Southern Chivalry: Perception of Health & Environmental Justice in a Small Southern Neighborhood

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Southern Chivalry: Perception of Health & Environmental Justice

in a Small Southern Neighborhood

by

Brian S. Brijbag

A thesis submitted in partial fulfillment of the requirements of the degree of Master of Arts
Department of Anthropology
College of Arts and Sciences

and

Master of Public Health
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Dedication

To my three children, Skylar, Micah, and Rachel, who serve to unbalance life for the better and remain my true North. And to my wife Stephanie, who tamed a menagerie and in turn, carried a greater burden for things more valuable than this project.
Acknowledgments

It must be recognized that this thesis is not the work of one man or mind. The contributions of many people helped form the thoughts and opinions held throughout. I would like to thank the people of South Brooksville, and those particularly in Mitchell Heights, for allowing me to intrude into their daily routine, to ask seemingly irrelevant questions, and for having the patience to nurture my understanding of their struggle. This project’s key informant, and the leading voice of the community, deserves a great deal of thanks for his time and knowledge that was shared abundantly. In this same way, the insight of the many scientists, politicians, and civil servants gave this project balance and credibility that is often missing from projects such as this and their trust in me is humbling.

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Skylar, Micah, and Rachel - I love you and remember … “All I Do Is Win!”
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List of Abbreviations

Agency for Toxic Substances and Disease Registry (ATSDR)
Areas of Concern (AOCs)
City of Brooksville (COB)
Community Development Block Grant Program (CDBG)
Creative Environmental Solutions (CES)
Department of Environmental Protection (DEP)
Department of Health (DOH)
Department of Public Works (DPW)
Finding of No Significant Impact (FONSI)
Florida Department of Health (FLDOH)
Health Resources and Services Administration (HRSA)
Hernando County Board of County Commissioners (BOCC)
National Association for the Advancement of Colored People (NAACP)
U.S. Department of Agriculture (USDA)
U.S. Department of Housing and Urban Development (HUD)
U.S. Environmental Protection Agency (EPA)
Remedial Action Plan (RAP)
South Brooksville Economic and Redevelopment Council (SBERC)
Key Terms

Environmental Injustice - Unfair treatment or involvement of people based on the person’s inclusion in a certain racial, ethnic or social class regarding issues of developing or enforcing environmental policies and regulations.

Environmental Justice - The belief that powerful social actors have neglected the rights of the victims of toxic contamination and those rights should be returned.

Environmental Racism - The concept that purports to the deliberate contamination of non-white communities due to race.

Health Perception - The self-assessment by an individual, or by knowledgeable proxy, to not just the individual’s absence of disease or injury, but also the holistic physical, mental or social well-being.

General Health - Health condition as it compares to other individuals in the age group of the subject.

Risk - Voluntary or involuntary exposure to something which may cause personal harm.
Abstract

This paper analyzes health risk and how it is communicated to, and understood within, a predominantly African American neighborhood in central Florida. Residents accuse the county department of public works of purposeful contamination and discrimination over a period of 30 years. I raise the questions of how risk is perceived and what roles race or class may play. I also developed a model for risk communication that includes all stakeholders. Finally, I expand the conversation of health disparities to include issues of widening gaps in perceptions of health.

This was examined by looking at the following:

1. The lack of documentation into the subjectivity of the health risk assessment process – i.e. the critique of science
2. The differing modes for creating, communicating, and receiving risk in which the resident’s perspective is not valued – i.e. the critique of power
3. The impact of race and class on furthering inequities and disparities in the environmental health risks message – i.e. the critique of policy.

Underlining Key Factors:

1. The residents of Mitchell Heights (emic) perceive the contamination at the former Hernando County Department of Public Works site differently than the experts/officials (etic).
2. Race and class are factors in both the perception of risk and the communication of
risk for the residents and the experts.

3. Policy concerning the determination and subsequent communication of risk is primarily concerning with the perspective of scientific data.

**Recommendations:**

1. As it relates to assessing environmental risks, there needs to be a development of a more holistic set of methodologies that incorporate diverse perspectives in a bi-directional knowledge exchange. This should allow for acceptable risk to be understood as co-created through negotiation and compromise between the measured and lived experiences. Ethnographic methods should partner with epidemiology and environmental sciences.

2. Once these mixed-method, holistic methodologies are field-tested, they need to be adopted as formal procedure by agencies responsible for the analysis and communication of risks. Risk should include the technical and the relational.

3. Policymakers must widen their understanding of what constitutes “policy relevant knowledge.” In addition, policies targeted at eliminating health disparities and inequalities need to value the broad differences the often exist in perceiving “health.”
Chapter One: Introduction

Introduction

In this chapter, I discuss the main anthropological issue and provide a brief structure for how the issue will be examined. Next, I will introduce this project and the research questions that drove this project. I will proceed to give details about the specific case that was studied as a part of this research and that will include some of the background of the area, the demographics, and the history of the conflicts in the community. In addition, I will discuss the theoretical positions that are important to the understanding of this research. From there, I will discuss the gap in the scholarly literature this project will address and then summarize the remaining chapters in this thesis.

Main Anthropological Issues

Concerns of environmental injustice are inherently social issues yet are embedded in scientific assessments and these two facets are often not aligned. How that scientific, quantitative data is collected, communicated and understood in a governmentally generated risk assessment is often done ignoring the cultural context in which that knowledge has been obtained and is distributed while also neglecting the experiences of those impacted by the hazard (Lejano and Stokols 2010:108). Considering this inherent conflict of perspectives, this project addressed the anthropological issue of how stakeholders - including scientists, politicians, and residents - construct environmental health risk messages. Scientists included those that identified as environmental scientists in academia, public health, or consultants.
Politicians are those elected to public office or are non-scientists that work for a governmental agency. Residents are those participants that reside in South Brooksville.

This was examined by looking at the following:

- The lack of research into the subjectivity of the health risk assessment process – i.e. the critique of science
- The differing modes for creating, communicating, and receiving risk in which the resident’s perspective is not valued – i.e. the critique of power
- The impact of race and class on furthering inequities and disparities in the environmental health risks message – i.e. the critique of policy.

**Introduction to Project**

Using this preliminary understanding of the main anthropological issue as both motivation and justification, this project focuses on exploring the differing health risk perspectives that exist in situations that are labeled “environmental injustices.” In particular, this research project has used as its case study the Mitchell Heights neighborhood in South Brooksville that is home to the five-acre site of the former Hernando County Public Works compound. This compound has a history of contamination, governmental avoidance, and resident agitation. The on-going discussions concerning Mitchell Heights have served as this project’s ethnographic core.

Using a low-income African-American neighborhood in a small southern town, this ethnographic research project studied how environmental risk assessments - its methodologies, communication and practices - have addressed both the measured and the lived experience of health risk. Furthermore, this project heavily examines how race and class can deepen a population's exposure to, and perception of, health risk.

This ethnographic project is designed to answer the following research questions:
1. How do the resident’s of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site, and how does the site affect their everyday lives?

2. How do government personnel, including the local Public Health officials, perceive the contamination at the former DPW site, the risks associated with the site, and how the site affects the lives of the residents of Mitchell Heights?

3. How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?

**Case Study Description: Brooksville, Florida**

During my time as the Redevelopment Coordinator for the City of Brooksville in the mid-2000’s, it was my job to research, document and recite somewhat inane facts about the history of the area. One of the most famous and controversial stories is the one surrounding the naming of the City which is the county seat in Hernando County, approximately forty-five mile North of the City of Tampa in Central Florida.

The name was chosen in 1856 to honor South Carolina State Representative Preston Brooks. Brooks was well known and revered in the South as a ferrous advocate of slavery and is famous for his severe beating of Senator Charles Sumner in the United States Senate (Hoffer 2013:526). Senator Sumner was an abolitionist who had recently disparaged Brooks’ uncle, Senator Andrew Butler, while in the mist of a prolonged anti-slavery speech (Hoffer 2013:527). This enraged Brooks so much so that he sought out Sumner and beat him with a...
cane to the point that Sumner was unable to serve in the Senate for three years (Hoffer 2013:531-532). The founding families in Hernando County felt this action by Brooks deserved to be memorialized and honored Brooks in the naming of their city “Brooksville.”

More than a historical footnote, this event serves as a point of reflection into the present as African-American residents of the city claim to still be living under the cane of Preston Brooks – their concerns ignored and their lives discounted (Loder 2006). Decades of perceived neglect - to neighborhoods, infrastructure and health concerns – have led to accusations of racism intertwined with small town politics. In a city literally divided by train tracks, there seemingly exist two very different dominating, and often competing, worldviews.

Figure 2: Southern Chivalry: Argument versus Club’s, 1856 - John Magee, New York Public Library

While these claims are made in many ways, none seems to be more fitting for inspection than those surrounding the use of, and later abandonment of, the Hernando County Public Works site located in the South Brooksville neighborhood of Mitchell Heights. Purchased for a single dollar in 1955, this five acre site in South Brooksville was used for
over 30 years as the county’s public works compound, housing diesel, gasoline, asphalt, kerosene, pesticides, paints and solvents on the property (Loder 2006). The county’s fleet refilling, road repair and mosquito control all operated on the small plot long Martin Luther King Jr Blvd. (Formerly Summit Ave) in residential Mitchell Heights (Loder 2006).

With a sloping landscape that runs toward the homes along A Street, stormwater runs across the site into resident’s backyards. Reports of spilled chemicals, open hazardous containers, employees rinsing off diesel soaked trucks and streams of sludge are all parts of the experienced lives in this blue-collar neighborhood (Loder 2006). For example, one weekend, backyards were covered in black sludge after someone left open a spigot on a tank of tar emulsion (Loder 2006).

Residents of Mitchell Heights have reported health issues such as cancer, respiratory irritation, skin rashes, asthma and headaches (Loder 2006). They attribute these illnesses to the environmental contamination documented at the former DPW site - among other commercial properties in the area - along with the lack of urgency in the site cleanup by governmental officials (Loder 2006).

Since the county moved its DPW site in 2003, the compound, and the environmental hazards have been well documented while clean up has been slow to move forward (Behrendt 2010). Missed deadlines and broken promises dot the historical narrative. The county has blamed misplaced paperwork and miscommunication as to why the site has remained

Figure 3: Map of Mitchel Heights (Tampa Bay Times)
contaminated (Loder 2006). Some residents have claimed that governmental inaction is due to the predominately African-American make-up of the residents of Mitchell Heights as well as an intentional plan by the community powers to decelerate South Brooksville property values (Loder 2006).

The county has begun another attempt to clean up the site outlines in a 2010 Remedial Action Plan. The project is slated to be completed in 2015 (Behrendt 2010). Nonetheless, residents of Mitchell Heights have filed a discrimination complaint against both the county and city with the U.S. Environmental Protection Agency claiming that the delays in the cleanup of the former DPW site contamination is due to deep-seated racial ideologies held by local powers. This ethnographic study examined what has brought both of those sides to this point, and more importantly, why this discussion even involves the establishment of “sides”, and how can an effective partnership be developed in the future.

Demographic & Geographic Data

According to the United States Census Bureau, the City of Brooksville has a total area of 5.0 square miles located within the 589.08 square miles that is Hernando County (US
Census 2010). It is the geographic center of the State of Florida and is located approximately 45 miles North of the City of Tampa.

<table>
<thead>
<tr>
<th>2010 Census</th>
<th>Brookville</th>
<th>Hernando County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, 2012 estimate</td>
<td>7,711</td>
<td>173,422</td>
</tr>
<tr>
<td>White</td>
<td>76.90%</td>
<td>91.00%</td>
</tr>
<tr>
<td>Black or African American</td>
<td>18.00%</td>
<td>5.50%</td>
</tr>
<tr>
<td>Persons below poverty level</td>
<td>23.40%</td>
<td>12.80%</td>
</tr>
<tr>
<td>5.0 sq. miles</td>
<td>589.08 sq. Miles</td>
<td></td>
</tr>
</tbody>
</table>

A look at the 2010 US Census (Appendix II) reveals some interesting demographic details. Hernando County has a population of 172,778 while the City of Brooksville has 7,719 residents within its limits (US Census 2010). Yet while the State of Florida has a population that is 16% Black, Hernando County only has 5.5% of its population which identifies as “Black or African American” (US Census 2010). The City of Brooksville is more in line with the states racial make-up in that it reports 18% “Black or African American” (US Census 2010). Furthermore, 12.4% of “Black or African American” live in the small subsection of Brooksville known as South Brooksville (approximately 950 residents), which includes the Mitchell Heights neighborhood that is often referred to as having around 250 residents or 65 homes (US Census 2010).

From this we can conclude that the area of South Brooksville stands in stark contrast to not only the remainder of the City of Brooksville, but to the rest of the county as well in terms of being primarily “Black or African American.” Also telling is the census data reports that the percentage of persons below the poverty level in Brooksville (23.4%) is much higher then the rest of the county (12.8%) and the number of black owned business in the city is so
small that it did not meet the standards for publication (US Census 2010). Not only is South Brooksville the bulk of the area’s black population, they can be said to operate less business and are most likely less well off financially.

The historical timeline (see Appendix 1 for a more in-depth historical perspective), plus the current demographic and geographic data, are pieces of the story of Mitchell Heights that provide the appropriate context for this project. What we find is that this information is not supplemental, but instead is crucial to understanding the experiences of the people living in Mitchell Heights today. To grasp the full claims of all the stakeholders, one must have a comprehension of the milieu within the details of each perspective.

**Discussion of Theoretical Position**

The analysis of those stakeholders is greatly influenced by my theoretical positions. No one theory can account for every interpretation of the collected result, and the studied perspectives are evaluated through specific theoretical lenses. The following is a brief overview of some of the theory that provides the framework for this research project. Not intended to be a review of the classical definitions and applications, this section instead shows how each theory is understood in relation to this specific research project. As a whole, they form the theoretical underpinning of this research.

**Anthropology of Policy**

As a more recent subfield branching out from political anthropology, the anthropology of policy is closely related to developmental anthropology. This theoretical framework has a focus on the institutions that drive policy creation and the discourse between these institutional experts and the local culture (Shore and Wright 2003). In particular, it is concerned with the ways that policy – in its formation, enactment, implementation, and local reception – reinforce structural biases and colonialism (Shore and Wright 2003). This type of
analysis will be found throughout the project as this research takes a critical look at all the stakeholder’s perspectives and the resulting policy issues.

Theory on Social Determinants of Health

As a concept given much weight in traditional public health work and anthropology, the theories surrounding the social determinants of health focus on communal and economic circumstances that impact the differing health outcomes of populations (Marmot and Wilkinson 2005). It attempts to account for health disparities, inequalities, and disease by valuing the social as well as the biological. This theory will be evident when population and individual vulnerabilities are discussed in relation to risk exposure.

Critical Race Theory

Critical race theory acknowledges the institutionalism of racism. It finds its place at the junction of race, law, and power. In critical race theory is the belief that power differentials are sustained from generation to generation with the assistance of an unbalanced legal system that favors perpetuating inequalities (Delgado and Stefancic 2012). In this project, critical race theory will be evident during discussions on the broader circumstances of racial discrimination that have a historical genesis and a systemic influence.

Marxist Theory of Racism and Racial Inequality

For Marx, racial inequality is an intentional device to cause conflict between the workers to the benefit of the capitalist (Bohmer 2005). If white workers identify as “white” as opposed to “oppressed”, they would be less likely to be sympathetic to the plight of other “oppressed but non-white” workers. This furthers a fragmented working class that weakens the workers ability to shed off exploitation. The worker cannot overcome the capitalist if the
workers are not united. Marxist theory can be found in the claims of the residents of Mitchell Heights. As they shared their experiences, it is evident that many feel their plight is a desired and intentional outcome of the seemingly powerful to splinter their community. Additionally, the residents view their situation as gathering very little support among those outside of the community.

**Structural Violence**

An encompassing term, structural violence is the theory that social systems and institutions can work on a macro-scale to impair individual’s from basic needs and dignities (Farmer et al. 2004). Racism is seen as a social institutional that harms a specific population, increases vulnerabilities, and marginalizes people from societal benefits (Farmer et al. 2004). These structural forces often are transparent due to our desensitization to their effects (Farmer et al. 2004). Structural violence is entrenched in our contemporary operational systems. Structural violence is seen in this project as the health of the residents of Mitchell Heights can be viewed as a product of colonialism, historical racism, and classism.

**Freirean Theory**

Based on the work of Paulo Freire in the realm of education, Freirean theory promotes that for freedom from oppression to occur, the oppressed must be given value and play a role in securing their own liberation (Smith-Maddox and Solórzano 2002). In essence, the oppressed must “wake-up” to their situation and develop the inner means to question and critique the dominant culture. Instilling value and awareness, through education and critical reflection, into the oppressed is the means to stir them to action (Smith-Maddox and Solórzano 2002). Student need to become partners in learning as opposed to an object that instead passively engages in learning (Smith-Maddox and Solórzano 2002). This project
concludes with recommendations that encourage a participatory relationship between residents and governmental officials. Building off the basic beliefs of Freire, the Mitchell Heights community would benefit from empowerment and ownership in shaping their future and that of their community.

**Motivation and Research Gap**

An anthropological study that gives values to all the stakeholders by creating a domain of “environmental justice knowledge” would be a valuable contribution to the research literature. The current literature privileges the “injustice” while neglecting the desired outcome of “justice” (Bullard 1990; Chavez 1993; Costner and Thornton 1990; Galea and Mony 2008; United Church of Christ 1987). As such, there is a need for anthropological study that focuses on the subjectivity in the creation and communication of the environmental health risk message. Such an assessment, from both an anthropological and public health perspective, that examines environmental health risk policy solutions combating engrained societal privileges and violences, would add to both discipline’s base of expertise in a manner that learns from the past and the present while seeking to work towards a positive future. Additionally, translating those environmental risk findings through issues of health inequalities, and their construction, is not a specific focus of anthropology. This thesis seeks to provide both, hence becoming part of an applied academia that resolves a gap in contemporary literature specifically concerning justice in risk assessment.

**Thesis Overview**

In chapter two I conduct a literature review. I will also examine the environmental policies and regulations that relate to remediation efforts in the United States and Florida.
Chapter three provides the study design and methodology. It will provide a greater familiarity of the research setting and procedures.

Next, chapter four will present the project’s results. First, I discuss the massive amount of archival data on Mitchell Heights and South Brooksville focusing on documents that addressed the research questions of this project. Using those research questions as a means of providing a framework, the results of the archival data and the semi-structured interviews are organized by research topic. Next, I present the results of the participant observation portion of this project in a narrative form. Finally, chapter four concludes with the results from the community survey, and the eliciting emic perspective and cognitive mapping exercises.

In chapter five I discuss my research results under the framework of the three research questions. I provide both research themes and findings, and then proceed to discuss them. I also provided a risk assessment communication model that I have developed that presents possible communication errors and a proposed model that seeks to address the weaknesses in communication.

In the final chapter, I review the main anthropological issue and relate my findings to the scholarly literature. In this chapter, I also examine how this project has contributed to both applied anthropology and public health. I follow that by offering my concise conclusions based on this project and the recommendations to address the raised concerns.

Due to the sensitive nature of this project, pseudonyms are used throughout the interview responses and participant observation sections. When people are identified in public records, their real names were used as appropriate.

**Summary**

In the introductory chapter, I presented the main anthropological issue and the specific claims this project critiques within that issue. In presenting the plan to address that topic, I describe and introduce this project as well as present a description of this project’s
case study. Next, I discussed the theoretical positions, and their interpretations and areas of influence, which served as the prevailing framework used during the analysis. I then discussed the motivation for this project and the research gaps that exist in the scholarly literature that are addressed by this project. Finally, I concluded with an overview of the thesis by providing a summary of each chapter.

Figure 5: Children play at a birthday party in a backyard along "A" street in Mitchell Heights under the shadows of the Hernando County DPW vehicles (Delaine 1985 - used with permission)
Chapter Two: Literature Review

Introduction

There are many paradigms concerning environmental health reflected in the academic literature. This review brings an anthropological lens to the topic and will do so by primarily looking at three previously identified themes: the concept of risk and how the term may have issues within environmental health, the validity of the science behind environmental risk assessments which are often interpreted to be a predictor of environmental health by the community members, and the structural forces of race and class as impacting environmental health. After reviewing these themes, this section will discuss environmental health as it has impacted health policy, the role of anthropological theory in environmental health, and criticisms aimed at the environmental justice movement.

“Risk” as a Problematic Term

Risk, in terms of environmental health, can be understood to be either a hazard or the probability of suffering a negative outcome due to an event or danger (Moore 2007:502). Yet how an individual understands risk can vastly differ. For the community, risk can be perceived to be “critical if they do not have control over the risk, or if the impact of the risk is close by” (Galea and Mony 208:2). Public health officials, by comparison, measure risk in terms associated with “providing decision makers with information that can be used to minimize risks” (Dyjack, Soret and Anderson 2002:309). One perspective understands risk as
closely related to their present experience of living while the latter views risk as a dataset that serves as a proxy for experienced life.

So “risk” is a problematic term in that, “it has long since been realized that ‘objective’ risk is not a sufficient explanation of perceived risk, not even for the experts, and at times the two differ widely” (Sjöberg 2004:51). Studies have shown that resident’s perceptions of risk can vary widely from those of the experts (Rodricks 1994:263). For these reasons, mistrust and accusatory claims are often the result of risk information traveling through cultural and social modes of construction. This is especially true in low-income areas or minority neighborhoods where distrust of authority figures is common and often historically justified. Conflicts arise due to the risk message unidirectionally passing from the etic perspective, to the resident’s perception of it, or the emic perspective (Morgan et al. 2002).

Neglecting to recognize these differences in perception, “objective” risk becomes a dominant conceptual framework in producing public health policy concerning environmental health risk. Policy discussion becomes an exercise in ensuring that estimated or measured “objective” risk falls below established regulatory thresholds. Yet Lejano and Stolkols conclude “community members experience environmental injury in ways that are deeper and more complex than this simple notion of risk” (2010:108). In other words, there is a gap between the expert’s “objective” risk and the resident’s perception of risk.

Residents have broader notions of place and visions of life than those presented in the typical risk assessment. They have a phenomenological approach to understanding risk (Casey 1993; de Certeau 1999). Their risk is an “experienced” risk in which the environmental concern enters into the lives of the residents in a very concrete way. The risk is experienced as part of the neighborhood landscape and is ever-present. Each health issue brings to mind the reality of the environmental situation by raising the question, “Am I sick because of what they did?” It becomes a contentious issue that needs a solution that
recognizes the need to resolve it contextually within the individual’s experience (Lejano 2006).

The Science of Quantitative Risk Assessments

Finding their beginnings during the environmental awareness of the 1960’s and 1970’s, public health risk assessments were initially designed by industry as a reaction to public opposition. The purpose was not on public safety but instead was an exercise in arguing that the benefits of industrial pollution outweighed the risks (Starr 1969). The Secretary of Health, Education and Welfare (now called the Department of Health and Human Services) issued several briefs using this same reasoning concerning the use of pesticides and industrial chemicals (Griffith, Aldrich and Drane 1993:219). Yet the American public rejected that reasoning and placed pressure that, coupled with high profile environmental disasters, led to the passage of The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980.

With the internal challenges the passage of the CERCLA presented for the EPA, and the political climate of the industry-friendly Reagan administration, the risk assessment found itself with a new purpose – a defense against criticism of the EPA’s regulatory decisions. Promoted by William Reilly, the EPA’s past director, the push for quantitative risk assessment actually arose with former EPA chiefs William Ruckelshaus and Lee Thomas (U.S. EPA, 1987). They positioned quantitative risk assessment as a basis for policy decisions when the federal courts and mounting citizen opposition challenged the accounting assumptions and the cost-benefit calculus of social impact that underlined EPA policy and air emission standards (U.S. EPA, 1987). The quantitative assessment of environmental health
risk offered the EPA “a common denominator … by which the agency could rationalize and defend” itself within the often hostile special interests climate. (Andrews 1994:217).

With the grassroots movement for environmental justice successfully blocking many new proposals for potentially hazardous sites, Ruckelshaus envisioned quantifying risk as a valuable “defense posture” against rising public sentiment against waste sites (Ruckelshaus 1983:51). Proclaiming that we must "reject the emotionalism that surrounds the current discourse," he offered "objective science" in the form of quantitative risk assessment, and its subjective application through risk management, to improve public confidence in the EPA's decisions (Ruckelshaus, 1983:54). Reilly concurred, noting "science can lend a measure of coherence, predictability, authority, order, and integrity to the often costly and controversial decisions that must be made" (Reilly 1991:3). Yet it can be argued that environmental science does not necessarily serve environmental justice because environmental science does not always consider the lived experience of environmental injustice (Brulle and Pellow 2006).

To illustrate that failing, we must examine the methodology behind the construction of a risk assessment. A risk assessment is developed by utilizing a wide assortment of knowledge from fields such as toxicology, epidemiology, environmental health, biostatistics, pathology and industrial hygiene. Risk assessments are typically completed in four stages (Moore 2007:510-512):

1. Hazard Identification

2. Dose-Response Analysis

3. Exposure Assessment

4. Risk Characterization
Each of these stages has issues inherent in its construction. There exist biases or uncertain assumptions that form the epistemological grid on which a risk assessment is based. A risk assessment is a collection of information given agency as an authoritative message. The production of a risk assessment is in fact the culmination of many scientific voices passing through numerous cultural spheres.

The Hazard identification stage is largely qualitative as the scientific voices concern themselves with gathering information to see if a specific exposure may have an adverse health effect of a population. There interest is in the nature, likelihood and evidence of any possible health risks (Hertz-Picciotto 1995:27-29). Yet hazard identification generally focuses on one health effect, or “endpoint”, at a time and ignores other possible harms (Israel 1995:483). Furthermore, hazards are studied under laboratory conditions which can be very different then that which the community is experiencing (Novotny 1998:141).

With a dose-response assessment, the scientific voices examine published quantitative data and prescribe risk as a relation between dose and adverse health effects. A dose-response analysis is often based on animal experimentations that are then extrapolated to humans. This is accepted despite the differences in reactions to chemicals between animals and humans (Israel 1995:483). Furthermore, these extrapolations often use healthy white males as its standard (Israel 1995:486).

In the exposure assessment stage, the scientific voices seek to identify the specific agent and determine both the duration and route of the exposure. In terms of assessing exposure, risk assessments generally overlook the multiple exposures and increasing vulnerability that many contaminated communities face (Novotny 1998). The risk for exposure may be increased due to issues such as race, class or gender. These are components of the resident’s reality that are often neglected when considering exposure. They result in
barriers, inequalities, and disenfranchisements due to the biases and power differentials inherent in the system where they reside. In other words, “Structural violence is one way of describing social arrangements that put individuals and populations in harm’s way… The arrangements are structural because they are embedded in the political and economic organization of our social world; they are violent because they cause injury to people … neither culture nor pure individual will is at fault; rather, historically given (and often economically driven) processes and forces conspire to constrain individual agency” (Farmer 2006).

At the final stage, the risk characterization component of risk assessment construction allows the scientific voices to combine the data learned through the previous steps into a ratio that predicts a population’s risk to a potential exposure. The inaccuracies and misgivings of the previous steps are pulled forward to present an “objective” account that is used to set governmental policy and regulations. The EPA acknowledges that this risk value has “uncertainty spanning perhaps an order of magnitude,” yet risk management decisions are “made as if these risks are precise point estimates” (Felter and Dourson 1998:246).

Despite the uncertainties, assumptions and biases, science is valued for its ability to deliver an objective resolution to issues concerning environmental risk assessments. Moreover, it is a uni-directional process with information flowing from scientist to passive recipient (Martin 1994). Yet science is far from being objective and is instead embedded in power relations and subjective interests (Brulle and Pellow 2006:103). In their classic cultural analysis of risk, Douglas and Wildavsky said, “there is a delusion that assigning probabilities is a value-free exercise” (Douglas and Wildansky 1982:71).

Somewhere in the production of this knowledge, it is forgotten that risk assessment estimates are inherently flawed and imprecise (Douglas and Wildansky 1982:71). This may
have much to do with risk communication. The public wants to know what their risk would be concerning a particular hazard with certainty and in succinct terms, rather than being explained through a quantitative process. It is also due to the risk scientists themselves who have become complacent in “using default positions/models to extrapolate risk … that they lose sight of the degree of uncertainty that is introduced with each extrapolated area” (Felter and Dourson 1998:246).

**Minority Status**

Risk assessments suffer as an effective tool in light of these differing perceptions of risk and the subjectivity inherent in its development. To further examine the weaknesses of environmental risk assessments, when looking at the issues concerning risk communication and minority communities, one must acknowledge the interplay between racism and the environment and the deep reaches of both. Colonialism, and the slavery era, are historical periods that engrained many of the nonecological elements that impact environmental injustices today (Gish 2004:19). The 1863 order freeing the slaves in the Confederate States moved blocks of people from one form of slavery to another (Belohlavek 2013:673). Issues of inequality were not solved by the attainment of “freedom.” In 1896, Plessy vs. Ferguson allowed segregation under “separate but equal” conditions (Butler 2013:1344-1346). This set forth a battle that gave birth to the civil rights movement. Many involved in today’s environmental justice effort see their work as the logical, moral and tactical heir apparent of that earlier civil rights struggle (Downey and Hawkins 2008:759).

There is a general consensus that people of color and those of the lower classes experience disproportionate exposure to hazardous waste and pollution (United Church of Christ 1987). Adverse exposures have been documented for air pollution and lead among urban African Americans (Perlin, Setzer, Creason, and Sexton 1995; Gelobter 1992; Gottlieb 1993:244-250), pesticide contamination for Chicano farm workers (Moses 1993; Chavez

Turning to intent, however, evidence for overt targeting by minority status for hazardous sites is largely circumstantial. Moreover, the actual data supporting the conclusion that minority status of the community is the central determining factor with hazardous site location, have been challenged as less significant than age, income, and other demographic variables as siting predictors (Greenberg 1993). In addition, studies suggesting minority status as the key-siting determinant have been questioned for using inappropriate statistical tests to evaluate differences among population subgroups and for ignoring the racial composition of the community at the time of the initial decision to site a facility (Hamilton 1995, Greenberg 1993). Others have questioned the implication of racist intent with any disproportionate burden and suggest, instead, that the observed outcome is merely the result of housing market efficiency – these lands tends to be the most economically distressed properties hence attracting both the poor and industry (Been 1994).

Hence, feelings of mistrust and mistreatment may be the result of the biases and assumptions built into the risk assessment process, the historical realities and the neglect of acknowledging the differing worldviews between “objective” risk and experienced risk (Lejano and Stokols 2010). Compounded by historical, structural and everyday violence, they may further the “risk assessment gap” related to experienced risk which is often ignored by risk assessment public health policy.

While the methods and science of a risk assessment are well documented, little work has been done into examining the subjectivity of a seemingly objective process (Checker 2007). Using a specific case study, this work will follow risk perception from assessment
genesis to community consumption. This research investigated the weaknesses in the construction of risk, the issues that follow with the communication of risk and the problems that come from differing risk perceptions.

**Historical Timeline of Environmental Scholarship**

The anthropology of environmental injustice must be contextualized within the greater focus of environmental anthropology and medical ecology. Often associated as an applied discipline, environmental anthropology built upon the approaches of cultural ecology (Little 1999:261). Cultural Ecology and its associated theoretical and methodical framework were formulated in the 1950’s by Julian Steward (Sponsel 2007). The 1960’s to the 1980’s saw the transformation from cultural ecology to an ecologically based anthropology through the work of anthropologists such as John Bennett, Roy A. Rappaport and Andrew Vayda (Sponsel 2007). In the 1990’s, environmental anthropology widened as its scope to incorporate the historical, political and spiritual into its research of human ecology (Sponsel 2007).

During this time several other key events took place. Marine Biologist Rachel Carson wrote, *Silent Springs*, a book that exposed the negative implications on the use of DDT in 1962. Ten years later, the U. S. banned the use of DDT. The Civil Rights Act was passed in 1964 prohibiting the use of federal funds to discriminate based on race. In 1971, the *President’s Council on Environmental Quality* annual report acknowledged that racial discrimination adversely affected the health of urban poor and the quality of their environment. Then in 1987, the United Church of Christ Commission for Racial Justice issued the famous *Toxic Waste and Race in the United States Report*, which was the first national study to attempt to show a correlation between waste facilities locations and race.
Important Cases

The most visibly historic case of environmental injustice, and often credited with the creation of the environmental justice movement, is the Warren County PCB Landfill in Warren County, North Carolina. It is where the environmental movement met the civil rights movement. The population of Warren County in 1980 was 54.5% African-American with an average per capita income of around two-thirds of the rest of the State (Colquette and Robertson 1991:157). In 1979, the North Carolina Department of Environmental and Natural Resources, along with U.S. Environmental Protection Agency (EPA) Region 4, selected Warren County as the site to deposit PCB contaminated soil, which was declared by the EPA to be a threat to public health (Bullard 2004).

In 1982, the National Association for the Advancement of Colored People (NAACP) filed a lawsuit to block the landfill but lost the case (Bullard 2004). The citizens of Warren County, along with civil rights groups, environmental groups and religious groups, protested the delivery of the contaminated soil to the landfill (Bullard 2004). Over 500 people were arrested and jailed during the protest (Bullard 2004). The plans moved forward and the toxic waste was placed in the landfill (Bullard 2004). Two decades later, State and Federal sources paid to detoxify the contaminated soil at the Warren County Landfill to the tune of 18 million dollars (Bullard 2004).

Two more recent cases, which received much attention within anthropology, are those surrounding Hurricane Katrina and the BP Deepwater Horizon Disaster. Both events could be labeled as some of the worst environmental disasters in U.S. history. Wright has done research into both disasters and how issues of race impacted the unequal distribution of recovery resources and how they created structural biases for the marginalized (Wright 2011:4). Wright describes the political and socioeconomic reasons why these environmental disasters have had disproportionate environmental effects on the poor and people of color of
the Gulf Coast (Wright 2011:4). What has been cleaned up, what gets left behind, and where
the waste is disposed has “more to do with politics and class than with toxicology,
epidemiology, and hydrology” (Wright 2011:4). The environmental effects of Hurricane
Katrina and the Deepwater Horizon oil spill were neither natural nor accidental (Wright
2011:8). They exemplify public policies that result in low-income and minority communities
having disproportionate environmental exposures to air toxins, hazardous wastes, and other
environmental dangers (Wright 2011:8).

In this same vein, anthropologist Checker’s engaged ethnographic study (2005)
entitled “Polluted Promises” sought out the historical, political and racial struggles of a poor
African-American community in the Hyde Park swamplands surrounding Augusta, Georgia.
Checker explores why the population settled and remains in that situation (Checker 2005).
She centers her work on the “disproportionate sitting of hazardous waste facilities in
communities of color” (Checker 2005:14). The residents of the Hyde Park area suffer from
being poor and black and believe that their situation has “95 percent to do with race”
(Checker 2005:94). Checker builds a case to support her claim of institutional racism as the
determining factor of the environmental injustice that Hyde Park residents face.

These “plumes of smoke” and “rivers of chemical” had a severe impact on the
residents of Hyde Park (Checker 2005:6). The community, in particular the children, suffered
from “rashes, lupus, respiratory and circulatory problems and rare forms of cancer” (Checker
2005:6). While each report mentioned the toxic chemicals, the number and extent of health
implication were always in influx (Checker 2005:7). How risk was determined and
communicated was vastly different among the actors in this situation. The positions of the
officials were rooted in the seemingly objective risk data while the residents lived immersed
in an experimental risk (Checker 2005, Lejano and Stokols 2010).
Empirical Evidence

There are three groundbreaking published original empirical studies that have focused on the relationship between environmental hazards and community demographics. They are:

I. The objective of the U.S. Government Accounting Office (1983) study was to determine “the correlation between the location of hazardous waste landfills and the racial and economic status of surrounding communities” (Anderton et al. 1994:230). It concluded that the majority of the population surrounding three of the four studied facilities was African-American (Anderton et al. 1994:230).

II. The United Church of Christ’s Commission conducted the most widely discussed empirical study for Racial Justice (UCC) in 1986. The UCC study sought to “document the racial and socioeconomic characteristics of Americans living in areas surrounding commercial hazardous waste facilities” (Anderton et al. 1994:231). The study found that, in 1986, the “percentage minority population was twice as great in areas with one commercial hazardous waste facility as in areas that did not contain a commercial hazardous waste facility” (Anderton et al. 1994:231).

III. In 1992, Mohai and Bryant attempted to access racial biases in regards to the distribution of hazardous waste facilities surrounding the city of Detroit. They theorized “race is more importantly related to the distribution of these hazards that income” (Anderton et al. 1994:231).

Anthropology of Environmental Health

Much of the anthropological literature regarding risk perception and assessment attempts to highlight the lack of contextualization of the official response and this is often accomplished through the study of environmental disasters and health. Cernea’s Impoverishment Risks and Reconstruction Model (IRR) seeks to explain, diagnose and plan
for the risks intrinsic within environmental disasters that further exacerbate socio-economic inequalities (Cernea 2000). Tobin and Whiteford call for risk interaction during and after environmental disasters that “facilitate both vertical and horizontal communication” (Tobin and Whiteford 2007:376).

Moreover, the anthropological literature proposes that as vulnerability increases, risk increases for the individual (Wisner et al. 2004:49). These vulnerabilities are the product of socio-economic inequalities which exists between classes and are exasperated by race as a driver to further expose vulnerabilities. Work must be done to understand the relationship between risk – a probability that a scenario will occur – and vulnerability – the potential of greater negative impact to be incurred by the possible occurrence of the scenario - within the reality of the individual’s life. It is vulnerability that acts as a force applying pressure on one side while the environmental hazard presses in from the other. Wisner explains it as a “nutcracker” of violences (structural, historical and everyday) on one end while the pollution, contamination and health maladies apply pressure from the other (Wisner et al. 2004:50). Vulnerability – poverty, lack of education, minority status - increases the “experienced” risk so that a community shares risk unevenly. In this way, within a vulnerable population, individuals may have varying levels of vulnerability that need to be accounted for and addressed.

Furthermore, this risk level is mired in knowledge and power differentials where the vulnerable individual’s agency is negated. The “objective risk” derived from science and touted by the experts are communicated in a unidirectional process of exchange to the community (Stoffle et al. 1991:612). This assumes that the public will make their determinations of risks utilizing the same science (Stoffle et al. 1991:612). Anthropologists are making the argument for the locally defined risk as opposed to the etic perception
currently utilized by risk science (Stoffle et al. 1991:612). Stoffle et al. have said that, “community sovereignty should be respected at all times” (Stoffle et al. 1991:630).

To assist in valuing local voice, anthropologist Theresa Trainor helped develop a guide through the Environmental Protection Agency (EPA) and their Office of Sustainable Ecosystems and Community (OSEC) that aids in collecting descriptive data in terms of social organization and perceptions of local people. This is an attempt to capture the emic perspective and incorporate it in the risk assessment process. This is a key output of the cooperative agreement between the EPA and The Society for Applied Anthropology (SfAA). Trainor’s *Community Culture and the Environment* is a tool to be used by environmental risk assessors to “partner with community members to lead to greater public support and involvement to better environmental protection” (EPA 2002).

Anthropology finds its place in widening the conversation to value the voice of the vulnerable who are often in their position due to issues of race. By bringing to light the historical issues that create vulnerabilities for specific populations, and exposing the systematic violences that further greater individual susceptibility, anthropologists play an important role in combating the social underpinnings of race construction (Martin 1996:256). For the scientific community, race fails as a classification system, but for much of society, it works remarkably well as a means to justify discrimination, persecution, and exploitation. Race has become a key factor furthering environmental infractions and racism has become synonymous with environmental injustice.

**Etiology of Environmental Racism**

There are difficulties in creating an all-encompassing definition for “environmental racism” due to the increased conflict between stakeholders concerning placement of blame and determining intent. It might be appropriate to say that environmental racism is “the idea
that nonwhites are disproportionately exposed to pollution” and hence suffer greater risks to certain illnesses (Pulido 2000:12). A former head of the NAACP, Benjamin Chavis, considers environmental racism to be “ … the deliberate targeting of people of color communities for toxic waste facilities and the official sanctioning of life-threatening presence of poisons and pollutants in people of color communities” (Fisher 1995:289). Robert Bullard, often referred to as the “father” of environmental justice, defines it as “any policy, practice, or directive that intentionally or unintentionally, differentially impacts or disadvantages individuals, groups, or communities based on race or color; as well as the exclusionary and restrictive practices that limit participation be people of color in decision-making boards, commissions, and staffs” (Fisher 1995:290). In other words, there is a greater “risk” placed on a group – vulnerabilities - because of an environmental hazard due to the groups’ racial, cultural or economic make-up – the social construction of environmental racism.

Conversely, the environmental movement has introduced the world to an “ecological interdependence” between nature and humanity (Di Chiro 2006:98). The biotic and abiotic are given form and meaning by the cultural context where they intersect and hence, are dually affected by stressors placed onto that system. Anthropology can help make the connection of that biological interdependence to the cultural issues of racism and health. Ethnography addresses health disparities and risks due to racial inequalities while challenging or supporting the assumptions that link structural inequalities to health (Gravlee and Sweet 2008:44). Within the discipline of anthropology, one “seeks to identify the social origins of distress and disease” and places health inequalities due to environmental stressors in place among politics, history and ideology (Janes and Corbett 2009:407). This has allowed varied responses, and hence explanations, to redirect the focus from “risky behaviors to structural factors that constrain or determine behavior” (Janes and Corbett 2009:407).
Medical anthropology highlights racism specifically as a driver of environmental injustice that shows that “poverty and other social inequalities come to alter disease distribution and sickness trajectories through innumerable and complicated mechanisms” (Farmer 2001:13). These inequalities compounded by racism lead to further increase the risks of the marginalized that are embodied and can cause greater adverse outcomes (Farmer 2004:305). Farmer refers to these “sinful” social structures, such as racism, as “ostensibly nobody’s fault” while acknowledging that it is everyone’s responsibility (Farmer 2004:307).

**Criticism of Racism as the Basis for Environmental Injustices**

Racism as a factor in environmental injustices - often due to the highly volatile political and financial implications of its charges - must contend with several challenging critiques of its conclusions. There are agreements among all concerned that distinctions based upon race are pervasive in American society. Also, all would most likely agree that racism exists and that environmental health issues exist. Yet these facts alone do not dictate that an environmental injustice based on race has occurred in any particular situation.

One of the main criticisms levied against those within the political and social environmental injustice movement is that of making an assumed connection pointing to racism and the linkage of waste sites and minority communities. Instead, some would argue, the connection is purely an economic one (Jefferys 1994:666). Minorities are often poor and own cheap land. Businesses looking for waste sites rank cost of land as a major factor. It is only natural then, with entities looking for the cheapest land, and with poor minorities often living on the same cheap land, you would find that waste sites and poor minority communities would be neighbors. Certain critics would conclude that the selection of waste sites is not, being based on the economic facts, intentionally discriminatory.
Also, black communities are often seen as pushovers, lacking community organization and having no environmental consciousness (Bullard 1990). Minority groups also tend to take a very pro-jobs stance on community-based issues. With this, many of the critics of those claiming racist motives say that the environmental and health risks are a fair trade-off for jobs and a broadened tax base in an economically depressed community (Jefferys 1994:666).

In terms of the health implications of environmental racism, the community’s health problems are blamed on lifestyle choices as opposed to, for example, issues of toxic waste in the groundwater. It is “lack of exercise,” “poor dieting” or “unhealthy habits” such as smoking or alcohol consumption that are the focus of the finger wagging (Checker 2005:124). In the same manner, a community might be told that their perceived health issues are merely “figments of their imaginations” (Checker 2005:124).

Finally, one last major criticism recognizes the existence of environmental injustices based on race but downplays their impact. Some critics contend that if 100% of environmental disparate impact were eliminated, the real problems confronting the poor and minority communities would still be unaddressed (Jefferys 1994:667). There exists a legacy of discrimination, such as in the areas of housing, employment and education, which are nonecological in nature and a part of neocolonial hegemony (Jefferys 1994:667). For example, it is argued that real estate agents often steer minority homebuyers into contaminated communities due to economic and social concerns (Jefferys 1994:667). These issues would remain problems; it is reasoned, regardless of the environmental state of the community. In a society where one is trained to place blame on an individual, the realization that societal imbalances are the result of structural forces - normative, prodigious, and seemingly indomitable powers - is uncomfortable and leads to complacency, self-defeat, and indifference towards inequalities (Farmer 2004:307).
Regardless of the impact of racism in perpetuating environmental injustices, inequalities exist at a level incorporating, yet existing beyond, the individual. To combat environmental injustice, public policy changes must address the negative impacts of racism. Throughout multiple levels of government, laws and regulations seek to promote and secure environmental justice.

**Policy Implications**

States have continued to be innovative in regards to their tackling of environmental injustice issues. It is often through permitting and facility location decisions that a focus for environmental injustice issues enters states policies. Much of the legislative work has been done in the area of land use planning and techniques for buffering community impact (College of the Law Public Law Research Institute 2010:4). Many states now account for environmental injustice and racism in brownfield grant programs by requiring an examination of the socio-economic character of populations living near the proposed site to be funded.

There are also policies, both in the U. S. and abroad, which address issues of environmental injustice and public health. The Civil Rights Act and the Clean Air Act are examples of legislation often found at the center of most environmental injustice conflicts. Yet the most directly enacted federal policy in the United States is Executive Order 12898 (EO 12898), issued by President Clinton.

In addition, the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), which required the U.S. Environmental Protection Agency (EPA) to locate and prioritize the most severe sites for remedial action, was created in response to the controversy over the Warren County PCB Landfill (Fisher 1995:286). This well-known fight over the dumping of toxic materials is largely credited with being at the genesis of the environmental
justice movement. Considered a landmark case, this event concerning a landfill in North Carolina ushered in an era in the 1980’s where minority and low-income neighborhoods fought to keep environmental hazards out of their communities and away from their families (Fisher 1995). CERCLA implemented a federal program were the most threatening sites were prioritized through the Superfund list which listed which sites would receive federal funding for remediation (Fisher 1995).

Ideally, the process of moving a site onto the federal Superfund list would be solely related to assessing the severity the hazard posed to the surrounding the population (Maantay 2002:166). However, socio-cultural forces began to shape Superfund listing procedures. A population with an increase in minority population, families in poverty, or people without a high school diploma all lower the chances of Superfund listing (O’Neil 2007:1090). According to a study by O’Neil, a “10% higher minority population lowers the chance of a Superfund listing by 2%, whereas a 10% higher poverty rate lowers the chance of being listed by 13%” (O’Neil 2007:1090). He goes on the state that “a site with a $10,000 higher mean income has a 9% greater chance of making the Superfund list” (O’Neil 2007:1090). Thus socio-cultural factors such as race and class influenced the politics behind securing Superfund dollars in a manner to hinder poor and minority communities.

Yet the “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” states that environmental justice and equality must become part of the mission of each federal agency (Clinton 1994). These agencies are required to incorporate programs and policies that identify and address issues that disproportionately impact minority and low-income populations (Clinton 1994). They develop these strategies by:
1. promoting enforcement of all health and environmental statutes in areas with minority and low-income populations;

2. ensuring greater public participation;

3. improving research and data collection relating to the health and environment of minority and low-income populations; and

4. identifying differential patterns of consumption of natural resources among minority and low-income populations.

(Executive Order 12898 1994)

EO 12898 is a federal response to the failings of the Superfund program, a program by which the EPA prioritizes its response to hazardous sites, in its attempt to regulate the market concerning the risk distribution of hazardous sites. Yet according to a report by the US Inspector General in 2004, the EPA’s use of EO 12898 has not satisfied its stated objectives as it “has not identified minority and low-income, nor identified populations addressed in the Executive Order, and has neither defined nor developed criteria for determining disproportionately impacted” (Martinez-Alier 2013:1).

EO 12898 fails to serve its function in several ways. Most notably is it own existence as subjugated to the changing political climates. During the Clinton era, the EO appeased two key constituencies – environmentalists and social justice activists – thus serving a greater political agenda and helping to satisfy campaign promises to vital partners. During the presidency of George Bush, its objectives all but vanished as it did not prove necessary to the administration’s direction. The Bush administration tended to favor regulations that privileged large industries such as big oil and stricter environmental protection polices would stand in opposition to those policies (Martinez-Alier 2013:1). In 2011, Barack Obama issued the “Memorandum of Understanding on Environmental Justice and Executive Order 12898” which states that “all communities overburdened by pollution – particularly minority, low
income and tribal communities – deserve the same degree of protection from environmental and health hazards, equal access to the Federal decision-making process, and a healthy environment in which to live, learn, and work” (Martinez-Alier 2013:2). Ultimately though, EO 12898 lacks the clout to weather the political waves of ideological change.

EO 12898 also has limitations on its effectiveness in that it does not provide a right to a judicial review (Gerber 2002:47). Citizens trying to seek relief for environmental concerns based on injustices through the courts cannot rely on EO 12898. The presidential action lacks judicial or legislative support and thus is often not cited in final rulings concerning environmental injustice actions (Gerber 2002:50).

Federal policy pertaining to environmental justice issues also suffers due to the fact that these are state constituted and local concerns (Guha 2007). While the federal government maintains some oversight, hazard practices remain primarily under the purview of the state and local government (Guha 2007). This has led to a weakening of federal policy as they relate to environmental justice issues.

Furthermore, environmental policy in the United States has influenced international environmental laws. Conversely, U.S. environmental policy has also been shaped by regulations established outside of the U.S. To gain an understanding of the impact of macro-level policies on local realities, a brief survey of large-scale, administrative attempts to assure environmental justice provides broader context.

**Laws and Regulations Impacting Issues within Environmental Justice**

- **Clean Air Act – December 1963**

  A United States Federal Law that requires the Environmental Protection Agency (EPA) to protect the public from airborne contaminants that can be considered to be hazardous to human health.
• Toxic Substances Control Act – October 1976

A law passed by the United States Congress that regulates the introduction of new or already existing chemicals.

• Comprehensive Environmental Response, Compensation and Liability Act – December 1980

A United States federal law that created the Agency for Toxic Substances and Disease Registry (ATSDR) and provided the federal authority to enforce the clean up by responsible parties.

• The Emergency Planning and Community Right-to-Know Act – October 1986

A law passed by the United States Congress and signed by President Ronald Regan that requires locals governments to provide citizens with information concerning hazards present in their communities.

• Basel Convention – March 1989 (Enforcement in 1992)

International treaty that reduced the movement of hazardous waste between nation with a specific focus of preventing the transfer of hazardous waste from developed to less developed countries.


A treaty of twelve nations of the Organization of African Unity that prohibited the import of hazardous waste.

• Executive Order 12898 – February 1994
An order signed by President Bill Clinton that focused federal attention on the environmental and health conditions of minorities and low-income populations. It seeks to achieve environmental protection for all communities.

  Deals to the transportation and importation of hazardous chemicals including the use of proper labeling, safe handling and validity of information exchange.

  International environmental treaty that seeks to eliminate the production and use of persistent organic pollutants.

  An act of the Parliament of the United Kingdom that attempted to limit and control compensation awarded to injured parties due to environmental negligence of large corporation in the UK.

**Brownfield regulations and programs in the United States**

United States federal code defines a brownfield site as “real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of hazardous substance, pollutant or contaminant” (42 U.S.C. § 9601{39}). Of the more than 400,000 estimated brownfield sites in the U.S., half have petroleum contamination (Vorsatz 2011). As an example, since early 2009, approximately 2,300 auto dealership sites have closed nationally (Vorsatz 2011). The combination of all these closed auto dealerships in terms of land is comparable in size to Manhattan (Vorsatz 2011). Most auto dealerships are well-suited for adaptive reuse or development.
To address these, and other types of brownfields, there are numerous funding opportunities including:

- EPA Assessment Grants
- Clean-Up Grants and Revolving Loan Funds
- Targeted Site Assessments (EPA/States)
- HRSA from the 2010 Patient Protection & Affordability Care Act
- HHS Community Transformation Grants
- HHS Healthy Food Financing Initiatives

Since 1995, the EPA has awarded 2,617 Brownfields grants totaling more than $778 million (Vorsatz 2011). This money has allowed for assessment of more than 15,705 properties, generated over 64,131 jobs and helped leverage $14.4 billion dollars of funding from the private and public sector (Vorsatz 2011). Approximately 30% of the properties assessed by EPA grantees do not require cleanup (Vorsatz 2011). Only 2% of the typical soil cleanup projects cost over $100,000 (Vorsatz 2011).

**Brownfield regulations and programs in the Florida**

The State of Florida defines a brownfield as “real property, the expansion, redevelopment, or reuse of which may be complicated by actual or perceived environmental contaminations (§ 376.79{3}, Fla. Stat.). The statutes further define a brownfield are as being “a contiguous area of one or more brownfield sites, some of which may not be contaminated, and which has been designated by a local government by resolution (§ 376.79{4}, Fla. Stat.).

Statewide there are 262 current brownfield designations as of 2011 (Houston 2011). Yet there are over 25,000 petroleum contaminated facilities in Florida (Ballogg 2011). Since the inception of the State’s brownfield program, there was been over 1.6 billion dollars in capital investment and the creation of 13,163 direct jobs (Houston 2011).
Brownfields to Healthfields

With a growing number of potential brownfield sites, and a strong health-related economy, there has been an effort to utilize multiple funding sources to support the development of community-based health care during the brownfield redevelopment process. These harmful sites are often in neighborhoods that lack suitable, convenient medical facilities and services thus compounding the vulnerability of the residents. In addition, due to the industrial character of brownfield sites, community members find themselves in a “food desert” – having inadequate affordable, healthy food options within a suitable distance to their homes. This move to transform brownfields to community health assets provides multiple benefits as not only are contaminants removed from communities, but the projects improve healthcare and the overall wellbeing of the community (Ballogg 2011).

This is partly accomplished through a national action agenda to promote “Improving Access and Health Care Through Brownfields Redevelopment” (Ballogg 2011). This plan works towards developing links between brownfield and healthcare funding and redevelopment opportunities (Ballogg 2011). The objectives include developing a model of moving brownfields to healthfields by developing case studies and resource guides to encourage this dual community benefit as a attainable outcome (Ballogg 2011). As they seek to connect programs from places such as the EPA, HRSA, HUD, ATSDR, local government and private stakeholders, the promoters of the brownfield to healthfield initiative also succeed in putting together extremely competitive grant proposals.

This focus is of great importance as many brownfield communities also suffer from health disparities. Improving access to health care can go a long way to addressing these disparities among a vulnerable population. When creating healthfields, one seeks to add community-based health clinics, vision and dental care and urgent care clinics. As well as focusing on health care, the “healthfield” philosophy seeks to improve access to healthy food
choices, target food desert issues, and might help eliminate childhood obesity by improving recreational space.

Summary

In this section, I reviewed literature directly related to this project’s three research questions. I looked at the issue of risk, the science of a risk assessment, and the history of racism and classism as they relate to environmental contamination. I also looked at some examples of environmental scholarship and highlighted important legal cases. From there I presented literature within anthropology concerning environmental injustices, the cultural basis for these inequalities, and the structural drivers of racism impacting environmental injustice. Challenging these statements, I detailed several criticisms targeted at racism being the driver of environmental injustices. In conclusion, I finished this section with a discussion on the use of policy to address environmental inequalities that included an overview of brownfield regulations and remediation to examine government programs created to recognize and address environmental health concerns and injustices.

It has been shown that environmental injustices, particularly in the United States, have a long history that is anything but simple. In each situation, there exist large systematic forces that must be acknowledged and accounted for as they create layers of cultural context impacting the objectivity that science claims for it’s conclusions and the resident’s acceptance of experts. The measured risk of science and the lived risk of affected communities both have real value and must be considered when confronting environmental health concerns. Policy, however, still primarily relies primarily on what it deems the objective truth of science, and has been slow to address the social aspect of environmental injustices. This project’s case study gives prominence to the divide between measured risk and experienced risk in a manner that reveals the larger cultural stage where environmental injustices are developed,
fought over, and ultimately settled. Yet by neglecting the immense social framework driving
inequalities, the underlining issues are never truly resolved and, as the case in Mitchell
Heights will show, continue to foster mistrust, enmity, and obstructions.
Chapter Three: Methods

Introduction

This section will detail the research methodology. I will begin by restating the research questions and the research setting. From there, I will present this paper’s hypothesis. Organized by method type, the approaches utilized included archival data, participant observation, semi-structured interviews, cognitive mapping, ethnosemantic analysis and community surveys. Sample size and inclusion criteria will be described for each methodology. Finally, this section will conclude with a discussion on the ethical considerations and the approach to the data analysis.

Research Questions

This project addressed the following research questions:

1. How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?
2. How do government personnel, including the local Public Health officials, perceive the contamination at the former DPW site, the risks associated with the site and how the site affects the lives of the residents of Mitchell Heights?
3. How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?
Research Setting

The setting for this research primarily took place in Hernando County, Florida with a majority of the interviews and group functions occurring in the area surrounding the City of Brooksville. Participant observation was conducted through the South Brooksville Economic and Redevelopment Council with the residents of Mitchell Heights and expanding into the greater South Brooksville area. The cognitive mapping exercise and the ethnosemantic analysis component were conducted at the offices of the SBERC. The community surveys were completed by walking through the neighborhood and visiting with residents in their homes. Interviews with environmental scholars took place in their offices at the University of South Florida. Interviews with public health officials, local governmental employees, and project consultants occurred at their respective offices. Interviews with individuals in Tallahassee and Washington D.C. took place through email or by phone.

It is important to note that most of the interviews with residents were held in the homes of residents after an introduction by the project’s key informant. I was made aware early on of my position as a white, male researcher from a university and the impact that would have on those residents I would contact to interview. The resident interview setting caused a greater cultural adjustment on my part than did the interviews with governmental and scientific figures.

Hypothesis

This project has as its hypothesis that risk is culturally contingent and socially constructed. It is the neglecting of this construction, and the lived experiences encompassed within historical and structural violence, that are ever-present in the claims of discrimination, mistrust and lack of cooperation often purported by residents living under risk.

For an example of that context, the public health worker, regardless of race, has a desire to secure the health of all communities. The public health worker really believes there is no
immediate harm when they rely upon science to determine risk. Yet the public health worker sees the health risk claims of the residents as “crazy” and “misinformed” and that judgment is greatly rooted in a systemic history of racism and classism.

Similarly, the resident wants to trust and believe the public health worker when told that there is no immediate health risk from the contamination. Yet the resident passes these claims through an experiential lens. The resident hears the claims of the public health worker through the systemic history of racism and classism that produces mistrust and results in non-compliance.

Privilege and Positionality

It is important to acknowledge my privilege and position as a white, male, middle-class university researcher working in a predominately black, lower class and blue-collar community. There is the reality of a separation between my research participants and myself when I conducted research in South Brooksville. Being conscious of this, I worked hard to minimize its impact.

The use of a key informant in the community offered a means of buffering the differences by allowing me to build upon the reputation of my key informant. Especially in a situation as the one this project has tried to capture, the black residents may not feel like they were able to speak honestly with a white researcher. I made my agenda clear - that this work would help me attain graduate level degrees - so as to start from a place where my objectives were well understood.

When I spoke to the governmental officials or the scientists working on this project, the gap was greatly reduced. All but one of these individuals, and the one also happened to be a resident, were white and seemingly at least middle class. They were also educated - products of the same academia I represented. They were “more like me.”
Methods

Archival Data – The records concerning Mitchell Heights are spotty at best yet there are several key documents. The Tampa Bay Times published a special feature on the site in 2006 that included an online multimedia presentation (“Toxic Indifference,” last modified April 28, 2006, http://www.sptimes.com/2006/04/09/Tampabay/Toxic_indifference.shtml). With connections to both the city and county, I was able to gain access to some internal correspondence concerning state inspections and cleanup efforts. Also, the Florida Department of Health had available a 2007 report of site testing with results (Florida Department of Health 2007). OCULUS is an online government database with many records concerning the DPW site. Through a freedom of information request, I was able to receive 19 previously unreleased documents concerning the site.

Archival data was key in identifying critical events and placing them in chronological order. They also helped guide the later interviews to be done with residents and officials. The information gathered through collecting and sorting through the archival data was synthesized into a report detailing the most pertinent facts for reflecting and is offered as part of the results.

The documents selected were chosen out of a wider collection of documents I gathered. The documents I used were selected for their direct implications to the research questions that this project proposes. Newspaper articles from the Tampa Bay Times and Tampa Tribune, environmental reports from the Florida State Health Department at the EPA, email communications between project consultants and local county employees, community flyers produced by the Florida State Department of Health and a dvd recording of a community meeting produced by the Hernando County Broadcasting Department form the majority of this data. Some of the documents were obtained through Freedom of Information requests.
Archival data was primarily analyzed to construct a timeline of events concerning Mitchell Heights and the former DPW site. The archival data was used to guide both the interviews and surveys as the archival data highlights major events (i.e. events seen as “newsworthy” and thus reported in the local newspaper). Archival data was also used to construct a narrative of pertinent facts.

Participant Observation – Opportunities were sought to engage with the residents of Mitchell Heights through time spent with the South Brooksville Economic and Redevelopment Council. The SBERC functioned as the gateway in the community. My key informant was a community activist and is active in the SBERC. I spent time at SBERC meetings as well as attending other functions that impact SBERC objectives and goals. Through my time with SBERC, I was able to learn about the community from a perspective often not afforded a visitor. I became a friend and a companion. I was able to broker issues on behalf of the community that allowed me to gain a measure of trust.

The SBERC was chosen as the preferred community partner in the community due to the activist history of the members of the leadership. The leader of the organization is well known in the county as a vocal stakeholder in South Brooksville. SBERC also was preferably due to having an office within the South Brooksville community and having the trust of the local members. SBERC is more of a grassroots organization where certain residents see the local NAACP sometimes as being political and not always serving their interests.

The data collected during the participant observation phase added additional details to the timeline of events while also helping to identify themes that were explored further in Phase Three and Four. The focus during this phase was the experience of the residents in relation to the perceived health risks and the environmental contamination. Furthermore, the impacts of race or class on those experiences were highlighted.

Field notes were coded along themes such as:
• Understandings of risk

• Communication of risk

• Concepts of being a “good neighbor”

• Issues of health concerns

• Issues of race and class

• Health policy relevance

It is worth noting that there is great value in participant observation beyond the ability to direct output in terms of survey design or interview question as the researcher is able to gain a new perspective of the culture of the organization or community. The participant observation phase included a level of researcher reflection that was demonstrated throughout the analysis.

_Semi-Structured Interviews_ – Semi-structured interviews were conducted with residents of Mitchell Heights representing the different families that live near the site. The residents were selected due to willingness to be interviewed, length of history in Mitchell Heights, and their personal experience in dealing with perceived environmental health issues. The interviews were conducted face-to-face at the home of the residents or at the offices of the SBERC. With the support of the SBERC, the residents were contacted and asked to participate. The interview questions elicited personal accounts of experiences concerning living near contamination and perceived health complications in Mitchell Heights. Also, the interviews sought to understand how the perceived risks of the environmental hazard affect resident’s everyday lives beyond health.
In terms of the interviews with residents of Mitchell Heights, all participants were over 18 and lived on, or have recently lived on, property adjacent to or near, the former DPW site. Participants were expected to have lived adjacent to the DPW site for at least six months. They were chosen because of their proximity to the site and their identification by the key informant as a willing participant. This project conducted 10 resident interviews (N=10) with adults age 38-82.

The results of the semi-structured interviews were coded using SPSS, Microsoft Word and Microsoft Excel. The themes identified during the participant observation phase offered a framework for the analysis of the interviews. Resident interviews looked for how the contamination is perceived, how the risks are understood and how the resident’s lives are affected.

Interviews were also completed with key governmental employees who have a direct involvement in the Mitchell Heights site operation and cleanup. Also, interviews specifically with natural scientists were sought out and completed. In particular, interviews with risk assessment scientists were completed to capture input about the creation of risk assessments.

Employees at both the city, county and state level were interviewed. These interviews were conducted to ascertain the individual’s perception of the risks concerning the Mitchell Heights site. Also, the interviews sought to understand of the government employee’s opinions of how the lives of the residents within Mitchell Heights have been affected.

These governmental employees worked in the areas of community development, public works or were a public figure that had dealt directly with the contamination in Mitchell Heights. They were chosen and included in this study because they were identified as key figures that had a level of involvement in the sites history. This project conducted 5 interviews (N=5) across the multiple levels of government with adults age 18-99.
This phase of the research also included interviews with environmental scientists that worked in the areas of public health, environmental science, environmental risk assessment or geology. These individuals may or may not have had direct contact with Mitchell Heights. They were chosen due to their involvement with the site or their expected level of expertise with the research topics. This project conducted 5 interviews (N=5) across the multiple levels of scientists with adults age 44-63. It was understood that some participants may satisfy more than one category of interest but were only asked questions for one type of interviewee.

The interviews with the governmental employees and natural scientists looked for the perception of the contamination’s health risk, how the risks are understood, and how the resident’s lives were seen to have been affected.

Cognitive Mapping – This task involved engaging members of Mitchell Heights in an exercise of cognitive mapping. The purpose of the method was to access the resident’s perception of their neighborhood. Patterns in the map were later interpreted along measures such as placement of landmarks, size of icons, boldness of lines and situation of place. In particular, how the residents constructed their view of the neighborhood including the contaminated site, and how they scored the areas directly adjacent to the site, were of interest to the researcher.

With a select group of residents, identified by the key informant, and living directly adjacent to the former DPW site (N=10), cognitive mapping was used to assess how the former DPW site spatial exists in the lives of those in Mitchell Heights. This exercise consisted of asking these residents of Mitchell Heights to map out their neighborhood. The group completed one map as a team. They were given an 11” x 17” (28 cm x 43 cm) piece of paper and allotted approximately 45 minutes to complete this exercise. There were no other instructions or prompts given. After the map was drawn, the resident were allowed to
annotate their map with comments and place a subjective score on a scale of -10 to +10 to represent positive or negative effects on a specific landmark. A list of all the landmarks that were drawn on the maps is included in this report.

All participants were over 18 and lived on, or have recently lived on, property adjacent to or near, the former DPW site. Participants were expected to have lived adjacent to the DPW site for at least six months. The participants were selected because they were residents of Mitchell Heights and live on properties that sit adjacent and lower than the southern border of the contaminated site. The residents were recruited with help from the key informant. This portion of the project included 10 participants (N=10) being adults age 38-82.

The cognitive mapping exercise was examined and analyzed to determine patterns of understanding concerning the position of the hazard within the community. Of equal importance was the residents recording of how the hazard is experienced. As a key feature of this exercise, residents placed subjective scores on self-determined landmarks directly on the map. These scores were to present their experience – in degrees of positive or negative numerical measurements – in areas of their community. This allowed for a discussion relating to how resident’s experience the site as a real part of the neighborhood. In addition, this exercise also identified community-defined boundaries as to what is “Mitchell Heights.”

*Ethnosemantic Analysis* – A community event was held where residents of Mitchell Heights were sought out to elicit understandings concerning terms that are critical to this project’s topic. The participants were members of the community of Mitchell Heights. This exercise examined the specific culturally influenced perceptions of the salient domains that are associated with this project. These included: “risk,” “injustice,” “hazard,” “danger,” “official,” “contamination,” “good neighbor,” “healthy,” and “expert.” The participants were
given a numbered piece of paper and a pen to record their responses. They were verbally given a one or two word prompt, such as “risk”, and were asked to write a short response to define the concept.

All participants were over 18 and lived on, or have recently lived on, property adjacent to or near, the former DPW site. Participants were expected to have lived adjacent to the DPW site for at least six months. The participants were selected because they were residents of Mitchell Heights and live on properties that sit adjacent and lower than the southern border of the contaminated site. The residents were recruited with help from the key informant. This portion of the project included 10 participants (N=10) being adults age 38-82, the same residents that participated in the cognitive mapping exercise.

This activity was analyzed by constructing a word cloud for each topic utilizing the software Wordle. This presented a visual representation of the participant’s perspective of terms related to how they experience their environment and their health. This method of analyzing the responses allowed common beliefs to emerge and be evaluated.

**Surveys** - Surveys were completed with the residents of Mitchell Heights community. The surveys were designed using Likert scales and gathered data related to the overall community thoughts and beliefs concerning the role of race and class as they relate to the cleanup of the former DPW site. They also collected data on feelings concerning environmental health, physical health and governmental responsibility and was administered orally. Responses that would encourage “neutral” responses were not included. During testing, one question concerning the specific issue of environmental justice was removed due to issues with wording and its appearance as being a leading question. This was done to minimize bias and increase objectivity.
Participants were over 18 years old and ideally a current or former resident of South Brooksville as identified by the project’s key informant. This project completed 50 (N=50) surveys with residents of South Brooksville. The surveys were conducted by walking through the area and approaching people door-to-door accompanied by the community key informant. The surveys extended beyond Mitchell Heights into the greater South Brooksville community. With a population of approximately 500 residents, the collected surveys represent the opinion of about 10% of the community.

It is acknowledged that some individuals in South Brooksville may be temporary residents or visiting from somewhere else. The survey was designed to allow for participation by non-residents of South Brooksville by recording their residence. The data on location of residency is included in the results.

Surveys were scored along the designed value scale. Basic statistical calculations were tabulated in Excel and SPSS. Nonparametric inferential statistics were used to describe scores as opposed to true measurements. The data was constructed into tables and graphs to provide representations of community member’s perceptions. Demographic information was used to analyze the data by age and gender.

Figure 6: View of contaminated compound from a backyard along A St. (2014)
<table>
<thead>
<tr>
<th>Phase</th>
<th>Method</th>
<th>Applicable Research Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>Archival Data</td>
<td>How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?</td>
</tr>
<tr>
<td>Two</td>
<td>SBERC Participant Observation</td>
<td>How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?</td>
</tr>
<tr>
<td></td>
<td>Resident Interviews</td>
<td>How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?</td>
</tr>
<tr>
<td></td>
<td>Government/Scientist Interviews</td>
<td>How do government personnel, including the local Public Health officials, perceive the contamination at the former DPW site, the risks associated with the site and how the site affects the lives of the residents of Mitchell Heights?</td>
</tr>
<tr>
<td>Three</td>
<td>Cognitive Mapping</td>
<td>How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?</td>
</tr>
<tr>
<td></td>
<td>Ethnosemantic Analysis</td>
<td>How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?</td>
</tr>
<tr>
<td>Four</td>
<td>Community Surveys</td>
<td>How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?</td>
</tr>
</tbody>
</table>
Graphical Representation of Project Work Flow

Figure 7: The multiple aspects of the project set in relation to each other.
Ethical Considerations

There was minimal personal risk from an individual’s participation in this study. Each participant signed an IRB-approved form giving consent for a voluntary inclusion in this project. Confidentiality was maintained by securing privacy and identities through the use of password protected data storage units. Any collected data is stored in a locked file cabinet in a secured office.

Summary

The purpose of this chapter was to describe the methodology that was utilized during this project. This section also re-established the research question and setting, presented the researcher’s hypothesis, discussed eligibility criteria and ethical consideration. The plan for data analysis was discussed as it relates to each phase of the research. In addition, I reflected on both my privilege and position as the researcher undertaking this project.

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Figure 8: The former DPW site sits barren and contaminated in the Mitchell Heights neighborhood (2014)
Chapter Four: Results

Introduction

This section will detail the results of this study. I will begin by conducting a detailed examination of archival data and the results of interviews that were completed with the key informants: ten residents, five scientists and five government officials. These will be presented in terms of the overall project themes related to the research questions. Next, I will present a synopsis of the participant observation that has taken place in South Brooksville over the past year. Finally, the results from the community survey, the elicitation exercise, and the cognitive mapping exercise will be outlined with a focus on data that helps construct a community-level perspective.

Archival Data

To say that there are hundreds of pages available on the former DPW site in Hernando County would be a gross understatement. With its high media presence, long history and often aggressive community engagement, one can quickly become overwhelmed with all the information that can be mined concerning this topic. Specifically I received documents through the following channels:

1. Directly from residents
2. Directly from governmental officials (Both local and state departments of health, city, county Department of Public Works)
3. Media archive sites
4. Online data repositories - Oculus for example

5. Searching through old records at Department of Public Works

6. Freedom of Information Act filing with the EPA (19 documents released)

I sorted through all the documents and selected a few to generate a summary report. The documents selected present a fair representation of the full body of available literature on Mitchell Heights and, more importantly, directly relate to the research questions of this project. All three research questions were addressed by the findings of the archival data and these provide a base for the remaining parts of the project. This section will be less concerned with following the narrative chronologically and instead will be topical in nature.

To begin I will provide a brief background into the site and the sites cleanup. Much as this has been discussed previously, but here the focus will be specifically on the cleanup efforts. Then, I will review some of the earliest documents I can find on the site, a letter dated October 31, 1991 and another from 1992. Next I will jump to a 2007 correspondence between the consultant CES, the Department of Environmental Protection and the Hernando County Public Works Department that shows some of the disagreements and strategies with the site cleanup. Moving to an internal county document, a 2005 report of Hernando County Department of Public Work’s that details their in-house investigation in response to an EPA criminal investigation about their handling of the Mitchell Heights DPW site. Then I will look at South Brooksville in the local media by examining several news articles plus one in a community produced newsletter. As it is a prominent part of the narrative, next I will present applicable findings from the multiple complaints levied by the community activist and the response from the governmental agencies to his charges. I will review a DVD of a community meeting that took place on September 22, 2011 which focused on Mitchell Heights residents. Then an examination of a 2010 community produced revitalization plan, followed by a look at the 2010 RAP for the site, will allow for a comparison of objections.
and visions. Finally, I will review two Hernando County produced health reports, health needs assessment and strategic plan that incorporate South Brooksville followed by looking at two risk assessment health reports produced by the U.S. Department of Health and Human Services specifically about the contamination at Mitchell Heights.

**Site Summary**

The former DPW site located at 201 West Martin Luther King Blvd (formerly Summit Rd.), was used for the county’s mosquito control operations, vehicle maintenance, refueling station, truck washing, highway stripe painting, road sign fabrication, waste oil recycling, road equipment storage and election voting machine storage. The site was utilized from 1955 until 2003 and is approximately 5 acres in size (Loder 2006).

Contamination was first discovered on the site in 1991 and site assessments in 1993 and 1994 identified 14 AOCs (Loder 2006). In 1994, unauthorized discharges of wastewater were found to be occurring at the site, and after a DEP investigation, the discharges were eliminated and the case was closed in 1996. In 1997, 83 tons of contaminated soil where removed from 6 AOCs, while in 1998, petroleum spillage was discover during the upgrade of three 10,000-gallon underground storage tanks (Loder 2006).

In terms of interim remedial actions taken, in 2000 the County began cleanup of a solvent plume in the shallow groundwater and the storage tanks were removed in 2003 (Cardno TBE 2010). In 2005, 208.71 tons were removed from the site and in 2008, 969.7 tons of soil were removed (Cardno TBE 2010). In 2010, the County and DEP formulated a RAP that includes groundwater remediation, administrative controls and capping of the site.

From a geological perspective, the site sits on what is known as the Brooksville Ridge and is elevated generally between 140 and 150 feet (Cardno TBE 2010). Below the site is approximately 100 feet of sands and clays (Cardno TBE 2010). Acting as a confinement unit,
Tampa Limestone can also be found intermittently in the area (Cardno TBE 2010). Below the sand and clay layer is a mixture of limestone and potable water that reaches in excess of 500 feet below the land's surface (Cardno TBE 2010).

In this area, the water table is perched and discontinuous (Cardno TBE 2010). There exists a surficial aquifer that may contain water based on the amount of recent rainfall (Cardno TBE 2010). The next layer is the Hawthorn Formation, a 25-foot thick confining unit of the Floridian Aquifer (Cardno TBE 2010). The Upper Floridian Aquifer is approximately 900 feet thick in this area with regional ground-water flow to the northwest (Cardno TBE 2010). As one of the primary complaints of the residents is centered on water quality in their neighborhood, and the insistence of the officials that the aquifer is safe, the geology of the site is a key component of the conflict.

The Lived Experience – Voices from Mitchell Heights

The residents of Mitchell Heights do speak. Their words and thoughts are easily shared over a glass of tea or along a quiet stroll. Once the introduction is made into the community, you become both ally and friend. Willing to give a sound bite, newspaper reporters have jump-started big city careers on their small town openness. By combing through on-line archives, searching within old boxes in storage, and by being a guest in their homes, I have collected several lifetimes’ worth of opinions and reflections.

Representing many hours of that research, the following is a collection of synopses and snippets that speak to the first research question of this project:

**How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?**
To address that question, it would be appropriate by beginning with arguably the most vocal and persistent voice in South Brooksville. This project’s key informant grew up in South Brooksville and currently lives close to the north side of the contaminated site. On several occasions I witnessed residents seek him out for help in solving a myriad of problems. He has been active in attempting to hold the local and state governments responsible to rectify the wrongs he claims for the community. He provided several boxes of letters he was written, photos he has taken, and documents that he has collected concerning inequalities in South Brooksville. On several occasions, he has tried to engage the Obama administration to intervene on the behalf of the residents with no success.

This key informant often takes the position that he speaks for the community as a whole. Yet during my time in South Brooksville, I did speak to residents that were not fond of this key informant or his positions. Knowing that his role invites criticism and suspicion, he stresses that his agenda is one of justice and restoration of his childhood neighborhood for the betterment of all the people.

What follows are two summaries of letters he has written to Hernando County officials that help with his representation:

I. "Response to Hernando County Site Inspection Pictures and Response", email from Key Informant to FLDEP - October 1, 2008

This lengthy email is a point-by-point rebuttal of claims made by the FLDEP in regards to the work being done to cleanup the former DPW site. It copies a portion of the FLDEP opinion and then offers up a response to their comments. The email also includes 29 annotated photos and the minutes of a site visit by FLDEP officials.

The purpose of the email is primarily to refute what is being presented as facts. The key informant offers up the pictures as evidence that what the county
claims is occurring is not actually happening. Some of the key informant comments include:

i. "The staff summary report is flawed."

ii. "Nothing in the summary report provided can be verified or proven by the DEP CES geologist."

iii. "This appears to be an unauthorized use (responding to DEP claims of an 'Emergency Response Action') of the Florida Statutes and a violation of Florida law."

iv. "Please do not play on the intelligence of the people."

v. "… The county never fostered a relationship with the community organization."

vi. "The county cut all ties and has refused to meet with the community for over three years."

vii. "This picture appears to be staged" (referencing to a county supplied photo).

viii. "Notice the deputy sheriff on the scene which is an intimidating factor that frightened the residents into believing that is an official request for which they have no other recourse but to allow worker on their property." (Caption of a photo with a sheriff vehicle and officer speaking to county workers on the site)

ix. "… The information that you received that I was the sole person taking pictures is not true." (Photo of the key informant speaking to a worker)

x. "It is going from one hot spot to another hot spot." (Caption in reference to dirt being moved from one spot to another)
xi. "Photo taken 09/24/2008 at 12:47. Covering up evidence including the manhole." (Photo caption)

xii. "Hernando County is even denying that the pictures are authentic. They are and the pictures themselves do not lie."

II. Letter from Key Informant to the Hernando County Administrator regarding amendments to the County Comprehensive Plan - September 21, 2010

The following letter written to the County Administrator calls for the revitalization of historical African American communities to be included in the governing documents of Hernando County:

i. "The main objective of the South Brooksville Planned Development District is to revitalize the area, and why revitalizing, bring back the business that were once throughout the Historic African American community, that became blighted over the years because of neglect by both the county and city in providing capitol improvements for over 50 years."

ii. "The entire document follows the same pattern of misconception, omissions, lack of definition and will not be addressed. The entire document has to be re-written with serious input from the residents and property owners of the South Brooksville existing community."

III. JUSTUS Newsletter Volume 7.07 - June 13, 2008

The JUSTUS Newsletter was a local, community-generated newsletter that detailed life in South Brooksville. It includes news and pictures about life events, the religious community, and political news related to the area. This newsletter reported
on a community meeting between county officials and local residents. The articles states that 30 residents were in attendance at the meeting along with county staff.

This article recounts the frustration of the residents and helps build the picture an adversarial relationship between officials and residents. Some of the highlighted comments include:

i. "Local pastor Malachi Fogle had one simple question, Is it safe for people to live near the abandoned site … County engineer Charles Mixon declined to answer the question, saying he has been advised by the county attorney's office that such statement might influence pending litigation."

ii. "There is a lot of bandages being put on but nothing's solving the problems." - Paul Boston (Resident) referring to the former DPW site

iii. "This has been going on for years. We want to see some progress." - Isabel Harris (Resident)

Fueling this irritation, and a recurrent theme found during the interviews and participant observation, was the closely held belief by the residents that the lack of urgency in the response by the governmental officials was an intentional effort by the powerful to devalue South Brooksville and drive the residents out of the community. Once unwanted swampland where the town’s blacks were forcefully relocated, many of the current residents of South Brooksville subscribe to a theory of greater conspiracy that relates to the rumors of a statewide high-speed bullet train which would have a presence in Hernando County near Brooksville.

These two articles confirmed that the intentions behind those rumors are partially true:
IV. “Industrial park plan gets big backer” by Jonathan Abel, St. Petersburg Times - July 20, 2006

This article discusses the plan proposed by then Mayor of Brooksville, Joseph E. Johnston III, of turning the 100 plus acres of South Brooksville into an industrial park and relocating the residents. Mayor Johnston is the son of the attorney that wrote the 1948 ordinance which initially moved the area’s black residents to the undesirable land to the south of the city. The community member of South Brooksville generally opposes the plan citing the connection to their community and the lack of a reasonable offer for their property.

V. "In Brooksville, will past let the future in?” by Andrew Skerritt, St. Petersburg Times - May 21, 2006

This article builds upon the plan to move the residents out of South Brooksville and construct an industrial park. It specifically focuses on the lack of trust of the community towards governmental officials and the economic struggles of the black community.

i. "For enough money, I'll go anywhere. I'm not going to give it away." - Howard Delaine

When efforts such as these to reinvent South Brooksville are discussed, residents claim their voice is neglected and dismissed. Even in terms of general maintenance of infrastructure, residents will oppose the planned work as they have a major distrust of the government. To help codify their own vision for their neighborhood, community leaders constructed guiding documents for the future of South Brooksville.

The following is an outline of the South Brooksville community-generated revitalization plan:

This document is a 48-page plan put together by leaders in the community to guide revitalization efforts. It is a response to county and city plans that they felt do not accurately incorporate their vision. It includes:

- A history of South Brooksville
- Mission Statement
- Vision Statement
- Strategic Plan for crime prevention and community revitalization
- Timeline for implementation
- Maps to support the vision
- CAD Presentation of the revitalized community

i. Mission of the SBCEDC

"South Brooksville Community Economic Development Commission, Inc.’s mission is to improve the quality of life, level of safety, and a sense of community in its neighborhood. SBNSCA is to work with police, local and federal government entities to protect lives, property, and community. SBNSCA primary goal is to establish and sustain productive relationships with organizations that serve our community."

ii. Vision of the SBCEDC

“South Brooksville Neighborhoods Community Association's members want to live in a safe, clean, vibrant, urban community where they can experience the best
of what Hernando County and the City of Brooksville have to offer. We envision a time in the near future when our neighborhoods will no longer be defined by the threat of crime, suspicious activity, or poor city infrastructure standards. We look forward to banding together to promote a greater sense of community and to participate in public affairs.”

Adding to what was found through archival research were what was shared during my many interactions with the residents of South Brooksville and specifically the Mitchell Heights neighborhood, relating to the first research question. The following are summaries of the semi-structured interviews conducted with the residents. Pseudonyms were used in place of actual names and each participant was given a descriptive identifier that speaks to their position or role in the project.

The Community Activist (Key Informant)

An elder statesman of the community, Roger grew up in South Brooksville, left to start a career, but moved back, and has been arguably the most outspoken member of the community. A constant in the local papers, Roger is the go-to guy for the appropriate media sound-byte. He has an immense personal knowledge of the community, the struggles of the residents, and he has personally experienced health issues he attributes to environmental contamination. He is a polarizing figure as he is often categorized by the governmental employees as a "trouble-maker" and accused of getting residents riled up over the purposeful spreading of misinformation.

Our interviews easily go off track. That is due to his intense passion and dedication to the betterment of the community. There are some residents who question his motives,
cautiously asking what is in it for him. Regardless, his interviews provide a wealth of information.

When he was a young man, Roger worked for the county school system. Being a county employee offered him certain privileges including a preferred status at the local bank. The banker in the town was a very powerful man as well as throughout the state and often described as being not very fond of non-whites. Yet he had no problem giving them loans and charging them interest. It was well know he wouldn’t mortgage a house over 500 sq. feet for a black person.

Roger went to the bank and left with a loan for a new car. He was impressed with how easy the whole process went and drove his new car with pride. The next month he went to pick up his paycheck (as they were paid monthly) and his check was not there. He learned that as a black county employee with a loan at the local bank, the banker had his paycheck sent directly to the bank where he took out his loan payment before giving Roger the remainder of his pay. This type of practice was a common experience for black residents in Brooksville.

Roger has many other stories and they often showcase a level of mistrust and misinformation by government officials and powerful people. He is especially cautious of several powerful, white county residents and their dealings in South Brooksville. He expressed that he believes that certain influential, white residents from "uptown" are purposely trying to devalue the property and people of South Brooksville so they can move all the residents out and buy the land. Mitchell Heights was the neighborhood of all their teachers who served as the educators at the historically all-black school. He sees the area’s contamination as an intentional attack on the highly respected members of the black community.
The white residents used illegal laws and shady banking practices to move all the black people into South Brooksville and now want to move them all out, according to Roger. He states this is part of the statewide bullet train blueprint that would place a station in Mitchell Heights with a direct route to Tampa. A station in Brooksville would necessitate the restaurants and shopping, all to be built over Mitchell Heights. In this way, Roger, and many other residents, see their plight as a purposefully plot to strangle their community and life.

The Football Star

Walking in reluctantly, the football star was tired of being pestered by people telling him that he has to speak to the guy from USF. Victor wasn't trusting of people in general and was not sure he was ready to speak up about his life yet multiple people in the community encouraged him to chat with me.

Our first meeting was emotional. Victor had been waiting a long time to talk about everything he had been keeping inside and become visibly angry as our conversation progressed.

Victor grew up, and still lives in, a house whose backyard sits adjacent to the south side of the former DPW site. When he was young he recounted playing peek-a-boo with the DPW employees through the fence that separated their properties. His mother, who passed when he was a teenager, had a vegetable garden along the fence line. Victor shared how his mother grew so many of the different types of vegetables that they had an abundance to sell to the neighbors.

A high school football star, Victor received a scholarship to a Division I football program. As a well-recruited linebacker, he was given the chance to compete for a starting job his first college camp. There was one opportunity during camp to influence the coaches as they made their determinations on who would make the starting squad and who would be
red-shirted for their first season. Victor remembers the ball being snapped and handed off to the running back. Victor saw a huge offense lineman coming right at him in his peripheral vision. Victor got hit harder than he had ever been hit in any previous game yet he somehow managed to stay on his feet. He looked forward, and being jostled from getting hit, saw not one, but three players with the ball as his mind was still reeling from the hit. Knowing his vision was playing games with him, Victor tackled the player in the middle, completing the play and causing a loss of yardage. After clearing his head, he was waved over to the "keep" group of players.

This turned out to be a stroke of good fortune in ways he could not imagine at the time. Being labeled a "starter", Victor was put through an extensive array of medical tests. It was there that doctors discovered that Victor’s kidneys were failing. Nineteen, and his dreams of playing football over, Victor had both of his kidneys removed and succumbed to a life of 3x a week dialysis. Without the catalyst of football, and his impressive play in camp, it is uncertain how much longer his condition would have been undiagnosed.

Today he feels like his future, his ambitions and his life was taken away. "No one should have to live like this," he would tearfully share. He is angry. He has not gotten any reparations for being made sick. He didn't drink, smoke, do drugs, and had no family history of kidney disease. From all appearance, he was a young, healthy, athletic man. Doctor's can't say for sure but Victor only recently told his them about his mother's garden and the contamination. After multiple consultations, his physicians feel like the contamination of the site directly behind his home, and the effect it could have had on the food he ate, provide a possible explanation for the cause of his disease.

Victor has recently begun discussing his options with an attorney in Tampa.
The Family

When it comes to life in Mitchell Heights, it would be hard to ignore this family. The father is a community patriarch and business leader while mom is a feisty partner. One of their daughters was a huge help with this project as she made introductions for me and provided research material. They opened up their home to me several times and were more than willingly to share their experiences.

We start in the backyard under the shadow of the former DPW site. After living there 48 years, they can recount many stories of the things they have seen. They show me pictures of their son from when he was young. He was playing out in the yard after a hard rain and, like boys do, found the fresh mud irresistible. The pictures from later in that day are of his ankles and legs, covered in a rash. Little red bumps, unlike anything he had before, caused enough of a concern that they wanted to document it in pictures yet were unable to conclude why they suddenly occurred.

They spoke of how the waters flow from the site and flooded their backyard. During the most violent rains, all but two of the rooms in the house will flood. It wasn't like that when they first moved in as their yard used to be level to the property behind them but when the county trucked in dirt to elevate the former DPW land, their property often became a lake of rainbow colored water.

They also report that just the week before, there were some people taking soil samples on their property. When they questioned who they were and what they were doing, the men just said they were "from Tampa" and left. They would not leave a card or any other identifiers. They have not had anyone request to take soil samples in over 3 years and suspect that my research had "caused some stirring."

The father has a 5th grade education and grew up on a small, area farm. In his 80's, he doesn't work around the house like he used too but he cooked some BBQ for me that was
outstanding. He was a former community business owner, having run a BBQ restaurant, pool hall, and also owned several rentals homes. He shares how he lost his business by being lied to by city officials. He claims that they promised him grant money to build a new building as part of a rehabilitation project. After the demolition began, he was informed they were out of money to complete his project. With what was left of his building now out of code, he fought to get a permit to operate his BBQ business out of a trailer. He stresses that the "white government" does nothing for South Brooksville.

The Foreman and his wife

Jay and his wife do not live in Mitchell Heights but instead live in the neighborhood just to the east. The water from the former DPW site moves through Mitchell Heights and exits South Brooksville through their property. Jay's story is a part of the impact the contamination has on the greater area of South Brooksville.

Two years ago the county was doing a sewer line project near Jay's house. Having misread blueprints, the county sub-contractor realized they dug a trench on the wrong side of Jay's house. Filling it back in, they continued on with the project in the correct location. The next hard rain produced the same flood in the Jay's yard that many of the residents have reported but this time, the unfinished sewer was flowing over, spilling sewage onto Jay's property. He put on his boots, walked out into the rain, and sunk into the 4-foot deep ditch dug mistakenly by the county subcontractor that was not properly filled-in. He went under the water several times swallowing sewer-contaminated water.

The next day, Jay was coughing up blood and had chills. The next several months saw him in and out of the emergency room. With no health problems prior to ingesting the storm water, he now has severe kidney problems. Jay attributes his health issues to the
contamination and negligence of the county as well as the alleged plot to make South Brooksville an industrial park.

His wife also says she has rotten teeth and aches in the legs. When asked about what is the cause for her health issues, she responds, "who knows?" but alludes to the plights of living in South Brooksville.

They feel like community members have given up. After being beat down for so long, Jay feels like people don't have the will to fight anymore. For instance, the neighborhood is full of mosquitoes and you can't even go out at night. "Calling the county doesn't get you anywhere," Jay says, "people don't want to bother."

The Matriarch

One of my first community contacts is the matriarch. I was told that if she doesn't know someone, they have never set foot in South Brooksville. Our meeting was brief and it was more like I was being interviewed.

"What do you want with the people?"

"What are you doing with this information?"

"Why do you care about us?"

I had to pass this test before I could be accepted in the community. She offered to help but didn't have much to offer in answering my questions. She left me with one statement, "Be very careful what rocks you turn over 'round here." No other info from her?

The Good Neighbors

Sitting on the front porch of a home just down from the contaminated site on the main road, this interview was like most; it was impossible to keep the conversation to only the former DPW site. Having lived in South Brooksville since 1948, John has seen much change.
He is especially irritated by the dump trucks on the road in front of his house that ignore the "No Trucks" sign and barrel on through. He says they are doing it "out of spite." I count 7 trucks rumbling down the road during our hour-long interview.

After accepting an offer for some southern sweet tea, I listen as John steers the conversation to overgrown grass, mosquitoes, and of course, dump trucks. He says the trucks spill the contaminated dirt on the roads as they travel through. He recounts that one-day they were filling up trucks full of dirt from the former DPW site and then proceeded to turn down this small side street leading south of the homes in Mitchell Heights while kicking up dirt from the road. This seemed odd to John so he got into his little pick-up and went to see where they were going. He found, at the end of the road, a 20-foot of dirt piled up in the woods. County employees were moving contaminated from the former DPW and dumping it into the woods further south in South Brooksville.

From that story, he proceeds to rattle off a list of names of people that died. These were his neighbors and friends. From the forefront of his memory, he recalls that many passes away from cancer and at a very young age. His wife chimes in and adds a name or two."

"So many gone," she bemoans, "whole families gone."

"With Mitchell Heights, they killed our best neighbors. So what will they do with the rest of us?"

The Boys

Friends since they were young, Jerry and Jack grew up, moved away, and now have moved back to South Brooksville. They share stories of hunting in the woods and playing in the waters that could be found beyond the tree line of South Brooksville. Each now having
kids and grandkids, they just want there to be a level of safety for their families as they have those same childhood experiences.

They are forming the nucleus of the new leaders. Both approaching 60, they are taking on the role of community protector. When it was reported that the county mosquito trucks could not spray down certain streets due to being pelted with rocks and beer bottles, both Jerry and Jack took it upon themselves to "take care of the situation" and speak to the youths causing the trouble.

The same area in question is also a well know drug haven where "young men don't work. They just sit under the tree and deal," Jerry informs me. Jack suggests I stay away from two particular blocks "for my own safety."

The Measured Experience – Facts from the experts

The experts - a mixture of scientists, politicians, and civil servants – rely to a varying degree, on objective, measured data when evaluating environmental health risk. The experiences of the people in the community, and their clams of health issues, are weighted with less importance than science and its claims of objective truth. An individual’s reports of medical issues are easy to explain away to other causes in light of scientific data that seemingly eliminates an origin in environmental contamination. It is also important to acknowledge that the objectivity of science can protect the government from liability when utilized to absolve guilt.

The scientist were the most ardent supporters of measured experiences, or a reliance on science and statistics, while civil servants followed with a somewhat slightly more tempered allegiance to technical results. Politicians were more likely to be influenced by the lived experiences of the community but ultimately did not want to stray too far from what science promised to be true.
To further develop these concepts, this section will present documents and conversations that pertain to the project’s second research question:

**How do government personnel, including the local Public Health officials, perceive the contamination at the former DPW site, the risks associated with the site and how the site affects the lives of the residents of Mitchell Heights?**

To that end, I begin with the earliest documents in the official records that refer to the contamination in Mitchell Heights:

I. *Memorandum from Katherine Liles, County Environmental Planner, to Charles B. Hetrick, County Administrator - October 31, 1991*

   This internal memorandum is the earliest document I have uncovered which mentions the awareness by the county to environmental contamination at the former DPW site. It appears to be a follow-up to a discussion about Liles’ previous experience with contamination at the site. Liles and Dave Sloan inspected the DPW yard on October 17, 1991. This site visit follows a incident that Sloan was involved in concerning an after hours emergency visit at the site in 1989 when he responded to a resident phone call that there was a black sludge in her yard. The resident reported that Sloan found out that a spigot on a tank of tar emulsion was left open.

   Liles’ report was that there was no “overt signs of spillage of regulated substances” on the traffic side of the yard and that they were unable to inspect the mosquito control facility as it was “locked and unstaffed.” Liles makes note of “increased problems as the inspection progressed to Fleet Maintenance” as the “perimeter of the yard showed signs of stains.” She remarked that the stains were “distributed randomly” and smelled like petroleum. Also, a pit used for County
vehicle oil changes was not fully contained, as the bottom of the pit “was not sealed.” Again Liles mentions “signs of stains and petroleum products” in this area.

Liles mentions some actions steps that include employee education, improvements made to the discharge of water into the ditch, and the need for a Level IV environmental audit. She determines there to be a “high probability” of some type of contamination and also recommends hiring a hydrologist to “identify the extent and nature of the groundwater contamination.”

II. Letter from the Hernando County Planning Department to Mary Yeargan of the Department of Environmental Regulation - March 12, 1992

This letter is not signed but states it is a follow-up to a previous discussion about the DPW site and a contaminated site off Cedar Lane in unincorporated Hernando County. This letter is of note as it states that concerning Mitchell Heights, “the investigation was initiated at the request of staff based on day-to-day observations and was not the result of complaints received from any other party.”

Also, the letter states that the process has begun to complete a Phase II Environmental Audit. This may be in response to Liles 1992 memorandum.

These documents help establish that the county was aware of environmental issues in Mitchell Heights caused by the Department of Public Works as early as 1991. It can be argued that they were aware of the problems prior to this time. Regardless, the activity at the site around the beginning of the 90’s appears to create a renewed activism among community members. The next document is a response to an inquiry by this project’s key informant to issues in Mitchell Heights. It is followed by another response 7 years later to a similar
correspondence. Both letters are notably for their dismissive tone which seeks to placate the writer and pass off further responsibility.

III. Letter from FLDEP to Key Informant in response to his recent letter about health concerns due to environmental issues - November 19, 1993

This response was written approximately 2 years after the county officially first became aware of the contamination in Mitchell Heights. The FLDEP assured the key informant that they were doing their job in protecting Florida's environment and much of the response was not directly related to the issues in Brooksville but were comments regarding the FLDEP's role in the State. Other issues brought up by the key informant were handed off to by the FLDEP to county officials.

IV. Letter from FLDEP to Key Informant in response to multiple charges of environmental misdeeds by the city and county - March 13, 2000

This letter referenced 8 specific areas of concern by the community activist that includes issues with the former DPW site. The EPA thanked him for his work in trying to improve the environment in his community, offered up a review of current cleanup options, and forward him to the Florida Department of Health.

i. "The Department continues to make strides forward towards a clean and resourceful Florida for our future generations. This success would be impossible without citizens like you operating as our eyes and ears within your community." - FLDEP

With a reliance on objective science, there would be an expectation that the experts presented a unified front based on measured experience. Yet my research reveals that even
the scientists could not agree on how to proceed with the best science and how to interpret the results they gathered. Within objective science we find subjective conclusions.

A key document which reveals the tension among the official opinion on Mitchell Heights is the 70-plus page back and forth between a consultant on the Mitchell Heights cleanup and the Florida Department of Environmental Protection. There are disagreements on methodology and the appropriate course of action based on the results that they have collected so far. The consultant claims a local knowledge that the FDOH seems to ignore in favor of what they know as scientific truth.

V. Report from George Foster, President of Creative Environmental Solutions to Charles Mixson, Director of Hernando County Public Works with comments from DEP - March 21, 2007

This document is a report from the President of Creative Environmental Solutions, the consultant that was currently on the DPW site, to the Director of the Hernando County Public Works. This document is a response from the consultant to suggestions made by the DEP concerning the site assessment.

The need for the consultant's response is that DEP was critical of the work being done so far. DEP refers to the process as neither being "quick or productive." They also express concern "about the level of performance in light of the amount of time and money expended in the effort." DEP also states that if the consultant had properly gathered the necessary information prior to submitting the latest report, it would have approved the work plan and eliminated much of the need for DEP to respond. Of particular note, DEP expresses concern about the possible contamination in the residential neighborhood to the south of the site and stresses the need to address the impact to the community.
The consultant responds that "The DEP approach in several instances is penny-wise and pound-foolish" and that their "soil delineation logic is flawed." The consultant also notes that much of the contamination was brought onto the site as fill and that it is "distributed randomly with no apparent pattern." An argument is made for the uniqueness of the geology and aquifer in Brooksville and the consultant claims that the DEP does not have experience with the local landscape. For example, clay soils are calculated at 30% moisture but in Brooksville, they have routinely been found to have up to 130% moisture. More bluntly put, the consultants states that "DEP is mistaken" and the consultant "has experience in this area (Brooksville).”

One of the most significance responses by the consultant references the "heterogeneity" of the site that would allow for the "passing" of certain samples. In other words, the contamination is distributed unevenly so the method prescribed by DEP would allow for a false sense of completion. When a sample is taken and it tests as "hot", additional sampling must be taken at points north, south, east and west from the "hot" spot. If the additionally tested site is also "hot", then the process begins again. If the test comes back "cold", the testing does not have to continue in that direction. This allows for a "cold" boundary to be drawn and a determination of where the contamination ends to be made. The consultant argues that this method ignores the fact that the contamination at this site does not flow evenly and spots could possibly be "hot" beyond the "cold" boundary. He refers to this as "hit or miss" and leads to a "false sense of security."

Referencing the resident's sites, DEP is adamant on boring and testing on the properties south of the site. The consultant agrees to a point but states:
"We understand the DEP's desire to know whether any contamination in the Floridian (aquifer) has migrated offsite. However, placing wells randomly along the property lines is unjustified at this point and wasteful."

His reasoning is that placing wells at the wrong places, those not within possibly contaminated plumes, would cause a negative sense of satisfaction. This false belief of safety would be harmful to the residents the consultant argues.

This conflict between the institutions and individuals responsible to ensure the safety of the community’s health are prevalent throughout the narrative of Mitchell Heights. A case could be made that ineptitude, not a greater sinister force, is the primary driver behind the lack of action. Regardless, the inability of the county to act in a timely manner has become a symbol for decades of perceived wrongdoings. Recognizing this, the EPA opened a criminal investigation into the actions of the county.

Hernando County officials meet with representatives from the Criminal Investigation Division of the EPA to discuss the clean up efforts at the DPW site. At that meeting, the EPA recommended that Hernando County conduct its own internal investigation. The following is a summary of the resulting report that includes recorded comments from county employees that worked on the DPW compound.

VI. Letter from Charles Mixon, Director of the Hernando County Department of Public Works to Daniel Green, Criminal Investigation Division of the EPA - September 20, 2005

The internal investigation included a finding of facts and interviews with current employees. The findings of facts included admittance that there were procedural issues and lack of environmental awareness that contributed to the
contamination. The report also concluded that all the contaminated sites on the property were identified and that "further investigation of past activities and practices at the former DPW site would not be productive."

The report concluded with several recommendations. These recommendations included staff training to insure that current practices and procedures are appropriate and inline with environmental regulations and that four additional areas possibly be included in the cleanup plan. It recommends, "no further investigation of the former DPW site be accomplished."

The transcripts from employee interviews were included. The following are some of the notable statements:

I. "When the traffic striping crew would clean its equipment, I observed the solvent and paint occasionally flowing into the ditch on the south side of the yard."

II. "We also cleaned the beds of the trucks with diesel fuel in the yard and rinsed out the fuel with water into the ditch on the south side of the site."

III. "Vehicles and road construction equipment leaking fluids such as gasoline."

IV. "Mosquito control vehicles were loaded with Malathion from a primary storage tank, which had spills during handling and transfer."

V. "Other than the normal test striping and cleaning of equipment on the pavement at the compound, I didn’t observe any on site dumping."

VI. "The old steel in ground fuel tanks leaked badly. They were losing gas but they waited until they were losing lots of fuel before they were replaced in about 1990. As I recall, when they pulled the tanks out of the ground, lots of fuel poured out."
VII. "Spigots leaked oil on the ground."

VIII. "I recall that **** and **** were affected by the solvents (it affected their health) and they had to be transferred."

IX. "I never observed any practices or actions that may have contributed to existing site contamination."

X. "I recall one time when we trenched an open cut for computer lines from the engineering office to the voter storage building. I noticed a very strong odor of diesel fuel and discoloration of the soil."

XI. "I never observed any chemical spills."

XII. "There was a drain in the oil pit but I don't know where it drained."

With an abundance of documentation showing that the county has acknowledged contamination and has acted to rectify the faulty procedures blamed for the environmental issues, the missing piece of information is why the cleanup has taken so long to be completed? Ultimately, that is the question asked by the residents and the issue that frames this project’s research questions.

The next document summarizes the current plan for the site cleanup.

VII. Remedial Action Plan prepared by Cardno TBE for the Hernando County Department of Public Works concerning the former DPW site in Mitchell Heights - October 2010

The remedial action plan is currently being carried out for the former DPW site. It is expected to be completed sometime in 2015. The main features of the plan are the proposed technologies and regulations that deal with the contaminations on the site. These include:

II. Capping - Placing an impermeable cover over contaminated materials
III. Groundwater well monitoring - Installation of monitoring technology to continually maintain information of the groundwater below the site

IV. Institutional and engineering controls - future land use restrictions placed on the site to minimize exposure to containments.

The remaining archival documents assist in forming a complete picture by identifying the health disparities that exist in the area and the specific health risks in Mitchell Heights. While these health issues may or may not be directly related to the contaminated site, the overall health concerns expressed by the residents of Mitchell Heights is very much a part of the story. They form a part of the lived experience that is exasperated by the negative impacts of the contamination.

The final documents in this section focus on these areas. They include a health needs assessment that includes data on health disparities in Hernando County, the results of soil testing, and the outcome of lead testing on residents of Mitchell Heights.

VIII. Mobilizing for Action through Planning and Partnerships (MAPP) Health Needs Assessment for Hernando County prepared by Well Florida Council - 2012

In 2012, a health assessment funded by the FLDOH was released. It is worth examining what the report states concerning health disparities while being aware that a large number of the county's black population lives in South Brooksville.

- Nephritis was a unique top ten cause of death for blacks
- During 2007-2009, blacks had a 5.6% higher overall age-adjusted mortality rate as compared to whites
During 2007-2009, blacks, as compared to whites, had Age-Adjusted Death Rate (AADR) for:

- Hypertension 344% greater
- Diabetes 98% greater
- Stroke 67% greater
- Heart Disease 14.2% greater
- Liver Disease 6.97% greater

In terms of prenatal care, 69.5% of blacks, 79.2% of Hispanics, and 82.3% of whites receive prenatal care during the first trimester.

2005-2009, blacks had an infant mortality rate 223% greater than whites which is also higher than blacks in State - Hernando Blacks - 18.1 vs. Florida Blacks 13.2 (per 1,000 live births)

Percentage of low birth weight newborns is 69% greater in Blacks than Whites.

IX. Offsite Soil in Mitchell Heights by U.S. Department of Health and Human Services - September 26, 2007

This 42-page document contains:

- Summary and statement of issues
- Background
- Discussion
- Sampling History
- Community Health Concerns
- Conclusions
- Recommendations
• Public Health Action Plan

Some on the highlights of the report include:

• The report states the according to the 2000 US Census, 420 people live within 1/4 mile of the former DPW site and of those, 84% were black.

• It also stated that FLDEP started assessing health issues pertaining to the site in 2005.

• Levels of metals and pesticides found in the fruits and vegetables in Mitchell Heights are not likely to cause illness.

• Mitchell Heights residents may have been exposed via incidental ingestion or by inhalation.

• The county tested soil in Mitchell Heights in 2006 and 2007.

• 2006 - The county found arsenic and lead at levels above the screening values and we examine them as contaminants of concern.

• 2007 - Out of the ten samples collected from this residence (along A Street), seven contained PCBs and one contained dieldrin.

  i. "… Current contaminant levels … may not be representative of past conditions."

  ii. "…Incidental ingestion of arsenic measured in residential surface soils of the Mitchell Heights community is not expected to cause non-cancer illness."

  iii. "Inhalation of dust from the highest off-site arsenic surface soil concentration measured in the soils in the Mitchell
Heights neighborhood is not expected to cause illness in residents."

- The estimated maximum theoretical excess cancer risk for lifetime inhalation of arsenic in Mitchell Heights is one additional cancer per ten million people, classified as "no significant increased risk."
- In the Mitchell Heights Neighborhood, at the one residence on "A" Street, children as well as adults may have been at a slightly increased risk of hypertension, tooth decay, decrease in kidney function, and an increase in immunoglobulin.
- The report concluded that there is "no apparent public health hazard."
- The report includes a section of quotes from residents taken from a worksheet administered by FLDEP.


This is a shorted document (22 pages) similar in scope to the previous report.

Of note were the following:

- 1 child (age 14) and 17 adults were sampled
- 1 resident was found to be at an increased risk of hypertension, tooth decay, decrease in kidney function, and an increase in immunoglobulin.
• The blood lead levels are not likely to cause adverse health effects, and are therefore categorized as no "apparent public health hazard."

The experts have their words immortalized in reports, lengthy memos, and various correspondences. Those writings are only a fraction of their opinions and thoughts and yet are often given full authority and weight. They exist removed from the important context of specific human creation and that condition is complex. To begin to resolve that fractured relationship, I interviewed several experts – both scientist and governmental – in an attempt to understand the cultural framework that produces environmental health policy.

The following are summaries of the semi-structured interviews conducted with the experts. Their purpose is to address the second research question of this project. Pseudonyms were used in place of actual names and each participant was given a descriptive identifier that speaks to their position or role in the project.

**The Scientists**

The Professor

To understand risk assessments, I sought out a professor at a major University that did not have any familiarity with the project but had experience with these types of reports.

I received a semester worth of lectures on risk assessment in under an hour. Risk assessment, utilized to discuss risk of disease is "unethical." It is a factor of population health, not individual probability. Hence, a risk assessment has a limited application and should not be exploited or to perpetuate fear.

"Risk assessments protect! They do not predict!"
In terms of minority communities, the professor says that residents typically follow the voices of the community leaders and not the science. In that way, it is hard to dissuade residents to accept that the community is safe. The quantitative data is hard for the public to comprehend because anything greater than zero is unacceptable. Add to this the belief that lawyers and advocates often exploit minority communities, the professor blames the community for their lack of ability to trust the experts and accept the science.

"Health officials do a good, accurate job! You can not predict health!"

The Consultant

One of the key figures in the project cleanup, this former consultant on the project billed millions of dollar for his work. He was more than willing to share his knowledge of the site. I learned some things that were not made entirely evident in the documentation. For instance, much of the contaminate soil was “fill” which was brought onto the site by the county, and it is the fill dirt where most of the arsenic is found. Furthermore, yards were never sampled as they should have been, except two in the southeast corner that were cleaned up and torn down. He also stated that contamination was found north of MLK Blvd but there is no plan to address it. Neighborhood children are playing on these contaminated properties but this risk has not been communicated to the community directly.

These issues are the results of delineation standards, the guidelines for finding the boundaries of the spread of a contaminate, in Florida that are not appropriate for the geology of Brooksville. To find boundaries, environmental scientists find a “hot” spot and then test N,S,E,W. They may find a “clean” spot and stop. The consultant feels that if you tested the next spot, it would be “hot” again as Brooksville geology spreads contamination in a random pattern and not entirely vertical.
Previous consultants did not test down to the Florida aquifer. They assumed that contamination could not have reached that far. However, tests by this consultant revealed contamination at the level of the Florida Aquifer. He states that this did not affect residents as they are on city water, not well water, so claims of “cloudy” water are not a result of the contamination at the former DPW property. (However, I noted several well pumps on residential properties in Mitchell Height).

The consultant also feels that the high levels of arsenic and barium are a regional problem and specific to the geology of Brooksville. In this way, it is not beneficial to compare the results to baseline data generated from other portions of the state. He believes they occur naturally in Brooksville and that should be factored in when reporting on local geology.

In terms of moving away from the science, he admitted that residents did speak to him about their experiences with contamination. One resident shared with him information about the rain and how black sludge ran through his yard. When I asked how this information affected his understanding of the issues of the site, he stated that without the ability to verify the resident’s account, there was no course of action he could take.

When discussing the future plans for the site, the consultant said that to his understanding, it is still to operate it as a “Risk Closure Site” with engineering and institutional controls put in place. For example, the soil is capped and paved over as not to be disturbed. There will be a deed restriction (policy) that limits the usage of the site. For example, no digging for wells or disturbing the soil could be a condition of future use. Also, the county, with oversight from the state, will have continued monitoring of the Florida aquifer until contamination levels are at acceptable measures.
The County Health Department

With over 30 years at the local DOH, Charles is well experienced in both environmental health and Hernando County. He has dealt with the issues on the Mitchell Heights site since the county was first made aware of the problems. He provides a history of the site and the cleanup efforts that confirm much of what is in the archival records.

He specifically talks about two public meetings that FLDOH was involved in with the purpose of discussing risk with the residents. One was held at a church in the South Brooksville community and one was held at the Brooksville Department of Health. He described them both as being a "shout fest" with the community members agitated and on the attack. Community leaders had completed their own survey that Charles describes as being very "leading.” They tried to use their results to refute the claims made by the FLDOH. He claimed that they tried to "link every chronic disease to the contamination.”

In an attempt to show the inability of the residents to understand the science, Charles recounted a fruit and vegetable survey done door-to-door in Mitchell Heights with the help of the FL Department of Agriculture. They found one site of concern with a high level of pesticide contaminants. Upon further inspection, Charles claims the resident had the pesticide in his or her own shed and that was the cause of the contaminant.

In his opinion "they are just looking for someone to blame." He said, "everybody had something wrong with them." He did not hold the highest view of my project's key informant, calling him a "trouble-maker" who thinks all this "was done intentionally." Charles feels the cleanup at Mitchell Heights has followed normal, governmental procedure.

The State Health Department

An official with the FLDOH who was directly involved in the site was interviewed for this project. His interview not only addressed the second research question, but also his
involvement in communicating risk to the community. I focused on his thoughts concerning how the information was presented and received. I also asked about his involvement in Mitchell Heights and to the claims of environmental health problems.

"The Florida Department of Health evaluates the public health risk around hazardous waste sites though a cooperative agreement with the US Agency for Toxic Substances and Disease Registry. We gather existing environmental data, evaluate exposure pathways, quantify exposure to toxic chemicals, and predict the likelihood of illness. We document our findings in health consultation reports and share them with nearby residents and other governmental agencies."

“At the former Hernando County Department of Public Works hazardous waste site in Brooksville, we evaluated the health risk to nearby residents via contact with contaminated off-site soil. We also tested homegrown fruits and vegetables to evaluate the health risk from eating contaminated produce. Finally, we reviewed the results of blood lead testing among nearby residents.”

“Florida DOH reviewed soil tests and found the levels of contaminants in the Mitchell Heights neighborhood were no apparent public health hazard. In the past, residents of one house on “A” Street may have been at a slightly increased risk of hypertension, tooth decay, decrease in kidney function, and an increase in immunoglobulin E (an antibody that regulates immune system response). Florida DOH recommended stopping storm water runoff from the former Hernando County Department of Public Works site from overflowing the drainage ditch into one property on “A” Street.”

“Florida DOH reviewed blood lead testing of 18 Mitchell Heights neighborhood residents. We found one resident may be at increased risk of hypertension, tooth decay, decrease in kidney function, or increase in immunoglobulin E. As best public health practice for this individual, we suggested tap water testing, avoidance of lead-based paint or personal
care products, and if leaded paint is found, regular hand washing and dusting with a wet cloth. For the other 17 individuals, the blood lead levels were not likely to cause adverse health effects, and are therefore categorized as no ‘apparent public health hazard.’”

In terms of communicating these results to communities, he explained that Florida DOH typically posts reports on its web site, mails summary fact sheets to nearby residents, and holds public meeting as necessary. For the former Hernando County DPW site, Florida DOH did the following:

- Attended a September 21, 2005 Florida Department of Environmental Protection (DEP)/community group public meeting.
- Notified nearby residents by mail of a July 25, 2006 open house public meeting.
- Held an open house meeting on July 25, 2006 to explain the health assessment process and to collect health concerns.
- Mailed 50 open house attendees a request for additional health concerns.
- In a May 2007 letter notified nearby residents that the need for additional soil testing would delay our soil report. We also requested any new health concerns.
- Notified nearby residents by mail of a February 21, 2008 open house meeting.
- Held an open house on February 21, 2008 to explain the Florida DOH reports on soil, blood lead, and homegrown produce.
- Posted three reports online.
- Spoke to newspaper reporters at the open houses and responded to phone calls and emails.
The State Health Department Communicator

A staff member of FLDOH was also sought out due to her involvement communicating risk to the residents of Mitchell Heights. She deflected my questioning to her supervisor, but did provide some details concerning community meetings and communication. She provided me with:

- Open House Announcement for July 25, 2006
- Thank You Letter to July 2006 Open House Attendees
- Community Update Letter from May 2007
- Open House Announcement for February 21, 2008
- Open House Summary of Three Health Consultations
- Two mailing lists (from July 2006 and February 2008)

These documents did not provide much detail on how risk was communicated but the fact that they exist indicates that an attempt was made to update the residents on risk.

The Government Officials

The Congressman

After initially being denied an interview with the local Congressman, I tracked down a staff member at a local event who promised me a response directly from the Congressman. Multiple residents stressed the Congressman's involvement on the site as a young police officer. I have copied his response here:
The City Councilman

Our discussion is brief. The City Councilman expresses support for my project but also makes me aware that he has larger political ambitions so will be careful to distance himself from my work. I appreciate his assistance is making connections for me.

Before we part, he does give me some wisdom.

"Are you sure you want to do this? People ain't going to like you digging around. They can do things to you to hurt you so you will stop. Be careful how far you go."
The County Commissioner

I meet over coffee with a member of the Hernando County Commission who has been involved with local politics for a long time. She sat on the commission during the most recent developments in Mitchell heights and has gone door-to-door in the neighborhood to listen to resident’s concerns. She said it was obvious that the site was "pretty contaminated" and shared the story of a resident that had "several miscarriages" and others with "chronic coughs." She shared that the community was very receptive and wanted to be listened too. Having been moved by her personal involvement in the neighborhood, she pushed for and got approved additional funding for the cleanup.

She personally saw oil in standing water on the site and during heavy rains that caused flooding in the neighborhood. She was not sure why the county continued to store the voting machines at the site up until last year. When I asked her why it has taken so long to address the problem, she stated, "people in the government just didn't care." The residents had "no money, no power, no voting power and they don't complain."

When I asked her what could have been done better, she responded, "They should have listened to the people in the 90's and done something then."

The City Civil Servant

An employee of the city for over 30 years, Will is extremely involved in many aspects of the city operations. A well-like individual, he often finds himself caught in the political arguments in the city. As a matter of full disclosure, he was my direct supervisor for approximately two years when I was employed with the city.

Will heads up the Brownfield Task Force that mostly includes sites in South Brooksville. In this role, he is well versed on the environmental issues in the county.
When approached for an interview concerning this project, Will stated he did not have much involvement as the site is technically in the county. He expressed support for my project.

The Public Works Guy

Fairly recent into the position as the Director of Public Works, Ryan is in a self-defined "no win situation." He generally wants to do the best he can do but acknowledges the negative history that creates a chasm between his department and the community. He states, "there is always a level of miscommunication" which can be attributed to the hijacking by biases to miscue information. Within the community, he sees "individuals with their own agenda" and because of that, "the message doesn't always get out how we intend it too." He says that meetings often, "get off track" due to people having competing goals than the staff and that "residents are living in the past."

He spoke of unintended messages that "make the site look more polluted." It is his intent to beautify the site and make it look "less polluted" and give "a higher quality perception." He said that "we are trying to do the right thing and we are making strides."

Constructing Different Worlds

Perception is an individual phenomenon that is heavily influenced by forces around us – other people, institutions, and hegemony. Race and class are two of the variables that can affect how we perceive something as well as how we are perceived. It is crucial, in studies such as this one, to recognize that these influencers shape all stakeholders and, while this does not preclude individual responsibility of the outcomes from our perception, it provides the context on how we create our world.
This section looks at the third research question from two primary, but general, perspectives. These perspectives would be to understand the context that guides both the residents and, in turn, the public health policy as it is developed and enacted. The third research question states:

**How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?**

Finding mentions of elements of racism in Brooksville is not difficult. The archival data includes several references to the historical record of racism in Brooksville and how it still resonates today. The three articles summarized in this section allow the residents to share their experiences of being a minority in Brooksville. They detail both the past and the present perceptions held by some of the leaders in South Brooksville.

I. "Brooksville residents maintain uneasy, bitter peace" by Dan Dewitt, St. Petersburg Times - June 14, 1990

This article recounts the dark history of racism in Brooksville and was written shortly after the murder of a young white male by seven young black males in the city. The quickness of the apprehension of the black males was compared to the apparent lack of justice for a 7-year-old black girl who was raped. The article speaks of the NAACP lawsuit, the creation of the "sub", and the current activities of the Ku Klux Klan.

"Ain't but two powers in this county, white power and green power." - David Reese, past president of the NAACP.
II. "Racism's Remnant" by Dan Dewitt, St. Petersburg Times - February 22, 1998

This article was done as a piece for Black History Month and highlighted the historical story of racism in Hernando County and Brooksville. It recounts the 1948 zoning law, which was stricken in 1972, that stated, "no building or no part thereof shall be occupied by a person or persons of the negro race" in north Brooksville and further stating that the south was closed to "persons of the white race." This law moved black residents to the swampland in the southern part of the city that was also the destination for the city's sewage. A 1917 ruling, Buchanan vs. Warley, made such zoning laws illegal.

It briefly mentions a series of lynching's in the 1920s, questionable actions of the local police against black residents, and how the city seized black-owned land. Of note to this section, it also states that when a black resident takes the opportunity to leave for college, they generally do not come back.

"When is there going to be a white United College Fund? I'm tired of n*** getting everything" - Bob Hope, Brooksville resident.

III. "Their Reputations Give Them Influence" by Adon Taft, Hernando Today - February 14, 2009

By interviewing five older leaders in the South Brooksville, this article presents multiple views on experiences with racism in the city. The interviewees are Bishop Theodore Brown, Imani Asukil, Hazel Land, Lorenzo Hamilton and Howard Delanie. Each person was able to share stories of their personal struggles being black in Brooksville.

"The person who has financial security always will say that the racial situation is pretty good while those at the bottom will have a different perspective." - Imani Asukile
IV. Lynching in America: Confronting the Legacy of Racial Terror by Equal Justice Initiative – February 2015

In February 2015, a non-profit group out of Montgomery, Alabama compiled a report on the documented 3959 racially motivated lynchings that occurred in the South between 1877 and 1950. These lynchings are seen as foundational to the incarceration rates of minorities today and the report provides the historical context of the impact of lynchings on subsequent generations.

The reports findings conclude that Florida was ranked number one in lynchings of African-Americans per 100,000 residents and Hernando County, where Brooksville is located, ranked second for the county rankings of lynchings of African-Americans per 100,000 residents.

There are documented attempts by leaders in the community to bring light the perceived racism in South Brooksville. The NAACP, acting on behalf of the residents, prevailed in court and won a judgment against the city and county on the basis of unequal treatment. There have been letters to sitting presidents, community events (I was on the leadership board for the annual Juneteenth Festival in 2005-2007, an event which celebrated the Emancipation Proclamation), and even attempts to change the city’s name which many residents found racists (including an unsuccessful attempt I led in 2006).

The following is a letter attempting to establish the claim of civil rights violation in how Hernando County and the City of Brooksville respond to their minority residents:
V. Letter to USDA Office of Civil Rights in 2003 from community activist (Claim Number 1517251) - July 10, 2003

This is a letter written by this project's key informant to the USDA listing six issues described as violations of civil rights on the basis of race. These issues are not directly related to the DPW site, but they express tangential attitudes that are important to consider. The claim by the author is that these opinions are held community-wide and are not just of one individual.

i. “Hernando County Administrator, for the Hernando County Government and the City Administrator for the city of Brooksville discriminated against all of the African American Citizens in South Brooksville area that spans both jurisdictions” - This issues deals with drainage problems in South Brooksville.

ii. “The City of Brooksville, governed by an all white government has steadfast and readily discriminated against the Citizens of South Brooksville” - The presented issued in this complainant is the misappropriation of Federal funds.

iii. “The City of Brooksville, governed by an all white government and Hernando County an all white government has steadfast and readily discriminated against the Citizens of South Brooksville” - Here the stated complaint mentions the former DPW site specifically and claims that the city and county have denied citizens an opportunity to live a complete and healthy life by allowing and deploying various contaminated sites throughout the African American community.
iv. Issue four claims the city and county diverted HUD and CDBG funds from their intended uses in the black community further denying blacks the full use of their lands.

v. The fifth statement makes the claim that since 1984, over $7,078,299 worth of grant dollars targeted for South Brooksville has been deliberately misused to stifled the growth of South Brooksville.

vi. The final complaint brought about in this document claims discriminatory practices in administering the Enterprise Zone and Revitalization Plan.

The letter was forwarded to the EPA (EPA to Key Informant letter dated August 1, 2003) and all complainants filed were discharged for various reasons including statue of limitations in filing the complaint (discriminatory practices needs to occur within 180 days of complaint), lack of evidence to prove discrimination, and failure to follow proper procedure for filing an complaint with the EPA. The EPA official enclosed a copy of the EPA's nondiscrimination regulations in their response.

One of the most powerful examples of the differing, and conflicting, perspectives is found by watching a community meeting between various governmental officials and residents. This was designed to be an opportunity to inform the residents of the state of the cleanup efforts but it quickly descended into an adversarial confrontation. Watching it, the old saying, “they might as well be speaking different languages” comes to mind and it may be more accurate then one might suspect. While able to communicate quite easily though language, they had great difficulties speaking across their differing perspectives.
Differing agendas and assumptions furthered the communication gap. Neither side was looking to embrace the others perspective, but instead was seeking for theirs to be valued. Lack of recognition of the other’s perspective, and thus no willingness to make the appropriate concessions, led to a repeat of the same unproductive encounter – and everyone leaves frustrated and perplexed by the actions of the other. Until understanding of how perceptions are constructed, along with the impact of race and class on those perceptions, the relationship between officials and residents skips like a scratched record.

VI. Community Meeting: Former Depart of Public Works Maintenance Facility - September 22, 2011 - Recording by Hernando County Government Broadcasting

This meeting was a community information meeting that included employees from the Department of Environmental Protection, Hernando County, the then-current project consultants, members of the media, the City of Brooksville and community residents. On the video the moderator mentioned that minutes would be available but when I requested the minutes, no record of them could be found so I am relying on my transcription.

The Official Presentation (20 Minutes)

The EPA officials gave an overview of the site and explained how this site has two different types of contamination that means it has oversight by two different EPA divisions. The representatives also clearly said that Hernando County is the responsible party for the cleanup. This meeting takes place after the EPA site assessment and before the remedial action plan (RAP) phase. The EPA referenced the previous cleanup attempts and referred to them as "interim" cleanups since they were done prior to EPA assessment. The EPA then proceeded to discuss the process for approval of the RAP and the means to oppose the plan.
"The department will not go away. We will not disappear into the woods." - EPA official to community

The EPA also explained ways the residents can contact them and how to find documents. The Southwest branch of the EPA in Florida has a special link to documents concerning the DPW site. Of note is that this is the only contaminated site given prominence on the front page of the southwest EPA website.

Hernando county officials then gave an overview of the site and listed the cleanup efforts to date. This included maps of the affected areas and the areas of the site that still remain to be addressed as of this meeting. They claim that protecting human health is a priority but then continued to express that they desired to meet DEP's minimum standards for clean up closure.

A consultant assisted the county in the presentation by explaining current cleanup plans that consist of capping the site and placing deed restrictions for future development to handle the contaminated soil which will be left on the site. To express the plan for groundwater, a diagram of "typical" Florida geology was used to explain the plan. No mention of the actual geography of the site was mentioned. They proposed a year of groundwater monitoring which is similar other contaminated sites in the rest of the state.

Pictures were shown of how they plan to proceed but the consultant was careful to caution that these images were not of the DPW site but of another site to be used as an example.

County official then gave a vision for the site that included building office space or recreational use. They made mention of a community center or medical offices. The county official did say that it would be up to a developer as to what would end up on the site.
The Community Response (35 Minutes)

The first resident, an older white woman that identified as being from "Brooksville", explained that she heard that there were people "dying of cancer, toxic dumping, deformed babies, and more in Mitchel Heights." Thirteen years ago she addressed this with county officials and claims that nothing has been done. Her husband, a white male who is a retired physician, follows, asking why nothing has been done about "the cancer rates, deformed children and autistic children in Mitchel Heights."

The county official responded that previous work by health department concluded that the site contaminants did not cause any health issues in Mitchel Heights. There was an audible murmur from the audience.

Residents begin to talk over the county official with claims that no one every tested them and that they do not know anything about this report. Several residents raise their hands to take issue with the county official. A community activist then gets up to "give the history that is missing from your history."

The activist gives a history going back to 1991 when EPA and the county first became aware of the issue. The activist, also this projects key informant, claims that even with knowing the issues with the site, the county was allowed to operate "business as usual" and continue to contaminate the neighborhood. He calls the cleanup a "smoke and mirror" act. He points out that the county purchased two homes adjacent to the southeast corner of the site and destroyed them, an acknowledgement that sits counter to the county's claim that there were no negative health effects to the community. The activist receives applause from the audience members for that comment.

"DEP and the health department need to stop concentrating on that site. You have been on that site for over 20 years … concentrate on the people."

"This is not cleanup unless you cleanup the homes."
"We are sicker than any other African-Americans in the state of Florida"

"This presentation here today is superficial. Full of holes."

"People put dogs in their backyard and dogs die."

"Young people going on dialysis and losing their babies."

"We want you to go into the neighborhood and start saving peoples lives"

<APPLAUSE>

A female African-American resident is one of the next to speak. She is in her mid-50's and states she has lived in Mitchell Heights since she was one years old. She says that she has had multiple miscarriages and is currently dealing with health issues related to her stomach. She has had parts of her stomach removed. She claims that contaminated water floods her yard and nothing has been done even though she has called.

"That's our neighborhood. We love our neighborhood. Why do we have to live like that?"

She states that her three kids are sick and her grandkids are sick which she claims is because they were raised in Mitchell Heights.

The older white woman that spoke initially gets up to offer to pay for the testing needed since the county refuses to pay to ensure for the residents health. More applause from the audience erupts. The activist hands the DEP officials Polaroid photos of children in Mitchell Heights playing in standing water. The children in the pictures have skin rashes attributed by the activist to the contaminated water in Mitchell Heights.

"Science says it doesn't (cause the health issues as claimed by the residents) but science can not give you a 100% answer that is doesn't."
Differing Worlds Collide

An official tries to bring the dialogue back to her original intent and again states that DOH concluded, "that there was no adverse health affect." The EPA official claims she is doing what she is statutorily required to do.

Community activists states, "I don't know where you are getting your information from."

At this point, the tone and speed of the dialogue has appears to be adversarial.

"I am sorry. You are wrong."

EPA official refuses to respond.

After similar community comments, a county official tries to move the conversation to the RAP and reviews what the plans are to remediate the site.

"I hear your plans for onsite. What are your plans for offsite? For offsite?" - Resident

"All the assessments have shown that the contamination hasn't spread any further." - Official

"For Mitchell Heights? Off site?" - Resident

Dialogue elevates to accusatory. Residents make claims of illegal activity by the county including not following Florida Stature and hiding stuff on the property.

White, female resident of Brooksville again speaks, "The best assessment you have here is the human assessment. How many of you (referencing the governmental employees) would want to live in that area for another three years? That's a death trap! And I have to say, I don't know how people can live with your conscience after seeing what is happening. I can hardly believe it."

<APPLAUSE>
The County Administrator asks to speak and he tries to control and calm the situation. He states that the purpose of the meeting tonight was to discuss the cleanup. He intends to discuss the county owned site and wants to minimize the discussion on issues not directly related to the former DPW site.

"We could keep doing testing but we have spent enough. We have hired a different consultant to look at the data and tell us what to do."

"We want to discuss the plan for this one site, the county owned site. Post the notice that we are proceeding with it so people can then get engaged through the public administration process. So far so good?"

"We are looking at problems one at a time."

The County Administrator twice has mentioned the figure of 4 million dollars as having been spent on the site.

"We came here to talk about one site. You came here to talk about a broader site, Mitchell Heights." - County Administrator.

“Which is more important? That site or the site where people live?” - Resident.

"Let me finish and you can then get into your debate." - County Administrator.

He continues with his attempt at appeasement:

"I always listen to you. I don't always pay attention but I listen”

"Due to legal action already launched against the county about Mitchell Heights, I am limited in talking about it tonight.”

"Whether I agree with the issue or not, I always have to first and foremost protect the organization.”

"Don't get the broader issue mixed up with this.”
Audience members, instead of being comforted by his words instead seem to have only been made angry. The County Administrator comes off as uncaring and unsympathetic. He is unable to connect with the residents because he is stoically and unapologetically sticking to the perspective of his cultural portfolio.

"I can't believe the value not being placed on human life here tonight. I can hardly believe that site is more important than human life. I am flabbergasted."
– White, female Brooksville resident

"You will spend 4 million dollars to clean up that site but do nothing to take care of the people down there with health problems? There is something wrong with that picture! Somebody getting rich off of our taxes" - Audience member.

A telling exchange happens next during the meeting. As an example of the impact of differing perspectives, it highlights how residents and officials lack an understanding of the perspective of each other. Here one can see the comparison of valuing “measured risk” versus “experienced risk.”

"I had a sister that died at 42. She had a baby that weighted one pound! And she had other things and you are going to sit here and tell me that the neighborhood didn't contaminate my sister? She used to swell up like a bitch! She died at 42 years old!" - Audience member.

"What you are telling us tonight that you are going to accept nothing that we the citizens are telling you?" - Community activist.
"And that 4 million dollars? You all built some engineers some big houses. They got big old office buildings. And all our people be dying." Community activist.

"We have to go based on the data that comes from the laboratory. We have to go on the data we have. I can only go on the basis on science. If I don't have data … you know." - EPA official.

"Our government is supposed to protect us!" - Audience member.

"We are not sitting here talking about a chair or a door. We are talking about human beings. You don't have to be religious but if you believe in something greater and that created us all how could we just look the other way and not say 'God! What are we doing?'" - White, female, audience member.

"Number of the things said here tonight are third-party allegations and we need to know more to follow it up." - EPA official.

"I have sent you photos of them dumping yellow, lead-based paint. Don't you have that it your records?" Community activist.

"The other issues that have come up (tonight) are valid also. The resource of knowledge that the community has that shows that these contaminants did invade their property is valid." Audience member.

"I raised my family. I love my house. I am not looking for money. I just want to live in my house safely and secure. That’s all I am saying. If you think I want something for nothing, you are wrong," Mitchell Heights resident.

**Participant Observation**

Research for this project started taking shape at the end of the summer in 2013 yet is wasn’t until the next year that my participant observation took place. It should be noted here
that I worked from 2005-2007 as the Redevelopment Coordinator for the City of Brooksville and was very involved during that time in South Brooksville redevelopment.

Much of my time spent in the community during this phase of the research project helped to address the 1st and 3rd research questions of this project. The influence of race and class on the everyday challenges, and the widening of vulnerabilities, were always apparent during my interactions in the community. My experiences are presented in this section in a way to bring attention to the realities of policy on people already struggling.

I. Initial SBERC Community Meeting

My initial meeting with community members took place at the bi-monthly meeting of the South Brooksville Economic Redevelopment Council (SBERC). There were 15 residents at the meeting and I was given the brunt of the meeting to discuss my plans for this research project. I had already met with SBERC leadership that included the man that would serve as my key informant. This presented an opportunity for me to get to know some of the active members of South Brooksville and for them to get to know me.

Immediately, I was seen as an expert. My status as a student at the university afforded me a certain privilege. Whenever there was any question, they turned to me to provide input. I was concerned that I would need to establish myself among the group but my position as a researcher, coupled with my previous history of service in the community, helped me quickly gain a level of trust. I knew some key people and events so I was able to display some insider knowledge.

Yet I needed to expand that trust throughout the community so I could properly complete my research and gather meaningful results. The opportunity to gain that social capital presented itself quickly.
II. Pesky Mosquitoes

At my first community meeting, one of the largest topics was that of the lack of spraying for mosquitoes in South Brooksville. Mosquito spraying was a hot topic in the local news as well. The county sprays for mosquitoes, and through an agreement with the city, the county also covers the homes within city limits. The city had decided to stop paying the county for mosquito control arguing that city residents pay county taxes as well so the cost of spraying is already covered. The response from the county was to stop spraying in the city.

South Brooksville is unique in that it resides partially in the city and partially in the county. Residents there often feel like their needs get lost among the passing of the buck between the city and county. With it being in the news media, and their perception of the mosquito problem having gotten worse, South Brooksville residents felt that they were once again being neglected.

As timing would have it, I had an appointment scheduled the next day to interview the director of the department that oversees Mosquito Control. In that meeting, I brought up the residents concerns and was informed that, “no one has called us.” This was a contradiction to the resident’s claim that they have been calling but nothing has been done.

It was explained to me that there were procedures that determined spraying. While the residents felt they were being purposely skipped, I was told that if the mosquito traps in the area were not “sprung,” then they would not spray. Based on the mosquito count in the trap, the county determined how much pesticide to spray in a given area in accordance with State regulations.

With all that being explained, the director promised to go out and spray in South Brooksville.

I left the meeting and went to a resident’s house for a scheduled interview. After 30 minutes of talking on his front porch, a county mosquito truck came by spraying and waved
at us. Due to my concern, I associated with getting the mosquito trucks in their neighborhood.

I was “someone that could get things done.”

This simple act bought trust and respect to both my work and myself. It helped align me with their plight, not as one of them, but as someone sympathetic to their side. I was now presented with additional community ills to solve.

III. Uptowns Destination

Enjoying breakfast in a small, family-owned restaurant uptown, my key informant shared stores about the family that used to own the eatery. When he was a child, he would sneak in the back door as to get some food. Being a young, black boy, he wasn’t allowed to sit up front where we were that morning. It is a story that could be repeated in multiple small towns all over the country yet Brooksville always seemed to surprise me.

“Finish up your breakfast. I want to show you something.”

Some of the major topics in the community have been revolved around storm water, sewage, and flooding. Water moving through the community flows from the north to the south - from the raised, former DPW site, through Mitchell Heights – and brings the contaminants with it. In addition, the city and county have been working on sewage lines, a series of ditches, and retention ponds in Mitchell Heights. During the hard rains, rainbow colored water moves through the community and floods resident’s properties.

Leaving the restaurant, we head into our respective cars and I follow him around South Brooksville to a road that borders the woods on the south side of the community. We park on the side of the road and I follow him into the trees, passing a broken gate and a “Do Not Trespass” sign. We are greeted with some small deer once we reach a clearing in the forest.

This patch of land sits a stone throw from the southern boundary of the black community. About 100 years from where we were standing was the property of the now defunct,
historically all black, K-12 school that many of the residents worked at or where they once attended school. In the ground, covered over by brush, were four large circular pits. These open bottomed holes in the earth were what remains of the sewage treatment plant hidden back in the woods. The way the city was designed, according to my key informant, was that all the “junk and muck” from uptown was sent through the black community - picking up whatever was in its path - and contained in these huge pits. Oddly enough, he shared, in the early 2000’s, these four hollowed out sections of the earth were abandoned and left to be reclaimed by the forest with nothing said or explained to a single community member.

I made a mental note to see what I could find out through historical satellite images. Lining this up with the background to how South Brooksville came to be settled by the black community, this seems to follow logically. Undesirable land occupied with undesirable people seems like the ideal place for undesirable waste.

I resolve to keep my research focused on Mitchell Heights and the DPW site. It is easy to be derailed and instead spend time investigating one of the myriads of problems in South Brooksville.

IV. Developer is god

The city has set up a community task force to select sites for phase I of a $400,000 EPA Brownfield grant. At this community meeting, an update of the selected sites was presented to those in attendance. Many of the sites are located on the south side of Brooksville.

There is a concern by South Brooksville residents that the influential white business owners will control this process and direct the funds to improve the lands they own. The sense from certain residents is that these powerful people are the ones responsible for the contamination, and now will profit from the cleanup by getting grant funds from the
government to improve their property. These residents are so frustrated with the site selection process that they withdraw their positions on the committee.

The guest speaker brought in by the city is a developer from St. Petersburg. She has a history of transforming distressed property into valuable developments by leveraging available grant funding. She proudly boasts projects where residents were moved out of their homes, the land was improved with federal funds, and subsequently sold for millions of dollars to developers.

I wonder if disconnect between the city and its black residents is much wider than I had previously suspected. The selected topic for tonight’s meeting is not one that will set the residents at ease and build up trust. In fact, bringing in a developer to promote how she moves people out of their communities seems to be presenting a vision for South Brooksville that is contrary to what the residents have shared.

The speaker continues by calling these neighborhoods places where “children do not have a chance.” She claims that development is the answer. In fact, she proclaims that the “developer is god.”

“Kids in poor neighborhoods live in a vacuum and never see the world around them.”

“Figure out where the pots of money are and stack them up!”

“Funding seeks funding. It’s all about leveraging.”

I ask about community involvement in these projects. Does anyone ask them what they want in their neighborhood?

“Unfortunately, it is the developer that decides what they want to build in the community,” she answers. “They have to make money. They will create opportunities for the former residents. Often, 26% of the housing units have to be deemed affordable to get Brownfield dollars and 20% of the jobs go back to the community.”
I wonder what those jobs look like? Most likely minimum wage service jobs that the former residents have to compete for with the new residents and those individuals from neighboring communities. And how much of that affordable housing is occupied by residents that were moved out?

These are questions that she is unable to answer.

V. Intra-community Battles

I was leaving the university after a long day of work when I checked the voicemails on my phone. I had a message from a leader in the local NAACP and he did not seem happy. He gave me his number and asks me to call right away.

To provide some context, it is important to know that in the fall of 2013, I approached the Hernando County NAACP for help with my project and was hoping to conduct a portion of my participant observation with their organization. We exchanged several positive emails and they offered their support. I continued to keep them in the loop and they suddenly stopped responding to me. After trying to re-establish connections, I took their lack of response as a change of mind in terms of helping with my project.

During my time in the community, I learned that the NAACP has little influence in South Brooksville. The local president is “married to a white woman and lives uptown in the country club,” a resident explained to me. When I was

--Reflection: Usually spending approximately 4-5 hours in Mitchell Heights at a time, I started to notice a pattern in my own health. Within an hour of spending half of a day in Mitchell Heights near the former DPW site, I was overcome with an intense migraine. This has happened approximately a dozen times and I generally do not experience headaches with this frequency. There is no empirical evidence to make the direct link from my migraines to Mitchell Heights but my own perception is that there is an association.
asked if I had talked to anyone with the NAACP, I shared that I had reached out to them but they stopped responding. Little did I realize that my comments would be used to mount an attack on current NAACP leadership.

When I called the president back, he was upset because it was reported to his boss, the regional director, that I was doing this project, had reached out to him, and he was refusing to return my calls. I reminded him of our interactions last fall and ensured him that it was his prerogative to chose to work with me or not. I also made it clear to him that I did not contact his regional director and did not want to involve myself in NAACP politics. He then proceeded to make accusations against the activist leadership in South Brooksville and say that they were trying to get him removed. I again expressed my desire to just conduct my research and not get involved in the NAACP politics. He asked if it was ok if his regional director call me herself to hear what I just told him. I stated that was fine.

I never received a call.

This served as a reminder that the community is made up of different voices that value different things. Regardless of what I was told, it would be incorrect to assume that there was a monolithic creed or position that represented the African-American community in Brooksville. Leaders with whom I spoke to were giving their own opinions and perspectives which may or may not be reflective of the greater community.

VI. Come Together Meeting

With all the dialogue I heard in the community about their needs and wants, it is apparent that better communication is needed between the local government and the residents. Attempts to promote communication have been attempted before, but they fall victim to the history of mistrust and misdeeds.
With that in mind, and with the participation of the community, I helped organize a series of meetings with the current Director of Public Works and county engineers to discuss the issues of drainage and mosquito control with the residents of South Brooksville at the office of SBERC. So far the discussions have been positive. The county has come with an attitude of listening, taking notes, and responding. The residents have been encouraged to have patience.

While not focusing on the former DPW site, any improvement in communication between residents of South Brooksville and the county can only help to benefit the people of Mitchell Heights. What remained was solidifying a unified vision for improvements in South Brooksville that incorporated all stakeholders.

VII. *Environmental Justice Workshop*

Meeting at 6 AM, the key informant hopped into my car and we left on a two-hour drive to an environmental workshop in Orlando, Florida. This gave me dedicated time to talk to him in detail about multiple topics. While not representing the entire community, the key informant certainly had the capital that earned him the right to speak and his opinion carried a lot of sway in the population. I started by asking him more about his life, his career, and his family. I got to know the man behind the sound byte as we rolled into downtown Orlando.

At the meeting, members of the Florida Brownfield Association presented strategies for pursuing funding and shared stories of successful development. The audience was filled with public health officials, people from local government development, and community activists. Of interest was a presentation of the “Brownfield to Healthfield” initiative.

There is a movement, and funding, for communities to consider redevelopment goals that transform brownfields to health-promoting assets. I spoke to an activist in Jacksonville who led a successful effort to covert a brownfield property into a community garden. They
employed aboveground farming systems with help from the local big-box hardware store. This project, one that was doable for Mitchell Heights, removed a neighborhood blight, provided an opportunity for employment, increased community pride, and introduced a location for fresh produce in a central location. This served as a solid introduction to brownfield remediation success and it was a time to build a stronger relationship with the person that was my key informant.

VIII. Hand Off

During my time spent with the key informant, he shared, and I agreed, that it was important to prepare the younger generation to continue caring about the concerns of South Brooksville. Yet many were unemployed and spent the day socializing under the big oak tree on Twigg St. Even more problematic for the key informant is the trouble that often sprouts out from the congregating under the tree. Known countywide as the epicenter of the area's drug trade, Twigg St. in South Brooksville invites a healthly presence from the local police.

IX. Missing Teeth

Pulling up to Victor’s house slightly before 7AM, I was surprised to find him standing outside with his bag in hand. I was picking him up to drive him the 30 minutes to dialysis to spend the day with him and see what it is that he experiences 3 times a week. As I stop in front of him, a county sheriff comes around the corner from the opposite direction. My first thought is that they didn’t like a young, black man standing outside in the early morning in this neighborhood. Little did I know that my day was going to get a bit more exciting.
Apparently a neighbor had called the police. Victor’s father, who suffers from dementia, had burst into Victor’s room at 5 AM waving a gun and accusing him of stealing his teeth. Jarred by the screaming, Victor grabbed his bag and ran into the front yard. Some rather loud negotiation between father and son must have been taken place because eventually someone called 911. A second officer shows up and I begin to wonder about the response time in this section of town. The city police have 34 officers on staff and only one city cop is black. There is a general mistrust and suspected view of local law enforcement by the residents.

The officers carefully approached the house and found a very calm, coherent, and charming older gentleman. They went inside and spoke to him, eventually coming back outside to inform us that he seems very relaxed and, while he does acknowledge that his teeth are misplaced, he is not concerned because his daughter is taking him to the dentist today to get a new pair made. He doesn’t recall busting in his son’s room and threatening him. He is not sure why his son is so upset.

At that point, the focus is on Victor. They start asking him questions and run his name through their system. They suggest he stays away for a while and leave his father alone. With what seems like a lack of fanfare, we get in my car, head to McDonalds, and then make our way over to dialysis. This morning was a firsthand, vivid reminder that there are external pressures in Mitchell Heights, agitated by race and class, which compound the burdens of environmental injustice. I wonder how big a bootstrap Victor would need to pull himself out of Mitchell Heights.

X. Pretty Woman and Large Needles

The ride to dialysis was filled with reflection. Victor expected so much more from life and everything he has worked for he feels has been taken from him.

“This ain’t no way for a man to live!”
Yet he makes the best of it that he can. Victor wears a sleeve on his left arm to cover the artery venous graft. He talks about how this kidney disease effects his manhood. At McDonalds, he orders four sandwiches and flirts with the girl behind the counter. He is a dichotomy of frailty and confidence.

“They saying you look like Tom Cruise.”

“Who is saying that,” I ask.

“Some of the b**** down there in the hood! They are calling you “white chocolate”! One girl says she wants to eat you all up! You like girls with some booty?”

“Man, I am taken by a beautiful girl so I am all good. Why don’t you just talk to them in my place?”

“Talk to them? Man, I have already hit that, ya know what I mean??!! Damn!”

In dialysis, they make me wear scrubs and leave my laptop at the nurse’s station. Victor has a private room and the same nurse every day. I stand at the doorway and make small talk while the machine is prepared for Victor.

He talks about how beautiful his nurse which causes her to blush. She makes a joke about finding him a bigger needle. They have a comfortable relationship that only comes from years of trusting the same person to save your life 3 times a week. Victor is sitting in a chair, snuggled in a blanket, and propped up by pillows. This will be his position for the next four hours.

He hates the needles and cringes when the line is inserted into his arm. He shares that no one, not even his family has ever seen him like this. The nurse confirms that I am the only guest Victor has ever allowed to see him in dialysis.
Once he is hooked up, I am escorted past rows of other patients attached to machines and into the lobby for four hours of reading, watching games shows on the single TV, and chitchatting with other “supporters.”

After over four hours, Victor comes through the door with his bag in his hand. He is different then this morning. He is quiet and less bold. The personality that was so loud at 8AM has been drained and a beaten man sits in my car.

He is more “healthy” now then he was this morning but he appears to be more “sick” than I have ever seen him. The man I picked up this morning that was flirting with the woman and woofing down some McDonald’s is the man that could save Mitchell Heights. The problem is that over the last four hours of dialysis, Mitchell Heights – and spending a lifetime as the recipient of the county’s southern chivalry – is slowly killing its savior.

XI. *Glimpse of Reality*

As a visitor of Mitchell Heights, there is only so much I can experience. It would be irresponsible to believe that contaminates are the only stressor of life and health. While this project focuses on environmental hazards, a reminder of the realities in Mitchell Heights made itself very evident during my research.

It was a Friday afternoon, and I had spent the day talking to residents, walking through the neighborhood, and conversing with folks that were out and about. The sweet smell of freshly baked goods flowed out of the home of one of the neighborhood’s well-loved grandmothers. An active member of her church, Mrs. Taylor was one of the rocks of the community. Her home sat directly across the street, north of the former DPW site. We exchanged pleasantries as I continuing onto my inspection of properties north of the site. Shortly afterwards, I headed into my car and back to my home in the suburbs.
Later on the evening, after I had settled the family in for bed, I learned that a violent murder had taken place in Mitchell Heights. Mrs. Taylor, her drug-dealing grandson and a young mother were dead. Another grandson, also a known dealer, was shot and found on a neighbors yard near death. The killer, a young man Mrs. Taylor helped raise, was hit by a truck directly in front of the former DPW site as he shot his last victim. Less than three hours after speaking to her, Mrs. Taylor, along with two other people are dead, violently murdered within the drug culture that consumes Mitchell Heights.

Survey Results

The community survey related to perceptions about the community, health issues, sources of information, confidence in authority, and overall environmental responsibility was completed with 50 participants. 96% of participants self-classified as being “Black/African American”.

Figure 10: A makeshift memorial in front of the home of the crime. (Photo Credit - Tampa Bay Times 2014)
American” while 68% were under the age of 49 and 80% reported annual incomes of under $20,000.

70% rated the community as “Somewhat Poor” or “Poor” as a place to live while over 80% do not see their community as becoming a healthier place to live. Yet more than 75% of participants reported having exercised or walked outside in their neighborhood over the past week while 38% said that activity lasted for more than 30 minutes.

Participants were asked to consider the environmental problems in their own community. 80% saw water pollution as a “Somewhat Big” or “Very Big” concern. This was followed by drinking water at 76%. The environmental problem of least concern was toxic waste; only 58% of participants saw it as a “Somewhat Big” or “Very Big” concern.

Considering these beliefs about their community and environmental contamination, 68% felt they could do “little” to “nothing” about the health problems environmental hazards could cause, and 68% said they knew someone who’s health has been damaged by environmental factors.

In terms of information about the state of the environment in their community, the participants shared that they get “A Lot” of their information from medical doctors (46%) and friends or relatives (40%) while 50% reported getting “None” from the local government.

In terms of having confidence in the information from those sources, 50% felt the most confidence in medical doctors while only 2% had confidence in the local government as a source of information. The Department of Health fared slightly better with 10% stating confidence in the information from DOH. Yet when asked about the responsibility to protect them from environmental risks, 56% said the DOH had moderate to a lot of responsibility while 61% said the same of local government.

(Complete survey results can be found in the Appendix.)
Eliciting Emic Perspective

The following table presents the results from the response exercise conducted with residents of Mitchell Heights. (N=10). They were given the 10 terms, one at a time, and asked to answer the question, “What does this word mean to you?” The table shows the top three responses in order of frequency.

While analyzing the data, there was a level of subjectivity when deciding if terms should be combined. For example, “disease” was coded as the same as “diseases” while a response of “Not” to the prompt of “Healthy” was counted separately from “Not Sick” for the same prompt. This allowed for the nuisances between “Not Healthy” and “Not Sick” to remain.

Table 3: Eliciting Emic Perspective results listing terms and top three responses.

<table>
<thead>
<tr>
<th>Term</th>
<th>Response 1</th>
<th>Response 2</th>
<th>Response 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>Sick</td>
<td>Exposure</td>
<td>Danger</td>
</tr>
<tr>
<td>Injustice</td>
<td>Racism</td>
<td>Outrage</td>
<td>Inequity</td>
</tr>
<tr>
<td>Hazard</td>
<td>Dangerous</td>
<td>Poison</td>
<td>Neighborhood</td>
</tr>
<tr>
<td>Contamination</td>
<td>Diseases</td>
<td>Water</td>
<td>Soil</td>
</tr>
<tr>
<td>Danger</td>
<td>Toxic</td>
<td>Life</td>
<td>Water</td>
</tr>
<tr>
<td>Healthy</td>
<td>Not</td>
<td>Not Sick</td>
<td>Poor</td>
</tr>
<tr>
<td>Sick</td>
<td>Yes</td>
<td>Unhealthy</td>
<td>Poor</td>
</tr>
<tr>
<td>Official</td>
<td>Responsible</td>
<td>One in charge</td>
<td>Villain</td>
</tr>
<tr>
<td>Expert</td>
<td>Control</td>
<td>Know it all</td>
<td>Educated</td>
</tr>
<tr>
<td>Good Neighbor</td>
<td>Friend</td>
<td>Community</td>
<td>Not Hernando</td>
</tr>
</tbody>
</table>

These data relate to the project’s first research question and offer an individualistic perspective that furthers the experiential nature of understanding risk. Even though this exercise invites a more abstract response by its design, its lack of any measurable responses is notable. Additionally, the replies of the residents can be categorized as negative and pessimistic. Only the term “Good Neighbor” had a majority positive response but those were turned inward and reflective of the community and not the experts.
Cognitive Mapping

The following is the result from the cognitive mapping exercise conducted with residents of Mitchell Heights (N=10). While initially envisioned as an individual exercise, after giving the group minimal guidance, they abandoned personal maps and instead constructed a group map. During the mapping exercise, there were no disagreements among the participants and multiple people were allowed to give input. When aspects of the map were suggested, each participant would seek further agreement from the group. This method addressed the issue of the community perspective (research question one).

Of note on the map is that the resident’s agreed with the boundaries of Mitchell Heights as understood by this project. The former DPW site, in comparison to the neighborhood, is drawn on a much larger scale. Additionally, the participants were asked to place a numerical score from 1-10 on the map with 10 being an area with high negativity and 1 being a positive part of the map. While placing scores on the map, A street, which is the residential area that sits adjacent to the south property line of the DPW site, received a “10” which signified the greatest level of negativity. Surprisingly they also gave the same score to D street, the road farthest from the site, and to the Southeast corner of Mitchell Heights, which is a wooded area. When asked for clarification, participants explained that rain water runs from the contaminated site in the northern part of Mitchell

![Figure 11: Group generated map of Mitchell Heights](image-url)
Heights and collects in the southeast corner of Mitchell Height. Due to this, “D” street and the woods to the east are seen as being very polluted and unhealthy.

Summary

The purpose of this chapter was to present the results that were collected during this project. I reviewed archival data related to the former DPW site and organized the summaries and comments in terms of the project’s research questions under the themes of the perspective of the residents, the perspective of the experts, and the impact of race and class. Within each topic, in addition to the archival data, I included a relevant synopsis of the semi-structured interviews. Relevant to all three research questions, this section also included an abridged transcript and my commentary on a community meeting between the residents and experts on Mitchell Heights. This interaction serves as an example of the communication issues that result from the differing perspective highlighted by this project.

Next, I shared my experiences in Mitchell Heights during a period of participant observation which applied most prominently to the first and third research questions. Finally, this section concludes with the results from a community survey, an elicitation exercise, and a cognitive mapping session. These three methods were utilized as a means to capture community relevant data to construct a population perspective while the archival data, semi-structured interviews, and participant observation valued the individual perspective.

The results are analyzed and discussed in the next section of this thesis.
Chapter Five: Discussion

Introduction

In this section, I will discuss the results in terms of this project’s research questions. First, I will restate the research question, then I will highlight themes as determined by myself and found within each research question topic by synthesizing the salient topics. This is followed by presenting several statements of findings, and finally, I will expand on the individual finding with support from the research data. After addressing the research questions, I will end on the findings of the third research question by utilizing a model I developed to illustrate issues in risk communication.

Research Question One

How do the residents of Mitchell Heights perceive the contamination at the former DPW site, the risks associated with the site and how does the site affect their everyday lives?

Themes

1. The residents of Mitchell Heights (emic) perceive the contamination at the former DPW site differently than the experts (etic).

2. The contamination at the former DPW site in Mitchell Heights is ever-present in the lives of the residents.

Findings

1. The residents have an engagement with risk based on the experiential.
2. The perceptions of the residents are not homogenous.

3. Residents do not always accept the numerical, technical understandings of risk and any threshold level other than absolute zero is challenged. They often hear the risk figures as individual risk as opposed to the population risks they are meant to represent.

4. There are issues with translation of the risk message from the experts (Measured Experience) to residents (Lived Experience) due to jargon and specialized knowledge. Additionally, historical and current circumstances create different perspectives among the residents that produce feelings such as mistrust, frustration, and complacency.

**Discussion of Findings**

1. The residents have an engagement with risk based on the experiential.

   This finding is based on the archival data and the resident interviews. When describing the contamination at Mitchell Heights and the perceived impact on their neighborhood, residents tend describe risk in a very personal way, and often in the first-person. Measurements of risk are described in relation to self using terms such as “my health”, “I saw”, or “I know.”

   This engagement with risk is phenomenological in nature (Benner 1994, Chan 2010, Todres et al. 2009). The reflection on risk is filled with intentionality and thus risk is intuited. In this way, the experience of the residents is filled with subjectivity. A person interacts with other social beings and their surroundings.

   In Mitchell Heights, the resident’s base their determination of risk levels, not on any risk assessment or report, but on what they have personally experienced or on what they have been told by others in the community. Hence risk is a “lived” experience that is afforded the
same, if not more, truth than science. Understanding this, when discussing issues such as health risk, it is important to understand how risk has been constructed by the ways it has been experienced.

Following in that same pattern of thought, residents will analyze risk using a model of “place.” Risk becomes an everyday concern, for example as in Mitchell Heights, and the contaminated site is present in the everyday. The former DPW compound, and the years of inaction and neglect, are passed on the way to work, cast shadows over resident’s backyard, and brings rainbow colored water during the rains. The former DPW site is a part of their “place”, part of their neighborhood, and part of their home. The contamination cannot be divorced from what is considered their “place.”

To contend with this phenomenological way of constructing risk, and to deal with the sense of loss within place, the solution then is to fix the experience. This includes valuing the experience, addressing the current and historical concerns that impact the experience, and transforming negative perceptions of person and place into positive ones. The science of risk assessment plays a vital role in the restoration of the experience, but it does not address the totality of the experience. The experts in Mitchell Heights do not understand that their work in cleaning up the site is only part of the process to making the community whole again. They fail to address the reality of living in Mitchell Heights and should acknowledge the stressors that negatively impact those experiences.

2. The perceptions of the residents are not homogenous.

An important point to consider is that while the risk message is socially received, it is not universally accepted in a homogenous manner. Risk can be less of a concern for a resident if it is seemingly less present in their experience. This could be due to length of time
in the community, distance from the contaminated site, or genuine disinterest in how the risk may impact their life.

In Mitchell Heights, there were some residents who took specific issue with the community leadership. They felt that individuals such as the key informant had their own hidden agendas and were looking to prosper in some way from the site cleanup. Due to this opposition to community leadership, these residents also tended to take issue with the positions presented by the leadership in terms of scope of problem or priority of concern. Based on community politics, certain residents may reject a proposed community initiative.

Also, my encounter with the NAACP, as detailed in the results section, shows a fragmentation in the representation of the residents. The NAACP is often afforded a position to speak on behalf of the residents in South Brooksville by the experts. Yet the NAACP is often in conflict with the people they are supposed to speak for as they are not part of the South Brooksville community. Many of the residents of Mitchell Heights do not like the current leadership of the local NAACP for this reason but it is the leadership of the NAACP that is called upon to share the “black voice” in venues such as local governmental meetings. Furthermore, these conflicts are larger than ideological; they can be personal and hostile.

3. Residents do not always accept the numerical, technical understandings of risk and any threshold level other than absolute zero is challenged. They often hear the risk figures as individual risk as opposed to the population risks they are meant to represent.

Residents, with their lived experience of risk, do acknowledge the measured experience of risk but they view this risk in a different manner than the experts. What they do not accept is the experts interpretation of the numerical, technical understandings of risk. While the science is seen as objective to the experts, the interpretation of the data has subjective
aspects. For example, there are over 70 pages of emails documenting the disagreement between the local consultant (an environmental scientist) and the State of Florida’s Department of Environmental Protection employee (also an environmental scientist) over how to interpret the results of the science and how to proceed next with this situation. This inability for the experts to agree on what the science means allows for the analysis of the scientific data to be challenged. The residents of Mitchell Heights filter the science through their lived experiences of risk and contest the experts’ conclusions. Those experiences are given greater weight by the residents as opposed to the scientific data.

Additionally, those statistics are often challenged; the residents perceive them to portray a reality that is different from what the experts suggest. When presented with a risk figure, any probability outside from zero probability is too high for the residents. For the expert, a figure for risk of cancer could be 1 in 1,000,000 and thus not seen as significant. Yet the resident is more concerned that there is a risk for disease regardless of how probable that risk may or may not be.

Similarly, residents often speak of risk data in terms of individual risk as opposed to population risk. Yet risk assessment probability figures are not designed to predict an individual’s chance of getting sick. Instead they are utilized to refer to populations. Residents in Mitchell Heights shared risk assessment data with me in conversations that showed a misunderstanding of the figures and a misappropriation of the science as having individual as opposed to population significance.

4. There are issues with translation of the risk message from the experts (Measured Experience) to residents (Lived Experience) due to jargon and specialized knowledge. Additionally, historical and current circumstances create different perspectives among the residents that produce feelings such as mistrust, frustration, and complacency.
During an interview with an environmental scientist, he shared that after graduating with his PhD in environmental science, it took a year of being on the field to learn the language of the discipline. Specialized knowledge that is familiar to only one of the parties furthers the imbalance of power. Risk assessments are created within a certain sphere and each carries with it the pages of the perspective from the creator. The creators of risk assessments are varied in their own backgrounds - disciplines, jurisdictions, and objectives – which construct a particular worldview that becomes a factor in the risk messages they create.

This inability to communicate effectively is further complicated by the differing values inherent in promoting a measured experience over a lived experience. Routinely, the data collected from Mitchell Heights showed that residents were speaking though their lived experiences while the experts were responding with measured experience. These different approaches to processing and communicating information are comparable to a poet describing a sunset to a computer that operates in binary. Neither side is invalid but to transmit the knowledge, a translation must take place.

Translations can be hindered, as in the case of Mitchell Heights, when the context of each perspective is neglected. For the residents of Mitchell Heights, their perspective includes perceived grievances stemming from the treatment of minorities in Brooksville such as the 1948 ordinance, the mismanagement of the NAACP lawsuit judgment, and the lack of urgency in cleaning up Mitchell Heights. Each of these events, among countless others that may be even more personal, become part of the perspective of the members of the community. As the results of the survey demonstrate, even newer residents quickly assume a posture of mistrust towards governmental figures. These are all factors in creating the perspective that can distort and deter communication if it is not given the proper consideration during interactions.
To summarize the resident’s lived experience:

<table>
<thead>
<tr>
<th>“Measured” Experience</th>
<th>“Lived” Experience</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Phenomenological in nature</td>
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<tr>
<td></td>
<td>Follows a Place Model of analysis</td>
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<td></td>
<td>Focus of fixing &quot;experience&quot;</td>
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</table>

**Research Question Two**

How do government personnel and scientists perceive the contamination at the former DPW site, the risks associated with the site and how the site affects the lives of the residents of Mitchell Heights?

**Themes**

1. The experts perceive the contamination at the former DPW site differently than the residents of Mitchell Heights.
2. The contamination at the former DPW site in Mitchell Heights is removed by several degrees from the lives of the experts.

**Findings**

1. The experts have an engagement with risk based on what can be measured.
2. The position of the experts is not homogenous.
3. Experts do not always accept the experiential understandings of risk and any experience not validated by science is challenged. The experts often hear experiential
risk as unsubstantiated claims and not as the individual perception of reality they represent.

4. There are issues with the translation of the risk message from residents (Lived Experience) to the experts (Measured Experience) due to biases and power differentials. Additionally, historical and current circumstances create a perspective which produces feelings such as exasperation, cynicism, and skepticism among the experts.

**Discussion of Findings**

1. The experts have an engagement with risk based on what can be measured.

When speaking to the experts, both those who were considered scientists and those who were civil servants, their way to comprehend issues of risk in Mitchell Heights are based on collected statistical data or a “measured” risk. While the accuracy of that data has been discussed earlier in this paper, for the experts, the science is seen to be objective and the best indicator of population risk. With varying degrees, politicians tend to value experiential data more than environmental scientists; yet the experiences of the residents are invalidated when not supported by scientific data. Unless the science reveals risk, the expert is unlikely to act.

Science demonstrates risk by utilizing a threshold model of analysis. In this mode of understanding risk, a base level statistic is measured against current levels and the aim is for the current levels to fall within an acceptable risk level. So risk is analyzed and giving importance by how measured statistics meet the established threshold. These thresholds are often not specific to a site (there may be some adjustment for topography or geology) as they are established on statewide metrics but yet they are use to make local decisions.
So the focus of the experts, armed with their measured risk data, is to fix any gaps that fall outside the threshold. When a statistic is not in line with the acceptable risk level, then it must be addressed to return it to the accepted level. These accepted baseline levels acknowledge the natural occurrence of certain items in the environment that may be an issue only in greater concentrations.

2. The position of the experts is not homogenous.

Research in Mitchell Heights highlighted that objective science has subjective interpretations. The experts, looking at the same collected data, often disagreed on the best way to proceed. In fact, some of the greatest conflict when studying Mitchell Heights was not between the residents and the experts, but between the experts themselves. Divergent opinions were often seen between the vertical positioning of experts along the federal, state, and local levels. There are very real institutional differences among these various jurisdictions of government and they can result in power struggles among the experts.

Local government fiercely held onto local control and claimed a specialized local knowledge all the while looking upwards for resources. The state excelled at passing the buck up or down. The federal government was so far removed from the problem that they played the role of placater with empty threats and promises. These multiple agendas resulted in directives that seldom fixated on a coherent solution. In a similar fashion, the charges of racism and discrimination were levied hardest at the level closest - the local - while as one moved upward, the charge was more that of accessory to a crime than perpetrator.

The anthropology of policy would ask questions about this hierarchy and the effect on the residents of the interplay between policymakers and policy implementers. What is evident is that this creates confusion in terms of responsibility and authority. Local experts have
opinions on how to proceed while the state has another. To further complicate matters, the federal government has its own established protocols. This serves to create delays and lack of direction. To the residents, this government-as-usual appears to instead be intentional neglect based on race and class.

3. Experts do not always accept the experiential understandings of risk and any experience not validated by science is challenged. The experts often hear experiential risk as unsubstantiated claims and not as the individual perception of reality they represent.

As discussed previously, the experts rely on a measured risk paradigm. They tend to give less value to the experiential risk of the residents. The archival data and the expert interviews consistently showed a preference for science and statistical results. When asked about the claims of residents, the experts reverted back to presenting their reality of measurable data. To the experts, the findings of the risk science showed no significant health risk to the community.

The allegations by the residents of health issues that are directly related to the contamination in Mitchell Heights are not supported by the health assessments or the blood-lead testing. While not denying the validity of the medical concerns, the experts do not connect them to the environment. Instead, the experts would point to resident’s lifestyle choices and heredity, for example, as the cause of disease.

The possible exception to this would be the politicians. Elected officials were more likely to give greater value to the experiences of the residents in Mitchell Heights. Local politicians were also more likely to spend time with the residents listening to their concerns and giving the appearance of helping. Yet, when it came time to make decisions concerning
Mitchell Heights, the politicians reverted back to reliance on science and the measured risk supported by the scientists.

4. There are issues with the translation of the risk message from residents (Lived Experience) to the experts (Measured Experience) due to biases and power differentials. Additionally, historical and current circumstances create a perspective which produces feelings such as exasperation, cynicism, and skepticism among the experts.

When communicating the lived risk experience, residents faced a barrier in that their claims were not supported by the science. The experts’ reliance on science created a preference for statistical data and an inherent suspicion of experience. When examining risk, the experts had a distinct bias for measurable risk and this measurable risk became the driver of environmental health policy.

Armed with science, and a belief in its infallibility, the experts can leverage the power behind measured risk to construct the larger accepted story of Mitchell Heights to those outside of the community. In Mitchell Heights, the experts hold the power of measurable knowledge that stands in contrast to the localized experiences of the residents. Science offers the experts a system of authority that does not address the experiences of the residents in Mitchell Heights. In this way, the experiential risk claims do not translate into the objective truths valued by the experts. In this paradigm, if the experts believe that if they gave value to the resident’s assertions, the experts measured risk would lose its supremacy as the solely accepted risk voice.

With the loss of power a very real fear, the experts main a tight hold on measured risk as the primary determiner of risk by discrediting the resident’s experiential risk. They
maintain a perspective that puts off the resident’s claims as unreasonable and sees their leaders as troublemakers. They look down on those that do not value objective science as they do.

To summarize the expert’s lived experience:

Table 5: Modes of Perceiving Risk (Measured Experience).

<table>
<thead>
<tr>
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</table>

Research Question Three

How do race and class affect the resident’s exposure to, and perception of, risk as it relates to the former DPW site? How can risk communication in public health policy and practice better address resident’s perception of risk?

Themes

1. Race and class are factors in both the perception of risk and the communication of risk for the residents and the experts.
2. Policy concerning the determination and subsequent communication of risk is primarily concerned with the perspective of scientific data.

Findings

1. Race and class are not separable concepts to the residents while the experts can separate race from class.
2. Risk communication is a uni-directional transmission of knowledge from the expert to the non-expert that values science over lived experience.

3. Risk, as a population-level indicator, is culturally contingent and socially constructed. Thus, stakeholders hold distinctive perspectives and conflicts arise from not giving value to differing risk perceptions.

4. Race and class create stressors that widen health disparities.

**Discussion of Findings**

1. Race and class are not separable concepts to the residents while the experts can separate race from class.

Race and class are often discussed in tangent and they do impact each other frequently when discussing issues of environmental injustice. Yet they are two distinct concepts that can present unique concerns. For the residents of Mitchell Heights, it is apparent that their race and class was bound tightly in defining who they were and their situation. They were poor, and hence vulnerable, because they were black. They may point to the 1948 ordinance as a means of providing validation or other perceived injustices. At the same time, because they were black, and therefore discriminated against, they were poor. Here one could look at the mismanaged NAACP lawsuit for supporting proof.

With the massive structural integration of race and class into the heart of the Mitchell Heights story, “blackness” and “poorness” are seen by the residents as too daunting to overcome. The residents, while not necessarily conceding defeat, see the folly in the promises of bootstraps and American dreams. By birth they were given the burden of non-privilege.

When speaking to the experts, residents took the position that race and class in Mitchell Heights, were not intertwined. The experts did acknowledge the economic struggle of the
residents and saw their frustration with class-based inequalities as justifiable and warranted. The experts were more likely to have empathy regarding class, and its effects on the resident’s position and difficulties, than race. The claim of racism is personal and directed towards the experts yet the individual expert feels farther removed from the responsibility of the forces creating class differentials.

When asked about race, only two of the experts interviewed admitted that it was a possible factor in the situation in Mitchell Heights, both the initial contamination and the delay in cleanup. Only one expert connected race to class in terms of highlighting lack of power in the community. I was more likely to hear race as receiving the blame for the issues surrounding the cleanup. The experts felt the people in the community used the “race card” and claimed racism to take advantage of public sympathy. Additional, several experts saw the community leaders of the “black community” as being the source of misinformation and trouble. It is these “black leaders” that stir up the people against those trying to help and it is their race that receives the blame for their actions. The leaders are seen as exploiting their race status for nefarious gains that result in their own betterment and not for a greater community benefit.

Yet class, specifically lower class status, is offered more protection and in fact is often afforded sympathy. As a society we are often given examples of poverty and expected to respond with compassion and sensitivity. Mitchell Heights is an example that, from the expert’s perspective, race is an easier target for criticism than class.

This serves to reinforce the power differentials. Class has a greater base from which to unite people to seek remedies to injustice. Yet any strength that could be found within a class is dampened by the dividing characteristic of race among people in a population. For this reason, Mitchell Heights is continually framed as a “race” issue and South Brooksville as a “black” neighborhood. Race is a divider that can allow for the vulnerable to be additionally
weakened by lack of support from those outside of that race. In all of my research, I only encountered one couple, a retired white couple, who spoke up on behalf of the residents in Mitchell Heights and even their appearance in this story was brief.

2. Risk communication is a uni-directional transmission of knowledge from the expert to the non-expert that values science over the lived experience.

The process of risk communication begins with the creation of risk knowledge. This traditionally happens at the expert level with little input from the community perspective. It involves the preeminence of measurable data and the analysis by the expert. The expert has both specialized learned knowledge and specialized experiences that inform the analysis and derived recommendations.

This is packaged into a product that is presented to the residents as having power validated by the belief that the science and expert analysis has a high level of authority. In this way, a risk assessment assumes a type of agency as it drives policy and decision-making by the high value attributed to its formation. The risk science takes on a role akin to a sacred text as the clergy (the expert) translates, explains, and challenges the congregation (the residents) based on the authority claimed by their exclusivity to the specialized knowledge. When the expert speaks of and communicates a risk assessment, it is expected to assume infallibility status simply based on the high position that science holds to the experts. In this way, the science is seen as a more accurate indicator of risk than experience. Additionally, experiences can be, and often are, entirely discounted in the discussion of risk.
3. Risk, as a population-level indicator, is culturally contingent and socially constructed. Thus, stakeholders hold distinctive perspectives and conflicts arise from not giving value to differing risk perceptions.

Each stakeholder brings a unique perspective to the determination of risk in any given situation. An environmental scientist, for example, brings the perspective of academia, science, and outsider. A politician may include pandering, self-importance, and budgeting. The residents themselves may have advocacy, victim-mentality, and insider knowledge.

When those differences are not recognized, and one perspective is diminished in terms of importance, conflict can occur. People want their views to be given value and when they feel that it is not, they can choose to respond in a manner that attempts to increase their power while decreasing the power of others. In Mitchell Heights, there are two primary, overarching perspectives concerning risk and they continually stand in opposition to each other instead of seeking to complement each other.

The experts valued a measured experience of risk while the residents held to a lived experience of risk. Placing the previous discussion into a table, one can see the inherent conflicts:

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<tr>
<td>Focus on fixing &quot;gaps&quot;</td>
<td>Focus of fixing &quot;experience&quot;</td>
</tr>
</tbody>
</table>

In Mitchell Heights, how risk is understood, how it is analyzed, and how it is fixed all stand in conflict when looking at the experts versus the residents. Disagreements in Mitchell Heights have as a driver the importance given to the measured experience of risk over the
resident’s lived experience of risk. The residents translate this into feelings of non-importance as powerlessness and discrimination. One of the errors in the thinking of the residents is that they view the conflict in relation to themselves and their value when in fact, it has much to do with the omniscience attributed to science and the value of measurable data by the experts.

Issues of race and class are significant and influential, especially when evaluated historically, however the scientific perspective held by the experts is given greater importance. Today, the difference in how risk is perceived - the measurable versus the experiential - is the primary driver of conflict in Mitchell Heights and it is further agitated by race and class. Race and class exist as institutions, attested historically and embedded structurally, that handicap the voices of experiential risk and further inequalities.

4. Race and class create stressors that widen health disparities.

Race and class biases exist at an institutional level and create stressors that increase a population’s vulnerability. These stressors perpetuate inequalities by being embedded in systemic level drivers of society. Historical, structural, and everyday violence are examples of three vehicles that allow race and class to continue to create both community and individual stressors. To address these stressors, the community or individuals need resources that exceed the “cost” of the stressor. If the resources are not in excess so as to eliminate the stressors, stress results.

A negative perception of health, which may or may not relate to an actual illness or disease, is a stressor. In Mitchell Heights, negative perceptions of health are directly related to the realities of the vulnerabilities created by race and class. Since the resources in the community, or those resources of the individual, are generally unable to eliminate the
negative health perception stressor, psychobiological stress can result. This psychobiological stress can be a factor in developing biological health issues. In this way, negative health perception, as a causation of stress, furthers health disparities among vulnerable populations.

**Risk Assessment Model**

Risk communication, in practice, is a uni-directional process of passing information from the experts - or the producer of risk knowledge - to the residents - or consumer of risk knowledge. The experts and residents experience risk differently. Yet risk communication is not the passing through of a monolithic piece of scientific truth. On the contrary, the risk message is complicated and constructed of many aspects that are often forgotten when examining the response of the consumer. The Risk Assessment Communication (RAC) model shows how risk is traditionally communicated and how it has been communicated in Mitchell Heights:

![Risk Assessment Communication (RAC) Model](image)
The experts are the producer of risk knowledge. They value a measured experience of risk that depends on science and statistics. This forms the “official message” but that message is not uniform in nature. That message is constructed from multiple disciplines and includes those that may not have a background in risk areas, such as toxicology. The official message may also come from separate expert sources so it would not be surprising to find conflicting interpretations of data. What is key to acknowledge is that the experts each produce their assessment of risk within their own context and the official message is influenced during its creation by each producer’s distinct perspective.

The official message may be produced from the federal, state, or local level and additionally from different agencies, divisions, or branches within those levels. Each of these has its own operational paradigms, barriers to overcome, limitations on jurisdiction, or organizational goals. This opens up the issues of bias and agendas that are encased in the official message. The resident is left bewildered, as it can be unclear as to which official message is the most applicable and correct.

Furthering this confusion is the dissemination of unofficial messages along with the official message. In Mitchell Heights, many attorneys entered into the fray, as well as, neighbors, pastors, media, and even the local mail person distributed unofficial messages. Each of these brought with, and shared, a version of an unofficial message that has credibility to the residents and offers up additional conflicts with the official message. The producers of the unofficial messages each construct their messages through their own social context that creates unique competing messages to the official message.

As the official and unofficial messages disseminate into the community, they are joined with unintended messages to formulate the complete risk assessment communication product.
The unintended message includes not just verbal but non-verbal aspects of communication. In Mitchell Heights, while the residents are assured the safety of the former DPW site, a chain-linked fence blocks it off and sections are overgrown with weeds. Thus it looks like a contaminated site, as one would imagine a polluted piece of property to appear. This unintended message helps foster the notion that this property is dangerous and risky. Signs placed at the sites boundaries telling people to not come onto the property, while well intended and needed, also contribute to the perception of risk. To help address the unintended messages, the current Director of Public Works who has authority over the site in Mitchell Heights, has vowed to keep the site maintained and try to give it a “healthier” appearance.

The official, unofficial, and unintended messages pass through the resident’s social context. This greatly impacts the reception of the multiple messages and becomes a filter for risk translation from the perspective of the experts to that of the residents. As the messages enter into the sphere of the residents, the importance of measured experience gives way to a valuing of lived experience. This is a key point where risk communication misunderstandings occur. As lived experiences become prominent in the understanding of the group of messages, earlier community issues are replayed by the residents and the risk messages are received through the community’s worldview.

What this model does not address is how correct the information produced by the experts may be concerning risk. The issue remains that even if the official message is the truest message, not recognizing the complexity of the risk communication process can lead to its rejection. Most producers of risk communication fail to acknowledge the inherently interactive nature of risk communication hence they fail to give value to the social context, and lived experiences, of the residents.

While this model demonstrates the traditional communication of risk, and the mode of risk communication used in Mitchell Heights, it can be altered in a manner that recognizes
the shortcomings and adjusts to correct the weak points in current risk communication procedure. Ultimately, a bi-directional process should be encouraged where the consumers become producers as well and vice-versa. A participatory risk assessment model, that values the cultural assumptions of the experts and residents, would address both the accuracy of the science and the interactive role all stakeholders play in the interpretation of the message. As opposed to being seen as vessels of information, residents can be a source of valuable, experiential knowledge.

The following model demonstrates the recommended changes to the model of traditional risk communication. It highlights the interactivity already inherent in the process and empowers the resident to take on the role of producer. It also encourages the expert to assume the position of consumer. All the stakeholders could benefit from critiquing their own paradigms.

Additionally, this model offers up a bi-directional mode of communication. Knowledge transfers and translates both ways. This also helps bring about equality to the communication process.

![Figure 15: Risk Assessment Communication (RAC) Model Revised](image-url)
Summary

This chapter was a discussion of the project’s results and it was structured by addressing each research question separately. For each of the research questions, themes were identified and findings were discussed in detail. The first research question primarily dealt with the residents, the second question with the experts, and the third with issues of race and class. Finally, this section presented a Risk Assessment Communication Model I developed. The Risk Assessment Communication Model shows how the risk messages are constructed, transmitted, and received. I recommend changes to this model to improve communication between residents and experts.
Chapter Six: Conclusion

Introduction

In this section, I will restate the main anthropological issues and provide a summary of the research findings. Next, I will discuss the project’s findings to the current literature and discuss where this research added to the scholarship. I will then consider the contributions made by this project to applied anthropology and public health. From there I will present the recommendations of this project. Finally, I will discuss areas for future research along the topics identified in this project and offer up an opinion of the project’s limitations.

Restatement of Main Anthropological Issues

Risk, as it is commonly understood, is a problematic term in that risk is constructed with no regard for the cultural context where it resides during its creation, communication, and reception (Sjöberg 2004:51). Assessing risk is not an objective exercise, instead, it is a highly subjective undertaking utilizing flawed scientific methods. Furthermore, health risk as understood by the risk experts – environmental scientists, politicians, civil servants – is based on a statistical, measured experience of risk and this is not a sufficient understanding of risks as understood by residents. The resident’s perspective of health risk is phenomenological in nature and centered on the experience of risk. This differing in how risk is deceived is one of the major drivers of conflicts in situations that are volatile due to the reality of living near an environmental hazard.
These conflicts arise due to the lack of valuing the different perspectives of health risk and of neglecting the historical and social context that serve as filters for a specific worldview to be created. For the experts, they fail to acknowledge their own biases which influence how risk is quantified and remediated. Different disciplines, departmental nuances, and issues of scope of jurisdiction impact the formal preparation of an environmental health assessment along with the procedural and policy recommendations. This is an aspect of the risk assessment process that requires a self-reflection and is often not acknowledged.

From the resident’s perspective, messages concerning risk are not received without passing through the social context formed by the realities of everyday life. For instance, minority and low economic status are held to be related variables to the location of hazardous sites. (United Church of Christ 1987). In this manner, institutional level violences – the historical and structural – coupled with the everyday violences, are overarching factors in how risk messages are received by both the community and individual. Race and class are intertwined with the daily experiences of life and it is here that a scientific message concerning risk is presented for acceptance to the residents.

Central to these issues are questions concerning power – who has power, how did they get it, and how is power maintained (Farmer 2003)? The perspective of science is preferred over the experiential perspective as those that create and communicate the risk message have the power to shape and drive the message. They are afforded this position through knowledge differentials, as those that utilize science claim to have the objective truth (equating to “power”) while those favoring the experiential are more subjective and thus less “true” (or “less powerful). The powerful minimize their own subjectivity and control the production and communication of the risk message.

Conversely, those that value the lived experiences of risk are not just impacted by the lack of the “appropriate” type of knowledge; power differentials are also widened by the
historical and structural violences already embedded within society. For the residents who value the lived experiences of health risk, this amounts to an institutional failing – those entities charged with their protection are systematically designed to favor and promote inequalities. From a political economy perspective, public policy perpetuates the disparities through the inclusion of such as racism and classism into the law and the economy.

Anthropology as a discipline is ideal to offer a critique of these issues in how environmental health risk is perceived and why certain perspectives are privileged. When examined though an anthropological lens, one can see how policy is engaging science to reinforce structural biases and colonialist attitudes. With this in mind, this project found as its main anthropological issue that all the stakeholders - including the scientists, politicians, and the residents - culturally construct the environmental health risk messages. This was examined by looking at the following:

- The lack of documentation into the subjectivity of the health risk assessment process – i.e. the critique of science
- The differing modes for creating, communicating, and receiving risk in which the resident’s perspective is not valued – i.e. the critique of power
- The impact of race and class on furthering inequities and disparities in the environmental health risks message – i.e. the critique of policy.

**Summary of Research Findings**

This project found that in Mitchell Heights, there were distinct differences in how environmental health risk was perceived by the stakeholders. The environmental scientists, who were often also government employees, had the strictest reliance on an “objective” science as they created, communicated, and received risk. They failed to account for their
own subjectivity in addressing risk and were least likely to incorporate lived experiences into their perspective. Politicians, while closely aligned with the scientific perspective, tended to revert back to what seemed safer, and statistical data offered the best ally but they were open to listening to the lived experiences of the residents. The residents placed a high value on the experiential while having a mistrust of the science. There were also issues where the science was not understood in the manner it was intended to be understood due to a general lack of knowledge by the residents of environmental science. The environmental risk assessments were written in a manner that favored the scientific community, not the residents of Mitchell Heights.

Additionally, Brooksville has a past in terms of policy and practice that complicate, if not created, the issues for the resident’s of Mitchell Heights that exist beyond the environmental hazard. Racism and classism have been institutionalized as architects of the area’s inequalities and disparities. As the research showed, this has been accomplished through mechanisms as varied as the naming of the city, the lynchings of young, black males, and the lack of maintaining community infrastructure among many other instances of racism and classism. These are considered “violences” because they hurt specific people and they embedded in the political and economic structures of Mitchell Heights. Hence, the historical narrative of Brooksville’s racism and classism is inseparable from the conflict over health risk in relation to the former DPW site. Risk is culturally contingent and socially constructed hence it a product that must contend with the historical and structural violences, along with the everyday violences, that impact Mitchell Heights.

**Relation to Scholarly Literature**

This research has worked from within the current literature by expanding on a theme that is addressed, but not fully developed in the existing scholarship, i.e., environmental risk is a cultural constructed concept both from the perspectives of the scientists, politician, or
resident (Sjöberg 2004:51). Each of these views has their own individual perceptions on the health risks associated with an environmental hazard and those perceptions often value entirely different modes of understanding (Brulle and Pellow 2006; Casey 1993; de Certeau 1999; Rodgers 1994:263). While there is a great deal written about this from the viewpoint of the community or its members, this research also examines the “expert” (studying up) perception and the resulting communication of that particular view of risk. Furthermore, this thesis addresses the subjectivity of the risk assessment science, an area not fully developed in the literature.

Additionally, looking at the theoretical framework of this research, the work with this project’s case study supports the theoretical assertions made by anthropology in regards to the interplay of power (or lack thereof) and race/class (Checker 2005:94; Lejano and Stokols 2010). It also affirms recent anthropological thoughts on social justice and the role social capital plays in the ability to right inequalities (Cernea 2000; Checker 2007; Wisner et al. 2004:49). This project provided data that aligns with anthropological research into policy creation and implementation. Furthermore, and most extensively, the research supports traditional anthropological arguments highlighting the impact of structural, historical, and everyday violences on perpetuating and deepening vulnerabilities. Specifically, this research has added to the literature within the anthropology of policy by examining the cultural construction of the environmental health risk message.

**Contributions to Applied Anthropology and Public Health**

Applied anthropology is the use of the methods and theories of anthropology to address human issues. This project is applied anthropology in that it utilized ethnographic tools to address the conflicts centered on the environmental contamination in Mitchell Heights – the inability to recognized the subjectivity inherent in risk assessment science, the
differing of health risk perceptions that impact the creation, communication and reception of
the risk message, and the role of race and class in furthering inequalities and disparities.

In terms of methods, the project used archival research, semi-structured interviews, and participant observation as the primary ethnographic tools. The archival research was a foundational method that informed the remainder of the project. It helped build an understanding of the issues that influenced the progression of the project.

Through the semi-structured interviews, the subjectivity of the risk assessment science was evident. The experts, while relying on a measured experience of risk, varied on their analysis of that data. This project documented conflicts from within the environmental health expert community on how to best evaluate the risk levels and the proper remediation of the risk. Additionally the semi-structured interviews with the experts revealed a perspective that valued the science over the experiential.

The participant observation, coupled with the semi-structured interviews of the residents, helped formulate the ideas around the experiential understanding of risk held by the residents. These methods showed the sharp contrast as to how perceptions of risk were created and maintained in practice. In much the same way, it was here that the impact of race and class became evident. The resident’s experiences, coupled with the learned knowledge of the archival data, supported the claims found in the literature review about the influence of racism and classism on furthering inequalities and disparities. The residents expressed a struggle with stressors due to race and class, i.e. archaic sewage infrastructure, and the lack of resources, i.e. political power, to eliminate these stressors. The results are a community under stress that increases vulnerabilities and disparities.

In terms of anthropological theory, a political economy lens is often used when studying issues of inequalities and this project is no exception in making use of that paradigm. In fact, contemporary anthropological studies of this nature favor structural
violence as a framework to situate analysis (Farmer 2006). While this is a very valuable approach, and one heavily applied in this research, this project extends that analysis further by providing an explanatory model. This model, the Risk Assessment Communication (RAC) model, was resituated to create a hypothesis, after thorough theoretical analysis, which moved beyond theory to an applied anthropology. Utilizing Freirean theory along with the perspectives of political economy, the RAC model was created to address the issues that arise in traditional health risk communication. This project calls for the empowering of the experiences of the residents by constructing a mode of negotiation between differing perspectives.

Many of these anthropological contributions are applicable to public health as well. The archival data, semi-structured interviews, and participant observation all provided knowledge that can become part of the evidence-based literature when looking at ways to improve communication with vulnerable communities. This research supported the previous work into the reliance of environmental scientists to objective data (Dyjack, Soret and Anderson 2002:309; Sjöberg 2004:51; Rodricks 1994:263) but intentionally through its methodology, added the component of the subjectivity of risk assessment science as an issue of power.

Also, the community survey utilized by this project focused on the communication of risk from the perspective of the resident. This data could be used in Mitchell Heights to identify barriers to implementation of public health policies. Similarly, the results of the survey show how both racism and classism are embedded into the structures of Mitchell Heights and impact the daily lives of the residents. The resident’s mistrust of public health officials is a tremendous hurdle in Mitchell Heights yet little work had been done to examine the origins of this suspicion and wariness of the local and state public health officials. When the results of the community survey are analyzed along with the ethnographic data, the evidence shows that these misgivings are grounded on factors that reach beyond the scope of the issues with
the former DPW site. They are concerns developed within a larger social and historical context.

Utilizing public health theory on the social determinants of health, this research calls for a widening of the discussion regarding the role of the psychobiological as a factor furthering health disparities in Mitchell heights. In this community, the science states that there is minimal biological risk yet the residents maintain a high perception of health risks (U.S. Department of Health and Human Services 2007). It is my opinion that this high variance in perception of health is a cause of stress that can translate into negative health outcomes such as hypertension. In fact, blacks in Mitchell Heights have an age-adjusted death rate for hypertension that is 344% greater as compared to whites in Hernando County (Well Florida Council 2012). Hypertension can cause strokes, where blacks in Mitchell Heights have a 67% greater AADR, or heart attacks, 14.2% greater AADR. So public health situations such as Mitchell Heights should be assessed through the analytic tool of a health disparities model. It is at this point, where perception can be translated into a biological measure (stress), that lived experience becomes part of traditional “policy-relevant” data. This has been noted as an area for future research.

In summary, this project utilized the methodologies and theories of both anthropology and public health to address issues regarding perceptions of environmental health risk in vulnerable communities. These concerns included:

- The subjectivity in the science of the risk assessment product.
- The differing perceptions in the creation, communication, and reception of risk messages.
- The systemic roles of race and class in furthering inequalities and disparities when considering perception of environmental health risks.
Conclusions

1. Risk, as a population-level indicator, is culturally contingent and socially constructed.

2. The risk assessment process is highly subjective in its analysis of the environmental health risk data. Factors that may influence the analysis include the wide range of disciplines that contribute to the risk message, the jurisdiction of the agency producing the message, and the organizational goals and objectives.

3. Risk communication is a uni-directional transmission of knowledge from the expert to the non-expert that values science over the experience. From this, issues of power arise and conflicts develop from not giving value to the differing risk perceptions.

4. There are issues with translation of the risk message from governmental agencies (Measured Experience) to residents (Lived Experience) due to jargon and specialized knowledge - the social context.

5. There are issues with translation of the risk message from residents (Lived Experience) to governmental agencies (Measured Experience) due to biases and power differentials - the social context.

6. Racism and classism are historical embedded into institutions and societal structures in a manner that influences the perception of environmental health risks. This results in a widening of inequalities and disparities in vulnerable populations.

Recommendations

On the basis of these conclusions, this project makes the following recommendations:

1. As it relates to assessing environmental risks, there needs to be a development of a more holistic set of methodologies that incorporate diverse perspectives in a bi-directional knowledge exchange. This should allow for acceptable risk to be understood as co-created through negotiation and compromise between the measured
and lived experiences. Ethnographic methods should partner with epidemiology and environmental sciences.

2. Once these mixed-method, holistic methodologies are field-tested, they need to be adopted as formal procedure by agencies responsible for the analysis and communication of risks. Risk should include the technical and the relational.

3. Policymakers must widen their understanding of what constitutes “policy relevant knowledge.” In addition, policies targeted at eliminating health disparities and inequalities need to value the broad differences the often exist in perceiving “health.”

**Future Research**

This project opens a discussion for a participatory model of health risk assessment generation and communication. Based on the recommendations made in this paper, communities that have attempted a participatory approach should be sought out and evaluated. If none that are truly participatory can be found, then research can be done to attempt to realign a current risk situation to one that becomes bi-directional. Either exercise could provide useful results to further the examination of risk communication in vulnerable communities.

The impact of the psychobiological as a factor in creating health disparities deserves further research. While the connection between the psychobiological and disease is well established (Birditt, Newton and Hope 2014; Hicken et al 2014; Wolff et al 1968), the current literature does not adequately address psychobiological stressors that result from living near environmental hazards. Furthermore, anthropological theory regarding historical, structural, and everyday violence should be applied to analyze the present health disparities in environmentally vulnerable communities so as to highlight the embedded roles of racism and classism.
Finally, this research had as a focus the concept of perception of risk and, directly related, the perception of health. As a complimentary product to this paper, psychological scales can be developed, tested, and refined to quantify “perceptions” of either risk or health in a way that allows for the cultural context of the individual to be a variable. It would be interesting to compare these psychological measurements to the ethnographic data collected during this research.

**Limitations**

As a Master level thesis, this project had the expected limitations in terms of resources - both time and money. Yet I feel my previous involvement in the community allowed me to overcome these barriers in a way another researcher might not have been able too. Also, as a white male, there were certain limitations to my ability to relate to the residents yet again I feel as though those were minimal. More of a limitation may have been access as the community is fairly small and firm in its membership. Again my previous work in Mitchell Heights helped my credibility and these limitations were not critical.

Much of the collected data was self-reported. This is a common factor of social science research and deserves mention. In a paper that had perception as a main focus, it is worth noting that this paper worked from the individual’s perspective outward as opposed to placing a preconceived theoretical perspective onto a community. In another light, this limitation could also be seen as a strength depending on mode of analysis.

South Brooksville has a population often reported between 400-600 people. The community survey was completed with 50 people who were overwhelming residents of South Brooksville. What the survey did not accomplish was refine the sample size to include a majority of residents in Mitchell Heights. The survey does not allow for the extraction of data from a subset of Mitchell Heights residents within the South Brooksville data set.
Summary

In this section, I began by summarizing the results of this project. Next, I placed this research in the appropriate scholarly space in the anthropological and public health literature. I also made the case for this project as an applied anthropological project by discussing the anthropological methods and theories used to address real and prevalent issues. I did this by assessing the contributions of this research to both applied anthropology and public health with a focus on the findings, methodologies, and relevance to policy. From this point, I stated my conclusions and recommendations which are based on the results of this research. Finally I looked at areas of possible future research and reflected on the project’s limitations.
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Appendices
Appendix A: Timeline of events in Mitchell Heights

The following is a timeline of events pertaining to Mitchell Heights. The items are presented in chronicle order and in a list format for ease of placing the items in the appropriate spacial context. Some items may not be directly related to Mitchell Heights, but are germane in that they may speak to the greater area of South Brooksville or specifically to the topics of race or class. Certain years may have several times of note so they were listed separately to give each importance.

1856 – City of Brooksville named for South Carolina congressman Preston Brooks.

Mid-1920 – Series of lynchings in Brooksville.

1926 – City builds its first primitive sewer plant in the area south of the city in what became South Brooksville.

1948 – Hernando County passes zoning ordinance that states that in the northern part of the city “no building or no part thereof shall be occupied by a person or persons of the negro race.” The law also states that the southern part of the town was closed to “persons of the white race.” The ordinance was signed by Mayor J.C. “Doc” Bacon and was written by city attorney Joe Johnston Jr.

1948 – The city sewage plant is built on School St. next to Moton School, the only school for children in Hernando County.

1950 – Black tavern owner George King is killed by Spec Lewis, a white sheriff deputy, for having a pickle jar of moonshine. Lewis is cleared of any wrong-doing. The population of Brooksville is 1,818 people with 402 of them black.

1951 – Bacon’s Little Ethiopia subdivision is developed in South Brooksville.

1955 – Hernando County purchased a 5-acre site in South Brooksville for $1 to be used as their public works department site.

1956 – The Black Residential District developed in 1948 was expanded to include more black subdivisions in South Brooksville. Test’s Subdivision and Grubb’s Terrace were developed with the following restriction: “No lot in this subdivision nor
building erected thereon shall be sold or leased to or occupied by any person or persons of African descent."

1957 – Addis Ababa subdivision is developed in South Brooksville.

Late 1960’s – Young black girl drowns in the undercurrent of a drainage pipe near Josephine Street. To this day, residents find the drainage, flooding, sewage and lift stations a consistent source of frustration in South Brooksville.


1968 – Hernando County schools fully integrated for the first time

1972 – The zoning law of 1948 is stricken.

1977 - NAACP sues the City of Brooksville in Tampa court claiming discrimination.

1981 – The City and County receive a $2.3 million Community Development Block Grant as part of the 1977 NCAACP lawsuit claiming that South Brooksville residents did not receive equal city services. A revitalization plan for South Brooksville was developed by Coastal Engineering. While contractors and engineers were paid, very little actual work was done (estimated at less than 10%) and the grant has been considered to be squandered by black residents. Some in the community believe the original court order is still in effect, and hence unresolved, to this day.

1984 – Lauraette Lee and her four children move in a home adjacent to the southeast corner of the DPW site

1987 - State Attorney S. Ray Gill investigates the accused squandering of the CDBG funds by the city and finds no wrongdoing. When then current State Attorney Brad King looks into Gill’s file in 1990, he finds 3 sheets of paper and a newspaper clipping.

1989 – Lee reports a river of “black sludge” running from the site through her yard. Her children complain of headaches and nausea. Her youngest son’s asthma flares up. David Sloan (Hernando County Emergency Management Director) reported to her call and finds a spigot on a tank of tar emulsion was left open. The chemicals that spilled could cause skin rashes and respiratory irritation. Sloan reported he was “horrified” by the amount that flowed out.
1990 – Hernando County replaced underground fuel tanks after they were found to be losing “lots of fuel.” The County knew the tanks were leaking but waiting to have them replaced. The tanks held 20,000 gallons of fuel to refuel the County fleet.

1990 – First African-American city council member elected – Luther Cason. This happened in the same year the Ku Klux Klan had a parade around the county courthouse, 19-year old white male Russell Coats was beaten and killed by seven young black males and a 7 year old black girl was raped by a white male. The seven young black men were convicted of first-degree murder and the white male was never arrested by city police.

1991 – David Sloan and Katherine Liles (Hernando County Environmental Planner) file a report concerning the former DPW site which stated in part that the stained soil smelled of petroleum and that there was a “high probability” that the site was contaminated. They warned of dumping activities on the site and expressed concern the contamination might be effecting nearby residents. County Commissioners first hear about possible contamination.

1992 – Williams & Associates hired to complete risk assessment at a cost of $7,500. Preliminary site assessment activities identified 14 AOCs.

1993 – ESSI hired at a cost of $19,826. This is the second consultant on the project.

1995 – State orders the county to stop rinsing diesel-lined trucks in a ditch on the site.

1995 – ESSI finds 14 AOCs in a report submitted to the county.

1997 – 6 years later after being made aware of the issue by third consultant Sloan and Liles, the County removed 83 tons of tainted soil from the site. This was after the consultant submitted a report noting contaminated soil containing the carcinogens benzene and arsenic. Adjacent residents were not informed of what was contained in the consultants report.

1998 – County discovers more dirt and groundwater contaminated with gasoline. The State laws dictate that the County had nine months to assess and clean up the plan. The report is due September 1999.

1998 – The county hires its fourth consultant which is ETA.

1999 – County engineer Charles Mixon says DPW site “not considered a hazardous waste site” and that the “outcome was not as bad as anticipated.”
1999 - RAP submitted for AOC #11

2000 – The County is fined $11,925 by a state inspection due to failure to properly maintain and inspect it tanks. State inspector also noted a bucket of oil left out in the open, workers rising paint into the dirt and a bright orange liquid in a back ditch, less than 10 feet from neighboring yards. The county was given 14 days to respond. The inspection and notice was in February.

2000 - RAP modified for AOC #11

2001 – In January, almost a full year later, the State noted in had never received a response from the Feb 2000 warning. Upon asked about the lack of response, County Administrator Charles Mixon responded that the letter was never received. A review of county files found the letter stamped received Feb 9, 2000 (two days after the inspection) with a note “Not relevant to our env. Audit. Just file per Charles.”

2001 – The county spills enough road-striping paint to cover a ½ inch thick coat of yellow paint covering the 100-foot drainage ditch. After three weeks, it was finally cleaned up and 720 pounds of dirt was removed

2002 – County begins pumping out groundwater laced with paint thinner and other solvents

2003 – Report due September 1999 was finally submitted after multiple delays due to missed deadlines, the County being unaware of which department was in charge of the cleanup and a purchase order for a consultant that someone “forgot” to put in.

2003 – The County Public Works abandons the MLK site for a newly built headquarters.

2003 – County Commissioners announce that a park would be built on the former DPW site.

2003 - System designed to clean up both the soil and groundwater contaminants in AOC #11 begin operating. Three underground 10,000-gallon storage tanks were removed from the site.

2005 – Dirt found to be contaminated by gasoline in 1998 was finally removed without a complete outline of the fuel contamination. Overall, 715 tons of petroleum-contaminated soil was removed. Four truckloads to Clermont, Florida and 39 truckloads to Palmetto, Florida.
2005 – Upon noticing the 43 truckloads of soil being removed from the site, residents continue to ask pointed questions on what was going on at the site. Meeting takes place between Richard Howell (Community Activist), Jim Cleary, DEP assistant director, and Pam Vazquez. Cleary makes this site a top priority for his staff. DEP issues another warning letter after county misses deadline on assessment report.

2005 – Chapter 62-780, F.A.C. takes effect creating a need to reassess AOCs in light of the new state cleanup closure rules. AOC #11 is reevaluated and adjusted.

2005 – Fourth consultant hired: Creative Environmental Solutions. First offsite test done at the southeast corner of the site. The single sample taken came back clean. CES’s initial no-bid contract was for $77,051. After numerous changes, CES ends up being paid over 2 million dollars.

2006 – Creative Environmental Solutions of Brooksville turned in a report detailing arsenic contamination in neighbor’s yards, expanded solvent contamination and a possible risk to the Florida Aquifer by the carcinogen Benzene. The report also found no pesticide contamination and some success of previous cleanup efforts. The state ordered more soil testing and Creative Environmental Solutions recommends offsite testing.

2006 – Notes from a closed-door meeting reveal that the county never had any intention of building a park at the former DPW site and that the BOCC had “responded in a politically correct manner.” The state had told the county in 1999 that the arsenic contamination would prevent a park.

2006 – County Attorney Garth Coller informs commissioners of a potential class action lawsuit from residents of Mitchell Heights.

2006 - Brooksville Mayor Joe Johnston III, son of Joe Johnston Jr., publicly suggest relocating the residents of South Brooksville and replacing the area with an industrial park. This proposal is backed by Tommy Bronson, a powerful former mining executive, who has purchased several lots in South Brooksville.

2007 – Hernando County fined $25,000 by DEP for missed deadlines in 2005 and 2006. Part of the penalty was off-set by an in-kind facility improvement project for Jenkins Creek Park concerning converting homes from septic tanks to sewer, a fishing pier and park in the predominately in the upscale, white Hernando Beach area.

2008 – Hernando County Administrator David Hamilton, in a public budget meeting held in South Brooksville, promises to get the site cleaned up and vows that he has no plans to leave anytime soon. Hamilton conducts a walking tour of South Brooksville
with approximately 20 residents and holds several public meetings to address concerns.

2009 – Hamilton creates a Community Initiative Team to address issues in South Brooksville. The team is made up of county employees and community representatives.

2009 – Public Works Director Charles Mixon disciplined by Hamilton partly due to the delays in the cleanup of the DPW site.

2010 - Charles Mixon is fired by David Hamilton after a year and a half of documenting missteps and misuses in his position as director of public works which included trading county fill dirt for pizza. The cleanup of Mitchell Heights DPW site is one of the main failings that led to Mixon’s firing.

2010 – State and County officials prepare and submit a three-year cleanup plan. The RAP is submitted by new consultant, Cardno TBE. The RAP does not call for a site cleanup but instead seeks to cap the site, place administrative restrictions on future use, requires continued monitoring of wells and minimal removal on contaminated soil that is not capped. The RAP does allow for the County to purchase and demolish two residential homes off the southeast portion of the site.

2011 – Richard L. Howell files a complaint with the U.S. EPA against the city, county and state agencies alleging discriminatory practices against African Americans in regards to contaminated sites in South Brooksville (including Mitchell Heights).

2011 – Hernando County Administrator David Hamilton is fired by the BOCC.

2012 – Clean up work begins on the site with an expected date of completion some time in 2015
Appendix B: Timeline of the Environmental Justice Movement

1863
- The Emancipation Proclamation freed the slaves in the Confederate States.

1892
- The Sierra Club was founded by John Muir becoming the first environmental advocacy group.

1896
- Plessy vs. Ferguson allows segregation under “separate but equal” conditions.

1920’s
- The City of Los Angeles establishes a legal precedent for exclusionary zoning with their restrictive covenants. Often these restrictions included such provisions as minimum required costs for home construction and exclusion of all non-whites. These deed restrictions resulted in the formation of “white walls” where housing was off-limits to minorities.

1946
- The Atomic Energy Act establishes a commission to secure the use of atomic energy in-line with the health and safety of the public (AVOICE 2012).

1962
- Rachel Carson, a marine biologist, writes *Silent Spring*, a book about the link between pesticide DDT and environmental degradation.

1964
- U.S. Congress passes the Civil Rights Act, 1964. Title VI prohibits use of federal funds to discriminate based on race, color, and national origin.

1968
- In April, Martin Luther King, Jr. leads black Memphis sanitation workers in garbage strike. Dr. King was assassinated on April 4, 1968 before he could complete his environmental and economic justice mission in Memphis, Tennessee.
- The Fair Housing Act was passed.

1969
- Ralph Abascal of the California Rural Legal Assistance files suit on behalf of six migrant farm workers that ultimately resulted in ban of the pesticide DDT (AVOICE 2012).
- Congress passes the National Environmental Policy Act (NEPA) (AVOICE 2012).

1970
- As far back as 1970, the United States Public Health Services (USPHS) acknowledged that lead poisoning was disproportionately impacting African Americans and Hispanic children (AVOICE 2012).
1971
- Presidents’ Council on Environmental Quality (CEQ) annual report acknowledges racial discrimination adversely affects urban poor and quality of their environment.

1972
- The United States bans the use of DDT.

1978
- Houston Northwood Manor subdivision residents protest the Whispering Pines Sanitary Landfill.

1979
- Linda McKeever Bullard files *Bean v. Southwestern Waste Management, Inc.* lawsuit on behalf of Houston’s Northeast Community Action Group, the first civil rights suit challenging the siting of a waste facility.

1982
- Warren County residents protest the siting of a polychlorinated biphenyl (PCB) landfill in Warren County, North Carolina. It is also noteworthy that it was in Warren County that Dr. Benjamin Chavis coined the term “environmental racism” (AVOICE 2012).

1983
- “Solid Waste Sites and the Houston Black Community” article published in *Sociological Inquiry*, a quarterly journal of the International Sociology Honor Society.
- U.S. General Accounting Office (GAO) publishes *Siting of Hazardous Landfills and Their Correlation with Racial and Economic Status of Surrounding Communities*. The GAO report found that 3 out of 4 the off-site commercial hazardous waste facilities in EPA Region IV are located in African American communities. However, African Americans make up just one-fifth of the region’s population (AVOICE 2012).
- Urban Environment Conference’s *Taking Back Our Health* conference was held in New Orleans.
- EPA, DOJ, DOD & Olin Chemical Company settle $25 million lawsuit with black residents in Triana, Alabama. The tiny all-black community was contaminated with DDT from Redstone Arsenal Army base and was dubbed the “unhealthiest town in America.” (AVOICE 2012)

1986
- West Harlem Environmental Action's community organizing began in 1986 to combat the harmful impacts of the North River Sewage Treatment Plant on the people of the West Harlem community.
1987
- United Church of Christ Commission for Racial Justice issues the famous *Toxic Wastes and Race in the United States* report, the first national study to correlate waste facility siting and race.
- Robert D. Bullard publishes *Invisible Houston* that chronicles the social, economic, political, educational, and environmental quality of Black Houston neighborhoods.

1988
- Revielletown buyout and relocation by Georgia Pacific.

1989
- The *Great Louisiana Toxic March* led by the Gulf Coast Tenants and communities in “Cancer Alley.” The march brought public attention to their toxic living conditions in “Cancer Alley.”
- In 1989, Indigenous communities, organizations, traditional societies and tribal nations begin meeting together on environmental and natural resource extraction issues. This lead to national meetings in 1990 on the Dine’ (Navajo) territory and in 1991, near the sacred Bear Butte in South Dakota that ultimately formed the Indigenous Environmental Network, as a grassroots-lead Indigenous voice in regional, national and international forums on environmental and economic justice issues.

1990
- Clean Air Act passed by U.S. Congress
- Under the leadership of Bunyan Bryant and Paul Mohai, the *Race and the Incidence of Environmental Hazards Conference* brought together academics and activists.
- Robert D. Bullard publishes *Dumping in Dixie*, the first textbook on environmental justice.
- In January 1990, nine activists of color wrote a letter to the “Group of 10” national environmental organizations calling on them dialogue with activists of color on the environmental crisis impacting communities of color and to hire people of color on their staffs and boards of directors (AVOICE 2012).
- A second letter was sent to the Big 10, this timed signed by 103 activists of color representing grassroots, labor, youth, church, civil rights advocates, social justice and coalitions in the Southwest. The letter challenged and reinforced the first letter challenging mainstream environmentalists on issues of environmental racism and lack of accountability towards Third World Communities in the Southwest (AVOICE 2012).

1991
- December 30, *El Pueblo para el Aire y Agua Limpio v. County of Kings*, judge rules that permit process for toxic waste incinerator was flawed because failure to translate documents into Spanish meant affected public was not "meaningfully involved" in the environmental review, in case brought by Center on Race, Poverty & the Environment (AVOICE 2012).
• The Agency for Toxic Substances and Disease Registry convenes the National Minority Environmental Health Conference in Atlanta, Georgia.
• In October, The First National People of Color Environmental Leadership Summit was held in Washington, DC, attracting over 1,000 participants.
• “Dumping in Dixie” receives National Wildlife Federation Conservation Achievement Award for Science.

1992
• The “Environmental Justice Act of 1992” was introduced into Congress by Congressman John Lewis (D-GA) and Senator Albert Gore (D-TN) (AVOICE 2012).
• First Title VI administrative complaint filed with US EPA, by St Francis Prayer Center in Flint, Michigan, against Genessee Power. This complaint was lost by EPA and not found, and accepted for investigation, until 1994 (AVOICE 2012).
• The Deep South Center for Environmental Justice was founded at Xavier University of Louisiana.
• National Law Journal publishes a special issue on Unequal Environmental Protection that chronicles the double standards and differential treatment of people of color and whites.
• EPA releases Environmental Equity: Reducing Risk for All Communities, one of the first comprehensive government reports to examine environmental justice.
• WE ACT, with the assistance of NRDC and the law firm of Paul, Weiss, Rifkind, Wharton & Garrison, sued the City of New York for operating the North River plant as a public nuisance to the people of the West Harlem Community. WE ACT settled its lawsuit with the City of New York and was awarded a $1 million dollar settlement and the City of New York agreed to set aside $55 million dollars in capitol funds to repair the air pollution and engineering design problems at the North River Waste Water Treatment facility (AVOICE 2012).

1993
• The Environmental Justice Act was redrafted and reintroduced in 1993 by Congressman Lewis (D-GA) and Senator Max Baucus (D-MT) (AVOICE 2012).
• EPA established the 25-member National Environmental Justice Advisory Council (NEJAC).
• Local community leaders and their allies defeated the Formosa Plastics Plant from locating in Wallace, Louisiana.
• West Harlem Environmental Action (WEACT) leads fight over the North River Sewage Treatment Plant drawing in activists across 12 northeastern states. This initial gathering catalyzes the formation of a multistate regional network: the Northeast Environmental Justice Network (NEJN).
• The Farmworker Network for Economic and Environmental Justice (FNEEJ) was formed to support the struggle of more than 50,000 workers in nine independent farmworker organizations (AVOICE 2012).
• Erin Brockovich constructs her case against the Pacific Gas and Electric Company.
• The “Toxic Racism” documentary produced for WGBH Boston air on PBS.
1994

- The Environmental Justice Resource Center at Clark Atlanta University was formed in Atlanta, Georgia.
- Environmental Justice Resource Center publishes 2nd edition of the *People of Color Environmental Groups Directory* that lists over 600 groups in the U.S., Puerto Rico, Canada, and Mexico (AVOICE 2012).
- The Environmental Justice Legal Clinic was formed at Texas Southern University Thurgood Marshall School of Law in Houston, Texas.
- In February, the National Institute of Environmental Health Sciences, along with six other federal agencies, hold the “Symposium on Health and Health Research Needs to Ensure Environmental Justice,” Washington, DC (AVOICE 2012).
- In February, President Bill Clinton issues Executive Order 12989, “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations.”
- United Church of Christ issues *Toxic Waste Revisited*. The updated report strengthens the association between race and siting of waste facilities.
- University of Massachusetts issues study, funded by Waste Management, Inc., challenging siting demographics. This study triggers the first wave of attacks on environmental justice.

1995

- In January, the First Interagency Public Hearing on Environmental Justice Executive Order 12898 was held at Clark Atlanta University in Atlanta, Georgia (AVOICE 2012).
- The Environmental Justice Fund was founded by six networks to promote the creation of alternative funding strategies to support the grassroots EJ organizing.

1996

- In July, a ten-person environmental delegation visits South Africa and meets with diverse community, labor, health, youth, and other leaders who were struggling to throw off the shackles of apartheid.
- Jean Sindab, an environmental justice trailblazer with the National Council of Churches, passes.
- EPA Superfund Relocation Roundtable Meeting, Pensacola, Florida. Because of the hard work of Margaret Williams and local grassroots leaders, EPA decided to relocate the entire community of 358 African American and or low-income households living next to the Escambia Wood Treatment Plant in Pensacola, Florida (AVOICE 2012).
- The African American Environmental Justice Action Network (AAEJAN) was established.
- Institute of Medicine Toxic Tour of “Cancer Alley” as part of its fact-finding mission and preparation for its report on health and environmental justice.
1997

- Earth Summit II held in New York.
- African American farmers bring a lawsuit against the USDA charging it with discrimination in denying them access to loans and subsidies.
- The *Just Transportation: Dismantling Race and Class Barriers to Mobility* is published. The book chronicles transportation racism cases across the United States.
- President Clinton issues Executive Order 13045 protecting Children from Environmental Health and Safety Risks.

1998

- EPA issues Interim Guidance for Investigating Title VI Administrative Permits Challenging Permits.
- United Church of Christ Commission on Racial Justice convenes an array of grassroots environmental justice, civil rights, faith-based, legal, and academic centers leaders on the Shintech Title V permit application planed for Convent, Louisiana.
- Shintech suspends it effort to build PVC plant in Convent, Louisiana.
- EPA denies the Title VI Select Steel complaint, its first administrative decision under Title VI.
- Florida Legislature passes the 1998 Environmental Equity and Justice Act.
- The Environmental Justice and Equity Institute is created at Florida A&M University in Tallahassee, Florida.
- The U.S. Supreme Court dismisses the Chester, Pennsylvania case because Pennsylvania Department of Environmental Protection (PADEP) revoked the Permit at issue.
- More than a dozen Bishops and church leaders in the Council of Black Churches participate in “Toxic Tour of Cancer Alley.” The church leaders on the tour represent over 17 million African Americans.

1999

- National Emergency Meeting of Blacks in the United States, New Orleans, LA. Groups came from 37 states. This and subsequent meetings laid the foundation for the creation of the National Black Environmental Justice Network (NBEJN).
- The Black farmers discrimination case against the USDA settles for a reported $400 million to more than $2 billion.
- Congressional Black Caucus Chair James Clyburn (D-SC) convenes “Environmental Justice: Strengthening the Bridge Between Economic Development and Sustainable Communities” at Hilton Head, SC.
- The Institute of Medicine (IOM) publishes *Toward Environmental Justice: Research, Education and Health Policy Needs* (National Academy Press).
- Dana Alston, a heroine of the Environmental Justice Movement, best known for her famous speech at the 1991 First People Of Color Environmental Leadership Summit, and *We Speak for Ourselves* booklet, passes.

2000

- Environmental Justice Resource Center publishes 3rd edition of the *People of Color Environmental Groups Directory* that lists over 1,000 environmental justice groups in the U.S., Puerto Rico, Canada, and Mexico.
• The North Carolina General Assembly released $7 million in appropriations to begin the detoxification of the Warren County PCB Landfill.
• Macon County Citizens for a Clean Environment successfully wage a major fight to stop the siting of a mega landfill near historic Tuskegee University campus.
• The biographical film, *Erin Brockovich*, is released to highly positive acclaim and award recognition.

2001
• Environmental justice leaders participate in World Conference against Racism (WCAR) held in Durban, South Africa.
• Environmental justice leaders participate in Climate Justice Summit in The Hague, Netherlands.
• “Trade Secrets” documentary airs on PBS.
• “Celebrity Tour of Cancer Alley Louisiana” held. This event sparked some celebrities, including writer Alice Walker and Congresswoman Maxine Waters, to revisit some of the impacted communities and work directly with the people.
• Judge Orlofsky rules in *South Camden Citizens in Action v. NJ Dept of Environmental Protection* that compliance with environmental laws does not equal compliance with civil rights laws, and determines that NJ has violated Title VI of the Civil Rights Act of 1964, the first EJ case to prevail under this theory.
• Decision later overturned by Third Circuit on grounds that plaintiffs do not have the right to enforce EPA's disparate impact regulations.
• On April 25, 2001, residents of Anniston, Alabama Sweet Valley/Cobb Town Environmental Task Force won a $42.8 million settlement against Monsanto chemical company. The community had to be relocated because of PCB contamination.
• Warren County, North Carolina PCB landfill community secures state and federal resources to detoxify the PCB landfill and build strategy for community driven economic development.

2002
• “Fenceline” Documentary airs on PBS television.
• The first North American Indigenous Mining Summit was held that formed working groups to develop action plans to address coal, uranium and metallic mining activities in Native lands. In 2002, a Native oil campaigner was hired.
• Project Return to Sender, a coalition of Haitian, US and European environmental justice groups, returns a load of incinerator ash that was dumped on a Haitian beach in 1987.

2003
• PBS’ *To The Contrary*, a female focused talk show, features an all-female panel to discuss issues of environmental justice helping continue the relationship between feminism and concerns of environmental injustices.
• The Institute of Medicine releases their landmark study, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.*
Paul Mohai publishes “Dispelling Old Myths: African American Concern for the Environment” in the journal *Environment* and provides a comprehensive examination of African American concern for the environment over a three-decade period.

Cleanup of the Warren County, North Carolina, PCB Landfill is completed at a cost of $17.1 million, and plans for the “Justice Park” on the site by Warren County Government begin.

2004

- The American Bar Association Special Committee on Environmental Justice publishes *Environmental Justice For All: A Fifty-State Survey Of Legislation, Policies, and Initiatives.*
- In October 2004, Wangari Muta Maathai, a professor and environmental justice activist from Kenya, becomes the first African woman to win the Nobel Peace Prize. Professor Maathai founded the Green Belt Movement where, for nearly thirty years, she has mobilized poor women to plant some 30 million trees.

2005

- Melissa Checker writes *Polluted Promises: Environmental Racism and the Search for Justice in a Southern Town.*
- The *Energy Policy Act*, described by proponents as an attempt to combat growing energy problems, changed the energy policy of the United States by providing tax incentives and loan guarantees for energy production of various types.
- Hurricane Katrina highlights issues at the very core of environmental racism advocacy with the greatest impact of the storm exposing the weakness of predominantly lower-income areas.
- More than 45 environmental justice and mainstream environmental groups oppose the EPA's plan to drop race from its draft Environmental Justice Strategic Plan.

2006

- Environmental justice scholars Manuel Pastor, Robert D. Bullard, James K. Boyce, Alice Fothergill, Rachel Morella-Frosch and Beverly Wright publish *In the Wake of the Storm: Environment, Disaster, and Race After Katrina.*
- On September 24, 2006, a coalition of more than 70 environmental justice, social justice, public health, human rights and workers’ rights groups launched the National Environmental Justice for All Tour to highlight the devastating impact of toxic contamination on people of color and in poor communities across the United States.
• Longtime environmental justice and human rights activists Damu Smith passes away. At the time, Damu was the Executive Director of the National Black Environmental Justice Network (NBEJN).

2007
• The CBC Environmental Justice Taskforce, chaired by Rep. Albert R. Wynn (D-MD), contributed significantly to raising awareness about the disproportionate impact of environmental burdens on communities of color.
• The Energy and Commerce Subcommittee on Environment and Hazardous Materials, chaired by Rep. Albert R. Wynn, held a hearing to consider legislation to codify federal mandates to achieve environmental justice.
• The “Take Back Black Health Toxics Tour” was conducted to highlight environmental racism. The tour included a coalition of national leaders, representing environmental justice, civil rights, scientists, women’s health, academia, faith-based and religious groups, legal, congressional staffers and elected officials, including many CBC members, from around the country. They met at Nashville’s Fisk University and participated in the tour and press conference (AVOICE 2012).
• The two-square-mile Baldwin Hills Park, the largest urban park designed in the U.S. in over a century, opens in the historic African American heart of Los Angeles. Community efforts defeated efforts to site a power plant and garbage dump there (AVOICE 2012).

2008
• Race, Place, and Environment After Hurricane Katrina Symposium is opened by the Deep South Center for Environmental Justice at Dillard University in New Orleans.
• On November 4, 2008, Senator Barack H. Obama is elected president of the United States.

2009
• On January 20, 2009, Senator Barack H. Obama is sworn in as the 44th President of the United States, the first African American to hold this office.
• In February, Robert D. Bullard and Beverly Wright release Race, Place and Environmental Justice After Hurricane Katrina: Struggles to Reclaim, Rebuild, and Revitalize New Orleans and the Gulf Coast (Westview Press 2009).
• The City of Cincinnati passes a groundbreaking “Environmental Justice Ordinance” which is the first of its kind where a municipality use their police powers to enforce environmental justice in the form of an “environmental justice permit.”
• A judge orders Chevron to stop work on its controversial oil refinery expansion in Richmond, California.
• In an unprecedented victory for public health, the California Energy Commission voted unanimously to deny the MMC Peaker Plant expansion, a proposed expansion of a polluting power plant that would have sacrificed the health of
hundreds of low income families that live and work in nearby Chula Vista neighborhoods (AVOICE 2012).

2010

- The EPA releases Seven Priorities for EPA’s Future which includes a priority to include environmental justice principles in all decisions.
- On June 5th, Luke Cole, a San Francisco attorney who was one of the pioneers in the field of environmental justice - filing lawsuits for poor plaintiffs or people of color whose communities were being ravaged by corporate polluters - died in a head-on car crash in Uganda.
- The Patient Protection and Affordable Care Act and The Health Care and Education Reconciliation Act are signed into law by President Obama. They represent the most significant government expansion and regulatory overhaul of the US healthcare system (AVOICE 2012).

2011

- President Barack Obama enacts the Memorandum of Understanding on Environmental Justice and Executive Order 12898 which widens the scope of the 1994 order to include additional governmental agencies.
- January 12, 2011, the nation lost Hazel Johnson, an icon of the Environmental Justice Movement in the United States. Nearly two decades ago in October 1991, Ms. Johnson was tagged the "Mother of the Environmental Justice Movement" at the First National People of Color Environmental Leadership Summit.

2012

- The U.S. Department of Agriculture states a desire to integrate environmental justice into its core operations. It releases a document entitled Environmental Justice Strategic Plan: 2012 to 2014 detailing aggressive strategies to combat environmental racism (AVOICE 2012).
- The citizens of Warren County, North Carolina commemorated and celebrated their legacy as the birthplace of the environmental justice movement. It has been thirty years since their fight began.
- The BP Deepwater Horizon settlement of $4.5 billion is announced as the largest criminal fine in US history for its burden as the party responsible for the largest environmental and industrial disaster in US history (AVOICE 2012).

2013

- Activists are arrested during a protest in front of the White House against the Obama Administration approved Keystone XL pipeline. The pipeline project is designed to move tar sand oil from Canada to one of Houston, Texas’ most
polluted barrios. The Manchester barrio is predominantly Latino and is already burdened with the country’s largest concentration of refineries and petrochemical plants.

• The Sierra Club releases its “State of the Environment” report, aiming at discrediting the City of Detroit’s Future City strategy. The document claims city planners failed to take into consideration the poor and minority neighborhoods in Metro Detroit that are deluged with excessive and chronic polluters. The Sierra Club is accused of attempting to kill urban redevelopment initiatives and harm industrial businesses.
Appendix C: Laws and Regulations Impacting Issues within Environmental Racism

  - A treaty of twelve nations of the Organization of African Unity that prohibited the import of hazardous waste.
- **Basel Convention** – March 1989 (Enforcement in 1992)
  - International treaty that reduced the movement of hazardous waste between nation with a specific focus of preventing the transfer of hazardous waste from developed to less developed countries.
- **Clean Air Act** – December 1963
  - A United States Federal Law that requires the Environmental Protection Agency (EPA) to protect the public from airborne contaminants that can be considered to be hazardous to human health.
  - An act of the Parliament of the United Kingdom that attempted to limit and control compensation awarded to injured parties due to environmental negligence of large corporation in the UK.
- **Comprehensive Environmental Response, Compensation and Liability Act** – December 1980
  - A United States federal law that created the Agency for Toxic Substances and Disease Registry (ATSDR) and provided the federal authority to enforce the clean up by responsible parties.
- **The Emergency Planning and Community Right-to-Know Act** – October 1986
  - A law passed by the United States Congress and signed by President Ronald Regan that requires locals governments to provide citizens with information concerning hazards present in their communities.
- **Executive Order 12898** – February 1994
  - An order signed by President Bill Clinton that focused federal attention on the environmental and health conditions of minorities and low-income populations. It seeks to achieve environmental protection for all communities.
  - Deals to the transportation and importation of hazardous chemicals including the use of proper labeling, safe handling and validity of information exchange.
- **Stockholm Convention** – May 2001 (Enforcement 2004)
  - International environmental treaty that seeks to eliminate the production and use of persistent organic pollutants.
- **Toxic Substances Control Act** – October 1976
  - A law passed by the United States Congress that regulates the introduction of new or already existing chemicals.
## Appendix D: 2010 Census Data

<table>
<thead>
<tr>
<th>2010 Census</th>
<th>Brooksville</th>
<th>Hernando County</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population, 2012 estimate</td>
<td>7,711</td>
<td>173,422</td>
<td>19,317,568</td>
</tr>
<tr>
<td>Population, 2010 (April 1) estimates base</td>
<td>7,721</td>
<td>172,778</td>
<td>18,802,690</td>
</tr>
<tr>
<td>Population, percent change, April 1, 2010 to July 1, 2012</td>
<td>-0.10%</td>
<td>0.40%</td>
<td>2.70%</td>
</tr>
<tr>
<td>Population, 2010</td>
<td>7,719</td>
<td>172,778</td>
<td>18,801,310</td>
</tr>
<tr>
<td>Persons under 5 years, percent, 2010</td>
<td>6.30%</td>
<td>4.60%</td>
<td>5.70%</td>
</tr>
<tr>
<td>Persons under 18 years, percent, 2010</td>
<td>20.30%</td>
<td>19.20%</td>
<td>21.30%</td>
</tr>
<tr>
<td>Persons 65 years and over, percent, 2010</td>
<td>27.30%</td>
<td>26.80%</td>
<td>17.30%</td>
</tr>
<tr>
<td>Female persons, percent, 2010</td>
<td>55.20%</td>
<td>52.20%</td>
<td>51.10%</td>
</tr>
<tr>
<td>White alone, percent, 2010 (a)</td>
<td>76.90%</td>
<td>91.00%</td>
<td>75.00%</td>
</tr>
<tr>
<td>Black or African American alone, percent, 2010 (a)</td>
<td>18.00%</td>
<td>5.50%</td>
<td>16.00%</td>
</tr>
<tr>
<td>American Indian and Alaska Native alone, percent, 2010 (a)</td>
<td>0.40%</td>
<td>0.40%</td>
<td>0.40%</td>
</tr>
<tr>
<td>Asian alone, percent, 2010 (a)</td>
<td>0.90%</td>
<td>1.30%</td>
<td>2.40%</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander alone, percent, 2010 (a)</td>
<td>0.10%</td>
<td>0.10%</td>
<td>0.10%</td>
</tr>
<tr>
<td>Two or More Races, percent, 2010</td>
<td>2.10%</td>
<td>1.70%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Hispanic or Latino, percent, 2010 (b)</td>
<td>6.60%</td>
<td>10.90%</td>
<td>22.50%</td>
</tr>
<tr>
<td>White alone, not Hispanic or Latino, percent, 2010</td>
<td>72.70%</td>
<td>81.20%</td>
<td>57.90%</td>
</tr>
<tr>
<td>Living in same house 1 year &amp; over, percent, 2007-2011</td>
<td>72.40%</td>
<td>86.60%</td>
<td>83.50%</td>
</tr>
<tr>
<td>Foreign born persons, percent, 2007-2011</td>
<td>3.00%</td>
<td>6.40%</td>
<td>19.20%</td>
</tr>
<tr>
<td>Language other than English spoken at home, percent age 5+, 2007-2011</td>
<td>7.10%</td>
<td>10.80%</td>
<td>27.00%</td>
</tr>
<tr>
<td>High school graduate or higher, percent of persons age 25+, 2007-2011</td>
<td>82.40%</td>
<td>86.00%</td>
<td>85.50%</td>
</tr>
<tr>
<td>Bachelor's degree or higher, percent of persons age 25+, 2007-2011</td>
<td>14.00%</td>
<td>16.20%</td>
<td>26.00%</td>
</tr>
<tr>
<td>Veterans, 2007-2011</td>
<td>659</td>
<td>22,936</td>
<td>1,637,466</td>
</tr>
<tr>
<td>Mean travel time to work (minutes), workers age 16+, 2007-2011</td>
<td>25.5</td>
<td>30.7</td>
<td>25.7</td>
</tr>
<tr>
<td>Housing units, 2010</td>
<td>4,339</td>
<td>84,887</td>
<td>8,989,580</td>
</tr>
<tr>
<td>Homeownership rate, 2007-2011</td>
<td>60.20%</td>
<td>82.40%</td>
<td>69.00%</td>
</tr>
<tr>
<td>Housing units in multi-unit structures, percent, 2007-2011</td>
<td>20.90%</td>
<td>4.20%</td>
<td>29.90%</td>
</tr>
<tr>
<td>Median value of owner-occupied housing units, 2007-2011</td>
<td>$48,300</td>
<td>$145,000</td>
<td>$188,600</td>
</tr>
<tr>
<td>Households, 2007-2011</td>
<td>3,534</td>
<td>70,809</td>
<td>7,140,096</td>
</tr>
<tr>
<td>Persons per household, 2007-2011</td>
<td>2.15</td>
<td>2.4</td>
<td>2.56</td>
</tr>
<tr>
<td>Per capita money income in the past 12 months (2011 dollars), 2007-2011</td>
<td>$20,120</td>
<td>$22,540</td>
<td>$26,733</td>
</tr>
<tr>
<td>Median household income, 2007-2011</td>
<td>$31,821</td>
<td>$42,700</td>
<td>$47,827</td>
</tr>
<tr>
<td>Persons below poverty level, percent, 2007-2011</td>
<td>23.40%</td>
<td>12.80%</td>
<td>14.70%</td>
</tr>
<tr>
<td>Business QuickFacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of firms, 2007</td>
<td>1,257</td>
<td>13,476</td>
<td>2,009,589</td>
</tr>
<tr>
<td>Black-owned firms, percent, 2007</td>
<td>S</td>
<td>3.60%</td>
<td>9.00%</td>
</tr>
<tr>
<td>American Indian- and Alaska Native-owned firms, percent, 2007</td>
<td>F</td>
<td>0.80%</td>
<td>0.50%</td>
</tr>
<tr>
<td>Asian-owned firms, percent, 2007</td>
<td>S</td>
<td>S</td>
<td>3.20%</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander-owned firms, percent, 2007</td>
<td>F</td>
<td>F</td>
<td>0.10%</td>
</tr>
<tr>
<td>Hispanic-owned firms, percent, 2007</td>
<td>S</td>
<td>8.70%</td>
<td>22.40%</td>
</tr>
<tr>
<td>Women-owned firms, percent, 2007</td>
<td>29.40%</td>
<td>26.60%</td>
<td>28.90%</td>
</tr>
</tbody>
</table>

(a) Includes persons reporting only one race.
(b) Hispanics may be of any race, so also are included in applicable race categories.
FN: Footnote on this item for this area in place of data
NA: Not available
D: Suppressed to avoid disclosure of confidential information
X: Not applicable
S: Suppressed; does not meet publication standards
Z: Value greater than zero but less than half unit of measure shown
F: Fewer than 100 firms
Source: US Census Bureau State & County QuickFacts
Appendix E: Semi-Structured Interview Guide

Residents

Tell me about your thoughts (or anything whatsoever) or experience of living in Mitchell Heights.

Non-judgmental prompts: Say anything that comes to mind, your views of what it’s like to live here, things that affect you.

Follow-Up Statements – You mentioned it’s all right living here … why do you say so? Can you talk a little bit more about why you would say it’s all right? Or you said there was some problems … could you discuss them for a while? What do you experience? How do these things affect you?

More Specific Questions – Now I would like to hear what you feel or think about the problems in the community.

Do you feel there are environmental health problems where you live? Tell me about them. How serious are those problems?

Do you personally know anyone whose health has been impacted by environmental factors?

How do you learn about possible environmental health risks?

Who do you feel is responsible for informing you and protecting you from environmental health risks? How good of a job are they doing?

When thinking about the former DPW site here in Mitchell Heights, what is your opinion on how well those in charge acted in terms of being a “good neighbor”?

If you feel that there are environmental health risks in your neighborhood, how do you feel they have been handled? If you do not feel they have been handled positively, why do you think that is?

Governmental Officials (Scientists, Politicians, City Employees, Health Department)

Tell me about your use of/understanding of/creation of the public health risk assessments concerning Mitchell Heights.

Non-judgmental prompts - Say anything that comes to mind, your views of the situation in Mitchell Heights, things that affect you.

Follow-Up Statements – You mentioned everything is fine in Mitchell Heights … why do you say so? Can you talk a little bit more about why you would say it’s all right? Or you said there was some problems … could you discuss them for a while? How do you determine problems in a community? How do these things affect you?

More Specific Questions – Now I would like to hear what you feel or think regarding the problems in the Mitchell Heights.
Do you feel there are environmental health problems in Mitchell Heights? Tell me about them. How serious are those problems?

Do you personally know anyone whose health has been impacted by environmental factors in Mitchell Heights?

How does the situation in Mitchell Heights compare to other similar situations in your experience? How much does your prior experience in similar situations impact how you feel about Mitchell Heights?

How do you generate your information on possible environmental health risks?

How do you distribute your information on possible environmental health risks? How was information distributed in Mitchell Heights?

When thinking about the former DPW site here in Mitchell Heights, what is your opinion on how well those in charge acted in terms of being a “good neighbor”?

How do you feel those in charge have handled the situation in Mitchell Heights? If you feel that certain aspects were not handled in the best manner, why do you think that was?
Appendix F: Community Survey

Community Survey

This survey is for a project at the University of South Florida. I am a student at USF and this information will help me finish my research project. I will not use your real name and you do not have to answer any questions you do not want to answer.

What is your gender? M F

What is your age? __________

What is your income level?

- Less than 10,000
- 10,000-20,000
- 20,000-30,000
- Over 30,000

What is your race?

- Black/African American
- Hispanic/Latino
- White/Caucasian
- Other __________

Where do you live? (Choose the best answer)

- Brooksville
- South Brooksville
- Spring Hill
- Other but in Hernando
- Outside of Hernando

<table>
<thead>
<tr>
<th>About how long have you lived in your community?</th>
<th>less than 1 year</th>
<th>1 to 5 years</th>
<th>6 to 10 years</th>
<th>more than 20 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over the past week, have you walked or exercised outdoors in your neighborhood?</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What was the average time you spent outdoors on this activity?</td>
<td>less than 15 mins</td>
<td>15-30 mins</td>
<td>30-45 mins</td>
<td>over 1 hour</td>
</tr>
<tr>
<td>Now thinking about your community, overall how would you rate your community as a place to live?</td>
<td>Very Poor</td>
<td>Somewhat Poor</td>
<td>Somewhat Good</td>
<td>Very Good</td>
</tr>
<tr>
<td>I believe my community is becoming a healthier place to live</td>
<td>Disagree Strongly</td>
<td>Disagree</td>
<td>Agree</td>
<td>Agree Strongly</td>
</tr>
</tbody>
</table>

Here is a list of environmental problems some people say they have in their community. Thinking about where you live, how do you view the severity of the problem?

<table>
<thead>
<tr>
<th>Not a Problem</th>
<th>Not too Big</th>
<th>Somewhat Big</th>
<th>Very Big</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. air pollution</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>b. water pollution</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>c. drinking water</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>d. pesticides in the food people eat</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>e. toxic waste</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Some people say environmental factors like pollution and toxic waste are very important in causing diseases, while others say they are not important at all. What do you think?

<table>
<thead>
<tr>
<th>Not Important</th>
<th>Not Too Important</th>
<th>Somewhat Important</th>
<th>Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>In your opinion, how much can people like you do to protect yourself from health problems caused by environmental problems?</td>
<td>Nothing</td>
<td>A Little</td>
<td>A Great Deal</td>
</tr>
</tbody>
</table>

Is there anyone you know personally whose health has been damaged by environmental factors?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

There are serious environmental health problems where I live

<table>
<thead>
<tr>
<th>Disagree Strongly</th>
<th>Disagree</th>
<th>Agree</th>
<th>Agree Strongly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>None</td>
<td>Little</td>
<td>Moderate Amount</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
<td>--------</td>
<td>-----------------</td>
</tr>
<tr>
<td>How much information about the state of the environment in your community do you have?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from TV/Radio/Newspapers/Internet?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Medical doctors?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from local community groups</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Government Departments of Health?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Friends or relatives?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Medical doctors?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from TV/Radio/Newspapers/Internet?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Medical doctors?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from local community groups</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Government Departments of Health?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Friends or relatives?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from local government/councils?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks does the Department of Health have?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks does the local government/council have?</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>How good a job in protecting your neighborhood from environmental risks is the Department of Health doing?</td>
<td>Very Poor</td>
<td>Somewhat Poor</td>
<td>Somewhat Good</td>
</tr>
<tr>
<td>How good a job in protecting your neighborhood from environmental risks are the local government/council doing?</td>
<td>Very Poor</td>
<td>Somewhat Poor</td>
<td>Somewhat Good</td>
</tr>
<tr>
<td>And how much of a priority do you think federal government actually gives to reducing the number of illnesses that may be caused by environmental problems?</td>
<td>None</td>
<td>A Little</td>
<td>Moderate Amount</td>
</tr>
<tr>
<td>Do you feel environmental justice is an issue in your community?</td>
<td>Disagree Strongly</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
</tbody>
</table>
## Appendix E: Community Survey Results Tables

### Survey Table 1 - Demographic characteristics of survey participants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Cumulative Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>26</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-34</td>
<td>17</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>35-49</td>
<td>17</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>50-64</td>
<td>7</td>
<td>14</td>
<td>82</td>
</tr>
<tr>
<td>65-99</td>
<td>9</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $10,000</td>
<td>20</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>$10,000 - 20,000</td>
<td>20</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>$20,000 - 30,000</td>
<td>2</td>
<td>4</td>
<td>84</td>
</tr>
<tr>
<td>Over $30,000</td>
<td>8</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black/African American</td>
<td>48</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>1</td>
<td>2</td>
<td>98</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
</tbody>
</table>
## Survey Table 2 - Responses to questions concerning "My Community"

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Cumulative Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where do you live?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brooksville</td>
<td>10</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>South Brooksville</td>
<td>33</td>
<td>66</td>
<td>86</td>
</tr>
<tr>
<td>Spring Hill</td>
<td>6</td>
<td>12</td>
<td>98</td>
</tr>
<tr>
<td>Outside Hernando</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>About how long have you lived in your community?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1 to 5 years</td>
<td>9</td>
<td>18</td>
<td>20.4</td>
</tr>
<tr>
<td>6 to 10 years</td>
<td>15</td>
<td>30</td>
<td>51</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>24</td>
<td>48</td>
<td>100</td>
</tr>
<tr>
<td>Over the past week, have you walked or exercised outdoors in your neighborhood?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
<td>74</td>
<td>75.5</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td>What was the average time you spent outdoors on this activity?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 15 mins</td>
<td>13</td>
<td>26</td>
<td>27.1</td>
</tr>
<tr>
<td>15 - 30 Mins</td>
<td>16</td>
<td>32</td>
<td>60.4</td>
</tr>
<tr>
<td>30 - 45 Mins</td>
<td>7</td>
<td>14</td>
<td>75</td>
</tr>
<tr>
<td>Over 1 Hour</td>
<td>12</td>
<td>24</td>
<td>100</td>
</tr>
<tr>
<td>Now thinking about your community, overall how would you rate your community as a place to live?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>16</td>
<td>32</td>
<td>33.3</td>
</tr>
<tr>
<td>Somewhat Poor</td>
<td>18</td>
<td>36</td>
<td>70.8</td>
</tr>
<tr>
<td>Somewhat Good</td>
<td>10</td>
<td>20</td>
<td>91.7</td>
</tr>
<tr>
<td>Very Good</td>
<td>4</td>
<td>8</td>
<td>100</td>
</tr>
<tr>
<td>I believe my community is becoming a healthier place to live.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disagree Strongly</td>
<td>23</td>
<td>46</td>
<td>48.9</td>
</tr>
<tr>
<td>Disagree</td>
<td>15</td>
<td>30</td>
<td>80.9</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>12</td>
<td>93.6</td>
</tr>
<tr>
<td>Agree Strongly</td>
<td>3</td>
<td>6</td>
<td>100</td>
</tr>
</tbody>
</table>
**Survey Table 3 - Responses to questions concerning perceived environmental problems**

<table>
<thead>
<tr>
<th>Question</th>
<th>Not A Problem</th>
<th>Not too Big</th>
<th>Somewhat Big</th>
<th>Very Big</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. air pollution</td>
<td>9 (18%)</td>
<td>6 (12%)</td>
<td>8 (16%)</td>
<td>27 (54%)</td>
</tr>
<tr>
<td>b. water pollution</td>
<td>6 (12%)</td>
<td>4 (8%)</td>
<td>11 (22%)</td>
<td>29 (58%)</td>
</tr>
<tr>
<td>c. drinking water that has harmful chemicals or other materials in it</td>
<td>6 (12%)</td>
<td>6 (12%)</td>
<td>10 (20%)</td>
<td>28 (56%)</td>
</tr>
<tr>
<td>d. pesticides in the food people eat</td>
<td>8 (16%)</td>
<td>7 (14%)</td>
<td>12 (24%)</td>
<td>23 (46%)</td>
</tr>
<tr>
<td>e. toxic waste</td>
<td>6 (12%)</td>
<td>6 (12%)</td>
<td>6 (12%)</td>
<td>23 (46%)</td>
</tr>
</tbody>
</table>

**Survey Table 4 - Responses to questions concerning environmental health**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Cumulative Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some people say environmental factors like pollution and toxic waste are very important in causing diseases, while others say they are not important at all. What do you think?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Important</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Not Too Important</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Somewhat Important</td>
<td>13</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Important</td>
<td>33</td>
<td>66</td>
<td>100</td>
</tr>
</tbody>
</table>

In your opinion, how much can people like you do to protect yourself from health problems caused by environmental problems?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>A Little</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>A Great deal</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Everything</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

Is there anyone you know personally whose health has been damaged by environmental factors?

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>34</td>
<td>68</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>30</td>
</tr>
</tbody>
</table>

There are serious environmental health problems where I live.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree Strongly</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Disagree Strongly</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Agree</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>Agree Strongly</td>
<td>28</td>
<td>56</td>
</tr>
</tbody>
</table>
Survey Table 5 - Responses to questions concerning information sources

<table>
<thead>
<tr>
<th>Question</th>
<th>None (%)</th>
<th>Little (%)</th>
<th>Moderate Amount (%)</th>
<th>A Lot (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much information about the state of the environment in your community do you have?</td>
<td>7 (14%)</td>
<td>17 (14%)</td>
<td>19 (38%)</td>
<td>7 (14%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from TV/Radio/Newspapers/Internet?</td>
<td>2 (4%)</td>
<td>7 (14%)</td>
<td>24 (48%)</td>
<td>17 (34%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Medical doctors?</td>
<td>6 (12%)</td>
<td>9 (18%)</td>
<td>12 (24%)</td>
<td>23 (46%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from local community groups</td>
<td>6 (12%)</td>
<td>21 (42%)</td>
<td>18 (36%)</td>
<td>4 (8%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Government Departments of Health?</td>
<td>10 (20%)</td>
<td>27 (54%)</td>
<td>8 (16%)</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from Friends or relatives?</td>
<td>7 (14%)</td>
<td>7 (14%)</td>
<td>16 (32%)</td>
<td>20 (40%)</td>
</tr>
<tr>
<td>How much information on environmental health risks do you get from local government/councils?</td>
<td>25 (50%)</td>
<td>14 (28%)</td>
<td>9 (18%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>Question</td>
<td>None (%)</td>
<td>Little (%)</td>
<td>Moderate Amount (%)</td>
<td>A Lot (%)</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from TV/Radio/Newspapers/Internet?</td>
<td>1 (2%)</td>
<td>12 (24%)</td>
<td>21 (42%)</td>
<td>16 (32%)</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Medical doctors?</td>
<td>4 (8%)</td>
<td>10 (20%)</td>
<td>11 (22%)</td>
<td>25 (50%)</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from local community groups?</td>
<td>3 (6%)</td>
<td>8 (16%)</td>
<td>33 (66%)</td>
<td>6 (12%)</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Government Departments of Health?</td>
<td>7 (14%)</td>
<td>26 (52%)</td>
<td>12 (24%)</td>
<td>5 (10%)</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from Friends or relatives?</td>
<td>3 (6%)</td>
<td>10 (20%)</td>
<td>19 (38%)</td>
<td>18 (36%)</td>
</tr>
<tr>
<td>How much confidence do you have in information you get from local government/councils?</td>
<td>21 (42%)</td>
<td>19 (38%)</td>
<td>8 (16%)</td>
<td>2 (4%)</td>
</tr>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks do the Department of Health have?</td>
<td>7 (14%)</td>
<td>14 (28%)</td>
<td>11 (22%)</td>
<td>17 (34%)</td>
</tr>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks does the local government/council have?</td>
<td>7 (14%)</td>
<td>12 (24%)</td>
<td>3 (6%)</td>
<td>27 (54%)</td>
</tr>
</tbody>
</table>
### Survey Table 7 - Responses to questions concerning responsibility for protection

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Cumulative Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks do the Department of Health have?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>7</td>
<td>14</td>
<td>14.3</td>
</tr>
<tr>
<td>Little</td>
<td>14</td>
<td>28</td>
<td>42.9</td>
</tr>
<tr>
<td>Moderate Amount</td>
<td>11</td>
<td>22</td>
<td>65.3</td>
</tr>
<tr>
<td>A lot</td>
<td>17</td>
<td>34</td>
<td>100</td>
</tr>
<tr>
<td>How much responsibility for protecting your neighborhood from environmental risks does the local government/council have?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>7</td>
<td>14</td>
<td>14.3</td>
</tr>
<tr>
<td>Little</td>
<td>12</td>
<td>24</td>
<td>38.8</td>
</tr>
<tr>
<td>Moderate Amount</td>
<td>3</td>
<td>6</td>
<td>44.9</td>
</tr>
<tr>
<td>A lot</td>
<td>27</td>
<td>54</td>
<td>100</td>
</tr>
<tr>
<td>How good a job in protecting your neighborhood from environmental risks is the Department of Health doing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>25</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Somewhat Poor</td>
<td>17</td>
<td>34</td>
<td>84</td>
</tr>
<tr>
<td>Somewhat Good</td>
<td>6</td>
<td>12</td>
<td>96</td>
</tr>
<tr>
<td>Very Good</td>
<td>2</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>How good a job in protecting your neighborhood from environmental risks are the local government/council doing?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Poor</td>
<td>22</td>
<td>44</td>
<td>44</td>
</tr>
<tr>
<td>Somewhat Poor</td>
<td>18</td>
<td>36</td>
<td>80</td>
</tr>
<tr>
<td>Somewhat Good</td>
<td>7</td>
<td>14</td>
<td>94</td>
</tr>
<tr>
<td>Very Good</td>
<td>3</td>
<td>6</td>
<td>100</td>
</tr>
</tbody>
</table>

And how much of a priority do you think federal government actually gives to reducing the number of illnesses that may be caused by environmental problems?

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency</th>
<th>Percent (%)</th>
<th>Cumulative Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>18</td>
<td>36</td>
<td>36.7</td>
</tr>
<tr>
<td>Little</td>
<td>20</td>
<td>40</td>
<td>77.6</td>
</tr>
<tr>
<td>Moderate Amount</td>
<td>5</td>
<td>10</td>
<td>87.8</td>
</tr>
<tr>
<td>A lot</td>
<td>5</td>
<td>10</td>
<td>98</td>
</tr>
<tr>
<td>Don't Know</td>
<td>1</td>
<td>2</td>
<td>100</td>
</tr>
</tbody>
</table>
Appendix F: Eliciting Emic Perspective Word Clouds
Appendix G: IRB Exempt Certification

May 7, 2014

Brian Brijbag
Anthropology
Tampa, FL 33612

RE: Exempt Certification
IRB#: Pro00017336
Title: Southern Chivalry: Environmental Hazard Risk Communication and Perception in a Small Southern Neighborhood

Study Approval Period: 5/7/2014 to 5/7/2019

Dear Mr. Brijbag:

On 5/7/2014, the Institutional Review Board (IRB) determined that your research meets USF requirements and Federal Exemption criteria as outlined in the federal regulations at 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Approved Documents:

USF IRB Protocol Version #1 05.05.14.docx
Cognitive Mapping ICF, Version#1, 5.02.14.doc
Interview ICF, Version#1, 5.02.14.doc
Survey ICF, Version#1, 5.02.14.doc
As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF IRB policies and procedures. Please note that changes to this protocol may disqualify it from exempt status. Please note that you are responsible for notifying the IRB prior to implementing any changes to the currently approved protocol.

The Institutional Review Board will maintain your exemption application for a period of five years from the date of this letter or for three years after a Final Progress Report is received, whichever is longer. If you wish to continue this protocol beyond five years, you will need to submit a new application at least 60 days prior to the end of your exemption approval period. Should you complete this study prior to the end of the five-year period, you must submit a request to close the study.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

Kristen Salomon, Ph.D., Vice Chairperson
USF Institutional Review Board
About the Author

Brian S. Brijbag is a applied medical anthropologist who researches health policy with a focus on vulnerable populations. Born in Brooklyn, New York, Brian moved to Florida during his teen years and has sought to improve his local community. Brian has a B.A. in Applied Anthropology and a B.A. in Religious Studies from the University of South Florida. With the successful completion of this thesis, Brian earned a Master of Public Health and a Master of Arts in Applied Anthropology also through the University of South Florida. More importantly, Brian is a husband and father – two roles that supersede anything he has accomplished in academia.