

Environmental Racism:

A Comparative Analysis Between Brentwood, Los Angeles and South Gate, California

Elena Ruiz Ramirez

California State Polytechnic University, Pomona

Environmental racism is a continuous cycle that often threatens the health and surrounding environment of minority communities. This thesis focuses on one of the most impactful environmental hazards: superfund sites. The two cases to be compared are: Brentwood, Los Angeles (an affluent community) and South Gate, California (a minority community). Collecting data from the Environmental Protection Agency shows that South Gate has 21 superfund sites, three of which are on the National Priorities List. As for Brentwood, there are zero waste sites located within the community. With using this information as the primary foundation of analysis, this thesis will then analyze the disparities between population density, race, and income by using 2010 census data. The ultimate goal of this thesis is to analyze how certain factors (i.e. race and income) attract or deter the placement of waste sites.

Environmental racism generally targets areas of low socioeconomic status. Many examples involve the placement of toxic facilities that not only pose a threat to the environment but to those living near them; to illustrate, toxic landfills have been reported to cause high rates of birth defects, the release of methane, along with toxins seeping into the soil and groundwater which becomes an environmental hazard. With having the knowledge and understanding of how severe the health effects are from toxic facilities, what is the causal mechanism that allows the process of environmental racism to continue? Cases to be studied have a noticeable pattern of waste management facilities being located in communities consisting of predominately low-income and ethnic minority citizens. Using various examples of waste sites located in California will shed light on how people (specifically minorities, but people nonetheless) continue to be politically and financially exploited in a state that has made advancements in environmental policies. Such contradiction leads me

to question: Do waste management companies place facilities that have negative environmental impacts in communities based on its socioeconomic status?

To answer this question, it is important to fully understand the main concepts of this thesis and how they relate to each other. The first concept is waste management facilities with negative environmental impacts and the second concept is the socioeconomic status of a community. These concepts relate to each other because a community's economic status and ethnic makeup can be the most influential factors as to where these hazardous facilities are located. Additionally, there is a higher probability that waste management companies will choose an area with inexpensive land to maximize profits. Although this is a rather logical justification for the correlation between the placement of waste sites and the low-socioeconomic status of a community, this thesis will focus on the environmental and political disparities found between a minority community and an affluent community based on the placement of waste

management facilities. Therefore, this thesis argues: waste management facilities that have harmful environmental impacts are placed in areas of low socioeconomic status because the citizens are more likely to be politically and financially vulnerable.

Hypothetically speaking, if a hazardous landfill site were to be placed in an affluent community, that community will more often than not have the necessary funds to either remove the landfill site or conduct research to build a case against the waste management facility. Whereas, most coalitions formed in a financially vulnerable community will not have the political influence or vigor against a waste site company as would a coalition created in an affluent community. If most political opposition posed by minority communities goes unrecognized, apathy will surely form to which its citizens will accept environmental racism as a natural part of life.

It is necessary for this issue to be further discussed in the field of Political Science, specifically the subfield Public Administration, due to the prevalence of environmental injustice (which is enhanced through the placement of waste sites) found in minority communities. With the use of statistical analysis, researchers have found a positive relationship of waste management facilities being placed in areas that have characteristics consistent with minority communities (i.e. high population density, low-income status, low employment rates, etc.). Interestingly enough, theories concerning environmental racism suggest it is fundamentally a social issue. Based on social institutions and interactions, minorities will continue to be bombarded with environmental hazards because they are politically, financially, and ethnically inferior. Most importantly, since minority communities are in a constant state of environmental racism (in both a theoretical and empirical sense) this suggests that government intervention is minimal to nonexistent. Environmental researchers find minimal government intervention is paralleled with unequal environmental protection; in essence, this is the most impactful contribution to environmental racism. After taking into account the following research, this thesis suggests that unequal environmental protection creates the systemic issue of waste management companies exploiting communities with low socioeconomic statuses based on the reasoning that minorities are less likely to be a political threat.

Using the given research on environmental racism, this thesis seeks to contribute to the active discussion by conducting a comparative analysis between an urban, minority community and an affluent community in Los Angeles, California. Los Angeles should be considered as a prime exam-

ple because not only are minority communities exposed to numerous environmental hazards (i.e. soil and groundwater contamination), but Los Angeles is a city located in a state with progressive environmental policies. Although California has made significant advancements in environmental politics, there continues to be disparities in the environmental protection of minority and affluent communities; thus, alluding to the need for a reevaluation of which environmental policies should be placed at the forefront. In its entirety, this comparative analysis will: 1) have consistent results with previous research on environmental racism and 2) enhance previous research by demonstrating that the most significant disparities between a minority community with waste sites and an affluent community are essentially created in a system that equates higher wealth with good health and financial vulnerability with poor health.

Literature Review

Environmental racism is the intentional or unintentional targeting of minorities through policies or practices that have noticeable negative effects in their surrounding environment. Much of the research conducted throughout various periods of time have begun with a common observation: waste management facilities are often placed in low-income/racially homogeneous minority communities. This thesis seeks to further explore the nature of the relationship between communities of low-socioeconomic status and the placement of waste management facilities by conducting a comparative analysis between an urban city and its affluent counterpart in Los Angeles, California.

Minority communities are essentially politically and financially exploited during the process in which private companies seek to place hazardous waste sites. In both the theoretical and statistical examination of this topic, race is a common influential factor. This speaks to the idea that being a minority will render less environmental protection (Bullard, 1999). Environmental racism also considers the economic status of a minority community; therefore, it has been found that low-income minorities are less likely to act against the placement of a waste site in their community due to the potential employment opportunities (Boer et al., 1997). In addition, low-income communities will have a higher probability of lacking the sufficient funds needed to create a substantive political threat (in the form of a grassroots movement) against waste management companies. A majority of this research has been conducted by environmental scholars, most of whom conclude that the government is not fully participating in the

protection of minority citizens from environmental hazards. This literature review has therefore been categorized into three panels of discussion by researchers: the theoretical framework of environmental racism, the statistical analysis of environmental racism, and government outreach to affected citizens.

Theoretical Framework for Environmental Injustice

Providing a foundation based on theory implies that an issue goes beyond numerical values; it sheds light on the importance and effects of social interactions, values, and institutions. The following research establishes a theoretical framework to further explain how and why environmental racism occurs in minority communities. Park and Pellow (2004) propose that environmental racism is a form of institutional racism. Institutional racism suggests racism is formulated as a habit based on societal patterns rather than individual intent. Interestingly, Park and Pellow branch away from the statistical analysis that is often done when linking race and the placement of waste facilities. Therefore, by highlighting the social environment of minority communities, environmental racism is seen as a natural part of life.

Although institutional racism is a rather attractive theoretical explanation for the existence of environmental injustice, it is not the only one. Pulido (2000) views environmental racism as a form of white privilege and uses Los Angeles as a case study. While also using theoretical and social frameworks to explain the continuance of environmental racism, Pulido suggests that white privilege is the primary reason that citizens of a more dominant race have the ability to move away from urban communities, therefore, rendering minorities as sole inhabitants of waste management facilities (2000). In addition, Godsil (1991), whose study focused on the socioeconomic status of African American communities and the placement of waste sites, introduces a widely known way of thinking that is often considered by affluent communities: “Not In My Back Yard” syndrome (otherwise known as NIMBYism). NIMBYism is exemplified when “[w]ell-meaning environmentalists and worried citizens of affluent communities oppose hazardous waste facilities in their backyards; as a result, developers all too often site facilities in predominantly poor and minority communities” (Godsil, 1991). All three studies shed light on how the root of the issue of environmental racism is deeper than most believe. It is embedded in the thought process that minorities are found inferior, which ultimately stems from social process-

es and institutions. In order to resolve the societal thinking of environmental racism involve attending a higher education institution. Higher education challenges social hierarchies and encourages students to think critically about inequalities (Pellow, 2012).

Statistical Analysis of Environmental Injustice

Not every researcher is a proponent for the idea that waste management facilities are placed in communities based on their ethnic makeup. Atlas (2001) suggests that his analysis provides no pattern of hazardous waste facilities being disproportionately placed in areas of minority communities. Instead, most of the waste sites were found to be placed in areas of low population densities with few minority/low-income people (Atlas, 2001). This study demonstrates a possible counter argument to my research by providing an analysis that focuses on rural communities that have less of a minority population density than would an urban area. However, much of the research conducted to confirm the observation that environmental racism is found in communities of predominantly minority citizens does not focus specifically in rural areas; rather, research on the placement of waste management facilities often highlights the urban setting. The following scholarship provides multiple factors (all of which are consistent characteristics of minority communities) that affect the location of waste sites in urban areas based on statistical analysis and case study research methods.

The following research has been compiled to counter Atlas’ findings of little to no correlation between the placement of waste sites and minority communities. Primarily, *Bean v. Southwestern Waste Corp.* (1979) highlighted the obstruction of civil rights due to the location and proximity of a waste disposal facility in Houston, Texas. This case called for the first empirical study that connected the placement of waste management facilities with the race of citizens. Secondly, twenty years after the publication of a breakthrough study of environmental racism in 1987 (*Toxic Waste and Race in the United States* by the United Church of Christ), environmental justice scholars published an update. By taking into account impactful events that have occurred in the past twenty years (i.e. grassroots movements and government action--or lack thereof), Bullard et al. (2008) finds that race still plays a significant role in the placement of waste management facilities. Lastly, Mohai and Saha (2007) used Geographic Information System (GIS) to further analyze the intensity of the relationship between racial inequality and the distribution of hazard-

ous waste facilities. GIS is used to capture, manipulate, and analyze various types of geographical data. Therefore, the use of GIS solidified the conclusion that previous research failed to account for the proximity between the facilities and the minority communities; therefore, Mohai and Saha's conclusion is in alliance with Bullard et al. (2008) and the findings in *Bean v. Southwestern Waste Corp.* (1979): race is an influential factor in the placement of waste facilities.

Specific case study analyses from areas such as North Carolina and New Jersey make it possible to apply the same research process to Los Angeles, California. Norton et al. (2007) conducted research based on the observation that waste management facilities are typically located in areas of low socioeconomic status in the state of North Carolina. The research methods included creating a statewide analysis by obtaining census data of race and income. Their findings concluded that there is a correlation between the placement of waste management facilities and minority communities in North Carolina (Norton et al., 2007). In addition, Mennis and Jordan (2005) used New Jersey as example to demonstrate a positive relationship between minorities and toxic air releases (notably in densely populated and urban areas) by using univariate and multivariate statistics. This study can be used to have a greater grasp of studying environmental racism in the urban areas of Los Angeles, California.

When further analyzing case studies, other factors that contribute to the placement of waste management facilities in minority communities go far beyond race and income status. Boer et al. (1997) focuses on Los Angeles as an example on whether income and employment (in addition to race) were causal mechanisms of environmental racism. Just as the majority of other research concludes, the authors agree that race and income have a positive influence with environmental injustice. Significantly, employment opportunities make waste management facilities attractive in urban communities (Boer et al., 1997). This suggests that many minority citizens do not have thriving or stable incomes and are not willing to fight against the removal of waste sites if it provides a form of employment. Moreover, children of color, particularly Latinos and African Americans, living in Los Angeles have a higher chance of being exposed to toxic air quality based on the school's location and construction (Morello-Frosch et al., 2002). Lastly, Hamilton (1995) explores differences in citizens' willingness to pay for environmental amenities which can be linked to income or education levels. A company will decide where to place waste management facilities based on the community's willingness to pay for environmental amenities (Hamilton, 1995).

Statistical analysis and case studies have found unavoidable factors as a result from living in a minority community. For example, the limited amount of job opportunities, along with residential discrimination, contributes to the restriction of options when deciding which environment to live in (Bullard, 1993). Interestingly enough, waste management companies understand how their facilities provide employment to minorities and increase tax revenue which serves as justifications (Geisinger, 2012). Therefore, the overall consensus in this section of scholarship is: waste management facilities are typically placed in urban, ethnic-minority communities.

Governmental Outreach to Affected Citizens

Research concerning the correlation between minority communities and the placement of waste sites continues to develop as time passes. It is only natural to then question the government's role (state government, primarily) in this process. Bullard (1994) analyzes the disparities found in US environmental policies created to protect citizens from hazardous and toxic facilities. The author goes further into depth in researching the EPA's involvement with environmental racism to find little intervention. Over the course of five years, the lack of government intervention continues and there is little change to the scarce protection of minority communities from environmental racism. Bullard (1999) conducts an analysis of environmental racism in the United States and how minorities in poor communities are subjected to environmental hazards (often through the form of waste management facilities) more often than those living in affluent communities. Therefore, the argument is made that minorities are not equally protected like their affluent counterpart and introduces the need for a grassroots movement in order to gain environmental protection (Bullard, 1999).

Konisky (2009) also seeks to find if the state government has little political involvement with environmental protection policies in minority communities by focusing on three policies typically enforced by the state: the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act. Konisky finds that there is a clear relationship between sparse government action and low-income communities. By examining the role of the state when it comes to corporations establishing harmful facilities in communities, corporations (viewed as separate entities) have become their own policy makers while the state's power has slowly diminished (Pellow, 2001). There is an analysis on how to seek

environmental justice with this new political process, for example, corporate-community compacts. These compacts entail citizen collaboration and the advisement of companies on how to strengthen their knowledge on social responsibility and human rights.

Generally, there are three ways for citizens to provide their input in environmental policymaking: collaborating with companies, creating or participating in committees to enhance/promote regulation, and going to the courts (Markell, 2004). Despite the avenues presented for citizen participation, Environmental Non-Governmental Organizations (ENGOS) are displeased with the results of noncompliance by waste management facilities and, most importantly, lack of government accountability (Markell, 2004). With examining the research in this section, the commonality is little to no state interaction/intervention in the protection of minority communities from environmental hazards. Resolutions often involve the citizens' direct cooperation with the companies. As a result, companies are not bound by law to upkeep regulation of their waste sites if there is no enforcement from the state; therefore, minority communities are to remain living in an unhealthy and toxic environment.

Based on this literature review, environmental scholars have continuously questioned the placement of waste management facilities in minority communities from the late 1970's to present. Therefore, merely questioning why environmental racism has not yet been resolved is found to be insufficient. Scholars have delved into the causal mechanisms of how environmental racism continues to exist; for example, institutional racism and white privilege (Park and Pellow, 2004; Pulido, 2000). Examining scholarship on the social and theoretical frameworks of this issue explains how minorities are in an ongoing state of environmental injustice due to various social processes and patterns that equates minority with inferiority. This association potentially contributes to the lack of government intervention and equal protection of minorities from environmental hazards (Bullard, 1994). Furthermore, scholars have justified the observation of the placement of waste sites in communities of low-socioeconomic status with the use of statistical analysis and case studies. The various results are consistent with characteristics of minority communities: population densities in urban areas, race and economic status, and lack of employment opportunities (Mennis and Jordan, 2005; Norton et al., 2007; Boer et al. 1997).

This thesis seeks to further examine the extent of environmental racism in Los Angeles, California. By comparing an urban community with a high population density and an affluent community with

the financial resources needed to pay for environmental amenities, this thesis should have consistent results like that of previous scholars. Most importantly, California is viewed as a state with admirable advancements in environmental policies; therefore, research conducted on this comparative analysis will also enhance the argument that environmental racism is a form of institutional racism because injustice continues to occur despite policy progress.

Methodology

This thesis will take a qualitative approach by analyzing case studies in order to prove the argument that minority communities are politically and financially vulnerable when it comes to the placement of waste sites. The ultimate goal will be to demonstrate a positive relationship between the placements of waste management facilities and urban, minority communities by comparing two cases: 1) Brentwood, which is a neighborhood in Los Angeles, California and 2) South Gate, which is a city in Los Angeles County, California. As previously mentioned, Los Angeles is the best region to select potential cases because many waste sites are located in urban and densely populated communities (Mennis and Jordan, 2005). Furthermore, both units of analysis are commonly understood to be either an affluent community (Brentwood) or a minority community (South Gate). To gain a general sense of where these two communities are located within Los Angeles, South Gate is located approximately seven miles southeast of downtown Los Angeles and is neighbored by Watts, Lynwood, Cudahy, and Huntington Park; and Brentwood is a neighborhood in Los Angeles city on the Westside section of the county. The process in choosing which cities or neighborhoods would be viable candidates for this analysis depends, firstly, on the location of waste sites, and secondly, census data.

Environmental Protection Agency Data Collection

Because waste management facilities can range from landfills to disposals, it is important to narrow the search to one example to prevent extraneous variables and errors in analysis; therefore, this thesis will focus on superfund sites. Superfund sites are hazardous waste sites that threaten public health and the environment. Although this definition is rather vague, facilities with negative environmental impacts are determined and categorized as superfund sites through the discretion of the Environmental Protection Agency (EPA); therefore, regarding this study, the EPA pro-

vides less uncertainty as to which facilities to focus on.

The EPA developed a superfund program to clean up superfund sites and better the environment of those living near them. In order to provide transparency, the website www.epa.gov/superfund has a list of all superfund sites in the United States, “including proposed, final and deleted NPL sites and non-NPL Superfund Alternative Approach (SAA) sites.” According to the EPA, the city of South Gate currently has 21 superfund sites, 18 of which have a Non-NPL (Non-National Priorities List) status. The three other superfund sites have been added to the National Priorities List and are considered the most contaminated facilities within South Gate. The three NPL status waste sites are: Cooper Drum Co. (NPL 2001), Southern Avenue Industrial Area (NPL 2012), and Jervis B. Webb Co. (NPL 2012). This thesis will take into account all 21 superfund sites, but will focus and highlight the three NPL status waste sites because they pose the greatest health threats to those living in South Gate. As for Brentwood, there are currently no registered superfund sites in the neighborhood. Lastly, the EPA Superfund website also includes updated information referring to various levels of contamination, investigation, and cleanup. This is important information for this analysis because it reflects whether the cleanup process is handled in a timely manner. When concluding this section of methodology, the framework of analysis developed so far is a community with 21 superfund sites being compared to a community with zero superfund sites. Analyzing 2010 census data will further evolve this framework.

Census Data

Census data gives insight to the socio-economic status of a community. When used in a comparative analysis, census data also highlights disparities between two areas. This thesis will use those disparities and analyze how they contribute to the placement of waste sites in minority communities, specifically South Gate. Specific categories to be compared are: population, race, income, education, and unemployment. The categories listed are typically the criteria needed to determine whether a community is considered an affluent or a minority group. Furthermore, collecting information about both communities’ square mileage is needed in order to determine population density. Population density is also used as a determining factor for categorizing a wealthy and minority community.

Up to this point, it is a general assumption that South Gate is a minority community and Brentwood is an affluent community. This thesis provides a com-

munity assessment in order to clearly define the communities as such rather than relying on an assumption. For example, with using the categories listed above and 2010 census data for the city of Los Angeles, Brentwood is compared to all other neighborhoods within the city. As will later be demonstrated, Brentwood is defined as affluent. The same comparison will be used for the city of South Gate, except 2010 census data for Los Angeles County will be used. Therefore, when compared to other cities in the county, South Gate is defined as a minority community. Both communities’ census data can be found with the website www.factfinder.census.gov. Not only is this website able to localize data by city, town, and zip code, but it provides the most updated information (2010 census data). Finally, the framework of analysis is now this: South Gate is a minority community with 21 superfund sites that will be compared to its affluent counterpart Brentwood, which has zero superfund sites. This framework of analysis is going to be able to provide a stable foundation for results. Therefore, the disparities found between these two communities can be further analyzed in confidence to prove the overall argument that minority communities with waste sites are politically and financially vulnerable.

Results

I. Superfund Background

Prior to the 1980’s, there was a lack of regulation and oversight of waste management facilities in the United States. During that time, the Environmental Protection Agency (EPA) did not have the legal authority to intervene and extend help to communities with waste sites that posed a threat to citizens’ health; therefore, incentives or legal pressure directed towards responsible parties to clean up the contaminated areas were completely nonexistent. The Love Canal site in Niagara Falls, New York is the primary example of how a lack of regulation and liability resulted in the perpetuation of severe health risks for surrounding citizens. Most importantly, the problems resulting from Love Canal can be seen with the superfund sites located in South Gate today.

The Love Canal’s initial purpose was to enhance industrial development in the area by providing inexpensive hydroelectric power (EPA, 2016). Unfortunately, the project was not carried out and Love Canal was used for recreational purposes instead. Because the Love Canal site is below ground-level (approximately 25 feet), this area became a rather attractive place for dumping waste. A chemical corporation

at the time, Hooker Chemicals & Plastics Corporation, discarded over 21,000 tons of hazardous waste into Love Canal for eleven years (1942-1953) (EPA, 2016). The toxic chemicals inevitably contaminated the soil and groundwater. Love Canal was then abandoned by Hooker Chemicals & Plastics Corporation, which meant that there was no investigation or risk assessment carried out. Therefore, as years passed, the surrounding land developed into a residential area by which families settled in without knowing the potential dangers that Love Canal presented.

In the 1970's, this sixteen-acre, excavated plot of land (now seventy-acers) was surrounded by family homes and a public elementary school. According to the New York State Department of Health (NYSDH), "...in the homes immediately adjacent to the landfill there were resident 97 families composed of 230 adults and 134 children," during which that time 410 children were enrolled at the elementary school (1978). A majority of reports concerning the citizens' first notice of contaminated soil and groundwater in their neighborhood commonly state that a "foul odor" began to develop. Furthermore, the odor and chemical residue led to an increased risk of cancer. The New York State Department of Health issued a health order in 1978 which recommended that the public elementary school should be closed, in addition to recommending that pregnant women and children under the age of two should be evacuated (Center for Health, Environment and Justice, 1979). Health risks posed on pregnant women could lead to birth defects, and due to their biological vulnerability, children "...are uniquely susceptible to health injury resulting from exposures to chemical toxicants in the environment" (Landrigan et al., 1999). Pressure for citizens to be evacuated grew stronger, leading President Carter to intervene by funding the relocation of all affected families.

The time-sensitive situation of Love Canal pressed the Carter Administration to enact the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund). CERCLA targets superfund sites which are defined as a polluted location that requires a substantial amount of resources (i.e. money, labor, and time) for reducing hazardous materials and is typically a long-term process. CERCLA is greatly significant because it placed "...a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment" (EPA, 2015).

With its interventionist feature, CERCLA is able to create short-term removals and long-term respons-

es. A short-term removal of superfund sites entails responding to immediate threats, does not require the sites to be listed on the National Priorities List (NPL), and has statutory limits of twelve months and two million dollars (EPA, 2015). Long-term responses are essentially long-term cleanups only for the waste sites on the NPL. During long-term responses, the EPA will first create an investigation of the superfund site and provide assistance in trying to find the "potentially responsible parties" (PRPs) for the damage. Long-term responses aim to "...permanently and significantly lower the dangers connected to releases or threats of releases" (McCory, 1999). Lastly, one of the most important contributions that CERCLA allows the EPA to make is creating a trust fund for clean up when liability is not established. The different legal avenues that CERCLA gives the EPA reinforce one idea: superfund sites are detrimental to the environment and those living near it.

The Environmental Protection Agency created a website dedicated to making the CERCLA process transparent. All information concerning superfund sites, both NPL and non-NPL sites, is made available. By completing the Hazard Ranking System (HRS), the EPA will determine whether a site is to have a NPL or non-NPL status. The NPL is important to the CERCLA process because it will determine potential funding for cleanup, provide a health risk investigation if needed, and serve as a notification of remedial action for the public along with potentially responsible parties (EPA, 2015). Essentially, the Superfund website is a tool used to prevent another Love Canal situation by which families moved into a neighborhood without knowing the health hazards that the landfill possessed. According to the EPA Superfund website, there are 945 sites that are in California, 111 of which are NPL sites (2016). As previously mentioned, there are zero sites listed for Brentwood, Los Angeles and 21 sites listed for South Gate, California. 18 of South Gate's superfund sites have a non-NPL status, meaning the three remaining sites posed enough risk to be categorized in the NPL. Those three sites are: Cooper Drum Co., Jervis B. Webb Co., and Southern Avenue Industrial Area. In the following subsections, this thesis will provide a brief history for the three NPL sites in South Gate to provide insight of the potential health hazards that citizens are facing in their daily lives.

Cooper Drum Co.

The Cooper Drum Company site is located at 9316 South Atlantic Avenue in South Gate, California. It is a 3.8-acre facility surrounded by residential, commercial, and industrial properties, in addition to

Figure 1a: Human Exposure Control Status

- *Current human exposure is under control* - Sites are assigned to this category when assessments for human exposures indicate there are no unacceptable human exposure pathways and the Region has determined the site is under control for current conditions site wide.
- *Insufficient data to determine human exposure control status* - Due to uncertainty regarding exposures, one cannot draw conclusions as to whether human exposures are controlled. Sites are typically assigned to this category when responses have not been initiated or response actions have been initiated but have not yet generated reliable information to make an evaluation for this indicator - i.e., there is not sufficient information to determine whether there are any current, complete unacceptable human exposure pathways at the site, therefore no determination is possible.
- *Current human exposures is not under control* - Sites are assigned to this category when 1) contamination has been detected at a site at an unsafe level, and 2) a reasonable expectation exists that people may be exposed to the contamination.

an elementary school (Tweedy Elementary) located adjacent to the superfund site. As a company that reconditioned steel drums for approximately 51 years (1941-1992), Cooper Drum Co. housed industrial chemicals. The reconditioning process "...consisted of flushing out and stripping the drums for painting and resale" (EPA, 2013). Although the cleaning process would be designated to one central area on the premises, leftover industrial fluids were gathered in open trenches and pits. This inevitably led to Cooper Drum Co.'s long-standing problem of contaminated soil and groundwater. Most notably, Tweedy Elementary was greatly impacted by Cooper Drum Co.'s reconditioning process. In 1987, fluids linked to the Cooper Drum site contaminated the elementary school's soil: "...liquid waste had migrated via underground seepage...the waste resulted from the caustic wash water from the drum recycling process..." (EPA, 2013). The Los Angeles County Health Department then issued that Tweedy Elementary was to be closed due to public health concerns, quite similar to the elementary school closed by Love Canal.

Cooper Drum Co. was eventually added to the NPL in June 2001. With the various investigative stages of CERCLA, the EPA concluded that contamination was found only in shallow water (EPA, 2013).

Yet, it is alarming to find that Cooper Drum Co.'s liquid waste seepage has the potential to migrate to a municipal well that provides drinking water to nearly 300,000 people. Presently, the Cooper Drum site is still in the CERCLA process in which the EPA is notifying PRP's of liability and cleanup is underway.

Cooper Drum Co.'s Site Status: Human Exposure Status is Under Control; Contaminated Ground Water Status is Not Under Control; and Protectiveness Status is Undetermined.

Jervis B. Webb Co.

Jervis B. Webb Company is located at 9301 Rayo Ave and 5030 Firestone Blvd. South Gate, California. From 1950 to 1996, Jervis B. Webb Co. used industrial conveyor belt systems for metal fabrication and assembly operations (EPA, 2015). Throughout this time period, other companies in the metal fabrication business purchased different portions of Jervis B. Webb Co.'s property. Similar to Cooper Drum Co.'s location, Jervis B. Webb Co. is surrounded by residential, commercial, and industrial properties in South Gate, California. It has been confirmed that the Jervis B. Webb Co. site has contaminated soil and groundwater with hazardous

Figure 1b: Groundwater Control Status

- *Contaminated ground water migration is under control* - indicates that all information on known and reasonably expected ground water contamination has been reviewed and that the migration of contaminated ground water is stabilized and there is no unacceptable discharge to surface water and monitoring will be conducted to confirm that affected ground water remains in the original area of contamination.
- *Insufficient data to determine migration control status* - Due to uncertainty regarding contaminated ground water migration, one cannot draw conclusions as to whether the migration of contaminated ground water is stabilized.
- *Contaminated ground water migration is not under control* - indicates that all information on known and reasonably expected ground water contamination has been reviewed and that the migration of contaminated ground water is not stabilized.

Figure 1c: Protective Status

- *Not Protective* - A protectiveness determination of "not protective" typically is used when the FYR report provides sufficient data and documentation to conclude that human and ecological exposures are not currently under control and unacceptable risks are occurring.
- *Protectiveness Status Undetermined* - This status category means that a FYR has not yet been conducted for the site and, therefore, a protectiveness status does not yet exist.
- *Protectiveness Deferred* - This protectiveness determination generally is used when the available information in the FYR report does not provide sufficient data and documentation to conclude that all human and ecological risks are under control and that no unacceptable exposures are occurring. Additional actions are needed in order to determine whether unacceptable risks are occurring.
- *Will Be Protective* - A protectiveness determination of "will be protective" typically is used when the FYR report provides sufficient data and documentation to conclude that the human and ecological exposures are currently under control and no unacceptable risks are occurring in those areas. However, the remedy is still under construction and anticipated to be protective upon completion.
- *Short-Term Protective* - A protectiveness determination of "short-term protective" typically is used when the FYR report provides sufficient data and documentation to conclude that human and ecological risks exposures are currently under control and no unacceptable risks are occurring. However, the data and/or documentation review also raise issues that could impact future (but not current) protectiveness or remedy performance.
- *Protective* - A protectiveness determination of "protective" typically is used when the FYR report provides sufficient data and documentation to conclude that the remedy is functioning as intended and all human and ecological risks are currently under control and are anticipated to be under control in the future.

waste, in particular, trichloroethene (TCE). TCE is a manmade chemical typically used for spot removal in an industrial workplace. If not disposed of properly, TCE can seep into drinking water wells and contaminate the water supply. TCE also heightens the risk for cancer, along with damage to the liver, kidneys, and central nervous system when consumed.

According to the EPA's investigation, contaminated groundwater beneath Jervis B. Webb Co. has TCE levels of 35,000 ppb (35,000 parts per billion grams of water) (2015). Considering how the EPA's Safe Drinking Water Act stated the maximum amount of TCE permitted in groundwater is 5 ppb, the Jervis B. Webb Co. site has an obscene amount of contamination. As previously stated, when not disposed properly, TCE can migrate and contaminate drinking water supplies. Jervis B. Webb Co. is located approximately four miles away from 35 drinking water wells, potentially harming 230,000 people (EPA, 2015). Although the CERCLA process is still in preliminary phases, Jervis B. Webb Co. should be considered as a time-sensitive issue because TCE is not only able to contaminate water but it can vaporize as well, causing health risks to increase. This site was placed on the NPL in May 2012 and is considered a "long-term cleanup."

Jervis B. Webb Co.'s Site Status (refer to Fig. 1a-1c): Human Exposure Status is undetermined due to Insufficient Data; Contaminated Ground Water Status is undetermined due to Insufficient Data; and Protectiveness Status is Undetermined.

Southern Avenue Industrial Area

Southern Avenue Industrial Area is located at 5211 Southern Ave. South Gate, California. This superfund site is walking distance from both Cooper Drum Co. (6 minutes) and Jervis B. Webb Co. (10 minutes), which means it is located near the same residential and industrial properties. Southern Avenue Industrial Area was owned by two in-house manufacturing companies that used TCE for cleaning. The first company, Pacific Screw Products, manufactured screw products until their bankruptcy in 1971. From 1971 to 2013, Seam Master Industries produced carpets with the use of hot-metal adhesive tape during assembly. As a result from improper disposal, the Los Angeles County Department of Health Services and Hazardous Waste Control Program found extremely high levels of TCE on the site. Additionally, soil and groundwater contamination was increased with both companies' use of an underground storage tank in which industrial fluids were gathered. With the EPA's initial investigation, "TCE was detected in onsite soils at levels up to 17 ppb and in groundwater beneath the site at levels up to 17,000 ppb" (EPA, 2015). Southern Avenue Industrial Area's contamination has the opportunity to contaminate the same drinking water wells as Jervis B. Webb Co. Although the EPA's Contaminants and Risks description states that the contamination is relatively shallow (60 feet), there is a need to continue on-site investigation for potential vaporization of TCE into residential areas (EPA, 2015). Finally, this site was placed on the NPL in May 2012.

Southern Avenue Industrial Area's Site Status (refer to Fig.1a-1c): Human Exposure Status is undetermined due to Insufficient Data; Contaminated Ground Water Status is undetermined due to Insufficient Data; and Protectiveness Status is Undetermined.

II. Community Assessment

This section will dissect various disparities found in the comparison of an affluent community to an urban, minority community with waste sites. What are the causes or factors that indicates a minority community like South Gate is to accommodate waste sites rather than an affluent community like Brentwood? What makes an affluent community less attractive to waste management companies? The Community Assessment section will begin by clearly defining Brentwood as affluent and South Gate as minority. Next, an analysis of population density will be provided. Thus ending with an analysis of how race and income may attract or deter waste management companies.

Brentwood, Los Angeles

Home to 35,482 people, Brentwood is commonly defined as an affluent neighborhood. Characteristics contributing to this definition involve examining the median household income, race, the education of citizens, unemployment rates, and the location while comparing it to other neighborhoods in the city of Los Angeles. Brentwood's median household income is \$116,732 whereas the average income for Los Angeles is \$84,456. As for education, 97.9% of Brentwood residents graduated high school, in addition to 40.8% of the population having a Bachelor's degree and 37.0% having a graduate or professional degree. Contrastingly, 74.9% of those living in Los Angeles are high school graduates, 20.8% have a Bachelor's degree, and only 10.6% have a graduate or professional degree. The unemployment rate in Brentwood is 4.5% whereas the unemployment rate for Los Angeles is 7.6%. Lastly, Brentwood is located in the Westside region of Los Angeles, whose neighboring communities are Santa Monica, Bel-Air, Encino, Pacific Palisades, and Westwood. When comparing the neighborhood of Brentwood to the city of Los Angeles, it is clear that Brentwood is an affluent community.

South Gate, California

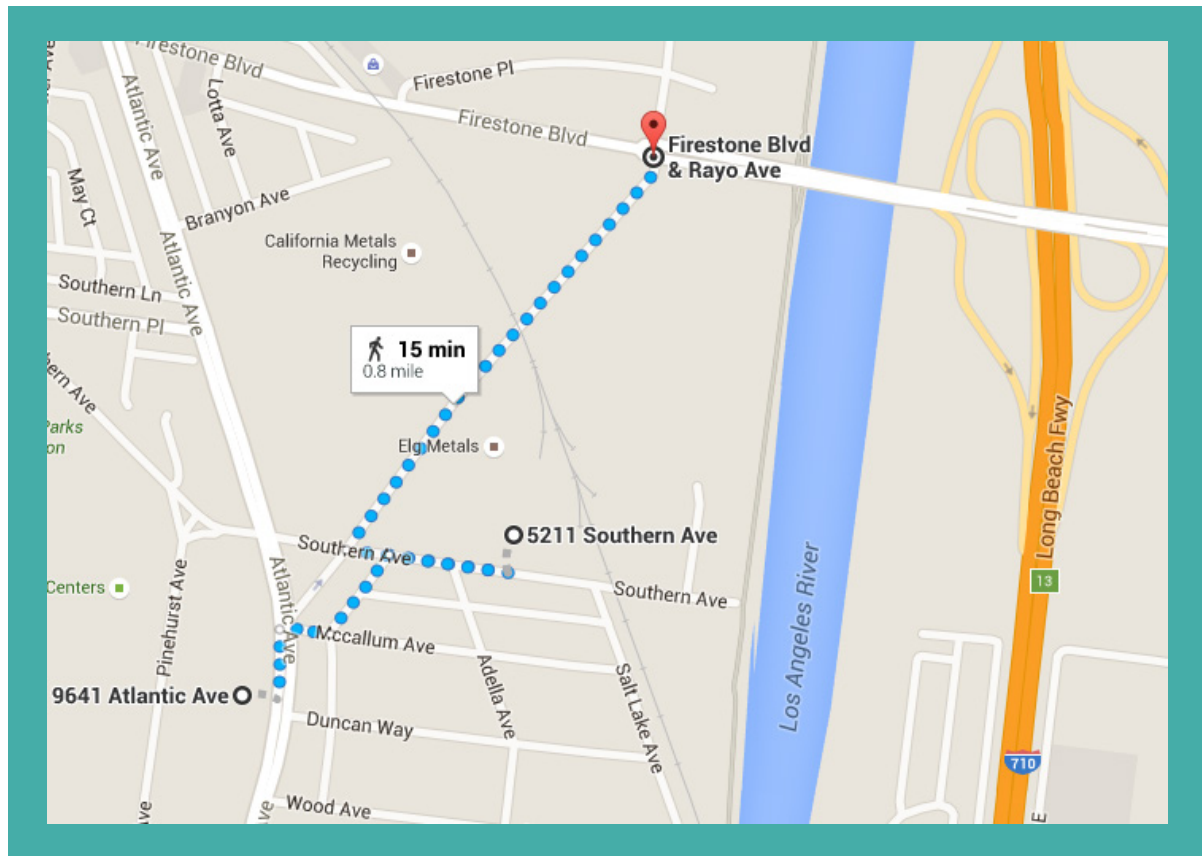
The city of South Gate has a total population of 94,396 people who are often perceived as a minority community. The same characteristics used to define an area as affluent can very well be used

to define an area as minority. However, South Gate is a city (unlike the neighborhood of Brentwood) which means it will be compared to the county of Los Angeles, making the comparison city versus cities. South Gate has a median household income of \$43,526 whereas the average income for Los Angeles County is \$55,870. Approximately half (52.0%) of South Gate's 18 and over population has graduated high school. Only 5.4% of South Gate's residents have a bachelor's degree and 1.5% have a graduate or professional degree. As for Los Angeles County, 76.8% are high school graduates and 29.9% of the population have a Bachelor's degree or higher (10.4% of which have a graduate or professional degree). Continuing to the unemployment rate, 9.1% of South Gate's population is unemployed and 7.1% of Los Angeles County is unemployed. Lastly, South Gate is located in the Southeast region of Los Angeles County, whose neighboring cities are Watts, Bell Gardens, Walnut Park, and Cudahy. The city of South Gate is below average in median household income and educational attainment compared to Los Angeles County. Furthermore, South Gate has a higher unemployment rate which contributes to a higher poverty status. South Gate is a city with a low-socioeconomic status and is clearly a minority community when compared to Brentwood, Los Angeles.

Population Density

Population density plays a significant role in this study because it has been found to affect the proximity of superfund sites to one another, thus affecting the quality of life a community will have. The population density for Brentwood, Los Angeles and South Gate, California will be determined by using 2010 census data of population and the square mileage of each community. Brentwood has a population of 35,482 people and is 15.22 square miles. South Gate has a population of 94,396 people and is 7.45 square miles. By comparing the two units of analysis, it is clear that South Gate has a higher population density than Brentwood. South Gate's land area is nearly half the size of Brentwood's land and encompasses nearly three times the amount of people. Therefore, three assumptions can now be made: waste management facilities placed in a densely populated community are more likely to be clustered together; residents in a densely populated community are more likely to live near one or more waste sites; and waste sites placed in a densely populated community create higher health risks, lowering the overall quality of life.

As previously stated, there are 21 superfund sites located in South Gate, three of which are on

Figure 2: Superfund Map

the NPL. Because non-NPL sites do not warrant the immediate intervention, investigation, or federally funded cleanup by the EPA, these sites become the state's responsibility. This means that non-NPL site cleanups are to be funded and regulated by the state. Therefore, the primary difference between waste sites with a NPL and waste sites with a non-NPL status is the government entity responsible for oversight. The biggest similarity, however, is both NPL and non-NPL sites still pose health risks to the community and can potentially affect more people as the population density increases. Using Cooper Drum Co., Jervis B. Webb Co., and Southern Avenue Industrial Area as examples, finding the proximity between these three highly contaminated areas will be conducted in the simplest manner—Google Maps. By inserting the address of each superfund site, Google Maps will generate a map pinpointing each location, provide details on distance, and provide a time frame for each mode of transportation.

By deconstructing the map, Cooper Drum Co. and Southern Avenue Industrial Area are located a mere 0.3 miles away from each other and is only 6

minutes walking distance. Cooper Drum Co. is only 0.6 miles away (11 minutes walking distance) from Jervis B. Webb Co. Lastly, Southern Avenue Industrial Area is located 0.5 miles away (10 minutes walking distance) from Jervis B. Webb Co. A densely populated community can affect the location and proximity of these waste sites because of limited property availability due to growing residential areas and businesses. Taking a closer look at the map, it appears that these superfund sites are located near other metal processing and industrial companies; for example, Elg Metals near Southern Avenue Industrial Area, California Metals Recycling near Cooper Drum Co., and Shultz Steel near Jervis B. Webb Co. It seems as if industrial companies such as these are all concentrated in one area which confirms the first and second assumptions: waste management facilities placed in a densely populated community are more likely to be clustered together and residents in a densely populated community are more likely to live near one or more waste sites.

Cooper Drum Co., Jervis B. Webb Co., and Southern Avenue Industrial Area are all located with-

in one mile from each other, meaning they all have the potential to contaminate the same drinking water wells and aquifers. As a reminder, Cooper Drum Co. has the issue of hazardous liquid seepage, Jervis B. Webb Co. has TCE levels of 35,000 ppb, and Southern Avenue Industrial Area has TCE levels of 17,000 ppb. The fact that either one of these three NPL superfund sites can contaminate drinking water supplies is alarming, yet the idea of contamination combined by all three waste sites affecting drinking water supplies is highly disturbing. Furthermore, the hazardous chemicals found on each NPL location in South Gate have the possibility of vaporizing which means residents are two times more likely to ingest TCE. Lastly, Tweedy Elementary School was closed down due to public health concerns caused by Cooper Drum Co.

All these reasons and more are why South Gate residents' health is significantly more at risk than those living in Brentwood. There are zero superfund sites (both NPL and non-NPL) in Brentwood, Los Angeles, meaning its drinking water supply is unthreatened by TCE contamination. In addition, Brentwood has 10 schools located within its zip code (90049), none of which were closed down due to public health concerns. Thus, this not only confirms the third assumption but confirms the general concept of environmental racism: it is nearly unimaginable how South Gate residents are able to have the same quality of life when compared to their affluent counterpart, Brentwood.

Race and Income

Previous researchers have used Geographic Information System (GIS) to prove that there is a positive relationship between the race of a community and the placement of waste sites. Without the use of any statistical program such as GIS, it is abundantly clear that South Gate is the perfect example of such relationship because there are 21 superfund sites located within the city and 94.8% of its population (89,442 out of 94,396 people) are Hispanic or Latino (of any race) (2010 Census Data). To further support this claim, approximately 15.8% of Brentwood's community are minorities, meaning 84.2% (29,846 out of 35,482 people) are white; thus, Brentwood is a predominantly white, waste site free community (2010 Census Data).

It is widely known amongst environmental researchers that waste site companies strategically take into consideration the ethnic makeup of a community. Ethnic-minority communities are viewed as attractive to waste site companies because minorities are often seen as the "path of least resistance" (Saha and Mohi, 2007). The term resistance typically refers to

political mobilization or creating some expression of opposition against waste site companies. On October 19, 2011, there was a public meeting held in the city of South Gate concerning their three NPL superfund sites. However, this form of mobilization was held in order for the EPA to answer any questions the community may have along with instructing residents on how to submit comments to EPA Headquarters (EPA, 2015). This meeting was created by the EPA in order to fulfill a portion of the cleanup process and not out of opposition by South Gate community members. Most notably, not another public meeting was held since.

As for Brentwood, residents have formed an environmental community organization. Interestingly enough, there is no information provided on the Brentwood community website other than contact information. This alludes to the idea that this community organization was formed for recreational purposes by citizens with enough leisure to do so. Nonetheless, this affluent community has the ability to mobilize compared to its minority counterpart South Gate.

In addition to race, income is another important explanation as to why waste management facilities are often located in minority communities. Using income for this analysis, this factor is able to address the disparities in opportunities residents in each community are able to have. According to 2010 census data, the average income for Brentwood residents is \$116,732. As for South Gate, the average income is \$43,562, which is a total difference of \$73,170. A high income will provide the luxury of affording quality health care, whereas low-income families with inadequate health care who are currently living near waste sites are disproportionately exposed to contamination (Massey, 2014).

Yet, the most significant opportunity a relatively high income is able to provide is the opportunity to live in a waste site free environment, if one so chooses. More often than not, those of a higher income status prefer to live in a community that reflects their wealth; for example, ambient environmental quality, aesthetic views, and proximity to recreational sites, most of which Brentwood is able to provide. This also happens to contribute to the concept of NIMBYism (Not In My Back Yard syndrome), where citizens of affluent communities oppose hazardous waste sites in their immediate surroundings, rendering minority communities as the sole proprietors. Moreover, waste management facilities are able to diminish property value: "A meta-analysis shows that landfills that accept high volumes of waste decrease adjacent residential property values by 12.9%, on average" (Ready, 2005). It has been reported that the median property value in Brentwood (a waste site free

community) is \$2,280,700, whereas South Gate's median home value is \$366,600 (Zillow, 2015). Therefore, it is assumed that communities without waste sites have either high or increasing property values compared to communities with waste sites.

Having a relatively low income provides very limited and restricted opportunities to find housing in a waste site free environment. Those of a low socio-economic status living near waste sites can potentially define environmental racism as a natural part of life. As previously described, there are disparities between the quality of life residents of Brentwood and South Gate currently have. These disparities in combination with a lack of mobilization can create a form of stagnation within a hazardous environment. What is there else to do besides adapt? Citizens of South Gate have adapted to their hazardous environment for decades, which can possibly explain their continual acceptance of waste sites.

In addition to adaptation, South Gate may continue to accept waste sites in its community due to the potential employment opportunities (Boer et al., 1997). In comparison to other cities in Los Angeles County, South Gate's unemployment rate is high (South Gate: 9.1% vs. LA County: 7.1%). For the sake of this analysis, this thesis will provide an estimate of jobs provided by the 21 waste sites located in South Gate. QualaWash will be used as an example because it was the most recent superfund site (non-NPL) in South Gate to be listed on the EPA Superfund website, which means it will have the most updated information concerning employment. This branch was established in 2005, providing heating equipment and repair services. Based on its profile on www.manta.com (a small business marketing website), the QualaWash company typically employs 20 to 49 people. By multiplying the estimated amount of employees by 21, there were approximately 420 to 1,029 jobs created by superfund sites in South Gate. Acknowledging that this is a very rough estimate, it still provides insight as to how superfund sites are able to pacify any potential resistance from minority communities against waste site companies based on employment opportunities.

Conclusion

Based on this case study analysis, the placement of waste sites are heavily influenced by the political and financial vulnerability of South Gate residents (a minority community). This thesis suggests that those living in South Gate are in a state of political vulnerability because a lack of opposition is, and will continue to be, taken advantage of by waste man-

agement companies despite the potential health risks waste site activities produce. As was demonstrated, South Gate community members have not engaged in any form of resistance via community meetings or forums. In addition, waste management companies often associate political vulnerability with race. South Gate houses 21 superfund sites and 94.8% of its residents are Hispanic or Latino. Without delving into community involvement, this correlation alone shows that there is a positive relationship between race and the placement of waste sites, especially when compared to Brentwood who has an inactive environmental community organization, has an 84.2% white population, and does not house any superfund sites.

South Gate city officials have made transparency a priority. Information about the three NPL sites and the CERCLA process has been made available on South Gate's city website. Although transparency creates awareness and possibly creates deterrence, those who are financially vulnerable are essentially stuck in their environment. This thesis indicated the many opportunities that are related with a higher income. Individuals with a relatively high income (i.e. Brentwood residents) have the advantage in living in a waste site free environment. Whereas, those with a relatively low income (i.e. South Gate residents) are limited and restricted in choosing their place of residence, specifically living in an area without superfund sites.

The grandest disparity that was found between South Gate and Brentwood was the difference in quality of life. This finding not only takes into account the disparities of race and income, but population density as well. Population density affected the proximity of superfund sites in South Gate, especially the three most contaminated sites there: Cooper Drum Co., Jervis B. Webb Co., and Southern Avenue Industrial Area. Because of this, South Gate's aquifers are three times more likely to be contaminated with massive amounts of TCE. In contrast, Brentwood's water supply will not be affected by the potential contamination from a superfund site. Lastly, the TCE contamination found on South Gate's superfund sites has the ability to vaporize. Unfortunately, this means there is a possibility that South Gate residents will encounter both water and air TCE pollution. Thus, the quality of life is diminishing with each waste site placed in a community.

To conclude, this thesis recognizes the most obvious restriction when conducting a case study analysis is external validity. By analyzing and comparing Brentwood to South Gate, the general argument for this thesis was able to hold true. However, these findings cannot be generalized across the nation or even generalized in the city of Los Angeles. There-

fore, with future research, I would like to take my methodology or my framework of analysis and apply it to other minority communities with waste sites located in Los Angeles. If given more time, there would be shift in focus towards the public policies that affect the placement of waste sites. 21 superfund sites drastically affects the quality of life and land that minority communities are living in. There needs to be a greater in depth discussion about environmental racism in the Political Science field because this form of injustice is life threatening.

References

- Atlas, M.K. (2001). Safe and Sorry: Risk, Environmental Equity, and Hazardous Waste Management Facilities. *Risk Analysis: An International Journal*, 21(5), 939.
- Bean v. Southwestern Waste Corp. 482 F. Supp. 673 (1979).
- Boer, J. T., Pastor, M., Sadd, J. L., & Snyder, L. D. (1997). Is There Environmental Racism? The Demographics of Hazardous Waste in Los Angeles County. *Social Science Quarterly*, 78(4), 793–810.
- Bullard, R.D. (1993). The Threat of Environmental Racism. *Natural Resources & Environment*, 7(3), 23-26.
- Bullard, R. D. (1994). Overcoming Racism in Environmental Decisionmaking. *Environment*, 36(4), 10.
- Bullard, R. D. (1999). Dismantling Environmental Racism in the USA. *Local Environment*, 4(1), 5.
- Bullard, R. D., Mohai, P., Saha, R., & Wright, B. (2008). Toxic Wastes and Race at Twenty: Why Race Still Matters After All of These Years. *Environmental Law*, 38(2), 371-411.
- Center for Health, Environment, and Justice. (1979). Love Canal. Retrieved from http://chej.org/wp-content/uploads/Documents/love_canal_factpack.pdf
- Environmental Protection Agency. (2015). Basic NPL Information. Retrieved from <http://www.epa.gov/superfund/basic-npl-information>
- Environmental Protection Agency. (2015). Superfund: CERCLA Overview. Retrieved from <http://www.epa.gov/superfund/superfund-cercla-overview>
- Environmental Protection Agency. (2015). Superfund Site Overview, Pacific Southwest, Southern Avenue Industrial Area. Retrieved from <http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/3dec-8ba3252368428825742600743733/d9ace-f4a71cbca01882579130078b555%21opendocument>
- Environmental Protection Agency. (2016). EPA Superfund Program: Love Canal, Niagra Falls, NY. Retrieved from <http://cumulis.epa.gov/superfund/cursites/csitinfo.cfm?id=0201290>
- Environmental Protection Agency. (2016). Superfund Site Profile. Retrieved from <http://cumulis.epa.gov/superfund/cursites/srchrslt.cfm?start=1&CFID=21534284&CFTOKEN=45246954>
- Geisinger, A. (2012). The Benefits of Development and Environmental Injustice. *Columbia Journal of Environmental Law*, 37(2), 205-244.
- Godsil, R. D. (1991). Remedying Environmental Racism. *Michigan Law Review*, 90(2), 397-427.
- Hamilton, J. T. (1995). Testing for Environmental Racism: Prejudice, Profits, Political Power? *Journal of Policy Analysis and Management*, 14(1), 107-132.
- Konisky, D. M. (2009). Inequities in Enforcement? Environmental Justice and Government Performance. *Journal of Policy Analysis and Management*, 28(1), 102–121.
- Landrigan, P. J., Suk, W. A., & Amler, R. W. (1999). Environmental Health Perspectives. National Institute of Environmental Health Sciences. 107(6), 423-427.
- Markell, D. L. (2004). Enhancing Citizen Involvement in Environmental Governance. *Natural Resources & Environment*, 18(4), 49-52.
- Massey, R. (2004). Environmental Justice: Income, Race, and Health. *Global Development and Environment Institute*. 1-19.
- McCrary, M. A. (1999). Who's On First: CERCLA Cost Recovery, Contribution, and Protection. *American Business Law Journal*.
- Mennis, J. L., & Jordan, L. (2005). The Distribution of Environmental Equity: Exploring Spatial Nonstationarity in Multivariate Models of Air Toxic Releases. *Annals of the Association of American Geographers*, 95(2), 249-268.
- Mohai, P., & Saha, R. (2007). Racial Inequality in the Distribution of Hazardous Waste: A National-Level Reassessment. *Social Problems*, 54(3), 343–370.

- Morello-Frosch, R., Pastor, M., & Sadd, J. (2002). Integrating Environmental Justice and the Precautionary Principle in Research and Policy Making: The Case of Ambient Air Toxics Exposures and Health Risks among Schoolchildren in Los Angeles. *Annals of the American Academy of Political and Social Science*, 584, 47–68.
- New York Department of Health. (1978). Love Canal. Retrieved from https://www.health.ny.gov/environmental/investigations/love_canal/lctimbmb.htm
- Norton, J. M., Wing, S., Lipscomb, H. J., Kaufman, J. S., Marshall, S. W., & Cravey, A. J. (2007). Race, Wealth, and Solid Waste Facilities in North Carolina. *Environmental Health Perspectives*, 115(9), 1344-1350.
- Park, L. S., & Pellow, D. N. (2004). Racial Formation, Environmental Racism, and the Emergence of Silicon Valley. *Ethnicities*, 4(3), 403–424.
- Pellow, D. N. (2001). Environmental Justice and the Political Process: Movements, Corporations, and the State. *The Sociological Quarterly*, 42(1), 47–67.
- Pellow, D. N. (2012). *Transforming the Ivory Tower: Challenging Racism, Sexism, and Homophobia in the Academy*. Honolulu, HI: University of Hawai'i Press.
- Pulido, L. (2000). Rethinking Environmental Racism: White Privilege and Urban Development in Southern California. *Annals of the Association of American Geographers*, 90(1), 12–40.
- Ready, R. C. (2005). Do Landfills Always Depress Nearby Property Values? The Northeast Regional Center for Rural Development. 27(1), 1-29.
- Zillow. (2015). Brentwood Los Angeles CA Home Prices & Home Values. Retrieved from <http://www.zillow.com/brentwood-los-angeles-ca/home-values/>



According to the Environmental Protection Agency, groundwater and soil samples indicate high levels of trichloroethylene (TCE), a metal-cleaning solvent, at Southern Avenue Industrial Area and the Jervis B. Webb Co., both located in South Gate. Photo by Fantail Media via Flickr Creative Commons.

Elena Ruiz Ramirez



Elena Ruiz Ramirez is a fourth year political science major. She transferred from Citrus Community College in 2014 and is expected to graduate from Cal Poly Pomona in June 2016. She plans to go to graduate school to begin a career in academia.
