

BIOMAGNIFICATION AND BIOACCUMULATION OF POLLUTANTS AND HOW
THEY DISPROPORTIONATELY IMPACT THE PEOPLE OF “CANCER ALLEY”

by

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This honors thesis examines the environmental, sociopolitical, and socio-economical aspects of Cancer Alley, Louisiana, United States of America. Cancer Alley is a name dubbed to an eighty-five-mile-long corridor in Louisiana that is dotted with petrochemical plants that continuously poison its residents. The people living in this area are primarily lower-income, people of color who disproportionately face the full force of environmental ills that the petrochemical factories bring. The case of Cancer Alley is layered and delves into not only environmental issues – such as pollution and how various chemicals can move throughout the body, but it also deals with human rights issues and how the disempowered and disenfranchised residents in the area are being exploited due to their powerlessness. Various chemical pollutants have been emitted into the Cancer Alley air, land, and water, contributing to the worsening conditions of the area. The primary findings from this research have been that the more marginalized the group living within Cancer Alley, the more likely they are to be at risk for cancer and various other diseases. This honors thesis concludes with the application of my proposed solutions to alleviating environmental justice legislative issues surrounding Cancer Alley.

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Section 1. An Overview of “Cancer Alley”

What is “Cancer Alley”?

There is a myriad of environmental ills running rampant throughout our planet, and in the case of Cancer Alley located in Louisiana, this is quite a complicated and layered issue. Within Louisiana there sits an entire 85-mile stretch¹ of land that is so toxic it is considered Cancer Alley. Moreover, the corridor has been dubbed Cancer Alley because the air, ground, and water are full of carcinogens, mutagens, and embryo-toxins². This land is poisoned with various chemicals from the omnipresent petrochemical factories in the area. The meandering stretch of the Mississippi River from Baton Rouge to New Orleans used to be known as the “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 Alley³. Furthermore, there is a stark disparity between the residents of Cancer Alley and the residents of the other parishes located in Louisiana. The people living in this area are primarily lower-income, people of color who disproportionately face the full force of environmental ills that the petrochemical factories bring. What makes this case so unique is the intersectionality that faces the people of Cancer Alley – not only are they more likely to be lower-income, people of color, but they also are facing life-threatening environmental harm.

¹ Merrill Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor* (2016).

² Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 114 (1994).

³ Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*. 2014.

While the state of Louisiana has been considered to have the most toxic air in America⁴, Cancer Alley is worse than the *average polluted air* that can be found in the state. Living inside the realm of Cancer Alley comes with great risks – the risk of cancer is the highest in the country is fifty times the national average⁵. Furthermore, the area has even been dubbed as our nation’s third world⁶ due to this great amount of cancer incidences, the unfair treatment of people of color as well as lower-income individuals. Their needs and well-being are completely and utterly disregarded. They are pushed into a social hinterland.



Why Focus on Cancer Alley?

I found that I had to focus on Cancer Alley because, like many other environmental justice issues, it is not as widely publicized and known about as it should

⁴ Jamiles Lartley and Oliver Laughland, *Cancer Town*, (The Guardian, 2019).

⁵ Jamiles Lartley and Oliver Laughland, *Cancer Town*, (The Guardian, 2019).

⁶ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 110 (1994).

be. The general populous should be enraged that we are letting the big petrochemical corporations destroy and exploit the very way of life for thousands of Americans. Moreover, Cancer Alley has been developing for decades and the result has been thousands of deaths of Americans. Especially, Americans who are marginalized. While proof of causality may be hard to come by, the perception that poor health is linked to the petrochemical industry is enough to shake residents⁷. The case of “Cancer Alley” is layered and delves into not only environmental issues – such as pollution and how various chemicals can move through the body. It also deals with human rights issues and how the disempowered and disenfranchised residents in the area are being exploited due to their powerlessness.

Because of the constant exploitation that the residents of Cancer Alley face, the area has been described as a *massive human experiment* and a *national sacrifice zone*⁸. However, Cancer Alley is not the only place in Louisiana that is facing repercussions of the lax environmental regulations. Because of the rather negligent environmental regulations set for throughout the state of Louisiana, the state is ranked as having the forty-seventh worst health among the fifty states⁹. And, because of the condition of Louisiana and Cancer Alley, this has only grown worse over time. Now the land and everything that grows on it is poison¹⁰. How are people expected to stay in this area where it is poisoned? Well, the residents of Cancer Alley are extremely poor in

⁷ Mara Kardas-Nelson, *The Petrochemical Industry is Killing Another Black Community in Cancer Alley* (*The Nation*, 2019).

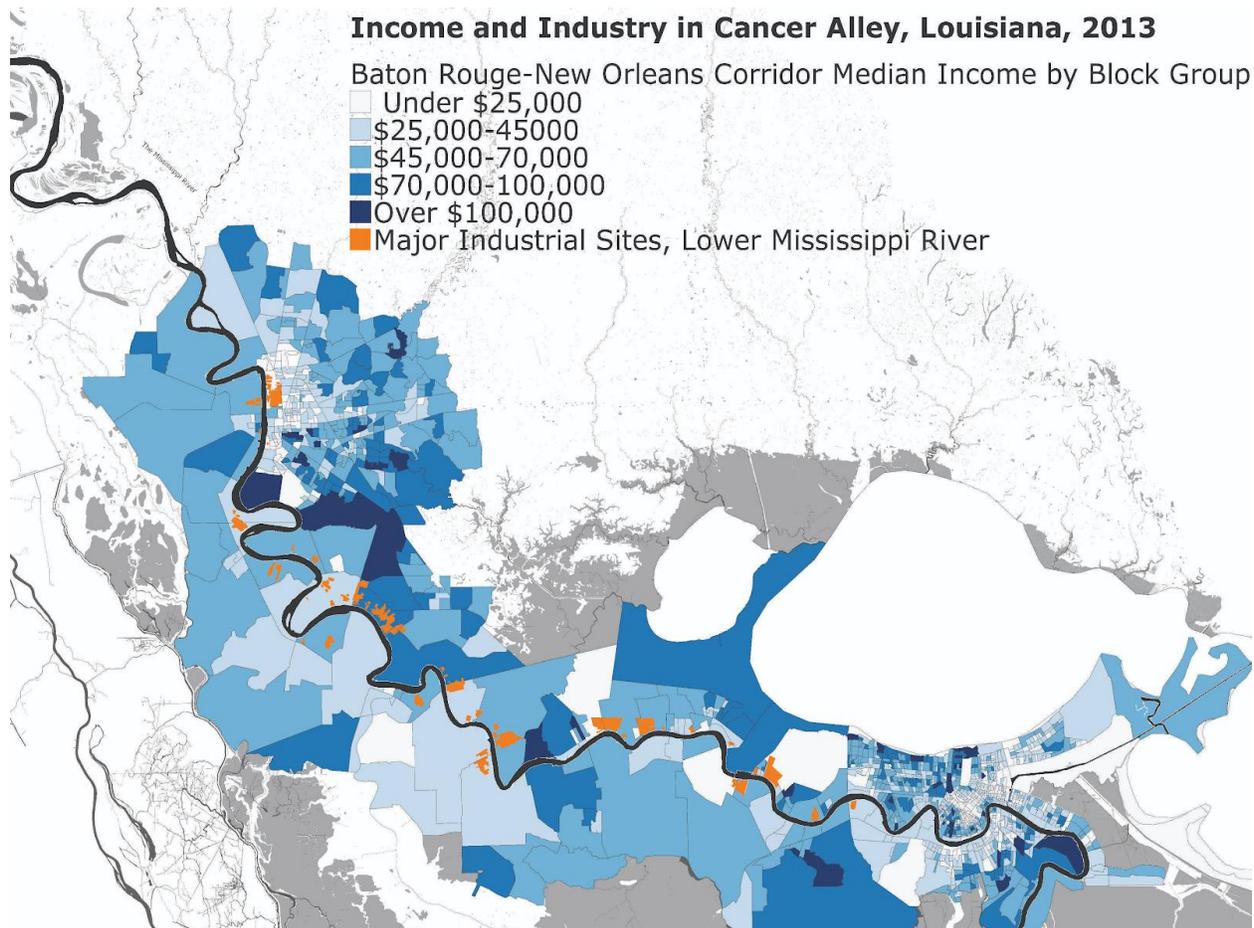
⁸ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 114 (1994).

⁹ Merrill Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor*, 146 (2016).

¹⁰ E. K. Surrusco, *Cancer Alley Rises Up* (2019).

comparison to the rest of the United States. A large majority of the population of Cancer Alley falls far below the poverty line. Thus, they are unable to move away from the area. However, why should people who have lived in the area longer than the petrochemical plants be expected to move out? The petrochemical plants came in after them and poisoned the air, so how is it fair that the people who live in the petrochemical quarter corridor must suffer this brutality.

A large reason that I am focusing on Cancer Alley is due to the fact of the equity issues that are facing there's an environmental issue this environmental issue. Not only are environmental exploitations occurring, but there are also human rights that are being exploited. Therefore, Cancer is quite an important issue to focus on because of how it delicately balances both environmental and human rights issues. Thus, causing an environmental justice issue to be addressed. I believe that focusing on Cancer Alley will help shed light on the terrible conditions that the residents face daily. Equity needs to be addressed through those means of legislative and policy implementation action. These laws and regulations are unfortunately not as fortified as it should be. Additionally, in states that have higher environmental regulations, such as the state of California, there are fewer rates of death due to cancer because of pollutants. The laws and legislations are stronger, therefore, causing it harder for people to become ill to their environmental conditions. This is an issue that is focusing on the unfair occurrences that the residents of Cancer Alley face simply because they are a marginalized community that is comprised of primarily people of color and lower-income.



Stakeholders in Cancer Alley

There are many interlocking key players in the Cancer Alley phenomenon – the residents, the petrochemical industry, and activists, among others. Cancer Alley has transformed into an urban wasteland due to the fact of the mass number of petrochemical factories that exist in the area. Such a company that is thriving in the area is Denka. Denka was previously owned by DuPont and is the main manufacturer of neoprene synthetic rubber¹¹. Neoprene is a versatile material in that it is used to produce wetsuits, laptop sleeves, and various other waterproof materials. The countless factories

¹¹ Louisiana Department of Environmental Quality, *Denka: The Path Forward* (2018).

that line the parishes in Louisiana emit toxic chemicals that poison the land air and water of the area known as Cancer Alley. There are over fifty known chemicals poisoning the air, land, water, and people of Cancer Alley but the most prominent include: formaldehyde (CH_2O), benzene (C_6H_6), nitrogen oxides (NO), chloroprene ($\text{C}_4\text{H}_5\text{Cl}$), and ethylene oxides ($\text{C}_2\text{H}_4\text{O}$). While Denka emits thousands of pounds of carcinogenic material, the corporation claims that its plant does not cause cancer¹². This disparate information does not correlate, due to the high amounts of sickness in the area, and especially because of the name of this corridor: Cancer Alley.



The corridor has been dubbed Cancer Alley because the air, ground, and water are full of carcinogens, mutagens, and embryo-toxins¹³. What is currently occurring in Cancer Alley is deplorable. It is an oscillating cycle of pain and tragedy forced upon the people who live there. The residents are poor and often cannot choose to move out of this area and therefore, are forced to stay and be poisoned. The big companies that

¹² Victor Blackwell, *Toxic Tensions in the Heart of Cancer Alley* (CNN, 2017).

¹³ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 114 (1994).

operate within “Cancer Alley,” such as Denka, have the luxury to have their workers live outside of the poisonous realm. However, there is no such luxury for the people have Cancer Alley to experience that same safety. A resident of the area claimed that “no one gets jobs in the parish, everybody’s got to go outside to get work” (Kardas-Nelson). Therefore, the people who live within the area cannot move out due to their low-income jobs and people with high-paying jobs come into the parish to work. However, by assuming that all residents of Cancer Alley want to move out of the area is false. The residents *should not* have to move out because of the influx of petrochemical factories present within the area – rather, the factories should not be there in the first place. They operate with seemingly furtive actions, continuously poisoning the land, air, and water in Louisiana. The factories and plants located within Cancer Alley seem to emit more than just carcinogens; they also emit depravity from their actions.

The Culmination of Cancer Alley

Cancer Alley did not get to be the way it currently is today in an overnight process. Rather, it was the culmination of events that contributed to the poisonous and toxic land that it is today. The state of Louisiana was rich in natural resources and offered a low-cost labor force and a state government eager to provide lower taxes and lax environmental regulations¹⁴. Because of these lax environmental regulations, the beautiful state of Louisiana, once widely known for its pelicans and bayous, has become a *blotted-out* area on a map showing areas of industrial pollution¹⁵. Hundreds of various plants sit in this area, further exploiting and abusing the lax environmental regulations

¹⁴ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 234 (2013).

¹⁵ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 244 (2013).

that are found in the state. This is the area known as “Cancer Alley.” It has been being created since the days of slavery on plantations. The people that were impacted by this were never truly able to leave. Moreover, they are disenfranchised and have no political power to leave this area –although the plantation system dissolved, most of the state’s poor remained rooted in the land and the society related that had dominated the plantation communities¹⁶. These antiquated forms of oppression have stayed in the area throughout time. With the poorer individuals unable to move out of the area, they stayed and have faced years of oppression. As previously stated, Cancer Alley did not develop overnight. Instead, the proceeding of the area has spent hundreds of years accumulating into an ugly demonstration of the abuse and manipulation of marginalized people.

The petrochemical industry moved into the area in the 1970s. But the movement into this area was not driven by merely economic considerations¹⁷, the industry counted on the political powerlessness of the mostly poor, African American population, virtually all of whom were disenfranchised¹⁸. The residents have become disenfranchised merely because of the color of their skin and the longstanding racist history that America has. The corporations and plants, unable to go elsewhere because of the rigid environmental laws and regulations set forth by the other states, found an easy target on the land in Louisiana. By concentrating their refineries and other factories in these communities,

¹⁶ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 238 (2013).

¹⁷ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 239 (2013).

¹⁸ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 239 (2013).

industries gained access to cheap land without worrying about political opposition¹⁹. Furthermore, with the amalgamation of the lenient environmental laws and the people of Louisiana with their political powerlessness, the entire area seemed like easy prey. And that is often how environmental racism operates – preying on the marginalized. This disenfranchisement of poorer, working-class African Americans and other minorities of color is the very thing that the large, capitalist corporations are utilizing so that they can keep these people politically defenseless.

There is seemingly no escape for the people of Cancer Alley. Chemicals, manufacturing, and processing establishments occupy mile after mile of Mississippi frontage; steel towers rise, and derricks dot the levy edge, until the region from New Orleans to Baton Rouge seems one great chemical-industrial plant²⁰. Wherever the residents go within their towns, one can always spot a petrochemical factory emitting copious amounts of noxious gases and fumes, poisoning the very people who occupy this land. The factories are always looming in both the geography and the minds of the people in Cancer Alley. Even from the schoolyards and playgrounds, haunting images of petrochemical factories are strewn across the land.

Moreover, Louisiana has been branded as the most polluted state in the United States – because of its copious amount of chemical plants²¹. Louisiana is also so environmentally degraded because environmental laws and regulations are not as present as they are in other states in the United States and the laws that they do have

¹⁹ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 239 (2013).

²⁰ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 239 (2013).

²¹ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 249 (2013).

simply are not strong enough. Famous environmental activist, Dr. Robert Bullard, stated that a colonial mentality exists in the South, where local government and big business take advantage of people who are politically and economically powerless²². This colonial mentality has poisoned and killed far too many and it is time for swift legislative action to be taken. The disenfranchisement of residents of the state of Louisiana and specifically in cancer alley are another part of the reason why the environmental conditions are so deplorable. This is simply because no one listens to the marginalized group that occupies the area. Additionally, since 1997, huge toxic releases have been permitted in the Cancer Alley region, spilling more than 140 million pounds of chemicals into the environment and forever changing the landscape of the industry in Southeastern Louisiana²³. However, not only the landscape is changed in these chemical spills. The lives of the residents are deeply impacted by high rates of cancer and other health issues.

However, while the large, rapacious corporations are banking on the fact that the residents of Cancer Alley are going to stay vulnerable and helpless, they are incorrect. There has been a steady rise in political activism from the residents of Cancer Alley. The citizens are fighting back on the injustices that they face in daily life. What industry did not anticipate was the powerful resistance of residents who organized their communities; demonstrated against plants; allied themselves with union activists, who provided support and inside information about company malfeasance; joined with national environmental groups with access to national media; and linked up with public

²² Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 261 (2013).

²³ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4376 (2012).

interest lawyers, who challenged the alliance between industry and the state²⁴. Today, there is a myriad of different groups who are standing up and fighting the petrochemical industry.

The Relevancy to Environmental Issues

The state of the lives of the residents of Cancer Alley is abhorrent. This issue is an environmental problem that is not only degrading the state of the environment itself but also degrading the lives of those in marginalized groups. Cases such as Cancer Alley are not as widely known as issues such as the deforestation of the Amazon rainforest. This is not to diminish other environmental issues, but issues such as Cancer Alley direly need more attention than they are currently getting. For example, the area in Cancer Alley is being decimated due to the vast amounts of pollution that are occurring. The petrochemical and other industries and plants back emit tons of pollutants that are the main cause. These industries discharge wastes into the lakes, river, and bayous in the parish and light the night sky with high flares from smokestacks²⁵. Moreover, chemical spills from rail cars that are stationed within fifty feet of their homes²⁶. The severity of the case of Cancer Alley is quite difficult to comprehend. Especially, with many of us being so fortunate to not have ever had to deal with these atrocities. Nonetheless, this is the harsh reality that the residents face daily.

Cancer Alley is a multifaceted environmental issue. This is because it not only deals with land, air, and water pollution; it also deals with stripping the land of its

²⁴ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 234 (2013).

²⁵ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 154 (1994).

²⁶ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 155 (1994).

natural resources. Moreover, this environmental issue in particular also deals with people. People who are of lower-income, and who are minorities and other people of color; the people who are unlucky in America. Combining both of these factors heightens the extremity of the environmental issue that Cancer Alley exists as. Not only are the residents of Cancer Alley getting higher exposure to that pollution and various chemicals that are present in the land, but they are also at a higher risk for cancer and other diseases because of the constant emissions of the chemicals. One potential consequence of repeated human exposures to pollutants can be the onset of cancer²⁷ and estimates of 60-90% of all cancers have been attributed to environmental causes²⁸. There is a clear correlation between the repeated exposure that these marginalized groups have been receiving and the abnormally high cancer rates in this area.

²⁷ Bunyan Bryant, *Environmental Justice: Issues, Policies, and Solutions*, 45 (1995).

²⁸ Bunyan Bryant, *Environmental Justice: Issues, Policies, and Solutions*, 45 (1995).

Section 2. An Environmental Justice Issue

Environmental Justice

Since the main issues addressing the multifaceted issue surrounding Cancer Alley have now been fleshed out, I will now be addressing environmental justice, environmental racism, and NIMBY. Environmental justice itself is defined as the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no population bears a disproportionate share of negative environmental consequences resulting from industrial, municipal, and commercial operations or from the execution of federal, state, and local laws; regulations; and policies²⁹. The idea of environmental justice was first developed by Dr. Robert Bullard. Bullard exposed how black neighborhoods were disproportionately impacted by environmental issues such as garbage dumps in black neighborhoods. His book, *Dumping in Dixie*, furthered the notion of environmental justice and he was since then named as the father of environmental justice. Environmental justice stemmed from the civil rights movement and was borne for the fair treatment of all peoples, regardless of their race. Not only did people of color fight for equality in terms of racial segregation, but they also were fighting for the advancement of better environmental conditions. Unfortunately, this is still a war that is raging on due to the unfair treatment of marginalized communities.

²⁹ Department of Energy, *What is Environmental Justice?*

Therefore, there is a breach of environmental justice currently occurring in the Cancer Alley corridor. Since the residents of Cancer Alley have been disenfranchised, they do not have fair and meaningful involvement within the various legislation, laws, and policies that occur in the area. The lackluster environmental laws, regulations, and policies are only furthering the pain and tragedy that is occurring in this area. The demographic of the area has a population that is approximately 70% African American, 73% of residents have no more than a high school diploma, the median household income is under \$25,000 – the national median is over \$50,000 – and 1/3 of the town lives below the federal poverty line³⁰. Moreover, the area of Cancer Alley also has high rates of unemployment, illiteracy, poverty, and sickness³¹. Since environmental justice is being grossly ignored, this is highly problematic and threatens the lives of thousands of the residents.

Environmental Racism

Borne of the environmental justice movement is the term environmental racism. Environmental racism is defined as the institutional rules, regulations, policies or government and/or corporate decisions that deliberately target certain communities for locally undesirable land uses and lax enforcement of zoning and environmental laws, resulting in communities being disproportionately exposed to toxic and hazardous waste based upon race. Environmental racism is caused by several factors, including intentional neglect, the alleged need for a receptacle for pollutants in urban areas, and a

³⁰ Merrill Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor*, 142 (2016).

³¹ Merrill Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor*, 142 (2016).

lack of institutional power and low land values of people of color³². Put succinctly, environmental racism is how the institutions set for it from our society are exploiting and harming marginalized groups.

Certainly, environmental racism is apparent in the Cancer Alley corridor. Other than the area in Louisiana being dubbed “Cancer Alley,” the area has been called our nation’s third world³³ because the sheer levels of environmental disparities are so stark. Additionally, by default, the region became a *sacrifice zone*, a sump for the nation’s toxic waste³⁴. As previously touched on, because of the disenfranchisement of the residents of Cancer Alley the larger corporations in the government have been able to get away with these atrocities. The factories within the corridor are pumping out toxic chemicals by the tons and poisoning the land. Because of the disenfranchisement that has been addressed, the residents are stranded and therefore, must face the brunt that corporations such as Denka are bringing. This idea of disenfranchisement within Cancer Alley has stemmed from the region’s marriage to slavery and the plantation system³⁵. Racism is alive in the United States, and especially so in the deep South where the residents are predominantly poorer, people of color.

NIMBY (Not in My Backyard)

The concept of NIMBY or *not in my backyard* is the presupposition that environmental ills should be in areas where it does not directly impact the person’s account. To go more in-depth with this idea, it is pertinent to realize that the people who

³² Green Action: For Health and Environmental Justice, *Environmental Justice and Environmental Racism*.

³³ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 111 (1994).

³⁴ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 110 (1994).

³⁵ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 111 (1994).

want environmental externalities to occur such as chemical factories or the production of certain components, do not want these specific factories *in their own backyard* but they still do want the existence of them. The concept can be defined as a person or group who objects to the siting of something perceived as unpleasant or potentially dangerous in their own neighborhood, such as a landfill or hazardous waste facility, especially while raising no such objections to similar developments elsewhere. This is a hypocritical stance supporting what is right and what is wrong regarding the environment. NIMBY forces marginalized, people of color and other groups to face the full impacts up environmental ills, whereas more affluent and most likely white individuals can have these existences of phenomena such as corporations without having to deal with the pain and tragedy that is conjured. Because the richer and less marginalized groups who live in Louisiana have the luxury to live in areas where there are fewer if any environmental ills, the brunt of the burden gets forcefully placed upon the people of Cancer Alley. These people have the option to say that they do not want various environmental issues near them, whereas the residents of Cancer Alley do not.

There is an interesting correlation in that cancer risks increase with decreasing household income³⁶. Surely, this is no coincidence. The marginalized groups who have had environmental ills forced upon them have higher rates of cancer, other illnesses, and death. This has occurred because of the concept of NIMBYism. The residents of Cancer Alley have not had a say because of their disenfranchisement; therefore, not only are toxic facilities being placed in the realm in which they live, but they are also dying because of this. These factories and consequent chemical emissions, were in proximity

³⁶ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4371 (2012).

to many low income and minority communities³⁷, thus, furthering the hardships that the residents within the various parishes of Cancer Alley must endure. Furthermore, the negative health effects for a person who is poor and of minority status may be multiplicative³⁸. This is precisely why cancer alley faces environmental racism, environmental justice issues, and the idea of NIMBYism. Residents are poor, marginalized, and dying because of this institutionalized racism that has been set forth for hundreds of years. Especially because of the growing environmental disasters that are occurring in this area and the exploitation that the land faces daily.

³⁷ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4376 (2012).

³⁸ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4377 (2012).

Section 3. Sociopolitical Responses

Residents of Cancer Alley

The residents of Cancer Alley have been disenfranchised and exploited for years. On top of this, they are a marginalized community in the American South, where a long, ruinous history of racial relations have taken place. Furthermore, because of this dark past, the residents of Cancer Alley have faced another burden merely because of their socioeconomic, sociopolitical, and racial backgrounds. The direct externalities that they face from the corporations that exist within the area are seemingly unsurmountable. The various corporations, plants, and factories have an ascendancy over the residents of Cancer Alley. Moreover, African Americans and other minority groups must become more involved in environmental issues if they want to live healthier lives³⁹. And this is finally happening after countless years of domination from the bigger, more powerful organizations. Essentially, these organizations view that it is profitable to harm these people⁴⁰. And, because it is profitable to harm the marginalized groups that reside within Cancer Alley, the atrocities that the residents endure are far less publicized than what is needed. Knowing this, big polluters often choose communities – such as Cancer Alley – to conduct their hazardous activities that lack the political power to resist the efforts of the oil and gas industry⁴¹. But how exactly do these big polluters get away with such deplorable actions? Capitalism and its endless greed for revenue are to blame for

³⁹ Robert Bullard, *Dumping in Dixie: Race, Class, and Environmental Quality*, 15 (1990).

⁴⁰ Jamiles Lartley and Oliver Laughland, *Cancer Town* (2019).

⁴¹ Charles Brown, *Rise for Cancer Alley: It's More than a Rally, It's a Movement*.

that. The government has often cooperated with industries in disenfranchising communities of color⁴².

Cancer Alley serves as a natural testbed for examining disparities in cancer risks from air toxics, not only because of the preponderance of petrochemical industries in this region but also for its socioeconomic and racial diversity⁴³. Additionally, health disparities are often the result of inequality from the social, physical, and built environment; those factors are evident in Cancer Alley⁴⁴. And these disparities have been built up for hundreds of years due to this colonial and plantation state mindset that focuses on tearing down the poorer, marginalized, and more vulnerable groups. The eleven parishes in Cancer Alley account for 63.5% of the on-and-off-site releases and disposal of toxic chemicals and hazardous materials in Louisiana⁴⁵ because of exploitation that the residents must endure. This cycle — from early stressors to flagging educational attainment — perpetuates generational inequality⁴⁶.

Not only the weak and elderly residents in Cancer Alley are impacted by the emissions of the petrochemical plants that scatter the area. Everyone is at risk who lives there. A ten-year-old girl is living within Cancer Alley that must use an oxygen machine several times per week⁴⁷ to live a somewhat normal life. Children should not have to use oxygen machines because of solely where they live. But alas, there seems to be no escape from this petrochemical corridor. When asked of the living conditions that the residents

⁴² Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 116 (1994).

⁴³ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4366 (2012).

⁴⁴ James et al., *Uneven Magnitude of Disparities in Cancer Risks from Air Toxics*, 4376 (2012).

⁴⁵ Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*, 22 (2014).

⁴⁶ Victor Blackwell, *Toxic Tensions in the Heart of Cancer Alley* (CNN, 2017).

⁴⁷ Victor Blackwell, *Toxic Tensions in the Heart of Cancer Alley* (CNN, 2017).

of Cancer Alley must endure, Sharon Lavigne, a woman whose family has lived off of the land in the corridor for years, stated that the residents are boxed in from all sides by petrochemical plants, tank farms, and noisy railroad tracks⁴⁸. Sharon Lavigne has proved a pivotal individual in the grassroots movement taking place in Cancer Alley.

Social Movements

Due to the debilitating circumstances that the residents of Cancer Alley face, the citizens themselves have decided to take a stand against the atrocities. And, because local politicians are ignoring residents⁴⁹, this act of taking a stand is needed more than ever. However, the social movements that are arising in Cancer Alley are not necessarily new to the community – they have existed since the late 1970s. In fact, since the late 1970s, communities in Cancer Alley have been trying to limit the number of noxious facilities in their neighborhoods⁵⁰. This is just *one way* that the residents are taking a stand and telling the various corporations the flagrancy that they are so clearly exhibiting. Not only are the citizens attempting to limit the overall number of noxious facilities in their neighborhoods, they are also campaigning to get the overall levels reduced⁵¹. This grassroots approach to evoking change in their community is awe-inspiring. It exemplifies that *anyone* can help make a difference if they try.

Unfortunately, change was not going to come easily in Louisiana⁵² – the disenfranchisement of the residents proved that point. However, this does not mean

⁴⁸ E. K. Surrusco, *Cancer Alley Rises Up* (2019).

⁴⁹ Jamiles Lartley and Oliver Laughland, *Cancer Town* (2019).

⁵⁰ Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*, 31 (2014).

⁵¹ Jamiles Lartley and Oliver Laughland, *Cancer Town* (2019).

⁵² Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 240 (2013).

that the residents in cancer alley should not try to alleviate their current crisis, if anything, it should empower them to fight more for their undeniable human rights.

Because citizens were becoming more attuned to the environmental impact of the petrochemical industry and more vigilant about the damage it was doing⁵³ this instigated the change that the people – and planet – deserve to see. RISE St. James is a social movement implemented by the residents of Cancer Alley, and a resultant of this environmental disaster. In particular, the citizens of the St. James Parish have taken action multiple times to try to stop the additional pollution from affecting their home⁵⁴ – RISE St. James is the direct outcome. The group has many goals in mind, the largest as the ultimate ending of the petrochemical corridor within the area where they play and live. Essentially, RISE St. James is a local community organization, with their goal being able to stop the \$9.4 billion petrochemical complex⁵⁵. RISE St. James was founded by Sharon Lavigne – a resident of Cancer Alley. Initially, her goal of the group was to block the development of two new petrochemical plants in the area⁵⁶. RISE St. James has progressed and gained traction within the community. During public demonstrations, the residents wore gas masks with the words “RISE” written on them to represent how they’re fighting the toxic air quality being forced on them by the oil and gas industries⁵⁷. Moreover, residents have created shirts that read *Only 0.2 Will Do!* in response to the Environmental Protection Agency’s (EPA) set emissions rate regarding the chemical

⁵³ Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, 242 (2013).

⁵⁴ A. D. Blodgett, *An Analysis of Pollution and Community Advocacy in Cancer Alley: Setting an Example for the Environment Justice Movement in St. James Parish, Louisiana* 656 (2006).

⁵⁵ E. K. Surrusco, *Cancer Alley Rises Up* (2019).

⁵⁶ M. Kardas-Nelson, *The Petrochemical Industry is Killing Another Black Community in Cancer Alley* (2019).

⁵⁷ Charles Brown, *Rise for Cancer Alley: It’s More than a Rally, It’s a Movement*.

compound chloroprene. The EPA claims that levels of chloroprene within the air at $0.2 \mu\text{g}/\text{m}^3$ – micrograms per cubic meter of air – is considered the threshold. Denka, however, is lobbying for levels to be raised in numbers towards $\sim 30 \mu\text{g}/\text{m}^3$ claiming that this would still be considered *healthy*. But fortunately, with the presence of groups such as RISE for St. James, there is a fight between residents and the big polluters. Action is being taken.



**Section 4. Bioaccumulation and Biomagnification of the Chemicals
Present Within “Cancer Alley”**

The Processes of Bioaccumulation and Biomagnification

The terms bioaccumulation and biomagnification are rather similar, but in fact, comprise of different processes. Bioaccumulation describes the accumulation and enrichment of contaminants in organisms, relative to that in the environment. Bioaccumulation is the net result of all uptake and loss processes, such as respiratory and dietary uptake, and loss by egestion, passive diffusion, metabolism, transfer to offspring, and growth⁵⁸. Therefore, whatever is taken into the body of a resident in Cancer Alley, for example, can stay. Such as the inhalation and ingestion of chemicals that are omnipresent within the area.

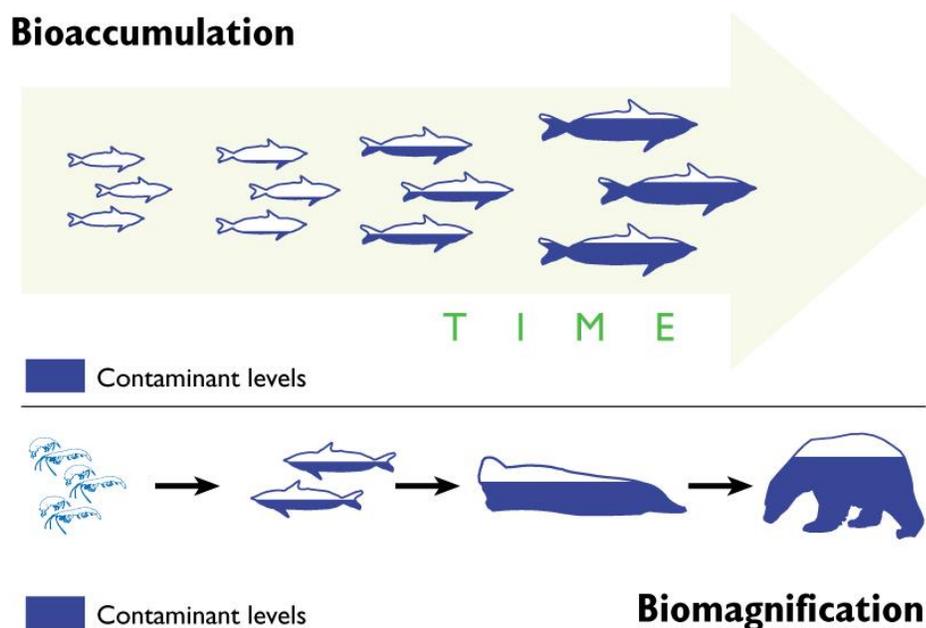
Biomagnification, however, comprises of the condition where the chemical concentration in an organism exceeds the concentration of its food when the major exposure route occurs from the organism’s diet⁵⁹. Therefore, the chemical concentrations and toxins move up through the food chain, as they are retained in the fatty tissues of the organisms. The higher up an organism is on the food chain, the more toxicity they face. And, as humankind is considered top predators, we are truly retaining most of the concentrations. Additionally, because of this constant exposure to these carcinogenic materials, the biomagnification only increases with time.

These processes are why the people in Cancer Alley are getting so sick. Not only are they exposed to these toxic chemicals that infiltrate the land, air, and water of the

⁵⁸ K. Borgä, *Bioaccumulation: Encyclopedia of Ecology* 346 (2008).

⁵⁹ K. Borgä, *Bioaccumulation: Encyclopedia of Ecology* 346 (2008).

area, but how these chemicals move through and stay within their bodies is what is so disastrously repugnant. Pollutants, such as those resulting from fossil fuel use, may result in as many as 50,000 premature deaths every year in the United States⁶⁰. The residents of Cancer Alley are surrounded by toxic chemicals quite literally. All parts of the earth – land, water, and air – are being pervaded. Even if people attempt to stay inside, their drinking water is still poisoned as well. These pipelines and the facilities that support them leak toxins into the ground and water, which is then consumed by the local neighborhood⁶¹. And, because of these ongoing processes of bioaccumulation and biomagnification of carcinogens, the health atrocities in the people of Cancer Alley persist onward.



⁶⁰ Bunyan Bryant, *Environmental Justice: Issues, Policies, and Solutions*, 45 (1995).

⁶¹ Charles Brown, *Rise for Cancer Alley: It's More than a Rally, It's a Movement*.

Chemicals Present Within Cancer Alley

Over one-thousand known chemicals are poisoning the air, land, water, and people of Cancer Alley but the most prominent include: ammonia (NH₃), benzene (C₆H₆), chloroprene (C₄H₅Cl), ethylene oxides (C₂H₄O), formaldehyde (CH₂O), and nitrogen oxides (NO). Of course, these are only a few of the countless carcinogens that consume the area. Other carcinogenic discharges include vinyl chloride and benzene; mercury, which is harmful to the nervous system; chloroform; toluene; and carbon tetrachloride, which can cause birth defects⁶². Each chemical impacts the body differently, but all have adverse and long-term effects regardless. ⁶³These chemicals are released from the over one hundred and fifty different plants that scatter the eighty-five mile stretch of poisoned land. These chemicals are released from the approximate 135 petrochemical plants in Cancer Alley^[REDACTED] that scatter the eight-five mile stretch of poisoned land. The Environmental Protection Agency (EPA) states that the levels of chloroprene have been 10, 15, 100, and up to 700 times that of acceptability^[REDACTED]⁶⁴ within Cancer Alley. Additionally, Louisiana annually produces 16,000 pounds of hazardous waste per capita^[REDACTED]. Certainly, these toxins do not break down overnight. They stay in the area for long amounts of time, furthering the havoc that is wreaked upon the individuals. Moreover, these chemicals are disproportionately impacting the people of Cancer Alley – a marginalized group that has been poisoned and mistreated for hundreds of years.

⁶² Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 116 (1994).

⁶³ Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*, 20 (2014).

⁶⁴ Victor Blackwell, *Toxic Tensions in the Heart of Cancer Alley* (2017).

A concept that falls into the realm of environmental pollution is that of chronic toxicity. This is a phenomenon that results from long-term exposure to lower doses of a chemical⁶⁵. Additionally, a major example of chronic toxicity is cancer, which usually doesn't develop until long after an initial exposure to a substance⁶⁶. This furthers the concept that because of their constant exposure to various and toxic chemicals, the residents of Cancer Alley are developing what the corridor has been dubbed – cancer. But cancer is not the only health issue existing in the chemical corridor; there are thousands of cases of asthma, birth defects, fatigue, hair loss, skin conditions just to name a few of the results of the thousands of pounds of emissions spewing into the air, water, and land every year. This chronic toxicity can only become heightened within the residents because there is approximately one chemical plant for every 235 residents⁶⁷. This a deplorable and nearly unimaginable phenomenon – yet it does exist in Cancer Alley. Additionally, chronic toxicity is only worsened because of the sheer number of petrochemical factories and plants within the area. The environmental devastation caused by the 50 industrial facilities in the Calcasieu Parish⁶⁸ is evidentiary of how chronic toxicity as a subject works. There is not just one chemical plant in the corridor, but rather one for every 200 and 35 residents in the area.

The immense number of various chemicals concentrated within Cancer Alley stem directly from the state of Louisiana being so lax in their environmental regulations and policies. Rightly so, there is concern about toxic chemicals and hazardous wastes

⁶⁵ Marquita Kaya Hill, *Understanding Environmental Pollution*, 33 (2014).

⁶⁶ Marquita Kaya Hill, *Understanding Environmental Pollution*, 33 (2014).

⁶⁷ M. Kardas-Nelson, *The Petrochemical Industry is Killing Another Black Community in Cancer Alley* (2019).

⁶⁸ Robert Bullard, *Unequal Protection: Environmental Justice and Communities of Color*, 154 (1994).

being so 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 River⁶⁹. Furthermore, these industrial facilities have ingrained their way into the people of Cancer Alley's lives. The people in the corridor who get their drinking water from the Mississippi River have as much as a 2.1 times greater chance of developing rectal cancer compared to residents who do not get their water from the river⁷⁰. Because of this, the residents claim that *everyone has cancer*. And they are not wrong. High percentages of the residents of Cancer Alley do have cancer.

Long-Term Effects and How They Impact the Body

The various chemicals that are emitted in Cancer Alley do not simply dissipate and leave the area. Rather, they stay and further contaminate the area. The following chemicals – ammonia, benzene, chloroprene, ethylene oxides, formaldehyde, and nitrogen oxides – will each be presented and given their various long-term effects and how each chemical impacts the human body. Because of these carcinogens' omnipresence in the area, residents are facing the full impacts and are getting a myriad of illnesses and diseases.

Ammonia

Ammonia, or NH₃, is a chemical that is omnipresent within Cancer Alley. Ammonia enters the body as a result of breathing, swallowing, or skin contact⁷¹. So, when

⁶⁹ Dorceta Taylor, *Toxic Communities: Environmental Racism, Industrial Pollution, and Residential Mobility*, 22 (2014).

⁷⁰ Merrill Singer, *Down Cancer Alley: The Lived Experience of Health and Environmental Suffering in Louisiana's Chemical Corridor*, 146 (2016).

⁷¹ New York State Department of Health, *Facts About Ammonia* (2004).

the myriad of factories and plants emit chemicals such as ammonia, it is nearly impossible for the residents to escape. The compound is a colorless gas and is characteristic of its acrid odor. Furthermore, ammonia is corrosive and causes immediate burning of the eyes, nose, throat, and respiratory tract can result in blindness, lung damage, or death⁷². Ammonia is used for the manufacturing of plastics and other materials within Cancer Alley. Because it is a gaseous chemical, inhalation of lower concentrations can cause coughing, and nose and throat irritation⁷³. However, these are just the effects of *lower concentrations* of exposure to ammonia. Higher concentrations can cause burns to the mouth, throat, and stomach⁷⁴. The overall long-term effects of exposure to ammonia are proved to be toxic to people. And, because the residents of Cancer Alley cannot leave the area, their concentrations are much higher than the average American.

Benzene

Benzene is another chemical within Cancer Alley. Benzene is a chemical that ranges from colorless to a light-yellow liquid at room temperature that has a sweet odor and is highly flammable – it dissolves only slightly in water and will flow on top of water⁷⁵. This means that the chemical will stay in the area much longer than other chemicals. Because it does truly not breakdown within the environment, benzene can stay and further sicken the residents of Cancer Alley. Benzene is used in the production of plastics, resins, nylons, and synthetics⁷⁶. Additionally, outdoor air contains low levels of benzene from tobacco smoke, gas stations, motor vehicle exhaust, and industrial

⁷² New York State Department of Health, *Facts About Ammonia* (2004).

⁷³ New York State Department of Health, *Facts About Ammonia* (2004).

⁷⁴ New York State Department of Health, *Facts About Ammonia* (2004).

⁷⁵ Centers for Disease Control and Prevention, *Facts About Benzene* (2018).

⁷⁶ Centers for Disease Control and Prevention, *Facts About Benzene* (2018).

emissions. Such can be found within Cancer Alley, where benzene is one of the most prevalent chemical compounds in the area. Symptoms of exposure to benzene include irregular heartbeats, unconsciousness vomiting. Long term health effects of exposure to benzene include anemia which can cause excessive bleeding and impact the immune system and therefore making it more possible for infections to occur. Moreover, women who inhale higher levels of benzene have irregular menstrual periods and a decrease in the size of their ovaries. Lastly, long term exposure to high levels of benzene in the air can cause leukemia⁷⁷. These symptoms further instill the name Cancer Alley – cancer and other illnesses are very prevalent and only worsen because of the overexposure that the residents face.

Chloroprene

Chloroprene is a key factor in the production of neoprene; a synthetic rubber that is used in a variety of items such as wetsuits and laptop sleeves. Moreover, 99% of chloroprene emitted across the country is from one plant⁷⁸ – Denka. Because the world depends on neoprene, the chloroprene emissions and poisonings are steadily rising within Cancer Alley – all for the sake of business as usual. But why is it that money is more valuable than the lives of the residents of Cancer Alley? Some people may ask *why do they not just move out* but given the circumstances where the residents of cancer alley have so little money and it is very inexpensive to live there, why should they have to move out? Why should the continued exploitation of our planet be more important than the lives of people and animals? Additionally, why is it that these people have to

⁷⁷ Centers for Disease Control and Prevention, *Facts About Benzene* (2018).

⁷⁸ Victor Blackwell, *Toxic Tensions in the Heart of Cancer Alley* (CNN, 2017).

move out? Why do the corporations not stop their production? Or is capitalism far too ingrained within our society for that to change?

Chloroprene has many different effects on the human body. For example, the acute effects of chloroprene include headache, insomnia, cardiac palpitations, general intestine disorders, temporary hair loss, and may cause damage to the liver, kidneys, and lungs as well as affect the circulatory and immune systems⁷⁹. A great deal of the residents in Cancer Alley exhibit these symptoms of acute effects of chloroprene. The chronic effects of chloroprene, however, get disturbingly worse – liver function abnormalities⁸⁰ are the most common effects on the human body from chloroprene exposure.

Ethylene Oxides

Ethylene oxides are yet another chemical compound found within Cancer Alley. The Environmental Protection Agency has concluded that ethylene oxide is carcinogenic to humans by the inhalation route of exposure – evidence in humans indicates that exposure to ethylene oxide increases the risk of lymphoid cancer and in females, breast cancer⁸¹. This chemical compound is gaseous. Moreover, some evidence exists indicating that inhalation exposure to ethylene oxide can cause an increased rate of miscarriages amongst female workers⁸². Therefore, because of the omnipresence of petrochemical plants within the area, there is a higher concentration of ethylene oxides

⁷⁹ Greenspec, *What is Chloroprene?* (2020).

⁸⁰ Greenspec, *What is Chloroprene?* (2020).

⁸¹ Environmental Protection Agency, *Ethylene Oxides*.

⁸² Environmental Protection Agency, *Ethylene Oxides*.

in the air. Additionally, due to the lax environmental regulations, the emissions impact the residents at much higher levels.

Formaldehyde

Formaldehyde is another pollutant that is released into the Cancer Alley corridor. Formaldehyde takes the form of a colorless, acrid-smelling gas. The health effects of formaldehyde include eye, nose, and throat irritation, wheezing, coughing, fatigue, skin rash, and severe allergic reactions⁸³. In terms of short-term and long-term exposure, the side effects on human health are proven to be detrimental. Acute and chronic inhalation exposure to formaldehyde in humans can result in respiratory symptoms, and eye, nose, and throat irritation. Human studies have reported an association between formaldehyde exposure and lung and nasopharyngeal cancer⁸⁴. Formaldehyde is produced in many household products and its emissions are not regulated well in Cancer Alley for human health to not be jeopardized.

Nitrogen Oxides

Nitrogen oxides are the final chemical compound that I examined due to their high presence in Cancer Alley. Nitrogen oxides are greenhouse gases which further add to climate change. Additionally, it is a gaseous chemical compound. The emissions pollute the air by the means of vehicle exhaust and from the petrochemical plants that scatter the area⁸⁵. Exposure can occur through inhalation as well as skin contact. Furthermore, acute exposure is difficulty breathing as well as asthma. Long-term

⁸³ Environmental Protection Agency, *Formaldehyde*.

⁸⁴ Environmental Protection Agency, *Formaldehyde*.

⁸⁵ United States National Library of Medicine, *Nitrogen Oxides: Your Environment, Your Health* (2019).

exposure health effects from Nitrogen oxides include death, genetic mutations, and decreased female fertility.

Section 5. Solutions in the Form of Legislative Action

Current Policies

With the resurgence of environmental legislation and awareness present within the United States, it is quite abysmal that environmental legislation is deficient within the Cancer Alley corridor. However, despite the lack of direct environmental justice legislation, two laws are often used in legal battles that attempt to protect a community from environmental injustice – the first is Title VI of the Civil Rights Act of 1964 and the second law is the National Environmental Policy Act (NEPA) of 1969⁸⁶. Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, and national origin in programs and activities receiving federal financial assistance⁸⁷. This is such a landmark environmental law because it emphasizes both discrimination and environmental issues. However, the shortcomings of this case are that due to the bureaucratic slowness, some complaints regarding Title VI have been dismissed, while others have had to wait more than ten years to seek solace. It can be said that Title VI of the Civil Rights Act, while it has good intentions, has merely been bogged down over time.

⁸⁶ A. D. Blodgett, *An Analysis of Pollution and Community Advocacy in Cancer Alley: Setting an Example for the Environment Justice Movement in St. James Parish, Louisiana* 649 (2006).

⁸⁷ Department of Justice, *Title VI of The Civil Rights Act of 1964*.



The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions⁸⁸. It was signed by President Richard Nixon and began effective immediately on January 1, 1970. The range of actions covered by NEPA is broad and includes making decisions on permit applications, adopting federal land management actions, and constructing highways and other publicly owned facilities⁸⁹. Within the National Environmental Policy Act, there is a review process that follows a three-step approach to giving a proper analysis. The steps are as follows: 1) Categorical Exclusion (CATEX), 2) Environmental Assessment and Finding of No Significant Impact (EA and FONSI) and lastly, 3) Environmental Impact Statement (EIS). The first step, a Categorical Exclusion (CATEX), works in that a federal action may be *categorically excluded* from a detailed environmental analysis if the federal action does not *individually or cumulatively have a significant effect on the human environment*⁹⁰. Following the Categorical Exclusion is

⁸⁸ Environmental Protection Agency, *National Environmental Policy Act* (2020).

⁸⁹ Environmental Protection Agency, *National Environmental Policy Act* (2020).

⁹⁰ Environmental Protection Agency, *National Environmental Policy Act* (2020).

the Environmental Assessment and the Finding of No Significant Impact (EA and FONSI). This process works in the case that a federal agency makes the decision that a Categorical Exclusion does not apply to a proposed action and the federal agency may proceed with preparing an Environmental Assessment⁹¹.



An Environmental Assessment then determines whether or not a federal action has the potential to cause significant environmental effects⁹² to the area at hand. Environmental Assessments include a brief discussion of the need for the proposal, alternatives (when there is an unresolved conflict concerning alternative uses of available resources), the environmental impacts of the proposed action and alternatives, and lastly, a listing of agencies and persons consulted⁹³. Two possible actions may occur once the Environmental Assessment has been completed. These are the Finding of No Significant Impact (FONSI) and proceeding ahead with an Environmental Impact Statement (EIS) if the federal action will, in fact, bring about great environmental

⁹¹ Environmental Protection Agency, *National Environmental Policy Act* (2020).

⁹² Environmental Protection Agency, *National Environmental Policy Act* (2020).

⁹³ Environmental Protection Agency, *National Environmental Policy Act* (2020).

degradation. A Finding of No Significant Impact is the conclusion that there will be no significant environmental impacts with the course of action from the given federal agency.

The last step in the National Environmental Policy Act review process is the Environmental Impact Statement (EIS). Federal agencies prepare an Environmental Impact Statement (EIS) if a proposed major federal action is determined to significantly affect the quality of the human environment – the regulatory requirements for an EIS are more detailed and rigorous than the requirements for an EA⁹⁴. Environmental Impact Statements are much lengthier than Environmental Assessments because they are much more thorough for the call for their action. Because of the very nature of Environmental Impact Statements, the documents must outline every possible consequence of the federal agency’s action. These include alternatives to the proposed action, environmental consequences, and the affected environment. While the National Environmental Policy Act sets forth a great precedent for the environmental compliance of the United States, places like Cancer Alley can fall through the cracks due to the repeated systemic oppression and marginalization that the area faces. But, this is not to say that the National Environmental Policy Act disregards places such as Cancer Alley.

With all of the good that Title VI of the Civil Rights Act of 1964 and the National Environmental Policy Act bring, these two environmental laws and regulations will not ultimately protect the parishes in the Cancer Alley corridor because the state of Louisiana has such negligent environmental laws set forth. Ultimately, there needs to be

⁹⁴ Environmental Protection Agency, *National Environmental Policy Act* (2020).

a systemic change for Cancer Alley to alleviate the issues that the people face.

Nonetheless, this is the way for environmental and systemic change to take true effect.

My Proposed Solutions

Fighting for environmental justice and equity will be a long, uphill battle. But it is not worthless to fight for. The people in Cancer Alley deserve environmental equity and safe, healthy lives. It is appalling that larger corporations force these petrochemical facilities into the areas where marginalized people dwell and have little say. I propose that environmental justice cannot truly be won over until systemic change has begun. I argue that by making Louisiana have stricter environment environmental legislation as well as policies, this will help lessen the damage that is wreaked upon the environment. Additionally, the concept of NIMBYism should no longer be placing undesirable environmental ills into those who cannot move away from them or fight back against them. The disenfranchisement of the people in cancer alley has put them down for far too long. Fortunately, the social movements that have begun are on their way to making fundamental environmental change. However, this cannot be done with them alone. More communities need to band together to help make a change in our marginalized areas in communities. Because everyone deserves environmental equity and should not have to fear about everyone in their community dying of cancer or other illnesses due to the omnipresence of petrochemical industries in the area in which they live, play, and work. That is simply unfair because poorer people and people of color are overall more disadvantaged as a whole in the entire United States because of the rampant racism that has been going on for decades.

Additionally, governmental and legislative change must take place for Cancer Alley residents to recover from the damage that has been done to them. By proposing stricter environmental legislation this can help decrease the overall rates of death and cancer within the area. For instance, not having the presence of petrochemical industries in a place where people are living is desired. But fighting an industry that is worth so much money proves to be a daunting task. Therefore, making stricter laws regarding the total emissions of these facilities and plants can also help increase the quality of life in Cancer Alley in the case that the plants and factories cannot be removed instantaneously. This could also be seen as the implementation of boundaries as to where the residential neighborhoods are and where the petrochemical plants are. If there are fewer emissions from petrochemical plants in the area – or none at all – then the people would become healthier and happier. By placing caps on total emissions, this could dramatically decrease the incidences for cancer in the corridor. Moreover, by making the petrochemical factories and plants alter their establishments so that they are greener, safer buildings, this could also improve the lives of those in Cancer Alley. The toxic emissions would no longer infiltrate the land, air, and water, but rather, be disposed of safely and carefully.

With all of this, the residents of Cancer Alley would win their battle. Of course, this will be a long, uphill battle and will not be easily won. After all, it is residents fighting against a multi-billion-dollar industry. Nevertheless, change can happen. As environmental justice gains more traction, there is more hope for environmental laws and regulations to be pertinent. But this cannot be done until more individuals fight hard for change to take effect.

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