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Jordan Halloran
jhalloran@rollins.edu

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How Grassroots Can Save a Community: Citizen Activism in
Environmental Justice Remediation

Jordan Halloran

A Senior Honors Project Submitted in Partial Fulfillment of
Requirements of the Honors Degree Program

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Faculty Sponsor: Dr. Leslie Poole

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Introduction

April 25, 2014, was Gina Luster's young daughter's birthday, but it also marked the day she and many other Flint, Michigan, residents would be poisoned. On this day, the city switched its water supply from Lake Huron to the Flint River; city officials toasted with a celebratory cup of water. However, the residents of the majority African American community would remember this as a time they had to fight their own government for access to clean water after months of seeing discolored water in their homes and health issues in their children and neighbors. This event would mark one of many environmental justice events that would explode in the mainstream media, only to be left in the wake of the countless other breaking stories. Environmental justice, according to sociologist Robert Bullard, the father of the movement, "embraces the principle that all people and communities have a right to equal protection and equal enforcement of environment laws and regulations."¹ He says, "it's a concept that is rooted in equal protection and equal enforcement."² Typically, minority, low-income, and politically powerless communities are not actually afforded this equal protection and enforcement. As a result, they often must organize together to demand reparations for the pollution of their neighborhood.

Flint was not the country's first environmental justice event, and it will not be the last. For many years, minority groups were disenfranchised by being forced to live in close proximity to polluting industries. The goal of this paper is to highlight the strong impact of grassroots organizing in fighting against environmental justice issues. The work done by Margaret Williams in Pensacola, Florida, resulted in the relocation of over 300 families being poisoned by dioxin. Majora Carter's crusade to "Green the Ghetto" gained more green spaces and job opportunities

¹ "Dr Robert Bullard." Dr Robert Bullard, 2020. <https://drrobertbullard.com/>.

² Robert Bullard interview by Jordan Halloran, Winter Park, FL, February 2020.

for the residents of the South Bronx, New York. The community partnerships between the Alternatives for Community and Environment and Dudley Grows cleaned up vacant lots for productive use and brought fresh fruits and vegetables into Roxbury, Massachusetts. The best way these communities have received attention and reparations is through grassroots organizing.

The realization that many communities were contaminated with toxic chemicals erupted with the dioxin poisoning in the community of Love Canal, New York, from 1950-1980. As a result, the federal government moved the residents and the United States Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980. This act allows the Environmental Protection Agency (EPA) to designate severely polluted areas as “Superfund sites” which provides federal financing to clean-up and, if necessary, relocate communities.³ These Superfund sites are some of the most contaminated sites in the United States. The act also allows the EPA to determine and hold accountable responsible parties. Even with federal responses in place, the agencies that enforce these laws and responses may fail to act. Furthermore, many other proactive environmental laws don’t fully protect these communities; for example, the Clean Water Act did not save the citizens of Flint, MI from being lead poisoned. In those situations, throughout history, community activists and grassroots organizations have demanded the right to clean air, clean water, and clean neighborhoods.

Following the rise of oil prices and the decrease in auto imports in the 1980s, automobile manufacturers began closing their doors and laying-off employees. This forced Flint, the birthplace of General Motors, into an enormous financial deficit that the city battled into 2011 when Michael Brown was appointed Flint’s first emergency manager. It was ultimately Brown’s

³ “Summary of the Comprehensive Environmental Response, Compensation, and Liability Act (Superfund).” EPA. Environmental Protection Agency, August 15, 2019. <https://www.epa.gov/laws-regulations/summary-comprehensive-environmental-response-compensation-and-liability-act>.

decision to switch the water source to a cheaper supply in order to move the city out of financial debt.⁴ Following the change in Flint's water source, residents began noticing brown, chemical-smelling water coming from their pipes. They had thinning hair and found rashes on their children, who were smaller (in height and weight) than other children of their age. Leanne Walters, whose house was considered "ground zero" for the Flint water crisis, noticed that her four-year-old twin sons were growing at a slower rate than their friends. Though it is common for twins to be smaller, Walters said her boys had never been small, so this explanation did not sit well with her. In addition, one of her sons had allergic reactions to his bath water. The water switch also coincided with an outbreak of Legionnaires' disease between June 2014 and October 2015 that killed twelve people and caused at least 87 to become sick.⁵ Due to the state of the water, Reverend Alfred Harris of the Concerned Pastors for Social Action noted that "if we baptize, we go outside the city of Flint."⁶

Despite being untrained in civil engineering, Walter's children's adverse reactions to the tap water prompted her to ask detailed questions, including how the city was treating the water and what chemicals were being used. The presence of *Escherichia coli*, which prompted a boil water advisory, and disinfectant byproducts in Flint's water coupled with its discoloration caught the attention of Miguel del Toral, a noted EPA Region 5 employee.⁷ *Escherichia coli* is a gram negative bacteria found in the fecal matter of humans and animals and can cause gastrointestinal irritation, vomiting, and diarrhea. Walters and del Toral worked together to determine what was being added to the water by the city's treatment plant. Del Toral became the whistleblower on

⁴ Denchak, Melissa. "Flint Water Crisis: Everything You Need to Know." NRDC. Natural Resources Defense Council, March 13, 2020. <https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know>.

⁵ Ibid.

⁶ Clark, Anna. *The Poisoned City: Flint's Water and the American Urban Tragedy*, 115. New York: Picador, 2019.

⁷ *Poisoned Water*. Public Broadcasting Service, 2017.

the city's failure to use an anticorrosive to prevent the dissolution of lead pipes that led to many Flint homes built by General Motors in the mid-20th century.⁸ After raising red flags about the local government's inaction with corrosion controls in the water, del Toral continued to push the EPA to release the information publicly and claimed that the agency's inaction "border[ed] on criminal neglect."⁹ Following the release of his initial memorandum on the situation in Flint in a local news outlets, del Toral's report was discredited by the head of EPA Region 5, Susan Hedman.

Walters also enlisted the help of Virginia Polytechnic Institute and State University (Virginia Tech) professor of Environmental Engineering, Marc Edwards, to measure the amount of lead in the water in her family's home.¹⁰ Walters sent water samples to Edwards at his laboratory where Jeffery Parks, also a Virginia Tech researcher, analyzed the samples. The water in Walters' home had three times the amount of lead, 13,000 parts per billion, considered to be hazardous.¹¹ Following this discovery, Edwards enlisted a team of research assistants from his lab to travel to Flint and conduct tests on the lead levels in numerous homes. Nearly seventeen percent of the homes sampled were above fifteen parts per billion, the federal "action level."¹² Walters and Edwards also teamed up with Flint pediatrician Mona Hanna-Attisha who discovered that lead levels in children's blood had doubled following the water switch and that children with higher blood lead levels lived in neighborhoods Edwards determined to have higher concentrations of lead in the water.¹³

⁸ Denchak, Melissa. "Flint Water Crisis: Everything You Need to Know." NRDC. Natural Resources Defense Council, March 13, 2020. <https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know>.

⁹ *Poisoned Water*. Public Broadcasting Service, 2017.

¹⁰ *Ibid.*

¹¹ Clark, Anna. *The Poisoned City: Flint's Water and the American Urban Tragedy*. New York: Picador, 2019.

¹² Denchak, Melissa. "Flint Water Crisis: Everything You Need to Know." NRDC. Natural Resources Defense Council, March 13, 2020. <https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know>.

¹³ Hanna-Attisha, Mona, Jenny LaChance, Richard Casey Sadler, and Allison Champney Schnepf. 2016. "Elevated Blood Lead Levels in Children Associated with the Flint Drinking Water Crisis: A Spatial Analysis of Risk and

Lead has severe and long-lasting impacts on the human body because it often takes the place of calcium in the bones and brain. Lead stored in bones is pulled out during pregnancy when the body needs more calcium to accommodate a growing fetus.¹⁴ According to both the World Health Organization (WHO) and the United States Centers for Disease Control and Prevention (CDC), there are no acceptable levels of lead in human bodies. In severe causes, lead poisoning can lead to convulsions, coma, or death. Lead can also cause behavioral disorders, intellectual disability, anemia, hypertension, renal impairment, and reduce attention span.¹⁵ The neurological effects of lead poisoning are irreversible.¹⁶

The data from these noted scientists was heavily scrutinized by the EPA, the Michigan Department of Environmental Quality (MDEQ), and the Michigan state government. A spokesperson for then-Governor Rick Snyder claimed that Hanna-Attisha had “spliced and diced” her data.¹⁷ However, one week following the release of Hanna-Attisha’s report, the Michigan Department of Health and Human Services (MDHHS) reversed its previous claims and agreed with the pediatrician’s findings. This admission came on October 2, 2015; a year and a half following the switch. Two weeks following MDHHS’ blood lead level report, Snyder announced that Flint would return to its original water supply.¹⁸ The money-saving venture had taken too great a toll on human health.

Public Health Response.” *American Journal of Public Health* 106 (2). American Public Health Association Inc.: 283–90. doi:10.2105/AJPH.2015.303003.

¹⁴ “Lead Poisoning and Health.” World Health Organization. World Health Organization, August 2019. <https://www.who.int/news-room/fact-sheets/detail/lead-poisoning-and-health>.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Kaffer, Nancy, “When did State Know Kids in Flint Were Lead Poisoned?,” *Detroit Free Press*, December 17, 2015.

¹⁸ CNN Editorial Research. “Flint Water Crisis Fast Facts.” CNN. Cable News Network, December 14, 2019. <https://www.cnn.com/2016/03/04/us/flint-water-crisis-fast-facts/index.html>.

In the case of Flint, extraordinary community action pushed the local and federal government to acknowledge the water crisis. According to resident Claire McClinton, “the people in the city of Flint are resilient, and we’ve created our own paths to resolve this problem.”¹⁹ McClinton is a member of the Democracy Defense League. The league was established in 2012 by Nayyirah Shariff, following the enforcement of Michigan’s Public Act 4 in Flint in 2011.²⁰ Public Act 4, also known as the Local Government and School District Fiscal Accountability Act, is known better by its colloquial name, the Emergency Manager Law. This law gives the state the power to appoint an emergency manager who has control of the local government; it was intended to aid cities and towns in severe debt.²¹ By 2015, there were numerous national and local organizations at the MDEQ and EPA doorsteps, demanding answers. Some of these organizations were the American Civil Liberties Union of Michigan, Concerned Pastors for Social Action, Water You Fighting For?, and the Democracy Defense League.

Without relentless investigating by Walters, protests by grassroots community members, and tests done by those in related fields, it is unknown how long the MDEQ and EPA would have kept residents in the dark. Citizen action went ignored for months, until outside researchers and mounting evidence forced city and state officials to recognize the problem. It is obvious from emails revealed by Freedom of Information Act requests submitted by Edwards that many agencies were complicit in the lead poisoning of Flint residents, specifically children. One of these emails sent by Debbie Baltazar, current EPA Region 5 branch chief, said, “I’m not so sure

¹⁹ Clark, *The Poisoned City*, 109.

²⁰ Rakia, Raven. “The Real Heroes of the Flint Water Crisis.” Grist. Grist, January 20, 2016. <https://grist.org/cities/the-real-heroes-of-the-flint-water-crisis/>.

²¹ Hakala, Josh. “How Did We Get Here? A Look Back at Michigan's Emergency Manager Law.” Michigan Radio. National Public Radio, February 6, 2016. <https://www.michiganradio.org/post/how-did-we-get-here-look-back-michigans-emergency-manager-law>.

Flint is the community we want to go out on a limb for.”²² Despite countless protests, community members knew officials were not listening. Resident, activist, and grandmother Gertrude Marshall says, “when it get to a point where I feel like it don’t matter what I say or do, they going to do what they want to do anyway, that’s a sad day for America.”²³

Following the admission of wrongdoing by city, state, and federal officials, thirteen of these officials were indicted on varying charges of tampering with evidence, conspiracy, and willful neglect of duty. Hedman resigned under criticism. Additionally, Flint’s former mayor Dayne Walding was voted out of office. As of 2017, it is estimated that Flint will need \$1.5 billion to combat the lasting effects of this water crisis.²⁴

As devastating and extensive as the Flint water crisis was and continues to be, it unfortunately is not unique. A similar water crisis occurred in Washington, D.C., in 2005. That water crisis went unrecognized by public officials despite public outcry until medical data was obtained that showed how lead-saturated water was affecting those in the community. Hanna-Attisha’s research in Flint was critical for this reason; it gave the residents evidence that they were being harmed by their city water supply and it implicated those public officials who knew corrosion controls were not being used. But even the residents of Washington, D.C., are not unique in their fight against an agency that is supposed to protect them. The history of public outcry induced political action for environmental safety dates back to the events that occurred in Love Canal, NY, in the late 1970s. On a larger scale, public outcry has been the catalyst for

²² Debbie Baltazar email to Timothy Henry September 24, 2015 available at <https://republicans-oversight.house.gov/wp-content/uploads/2016/03/Documents-for-the-Record.pdf>

²³ American Civil Liberties Union of Michigan. “Hard to Swallow” *Youtube* video, 5:54. June 25, 2015. <https://www.youtube.com/watch?v=L4n9ZeDuhdU>

²⁴ *Poisoned Water*. Public Broadcasting Service, 2017.

numerous social movements including the civil rights movement, the push to slow climate change, and, more recently, the Black Lives Matter movement.

Love Canal was a predominately White, blue collar neighborhood in the upstate town of Niagara Falls, NY. In the early 1970s, resident Lois Gibbs confided in her neighbors about health issues she had seen in her son. It was the beginning of a long struggle to understand the toxic contamination of this community, and then to fight it. Gibbs learned that she and her family were not alone in having health problems including epilepsy, migraines, high rates of birth defects, miscarriages, and nephrosis.²⁵ For many years, residents had been complaining of odors and substances that would appear in lawns following extensive rain.²⁶ Karen Schroeder, who lived down the street from Gibbs, noticed in 1974 that her swimming pool had been raised several feet in the air as a result of chemical reactions occurring beneath the surface.²⁷ Additionally, in 1968 her third child was born deaf and with intellectual disabilities, a cleft palate, misshapen ears, and a hole in her heart.²⁸ Gibbs and her neighbors were brushed off by New York State officials as “hysterical housewives.” Little did any of them know, these women would become the strongest driving force behind the reparations given to this community. In August 1978, these women formed the Love Canal Homeowners Committee (later Association) (LCHA), a grassroots organization that learned how to use the media to get their messages across.²⁹ Residents’ articles in local newspapers prompted the state government to run blood tests on some of the community members. The results of this test revealed that women who were pregnant or had children under

²⁵ Kleiman, Jordan. “Love Canal: A Brief History.” SUNY Geneseo, 2020. https://www.geneseo.edu/history/love_canal_history.

²⁶ CHEJ. “Love Canal Guide Book.” CHEJ, 2009. [http://chej.org/wp-content/uploads/Love Canal - A Guidebook - PUB 006.pdf](http://chej.org/wp-content/uploads/Love_Canal_-_A_Guidebook_-_PUB_006.pdf).

²⁷ Kaplan, Temma, Gary W. McDonogh, and Cindy H. Wong. *Crazy for Democracy Women in Grassroots Movements*, 19. Erscheinungsort nicht ermittelbar: Taylor and Francis, 2016.

²⁸ *Ibid.*

²⁹ *Ibid.*

two years of age should vacate the Love Canal neighborhood; this announcement was made by the health commissioner Dr. Robert P. Wahlen 300 miles from Love Canal in the state capital, Albany.³⁰ With this announcement, the community was given no plan as to how residents were supposed to move, and why they weren't all being recommended to move. Residents also learned that their homes, and specifically their elementary school, were sitting over a chemical dump containing known carcinogens dioxin and benzene.³¹

Dioxin is a general name for a family of chemicals that are structurally and chemically similar. The most toxic, and most commonly found, form is *2,3,7,8-tetrachlorodibenzo para dioxin* or TCDD.³² In addition to causing cancer, dioxins can cause skin lesions and impairment of the immune system, nervous system, reproductive system, and the endocrine system.³³ The most vulnerable group to dioxin poisoning are developing fetuses in a mother's womb.³⁴

Benzene can be found in crude petroleum and cigarettes, and the most common mode of exposure is through inhalation of the compound.³⁵ Benzene has numerous acute and long-term health effects. Acute health effects include dizziness, loss of consciousness, headaches, tremors, and irritation of the skin and eyes.³⁶ Long term effects of benzene, in addition to cancer, are aplastic anemia and chromosomal aberrations, extra or missing chromosomes, in developing fetuses.³⁷

³⁰ Ibid.

³¹ "Dioxins and Their Effects on Human Health." World Health Organization. World Health Organization, 2016. <https://www.who.int/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health>.

³² Ibid.

³³ Ibid.

³⁴ Ibid.

³⁵ Public Health and Environment. "Exposure to Benzene: A Major Public Health Concern." WHO, 2010. <https://www.who.int/ipcs/features/benzene.pdf>.

³⁶ Ibid.

³⁷ Ibid.

The LCHA continued its media storm and protests; which included carrying coffins into the state house and holding two EPA officials hostage in the LCHA office.³⁸ During this hostage situation, Gibbs called President Jimmy Carter, demanding the purchase of homes in Love Canal by the EPA and/or state government. It has often been noted that a stunt like this occurred with no fatalities because the women of the LCHA were not only White, but also portrayed themselves as concerned housewives.³⁹ Following Gibbs' appearance on ABC's *Good Morning America*, Carter went to Niagara to sign a \$15 million buyout for 900 residents of Love Canal; buyouts began on November 15, 1980.^{40,41}

The events in Love Canal prompted the creation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund Act, of 1980. This was also the first community to be relocated due to polluting industry and set a precedent for site remediation and citizen compensation. The tragedy in Love Canal came during heightened awareness of United States ecological problems that were spurred by the publication of *Silent Spring* by Rachel Carson in 1962, a text about the dangers of toxic human-made chemicals. By the 1970s, the United States recognized the need to reckon with its toxic chemical history.

Grassroots organizing by Walters and Gibbs catapulted their strife into the national media where other mothers were able to see them and empathized with them. This ultimately led to nationwide outcry for similarly damaged communities. While many women are distinguished as leaders within the environmental justice movement, people of all backgrounds participate in

³⁸ Kaplan, *Crazy for Democracy*, 35

³⁹ Ibid.

⁴⁰ Ibid.

⁴¹ Engelhaupt, Erika, and Environmental Science & Technology. "Happy Birthday, Love Canal." *Chemical & Engineering News*, 2008. <https://cen.acs.org/articles/86/i46/Happy-Birthday-Love-Canal.html>.

grassroots organizing. In this thesis, women are recognized for their work in establishing grassroots organizations; however, each of them had a multitude of team members working with them. After continually being ignored by their elected officials, many of these community leaders were able to generate enough scientific evidence and political clout to force those officials into action throughout the last several decades. For this reason, grassroots organizing has been the best way to call attention to environmental injustices, especially within communities of color.

Race is the most potent indicator for where waste and polluting facilities will be placed.⁴² The United States General Accounting Office published a study in the 1980s, *Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities*, revealing that three out of four off-site commercial hazardous waste facilities in EPA's Region 4 (the southeast) were located in predominantly African American communities; yet, African Americans only made up 20% of that region's population.⁴³

Background

Environmental justice “embraces the principle that all people and communities have a right to equal protection and equal enforcement of environment laws and regulations.”⁴⁴

Unfortunately in America, low-income and minority residents often find themselves dealing with the injustice of excessive environmental degradation that compromises their health and

⁴² Bullard, Robert D. *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*. San Francisco: Sierra Club Books, 2005., 20

⁴³ U.S. General Accounting Office, *Siting of Hazardous Waste Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities* (Washington, DC: Government Printing Office, 1983).

⁴⁴ Bullard, Robert D. *The Quest for Environmental Justice: Human Rights and the Politics of Pollution*. San Francisco: Sierra Club Books, 2005.

wellbeing. Polluting industries locate in or near these communities because their residents appear politically powerless; companies believe citizens there won't notice or push back, or they can be swayed to accept the companies because the citizens need the economic boost that may result from new jobs. As the examples of Pensacola, Florida, South Bronx, New York, and Roxbury, Massachusetts, demonstrate, environmental justice is not available for all.

Environmental justice was first described by Bullard, who pinpoints the beginning of the movement to 1982 when citizens of Warren County, North Carolina, protested the placement of a waste disposal site that would accept polychlorinated biphenyl (PCB) contaminated soil. PCBs were originally used for a number of industrial uses including as plasticizers in paints, plastics, and rubber products. They are bio-accumulative and can cause a variety of adverse health effects in humans ranging from cancer to endocrine disruptions to reproductive effects, i.e. reduced birth weights and conception rates.⁴⁵ This harmful chemical can be transferred through breast milk from mother to child. Manufacturing of this chemical was banned in 1979, after fifty years of production and use. The creation and placement of the PCB landfill followed a “midnight dumping” of this chemical along highways in North Carolina. The citizens of Warren County fervently protested the placement of this hazardous waste landfill in their area and the media attention they received catapulted the issue onto the national stage.

Ultimately, three key factors likely led to the decision to place this hazardous landfill in Warren County. First, Warren County was, and still is, a predominantly African American community with an average income that falls well below the state average. The 1980 census confirms that at least sixty percent of the population was Black.⁴⁶ Second, this community had

⁴⁵ “Learn about Polychlorinated Biphenyls (PCBs).” EPA. Environmental Protection Agency, August 23, 2019. <https://www.epa.gov/pcbs/learn-about-polychlorinated-biphenyls-pcbs>.

⁴⁶ 1980 Census of Population, 1980 Census of Population § (1982). https://www2.census.gov/prod2/decennial/documents/1980/1980censusofpopu8011uns_bw.pdf.

the ninety-ninth per capita income of 100 counties in North Carolina. Even today, Warren County is one of the poorest counties in the state; the average annual household income is \$35,000 while the rest of the state has an average of \$50,000.⁴⁷ Lastly, this community was deemed politically powerless. Political powerlessness in Warren County stemmed from a lack of economic development. Economic development in northeastern North Carolina had been diverted away from Warren County by way of two large interstates (I-85 and I-95) running around Warrenton, the county seat, instead of through it.⁴⁸ According to Bullard, “when it comes to enforcing the rights of poor people and people of color in the United States, government officials often look the other way.”⁴⁹ Citizens fought hard against the landfill, but they were ignored. The landfill was placed in their county anyway.

In protesting the hazardous landfill, many civil rights movement techniques were employed. This comes as no surprise given that the community was majority African American, and its members had just spent decades protesting for civil rights and watching others do the same. Following the initial decision to open the landfill, the National Association for the Advancement of Colored People (NAACP) staged a large protest in Warren County. Over 500 protestors were arrested including Benjamin F. Chavis, Jr. of the United Church of Christ and Delegate Walter Fauntroy of the U.S. House of Representatives.⁵⁰ Additionally, community member Dollie Burwell and her White neighbors Ken and Deborah Ferruccio started the Warren County Citizens Concerned About PCBs.⁵¹ This grassroots organization of people was the main

⁴⁷ “U.S. Census Bureau QuickFacts: North Carolina; Warren County, North Carolina.” Census Bureau QuickFacts. U.S. Census Bureau, July 1, 2018.

<https://www.census.gov/quickfacts/fact/table/NC,warrencountynorthcarolina/PST120218>.

⁴⁸ Bullard, “*Quest for Environmental Justice*.” 39-42.

⁴⁹ *Ibid*, 41.

⁵⁰ Office of Legacy Management. “Environmental Justice History.” Energy.gov. Accessed April 1, 2020.

<https://www.energy.gov/lm/services/environmental-justice/environmental-justice-history>.

⁵¹ Kaplan, *Crazy for Democracy*, 57.

proponent of protest. All protesting was nonviolent and peaceful, following the civil rights model; citizens marched, held signs, laid in the roadways, and were even arrested but were not physical. This garnered media attention which expanded anti-PCB support. As stated, their efforts went unrecognized, and the hazardous landfill was constructed.⁵² After reports of PCB seepage into the landfill's soil and groundwater in 1993, a push to clean up the landfill began, but was not acted upon until 2001.

As this thesis will demonstrate, a number of cities and towns throughout the United States have been disproportionately affected by polluting industries. These areas, often described as "sacrifice zones," have been targeted for the burden of pollution, the byproducts of consumerism, and industrial greed. These communities often do not have clean air or water, or both, and do not have the wealth or political clout to fight the industries polluting their neighborhoods. An example of this is Cancer Alley.

Cancer Alley is an eighty-five-mile stretch in central Louisiana known for its high rate of unusual cancers.⁵³ This corridor runs along the Mississippi River between New Orleans and Baton Rouge, across eleven parishes (counties), and is home to many African American communities. This area was known as the "petrochemical corridor," and received the ominous name, "Cancer Alley" when, in 1987, there were 15 cases of cancer within two miles in the town of St. Gabriel. In addition to being the site of a number of rural, low income communities, Cancer Alley also contains more than 150 chemical plants and oil refineries; that is 1.8 plants or

⁵² Bullard, *Quest for Environmental Justice*, 38-42.

⁵³ *Ibid.*, 90.

refineries per mile.⁵⁴ Furthermore, the state of Louisiana produces 12.5% of the nation's hazardous waste.⁵⁵

Few environmental injustice incidents are well-studied; however, in the case of Cancer Alley health risks in the parishes lining this route have been documented, including St. John the Baptist Parish. This parish is home to the Denka Performance Elastomer plant (Denka), owned by DuPont until 2015, which produces neoprene products (such as wetsuits).⁵⁶ It is the only plant of this type in North America as well as the only producer of chloroprene, an airborne byproduct, in the United States. The University Network for Human Rights published a report of cancer and noncancer health risks posed to this community and found the cancer prevalence in an area less than 2.5 kilometers from the plant was 5.4% ($p=0.0343$).⁵⁷ Their “p-value” (i.e. the odds this level of cancer prevalence would be found in another population of the same demographics) suggests these results are statistically significant. This community is 55.4% Black or African American with an average income of \$53,628.⁵⁸ The demographics of the community change as distance from the plant decrease. The community that immediately abuts Denka (< 1.5 kilometers away) was 93.2% Black or African American.⁵⁹ A similar pattern is seen with both cancer and noncancer illnesses; proximity to the plant directly correlates with illness.

Though the EPA has monitored chloroprene in this area since a 2011 National Air Toxics Assessment revealed high levels of the carcinogen, there are no emission limits on this chemical. Reluctantly, Denka agreed to monitor and lower its chloroprene emissions. The citizens of St.

⁵⁴ University Network for Human Rights. *Waiting to Die: Toxic Emissions and Disease near the Louisiana Denka/DuPont Plant*. Middletown, CT: Wesleyan University, 2018. pp 4.

⁵⁵ Allen, Barbara. *Uneasy Alchemy: Citizens and Experts in Louisiana's Chemical Corridor Dispute*. Cambridge: MIT Press. 2003

⁵⁶ “About Us.” Denka Performance Elastomer. Accessed November 30, 2019. <http://www.denka-pe.com/about-us/>.

⁵⁷ University Network for Human Rights. *Waiting to Die*, pp 26.

⁵⁸ “St. John the Baptist Parish, LA.” Data USA. Accessed November 30, 2019. <https://datausa.io/profile/geo/st.-john-the-baptist-parish-la#demographics>.

⁵⁹ University Network for Human Rights. *Waiting to Die*, pp 14.

John the Baptist Parish have begun their own fight against not only the chloroprene emissions, but all other hazardous and harmful emissions coming from Cancer Alley plants. The Coalition Against Death Alley spent 14 days, from October 16-30, 2019, marching from New Orleans to Baton Rouge to bring environmental justice to this area.⁶⁰ Some citizens, including Robert Taylor, along with the Louisiana Department of Environmental Quality have filed a lawsuit against the company for failing to meet emissions requirements set by the EPA.⁶¹

There have been a number of incidences of environmental injustice since the Warren County genesis. Environmental injustice is found in every state and nearly every large metropolitan area.⁶² Though circumstances and pollutants may differ, these communities share similar demographics, incomes levels, and lack of political support. They also share similarities in resilience and community action. In nearly every circumstance, community action is born from shared concern for their young people and their fellow community members.

Grassroots movements have been essential agents of change in instances of social injustice. Women often spearhead of these movements that are typically born out of concern for social need and the children within the community. These women are almost never alone, however. Women who organize these groups or protests get together to talk about the issues seen in their community with all community member. Lois Gibbs (Love Canal, NY) went door to door in the 1970s to collect data from neighbors about the adverse health effects of their children; this led to the entire community being relocated because of toxic pollution. Dollie Burwell (Warren County) followed examples of how to gain media exposure from Gibbs and her

⁶⁰ "Coalition Against Death Alley." Coalition Against Death Alley. Accessed April 1, 2020. <https://www.enddeathalley.org/>.

⁶¹ Hasselle, Della. "Louisiana AG Jeff Landry Signs off on Filing Lawsuit against Denka Plant in LaPlace." The Advocate. June 13, 2019.

⁶² EPA Search for Superfund Sites Where You Live. (2020, June 03). Retrieved June 23, 2020, from <https://www.epa.gov/superfund/search-superfund-sites-where-you-live>

team in their fight for neighborhood relocation.⁶³ Historically, grassroots have been imperative to a community's success against repression. Grassroots organizations aim to mobilize community members to demand change and to increase their political power through larger numbers. In the past, this has been in the form of canvassing, as in Burwell's case when she went door to door in her neighborhood to register voters.⁶⁴ Social media outlets, in addition to being a signaling system, are another weapon and network of hope for many people who want to connect to a larger group with the same concerns.

Case Studies

CATE, Pensacola, Florida

During the Jim Crow segregationist era, there were very few places Black people in Pensacola, Florida, could buy homes; in fact, there were only three. The Rosewood Terrace, Oak Park, and Goulding neighborhoods were bordered by Escambia Wood Treating Company, (ETC) Agrico Chemical Company (Agrico), and the railroad. Agrico was a plant fertilizer manufacturer and ETC was a facility that treated wood (utility poles, pilings, etc.) with creosote.⁶⁵ This partitioning of housing arose from redlining practices that followed the establishment of the Federal Housing Administration (FHA) and were heightened by the 1950s and 1960s Jim Crow Era in Florida.⁶⁶ Given that this area was historically one of the few places African Americans

⁶³ Kaplan, *Crazy for Democracy*, 35-40.

⁶⁴ Ibid.

⁶⁵ Buchanan, Drew and Derek Cosson. "Without the EPA, These Pensacola Superfund Sites Might Not Have Been Cleaned Up." *The Pulse Pensacola*. February 5, 2017. <https://thepulsepensacola.com/2017/02/without-epa-pensacola-superfund-sites-might-not-cleaned/>.

⁶⁶ Gross, Terry. "A 'Forgotten History' Of How The U.S. Government Segregated America." *National Public Radio*. March 3, 2017. <https://www.npr.org/2017/05/03/526655831/a-forgotten-history-of-how-the-u-s-government-segregated-america>.

could own homes, many families resided there for at least three generations.⁶⁷ The vibrant community of close neighbors was a working-class community where many residents were employed in the facilities that lined their neighborhood.⁶⁸ And it was home to retired school teacher Margaret Williams, who believed her neighborhood deserved better and fought to protect the people who lived there whose health was damaged by chemical contamination from these plants.⁶⁹

ETC operated in the Brent neighborhood of Pensacola from 1942 until 1982 when the facility closed. From the facility's opening until about 1970, coal-tar creosote was used as a wood preservative on its products.⁷⁰ After 1970, pentachlorophenol (PCP) dissolved in No. 6 diesel fuel was used as the primary wood preservative; the company began using this preservative in 1963.⁷¹ The primary wastes from this facility included wastewater and contaminated runoff. These waste products were put into unlined landfills, unlined containment ponds, and unlabeled drums.⁷² Water from unlined containment ponds penetrated the soil resulting in both contaminated soil and groundwater, the latter of which formed a plume that extended 1.5 miles and covered about 69 acres of abutting neighborhoods.⁷³ Making matters worse, the 26-acre site rose about 60 feet above the rest of the town which allowed runoff from the facility to travel downward into the neighborhoods.⁷⁴ It is highly possible that the

⁶⁷ Mayer, Brian. "Finding a Solution for Mt. Dioxin: Community Environmental Health and the Management of Hazardous Waste." University of Florida, n.d.
<http://www.bobgrahamcenter.ufl.edu/sites/default/files/Mayer.CaseFINAL.pdf>.

⁶⁸ Ibid.

⁶⁹ Bullard, *Quest for Environmental Justice*, 66-68

⁷⁰ EPA. Superfund Explanation of Significant Differences; Escambia Wood Treating Company Superfund Site § (2012). <https://semspub.epa.gov/work/04/10900580.pdf>.

⁷¹ Ibid.

⁷² Bullard, *Quest for Environmental Justice*, 66-68.

⁷³ "Escambia Wood - Pensacola Site Profile." EPA. Environmental Protection Agency, October 20, 2017.
<https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.Cleanup&id=0400573#bkground>.

⁷⁴ Bullard, *Quest for Environmental Justice*, 66-68.

contaminates made it even further than the neighborhoods that immediately lined the facility.⁷⁵ Following EPA testing, it was determined that levels of dioxin 545,000 times higher than what was acceptable at the time were found in the soil. Wilma Subra, a noted chemist and environmental activist, said these were some of the worst instances of dioxin contamination in the United States.⁷⁶ Dioxin is a known human carcinogen. Additionally, arsenic was found in the soil of some sites.⁷⁷ Arsenic is also a known carcinogen that has been found to cause skin lesions and is associated with cardiovascular disease, diabetes, and impaired cognitive development of children.⁷⁸

When ETC closed in 1982, the site was in disarray. Leaking drums, open containers, and crumbling asbestos surrounding a boiler were found. In the face of obvious soil contamination, ETC abandoned the site in 1991 and filed bankruptcy. As a result, the EPA put the site on the National Priorities List within the Superfund (CERCLA) Act in 1994 as the agency began to investigate the extent of soil and groundwater contamination. Initial estimates were that 100,000 cubic yards of polluted soil needed to be excavated; however, the true contamination was revealed to be worse and eventually 255,000 cubic yards of soil were overturned and contained onsite. In total, (including both a 1992 and 2007 excavation of the site) 344,250 tons of dirt were dug up, encased, and reburied. This excavation is what led to the 60-foot pile of dirt that currently resides on the lot, which locals named “Mt. Dioxin.”

In deciding what type of remediation to use on the ETC lot, the EPA prepared an analysis of the site as well as the adjoining neighborhood. In this analysis, the EPA noted that minorities

⁷⁵ Ibid.

⁷⁶ Mayer, “Finding a Solution for Mt. Dioxin: Community Environmental Health and the Management of Hazardous Waste.”

⁷⁷ Margaret Williams, “Environmental Protection Agency Issues,” National Cable Satellite Corporation, January 14, 2008. <https://www.c-span.org/video/?174614-1/environmental-protection-agency-issues>

⁷⁸ “Arsenic.” World Health Organization. World Health Organization, 2018. <https://www.who.int/news-room/fact-sheets/detail/arsenic>.

made up between 60-100% of the total population within one square-mile radius of the former plant. The EPA compared this to Escambia County (the county in which Pensacola is located) in which minorities comprised 0-10% of the population total. To this day, these communities remain majority African American with higher percentages of African Americans than Pensacola as a whole; Brent (Rosewood Terrace and Oak Park) 48%, Goulding 69.6%, and Pensacola 28.2%.⁷⁹

A quarter mile southeast of ETC was another equally polluting industry: Agrico Chemical Company. This 35-acre facility operated from 1889-1975 and produced agricultural chemicals. Similar to ETC, the use of unlined containment ponds led to the leeching of dangerous chemicals into the soil and groundwater. From this facility, radium-226, radium-228, sulfuric acid, lead, and fluorides were released into the surrounding area.⁸⁰ This site was placed on the National Priorities List (NPL) in 1989. The EPA stated that the site was placed on the NPL due to the contaminated groundwater, sludge, and soil.⁸¹ Clean-up was similar to that of the ETC; the soil was unearthed, stabilized and capped on site.⁸²

In addition to soil and groundwater contaminants, the heat and pressure of many activities from the two sites caused evaporates to enter the air. Lifetime neighborhood resident and retired schoolteacher Williams recalled covering her face and nose with a handkerchief in order to shield herself from inhaling the fumes from the plants which caused burning in her nose and throat.⁸³ In addition to acute respiratory issues, her neighbors experienced many adverse health

⁷⁹ “Race and Ethnicity in Pensacola, Florida (City).” The Demographic Statistical Atlas of the United States - Statistical Atlas, 2012. <https://statisticalatlas.com/place/Florida/Pensacola/Race-and-Ethnicity>.

⁸⁰ Buchanan, Without the EPA, These Pensacola Superfund Sites Might Not Have Been Cleaned Up.”

⁸¹ “Superfund Sites in Reuse in Florida.” EPA. Environmental Protection Agency, March 24, 2020. <https://www.epa.gov/superfund-redevelopment-initiative/superfund-sites-reuse-florida>.

⁸² Ibid.

⁸³ Mayer, “Finding a Solution for Mt. Dioxin: Community Environmental Health and the Management of Hazardous Waste.”

effects including chronic respiratory illnesses, cancer, skin rashes, and reproductive complications.⁸⁴ Reproductive complications included high rates of both miscarriages and birth defects within this community. Some neighbors said that they couldn't "remember a home or family that wasn't affected by cancer."⁸⁵ Within Williams's family, her parents as well as two uncles passed away due to cancer.⁸⁶ Williams suggested that the chemicals from the ETC site could have led to the deaths of forty residents as a result of cancer.

Following the bankruptcy of ETC and its abandoning of the site in 1991, Williams co-founded the grassroots Citizens Against Toxic Exposure (CATE) in 1992.⁸⁷ This group began meeting in the New Hope Missionary Baptist Church and established a goal of creating a place for themselves within the EPA and local discussions of how to proceed with the remediation of the site.⁸⁸ The group was mostly composed of housewives with little leadership experience, though some church leaders were involved. Recognizing their inexperience in these issues, CATE members enlisted the help of the Citizens' Clearinghouse for Hazardous Waste, a foundation established by Love Canal's Lois Gibbs. This foundation later transformed into the Center for Health, Environment, & Justice. CATE demanded that all residents from affected neighborhoods be relocated. The EPA's first offer in April 1996 was to move 66 affected households and its second offer in August 1996 included 35 more homes, but CATE wanted everyone in the affected areas moved to safer homes.⁸⁹

⁸⁴ Ibid.

⁸⁵ Ibid.

⁸⁶ Bullard, *Quest for Justice*, 66-68.

⁸⁷ Margaret Williams, "Environmental Protection Agency Issues," National Cable Satellite Corporation, January 14, 2008. <https://www.c-span.org/video/?174614-1/environmental-protection-agency-issues>

⁸⁸ Lerner, Steve. *Sacrifice Zones: the Front Lines of Toxic Chemical Exposure in the United States*. Cambridge, MA: MIT Press, 2012. 51-52.

⁸⁹ Ibid.

In order to accomplish this, CATE employed many tactics that were similar to the protests that came before theirs in both Love Canal and Warren County. Vigils were held outside the gates to the gates to the ETC Superfund site. Activists tried to get local officials on their side by writing letters to request a higher standard of filtration for the soil, though they had little pull in comparison to the governmental organizations that were at work. Additionally, a fake funeral parade was held and forty crosses were placed outside the company's gates to honor the lives presumed to be lost as a result of cancer in this neighborhood.⁹⁰ Some members of CATE, including Williams, travelled to Washington, DC, to stand in front of the EPA's National Environmental Justice Advisory Council (NEJAC). This resulted in a roundtable discussion with the NEJAC's Waste Subcommittee in Pensacola which allowed for more resident voices to be heard as they could not all travel to Washington, D.C.⁹¹ In this meeting, 100 other grassroots organizations backed CATE's request for full relocation.⁹² Finally, with some advice from Gibbs, a month before the 1996 presidential election, the group took out a one-page advertisement in the Florida edition of *USA Today*.⁹³ It featured a child playing next to Mt. Dioxin with a quote from then-presidential reelection candidate Bill Clinton, "no child should ever have to live near a hazardous waste site."⁹⁴ Two days following this advertisement, the EPA agreed to relocate 358 households away from the ETC Superfund Site, a process that occurred over eight years (1997-2005) at a cost of \$25.5 million.⁹⁵ This relocation marked the first time an

⁹⁰ Mayer, "Finding a Solution for Mt. Dioxin: Community Environmental Health and the Management of Hazardous Waste."

⁹¹ Bullard, *Quest for Justice*, 66-68

⁹² *Ibid.*

⁹³ Lerner, *Sacrifice Zones*, 51-52.

⁹⁴ *Ibid.*

⁹⁵ *Ibid.*

African American community was relocated under the EPA's Superfund Act, and was the third largest relocation.⁹⁶ All of the neighborhoods had been contaminated with dioxin.

The EPA determined that the most cost-effective method was to move all households but keep the site zoned for light industrial use. This landmark case also helped to create a national standard regarding relocation that takes into account not only the extent of pollution but also the quality of life that is to be had in a contaminated community.⁹⁷ Clean-up and site remediation continued into the early 2000s with CATE disapproval. Frances Dunham of CATE said the EPA was "taking the cheap way out."⁹⁸ Which, is not incorrect. In the 1990s, a deal was essentially made that determined the fate of the ETC site forever. As Dunham put it, "it's sweeping hazardous waste under the rug and invites new polluting industry to this site."⁹⁹

Following the site clean-up, the EPA remained adamant that the former wood treating lot was "safe, clean, and ready for use."¹⁰⁰ Mid-Town Commerce site, the site's new name, was, in 2015, the "No. 1 contender to house a new Escambia Jail."¹⁰¹ As of 2019, the EPA pushed for partial deletion of this site from the National Priorities List. The proposal calls for the deletion of fifty acres of this site which have been determined by both the EPA and the Florida Department of Environmental Protection to have completed the necessary remediation to return the land to productive use.¹⁰² Since her hard fought battle for relocation, Williams has died. CATE kept up

⁹⁶ Bullard, *Quest for Justice*, 66-68

⁹⁷ Ibid.

⁹⁸ "EPA to Begin 'Mount Dioxin' Reburial over Local Opposition, FL." The Associated Press News Service. June 2, 2007. https://infoweb.newsbank.com/apps/news/document-view?p=AWNB&t=&sort=YMD_date:D&fld-base-0=alltext&maxresults=20&val-base-0=mount+dioxin+pensacola,FL&docref=news/14135BF6FA6C15D0

⁹⁹ Ibid.

¹⁰⁰ Robinson, Kevin. "Is a Superfund Site Safe for a Jail?" Pensacola News Journal. October 24, 2015. <https://www.pnj.com/story/news/local/pensacola/2015/10/24/superfund-site-safe-jail/74219240/>.

¹⁰¹ Ibid.

¹⁰² Harris-Young, Dawn. "EPA Proposes to Delete Portion of Escambia Wood-Pensacola Superfund Site in Pensacola, Florida from Superfund List." EPA. Environmental Protection Agency, July 30, 2019. <https://www.epa.gov/newsreleases/epa-proposes-delete-portion-escambia-wood-pensacola-superfund-site-pensacola-florida>.

with the remediation for as long as she was alive; however, the organization appears to have dwindled out.

Sustainable South Bronx, South Bronx, New York

For decades, the South Bronx faced disinvestment in the form of redlining, zoning, and waste facility placement. What was once a working-class neighborhood, this area swiftly became a low-income, crime-ridden community. Citizens did not feel connected to their neighborhoods, which were lined with polluting facilities and visited daily by diesel trucks. With a growing African American population as well as a growing immigrant (Latin American) population, this area was written off as a sacrifice zone through the late twentieth century. That was, until community organizer and South Bronx native Majora Carter began work to clean up the area in the late 1990s. Carter pushed for increased funding for green spaces and worked to mobilize neighbors through education, incentives, and small businesses. She started many grassroots organizations that continue to benefit the community through job training. The South Bronx is an example of an environmental justice community that has been transformed by grassroots activism and planning.

The South Bronx was once mostly occupied by White, working class residents in the 1940s. However, as more Black residents moved in, a similar phenomenon that occurred in Roxbury, MA began – “White flight.” Between 1970 and 1980 the White population in the Bronx dropped from 1.08 million to 554,000.¹⁰³ In that same time period, the African American population of the South Bronx increased. The South Bronx was disenfranchised by the rise of redlining with the National Housing Act of 1934. Banks would not allow investment in certain

¹⁰³ Roby, Megan, and Peter Derrick. “The Push and Pull Dynamics of White Flight: A Study of the Bronx between 1950 and 1960.” In *The Bronx County Historical Society Journal*, 45:35–36. Bronx, NY: The Bronx County Historical Society, 2009.

areas of the Bronx, including the South Bronx. Instead of selling buildings, many landlords opted to burn their buildings and collect insurance money.¹⁰⁴ Further displacement came when Robert Moses proposed the Cross-Bronx Expressway. Moses was a city planner who, though never elected, was appointed to numerous positions within the New York State government that allowed him to literally build up New York City. He commissioned the construction of 658 playgrounds, 416 miles of parkway, and 13 bridges along with roads, highways, tunnels, houses, beaches, civic centers, and notably New York's 1964 – 1965 World Fair site.¹⁰⁵ He has been both revered and opposed by historians and citizens of New York City for his city planning efforts. Constructed in 1955, the Cross-Bronx Expressway cut through the center of town and displaced up to 600,000 people in order for wealthier Westchester County residents to have easier access to Manhattan. According to Carter, “the disinvestment that began in the 1960s set the stage for all the environmental injustices that were to come” to the citizens of the South Bronx.¹⁰⁶

The South Bronx is located in the Bronx borough (coterminous with Bronx County) of NYC. Population data is not available for the South Bronx, thus data from Bronx County is used. Today, the growth of Bronx County, the largest growing county in the state, is driven by immigration. In 2016, immigrants made up 37% of the population in Bronx County which is home to more immigrants than any other borough.¹⁰⁷ The White population in the Bronx borough is less than 10% of the total population. Additionally, as of 2016, the annual household

¹⁰⁴ TED. “Greening the ghetto | Majora Carter.” *Youtube* video, 19:45. January 6, 2007.

<https://www.youtube.com/watch?v=gQ-cZRmHfs4>

¹⁰⁵

¹⁰⁶ Ibid.

¹⁰⁷ Office of the New York State Comptroller. *An Economic Snapshot of the Bronx*. Albany: Office of the State Deputy Comptroller for the City of New York. 2018. Accessed November, 2019.

<https://www.osc.state.ny.us/osdc/rpt4-2019.pdf>

income (4-person household) was \$37,500 with a poverty rate of 28.4%, ten percentage points higher than New York City as a whole.¹⁰⁸

As a result of zoning and redlining, polluting industries were able to locate facilities in the South Bronx. This includes about 40% of the city's waste, all the waste from the borough (Bronx), sewage treatment facilities and pelletizing plant, four electricity plants, and a concrete plant.¹⁰⁹ These facilities promoted copious diesel truck trips through the South Bronx. Due to this dense concentration of facilities, particularly along the river, the neighborhood had one of the lowest parks to citizens ratios in the country at 0.5 acres per 1000 people.¹¹⁰ This is well below the average for New York City as a whole at 4.7 acres per 1000 residents.¹¹¹ Before Carter's push for environmental justice in the South Bronx, citizens were plagued with a number of health issues, including obesity. There is a national trend between weight and income; those with lower income are more likely to be obese. In a 2007 report from the NYC Department of Health and Mental Hygiene, citizens of the South Bronx reported getting less physical activity as well as less fruits and vegetables than the rest of the city.¹¹² Another problem plaguing the citizens is asthma. In the South Bronx, one in four children is diagnosed with asthma symptoms; this rate is seven times higher than the national average. These types of health risks are not uncommon when outdoor recreation is limited, there is a perception of high crime rate, and environmental factors jeopardize community health.

Rebuilding began in 1985 when then-mayor Ed Koch announced the city government would aid with the city-wide housing crisis; they provided \$4.4 billion to build 100,000 housing

¹⁰⁸ Ibid.

¹⁰⁹ TED. "Greening the ghetto | Majora Carter."

¹¹⁰ Ibid.

¹¹¹ The Trust for Public Land. *2016 City Park Facts*. San Francisco: The Trust for Public Land. 2016. Accessed November, 2019. https://www.tpl.org/sites/default/files/2016%20City%20Park%20Facts_0.pdf

¹¹² Matte T, Ellis JA, Bedell J, Selenic D, Young C, Deitcher D. *Obesity in the South Bronx: A look across generations*. New York, NY: New York City Department of Health and Mental Hygiene, 2007.

units in 5 years. Amendments were made to this plan which resulted in 250,000 housing units totaling \$5.1 billion by 1996. This plan, aptly named the Ten-Year Housing Plan, spanned three mayoral terms and received the support of all three who held the position; Koch, David Dinkins, and Rudolph Giuliani.¹¹³ However, the plan carried out by Koch mainly benefitted middle- and upper-middle-class NYC residents and left out those who were low-income or homeless. About two thirds of the housing units constructed under Koch were allocated to those with higher incomes.¹¹⁴ His successor, Dinkins, enlarged the Ten-Year Housing Plan and the South Bronx fared much better under this administration. In the 1990s, the South Bronx gained nearly 20,000 housing units; reducing the number of vacant and decaying lots left by the insurance fueled fires.¹¹⁵

The revitalization of the South Bronx after years of political disregard came when a young woman, who was dying to get out, stayed. Carter, a native and graduate from Wesleyan University, became interested in the environmental quality of her neighborhood shortly after graduating from college. Due to this interest and early activism (notably fighting a large waste facility's placement in the South Bronx), she was approached to begin a revitalization of a riverside park. Though she is not the only person to work on these projects, Carter has been the most vocal, appearing on a TEDx talk, writing numerous grants, mobilizing dozens of grassroots groups, and creating a consulting firm which aids other communities in social enterprises and economic development in the face of antiquated zoning laws.

Carter joined this project while working with the grassroots organization The Point Community Development Corporation, a nonprofit that works to increase youth, culture, and

¹¹³ Chronopoulos, Themis. "The Rebuilding of the South Bronx after the Fiscal Crisis." *Journal of Urban History* 43, no. 6 (2017): 932–59. <https://doi.org/10.1177/0096144217714764>.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

economic development in the Bronx.¹¹⁶ She was initially approached by Jenny Hoffner, the Bronx River Catalyst Coordinator for Partnerships for Parks, in 1998.¹¹⁷ The Partnerships for Parks program was a joint venture of the New York City Parks and Recreation Department and the City Parks foundation. Hoffner encouraged Carter to apply for a grant to clean up the Hunts Point stretch of the Bronx River, something Carter previously believed the Bronx did not have. The original grant was awarded by the National Park Service Rivers, Trails and Conservation Assistance Program to clean up the abandoned riverside lot overtaken by weeds and piles of trash.

Carter saw the zoning, redlining, and excessive polluting industries in the South Bronx as “‘planning’ that did not have [their] best interest in mind.”¹¹⁸ As such, neighborhood residents began their own planning. Carter headed a movement she called “Green the Ghetto” that pushed for a greenway through the South Bronx. After the initial grant of \$10,000 to revitalize Hunts Point Riverside Park, Carter and her team leveraged that money 300 times to create a \$3 million park; it was the first riverside greenspace in the South Bronx in 60 years. On July 19, 2004, ground broke on this \$3.27 million renovation project to clean up the illegal dump, ridden with “discarded lawn chairs, car parts, and other unsightly garbage.”¹¹⁹ This park continues to positively impact the community; in 2017, the Hunts Point neighborhood had the most businesses of all neighborhoods in the Bronx borough.¹²⁰

Carter has not stopped there in the fight for environmental justice in the South Bronx. The greenway is a large extension of the Hunts Point Riverside Park that would allow safe

¹¹⁶ Award summary

¹¹⁷ Award summary

¹¹⁸ TED. “Greening the ghetto | Majora Carter.”

¹¹⁹ Steinhauer, Jennifer. “Illegal Dump in South Bronx to Become a Park.” *New York Times*, July 20, 2004.

¹²⁰ Office of the New York State Comptroller. *An Economic Snapshot of the Bronx*.

bicycle access through the borough. Carter wrote a \$1.25 million grant proposal for this project. Through this, Carter hoped to connect the community in the South Bronx to green space on the other side of the Bronx River via a bike path. According to Carter, this type of reinvestment is important in order to get citizens more engaged and to spur economic development that would ensue from new and renovated businesses opening along the path, such as bike shops, quick bites to eat, and juice shops.

In order to continue the economic development from the greenway, Carter began many projects to create jobs and job training programs in this area, including an ecological restoration program called Bronx Ecological Stewardship Training. Atop her offices in the South Bronx, Carter has had a green roof installed – which helps to mitigate the heat island effect immensely and can aid in air purification in appropriate densities. Through this one roof, Carter was able to create a business that implements green roofs through the South Bronx, employing citizens and giving them the training needed to fill this new “green collar” job.¹²¹

Two of Carter’s largest and most successful grassroots groups, Sustainable South Bronx and Green for All, were established in order to carry on the work she began as she moved into the private sector where she established the Majora Carter Group. Green for All is based out of Washington, D.C., while Sustainable South Bronx (SSBx), established in 2001, continues to work in the South Bronx and New York City. In 2015, SSBx partnered with The Hope Program to expand their CoolRoofs program. Additionally, this group has earned a grant to continue training citizens on green infrastructure as well as solar panel installation. The Hope Program (HOPE), as the parent to SSBx, continues the work of job training young people for the future of green jobs. This program also trains young people on digital and financial literacy as well as

¹²¹ TED. “Greening the ghetto | Majora Carter.”

mindfulness and physical and emotional wellness. There are two types of programs through HOPE; one ten-week paid training program in the NYC CoolRoofs initiative and another ten-week unpaid transitional employment program, Intervine.¹²² In 2018, HOPE placed four hundred students in jobs through these two programs, which is up 49% from their job placements in 2014. Additionally, they have a 93% ninety-day job retention rate; this is twenty percentage points higher than the national average for workforce development organizations.¹²³

Carter's biggest emphasis is that environmental activists and grassroots organizers need to be at the table for conversations and decisions about their neighborhoods. These are the people who work in communities and have knowledge of its systems and citizens. What led the South Bronx through much of its revitalization was Carter and her team's effort to put themselves at the table for conversations surrounding their community. Today, Carter's efforts continue to positively impact the citizens of the South Bronx. Community markets have been established at the Hunts Point Riverside Park that provide the community with healthy fruits and vegetables. In a 2015 survey, the NYC Department of Health and Mental Hygiene found that 82% of citizens consumed at least one serving of fruits or vegetables in a day.¹²⁴ Though the South Bronx continues to have the highest percentage of obesity of any borough, citizens show signs of taking initiative on their own health with high percentages of citizens receiving their flu shots and other vaccinations, getting tested for sexually transmitted infections, and reporting "good," "very good," or "excellent" health.¹²⁵ The markets in Hunts Point Riverside Park are numerous. There

¹²² "Transitional Employment." The HOPE Program - Work. Grow. Sustain. The HOPE Program, 2019. <https://www.thehopeprogram.org/how-it-works/>.

¹²³ "Growing HOPE." The HOPE Program - Work. Grow. Sustain, 2020. <https://www.thehopeprogram.org/success-by-the-numbers/>.

¹²⁴ New York City Department of Health and Mental Hygiene. *2016-2018 Community Health Assessment and Community Health Improvement Plan: Take Care New York 2020*. NYCDOHMH. 2015. Accessed November, 2019. <https://www1.nyc.gov/assets/doh/downloads/pdf/tcnyc/community-health-assessment-plan.pdf>

¹²⁵ Ibid.

is a produce market, a meat market, as well as a fish market. Contributors range from small farmers to large operations. Together with the Hunts Points Food Distribution Center, the markets are part of the Hunts Point Market, which sends most of its distributions (49%) to independent restaurants and cafes in the city and another portion of its distributions to bodegas and corner stores.¹²⁶ This market generates \$2 billion in economic activity each year.¹²⁷

Today, grassroots organizations like the South Bronx River Watershed Alliance (SBRWA) continue to fight for environmental justice in their community. The SBRWA is a coalition of seven different grassroots organizations. In 2017, the State of New York proposed a redesign of the Sheridan Expressway, also built by Moses. The project was completed at the end of 2019.¹²⁸ SBRWA rejected numerous parts of this plan due to the possibility of increasing truck traffic through a residential neighborhood. The redesign lowered the Sheridan Expressway while elevating its ramps and connected them to the Bruckner Expressway and Edgewater Road, the road leading to the Hunts Point Market.¹²⁹ While leveling the Sheridan Expressway allows for easier pedestrian access to the river, SBRWA is most concerned about the residential area and Hunts Point Riverside Park which both abut Edgewater Road and will face increased truck traffic and emissions.¹³⁰ Currently, about 13,000 trucks travel to the Hunts Point Market each day.¹³¹ The redesign has many high-quality features including leveled pedestrian crosswalks, bike lanes, and is a “complete street.” There is hope that through the two phases of redesign on

¹²⁶ New York City Economic Development Corporation, Mayor's Office of Recovery and Resiliency, and ONENYC. “Five Borough Food Flow.” Mayor's Office of Recovery and Resiliency, 2016.

¹²⁷ Fink, Zach. “New Sheridan Expressway Expected to Reconnect South Bronx With Waterways.” Spectrum News NY 1. Spectrum News, December 11, 2019. <https://www.ny1.com/nyc/all-boroughs/politics/2019/12/12/new-sheridan-expressway-expected-to-reconnect-south-bronx-with-waterways-bruckner-expressway-rebuild#>.

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Ricciulli, Valeria. “The \$75M Overhaul of a South Bronx Roadway Is Now Complete.” Curbed NY. Curbed NY, December 12, 2019. <https://ny.curbed.com/2019/12/12/21011230/south-bronx-sheridan-expressway-redesign-nyc>.

¹³¹ Fink, Zach. “New Sheridan Expressway Expected to Reconnect South Bronx With Waterways.”

the Bruckner Expressway, set to be completed in 2022 and 2025, truck traffic will be completely diverted from neighborhoods.¹³² The community is in a balancing act between maintaining their health and maintaining access to their economic engine.

With revitalization, the South Bronx also is experiencing gentrification. Real estate agents continue to boast “The Bronx is on Fire,” reminiscent of taglines that once went along with real fires that occurred in the 1960s, and have even begun to call this area “SoBro.” This new moniker bears a strikingly similar sound to the affluent New York City section known as SoHo. As a result, many homes are being sold with price tags well above what those who currently reside there can afford. This is especially true in neighborhoods outside of the South Bronx; however, the change in real estate pricing has affected property values in all neighborhoods. Despite this unfortunate side effect, efforts continue to mobilize community members and provide them with education needed, specifically for up and coming green jobs.

¹³² Ibid.

ACE, Roxbury, Massachusetts

The citizens of a primarily African American neighborhood in Boston, Massachusetts, found themselves facing environmental injustices in the mid-1990s. With chemicals from illegally dumped asbestos, a major transportation yard, and an electroplating facility, Roxbury quickly became polluted and the health of its citizens declined. In addition, a transportation yard was established as a hub for people traveling to the main areas of the city while the Modern Electroplating Company took advantage of “White-flight” that lowered property values in the 1950s. Asbestos-filled lots represented lost opportunities for real estate and a sense community within the neighborhood. These factors also led to the disinvestment of the neighborhood, leaving many empty, unsightly lots.

Fortunately, hope was not lost—a number of community members, mostly young people, noticed the problems brought about by the Modern Electroplating Company and Bartlett Yards (the transportation yard) in the 1990s. They pushed for and supported the reinvestment of their neighborhood and helped to educate the next generation of young community leaders.

When the Modern Electroplating Company was established in Roxbury in the 1950s, Roxbury had a non-White population of 25.1%; this was the highest non-White population of any neighborhood in the city.¹³³ After the placement of this plant, Roxbury saw a significant reduction in population due to the movement of White residents to suburban areas between 1950 and 1980. Since 1980, however, Roxbury’s population has grown largely due to an increasing Hispanic population. At the start of the 1990s, Roxbury’s non-White population made up 95.5% of the population; as of 2015, that figure stands at 89.1%.¹³⁴

¹³³ Boston Planning and Development Agency Research Division. *Historical Trends in Boston Neighborhoods since 1950*. Boston: BPDARD. 2017. <http://www.bostonplans.org/getattachment/7987d9b4-193b-4749-8594-e41f1ac27719>

¹³⁴ Ibid.

Roxbury had a population of a little less than 60,000 during the last census (2010).¹³⁵ During this census, the population was 56% Black or African American with a median income (for a household/family of 4) of just over \$30,000 a year.¹³⁶ Boston as a whole had a Black or African American population that made up 22% of the total population and the annual median income was just over \$52,000. As the data indicates, Roxbury is disproportionately African American and low income when compared to the rest of the city; this combined with withdrawal of economic interest in this community put the citizens in a position of political powerlessness.

A major transportation yard, Bartlett Yards, opened in the late 1800s. From 1888 to 1970 this facility served as housing and maintenance for trains and horse drawn carriages.¹³⁷ After 1970, the Massachusetts Bay Transportation Authority (MBTA) took over the lot that, by the time the lot closed, housed 150 diesel buses.¹³⁸ Since 1888, the residents of this community have been exposed to extreme air pollution. A 1997 study by the Division of Health Care Finance and Policy found that asthma hospitalizations in this neighborhood, with a population of 60,000, were five-and-one-half times higher than the state average.¹³⁹

Many of Roxbury's transportation struggles began long before train stations or bus depots were present in the neighborhood. In the 1600s and 1700s, the "Roxbury Neck" was a narrow isthmus that served as the only land entrance to Boston, which was at the time a peninsula off the

¹³⁵ "Roxbury Data Profile." Boston Department of Neighborhood Development, Policy Development & Research Division. 2006. Accessed October 10, 2018.

https://www.cityofboston.gov/DND/PDFs/Profiles/Roxbury_PD_Profile.pdf

¹³⁶ Ibid.

¹³⁷ "MBTA Bartlett Yard." Boston Redevelopment Authority. September 25, 2006. Accessed October 10, 2018.

<http://www.bostonplans.org/getattachment/89305766-6f67-484c-ba9a-3714be0ec845>.

¹³⁸ Ibid.

¹³⁹ Penn Loh and Jodi Sugarmen-Brozan. "Environmental Justice Organizing for Environmental Health: Case Study on Asthma and Diesel Exhaust in Roxbury, Massachusetts." *The Annals of the American Academy of Political and Social Science* 584 (November 2002): 110-24. Accessed October 12, 2018.

<https://www.jstor.org/stable/pdf/1049770.pdf>

mainland.¹⁴⁰ Due to this, many forms of transportation left from the center of Roxbury to bring people into the city. In the early 1900s, that center of town became a crossroads that included trains and other transportation into the city and was named Dudley Square.¹⁴¹ This transportation hub grew and would eventually take on the MBTA's Bartlett Yards.

In addition to the bus yard, the Modern Electroplating Company that occupied prime real estate in the center of town, Dudley Square, was opened in 1955. Electroplating is the production of a metal surface coating on another metal using electrodeposition. Typically, this process was used to make metal resistant to abrasion, corrosion and wear or to refurbish metals. The company was closed by the EPA in 1995 due to groundwater leaching of toxic chemicals as a result of unlined containers.¹⁴² While Roxbury did not get its water from ground water wells, there were anecdotal accounts of chemical pooling in open areas near the plant. Ultimately this site did not qualify for federal aid through the Superfund (CERCLA) Act, but it did qualify for state level brownfields project funding. Brownfields are lots in which construction or redevelopment may be challenging due to the potential of toxic contaminants in the soil from past use.¹⁴³ These lots typically remain empty until the federal or state governments can remediate them. EPA eventually did aid in clean up in 1995 after the company went bankrupt and left many drums of chemicals in the facility that were considered an "imminent hazard."¹⁴⁴

The opening of this chemical plant came during a time when many southern African Americans were fleeing to the northern United States in the post-World War II years to avoid

¹⁴⁰ Boston Herald "The Boston History Project: Dudley Square Roxbury" *YouTube*, 3:18. August 10, 2017. <https://www.youtube.com/watch?v=CLzvUnMDsKs> .

¹⁴¹ Ibid.

¹⁴² Smith, Jamie. "Brownfields Success in New England." Boston Department of Neighborhood Development, Land & Community Revitalization. July 2011. Accessed October 12, 2018. <https://archive.epa.gov/region1/brownfields/web/pdf/modernelectroplating.pdf>

¹⁴³ "Overview of EPA's Brownfields Program." EPA. Environmental Protection Agency, October 4, 2019. <https://www.epa.gov/brownfields/overview-epas-brownfields-program>.

¹⁴⁴ Ibid.

constrictive Jim Crow laws; they were joined by immigrants from Jamaica and Barbados.¹⁴⁵ As African Americans moved into the neighborhood, many White people began moving to the suburbs even farther outside of Boston. The neighborhood became plagued with unemployment and poverty.¹⁴⁶ The property value in this area soon decreased, providing the perfect area for a company to purchase cheap land near a major port like Boston.

The environmental hazards may have caused adverse health effects to the residents of the Roxbury neighborhood. However, no direct studies have been done on the immediate or long-term health effects of living in such close proximity to a leeching electroplating company, a transportation depot, or numerous asbestos brownfields. However, top health concerns in Roxbury correlate with those likely to be seen from such pollution including high rates of lung cancer (as well as other cancers), asthma, and premature births.¹⁴⁷ Asbestos is a known carcinogen and can be found in numerous building materials (attic and wall insulation, vinyl tiles, roofing and siding shingles, textured paint, etc.) and automobile clutches and brakes. Originally a fire retardant, asbestos has been found to cause lung cancer, including mesothelioma, and asbestosis (a non-cancer, progressive lung disease).¹⁴⁸

Environmental hazards also caused rapid economic degradation of the community. Roxbury citizens created grassroots groups to put focus back on the community. Two groups, Alternatives for Community and Environment (ACE) and Roxbury Environmental

¹⁴⁵ "About Roxbury." Roxbury Historical Society. October 02, 2014. Accessed November 07, 2018. <http://roxburyhistoricalsociety.org/about-roxbury/>.

¹⁴⁶ Scott, Cydney, and BU Today. "Getting to Know Your Neighborhood: Roxbury." Family and Medical Leave Act (FMLA) | Human Resources. November 11, 2016. Accessed November 28, 2018. <http://www.bu.edu/today/2016/getting-to-know-your-neighborhood-roxbury/>.

¹⁴⁷ Boston Public Health Commission. *Health Status Report for Roxbury*. Boston: Boston Public Health Commission. 2004.

<https://www.bphc.org/healthdata/archive/Documents/Roxbury%20Health%20Status%202004.pdf>

¹⁴⁸ "Learn About Asbestos." EPA. Environmental Protection Agency, September 17, 2018. <https://www.epa.gov/asbestos/learn-about-asbestos>.

Empowerment Project (REEP), work to better the community by not only stopping environmental crises from occurring but also creating proactive solutions. They were founded in 1994 and 1995, respectively.¹⁴⁹ ACE and REEP both provide proactive training of youth leaders, created community gardens and opened opportunities for young people to get involved in the area. Additionally, ACE provides toxic tours lead through the neighborhood by youth leaders to show that many of the sites that have been repurposed including a new police station and a soon-to-be mixed-use apartment complex. As a result of the organization of youth leaders, Roxbury was able to get an air particulate monitor (AirBeat). This revolutionary technology, which was placed in the town in 1998, helped provide the data needed to close Bartlett Yard in 2005.¹⁵⁰

Partners in the community have been able to make use of some of these previously polluted sites. The Modern Electroplating Company became a new police station. Bartlett Yards is set to be apartment buildings with retail storefronts offering multi-income housing.¹⁵¹ Furthermore, ACE was able to recruit the help of a law firm, pro bono, to ward off a potential infectious diseases laboratory that was proposed to be placed in the neighborhood. This facility would have tested biohazard diseases such as Ebola and Anthrax. This displays their commitment to taking precautionary measures to ensure the health of the community.

Young residents continue to have a positive impact on the community by increasing community involvement and promoting the reinvestment of this neighborhood. One example is the neighborhood's partnership with the non-profit Food Project. This organization not only

¹⁴⁹ "REEP: Roxbury Environmental Empowerment Project." REEP: Roxbury Environmental Empowerment Project | Alternatives for Community & Environment. Alternatives for Community and Environment. Accessed November 30, 2019. <https://ace-ej.org/reep>.

¹⁵⁰ Penn Loh, Jodi Sugerman-Brozán, Standrick Wiggins, David Noiles, and Cececlia Archibald. "Asthma to AirBeaat: community driven monitoring of fine particles and black carbon in Roxbury, Massachusetts. April 2002. Accessed October 12, 2018. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241176/>

¹⁵¹ "Bartlett Place." CoUrbanize. 2018. Accessed November 07, 2018. <https://courbanize.com/projects/bartlett-place/information>.

employs teenagers on their farms, but also informs and aids communities with building community-engaged food systems. In 2014, the “Dudley Grows” project was launched to improve Roxbury residents’ access to healthy foods with aid from ACE and the Dudley Street Neighborhood Initiative. Through this project, three resident-owned markets and two resident-managed community gardens have been established and maintained. Additionally, these groups have pushed for space in the redevelopment of Bartlett Yards for a resident-owned café; that project is expected to be completed in 2020.¹⁵² Dudley Street Neighborhood Initiative (DSNI) is another grassroots organization in Roxbury which began in 1984.¹⁵³ Its members have aided in creating a comprehensive plan for Roxbury to become a vibrant neighborhood while protecting the affordability of housing for residents. DSNI helped turn a number of vacant, previously brownfield, lots into affordable housing, parks, and other community gathering areas.¹⁵⁴

Many of these grassroots initiatives, however, did not begin to materialize until last ten years. This is likely a combination of toxic chemical clean-up time (which can be decades, depending on funding) and the time it takes to achieve policy and community change. The police station that replaced the Modern Electroplating Company opened in 2011; though, the plating company closed in 1995. The Bartlett Yards redevelopment project is slated to be completed in 2020; the yard closed in 2005. Furthermore, for many years vacant brownfields sat contaminated, waiting for state and federal funding in order to make them habitable. In fairness, over the last few decades, the effects of remnant chemicals on vacant lots has become more well understood. This may have also contributed to the lag in clean-up.

¹⁵² “Dudley Grows.” The Food Project. The Food Project. Accessed November 30, 2019. <https://thefoodproject.org/dudley-grows/>.

¹⁵³ “History.” DSNI. Dudley Street Neighborhood Initiative. Accessed November 30, 2019. <https://www.dsni.org/dsni-historic-timeline>.

¹⁵⁴ Ibid.

Roxbury has experienced environmental injustice due to the polluting industries that were able to penetrate the area during an economically vulnerable time. Major pollution and subsequent adverse health effects caused by the Modern Electroplating Company and Bartlett Yards in Roxbury was preceded by economic, social, and logistical factors that permitted the establishment and continuation of these industries. Luckily, young residents of this bustling city neighborhood recognized the dangers that faced their community and came together to remove both Bartlett Yards and Modern Electroplating Company from the area. Grassroots organizations in Roxbury continue to drive social change among their citizens, even when policy is not on their side. The Dudley Grows project was born out of residents' lack of access to quality, healthy foods and their growing rate of obesity; even though Roxbury isn't formally considered a food desert.

Ironically, as in the South Bronx, negative consequences such as displacement and gentrification have arisen as a result of community members working to enhance their community and quality of life. Currently, real estate values are on the rise and pushing life-long and multigenerational residents out to other communities such as the city of Brockton, Massachusetts. Luckily, grassroots groups like DSNI and ACE are working with citizens and policy makers to ensure that neighborhood concerns are heard. Additionally, Roxbury's representative on the Boston City Council, Kim Janey, a native of Roxbury, has been a champion for this neighborhood. She founded the Roxbury Neighborhood Association in 2009 and was the president for the association's first four years.¹⁵⁵ The association still runs strong hosting city councilor presentations, block parties, and small business workshops.

¹⁵⁵ "Kim Janey." Boston.gov. City of Boston, January 30, 2018. <https://www.boston.gov/departments/city-council/kim-janey>.

Conclusion

Grassroots organization is essential to revitalizing a community and giving those on the frontlines of environmental justice fights a voice. Grassroots organizations have been integral in bringing communities of color to the table and in integrating those ideas into action. Without grassroots action, elected officials would go unchecked and many environmental problems likely would have persisted for far longer. Fortunately, in cities and towns across the country, strong community activists are willing to fight for their families' health and wellbeing.

Women are often revered for their contributions to environmental justice, but many women leaders claim that was not what they set out to do. In Gibbs' situation, she was looking for a confidant. Williams was concerned about her own children and her students, elementary school children. Walters worried for the health and safety of the children in her community. Despite not knowing what they were getting into, each of these women made an impact on their communities and subsequent environmental justice communities which look to them for guidance. They did not work alone, however. Undertakings like these require a whole community effort, and each community leader was able to inspire that in their peers.

In Pensacola, Williams and her peers in CATE pushed for and won relocation of their community. Not only did they achieve this through the use of the media, which included demonstrations and fake funerals, but they set a precedent for accessibility. By coaxing the NEJAC to hold a meeting in Pensacola where more community voices could be heard by members of this committee, CATE established a precedent that all EPA meetings regarding Superfund site clean-up should take place where the site is located. This would certainly ensure a place at the political table for those who wouldn't be able to travel to Washington, DC, like

Williams had numerous times. In addition, it allowed policy makers to experience the proximity of these toxic sites to residential homes.

In the South Bronx, Majora Carter, despite wanting to leave, ended up staying and created a legacy that many are proud to follow. She and her team developed an increased number of green, outdoor recreational spaces and of programs that offer job training to young residents. Sustainable South Bronx has now grown in partnership with the Hope Program.¹⁵⁶ These job training programs, like SSBx, are for “green collar” jobs with the idea that those trained will use their talents to continue improving their neighborhood. In addition to job and opportunity creation, this team worked on green space creation as well. Abandoned lots or parks along the East River were renovated for pedestrian use. Unfortunately, a common side effect of communities investing in themselves is increasing property values and popularity of the area. As a result, the South Bronx is experiencing gentrification.

In Roxbury, the Alternative for Community and Environment group was able to secure an air quality monitor, ensure neighborhood investment by offering volunteer opportunities and tours, and facilitate the clean-up of several brownfields in that neighborhood. The Dudley Street Neighborhood Initiative also worked to clean up those brownfields and turn them into parks or lots suitable for residential use. The partnership brought fresh fruits and vegetables to farmers markets, community farms into neighborhood, and young residents out to the farm to learn agricultural trades. The closure of the Bartlett Yards bus yard helped improve the air quality, though mitigation is needed for the number of cars that pass through each day traveling to and from Boston. Roxbury, like the South Bronx, is experiencing gentrification as residents and businesses reinvest in their communities. The mixed-used housing complex set to take over the

¹⁵⁶ “Home.” Sustainable South Bronx. Accessed April 3, 2020. <https://www.ssbx.org/home>.

Bartlett Yards lot has plans for some low-income apartments, but does not specify how many and will no doubt drive property values up within this neighborhood

In Flint, grassroots organization prompted the admission of wrongdoing by many public officials and allowed affected citizens to file class action lawsuits against the city and state officials. State and federal aid led to the replacement of lead pipes within Flint's water system and supplies of bottled water and filters for residents to use while they waited for the switchback to be finalized. In March 2017, a federal judge approved a \$97 million settlement that required the state to replace the all water lines made of lead.¹⁵⁷ In April 2018, four years following the water switch, Gov. Rick Snyder declared the end of the water bottle program and claimed that water quality was restored. A year later, however, former Flint Mayor Karen Weaver said she would not declare the water safe until the medical community deemed it such.¹⁵⁸ The grassroots work done in Flint prompted the city to elect a mayor who was aggressive about citizens' rights to clean water and has led to changes in EPA guidelines. Following the Flint water crisis, the EPA amended its regulations on lead in water citing that cities are responsible for replacing lead pipes after 20 years.¹⁵⁹

Today, the world is entrenched in the COVID-19 pandemic. COVID-19 is the disease caused by 2019-nCoV, the novel coronavirus first found in Wuhan, China, in December 2019.¹⁶⁰ While I brace myself to stay at home with nonperishables and toilet paper, I can't stop thinking about the communities that will be most affected; communities of color with higher rates of

¹⁵⁷ CNN Editorial Research. "Flint Water Crisis Fast Facts." CNN. Cable News Network, December 14, 2019. <https://www.cnn.com/2016/03/04/us/flint-water-crisis-fast-facts/index.html>.

¹⁵⁸ Ibid.

¹⁵⁹ Wallace, Gregory. "EPA Proposes Lead Pipe Rule Changes after 20 Years, but Some Advocates Say It Doesn't Go Far Enough." Cable News Network. October 10, 2019. <https://www.cnn.com/2019/10/10/politics/epa-lead-water-rules-update/index.html>.

¹⁶⁰ WHO. Novel Coronavirus(2019-nCoV) Situation Report - 10 § (2020). https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200130-sitrep-10-ncov.pdf?sfvrsn=d0b2e480_2.

asthma and respiratory afflictions than their White counterparts. The South Bronx, where one in four children has asthma, lies just to the south of New York State's epicenter, New Rochelle. In the early days of April, as the pandemic was revving up in the United States, the Bronx's sidewalks were "still bustling with people on their way to work."¹⁶¹ Additionally, 79% of New York's frontline workers (nurses, subway staff, sanitation workers, grocery store clerks, van drivers) are African American or Latino. Individuals of color are routinely not taken seriously by medical professionals, and that is unlikely to improve as hospitals and healthcare facilities become increasingly stressed for resources. The outbreak of COVID-19 demonstrates just how important it is to improve the health of those living in environmental justice communities. By allowing citizens to live in clean and healthy neighborhoods, we can promote good health before crisis strikes making their bodies better prepared to fight a virus; for which we do not yet have a vaccine. This in turn would lessen the strain on hospital resources. This pandemic also brings to light many glaring social and economic disparities between people of color (specifically Black and Latinx) and White people. Our physical health is directly tied to the environmental health around us. According to the United Nations, "human rights cannot be enjoyed without a safe, clean and healthy environment; and sustainable environmental governance cannot exist without the establishment of and respect for human rights." This intersection of environmental and human rights is what makes the Environmental Justice movement so important; the movement combines both ideas here in the United States to promote state and local re-investment into communities that have been forced to carry undue environmental burdens.

¹⁶¹ Pilkington, E., & Rao, A. (2020, April 10). A tale of two New Yorks: Pandemic lays bare a city's shocking inequities. Retrieved June 23, 2020, from <https://www.theguardian.com/us-news/2020/apr/10/new-york-coronavirus-inequality-divide-two-cities>

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Oral Interviews

Robert Bullard in-person interview by Jordan Halloran, Winter Park, FL, February 20, 2020.