Obsolete electrical transformers—weighing as much as several thousand pounds—were brought to the facility by rail or truck. There PCB-laced fluids were drained from the transformers, which were then rinsed with diesel fuel. The spent PCB and diesel fuel were

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placed in containers and shipped to a Rollins incinerator in Texas, while the transformers were sent to a landfill in Nevada (*Rollins v. St. James*, 1985).

The first shipment of transformers arrived at Rollins's Union facility in November 1984. The next month, the St. James Parish Council passed an ordinance to regulate hazardous wastes and PCBs in the parish. The ordinance prohibited the treatment, storage, and disposal of PCBs at commercial waste-disposal facilities in the parish. The ordinance also stated that anyone transporting PCBs through the parish had to supply a manifest to or obtain a permit from the Sheriff's Department of the parish. Rollins filed suit on December 21, challenging the St. James ordinance on the grounds that it violated the Commerce Clause. On January 2, 1985, the St. James Parish Council repealed the ordinance and replaced it with another one that prohibited any businesses using commercial solvents from being conducted within one mile of any area of special concern (school, day-care center, nursing home, grain elevator, public building or auditorium, hospital, church, or theater) or being located in an area of special environmental concern (flood hazard area, flood plain, wetlands, and surface or subsurface drinking-water source). The new ordinance also prohibited such businesses from draining or discharging any spent solvents into any area of special environmental concern and specified that such businesses had to conduct their cleaning operations in a contained area (e.g., on a concrete slab at least two feet thick and sloped to collect spills). Rollins immediately challenged the new ordinance too. Though the district court felt that the ordinance "amounted to, and had the practical effect of, an absolute prohibition of Rollins' activities in the Parish," the court dismissed Rollin's case because it lacked subject-matter jurisdiction (*Rollins v. St. James*, 1985: 631).

Rollins appealed, and in 1985, the Fifth Circuit Court of Appeals ruled in favor of the company. Using the Warren County decisions as precedence, the Fifth Circuit Court argued that the St. James Parish ordinance was subject to the Supremacy Clause. That is, the Toxic Substances Control Act (TSCA) had supremacy over state and local waste-disposal ordinances. Though states and local jurisdictions can develop more stringent criteria governing the handling and disposal of hazardous wastes, such criteria are allowed only in very prescribed circumstances and cannot interfere with interstate commerce or discriminate against particular businesses (*Rollins v. St. James*, 1985).

The Fifth Circuit Court went on to call the St. James Parish ordinance a "sham" that would amount to "an outright prohibition of Rollins' PCB disposal activities or an

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unreasonably burdensome and restrictive regulation" of the company's business. The Circuit Court also argued that though "a hazardous facility appears to have been located almost deliberately on the most inauspicious possible site, one-quarter mile from a local elementary school, … if every locality were able to dodge responsibility for and participation in this program [TSCA] through artfully designed ordinances, the national goal of safe, environmentally sound toxic waste disposal would surely be frustrated" (*Rollins v. St. James*, 1985: 637).

DIAMONDS—NORCO AND THE SHELL GAME

Originally a sugar plantation, Diamond morphed into a small Black community that was a segregated subdivision of Norco. The Diamond enclave consisted of four four-block-long streets on which Black families owned and occupied their property. Many of the Diamond residents have roots in the community that extend back to the times when their ancestors slaved away on the Trepagnier Plantation. The plantation was a land grant issued to the Canadian immigrant Pierre Trepagnier, who settled in the area in the 1740s. There were 16 such land grants in St. James Parish. Trepagnier eventually became the Diamond Plantation; the name was changed to Belltown and finally to the Diamond subdivision of Norco. The plantation owners abandoned the property after the Civil War, but the former slaves remained—some continued living in the slave quarters, while others took occupancy of the grand cypress main house perched on the banks of the Mississippi River (Lerner, 2005; Ottinger, 2005; Sternberg, [1996] 2001; Rolfes, 2000).

The dominance of petrochemicals is very evident in this small settlement. "Norco" is short for New Orleans Refining Company. Though Norco has a predominantly White residential section, Diamond is somewhat isolated from the rest of town, as it is shoehorned between the sprawling Shell/Motiva refinery and the Shell Chemical plant. Diamond is separated from the rest of Norco by a densely wooded buffer strip known as the Gaspard Line. Norco, which has about 3,300 residents, is 98% White, while Diamond has only Black residents (Lerner, 2005; Bazelon, 2003).

In 1911, the New Orleans Refining Company (NORCO—a proxy company for the Royal Dutch/Shell Group) purchased the 366-acre Good Hope Plantation for $21,000 and built its facility on it. The marine petroleum terminal was constructed adjacent to Belltown. NORCO built its first refinery near Diamond in 1916. Four years later, Shell began to process Mexican crude oil into asphalt at the plant. Shell purchased the facility in 1929.

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The company wanted to acquire more land to expand its production to include the manufacture of chemicals. Hence, in 1953, Shell bought up property in Belltown for a total of $109,000 to build Shell Chemical. The complex produces ethylene and propylene (building blocks of plastic) and methyl ethyl ketone (a solvent used in paints and medicines). The Black residents of Belltown were sharecroppers and farmers who had lived and worked on the land for a long time; some did not have title to the land. Some families were paid about $90 for their property, while others who lived in the "Big Store," the plantation's central building, received a pittance. Black families were essentially evicted or displaced to make way for industrial expansion. Those who could afford it purchased lots in the Diamond subdivision. Blacks thought they would be hired at the Shell plants, but few were among the 1,400 workers in the plant; and those who were hired were relegated to menial jobs. It is estimated that only about 3% of Diamond's residents were hired at the plant. Yet Diamond is literally on the fence line of the Shell complex, as the company expanded its operations till it was across the street from residents' homes (Lerner, 2005; J. Doyle, 2004; Louisiana Bucket Brigade, 2012; Bazelon, 2003).

Not surprisingly, Diamond residents live in fear of explosions from factories that dominate the landscape around them. They have good reason to be wary of the periodic explosions at the complexes. In 1973, an explosion killed Helen Washington and 16-year-old Leroy Jones, who was cutting Washington's grass when a ruptured pipeline released a plume of gas that ignited, engulfing Washington and Jones in flames. The Washington family sold the lot to Shell for $3,000 after the explosion, and Leroy Jones's mother received $500 in compensation. In 1988, seven Shell workers were killed and another 48 workers and residents were injured in an early morning explosion that destroyed some homes in Diamond and released about 159 million pounds of chemical wastes into the air. Shell admitted to paying $200 million to resolve the roughly 17,000 claims arising from the 1988 accident (Lerner, 2005; Doyle, 2004; Louisiana Bucket Brigade, 2012; Bazelon, 2003).

* * *

Why did residents not move? Diamond residents wanted to move, but without equitable compensation for their property, they would not have enough money to relocate. Realizing that their homes had lost virtually all their equity, a group of women began organizing in the 1970s to get Shell to purchase their homes. In 1990, residents organized a group—the

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Concerned Citizens of Norco—and began to picket Shell to force it to negotiate a buyout of the community. The Louisiana Bucket Brigade began working with Norco residents to teach them how to collect air samples with EPA-approved buckets in 1999. Other regional and national environmental groups such as Greenpeace, Earthjustice Legal Defense Fund, the Refinery Reform Campaign, the Deep South Center for Environmental Justice, Commonweal, Environmental Health Fund, Coming Clean Campaign, and the Louisiana Environmental Action Network also collaborated with Diamond residents. The Concerned Citizens of Norco also got help from Wilma Subra of the Subra Company, who helped with the analysis of samples taken from Diamond (Lerner, 2005; Louisiana Bucket Brigade, 2012; CorpWatch, 2002).

While Diamond residents wanted Shell to purchase all the homes in the tract, Shell preferred to deal with each homeowner individually. During the time residents were campaigning to get a community buyout, Shell was acquiring individual lots in Diamond. From the 1970s onward, Shell paid an average of $26,933 for the Diamond lots it purchased. In 2001, Shell was offering a minimum of $50,000 to purchase a home. Around that time, three-bedroom homes a block away from Diamond were selling for $110,000. Eventually Shell purchased 48 of the 269 lots in Diamond through individual sales (Rolfes, 2000; Louisiana Bucket Brigade, 2012).

Two hundred and fifty Diamond residents brought suit against Shell, arguing that the facility was a nuisance that harmed their health, lowered their property values, and caused them to fear for their safety. The case went to trial in 1997, at which time Shell had pharmacology and toxicology experts testify on its behalf that the plant posed no health risks. One of Shell's lawyers argued, "We all live in a society that has to tolerate certain inconveniences." Addressing the jury for the closing argument, the lawyer continued, "Before you show them the money, they must show you the proof." The jury voted 10–2 against the Diamond residents (quoted in Bazelon, 2003).

Margie Richard, school teacher and leader of the Concerned Citizens of Norco, went all the way to United Nations Human Rights Commission in Geneva in 1999 to plead the residents' case. Richard also went to The Hague, Shell's international headquarters, to speak with officials about Diamond. Shell, a corporate behemoth with annual gross sales exceeding $175 billion, finally agreed to a buyout of the Diamond community in June 2002 (Lerner, 2005; Louisiana Bucket Brigade; 2012; Swerczek, 2002; CorpWatch, 2002).

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Shell's website indicates that the Norco Refinery covers 1,000 acres. The company has a payroll of $50 million and pays more than $16 million in state and local taxes. Shell claims it pays $6 million in property taxes that fund local schools and the police and fire departments. The company also claims that in 2005 it infused the local economy with more than $26 million through its purchases of goods and services from vendors (Shell, 2012).

Shell compensated the Diamond residents who owned homes $80,000 minimum or the market value of their homes. Residents who lived in trailers were offered $50,000 minimum or the market value of their trailer. For anyone wishing to stay in Diamond, Shell offered a $25,000 home-improvement loan that was forgivable after five years. Shell did not agree to pay for the health insurance and medical bills of residents. Some residents such as Margie Richard's mother were able to sell their homes to Shell; Richard's mother sold hers for $114,000, and Richard herself sold her trailer to the company for $61,000. Shell spent about $30 million to purchase and then demolish 250 homes in Diamond (Lerner, 2005; Bullard, 2005; Doyle, 2004; CorpWatch, 2002; Bazelon, 2003).

WALLACE RESIDENTS OPPOSE FORMOSA

In 1988, the Gulf Coast Tenants Association and Greenpeace organized a march through the communities of Cancer Alley to raise awareness of environmental concerns in the region (Coyle, 1992b; 1992c). In 1992, the tiny settlement of Wallace—a town of about 750 people, 98% of whom were African American—fought a two-year battle with Formosa (a company with a history of environmental violations in Texas, Delaware, and Louisiana) before the company decided it would not build a $700 million facility that would have been the world's largest rayon and pulp processing plant. The parish rezoned 1,800 acres of residential and agricultural land to industrial uses, and the state and parish promised Formosa about $400 million in tax breaks if it built the Wallace facility (Coyle, 1992a; 1992b).

CONVENT AND SHINTECH

The most famous of these cases occurred in Convent. Both Wallace and Convent are in St. James Parish. The parish, which had a population of 21,216 people in 2000 and is 49.4% Black, straddles the Mississippi River (U.S. Census Bureau, 2000). St. James Parish has 12 petrochemical complexes. In 1996, Shintech announced plans to build a $700 million chlor-alkali vinyl complex (which would consist of three chemical plants and an incinerator)

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that was to produce 1.1 billion pounds of polyvinyl chloride annually. The plant was expected to emit 611,700 pounds of contaminants into the air. Shintech was promised almost $130 million in subsidies including a ten-year property-tax exemption worth about $95.4 million. The small town of Convent is 82% Black, and 40% of the residents live below the poverty level. An elementary school was located 1.5 miles from the proposed facility (Louisiana Environmental Action Network and Greenpeace USA, 1999; Coyle, 1992b, 1997b; R. Hines 2001).

In 1997, residents of the community filed a Title VI complaint with the EPA, objecting to the three permits the LDEQ issued to Shintech. Opponents of the planned facility alleged that the permits violated the Clean Air Act, Executive Order 12898, and Title VI of the 1964 Civil Rights Act. The EPA rejected some of the arguments in the petition regarding the Clean Air Act but agreed to an expedited review of the complaint concerning certain technical violations of the Clean Air Act. The EPA also urged the LDEQ to resolve potential EJ issues that arose because the permits were issued. In September 1997, the EPA rejected the state-issued air permits for Shintech on the grounds that the permits failed to regulate all potential sources of pollution and that the its review process had found 49 technical problems with the air permits that had to be resolved before the project could proceed (Chambers, 1998; Coyle, 1997a; R. Hines, 2001). The battle between Shintech and Covent garnered international attention. Finally, in 1998, Shintech decided to forgo plans to build in Convent and to build a smaller plant in Plaquemine (a small, heavily industrialized town also located in Cancer Alley) (Schelly and Stretesky, 2009).

Corporate Lobbying, Tax Breaks, and Incentives

Since the late 1970s, communities in Cancer Alley have been trying to limit the number of noxious facilities sited in their neighborhoods. While activists have generally organized to prevent a facility from siting in a particular location or to monitor the operations of a facility, the parishes and the state have had a much more ambiguous relationship with businesses. On the one hand, parishes have welcomed industries by offering tax exemptions and other incentives; on the other, they try to regulate the industries post hoc. Regulating the industries becomes particularly tricky if those industries generate income for the local or state governments. For instance, in 2002, industries operating in Cancer Alley generated 62,500 jobs and $1.14 billion in state taxes (Bazelon, 2003).

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Louisiana has roughly 11% of the country's petroleum reserves, and the state is the second-largest producer of refined oil in the U.S. Consequently, the petrochemical industry is both an important driver of the state's economy and a powerful lobby in the legislature. Hence, it is no coincidence that one of the most influential groups in the state is the Louisiana Association of Business and Industry. The group recruits, trains, endorses, and supports political candidates who promote the association's interests. The Louisiana Chemical Association is another powerful industry lobbying group. Both of these associations coordinate their efforts at times (B. Wright, 2005).

Louisiana entices companies to establish facilities in the state by offering generous tax incentives through programs such as the Industrial Property Tax Exemption Program, which has been in effect since 1936. The Louisiana Economic Development website describes the program as offering "an attractive tax incentive for manufacturers" (2012). That is, manufacturing companies do not pay any local property taxes on the construction or renovation of buildings, machinery, equipment, improvements to the land, new investments, or annual capitalized additions at the manufacturing site for up to ten years. After this initial period, corporate taxes are reduced. Consequently, the amount of corporate tax relief in the state is staggering. Between 1988 and 1998, for instance, the state granted $2.5 billion in tax exemptions to corporations (B. Wright, 2005; Louisiana Economic Development, 2012). Mississippi has a similar Industrial Property Tax Exemption program (Mississippi Development Authority, 2012).

Thus, while much of this book is concerned with why communities do not move away from hazardous sites, it is clear why many corporations want to move in.

Taylor, Dorceta. Toxic Communities : Environmental Racism, Industrial Pollution, and Residential Mobility, New York University Press, 2014. ProQuest Ebook Central, http://ebookcentral.proquest.com/lib/upenn-ebooks/detail.action?docID=1685764.
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