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# Colonialism and its Aftermaths in Vieques, Puerto Rico: How U.S. Hegemony Led to Contamination, a Superfund Site, and Local Mistrust

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# **Colonialism and Its Aftermaths in Vieques, Puerto Rico: How U.S. Hegemony Led to Contamination, a Superfund Site, and Local Mistrust**

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Submitted to Scripps College in Partial Fulfillment of the Degree of Bachelor of Arts

Senior Thesis in Environmental Analysis

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## Table of Contents

1. Abstract.....	3
2. Introduction.....	4
Thesis Statement.....	6
3. Research Methodology.....	7
4. Creation of Vieques to the Arrival of the U.S. Navy.....	12
5. The U.S. Navy's Occupancy.....	14
6. Anti-Navy Movement and Bombing.....	20
7. Referendum on the Removal of the Navy.....	24
8. Creation of the Wildlife Refuge.....	27
9. Creation of the Superfund Site.....	30
10. Superfund Cleanup.....	32
Human Health Problems.....	42
Health of Local Flora and Fauna.....	48
Bettering the Clean Up Process.....	50
11. U.S. Fish and Wildlife Service (USFWS) Activities.....	53
12. Debate over U.S. Governmental Involvement.....	54
Current Economy.....	62
13. Conclusion.....	64
14. Acknowledgements.....	70
15. Appendices.....	71

**Keywords:** colonialism, Environmental Protection Agency, hegemony, military, U.S. Navy, Puerto Rico, Superfund site, Vieques.

**Abstract**

After sixty-two years of U.S. military testing, the small Puerto Rican island of Vieques and its residents continue to fight against ongoing environmental and social effects of U.S. hegemony. Starting with the arrival of the Spanish, then with U.S. occupation and use of Vieques as a military stopover, Viequense residents are used to U.S. governmental presence on their land. Despite the military's removal from Vieques in 2003, many local residents have a fundamental lack of trust for the U.S. government. Because of this lack of trust and transparency with U.S. governmental actions in the post-World War II period, residents of Vieques do not see any difference between the USFWS, the EPA, CH2M Hill, and the U.S. Navy.<sup>1</sup> However, many acknowledge that the U.S. government's involvement may be good for the island, so there is some ambivalence about the U.S. government's continued presence on the island, its role in developing Vieques, and bettering its current economic situation. While the majority of local activists claim that naval activities negatively affected island life through contamination of land and surrounding waters, also resulting in a range of human health problems, others argue that the U.S. Navy should not be demonized, and the island's role in conservation should be paramount. These differing views reflect two opposing frameworks: one fighting against a colonizer and U.S. hegemony, and the other promoting a primarily conservation-based framework meant to protect non-human residents.

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<sup>1</sup> Please note Appendix E for a table of relevant abbreviations and acronyms.

## Introduction and Thesis Statement

Vieques, a small island of Puerto Rico has an inarguably a long history that has been influenced by colonization and U.S. hegemony. Rarely known or discussed because of its small size and its status as a U.S. territory, the island and its people have struggled for centuries under the hands of powerful nations. From the Spanish colonization to the hegemonic and military occupation of the U.S. Department of Defense, Viequenses have fought to regain control of their land. The lack of transparency between U.S. governmental agencies and the residents of Vieques has caused conflicts between local Viequenses. While there are many contributing factors to these differing opinions, these problems were amplified during the rise of U.S. hegemony in the late 1940s.

After World War II, the United States emerged as a dominant economic, technological, and political power. One could argue that this is when true American<sup>2</sup> hegemony began (Babones, n.d.). The term hegemony was created to describe leadership or dominance within a system of competing states, countries, or social groups. The United States is one of the top hegemonic powers in the globe, given its technological, economic, and political power, influence, and success in today's competition between nations.

With this label, the United States is both loved and feared. Its history, as a nation, is long and troublesome, full of colonization of other lands and mistreatment towards historically marginalized individuals. U.S. hegemony is a result of militarization and

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<sup>2</sup> Please note that throughout this thesis when America/American is written from this point forward, it refers to United States North Americans and the United States of America. The U.S. may also be referred to as mainland America, United States, America, etc. Mainland Puerto Rico is referred to as Puerto Rico, while Vieques is considered a separate island from the mainland of Puerto Rican.

military-related activities conducted on other foreign lands, including areas within the United States. While many of these histories remain untold, and the majority of Americans are not aware of what happens behind-the-scenes of our military, one of the most geographically-close examples of militarization of foreign land occurred right next door in our very own territory—the small Puerto Rican island of Vieques.

U.S. and Spanish colonization of Puerto Rico is ultimately what led to the continuous mistreatment of Vieques and the current lack of transparency between local residents and federal governmental agencies. Today, many Viequense residents have different perceptions of what constitutes “being sick” in terms of both environmental and human health. There are different opinions about who has right to the island’s land and who knows best about the health of life on Vieques. Science is being used by the Navy to justify certain findings, while local residents argue against scientific data that they claim is biased. A geopolitical military framing is currently overriding Viequenses residents’ historical knowledge of the land. After the United States colonized Puerto Rico, Vieques became a site that was used to instill U.S. hegemonic practices through the militarization of the land. Eventually, this led to the creation of a contaminated Environmental Protection Agency (EPA) Superfund site, the ongoing debate about who controls and owns the land, and the continuous mistrust local residents have for the federal government and its many agencies.

Many U.S. military installations, including those previously on Vieques, are spread across the globe on various islands, such as Culebra, the Bahamas, Bermuda, Cuba, Antigua and the U.S. Virgin Islands (Davis, Haynes-Conroy, & Jones, 2007). For many of these islands, there has been a long history of western-led colonialism and

occupancy of native people's land. There are many examples of indigenous individuals fighting for sovereignty of their land while resisting U.S. hegemonic actions. For Vieques, local activists fought for the right to own their land, using various tactics to help during their anti-Navy movement (McCaffrey, 2006).

The U.S. government's presence on Vieques is a continuation of colonialism and U.S. hegemony that dates back to Spanish arrival and to when the U.S. began using Puerto Rico as a military stopover. The lack of transparency with U.S. governmental actions in the post-World War II period and the continuation of U.S. hegemonic control of Puerto Rican land led to local residents' continual mistrust of the U.S. government. Because of this fundamental lack of trust, residents of Vieques often do not see any difference between the U.S. Fish and Wildlife Service (USFWS), the EPA, and the U.S. Navy. However, many acknowledge that the U.S. government's involvement may be good for the land. There is ambivalence about the U.S. government's continued presence on the island and its role in developing Vieques and bettering its current economic situation. Some argue for autonomy of the land, and others argue that federal authority is better for both conservation purposes and economic reasons. The continuous lack of transparency of the U.S. government's actions causes confusion and distrust among local residents, and the Vieques National Wildlife Refuge, previously the site of a U.S. military base, is often seen as a continuation of U.S. hegemony regardless of its positive effects. Therefore, some residents of Vieques want it removed. In addition, the fear of contamination and its resulting health effects, and the understanding of the positive aspects of the Refuge, such as job growth, ecotourism, and habitat restoration, complicate the debate of what to do with Viequense land.

## Research Methodology

My interest in Vieques and commitment to learning more about its history began in 2010, when I visited the remote, captivating island with family. Pure white sand blanketed the beaches, while beneath the surface of the glass-clear water, marine life flourished: fluorescent fish swiveled through blushing coral reefs, and pale shells decorated the sea floor. At a local museum, I learned how Vieques had been a training base for the U.S. Navy for sixty-two years, and how the native Viequenses fought for liberation from the Navy's occupancy. While I did not realize it at the time, my experience in Vieques was an academic and personal turning point in my life that not only shaped my interests, but also transformed my passion for learning more about the United States' unspoken histories of colonization and military occupancy of foreign lands.

In 2013, during my senior year of high school, when I was later assigned to write a paper in relating to a turning point in U.S. history, I immediately began to consider an accidental civilian death that catalyzed the Vieques anti-occupation movement, a topic that is rarely explored in U.S. history classes. Being chosen to present my paper at the National History Day competition as a part of the Boston division not only gave me a sense of pride and hope, but also allowed me to share Vieques's story with even more people.

My curiosity and passion to learn more about Vieques did not end in high school; I desired an opportunity to further my research on the island and the related topic of U.S. militarization of lands. In the spring of 2016, I applied for and received a Mellon Undergraduate Pre-Thesis Fellowship to pursue the topic further. I applied for



Institutional Review Board (IRB) approval to conduct independent research in Vieques on the social and environmental effects of previous U.S. naval activities in the island. My objectives in my IRB proposal were to collect qualitative data through interviews with local Viequense activists, especially those who were involved in the fight for liberation from the U.S. Navy. I proposed to ask them about their experiences living on Vieques during the Navy's occupancy and the resulting effects of the bombings. I focused primarily on comparisons between immediate and long-lasting environmental and social effects of the naval occupancy. After receiving approval, I began to reach out to individuals I knew to try to connect with people on the island. After months of research, I was finally able to secure housing. Determined to start discussing with local residents, I was able to connect with individuals from local non-profit organizations, the Vieques Conservation and Historical Trust (VCHT) and El Fortín Conde de Mirasol (El Fortín), the first an organization specializing in environmental education and conservation work and the second a museum in a fort with historical archives. Both had workers who agreed to allow me to volunteer and/or visit once I arrived on the island.

In May of 2017, I arrived on the island for five weeks of interviews and exploration. I quickly began to realize the struggles of living independently. From the dangers of walking alone after dusk to finding vegetables on the island (fresh produce was imported twice a week) to being able to find available transportation (there is no form of public transportation on Vieques), it was hard. I spent my days interviewing local residents, primarily elderly individuals who had lived on Vieques for several decades. Interviews were conducted in both English and Spanish, or a combination of both. The majority of my interviewees were bilingual, but were often more comfortable speaking in

Spanish. The quotations I present in my thesis are in the language used when they were shared with me, although occasionally I paraphrase what they were saying and translate it into English for clarity.

While I had many conversations and informal interviews with many residents on the island, I formally interviewed seven individuals who came from a wide array of backgrounds. I asked them to share a bit about their personal lives and background of how they arrived on Vieques. I asked about their participation, or lack of, with the Navy and during the anti-Navy movement. We discussed the various short-term and long-term social and environmental effects of the U.S. Navy's occupancy, and the continuing factors that are affecting human, animal, and plant health today.

The majority of my interviewees were born in Vieques, with a couple originally from Puerto Rico who moved to Vieques while young, and one born and raised in the mainland United States before returning to Vieques with a significant other who had trained on the island during the Korean War. Most of the residents I interviewed had lived on the island for over sixty years. Some had been arrested at one point of their lives for protesting the Navy's occupancy. Four interviewees were personally affected by cancer at some point, and six struggled with various other health problems over the years, dealing with their kidneys, lungs, etc. My interviewees included biologists, conservationists, doctors, journalists, artists, and more. One grew up next to the Navy base—Camp García. Another worked for the Department of Defense (DoD) on the Navy base. Another was employed by the USFWS. One previously flew to New York City to speak on behalf of Vieques about the health situation and lack of healthcare on the island at a United Nations meeting. Others have traveled to conferences and meetings in

Okinawa, Japan and O'ahu, Hawai'i. Every resident I met strongly identifies as a Viequense, despite their original birthplace and/or cultural background.

They are passionate individuals. They fight every day to better both their lives and the lives of their children, grandchildren, and future generations. Anonymous C told me with teary eyes, *“Esto que voy a decir es todo en sinceridad. Yo te digo una experiencia directa. La marina llegó, pero yo decidí quedar porque era mi puebla. Yo no tuve mucha participación porque tenía setenta y seis años”* (Anonymous A, 2017).<sup>3</sup> Anonymous B remarked proudly, *“Yo tengo la responsabilidad de cada persona que quiere aprender sobre la situación de Vieques, yo hablaré sobre la situación de Vieques porque es muy importante para compartirla. Yo te voy a decir, podría hacer testimonio, pero es mi memoria. La memoria no es necesariamente la historia, verdadero, porque si fuera había una pelea, esa es la memoria”* (Anonymous B, 2017).<sup>4</sup> Anonymous D recalled, “I came with my husband who had trained in Vieques for the Korean War. And when he got out of the service, he wanted to come back because he loved it so much. He brought me on our first Vieques visit and we found the place a paradise, glorious. And we finally ended up, a couple of years after that first visit, Vieques always on our mind as a perfect place to [live]. And when I first came, I honestly had no idea—I knew there was a base, but I had no idea to what extent [the military’s presence affected local life]” (D. Anonymous, 2017). She continued and explained her passion and love for Vieques:

<sup>3</sup> What I’m going to say is all in sincerity. I’m telling you from personal experience. The Navy arrived, but I decided to stay because it was my town. I didn’t participate much [in the anti-Navy movement] because I was seventy-six years old.

<sup>4</sup> I have the responsibility to tell every person, who wants to learn about the situation in Vieques, I will talk about the situation in Vieques because it is very important to share it. I’ll tell you, I could testify, but it is my memory. Memory is not necessarily the true history because if there was a fight [and I remember it differently], that’s the memory [I recall].

Several of us have done a lot of travel to get the word on Vieques out and I have been able to really see the Vieques struggle has served as an inspiration for a lot of people. That in itself is an impetus to continue. That's good. And that also adds to the glory and the beauty of living here. When you're struggling for something, and you're truly committed to change, you really become that, you identify with it. I really feel like I am Viequense. I am Vieques. My children are here. Our spirit is here because we get so much from Vieques. It is so beautiful in its natural beauty. And you get your inspiration and your strength comes from the nature here. And also because you truly love the place, you cannot just stick your head in the ground and say that it's going to go away. It's not going to go away unless you make it go away. And nothing is going to change unless you really look at it and see what the problems are (Anonymous D, 2017).

All interviewees were passionate about their land and its history, and are proud to be called Viequenses. Despite their original birthplace and where they were raised, their home is now and will forever be Vieques. Throughout this paper, all interviewees will be referred to as Anonymous/Interviewee A, B, C, D, E, F, or G to protect their identities.

Additionally, when I wasn't interviewing or transcribing, I visited El Fortín and volunteered with VCHT. In addition, I traveled to historically relevant sites where the Navy used to bomb and/or occupy. I visited the Vieques National Wildlife Refuge, various contaminated sites within the area and next to the local Bioluminescent Bay, local murals and paintings of the anti-Navy movement and resistance, and the Navy's previous bunkers that remain on Vieques.

### **Creation of Vieques to the Arrival of the U.S. Navy**

Located about ten miles off the eastern side of the Commonwealth of Puerto Rico, Vieques, “*la isla nena*,” is in the northeastern part of the Caribbean and is an island municipality of Puerto Rico. Divided into eight *barrios*, or wards, Isabel Segunda (II) is the main town. Only 21 miles long, Vieques has a land area of 52 square miles. Vieques and Culebra, Puerto Rico’s other small island, are often referred to as the Spanish Virgin Islands or the Passage Islands (McCaffrey, 2006).<sup>5</sup>

The first inhabitants of the island were thought to have arrived sometime between 3000 and 2000 BC from continental America. Native Americans continued to settle on the land for many centuries. Saladoid (or Igneri) people, who spoke a dialect called Arawak, were thought to originally be from what is now known as Venezuela. The Saladoid arrived on the island around 200 BC and eventually merged with others from Cuba and Hispaniola to form a group of indigenous individuals called the Taíno (*American Antiquity*, 1992).

Populated for centuries by indigenous Taíno people, the main island of Puerto Rico, Vieques, and Culebra were occupied by the Spanish in 1493 after Christopher Columbus’s second trip to the Americas. In the early 16<sup>th</sup> century, Taíno rebellion broke out against European invaders, which led towards the sending of armed forces from Spain. The Spanish decimated the majority of the native population by killing, enslaving, or imprisoning the local Taíno people. For the next few hundred years, the French, Danish, and English attempted to colonize the island while the Spanish prevented them. It was not until the 19<sup>th</sup> century that the Spanish permanently settled on the island.

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<sup>5</sup> See Appendices A, B, and C for maps of Vieques and the previous naval base sites.

In 1811, the first governor of Puerto Rico Don Salvador Meléndez sent military commander Juan Rosselló to annex Vieques (Mullenneaux, n.d.). In 1832, Frenchman Teófilo José Jaime María Le Guillou became the Governor of Vieques and began to establish large plantations on the land. Le Guillou is often known as the “founder” of Vieques, whereas Francisco Saínz (governor from 1843 to 1852) is known for the founding of Isabel II (Keeling, n.d.).

In the second half of the 19<sup>th</sup> century, thousands of black immigrants came from nearby islands, such as Saint Thomas, Nevis, Saint Kitts, and Saint Croix, to work on the sugarcane plantations. While many arrived as slaves, others came independently.

After over 400 years of Spanish colonization, Puerto Rico was ceded to the United States after the Spanish-American War in 1898. Later, in 1917, Puerto Ricans were given official U.S. citizenship (“World Factbook,” n.d.). Previously, Vieques heavily relied on the sugarcane industry; however, in the 1920s and 1930s, they began to experience a decline in sugar prices as a result of industrial conflict. Due to the work shortage, many local Viequenses were forced to move to mainland Puerto Rico or Saint Croix to find work.

In the 1940s, the Department of the Defense (DoD) desperately looked for a new area for military training activities to strengthen its Navy (Bullard, 2005). Increased anxiety about German fascism pushed the U.S. to declare a state of national emergency and to search for a safe region to practice new technology and weaponry to train their military (“History of the Navy in Vieques,” 2012). Within the U.S., there was no unoccupied area that met their needs. While the Navy already resided on Culebra since 1901, they wanted another location that could be dedicated entirely to navy training and

bomb testing (Santana, 2002). According to a local resident, after the military shifted from Culebra to start bombing on Vieques, “it was like almost every day, you were hearing [the bombs]” (Anonymous, 2017c).

### **The U.S. Navy’s Occupancy**

In 1941, the Navy officially occupied Vieques and established a Live Impact Area (LIA) on the eastern side of the island that would be used for “training exercises, ship-to-shore gunfire, air-to-ground bombing by naval aircraft, [and] Marine amphibious landings” (O’Rourke, 2001). Between 1941 to 1950, the U.S. bought the western and eastern areas of Vieques from the Puerto Rican government for approximately 1.6 billion dollars, putting a total of 22,000 acres of Vieques into the hands of the Navy—about two thirds of the island (“Navy Restrictions,” 1983). While the Navy paid a hefty amount to use the land, the government received the majority of the money. Thousands of Viequenses were forced out of their homes with only a few hours’ notice, and given twenty-five to a hundred dollars to leave. The Navy threatened to bulldoze 9,300 Viequenses out of the island’s eastern area if they did not leave quickly (Deane, 2008). The majority of the land was bought for extremely low prices from local farm and sugar cane plantations owners (Murillo, 2001). After World War II, the DoD created an extension to the Roosevelt Roads Naval Station, which was located on the main island of Puerto Rico, on Vieques (Pike, 2011). The Navy put the training site into use immediately, using the west side as an ammunition depot while the east was used as a training range (R. Rodriguez, 2012). By 1948, Vieques was known as the Navy’s

“university of the sea;” it was home to over 60 ships, 350 planes, and 50,000 troops (Todaro, 2001). A local Viequense, Anonymous F, recalled,

*Cuando expropiaron—pues, mira, que tenía? Nada. Porque los que vivían dentro de la Central, a esos no les dieron nada... Hay unos que vivían más fuera del área de la Central le dieron dinero que no era lo que vale este terreno tampoco, porque cuando Estados Unidos la marina quieren terreno no le pregunta a los dueños cuanto que tu quieres por eso? No. Te voy a dar tanto (Anonymous F, 2017).<sup>6</sup>*

After the Cuban Revolution from 1953 to 1959, the U.S. government established Camp García, the largest marine base for the Atlantic Fleet, housing thousands of U.S. marines (Santana, 2002).

The Navy used the island for military training for members of the North Atlantic Treaty Organization (NATO).<sup>7</sup> Over 300,000 munitions items were fired from the 1940s to 2003. Military training operations included naval gunfire, marine artillery fire, and air-to-ground bombing. An estimation of 9,000 acres on Vieques are presumed to contain munitions items (“Vieques Home Page,” n.d.). The eastern side of the former Vieques Naval Training Range was used primarily for ground warfare and amphibious training, air-to-ground training, and naval gunfire support training. This area covered 14,574 acres of Vieques, including Camp García. The former Naval Ammunition Support Detachment

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<sup>6</sup> When they expropriated the land—well, look, what did I have? Nothing. Because those who lived inside the main area, they didn’t give them anything... There are some who lived outside of Destino [neighborhood] who they gave money that wasn’t worth the amount of land [they received], because when the United States Navy wants land, they don’t ask the owners, how much do you want for it? No. [They say] I’m going to give you [this] much.

<sup>7</sup> Please see Appendix C for a map of previous Naval occupation on Vieques.



(NASD) covered 8,200 acres on the western end of Vieques, which was used for ammunition loading and storage, vehicle and facility maintenance, and some training (“AFWTA Site Profile,” n.d.). In addition, the military dumped waste on the island, further contaminating the local environment.

As a result of the Navy’s occupancy and the struggling economy, many individuals left Vieques to find work on the mainland. The land was unavailable to Viequenses and sugar cane plantations were eliminated to allow the Navy more space to practice its military activities. While crops still existed, they only grew avocados, bananas, coconuts, grains, papayas, and sweet potatoes on a small-scale.

Previously, island life was tranquil and the cost of living on Vieques was low; however, this changed with the Navy’s presence. Life went from calm to chaotic. Navy personnel started fights in Isabel II. Anonymous G recalled that when Navy men went out to drink in the town, they would lose respect for everyone and would find ways to pick fights. One resident remembered an instance when military men stormed into her mother and father’s home, located close to the Navy base and aggressively looked for prostitutes. From that point forward, her family closed windows and doors and were wary about who knocked on their door (Anonymous F, 2017).

There was very little work for local residents, shared Anonymous A: “*La vida aquí fue más barato, pero aquí no [había] trabajo. Había pobreza... había mucha pobreza*” (Anonymous A, 2017).<sup>8</sup> The little work that was available was mainly for Northamericans and men that came and studied here, stated one resident (Anonymous A,

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<sup>8</sup> The life here was cheap, but there was no work. There was poverty... there was a lot of poverty.

2017).<sup>9</sup> Some individuals prostituted for a living wage. This later led towards the assumption that women who hung out in Isabel II were prostitutes, resulting in an increase of rapes and assaults.

Due to the lack of jobs, many men left their families behind on Vieques to find work on Puerto Rico. In Vieques, the main work available was doing laundry for military men stationed in Vieques or the occasional construction jobs (Anonymous F, 2017).

Those who remained on the island struggled to find jobs, some desperately taking work from the Navy, of which there were only a small number of permanent local jobs.

Anonymous F commented that security was high and that close to 100 individuals were hired on Vieques to work in the fire department and the grounds maintenance. Some

Viequenses noted that they did appreciate the military's occasional support. For instance, in situations of hurricanes, the Navy provided food and other supplies to locals.

Anonymous G stated that, to him, the military was always very respectful of local people, aside from the obvious bombing and destruction occurring on their land (Anonymous G, 2017). He had previously worked for the DoD as a security guard starting in 1998, and explained how he did not appreciate the way they used aggression to solve their problems.

Working at Camp García was an experience. He stated, "I was doing security on the 'border,' like border patrol. It divided the civilian area from the base area. I used to do security on the bunkers, where they stored bombs and missiles and nerve gas and other types of chemical warfare or technology. Whatever they created, they were experimenting that in Vieques. About three-quarters of a mile from the P1 stand, an observation point... Whatever they wanted to practice—they would. Day and night,

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<sup>9</sup> Lo poquito trabajo que hay casi que todo es para los norteamericanos y muchachos que viene y estudiando.

they'd practice. *La playa de la chiva*<sup>10</sup> for tourists, blue beach, red beach, they practiced there. Vieques was like a secret island for the American people to use" (Anonymous G, 2017). An elderly resident, Anonymous F, recalled what it was like to grow up on Vieques in poverty:

*Nos quedamos con mi mamá como muchas familias aquí en Vieques que se quedaron al cargo de la madre porque los padres tuvieron que ir. Unos se fueron a Santa Cruz, otros se fueron a Estados Unidos, otros se fueron a la Isla Grande, pero nosotros con nuestros hermanos quedamos aquí en el barrio destino, y sufrimos todo lo que se puede sufrir, todo lo que sufre una familia cuando falta uno de los papás es tener llevar vida del huérfano, porque cuando falta un papá así es tenido que estar en la casa pues se vive vida del huérfano. La mamá de nosotros estuvo que trabajar bien duro, lavando, planchando, cocinando, para poder mantenernos*<sup>11</sup> (Anonymous F, 2017).

With the land and surrounding waters potentially contaminated by Navy bombing and other activities, fishermen also suffered a decrease of sales, causing Vieques' economy to falter. Tourism was low when the Navy was on the island; however, in recent years, with the Navy's departure, ecotourism has continued to grow with the allure of Vieques's bioluminescent bay, thus benefitting the local economy (Kilty, 2004).

<sup>10</sup> Roughly translated to "Goat beach," this is the name of the beach.

<sup>11</sup> We stayed here with my mom and other families in Vieques whose mothers stayed because the fathers had to leave [to look for work]. Some went to Santa Cruz, others to the United States, some to Puerto Rico, but we with our brothers stayed here in the neighborhood, and suffered everything that you can suffer. Everything that a family suffers, when one of your parents is missing, [it's like] living the life of an orphan, because when a father is missing it's like you have to stay in the house living an orphaned life. Our mother worked hard, washing, ironing, cooking, to take care of us.

Locals remember the Navy's occupancy as a time full of mistreatment and sorrow for Viequenses. Anonymous F tearfully stated,

*Hubiéramos dado un salto para crecer, como pueblo no nos dejaron crecer, porque decían—perdón [\*lloroso\*]—que en un sitio donde hubiera más de diez mil habitantes ellos no podían hacer prácticas militares. Pues, entonces, aquí no hubo universidad, no hubo industrias grandes, no hubo nada aquí prohibiera hasta que cierran edificios en más de cuatro pisos. Porque por encima de eso no podían volar los aviones. No pasaban por aquí. Por encima de la casa de nosotros allí en el Destino tuve ellas que son, pasaban y las casas temblaban*

(Anonymous F, 2017).<sup>12</sup>

Previously, everyone used to keep his or her houses clean and maintained. Anonymous F shared that, in the 1970s, everyone wanted to fix their bathrooms and put tiles around the walls; however, when the bombs began shaking the earth, it was not worth it. Houses cracked due to the dropping of bombs and people became less focused on the tidiness of their homes (Anonymous F, 2017).

With the Navy's arrival and occupation, life on Vieques had forever changed. Naval activities were unknown among local residents; there was a lack of transparency and communication between military officials and Viequenses. This led to the continual

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<sup>12</sup> I think that had we jumped to grow, the people would not let us grow, because they said—sorry [\*tearful\*]—that in a place where there were more than ten thousand inhabitants, they could not do military practices. Well, then, there was no university here, no large industries, there was nothing here prohibiting them until they closed buildings that were more than four floors, because on top of that they couldn't fly planes. They didn't pass this way. Above our house there in Destino that I had, they passed and the houses trembled.

mistrust of the U.S. government even as the land was later transferred into the control of the USFWS.

### **Anti-Navy Movement and Bombing**

As the Navy's operations damaged fishing nets, scared civilians, and polluted the island, local protests increased. In 1978, Vieques Governor Carlos Romero-Barcelo asked the Federal District Court in San Juan to intervene and stop military involvement on Vieques ("Puerto Rico Asks Injunction to Halt Military Activities on Nearby Island," 1978). This proved to have no effect on the DoD. As the Navy remained on Vieques throughout the 1980s, Puerto Rican citizens continued to call for their withdrawal (McCaffrey, 2006).

Locals attempted to document everything that was happening while the Navy occupied their land. In 1985, a group of Viequenses created a bilingual newspaper: *the Vieques Times*. The first copy explored the status of health care on the island and the Vieques hospital's lack of health care options. Anonymous C, one of the founders of the newspaper, which is no longer in print, stated that if the newspaper had continued to be published, everything written in the first copy of the newspaper would still be considered true today. Nothing has changed, especially with regards to health care opportunities. The same health problems still exist today, and the lack of sufficient healthcare still continues. The paper aimed to inform the local community of its rights, in order to protest the bombing and "destruction of [Viequense] life," and to call attention to the military's occupancy of Vieques (Anonymous C, 2017). The newspaper was in print for eighteen years; it was never published online, so copies are unfortunately unattainable today.

During the Navy's occupation of Vieques in the 1990s, a few incidents occurred that led towards the increasement of protests against the Navy. In February 1999, two U.S. Marine Corps-led airplanes mistakenly dropped 263 rounds of depleted uranium (DU) ammunition during a live training exercise at the Live Impact Area (LIA) on Vieques. A month later, only 116 of the 263 DU bullets, also called penetrators, were recovered and shipped to the mainland U.S. to be properly disposed. Luckily, no residents on the island were injured by the accident at the time. A 2003 study conducted by the Agency for Toxic Substances and Disease Registry (ATSDR) later concluded that these DU bullets did not present any health hazards due to the "low levels of radiation released" (Brantley, 2017). As for the remaining DU bullets that were never recovered, it is hard to know whether they had a detrimental impact local, surrounding ecosystems.

A couple months later, an even more devastating event occurred. On April 19, 1999, protests surged after the death of David Sanes, a civilian employee who worked for the DoD as a security guard at the naval base. The Navy claimed a bomb had misfired and accidentally killed Sanes. Anonymous G recalled the exact moment he realized David Sanes had died: "I was watching TV at 6-something in the afternoon and I felt two bombs falling. The whole island [shook as a result of the bomb]" (Anonymous G, 2017). Immediately, news about a fire was heard on the radio, and Sanes's friend ran to his car and drove to the Navy base. He found Sanes's brother and two of his nieces, before hearing from another worker that Sanes had been killed instantly.

In 1999, after the death of David Sanes, La Alianza de Mujeres Viequenses<sup>13</sup> was created. Anonymous E stated, "*El propósito de alianza fue dale en ese espacio la mujer*

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<sup>13</sup> The Viequense Women's Alliance

*Viequense de participar en las decisiones de iniciar el documento habían sufrido*” (Anonymous E, 2017).<sup>14</sup> The group worked with visitors and tourists who came to Vieques to share what was happening on the island. Protests continued into May 2000, when 200 protestors gathered by the entrance of the training area on the eastern side of the island. Federal Bureau of Investigation (FBI) agents and federal marshals evicted the protestors and transported them to the Navy base at Roosevelt Roads, where they were released. Federal and commonwealth officials did not file charges against the protestors because they “praised the dignity of the Puerto Rican protestors” (Garamone, 2000). Coast Guard officials prevented vessels from entering within three nautical miles around the impact area. After the protestors were removed, the Navy resumed their activities; however, they focused on using only inert ordnance.

Sanes’s death caught the attention of global media outlets, despite the fact that Viequenses had been organizing and trying to rid the Navy from the island for several decades. One participant of the anti-Navy movement, Anonymous D, expressed her frustration at the slow response of national attention:

We were pretty much organized because the cancer rate had climbed, because of the amount of fear of errant bombs and stuff like that, because of our survival instinct... And then when David was killed it was like, *era como la crónica de una muerte anunciada*, right?<sup>15</sup> We knew that was going to happen. We knew it was coming. It was not the first time they bombed their own observation post. It was like striking the match and starting the fire, again (Anonymous D, 2017).

<sup>14</sup> The purpose of the alliance was to provide a space in which Viequense women could participate in decisions to initiate documentation of how they had suffered.

<sup>15</sup> It was like the chronicle of a foretold death.

Individuals throughout the world came to Vieques in support of the growing anti-Navy movement: people from Texas, Boston, the Marshall Islands, Hawai'i, Japan, etc. Activists suddenly became aware of the situation in Vieques, and protesting Viequenses found themselves in solidarity with individuals from similar situations and backgrounds. People from Japan wrote sympathetic letters of understanding, as many of them continued to suffer the effects of the Hiroshima and Nagasaki atomic bombings. Cards from native Hawaiians and Marshallese individuals expressed their support of the anti-Navy movement and made Viequenses aware that they were not alone in their fight to rid the U.S. military from their land (Anonymous D, 2017). Many locals claimed that this increase of media attention is what finally forced change to occur—it sparked national attention and put the Navy in the spotlight.

Prominent individuals from the U.S. and around the world became aware of the issue, including many political leaders who called for the Navy's withdrawal from Vieques.<sup>16</sup> Songs were written about the Viequense fight, which helped gather global attention about the anti-Navy movement (Gurza, 2001). A song titled "Vieques, Puerto Rico: Bikini Revisited," by the band Anti-Flag, expresses the need for resistance on Vieques: "All united, all as one, let's make a stand / We've got a privilege in the power that we command / So let's not drown in ignorance / And let our strength waste away / As the richest nation in the world, we've got a responsibility" (CrackCityRocker1211, n.d.). The lyrics explain the gruesome historical actions conducted by the U.S. government, and reference the previous bombings on Bikini Atoll in the Marshall Islands:

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<sup>16</sup> See Appendices G and H for photos of protestors during the anti-Navy movement.



“All done, in your name, by Uncle Sam / So if we don’t fight it, then we’re guilty too”  
(CrackCityRocker1211, n.d., p.).

After decades of protesting, and a surge of increased protesting as a result of Sanes’s death, change began to occur. In 2000, an agreement was made between the president and Puerto Rican Governor Pedro Rossello to vote in a referendum on whether the Navy should leave or remain on the island (Garamone, 2000).

### **Referendum on the Removal of the Navy**

In 2000, the U.S. government decided that Puerto Rico would vote on a referendum to determine whether the Navy should remain on the island or leave. The federal referendum’s proposed options were to either allow the Navy to continue with its activities or to permit the Navy use of non-explosive bombs until 2003, when it would eventually leave Vieques (“Community Involvement Plan,” 2007). While many Viequenses wanted an immediate withdrawal of the Navy, the second option to remove the military by 2003 from Vieques was the most ideal, since there was no option that clearly expressed their desires. The Navy was responsible for writing the federal referendum, and was strongly against finding alternative sites to use because other areas were “deficient in the naval surface fire support training, the gunnery training [and the] coordinated maneuver of Marine and naval forces ashore,” stated Vice Admiral Bob Natter, director of operations, plans, and policy on the Navy staff at the time (Garamone, 2000).

Since neither option was ideal for most Viequenses, Puerto Rican Governor Sila María Calderón ordered the creation of a nonbinding referendum to be conducted in

summer of 2001 before the federal referendum. She included an option of asking for an immediate stop to the bombings occurring on Vieques, something that was not to be included in the federal referendum. In July 2001, Viequenses voted on the status of their island. Opponents of the Navy garnered 68 percent of the vote in an election that drew 80.6 percent of Vieques' 5,893 registered voters. Thirty percent of voters favored letting the military stay indefinitely, many of whom were employed by the DoD, and only about 1.7 to two percent wanted the Navy to stay only until 2003 (Gonzalez, 2001). Calderón stated at the time that the results had no legal standing but do carry “moral force” that she hoped would influence the U.S. government in Washington, D.C.

After the results were announced, the Navy said that it would continue its training, despite the outcome of the referendum organized by Governor Calderón. Upset and angry, local Viequenses were not able to do anything besides expressing their frustration with the DoD. Meanwhile, the Navy pushed back the date for a federal referendum to give Congress more time to change the law calling for the vote. Originally scheduled for November 2001, then rescheduled for January 2002, the federal referendum would not have the same options as Calderón's nonbinding referendum.

Navy Secretary Gordon R. England wrote to Governor Sila María Calderón of Puerto Rico explaining his right to exercise his statutory authority to postpone the referendum. He explained, “This postponement does not in any way preclude Navy plans to cease training on Vieques by May 2003,” (Reuters, 2001). At this time, Congress also considered legislation that might cancel the referendum. Without discussion with the Puerto Rican government, the U.S. House of Representatives passed a bill in September to cancel the referendum and to allow the Navy continue its training on Vieques until it

found an “equal or better” training site (Reuters, 2001). A Senate version of the bill was created afterward to keep Congress’s actions intact. The Bush administration later stated that it would order the Navy off of Vieques by May 1, 2003 because it was bad public policy to put questions of national security to local voters (“Vieques, Puerto Rico Naval Training Range,” n.d.). With this, the Bush administration independently ordered an end to military training operations on Vieques by 2003 (“Vieques, Puerto Rico Naval Training Range,” n.d.). While upset with the lack of communication and transparency, residents were simultaneously thrilled at the prospect of getting their land returned to local control.

On January 10, 2003, the Secretary of the Navy signed a letter to Congress confirming that the Navy and Marine Corps would permanently cease “controversial training operations” on Vieques by May 1, 2003 (O’Rourke, 2001). After two years of escalated protests, meetings, and debates, and after sixty-two years of U.S. military occupation, Vieques residents were ecstatic to hear about the Navy’s planned departure. The plan was to allow U.S. Secretary of Defense Donald Rumsfeld create a panel made up of former military officers and experts to find another location for training. The Navy would promptly transfer management of Vieques to the Department of Interior (DoI) who would work to manage the Navy base and its associated contaminated areas. The military disliked this new plan, for Vieques was an important training ground and its loss would also make other training ports in Okinawa and South Korea less accessible, as ships often stopped in Vieques. However, Governor Calderon later reluctantly agreed to the newly formed plan, realizing there was no other agreeable solution. By September, the House

Armed Services Committee created the H.Rept.107-194 report that canceled earlier plans for the Navy to continue residing on Vieques.

Areas where bombs had once been tested have been set-aside as the Vieques National Wildlife Refuge, managed by the USFWS, a sub-branch of the DoI, where at least twenty-five endangered species reside in the refuge. There is an overwhelming amount of exploded and unexploded ordnance on the island that is dangerous to people and animals.<sup>17</sup> After the Navy's removal, Viequenses were left to recover from the struggling economy and contaminated environmental damage the Navy had left behind ("Vieques Island/Atlantic Fleet Weapons Training Area," n.d.). Life on the small island had forever changed.

### **Creation of the Wildlife Refuge**

In the 1990s and early 2000s, *el Departamento de Recursos Naturales y Ambientales de Puerto Rico* (PR DRNA)<sup>18</sup> sued the Navy because they claimed the DoD was not in compliance with U.S. environmental laws, specifically with water regulations (*United States versus Puerto Rico*, 2002). This led to the eventual creation of the Mosquito Bioluminescent Bay Reserve and a new management plan for local ecosystems in Vieques. The plan set aside conservation areas for turtles and other local fauna species, shared Anonymous E (Anonymous E, 2017). When Congress discovered that Vieques had unique habitats and ecosystems for specialized species, a handful of which were endangered, they decided that part of the land should be set aside for conservation purposes. Residents with conservationist and human health priorities became united in

<sup>17</sup> See Appendix I for a photo of military debris left on Vieques.

<sup>18</sup> The Puerto Rican Department of Natural and Environmental Resources

efforts to clean up contaminated land.

In April 2001, the former NASD on the western side of Vieques was transferred to the Municipality of Vieques (4,200 acres), the Puerto Rico Conservation Trust (800 acres), and the Department of Interior (3,100 acres). Two years later, DoI received another 14,600 acres of what was formerly the Vieques Naval Training Range on the eastern end of Vieques. As required by law, the DoI manages their property as the Vieques National Wildlife Refuge (“AFWTA Site Profile,” n.d.).

At first, many Viequenses were happy to hear that the DoD no longer managed local land; however, once they realized that the land was going to another federal governmental agency instead of returning it to local residents, they became upset. Few people knew about the USFWS and its activities. To residents, there was no difference between DoI control and DoD control of the land. In addition, residents do not have individual control of the land that was transferred to the Municipality of Vieques and the Puerto Rico Conservation Trust. The Puerto Rico Conservation Trust uses its land primarily for ecological, conservation, and scientific purposes, while the Municipality of Vieques uses the land for development purposes, such as the building of roads and homes (“Community Involvement Plan,” 2007).

As of now, a good portion of the land within the national refuge will remain undeveloped, while other areas within the refuge have been turned into luxurious beaches for locals and tourists alike (Davis et al., 2007). Destroyed coral reefs and pieces of ammunition on land and in the sea are reminders of the Navy’s previous residency (*Fish and shellfish in Vieques, Puerto Rico found safe to eat*, 2011). Anonymous E shared that there are also ranges that were impacted by munitions that went into the water and went

onto other areas of the land (Anonymous E, 2017). This led to the destruction of coral reefs, sea grass beds, and other local species of flora and fauna. Bombs falling also impacted local ecosystems. Locals and tourists alike are in agreement that the cleanup of Vieques will take a significant amount of time, money, and energy, things that Puerto Rico and the Department of Defense are currently lacking.

From a conservationist perspective, the creation of the Vieques National Wildlife Refuge was beneficial for local flora and fauna on the island. There is no argument that military activities on Vieques damaged local species; however, with the creation of the refuge in 2001, the USFWS was able to establish conservation programs to help endangered and threatened species. A sea turtle program was created, and remains active today.

The Vieques National Wildlife Refuge consists of approximately 17,771 acres of land: 3,100 acres on the western side and 14,671 acres on the eastern side of the island. It is considered one of the most ecologically diverse wildlife refuges in the Caribbean and is also the largest land National Wildlife Refuge in the Caribbean. The land within the refuge is managed to “protect and preserve the natural resources of the lands in perpetuity” (“About the Refuge,” n.d.). The refuge’s main objectives are to maintain the local subtropical dry forest habitat and wetlands ecosystem for local and migratory birds and other rare and endangered species; to protect historical and archeological sites; and to provide a safe space for the public to enjoy wildlife and nature (“Don’t let Congress Give Away Vieques National Wildlife Refuge,” 2016).

The majority of damage from the Navy’s occupation is on the eastern side of the island—approximately 1,000 acres will never be open to the public, regardless of politics,

shared Anonymous E (Anonymous E, 2017). Many residents blame the lack of access to refuge land on U.S.-Puerto Rican politics and claim that the United States refuses to return the land to its rightful owners. However, Congress designated 900 acres of the former Live Impact Area as a Wilderness Area with no public access allowed (“AFWTA Site Profile,” n.d.). The DoI is unable to return the land because of its associated contamination and the fact that it is legally required to prevent public access to the contaminated areas.

Although there are many negative effects resulting from the Navy’s occupation and many contradicting opinions, most Viequense residents agree that funding for cleanup efforts is insufficient. Due to federal budget cuts, cleanup funds have decreased significantly within the last few years especially (“At 12 years after the Navy left Vieques, Contamination Continues,” n.d.). As a presidential candidate in 2008, Barack Obama pledged to “closely monitor the health of the people of Vieques and promote remedies to health conditions caused by military activities conducted by the U.S. Navy on Vieques” (Rafael, 2013). Barack Obama said that he would actively work with the DoD to help Vieques, yet never really followed up with his statement (Colón-Ramos, 2015). Especially today, given the political climate, funding for Vieques is lower than what local Viequenses want and need to adequately clean up their island.

### **Creation of the Superfund Site**

In April 2001, the Navy transferred 8,100 acres of land on the western side to the Municipality of Vieques, the Puerto Rico Conservation Trust, and the DoI. As stated previously, in 2003, the DoI received another 14,6000 acres of land on the eastern side of

Vieques, creating the Vieques National Wildlife Refuge under the management of the USFWS (“AFWTA Site Profile,” n.d.). While the land is no longer occupied by the military, the Navy is still responsible for ensuring that all contaminated areas are remediated.

With the departure of the Navy came the creation of a new EPA Superfund site. A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the EPA as a candidate for cleanup because of potential risks to the environment and/or human health. Superfund sites are placed on the National Priorities List (NPL) (US EPA, n.d.). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the Superfund program, holds responsible parties accountable for their actions. Under CERCLA, the Navy is responsible for all necessary investigations and cleanup work to protect both the environment and human health from any remaining hazardous substances in the land and surrounding waters. Previously, 17 potentially contaminated sites on the western side were declared necessary to investigate. The Navy is the lead agency for the work on cleaning up contamination on Vieques, with guidance from the Puerto Rico Environmental Quality Board (PREQB) and the EPA.

In 2005, large portions of the AFWTA and its surrounding waters were placed on the NPL due to the unexploded ordnance that lies across thousands of acres of land and sea floor, negatively affecting ecologically sensitive resources. The listing occurred after the Puerto Rican Governor Sila Calderón requested that the former Navy site be labeled the Commonwealth’s highest priority facility for cleanup. The Navy, EPA, PREQB, and DoI created a Federal Facility Agreement (FFA), an interagency agreement, to ensure



that the Navy-caused contamination of land and sea would be properly evaluated and addressed.<sup>19</sup>

The cleanup processes of the Superfund site are managed by the U.S. EPA in order to hold the Navy accountable. CH2M Hill, a company contracted by the DoD, conducts the actual cleanup procedures. Consistent with EPA legislation, the Navy is required to fund and conduct the CERCLA cleanups on Vieques with the EPA and the PREQB overseeing the procedures. Input and oversight by other agencies is also required, from the USFWS, Puerto Rico Department of Natural and Environmental Resources (PRDNER), National Oceanic and Atmospheric Administration (NOAA), and National Marine Fisheries Service (NMFS) (“Community Involvement Plan,” 2007).

### **Superfund Cleanup**

The Navy is in the process of conducting a time-critical removal action of munitions and potential explosives found on surface areas of the previous LIA and a non-time-critical removal action of subsurface munitions and explosives of concern at selected roads and beaches within the former naval base. In addition, the Navy is conducting a Remedial Investigation/Feasibility Study at the only munitions response site in the western side of Vieques. As a result of sixty-two years of occupancy and military activities, the former Vieques naval installation, the Atlantic Fleet Weapons Training Area (AFWTA), will require a large amount of remediation moving forward.

AFWTA was a 23,000-acre facility. As a result of previous naval activities, there is a large amount of unexploded ordnance on the land and sea floor surrounding the

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<sup>19</sup> Please see Appendix D for a table with agencies and local government included in Vieques Cleanup Coordination processes.

AFWTA, affecting both ecologically and culturally sensitive resources. The U.S. Navy previously owned 14,600 acres on the eastern side of Vieques and the AFWTF took up 3,600 acres on the eastern side of the island. The eastern side of Vieques was used for “ground warfare and amphibious training, naval gunfire support training and air to ground training” and the western side was used mainly for “ammunition loading and storage, and vehicle and facility maintenance,” with some military training as well (US EPA, n.d.). From May 1999 to its departure in 2003, the Navy only used inert ordnance on the training range. A large amount of damage was done to both the flora and fauna in the area, and a fair amount of munitions and debris remain as a result of these military activities.

The Resource Conservation and Recovery Act (RCRA) is the federal law through which the EPA regulates and permits facilities that treat and dispose of hazardous and solid wastes. Under RCRA, the EPA can also require facilities to investigate and clean up any wastes that may have been released into the local environment. This process is called a corrective action (D. Rodriguez, 2002). In January of 2000, the EPA and the Navy voluntarily entered into a RCRA Administrative Order on Consent to address potential contamination in areas of the AFWTF and the Eastern Maneuver Area (EMA). The Consent Order required that the Navy perform a RCRA Facility Investigation (RFI) at all twelve original RCRA Consent Order sites (D. Rodriguez, 2002). This means that twelve sites were/will be investigated and identified in the RCRA Facility Assessments (RFA): nine Solid Waste Management Units (SWMUs) and three suspected Areas of Concern (AOC).<sup>20</sup> These sites cover approximately 80 acres of land, and are located on previously

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<sup>20</sup> See Appendix F for the twelve identified RCRA sites.

Navy-occupied lands, mainly near or at Camp García (D. Rodriguez, 2002). Actions at another three SWMUs (#3, #9, and #11) were previously deferred because they were still being used as active military ranges in 2002.

Since the DoD, the Navy, and the EPA work together closely to help manage the cleanup processes of the Superfund site, many residents consider them to be similar governmental agencies. In addition, the PREQB's involvement further complicates the group dynamics. All are important with furthering remedial actions, but their roles are different. The Navy is the lead agency and provides funding for environmental restoration activities at the former NASD, while the EPA also helps to issue Records Of Decision (RODs). The PREQB also is actively involved throughout the investigation process and RODs.

Throughout the cleanup process, there are four main groups of individuals: the Navy, the responsible party, the EPA and the EQB, the regulators under CERCLA, the local community and residents, through their involvement in the Community Involvement Plan (CIP), and then the natural resource trustees—NOAA, PR DRNA, and USFWS.

The U.S. Navy worked with the EPA, USFWS, PREQB, and PRDNER to develop a Community Involvement Plan (CIP). The CIP was created to facilitate two-way communication between the agencies involved in the cleanup of former Navy lands on Vieques and the local community. Community members are key participants in the EPA-led cleanup process. Despite attempts to include the public in cleanup procedures and decisions, many residents still feel excluded and unaware of the Navy's procedures,

as demonstrated through the continuous confusion and lack of transparency between governmental officials and local activists.

The clean up process has been divided into two programs: the Munitions Response Program and the Environmental Restoration Program. Work relating to cleaning up munitions falls under the Munitions Response Program, whereas typical chemical contamination investigations are completed within the Environmental Restoration Program. Within the Munitions Response Program, there are multiple Munitions Response Sites on both the eastern and western sides of Vieques. Within the Environmental Restoration Program, the federal government is conducting multiple environmental investigations to determine the extent of contamination at identified Areas of Concern and Solid Waste Management Unites. In the former Naval Ammunition Support Detachment (NASD), there are six sites with Records of Decision (RODs) selecting final cleanup plans and eleven were determined to be unimpacted from previous naval practices.

There is one Munitions Response site within NASD, which is labeled at the “feasibility study stage,” meaning that it is in the process of being examined. There is also one area without a final determination, SWMU 6 (“AFWTA Site Profile,” n.d.). Within the former training range, multiple sites have already been examined and/or are in the process of being assessed for potential past chemical releases. The federal government is also in the process of conducting removal actions to address and remove explosives and munitions of concern on the surface of the previous LIA and at the Surface Impact Area. Subsurface munitions and explosives of concern from selected roads

and beaches within the former Vieques Naval Training Range are also in the process of being removed.

In order to follow EPA procedures, CH2M Hill started with unexploded ordnance (UXO) cleanup efforts. UXOs remain throughout the land and sea floor, and hazardous substances are also present, such as mercury, lead, copper, magnesium, lithium, perchlorate, TNT, napalm, depleted uranium, PCBs, solvents, and pesticides (US EPA, n.d.). Other expired and deteriorated munitions were also destroyed there. As part of normal operations, UXOs have been periodically cleared from the training range and destroyed by open burning and open detonation at the AFWTF (D. Rodriguez, 2002). The UXOs will continue to be cleared in future procedures.

The Navy is currently in the process of conducting a “time critical removal action of munitions and explosives of concerns” on Vieques, as well as a Remedial Investigation/Feasibility Study at the munitions response site on the western side (“Vieques Island/Atlantic Fleet Weapons Training Area,” n.d.). Clearance of 75 acres in the former LIA began in 2016. This cleanup focuses on clearing areas with a high density of submunitions hidden by vegetation and includes controlled burning for vegetation removal which the EPA claims is “needed to allow safe munitions clearance” (“AFWTA Site Profile,” n.d.). Ironically, many residents claim that the burning is detrimental to human health.

In 2001, a RCRA Update for AFWTF included cleanup processes happening on former areas: EMA, Camp García, and the LIA. Two years prior, the Navy concluded that there were no explosive related compounds in surface soils or groundwater; however, the EPA was not able to fully endorse the conclusion because the Navy did not submit

“complete data validation information” in the report (“RCRA Update for AFWTF,” 2000).

In 2008, a ROD was issued for one operable subdivision: Area of Concern H. The ROD declared that the AOC was determined to be a No Action (NA) site, meaning that both the Navy and the EPA decided that the site had no unacceptable risk. All areas within AOC H were deemed safe to human health and the environment, thus no response action was found necessary. AOC H was one of 17 sites within the Former Naval Ammunition Support Detachment (NASD) (Curfman, 2008).

In 2011, a ROD on the SWMU 1 was conducted to determine whether former units, used by the Navy to manage solid and/or hazardous wastes, posed any threat to human and/or environmental health. It was determined that the selected remedy for SWMU 1 met federal and Commonwealth requirements. It was deemed a “cost-efficient” remedy, but also stated that since the remedy would result in debris and pollutants or contaminants remaining “onsite above levels that allow for unlimited use and unrestricted exposure,” the Navy would be responsible for statutory reviews every five years to ensure that the remedy continued to be protective of the environment and human health (Curfman, Mugdanm, & Nieves, 2011).

In 2015, AOC E, a former 500-gallon underground storage tank and former 500-gallon aboveground storage tank, was determined to need a remedy that would prevent leaking of contaminants found inside the tanks. The underground storage tank (UST) and above ground storage tank (AST) previously stored oil for vehicle maintenance activities at the naval base. The UST was used until 1970 and then removed and replaced in 1996 by the AST, which was later removed in 2001. However, leaks from the former UST

resulted in localized soil and groundwater contamination, and AOC E is now restricted from the public. The associated ROD stated the necessity of groundwater monitoring to ensure that concentrations of persulfate declined, as well as the annual groundwater monitoring of COCs for three years after this decline to ensure that contaminant rebound does not occur. In addition, they would implement ICs to restrict portable groundwater use until the remedial action objective (RAO) is met (Cheryl F. Barnett, Mugdan, & Vélez-Vélez, 2015).

AOC E was the most contaminated area within the AFWTA. A result of the UST, numerous contaminants were found to have spread to AOC E. Contaminants of concern (COCs), chemical substances found at the sites that the EPA has determined pose a high risk to human health or the environment, include 1,2-Dichloroethane (DCA), 2-Methylnaphthalene, benzene, methyl tert-butyl ether, naphthalene, and xylene (“ATSDR’s Evaluation for Vieques, Puerto Rico,” 2013). The COCs were found in the ground water surrounding the UST (“AFWTA Site Profile,” n.d.). In addition, other chemicals of interest (COIs) were found in contaminated site, including heavy metals like arsenic, mercury, lead, cadmium, and zinc. Other explosive compounds were also found, including octahydro-1,3,5,7-tetranitro-1,3,5,5-tetrazocine [HMX], and hexahydro-1,3,4-triazine [RDX] (Mansilla-Rivera & Rodriguez-Sterra, 2009).

In November 2015, a ROD for the Eastern Conservation Area was conducted to determine the potential dangers of Unexploded Ordnance in the Eastern Conservation Area and to decide what actions were needed for further remediation (“Vieques Island/Atlantic Fleet Weapons Training Area,” n.d.). The Navy continues to conduct surface clearance within the previous naval base. A non-time critical removal action was

conducted to open the historic lighthouse at Puerto Ferro for public use. This allowed public access to the area around the lighthouse and the adjacent beach, which were opened in March 2015 (D. Rodriguez, 2002).

The most recent document, published in June 2016, is an Explanation of Significant Differences (ESD). The ESD discusses SWMU 1 and its selected remedy. As stated in the 2011 ROD, the site was meant to enhance existing soil cover by covering exposed waste areas with 18 inches of soil fill and 6 inches of top soil to increase vegetative growth. This document acknowledges that surface debris across the landfill has already been removed and the next steps will occur in the near future (US EPA, n.d.)

The process of clearing submunitions in 75 acres of land in the former LIA began in 2016. Specifically targeting areas with a high density (1,000/acre) of submunitions hidden by vegetation, the Navy began burning for vegetation removal. The Navy claims that the burning of vegetation is necessary to allow “safe munitions clearance” and that alternatives to burning were explored but deemed ineffective and/or unsafe. Air monitoring showed no consequential effect in the residential areas; however, ironically, some locals complain that the smoke is detrimental to their health (Pelet, 2016). A wide variety of cleanup activities are being conducted, whether it is removing munitions and debris through open burning methods or clearing vegetation to gain access to remaining ordnance.

The Navy has also identified underwater sites that are suspected to have or known to have been impacted by Munitions and Explosives of Concern (MEC). These areas combine to be approximately 11,500 acres. UXO 16, one of the sites, has former ship anchoring points where munitions previously were loaded and offloaded. In addition,



these areas may have inadvertently fired into the water from naval gunfire training or testing of bombs. In 2013, available bathymetry data in UXO 16 helped to develop a plan for cleanup. Using sonar, the Navy was able to survey the presence of underwater munitions. Since March 2016, the Navy is continuing to assess the presence of underwater munitions and is approximately 80 percent complete to date. Munitions will be removed after a full assessment is conducted on the whereabouts of the munitions (D. Rodriguez, 2002).

SWMU 4 is being prepared for future recreational use, so the Navy is accelerating evaluation of the adjacent area, UXO 16. In 2016, a remedial investigation was completed and a report of the findings is currently being prepared. A non-time critical removal action plan is planned for cleaning up munitions within 100 meters of the shoreline. The final Engineering Evaluation/Cost Analysis will be released for public review by May 2017. Cayo la Chiva, otherwise known as UXO 18, is a 12-acre island south of the EMA. A simulated machine gun nest used to be located on UXO 18, and fired 5-inch rockets were found on both the shore and offshore of Cayo la Chiva. In 2010, the Navy conducted a visual underwater survey within a range of 100 feet offshore and found nine potential munitions. A non-time critical removal action was finalized in November 2016 and fieldwork to remove these munitions is set to occur in 2017 (D. Rodriguez, 2002). Puerto Ferro, UXO 15, has a non-time critical removal action plan to address the munitions debris that remains underwater. Fieldwork is set to begin in 2018.

There are sufficient risks of the contaminants at these sites. After the time-critical removal actions of unexploded ordnance is complete, the Navy will conduct another

study to define the nature and extent of the present contamination (“AFWTA Site Profile,” n.d.).

The EPA uses performance measures to track the status of environmental results at Superfund sites. Currently, human exposure is not under control: there is an unsafe level of contamination at sites and humans can be exposed to these contaminants. There is insufficient data on whether groundwater migration is under control, meaning that due to uncertainty regarding contaminated groundwater mitigation, the EPA does not know whether or not the migration of contaminated groundwater is stabilized. Physical construction is not complete at all the sites and sites are not prepared for anticipated, future use (“AFWTA Site Profile,” n.d.).

The EPA’s Superfund program is working to remediate the contamination in Vieques, but the process is lengthy and time-consuming (Carpenter, 2015; Dreyfus, 2011). RODs under CERCLA summarize the legal obligation the DoD has to clean up the island and multiple Memorandums lay out brief timelines for the management of the site with anticipated deadlines for debris removal and other cleanup efforts (Curfman, 2008). The purpose of these Memos is to develop a site management framework, outlining critical decision-making processes to enforce and lead cleanup activities. They also provide some background of the objective of the Superfund program under CERCLA (Clay, 1990; Sarri, 2016). To date, the Navy has spent approximately \$215 million on its cleanup activities in Vieques, of which \$41 million have contributed directly to the local economy (D. Rodriguez, 2002). Many local residents are unaware of the time, energy, and funds going into the Superfund project, a result of the lack of transparency between Viequenses and U.S. governmental agencies.

*Human Health Problems*

Even with the Navy officially off the island, the struggle is not over. Currently, Viequense activists argue that there is a long list of problems that have continued after the Navy left the island. Anonymous B stated, “But then what happened, once the base closed, a lot of people...let it go. [The Navy is] gone. So that’s the struggle now—but they are not gone! Did we get our lands back? No. Has the cleanup been done? No. Is the cleanup going to take a lot more time and money? Yes. Is the health situation still [happening]? You know the route hasn’t changed” (Anonymous B, 2017).

There is a slow response to cleaning up the contaminated areas. People believe that the current remedial actions being conducted are dangerous. There is open burning and detonation to clear remaining munitions, which many residents argue may be detrimental to human health. The EPA claims that alternatives to burning were explored but deemed unsafe and/or ineffective. Furthermore, the EPA justifies its actions through test burns that were conducted in January 2014 and October 2016, during which tests indicated that the submunitions were cleared “successfully and safely” (“AFWTA Site Profile,” n.d.). Air monitoring showed no effect in residential areas, but Viequenses argue that the data is prejudiced and incorrect (Brantley, n.d.).

In addition, all of the associated COCs in AOC E are known to be detrimental to human health. According to the ATSDR, 1,2-Dichloroethane can cause respiratory issues, including hypersensitivity reactions, asthma, or chronic bronchitis. 2-Methylnaphthalene and naphthalene exposure can damage or destroy red blood cells, causing hemolytic anemia. Most individuals are exposed to benzene on a daily basis, through motor vehicle exhaust and industrial emissions, but large amounts of it can cause drowsiness, dizziness,

rapid heart rates, headaches, tremors, and blood problems. In extreme circumstances, high levels can be harmful to reproductive organs, delayed bone formation, bone marrow damage, and even potential death. Methyl-tert-butyl ether can cause respiratory issues after inhalation exposure to the contaminant, as well as liver damage and possible carcinogenic development. Xylene exposure can cause pulmonary congestion, brain hemorrhaging and anoxic damage, and a wide variety of respiratory problems (“ATSDR’s Evaluation for Vieques, Puerto Rico,” 2013). As a result of the potential health problems associated with these COCs, many local residents argue that cleanup procedures are not happening at pace that is fast enough.

Additionally, there is inadequate treatment to a long list of health conditions and diseases, many of which may be the result of chemical residue and hazardous waste contamination left by the Navy and the lack of adequate medical support on Vieques. Viequense residents, activists, and supporters argue that there is a need for doctors in the area, especially doctors specialized in cancer and lung disease. There is a clinic on the island, but it is not enough. A local Viequense, Anonymous A, stated, *“Pero hoy en día tenemos menos servicios médicos de los que tuvimos en un tiempo porque cada día estamos volviendo como casi atrás, y pues tenemos, siempre que estar peleando por algo”* (Anonymous F, 2017).<sup>21</sup> Everyone knows someone else on the island who has been affected by cancer in some way. Unfortunately, this is not an exaggeration, but a fact. One interviewee had a daughter-in-law who had cancer, but was lucky enough to be able to afford treatment by going to mainland Puerto Rico (Anonymous A, 2017). Two other interviewees were currently sick with serious health problems at the time of being

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<sup>21</sup> But today we have fewer medical services than we’ve had in a while because every day we return [with the same problems], and we’ve always been fighting for something.

interviewed. Anonymous C's daughter passed away from cancer over a decade ago and Anonymous D had five co-workers who all had cancer in the 1990s at roughly the same time (Anonymous C, 2017).

The health effects of the Navy's residence continue to remain controversial. While it is hard to compare data from before the Navy arrived to the current rates of cancer and other extreme health conditions, since there were not many studies conducted pre-Navy arrival, it is important to note that Viequenses are undoubtedly getting sick at a faster pace than normal (Pelet, 2016). The ATSDR had previously claimed that Viequenses had no increased chance of diseases due to the remaining ordnance left behind by the Navy, since the contaminants were found to be below harmful levels, studies by the Puerto Rican Department of Health contradict those results. These studies often show that Viequenses have a 27-30 percent higher chance of cancer, and a 41 percent increased chance of diabetes than residents on the mainland of Puerto Rico. Other studies have shown that Viequenses are seven times more likely to have diabetes than those on the mainland of Puerto Rico (Pelet, 2016). The Puerto Rican government had previously asked the Obama administration to do more research on the health of Viequenses, as well as to provide for more medical necessities, (the closest hospital is, at minimum, one and a half hours away by ferry from Vieques), but actions were never taken.

Some claim that detrimental health effects may be a result of local diet. Both tourists and Viequenses heavily rely on seafood in their diet and often consume fish and other seafood caught locally; however, some scientific articles say that the sea life is unsafe due to the toxins in surrounding waters, such as inorganic arsenic (Mansilla-

Rivera & Rodriguez-Sterra, 2009; “Puerto Rico: The Economy,” 2017). These articles state that local seafood often has high concentrations of toxic substances due to bioaccumulation (*Fish and shellfish in Vieques, Puerto Rico found safe to eat*, 2011). Others claim that seafood is okay to consume in moderation, but long-term consumption is dangerous. The ATSDR previously had performed an study that claimed that sea life surrounding Vieques is safe to eat, for the concentration levels of the toxic substances, such as lead, residing in the waters were not high enough to do actual damage to a healthy individual (“ATSDR’s Evaluation for Vieques, Puerto Rico,” 2013). Others argue that the ATSDR is just another federal agency whose main priority is not to care about the wellbeing of Vieques residents, but to help the DoD finish its cleanup as fast as possible.

Clearly, despite contradicting scientific data, not everyone is healthy. Anonymous F shared, “*A veces como que adentro tienen cosas que no se ven, verdad?*” (Anonymous F, 2017).<sup>22</sup> Learning disabilities are high for local children, stated Anonymous F, whose friends and children have a wide variety of disorders, such as autism and slower reading comprehensions. Many local activists believe this is a result of their mothers’ exposure to certain contaminants during the Navy’s bombings and occupancy, such as 1,2-Dichloroethane or benzene found in AOC E’s groundwater. There is outrage at the fact that the U.S. Department of Health and Human Services (HHS) has not bothered to come to Vieques to test children for lead and other heavy metals that could be the result of generations of chemical exposure. One local man who worked at the naval base, Anonymous B, stated that he was never tested for contaminants, despite the fact that he

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<sup>22</sup> Sometimes there are things inside that you don’t see, right?

worked on the base for several years, in close proximity to heavily contaminated areas (Anonymous B, 2017). Anonymous D commented that Vieques is a great opportunity for scientists to study a relatively small community and the effects of the toxics and military activities on the citizenry; however, nobody is rushing to come and collect data (Anonymous D, 2017). While locals are appreciative of studies done by undergraduate and graduate students about their histories and experiences, where are the “adults” who are ready to prove the necessity of increased healthcare?

Some people are privileged enough to fly off to Puerto Rico or the mainland for medical attention, but for the majority of individuals, it is not their reality, stated Anonymous D (Anonymous D, 2017). Not everyone has the finances to be able to get treated off the island, so the wealthy residents of Vieques are more capable of treating their health problems than those who are poor.

Local Viequenses notice the discrepancy between treatments provided to mainland U.S. citizens compared to those provided to Viequense or Puerto Rican citizens. Anonymous G emotionally exclaimed, “It’s a violation of our human rights. I’m sure that the American people or other federal agencies wouldn’t allow [the Navy] to come and test [in the mainland U.S.]. They wouldn’t allow that” (Anonymous G, 2017). He questioned, where is the justice for Vieques? Where were their supporters when the military went to houses and abused women? He explained that this is why the people of Vieques are still so angry—because they are not getting the attention and support that they need and deserve (Anonymous G, 2017). Viequenses are considered United States citizens, but do not receive the same treatment as their neighboring, mainland U.S. citizen peers.

Some argue that scientists in the area sometimes forget social justice perspectives and focus too much on what they think of as “hard facts.” In 1985, the Vieques Conservation and Historical Trust (VCHT) was created, a non-profit organization dedicated to environmental education and conservation efforts on Vieques. Despite its non-profit status, and its reputation as being an organization that fosters, protects, and conserves the “environmental, archeological and cultural resources of Vieques,” some argue that the NGO’s goals are somewhat counterproductive (“V.C.H.T. | About Us,” n.d.). Anonymous D argued that VCHT does not speak out against the Navy’s activities (Anonymous D, 2017). As much as she admires the work that the organization has done historically, she cannot condone their behavior: they do not acknowledge the Navy’s detrimental actions, which resulted in many negative effects that continue today on the island.

Another resident disagreed that the Navy’s previous activities are the sole cause of higher health problems on Vieques. Anonymous E argued that there are potentially other factors that affect human health:

Can the cancer rates be higher here because of naval activity? Could be. Do we know that they are? No, we don’t, because there’s no data correlating one thing with another—as of now. Could there be other factors? Yes, like what? What about our diet? We have a terrible diet? What about our cooking utensils? Terrible cooking utensils. What about our health habits? What about our lack of health institutions? Could those be factors affecting our cancer rate? Should we be exploring that as well? What about heredity? And nobody wants to touch on this one, but as a scientist, I can share this with you, what about genealogy and having



a very small gene pool? Everybody is Ortiz, Ortiz-Gomez, Gomez-Perez, Gomez-Ortiz? Everyone is related to somebody. So if you have recessive genes, is the likelihood greater for those recessive genes to surface? Nobody wants to touch on those subjects. I truly pray and hope that we can be part of the solution and help Vieques in that regard, and you do the best you can, but like I said, no good deed goes unpunished (Anonymous E, 2017).

### *Health of Local Flora and Fauna*

Humans are not the only living beings that are affected. Many locals claim that fish are contaminated. According to Anonymous F, a professor from Mayaguez did a study on the fish in the area and discovered that chemicals found in surrounding waters, a result of the U.S. naval occupancy, affected local populations of fishes (Anonymous F, 2017). Heavy metals, such as mercury and arsenic, are thought to have leached into surrounding waters, affecting local marine life (Mansilla-Rivera & Rodriguez-Sterra, 2009). Given the fact that most residents consume locally-caught seafood, one could argue that it is dangerous to not find out more information about the effects of contaminants on popularly-consumed fish species. Pregnant women, women planning to become pregnant, and nursing mothers often will eat up to 12 ounces of fish weekly. Children under the age of 7 can eat up to 4 ounces of fish a week (“ATSDR’s Evaluation for Vieques, Puerto Rico,” 2013). However, an early 2000 study conducted by the ATSDR determined that while mercury exposure from frequent consumption of marine seafood in Vieques could be a potential public health hazard, the risk is somewhat uncertain. In June 2003, after more research was conducted, ATSDR concluded that fish

and shellfish were safe to eat, even those found around the LIA. Snapper, the most commonly consumed species, was also deemed safe for consumption (ATSDR, 2013).

Many local activists claim that the Navy was always detrimental to the wellbeing of species on the island, especially human health. They claim that the most devastating effect of the Navy was the creation of a dangerous environment that continues even after its withdrawal (Aponte, 2004). Seafood, such as crabs in the area, tends to have more cadmium than crabs on the eastern coast of the United States. These cadmium levels supposedly exceed those deemed safe for human consumption by the U.S. Food and Drug Administration (US FDA) and “exceed the maximum dosage considered safe by the World Health Organization” (WHO) (Ruiz-Marrero, 2001). Cadmium is carcinogenic and can cause hypertension and kidney damage in humans. Additionally, environmental justice activists claim that contaminants on land and in sea also cause other human health problems. According to a study done by the Puerto Rico Health Department, Vieques’ cancer rate is 26.9 percent higher than Puerto Rico’s average. Vieques epidemiologist Rafael Rivera-Castaño also reports that there are unusually high rates of other diseases, including lupus, scleroderma, thyroid deficiencies, and asthma (Ruiz-Marrero, 2001; “Vieques Women Claim Navy’s Toxins Destroy Health,” n.d.). Many Viequense activists currently see their land as untouchable and contaminated, and blame the DoD for the rise of local health concerns.

Plants and vegetation are often thought to be contaminated, according to residents. Anonymous A stated that he is conscious of the contamination in the soil and sand of Vieques; however, it is not possible to avoid eating what little food is grown here (Anonymous A, 2017). Produce is imported from Puerto Rico only two or three times a

week, so residents depend on what little local produce is available. However, studies by the ATSDR show that there are not harmful levels of chemicals in the soil or in the water. While concentrations of metals in the soils of the LIA are slightly elevated, evidence claims that they are not high enough to be detrimental to human, animal, or plant health (ATSDR, 2013). Local Viequenses protest the results found by the ATSDR, claiming that its status as a U.S. governmental agency makes its data less trustworthy. Even the USFWS, which is monitoring the cleanup of Viequense land, is seen as almost the equivalent of the DoD—just another agency reinforcing U.S. hegemonic standards and actions on Vieques.

#### *Bettering the Clean Up Process*

Local activists also argue that the current cleanup efforts would be better if certain improvements were made with regards to methods of remediation and selections of remediation contractors. The federal government hires outside contractors through CH2M Hill to clean up contaminated sites, but many Viequenses want these positions to be hired locally. Although there are risks of being exposed to dangerous chemicals and contaminants, the jobs pay well. A group of local activists argue that despite the dangers of being hired to clean up these sites, they would prefer that the money go to local companies rather than outside contractors from the mainland United States.

The majority of cleanup that has occurred has been open detonation and burning of debris rather than alternative methods that are safer for human health. Open-burning of ordnance is most effective because it is cheap and fast; however, it is potentially bad for the environment, and human and animal health. According to data from the Veterans

Affairs Airborne Hazards and Open Burn Pit Registry, individuals who worked at open burn pits had higher instances of respiratory diseases, such as chronic bronchitis, chronic obstructive pulmonary disease, and emphysema<sup>23</sup> (Ross, 2016). Ironically, the smoke from burning debris can also spread toxic pollutants, such as chromium and DNT, both of which are carcinogenic. Fine particulate matter from burning is one of the most harmful air pollutants and is detrimental to public health (“Environmental Assistance & Protection, North Carolina,” n.d.). In addition, tests conducted in 2003 show that 26.8 percent of Viequense women of reproductive age had mercury levels in their blood that were high enough to affect fetus health: autism and intellectual disabilities (Ross, 2016).

Other complaints from locals include the slow progress throughout the past fifteen years. To date, the federal government has spent approximately \$215 million on its cleanup processes on Vieques and has removed over 38,000 munitions. The EPA claims that the activities have directly contributed \$41 million to the local economy (“Vieques Island/Atlantic Fleet Weapons Training Area,” n.d.). While these numbers seem large, they appear lower when compared to the severity of the contamination of the land and water (“Who Pays for Superfund?,” 1990). From 1999 through 2013, appropriations to the EPA’s Superfund program decreased from about \$2 billion to about \$1.1 billion (Anderson, 2017). Although progress is occurring, the expected date of completion of the cleanup has changed from 2020 to 2022 to 2029 (Stanchich, 2013).

Local residents are unaware of the various changes occurring and do not understand why procedures to clean up contaminated areas appear slow. Anonymous A

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<sup>23</sup> A lung condition that causes shortness of breath.

exclaimed sadly, “*año por año, no hace nada*” (Anonymous A, 2017).<sup>24</sup> Anonymous D described how she went to the United Nations last year to talk to the Decolonization Committee about the situation in Vieques, and could go again this year and not have to change anything in her speech because nothing has changed. Open burning and open detonation of unexploded ordnance continues to contaminate the environment and continues to add to the health crisis of the island (Anonymous D, 2017).

The remediation that has occurred has been primarily superficial, many residents claim. Although employees of the USFWS argue differently, many local Viequenses remain unaware of what cleanup procedures are complete due to the lack of transparency between governmental agencies and local residents. Anonymous D stated that she believes CH2M Hill has the latest technological equipment, but they do not bring it to or use it in Vieques: “Here they do open burning and open detonation. To me, that is an injustice—not to be accepted by the people of the community. It may be economical for them, but it’s our [lives] at stake” (Anonymous D, 2017). Another Viequense, Anonymous C, stated, “*Yo pienso [que ellos están limpiando] con una limpieza superficial. No es una limpieza de consciencia*” (Anonymous C, 2017).<sup>25</sup>

Some still argue that military installations remain on the island. For example, a radar that was originally installed as an instrument against drug trafficking and used to spy on Venezuela continues to operate, stated Anonymous D (Anonymous D, 2017). There is a lot of distrust and negative sentiments regarding any governmental organization in Vieques, regardless of its associations with the U.S. military or DoD.

<sup>24</sup> Year after year, nothing happens.

<sup>25</sup> I think that [they are cleaning superficially]. It’s not a conscience cleaning.

There are a wide range of reasons why many residents are advocating for the return of Vieques to local control, whether for future development, moral reasons, or anti-hegemonic logic. Anonymous F stated, “*La tierra hace falta para sembrar pero también hace falta para hacer casas y que la gente tengan su vivienda*” (Anonymous F, 2017).<sup>26</sup> Another person stated her desire for a healthy Vieques: “*La prioridad es la salud. Hay propuestos [pero] la salud es la prioridad*” (Anonymous C, 2017).<sup>27</sup> Despite different priorities about what to do if local residents gain access and control of Viequense land, there is this continuous fight to resist federal governmental control and U.S. hegemony of their land. They are united in the fight to hold the Navy accountable. They want their land cleaned, then have it returned to them to do whatever they may desire. They want to have power over the land that their ancestors originally “owned” and inhabited freely, without consequence of U.S. control and manipulation.

### **U.S. Fish and Wildlife Service (USFWS) Activities**

Originally reluctant to manage Viequense land, Congress ordered the USFWS to create the Vieques National Wildlife Refuge in the early 2000s (McCaffrey, 2014). The agency’s main role is to manage the refuge in a way that provides a safe environment for people to enjoy the wildlife and to preserve biologically important sites. In addition, USFWS helps to protect historical and archeological resource sites and to maintain the local ecosystems to help resident and migratory species of flora and fauna (“About the Refuge,” n.d.).

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<sup>26</sup> The land needs to sow but it also needs to [be used] to make houses and give people their homes.

<sup>27</sup> The priority is health. There are proposals but health is the priority.

As ordered by law, Congress designated 900 acres of the previous LIA as a Wilderness Area (“AFWTA Site Profile,” n.d.). When the Navy was on Vieques, they allowed locals to enter naval sites: Viequenses were able to go anytime and do whatever they desired—pick bananas, fish on the beaches, etc. If anything happened, they were responsible for their own accidents. Now that the refuge is a Superfund site, the level of liability is different. In addition, the Wilderness Area also requires special requirements for visitors. The federal government wants to minimize risk and is stricter with who can enter a contaminated site, stated a local biologist. Anonymous E stated that when Viequenses can not access land that they previously were able to access for decades, they get frustrated and blame the USFWS (Anonymous E, 2017).

The USFWS, although often seen as a sub-division of the DoD, is a separate governmental agency that focuses primarily on conservation and provides public access to the refuge. The Principal Responsible Party (PRP) is the U.S. Navy; they are responsible for cleaning up munitions and debris on Vieques. Many local residents are weary and suspicious of the USFWS because of general mistrust of the federal government (“About the Refuge,” n.d.). Despite the fact that the USFWS does not have any legal control over DoD actions, Viequenses see it as another subdivision of another hegemonic federal agency.

### **Debate over U.S. Governmental Involvement**

The opinions about contamination on the island vary greatly: some say that the land is extremely contaminated and others say it may be slightly contaminated, but it is not detrimental to human and animal health. Another complaint voiced is the controversy

between independent researchers and scientists who are contracted by the federal government to perform research. The federal government is responsible for clean up efforts, therefore, they are the one contracting individuals to monitor the soil and health of the land. Many locals, like Anonymous E, argue that these scientific researchers are biased, as it is to the DoD's benefit if Vieques's soil is less contaminated than expected (Anonymous E, 2017).

Differences between local activists who want autonomy of the land, and others who consider more conservationist ideologies often stem from larger arguments about who has the right to Vieques's land. Many local residents are currently fighting for the return of the land to residents: they do not want the USFWS managing the refuge, but rather want it returned to residents to use as they wish. Others who work for the USFWS, and who are invested in scientific concerns of the land, claim that the federal government's control of Vieques's land is the most beneficial option, since Puerto Rico is in a financial crisis and is unable to properly care for the island independently.

Residents often label change as slow moving and non-existent because of lack of transparency between governmental agencies and local Viequenses. There is continuous lack of trust over the land, a result of the Navy's previous hegemonic control of the land. To many locals, they do not see a difference between the transfer of Viequense land from the DoD (Navy) to the DoI (USFWS). The land is being handed over to yet another U.S. government agency and residents remain uninvolved in affairs of their land.

Some residents argue that military occupation and bombing on Vieques is what led to the creation of the refuge. A USFWS employee, Anonymous E, stated, "Ironically, this is the part that most people don't want to hear about, but the fact that military bases



exist, and tend to be so large in terms of land ownership, ironically, these bases have become some of the best safe havens for wildlife and conservation. So military bases, depending on your perspective, is very bad for the environment and also very good in terms of habitat protection” (Anonymous E, 2017).

Land availability for wildlife has become an issue throughout the world. Protected areas are extremely important. Ironically, former DoD lands used for military exercises and training have become protected areas. Anonymous E stated, “Military bases in the last few decades have become havens for wildlife and interestingly enough, some of them have better management plans for conserving wildlife than a lot of actual protected areas set aside by other entities” (Anonymous E, 2017). Biologists hired by the federal government and their programs are often better funded than those of universities and outside companies. While some view DoD-hired scientists as biased, others argue that they are the only individuals being hired to conduct research, since no one else is volunteering.

There are differing viewpoints and objectives of numerous stakeholders, including the local Viequense community, educational and scientific organizations, and various other advocacy groups on the island (US EPA, n.d.). The Vieques community remains divisive on what has already happened to help clean up island land and also what is best for future island development.

Scientists and other residents admit that the U.S. Navy’s activities on Vieques had immediate, detrimental effects on local flora and fauna; however, today, local conservationists on Vieques label the land as pristine and natural, a result of the hard work of the USFWS and the EPA’s primary cleanup of Vieques. The USFWS portrays

the Vieques National Wildlife Refuge as a beautiful, natural area that is the home to many wild flora and fauna. While the governmental organization does recognize that the Navy previously inhabited the area, it avoids acknowledging the ecological impacts of military pollution of Vieques. The majority of what they portray on their online website about is the present-day National Refuge, and how it is the host of many unique creatures (Davis et al., 2007).

There is no denying that the DoD negatively affected local flora and fauna—a result of military activities. Both conservationists and local activists acknowledge this fact. Many areas were immediately closed off after the Navy's departure due to potential contaminants and remaining munitions. There is an overwhelming amount of exploded and unexploded ordnance on the island that is dangerous to people and animals. While the Superfund program is currently working to rid contaminants from Vieques, local activists argue that it is impossible to clean up everything. Dr. John Wargo from Yale University has calculated that over a hundred million pounds of ordnance was dropped throughout the military's occupancy (Negretti, 2010).

Vieques is home to the largest national wildlife refuge in the Caribbean and the surrounding waters are home to major zones of reef geomorphology (Riegl et al., 2008). A great deal of coral has been killed and will never be fully restored, as coral takes decades to grow (“Assessment of the Coral Reefs on Vieques,” 2005; Porter, Barton, & Torres, 2009). Despite ecological impacts of military bombing activities in Vieques, especially on coral reef species, many conservationists are also quick to point out the rehabilitation procedures necessary to help local corals revive and heal in the aftermath (Hernandez-Delgado, Montanez-Acuna, Ontano-Cruz, & Suleiman-Ramos, 2014). There

are many forms of ecological damage and scientists often claim that it is irresponsible to shift the blame on the Navy's previous occupancy, as they have been gone from the island for over a decade now (Arbona, 2004). There are other anthropogenic and climate change-caused factors affecting local flora and fauna, such as hurricanes, ocean acidification, and rising temperatures of seawater.

Anonymous E stated that despite the immediate effects of the Navy's bombing, Vieques' ecosystems today are not in horrible condition: "Human activity as a whole—and I'm not defending [these anthropogenic factors]—but human activity, as a whole, tends to be damaging to environments. Like building highways, malls, and houses. Now nature is pretty resilient, and as long as they have habitat and the habitat is protected, they tend to bounce back and do pretty well" (Anonymous E, 2017). The same individual argued that other anthropogenic factors have also negatively impacted local ecosystems, including road construction, maintenance, landfills, and sewage systems.

It is also important to note that Vieques was not an environmental paradise before the Navy arrived. The earliest damage began with European settlers in the 1800s. The entire island was denuded of trees and the native, primary forest of Vieques was destroyed, causing several species to become extinct. Settlers' activities changed the hydrology of the island. When the Navy arrived, there was already a monoculture of sugarcane; however, it was no longer an important part of the economy, as other Caribbean islands were more productive with growing it than Vieques.

Currently, Vieques's forests are as young as ten years old and some as old as 100 years. Environmental specialists determine whether it is necessary to destroy old forest for remediation. From a conservationist perspective, you do not want to dig up anything

in an area unless it is absolutely necessary. Anonymous E stated that because of this conservationist reasoning, some local residents misinterpret the USFWS's main goals: they claim that the USFWS does not want to clean up after the Navy. The USFWS argues that they do want to clean up the island, but everything is data driven: if scientific data shows that the mangrove area is a pool of toxins, but is beneficial for the animals, then the toxins will have to be removed and restoration efforts will be dealt with later. However, if it is unnecessary, and there are no toxins in the mangrove area, then they will not restore it (Anonymous E, 2017). Local activists advocate the idea that contaminated lands need to be cleaned, and no site is more important than another, but it is important to recognize that not everything can be cleaned at once, explained a Fish and Wildlife ranger (Anonymous F, 2017).

Despite critiques, conservationists and biologists on the island argue that change is occurring, even if at a slow-pace. A resident biologist, Anonymous E, explained that there has been a decent amount of removal of ordnance and improvement with cleaning, but obviously, there is more to be done (Anonymous E, 2017). There is a lengthy list of processes to get Vieques as clean as possible, considering it is unlikely that the island will ever be as pristine as it was pre-human colonization.

Some local biologists and conservationists on the island argue that sympathy and empathy play large factors in how locals and outside tourists view Vieques and politics on the island. Anonymous E stated that oftentimes he hears bold claims that there are contaminants in Vieques' surrounding waters that are killing residents and affecting others from the Dominican Republic to Florida. His reasoning for why some Viequenses

are making such big claims is because they unintentionally exaggerate. He added the following:

Yes, people are making these statements. And you're like, wow those are really big statements to make! There's one thing to have an opinion, and just because you have a PhD in your name, that gives you credibility because most of us don't want to do research and are going to believe whatever they want to hear. Your degree doesn't make you correct—people are more likely to agree with someone who has a PhD. It gets very controversial and political; it's not black and white. But if it's really that contaminated, we want to know and we want to hear about it (Anonymous E, 2017).

He encouraged independent researchers to come to Vieques and take samples, and claimed that the USFWS will support visiting scientists with whatever they can. Some argue that the jaw-dropping data is what receives national attention. If an individual says that bananas from a local farm are contaminated because of the soil, everyone is going to be less inclined to consume those bananas. Whether or not the individual was crying wolf, no one is going to take that chance (Anonymous E, 2017).

There is also a common misconception with locals that the USFWS is the same as the Navy and the DoD. Anonymous E explained that with the assumption that USFWS is the same as the DoD, the organization is often seen as the enemy, too (Anonymous E, 2017). Additionally, many Viequenses also don't like the U.S. F&W because of the security enforced when going into the refuge.

With regards to claims that the DoD is still on the island, Anonymous E is quick to deny it. He stated, "There's no Navy here, we talk about the Navy but they have been

gone since 2003. Their contractors are still here and there is one person from the Navy who is a civilian employee, but most of the time you don't see anyone from the Navy. All of their people who are cleaning up are contractors. They contract people to do that work for them. You would never find a Navy person doing any cleanup" (Anonymous E, 2017).

Despite a wide array of negative sentiment regarding USFWS, there are some Viequenses who view the refuge in good terms. Anonymous G stated, "To be honest, I think they're good. They are rangers with true professions in the U.S. Fish and Wildlife Service. That part is good because at least the land doesn't go into the hands of politicians of Puerto Rico, who are in danger of going to the Department of Defense. If the Puerto Rican government takes control of it, they'll be corrupt... I'm concerned that after [the DoD's contractors] cleanup, [the DoD] might bring in the Navy again and reopen the base. The DoD in the future may reopen the base" (Anonymous G, 2017). To others, the USFWS is doing good conservation work and environmental sustainability, which could be beneficial for the future and the potential push of eco-tourism in the area.

One could argue that despite the critiques, Viequenses do reap benefits from the USFWS presence. According to Anonymous E, an employee of the USFWS, the governmental agency contributes approximately \$700,000 to the municipality every year in lieu of housing taxes. According to USFWS, over 300,000 people visit the Refuge every year. For everyone \$1 appropriated to run the refuge, \$18 is generated in economic activity to the local community, supporting 300 jobs ("Don't let Congress Give Away Vieques National Wildlife Refuge," 2016). When the DNER needs support, since it doesn't have heavy equipment, U.S. F&W helps to fix roads—they try to help the community. A USFWS employee stated that the organization often gets blamed for a lot

of Vieques's problems, despite the fact that the majority of F&W employees consider themselves Viequenses, whether born, raised, or relocated Viequenses.

### *The Current Economy*

One topic of which there is less debate on is the current economic situation. Whether for autonomy of Vieques or federal authority, Viequenses recognize that Puerto Rico is in a financial crisis and that it has a struggling economy. The U.S. government's active role in Vieques and Puerto Rico does help the islands benefit financially. The majority of houses in Esperanza, the most sociable town, are expensive to own and are bought by non-local individuals. Vieques is no longer a fishing village, but rather a new destination for wealthy Americans to buy their new vacation home (Anonymous D, 2017). Vieques is currently home to approximately 8,825 residents, according to the 2016 Census, and there is a continuously growing tourism industry ("AFWTA Site Profile," n.d.).

The cost of living is higher in Vieques, especially given that everything is imported from Puerto Rico or the mainland United States. Anonymous G claimed that in Puerto Rico, \$100 would last him a month and a week in comparison to a week or so in Vieques:

What a difference! [The cost of living] went up because a lot of American people came here. A lot of them are ex-military and stayed here. They came here and if you [had] 25,000 or 30,000 dollars in the '80s or '90s, they offer[ed] you \$80,000 or something like [that]. When they came here, people started to settle down and raise prices of property. When businesses see that the Americans are here, they

make more money, which is good for the government of Puerto Rico. The government of Puerto Rico doesn't care about Vieques; they don't care about our education, our health. Everything goes down and is privatized, because they want to take a piece of the cake. Years ago, there was less money (Anonymous G, 2017).

Businesses are not owned by local Viequenses, but by foreigners—often Europeans or North Americans from the U.S. or Canada. Anonymous F stated that the only available jobs for locals are less than ideal: “*Ahora pues traen gente de Estados Unidos, de Nuevo México, gente que son, como decimos acá, negreros, que explotan a la gente... y no tienen suficientes personas y tienen que estar haciendo bien*” (Anonymous F, 2017).<sup>28</sup>

Many Viequenses have left to live in Puerto Rico or the mainland. Some have left because they can get a large sum of money for selling their houses. The problem with this is that if you sell your house, you cannot afford to buy another place in Vieques, and thus have to leave to find a more affordable home. A lot of other people have left because of the lack of healthcare (preventative care, actual continuation of health care, etc.) and/or their own health situations, which require better treatment and medical care—things they are unable to receive on Vieques.

Younger Viequenses also leave when they graduate high school, to pursue a different life. There are few jobs in Vieques, and there are no “exciting,” well paid jobs. Anonymous F shared, “*Pero es verdad, la gente se va estudiar y por allá conocer gente,*

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<sup>28</sup> Now, well they bring people from the U.S., from New Mexico, people who are, like I said before, slavers, who exploit people...and don't have enough people and have to be doing well.



*se casa, y no vuelven*” (Anonymous F, 2017).<sup>29</sup> Anonymous D agreed and sadly stated, “And all of these businesses that have opened, the majority of people have brought workers in from the states. You’re going to school, or coming out of college, and your dream is not to mop stores or wait tables, so you’ve got to go out, you’ve got to leave” (Anonymous D, 2017). Around 60 years ago, the local population was close to 10,000—which was lower than the population pre-Navy arrival—but currently, it is under 9,000 (Anonymous E, 2017; Evans, Price, & Barron Jr., 2000).

## **Conclusion**

The United States has a long history of colonialism and hegemony. In Rocky Flats, Colorado, a nuclear weapons factory contaminated the local environment with plutonium bomb components, negatively affecting local residents and the health of their children (“Under The ‘Nuclear Shadow’ Of Colorado’s Rocky Flats,” 2012). After gaining control of land from Japan in 1944, the DoD occupied the Marshall Islands to test nuclear bombs for over twelve years (“Marshall Islands,” 2016; “Marshall Islands Program: Introduction,” n.d.). During this time, approximately 67 nuclear tests were completed, negatively affecting human and environmental health through exposure to high amounts of radiation (OHara, 2015). It is no surprise that the United States has a strong military presence throughout the globe and that it has dedicated so much time and energy towards military training and bases.

The situation in Vieques is similar to other situations of U.S. hegemony and occupation of land, but is simultaneously different because of its status as a U.S. territory.

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<sup>29</sup> But the truth is, people leave to study and over there meet people, marry, and don’t return.

Anonymous G pointed out that people today are still outraged about Hiroshima and other events where the U.S. military violated human rights; however, questioned the lack of outrage for Vieques (Anonymous G, 2017).

Cleanup processes are happening, although many argue at a slow-pace. There is minimal communication between federal agencies and Viequense residents, and transparency of actions is weak. Local residents remain wary of U.S. governmental actions, but the USFWS is continuously working to try to minimize confusion and to increase communication among residents and agency workers. Environmental education and sustainability efforts are occurring, such as shown through the actions of non-profit organizations like VCHT and El Fortín. VCHT's *Movimiento en Apoyo a Nuestros Tesoros Ambientales* (MANTA)<sup>30</sup> program exposes kids to local environmental issues, giving children opportunities to study and learn more about their land and local history.

The question of what is best for Vieques and for Puerto Rico varies. For the majority of residents, there is a general mistrust of U.S. governmental agencies, but they also understand the necessity of U.S. financial support. Anonymous F explained her belief that the United States enjoys having power over Puerto Rico:

*Mira, yo pienso, que si Estados Unidos hubiera querido que nosotros fuéramos parte de ellos, lo hubiera hecho desde el principio, pero nunca lo han querido, nunca lo han pensado. Porque para ellos nosotros somos un montón de negros. Se ama el color de los que se ama, porque aquí lo mismo que haya negros, que haya blancos o que haya rubios, para ellos todos somos negros. Y lo primero que piensa en eso es que aportan ellos? Ahora mismo somos un país pobre, pues, que*

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<sup>30</sup> Movement in Support of Our Environmental Treasurers

*nos vamos aportara a Estados Unidos? ...A mí me preguntaban, que tu eres? Yo no digo que yo soy americana si me preguntaran eso, diría que yo he nacido americana pero de puertorriqueña. Y primero digo que soy de Vieques!*

(Anonymous F, 2017).<sup>31</sup>

As a result of centuries of mistreatment and lack of transparency, local residents see all federal organizations as agencies that continue to exemplify U.S. hegemonic ideologies and actions. To most Viequeses, there is no difference between the EPA, CH2M Hill, the Navy, and the USFWS. All are governmental agencies that enforce strict regulations and prevent the return of Viequense land to local residents. Despite the fact that the EPA, USFWS, and CH2M Hill are meant to manage and support cleanup efforts and land management on Vieques, and are not related to the DoD's previous militarization and naval actions, there is a general distrust for all governmental agencies.

In addition, opinions on the push for the increase of eco-tourism vary.

Anonymous E argued that to him, eco-tourism is essential to strengthen Vieques' economy. He shared,

Tourism has increased from 2 months in the summer (Puerto Rican tourism), 2 months in the winter (which was the Boston/New England tourism) to year-round.

It does not stop anymore. It slow down a bit for about two months but it never stops. Visitations have gone from 20,000 in 2004 to over 300,000 visitations in

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<sup>31</sup> Look, I think, if America had wanted us to be a part of it, it would have done so from the beginning. But they never wanted it, they never thought about it—because for them we are a bunch of blacks. One loves the color of those they love, because here no matter whether you are black, white, or blond, to them we are all blacks. And the first thing you think about is what do they bring? Right now we are a poor country, therefore, we are going to cooperate with the United States... If they asked me, what are you? I would not say that I am American if they asked me, I would say I was born American but am Puerto Rican, [but] first I would say that I am from Vieques.

2017). And so people are very attracted to Vieques; they want to come to Vieques. One of the reasons why is it's one of the few natural looking areas in the Caribbean that I can access for little money in the US and don't need to worry about passports, it's safe, etc. People are now coming from around the world, not just Boston and the Caribbean. They come from all over. I think the least amount of visitations from a continent, other than Antarctica, are the African countries. But we have pretty much people from all over the world here (Anonymous E, 2017).

He claimed that the increase in tourism is partially due to the lack of public knowledge that the refuge is a Puerto Rican *Departamento de Recursos Naturales y Ambientales* (DRNA) reserve. People visit the local Bioluminescent Bay and the beaches in the DRNA area. Conservation areas contribute to the economy both directly and indirectly. Tourism is the one of the most important contributors to the Puerto Rican economy. In 2008, over 3.6 million tourists visited Puerto Rico and its islands ("World Factbook," n.d.).

Some residents understand the importance of tourism on the island, but are still reluctant to accept the growing gentrification and tourism on Vieques. A listing in *The New York Times* Escape section boasted the beauty of Vieques and featured a three-bedroom house with a guesthouse for \$2.5 million. The owner stated, "We love the beach, we love the Caribbean. Vieques, though, is very different from many of the other islands. Two-thirds of the island is a wild preserve, and there are a lot of beautiful beaches with no development—that's what is special to us" (McCaffrey, 2014). The irony is high. Previously seen as a contaminated Navy base, Vieques is suddenly being referred to as a

paradisaal destination. Leonardo Velázquez Maldonado, a retired bank manager and lifelong resident of Vieques, stated in the same article, “I’m happy to have Americans here. I say, welcome to Vieques! Come share our contamination with us!” (McCaffrey, 2014).

Anonymous D stated that there is a psychological effect on the community: “I feel here like it [is] PTSD or something. You know? And many people in denial, who don’t like to talk about it. C’mon, it’s your life! You have a right to speak out. It’s not only a right, it’s a responsibility” (Anonymous D, 2017). What is necessary for Vieques to move forward to recover from military contamination and previous occupation? Is the land on Vieques governmental land meant to be dedicated to conservation work or do Viequenses deserve the right to demand its return locals on the island? Should the land be autonomous or should it be federal property? The lack of discussion between U.S. governmental agencies and local residents continuously results in local distaste for the EPA, the USFWS, CH2M Hill, and other federal agencies that remain on the island. There is a sense of mistrust with regards to these organizations.

While the federal government has more control because it has more money, more people, and more knowledge of how to deal with the land, many local residents believe it is more important for locals to be in control because originally it was their land—before the U.S. Navy’s occupancy and even before Spaniard colonization. How do land autonomy, federal control of land, environmental justice, and conservation work together? How would this situation differ if Puerto Rico was a U.S. state rather than a U.S. territory? What is the best for Vieques, its people, its flora and fauna, and its long-term future economic development? Perhaps there needs to be a compromise between the federal

government and local residents, in which USFWS can maintain and manage the refuge but locals can have a portion returned to them for personal use.

Vieques, especially now after the devastation from hurricanes and being part of Puerto Rico and its declining economy, is in a vulnerable state. Buildings are destroyed and some residents have fled to the mainland and Puerto Rico because of the lack of healthcare, food, and other supplies on the island. As Puerto Rico and Vieques recover from the devastation of Hurricane María, local residents still struggle to trust the United States because of the lack of financial and physical support from the Trump administration. Viequenses wonder when they will receive aid because in the past, it has often been deemed unworthy of national attention because of its status as a U.S. territory (Healy, 2017). When will Vieques be able to recover from the effects of previous naval occupancy, and now the more-recent effects of Hurricane María? Will the complications of rebuilding Viequense infrastructure and strengthening its economy affect future interactions with the U.S. government? Only time will tell, but for now, it is time that the United States starts to pay attention to its neighbors on Vieques—our fellow citizens—through a better understanding of its history, its struggles, and its culture. How can we best support Vieques, and Puerto Rico, moving forward? How can there be more respectful, transparent communications between federal agencies and local residents?

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## Appendices

### Appendix A



Figure 1. Map of Vieques and Puerto Rico (“The Beauty of VIEQUES ISLAND,” n.d.)



Appendix B



Figure 2. Map of Vieques Island ("Map of Vieques Beaches," n.d.)

Appendix C

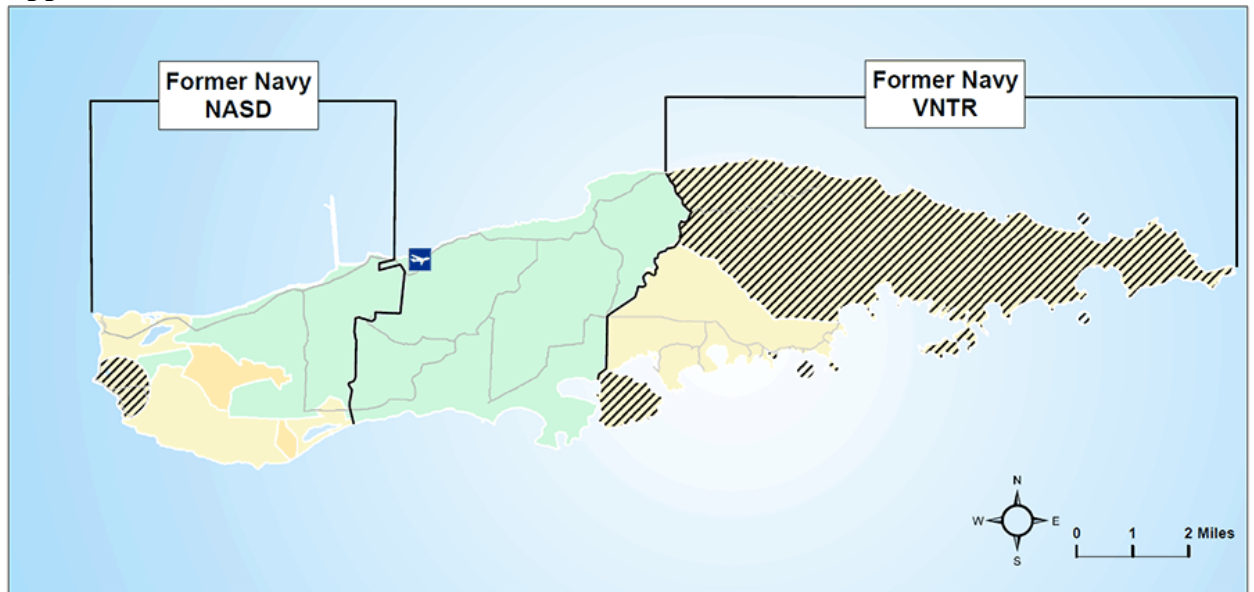


Figure 3. Map of former military use of Vieques ("Vieques Home Page," n.d.)

## Appendix D

**Table 1.** Agencies and Local Government Included in Vieques Cleanup Coordination (“Community Involvement Plan,” 2007)

Agency	Description and Involvement
U.S. Navy (Navy)	Lead agency in charge of cleanup of lands previously owned by the U.S. Navy. Coordinates activities with the other agencies and the community as part of the CERCLA process.
Environmental Protection Agency (EPA)	Stakeholder federal agency with oversight role over the cleanup activities
Puerto Rico Environmental Quality Board (PREQB)	Stakeholder commonwealth agency with oversight role over the cleanup activities.
Puerto Rico Department of Natural and Environmental Resources (PRDNER)	Stakeholder commonwealth agency tasked with protecting, conserving, and managing Puerto Rico’s natural and environmental resources.
U.S. Fish and Wildlife Service (USFWS)	Stakeholder federal agency whose mission includes working with others to conserve, protect and enhance fish and wildlife and their habitats for future generations. USFWS manages the Vieques NWR for this purpose and to provide opportunities for wildlife dependent recreational activities.
Municipality of Vieques (MOV)	Stakeholder local government and landowner.
U.S. Coast Guard (USCG)	Federal agency that regulates and disseminates information on restrictions of the navigable waterways (including the waters around Vieques).
National Oceanic and Atmospheric Administration (NOAA)	Federal agency whose mission includes conserving and managing coastal and marine ecosystems and resources. The National Marine Fisheries Service (NMFS) division of NOAA is responsible for stewardship and management of the nation’s living marine resources and their habitat.
State Historic Preservation Office (SHPO)	Commonwealth stakeholder agency whose mission is protecting historic properties. SHPO supports Vieques cleanup by helping to ensure requirements associated with protecting cultural artifacts are met.

## Appendix E

**Table 2.** Relevant Acronyms and Abbreviations

AFWTA	Atlantic Fleet Weapons Training Area
AST	Aboveground Storage Tanks
ATSDR	Agency for Substances and Disease Registry
AOC	Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CH2M Hill	The DoD-contracted company responsible for the cleanup of contaminated areas
CIP	Community Involvement Plan
DoI	Department of the Interior
ECA	Eastern Conservation area
EMA	Eastern Maneuver Area
EPA	Environmental Protection Agency
EQB	Environmental Quality Board
ERP	Environmental Restoration Program
FBI	Federal Bureau of Investigation
FFA	Federal Facility Agreement
El Fortín	Fortín Conde de Mirasol (Museum)
HHS	Department of Health and Human Services
IRB	Institutional Review Board
LIA	Live Impact Area
MANTA	Movimiento en Apoyo a Nuestros Tesoros Ambientales (Movement in Support of our Environmental Treasures)
MEC	Munitions and Explosives of Concern
MRP	Munitions Response Program
NASD	Naval Ammunition Support Detachment
NAVFAC	Naval Facilities Engineering Command
Navy	U.S. Department of the Navy
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priorities List
PR DRNA / DRNA	Departamento de Recursos Naturales y Ambientales (Puerto Rico Department of Natural and Environmental Resources)
PREQB	Puerto Rico Environmental Quality Board
PRP	Principal Responsible Party
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RCRA RFA	Resource Conservation and Recovery Act

	Facility Assessments
RFI	RCRA Facility Investigation
ROD	Record(s) of Decision
SIA	Surface Impact Area
SWMU	Solid Waste Management Unit
TAP	Technical Assistance Plan
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tanks
UXO	Unexploded Ordnance
VCHT	Vieques Conservation and Historical Trust

## Appendix F

**Table 3.** Twelve RCRA Consent Order Sites in 2002

SWMU 1	Camp García Landfill
SWMU 2	Fuels Off-Loading Site (Camp García)
SWMU 4	Waste Areas of Building 303 (Camp García)
SWMU 5	Spent Battery Accumulation Area (Observation Post 1, AFWTF Inner Range)
SWMU 6	Waste Oil and Paint Accumulation Area (Seabees Area, Camp García)
SWMU 7	Waste Oil Accumulation Area (outside Building 303 at Camp García)
SWMU 8	Waste Oil Accumulation Area (Observation Post 1, AFWTF Inner Range)
SWMU 10	Sewage Treatment Lagoons (Camp García)
SWMU 12	Solid Waste Collection Unit Area (Observation Post 1, AFWTF Inner Range)
AOC A	Diesel Fuel Fill Pipe Area (Observation Post 1, AFWTF Inner Range)
AOC F	Rock Quarry (Camp García)
AOC G	Pump Station and Chlorinating Building at Sewage Lagoons (Camp García)

Appendix G



**Figure 4.** Photo of Viequenses protesting the Navy's occupancy of Vieques ("The Marxist-Leninist Daily," n.d.).

Appendix H.



Figure 5. A photo of local residents and visitors protesting the Navy's occupancy ("The Marxist-Leninist Daily," n.d.).

**Appendix I.**



**Figure 6.** A photo of unexploded ordnance remaining on Vieques (Levins Morales, n.d.).

## Bibliography

About the Refuge. (n.d.). Retrieved November 6, 2017, from

<https://www.fws.gov/refuge/Vieques/about.html>

AFWTA Site Profile. (n.d.). Retrieved November 27, 2017, from

<https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=secound.topics&id=0204694#Background>

*American Antiquity*. (1992) (Vol. 57).

Anderson, B. (2017, September 20). Taxpayer dollars fund most oversight and

cleanup costs at Superfund sites. *Washington Post*. Retrieved from

[https://www.washingtonpost.com/national/taxpayer-dollars-fund-most-oversight-and-cleanup-costs-at-superfund-sites/2017/09/20/aedcd426-8209-11e7-902a-2a9f2d808496\\_story.html](https://www.washingtonpost.com/national/taxpayer-dollars-fund-most-oversight-and-cleanup-costs-at-superfund-sites/2017/09/20/aedcd426-8209-11e7-902a-2a9f2d808496_story.html)

Anonymous A. (2017, June 6).

Anonymous B. (2017, June 8).

Anonymous C. (2017, June 4).

Anonymous D. (2017, June 9).

Anonymous E. (2017, June 13).

Anonymous F. (2017, June 17).

Anonymous G. (2017, June 21).

Aponte, C. I. (2004). U.S. Navy versus Vieques, Puerto Rico: Social Justice Through

Civil Disobedience. *Journal of Poverty*, 8(4), 59–73.

[https://doi.org/10.1300/J134v08n04\\_04](https://doi.org/10.1300/J134v08n04_04)



Arbona, J. (2004). Vieques Puerto Rico: From Devastation to Conservation and Back Again. *Traditional Dwellings and Settlements Review*, 16(1), 69.

Assessment of the Coral Reefs on Vieques. (2005, April). Department of Defense.

Retrieved from

[http://www.denix.osd.mil/denix/crid/Coral\\_Reef\\_Iniative\\_Database/Vieques.html](http://www.denix.osd.mil/denix/crid/Coral_Reef_Iniative_Database/Vieques.html)

At 12 years after the Navy left Vieques, Contamination Continues. (n.d.). Retrieved September 24, 2017, from <https://viequesblog.com/2015/04/30/at-12-years-after-the-navy-left-vieques-the-contamination-continues-a-12-anos-de-la-salida-de-la-marina-continua-la-contaminacion/>

ATSDR. (2013, March). AN EVALUATION OF ENVIRONMENTAL, BIOLOGICAL, AND HEALTH DATA FROM THE ISLAND OF VIEQUES, PUERTO RICO.

ATSDR's Evaluation for Vieques, Puerto Rico. (2013). Agency for Toxic Substances and Disease Registry. Retrieved from [https://www.atsdr.cdc.gov/sites/vieques/docs/Summary\\_FactSheet\\_Vieques\\_2013.pdf](https://www.atsdr.cdc.gov/sites/vieques/docs/Summary_FactSheet_Vieques_2013.pdf)

Babones, S. (n.d.). American Hegemony Is Here to Stay. Retrieved November 14, 2017, from <http://nationalinterest.org/feature/american-hegemony-here-stay-13089>

Brantley, J. (2017). Upcoming Depleted Uranium Investigation. NAVFAC Atlantic Public Affairs Officer.

Brantley, J. (n.d.). Controlled Burning in the Submunitions Area of Vieques.

Bullard, R. D. (2005). *The Quest for Environmental Justice*. Sierra Club Books.

Carpenter, A. (2015, June 3). Final Record of Decision for UXO 1. Environmental Protection Agency. Retrieved from

<https://sempub.epa.gov/work/02/369810.pdf>

Cheryl F. Barnett, Mugdan, W. E., & Vélez-Vélez, L. (2015, January). Record of Decision: Area of Concern E.

Clay, D. R. (1990, June 11). Integrated Timeline for Superfund Site Management.

Environmental Protection Agency. Retrieved from

<https://nepis.epa.gov/Exe/ZyNET.exe/P100CYTB.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1986+Thru+1990&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C86thru90%5CTxt%5C00000026%5CP100CYTB.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

Colón-Ramos, D. (2015, June 20). Letter to President Barack Obama About Vieques.

*Huffington Post*. Retrieved from [http://www.huffingtonpost.com/daniel-coloramos/letter-to-president-barack-obama-about-vieques\\_b\\_7100090.html](http://www.huffingtonpost.com/daniel-coloramos/letter-to-president-barack-obama-about-vieques_b_7100090.html)

Community Involvement Plan. (2007, June). Environmental Protection Agency.

Retrieved from

[http://www.epa.gov/region2/vieques/cip/final\\_sections\\_1\\_4\\_june2007.pdf](http://www.epa.gov/region2/vieques/cip/final_sections_1_4_june2007.pdf)

CrackCityRocker1211. (n.d.). *Vieques, Puerto Rico: Bikini Revisited*. Retrieved from

<https://www.youtube.com/watch?v=GLYtKPUPYVc>

Curfman, D. (2008, September 23). Record of Decision, Area of Concern (AOC) H:

Former Naval Ammunition Support Detachment. Environmental Protection

Agency. Retrieved from <https://semspub.epa.gov/work/02/104022.pdf>

Curfman, D., Mugdanm, W. E., & Nieves, P. J. (2011, September). Record of Decision:

Solid Waste Management Unit (SWMU) 1: Atlantic Fleet Weapons Training

Area. Environmental Protection Agency. Retrieved from

<https://semspub.epa.gov/work/02/112588.pdf>

Davis, J. S., Haynes-Conroy, J. S., & Jones, V. M. (2007). Military pollution and natural

purity: seeing nature and knowing contamination in Vieques, Puerto Rico.

*GeoJournal*, 69(3), 165–179.

Deane, Z. (2008). *San Juan, Vieques & Culebra*. Woodstock, VT: Countryman Press.

Don't let Congress Give Away Vieques National Wildlife Refuge. (2016, April 13).

Retrieved November 27, 2017, from

<https://defendersblog.org/2016/04/stop-congresss-national-wildlife-refuge-give-away/>

Dreyfus, M. G. (2011, August). A Community Guide to EPA's Superfund Program.

Environmental Protection Agency. Retrieved from

<https://semspub.epa.gov/work/HQ/175197.pdf>

Environmental Assistance & Protection, North Carolina. (n.d.). Retrieved November 16, 2017, from [http://forsyth.cc/EAP/burning\\_main.aspx](http://forsyth.cc/EAP/burning_main.aspx)

Evans, D. L., Price, J. L., & Barron Jr., W. G. (2000). Profiles of General Demographic Characteristics.

*Fish and shellfish in Vieques, Puerto Rico found safe to eat.* (2011). Vieques, Puerto Rico. Retrieved from Agency for Toxic Substances and Disease Registry.

Garamone, J. (2000, May 5). Federal, Puerto Rican Agents Remove Vieques Trespassers. Retrieved November 27, 2017, from <http://archive.defense.gov/news/newsarticle.aspx?id=45219>

Gonzalez, D. (2001, July 30). Vieques Voters Want the Navy To Leave Now. *The New York Times*. Retrieved from <https://www.nytimes.com/2001/07/30/us/vieques-voters-want-the-navy-to-leave-now.html>

Gurza, A. (2001, June 30). Navy Bombings of Vieques Re-Energize Political Protest Songs. *Los Angeles Times*. Retrieved from <http://articles.latimes.com/2001/jun/30/entertainment/ca-16789>

Healy, J. (2017, October 1). For Ravaged Vieques, Solitude, Once an Allure, Is Now a Curse. *The New York Times*. Retrieved from <https://www.nytimes.com/2017/10/01/us/vieques-puerto-rico-hurricane.html>

Hernandez-Delgado, E. A., Montanez-Acuna, A., Ontano-Cruz, A., & Suleiman-Ramos, S. E. (2014). Bomb-cratered coral reefs in Puerto Rico, the untold story about

- a novel habitat: from reef destruction to community-based ecological rehabilitation. *Revista de Biología Tropical*, 62(1), 183–200.
- History of the Navy in Vieques. (2012, November 28). Retrieved from <http://www.vieques-island.com/navy>,
- Keeling, S. (n.d.). *The Rough Guide to Puerto Rico*. Penguin.
- Kilty, K. M. (2004). *Poverty and Inequality in the Latin American-U.S. Borderlands*. (E. A. Segal, Ed.) (4th ed., Vol. 8).
- Levins Morales. (n.d.). Cannibals. Retrieved December 4, 2017, from <http://www.auroralevinsmorales.com/1/post/2015/11/cannibals.html>
- Mansilla-Rivera, I., & Rodriguez-Sterra, C. J. (2009). Fish Consumption in Vieques, Puerto Rico: A Possible Source of Inorganic Arsenic Exposure. *Epidemiology*, 20(6), 92.
- Map of Vieques Beaches : (n.d.). Retrieved November 26, 2017, from <http://www.casadekathy.com/getting-here/map-of-vieques/>
- Marshall Islands. (2016, December 27). Retrieved November 14, 2017, from <http://www.state.gov/r/pa/ei/bgn/26551.htm>
- Marshall Islands Program: Introduction. (n.d.). Retrieved November 14, 2017, from <https://marshallislands.llnl.gov/introduction.php>
- McCaffrey, K. T. (2006). Social Struggle against the U.S. Navy in Vieques, Puerto Rico: Two Movements in History. *Latin American Perspectives*, 33(1), 83–101.
- McCaffrey, K. T. (2014). Fish, Wildlife, and Bombs: The Struggle to Clean Up Vieques. Retrieved November 27, 2017, from [/article/fish-wildlife-and-bombs-struggle-clean-vieques](#)

Mullenneaux, L. (n.d.). *Ni Una Bomba Más!: Vieques Vs. U.S. Navy*. Penington Press.

Murillo, M. (2001). *Islands of Resistance: Puerto Rico, Vieques, and U.S. Policy*. New York: Seven Stories Press.

Navy Restrictions. (1983, April). Retrieved from <http://www.vieques-island.com/navy/restric.html>

Negretti, G. Giovanna Negretti Testimony, § The President's Task Force on Puerto Rico's Status (2010). Washington, DC. Retrieved from <https://groups.yahoo.com/neo/groups/ViequesLibre/conversations/topics/797>

OHara, K. (2015, April 3). Marshall Islands Will Appeal in Nuclear Case Against US [Text]. Retrieved November 14, 2017, from <http://www.military.com/daily-news/2015/04/03/marshall-islands-will-appeal-in-nuclear-case-against-us.html>

O'Rourke, R. (2001). Vieques, Puerto Rico Naval Training Range: Background and Issues for Congress. Retrieved September 26, 2017, from <http://congressionalresearch.com/RS20458/document.php>

Pelet, V. (2016, September 3). Puerto Rico's Invisible Health Crisis. *The Atlantic*. Retrieved from <https://www.theatlantic.com/politics/archive/2016/09/vieques-invisible-health-crisis/498428/>

Pike, J. (2011, May 7). Roosevelt Roads Naval Station. Retrieved November 3, 2017, from <https://www.globalsecurity.org/military/facility/roosevelt-roads.htm>

- Porter, J. W., Barton, J. V., & Torres, C. (2009). Ecological, Radiological, and Toxicological Effects of Naval Bombardment on the Coral Reefs of Isla de Vieques, Puerto Rico. *Welfare Ecology*, 65.
- Puerto Rico Asks Injunction to Halt Military Activities on Nearby Island. (1978, March 8). Retrieved from <http://select.nytimes.com/gst/abstract.html?res=F20B13FB345A13728DDD A10894DB405B888BF1D3>
- Puerto Rico: The Economy. (2017). In *Encyclopedia Britannica Online*. Retrieved from <http://www.britannica.com/EBchecked/topic/482879/Puerto-Rico/54530/The-economy>
- Rafael. (2013, March 10). NPRC LETTER TO PRESIDENT OBAMA ON GRAVE SITUATION IN VIEQUES. Retrieved September 24, 2017, from <http://www.prdream.com/wordpress/topics/2013/03/9009/>
- RCRA Update for AFWTF. (2000, September 12).
- Reuters. (2001, October 28). Referendum on Vieques Is Delayed. *The New York Times*. Retrieved from <https://www.nytimes.com/2001/10/28/national/referendum-on-vieques-is-delayed.html>
- Riegl, H., Moyer, R. P., Walker, B. K., Kohler, K., Gilliam, D., & Dodge, Richard E. (2008). A Tale of Germs, Storms, and Bombs: Geomorphology and Coral Assemblage Structure at Vieques (Puerto Rico) Compared to St. Croix (U.S. Virgin Islands). *Journal of Coastal Research*, 24(4), 1008–1021.

- Rodriguez, D. (2002). RCRA Facility Investigation. Retrieved from [https://www3.epa.gov/region02/waste/commun\\_e2002.pdf](https://www3.epa.gov/region02/waste/commun_e2002.pdf)
- Rodriguez, R. (2012, November 28). Bombing in Vieques: A Legacy of Exploitation. Retrieved from [http://gbgm-umc.org/global\\_news/full\\_article.cfm?articleid=1284](http://gbgm-umc.org/global_news/full_article.cfm?articleid=1284)
- Ross, D. (2016, July 19). Toxic and Deadly, the Human and Environmental Toll of Open Burning. Retrieved November 27, 2017, from <http://www.truth-out.org/news/item/36783-toxic-and-deadly-the-human-and-environmental-toll-of-open-burning>
- Ruiz-Marrero. (2001). S/R 25: Puerto Ricans Battle US Navy in Vieques. Retrieved October 14, 2017, from <http://greens.org/s-r/25/25-09.html>
- Santana, D. B. (2002). Resisting Toxic Militarism: Vieques Versus the U.S. Navy. *In Social Justice: Globalization and Environmental Harm*, 29(1/2), 37–47.
- Sarri, K. J. (2016, December 10). Explanation of Significant Differences. Environmental Protection Agency. Retrieved from <https://semspub.epa.gov/work/02/436630.pdf>
- Stanchich, M. (2013, May 14). Ten Years After Ousting US Navy, Vieques Confronts Contamination. Retrieved November 27, 2017, from [https://www.huffingtonpost.com/maritza-stanchich-phd/ten-years-after-ousting-u\\_b\\_3243449.html](https://www.huffingtonpost.com/maritza-stanchich-phd/ten-years-after-ousting-u_b_3243449.html)
- The Beauty of VIEQUES ISLAND. (n.d.). Retrieved November 26, 2017, from <http://www.elenas-vieques.com/>



The Marxist-Leninist Daily. (n.d.). Retrieved December 4, 2017, from

<http://www.cpcml.ca/Tmld2011/D41098.htm>

Todaro, L. (2001, May 8). One-Stop Bombing. *Village Voice*. Retrieved from

<https://www.villagevoice.com/2001/05/08/one-stop-bombing/>

Under The “Nuclear Shadow” Of Colorado’s Rocky Flats. (2012, June 12). Retrieved

November 14, 2017, from

<https://www.npr.org/2012/06/12/154839592/under-the-nuclear-shadow-of-colorados-rocky-flats>

United States versus Puerto Rico (June 24, 2002). Retrieved from

<http://caselaw.findlaw.com/us-1st-circuit/1303066.html>

US EPA, O. (n.d.). Search Superfund Site Information [Overviews and Factsheets].

Retrieved October 4, 2017, from

<https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm>

V.C.H.T. | About Us. (n.d.). Retrieved November 15, 2017, from

[http://www.vcht.org/about\\_us](http://www.vcht.org/about_us)

Vieques Home Page. (n.d.). Retrieved November 27, 2017, from

[https://www.navfac.navy.mil/products\\_and\\_services/ev/products\\_and\\_services/env\\_restoration/installation\\_map/navfac\\_atlantic/vieques.html](https://www.navfac.navy.mil/products_and_services/ev/products_and_services/env_restoration/installation_map/navfac_atlantic/vieques.html)

Vieques Island/Atlantic Fleet Weapons Training Area. (n.d.). Environmental

Protection Agency. Retrieved from <http://www.epa.gov/region2/vieques>

Vieques, Puerto Rico Naval Training Range: Background and Issues for Congress.

(n.d.). Retrieved November 27, 2017, from

<http://public1.nhhcaws.local/research/library/online-reading-room/title-list-alphabetically/v/vieques-puerto-rico-naval-training-range.html>

Vieques Women Claim Navy's Toxins Destroy Health. (n.d.). Retrieved October 14, 2017, from <http://womensenews.org/2007/03/vieques-women-claim-navys-toxins-destroy-health/>

Who Pays for Superfund? (1990). Retrieved November 27, 2017, from

<https://nepis.epa.gov/Exe/ZyNET.exe/91003G02.TXT?ZyActionD=ZyDocument&Client=EPA&Index=1986+Thru+1990&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C86thru90%5CTxt%5C00000019%5C91003G02.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL>

World Factbook. (n.d.). Retrieved November 2, 2017, from

[https://www.cia.gov/library/publications/resources/the-world-factbook/geos/print\\_rq.html](https://www.cia.gov/library/publications/resources/the-world-factbook/geos/print_rq.html)