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# Environmental Justice from the Ground(water) Up: Coping with Contamination in Tallevast, Florida

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# Environmental Justice from the Ground(water) Up: Coping with Contamination in Tallevast, Florida

by

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## DEDICATION

This thesis is dedicated to the members of FOCUS and the residents of Tallevast, without whom the completion of this thesis would not be possible, and who are still fighting for justice.

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## ABSTRACT

How do communities living with chronic environmental contamination cope with the social, political, and economic impacts of the contamination? This research employs a community-engaged oral history approach with participant observation and archival research to address this question. We focus on the case of Tallevast, Florida, where the local groundwater has been contaminated with chlorinated solvents for over 60 years and where cleanup is estimated to take another 100 years. In addition to concerns about health and wellness, we find that residents are also concerned about household displacement and the disruption of social networks, failed governance at the local and state levels, and financial stress from rising healthcare costs and declining property values. Coping strategies used by the community to address these issues include reliance on churches as community hubs, environmental justice organizing to contest authority and advocate for local knowledge and equity in decision making, and civil legal action to seek financial relief. These strategies support efforts toward restorative justice that seeks to repair relationships and trust between stakeholders needed for community redevelopment and revitalization by promoting equity in being able to contribute meaningfully to decisions that affect resident's health and the environment.

## CHAPTER ONE: INTRODUCTION

"We always got this cloud over Tallevast, and this cloud is the beryllium and the contamination."
—Betty, oral history interview, Tallevast, April 7, 2022

In 1996, the Lockheed Martin Corporation, the world's largest defense contractor, acquired the former American Beryllium Company (ABC) located on five acres in the heart of Tallevast, an urban, disadvantaged, predominantly Black community situated on the outskirts of Sarasota, Florida. Here, 75 houses dot an industrialized landscape squeezed between the local airport and a new Amazon warehouse. Many of the households include descendants of the town's original five founding families — formerly enslaved people who settled the area as turpentiners after the Civil War. As a racially underbounded community excluded from the benefits of municipal citizenship, Tallevast has lacked critical resources, services, and infrastructures for over a hundred years. Piped water was only made fully available in 2004 for some properties and more than one-third of households still do not have access to the sanitary sewer.

From the late 1950s until 1996, ABC manufactured beryllium machine parts, including components for nuclear warheads. Over time, poor management of hazardous wastes and discharges from ABC's wastewater treatment system contaminated the soil and groundwater with beryllium and chlorinated solvents (Bullard, Johnson, and Torres 2009, 184-186). Lockheed Martin's consultants discovered the problem in 2000, finding trichloroethylene, 1,4-dioxane, and numerous other pollutants migrating offsite in a fast-growing plume underneath the community (Paben 2017). Many of these substances are persistent and extremely mobile and have been found at levels well beyond what is considered safe for human contact. While Lockheed Martin

reported the issue to the state, neither group alerted community residents who discovered the contamination three years later through a public records request — all the while relying on private drinking water wells (Collins 2014).

Initially, Lockheed Martin believed that the plume was limited to five acres and did not extend beyond their property. But, by the time the state approved Lockheed Martin's site assessment report in 2006, the plume had grown to over 200 acres and vertically extended down to the Floridan aquifer. The remedial action plan that the state finally approved — an extraction and treatment system where groundwater is pumped from the subsurface, treated above ground, and then reinjected into the subsurface — is estimated to take approximately 100 years to remediate the contamination (ARCADIS 2009). As a result, present and future generations of Tallevast residents will have to find ways to coexist with the chronic contamination.

When the contamination was discovered by Tallevast neighborhood residents, a community-based organization called FOCUS (Family Oriented Community United Strong, Inc.) quickly reoriented its efforts toward addressing environmental justice. FOCUS is headed by Laura Ward and Wanda Washington, a pair of friends who have worked tirelessly to hold Lockheed Martin accountable for the contamination cleanup. The research team met with Laura and Wanda in October 2021. During this visit, they showed us the site where the first monitoring well was drilled, right in Laura's front yard. Wanda then pointed to house after house where residents suffer many different types of cancer. Later during a virtual meeting, Wanda exclaimed, "One household has nine people with cancer, that's just not right" (field notes, Tampa, March 9, 2022).

Our group is working with Laura, Wanda, and other Tallevast residents to document their stories using community-engaged oral history (Sommer and Quinlan 2018), a project that represents an intentional university-community collaboration (Alexander et al. 2021; Schensul

2010) based on the principal of "reciprocal engagement" (Moskowitz 2015; Smith-Tolken and Bitzer 2017). Community-engaged oral history is a mode of critical qualitative inquiry that employs a participatory method of collecting, interpreting, and preserving the voices and memories of past events by communities to provide evidence for health disparities (Hernandez et al. 2017). While many environmental justice case studies utilize interviews and other social science methods of data collection and analysis (Sze and London 2008), we argue that oral history narratives give a broader and multivocal perspective on the impacts of contamination that center and amplify the voices of those impacted. An inclusive perspective such as this is needed to transcend otherwise parochial "expert" views from the scientific community (Lehigh et al. 2020). For example, oral history interviews from Flint, Michigan — where nearly 100,000 mostly low-income, minority residents were exposed to elevated levels of lead (Pauli 2019) — demonstrate how people use their personal experiences and memories to construct individual and collective identities in stigmatized places (Britt 2018). Moreover, because the practice of oral history requires a personal engagement between interviewer and interlocutor, it enables us to see beyond individual stories to the social, political, and economic contexts in which people experience trauma (French 2020).

In a community where today's residents likely will never see the end of ongoing remediation efforts, many of the questions that have emerged from our collaboration center on alternative notions of what "justice" means for "environmental justice" (Brulle and Pellow 2006; Mohai, Pellow, and Roberts 2009). The U.S. Environmental Protection Agency (2022) defines justice as a shared distribution of environmental costs and benefits across a population, and this definition has guided the state and Lockheed's approach to remediation. But this distributional approach to justice does not sit well with some Tallevast residents who, instead, want their voices to be

heard, want to be acknowledged, and want the harms and ongoing violence to their health and wellbeing recognized. In other words, they seek a restorative justice (Nadeem 2021; Preston 2011), one that seeks to right past harms — not necessarily through financial or legal interventions (e.g., distributive or procedural justice) but through equity in being able to contribute meaningfully to decisions that affect their health and environment. Restorative justice aims to repair and restore relationships and trust between stakeholders by reconciling inflicted harms through fostering accountability and responsibility. Such an approach has only occasionally been employed in the context of water and climate justice (Méndez-Barrientos et al. 2022), and here we explore its potential benefits and challenges for Tallevast using an anthropological approach.

Checker (2007) has advocated for anthropological approaches to bridge gaps between local, community-based knowledge and authoritative knowledge (e.g., professional scientific expertise) in order to "contribute to broadly conceived and workable solutions for abating disproportionate environmental risk and creating a more environmentally just society." This is possible, Checker argues, because of anthropology's commitment to holistic and multivocal approaches that emphasize people's perceptions and individual experiences as documented through ethnography based on participant observation and person-centered interviewing. Checker (2007) argues that anthropology is uniquely positioned to consider how "justice" is socially and culturally constructed and how insights into alternative notions of justice can contribute toward reshaping the environmental justice paradigm (Taylor 2000). Our community-based, collaborative research seeks to advance this goal by exploring how we can "leverage the affordances of ethnography to understand and engage a late industrial world" (Fortun 2012, 449). In doing so, we advocate for a critical environmental justice consciousness, which D'Arcangelis and Sarathy (2015, 1) have

defined as a "perspective and awareness that moves beyond a narrow and short-term focus on the disproportionate impact of environmental harms" to a "more expansive and consistent attention to histories of inequality and processes of marginalization." Inequality and marginalization at the hands of private corporations and the state are embedded in the history of Tallevast, making a critical environmental justice consciousness

Recent scholarship has highlighted the broader social and structural entanglements, including racism and racial segregation, which create disproportionate distributions of environmental harms and how these are mitigated or remediated with environmental assessment and other approaches (Beckett and Keeling 2019; Lehigh, Wells, and Diaz 2020; Maxwell, Kiessling, and Buckley 2018; Wells and Whiteford 2022). Kiessling and Maxwell (2021), for example, recently reviewed the social science literature on outcomes of environmental cleanups at Superfund, brownfield, and other contaminated sites focusing on post-remediation outcomes. One of their key findings is that there has been very little research undertaken with communities for which environmental cleanup is slow (e.g., via attenuation) or takes place over long periods that span multiple generations of residents (Kiessling and Maxwell 2021, 173). Schmitt et al. (2021; see also Sullivan et al. 2021) refer to these contexts as having chronic environmental contamination, "where hazardous substances are known or perceived to be present in air, water, or soil at elevated levels for a prolonged and unknown period of time." Kiessling and Maxwell (2021, 173) argue that, in these cases, we have an opportunity to work with communities to explore the "possibilities of coexistence with environmental disturbance" (Tsing 2015, 4). In this article, we discuss our collaboration with the residents of Tallevast, aimed at understanding how they have lived, and plan to continue to live, with contamination in which final cleanup is nowhere in sight.

How are residents impacted socially, politically, and economically because of the contamination? How have they coped with these impacts? What is their capacity for resilience?

## CHAPTER TWO: METHODS

We conducted a large-scale review of existing documents and archival materials (n=42) related to the contamination and history of Tallevast, approximately 80 hours of participant observation with informal interviews with a wide range of stakeholders, and 15 in-depth (lasting 1-2 hours) oral history interviews with long-time community residents. We used stratified purposive and referral sampling to obtain multiple perspectives on people's interactions with the contamination, cleanup process, and coping strategies to disruptions in social, political, and economic conditions. The research team achieved thematic saturation with 15 interviews, likely because of the small community of families who maintain close ties.

Participant observation (Musante 2015) took place from 2021-2022 and involved multiple visits and extended stays in Tallevast, participation in daily activities (e.g., institutional and community meetings or events), and personal interactions with informants to build rapport and trust. In addition, the lead author worked as an intern for FOCUS for four months in 2022, which provided additional insight into daily experiences of Tallevast residents. Overall, participant observation helped us understand the socio-spatial and political contexts for residents' perceptions and behaviors surrounding the contamination and cleanup processes. This approach also facilitated our understanding of how different social groups interact in the community and how these interactions influence perceptions and behaviors. The person-centered oral-history interviews (Levy and Hollan 2015; Sommer and Quinlan 2018) provided key insights into what residents identify as impacts from the contamination and how they cope with living in a

contaminated environment based on their personal experiences. These interviews included open-ended questions and prompts focused on past life events and the historical context to people's interactions, perceptions, and experiences.

Field notes were typed and audio recordings from the interviews were transcribed. Using a codebook designed to capture themes relevant to the research questions, the data were inductively and deductively coded (open and axial coding) to identify words, phrases, and sentences representing the perceptions and behaviors of the participants. Coding was conducted separately by all four authors and, after each transcript was coded, we would discuss and revise the codes as necessary to ensure intercoder reliability. Transcripts were then subjected to content analysis (Bernard, Wutich, and Ryan 2017) by computing term frequency-inverse document frequency (TF-IDF) coefficients to aid in identifying salient themes. TF-IDF is a measure of salience of a term that considers the number of times the term appears in a document (in this case, a transcript) relative to the number of documents in the corpus that the term appears in (Jones 1972):

$$\text{TF-IDF}(t, d) = \text{tf}(t, d) * \log(N/(\text{df} + 1))$$

for the term of interest (t) in a given document (d) relative to the total number of words in the document (N), where tf denotes the term frequency and df refers to the number of documents in the corpus. This approach is especially useful for studying oral history interviews, which tend to range substantially in topics and themes among participants. Finally, to assess the areas and levels of consensus among participants with regards to shared experiences, themes identified using the assigned codes and with the assistance of TF-IDF coefficients were compared across interviews to produce a thematic framework matrix (Bernard, Wutich, and Ryan 2017), which was triangulated with our field notes to evaluate thematic validity. Quotes in this article were

derived from recorded transcriptions or written notes compiled during interviews. Companies, places, and organizations are identified by their actual names, but pseudonyms are used to identify research participants unless otherwise noted.

## CHAPTER THREE: ORAL HISTORY OF TALLEVAST

The community that came to be known as Tallevast was founded by freed Black laborers who migrated to the west-central coast of Florida from the Florida panhandle to work in the short-lived turpentine industry of the late 1800s/early 1900s, which produced supplies for military shipbuilding and repairs. Turpentine, a solvent obtained by the distillation of resin from pine trees, was extracted by cutting into the base of the tree and using metal cups to collect the "gum," which was then boiled, vaporized, and cooled into a liquid. The small community ("Turpentine camp") established here was eventually named after one of the industry's leading proprietors, Jeter Hollis Tallevast, a white South Carolina industrialist who arrived to take advantage of Florida's emerging pine timber industry. The community identifies five founding families — with surnames of Ward, Washington, Sloan, Smith, and Bryant — and direct descendants of each still live in Tallevast today (Manigault-Bryant 2021). Communities with similar histories can be found throughout the United States, especially in the south. Most are often referred to as "Black towns," communities comprised of predominantly African Americans, and were established by or for African American people after the legal end of slavery (Grace-McCaskey et al. 2021).

Throughout the early-to-mid 1900s, Tallevast developed into a close-knit community. When the turpentine industry failed in 1920, work was found in the already robust citrus and agricultural industries that now characterize south and central Florida. There were likewise job opportunities in the metropolitan Sarasota area, where residents (mostly women) would sometimes work as housekeepers. A locally owned general store opened on the western end of

the community and a dairy farm flanked the eastern side. Participants in the oral history interviews identified both locations as important mainstays of the community, which grew to include numerous homes and businesses, three churches, a post office and a community center.

In the early 1940s, as the United States was drawn into World War II, a military airfield was constructed on the southwestern edge of the community. Soon after, a machining plant — the American Beryllium Company (ABC) owned by the Loral Corporation — was established on five acres of land on the south side of Tallevast Road just opposite many of the local residences. Here, between 1961 and 1996, the company manufactured weapons-grade beryllium parts for the military defense industry. Some Tallevast residents worked at the business in a multitude of roles over the years, with many beginning their tenure as support staff cleaning workspaces (Figure 1). Some would go on to have their own workstations and machine certain parts in the manufacturing process. For example, Myrtle, a resident of Tallevast for the past seven decades, told us about her experience working for ABC: "And then about when I started working [at] American Beryllium, I was out of high school and I started working there and I learned how to, they call it deburr… beryllium parts and aluminum parts, and I did that over the years. I really didn't know too much about beryllium contamination…I remember all the beryllium [would] settle on the table, cause the vacuum cleaner wouldn't pick it all up. And I know I remember as I was deburring sometimes, it would like blow back in your face." Often the employees were unaware of what exactly they were manufacturing, what these parts would be used for, or the potential for contamination. Military police and other security personnel were, at times, present on the facility grounds when parts were retrieved by the contractor. Among the components manufactured here were those used to construct the NASA Hubble space telescope and nuclear weapons for the U.S. military (Paben 2017).

Over the years, ABC held many community events where residents could go fishing at the onsite retention pond and engage in recreation outside the facility. As Andre, a Tallevast native who became an ABC employee, recalls, “They did it once a year. It was like a picnic. You know, everybody who worked there. They came out and brought their families you know, kids, they were ready to fish. We had a good time.” Many residents we interviewed felt that this period was “the height” of the Tallevast community. Most workers at the plant describe the financial boost working at the facility brought to individuals and families. For instance, Isaac, Andre’s brother and ABC employee, told us: “And the job was so important because man, we got big money, ya know, 12 bucks an hour or whatever that was back in the day.” Residents spoke fondly of these times but, as they reflected on the contamination, they recognized the contradictions. “You know, we were making good money, but we didn’t know anything about any contamination.” Isaac provided us with this account, which illustrates how many now feel about the time before contamination was uncovered by residents. Myrtle has similar reflections on the time regarding the contamination: “I had a family, so it was. The pay was good. But then sometimes you think about the money you made, and wonder what happened to the community during that process?”

By 1997, ABC had closed its operations and the facility was acquired by Lockheed Martin, which purchased the Loral Corporation. It was during this time that Tallevast residents were able to apply enough pressure to county officials to gain basic infrastructure for the community including access to piped water and sewer. These improvements, however, were not experienced community wide. Roughly half of the residences in Tallevast received access to the county water system, leaving the other half to depend on private water wells. In 2000, Lockheed Martin reported to the Florida Department of Environmental Protection that their consultants discovered storage tanks holding chlorinated solvents and other industrial wastes had leaked into the soil and

groundwater creating a toxic plume underneath the plant. By 2006, the plume had infiltrated the entire community, poisoning the drinking and irrigation wells Tallevast residents were using (Bullard, Johnson, and Torres 2009, 184-186).

Once the contamination was made public through the hard work and pressure from FOCUS, residents began to connect health outcomes to the facility's operations (Manigault-Bryant, Bagwyn, and Constantine 2021). "I just know, where us as janitors, we played the part" Isaac told us. The community is haunted not only by the persistent presence of contamination underneath their homes but the understanding that it could have been prevented had management of the facility been regulated more thoroughly. Moreover, residents who worked at the facility, like Isaac, Andre, and Myrtle, are left to grapple with personal feelings of responsibility for working at the site. Isaac recalls: "When my mom got the cancer thing…they had no clue, said it was a rare cancer. Four of us were working over there [at ABC], man what did we do to mom? You know, we felt kind of guilty. She couldn't do the chemo thing. She said, 'hell I just want to go home to heaven'. She said I can't handle it. So shortly after that she, you know, she passed away." Today, residents find themselves at a crossroads. In our interviews, many residents told us "I really don't want to go but I know I can't stay." Long-time residents find themselves having to cope with the perilous location of their homes due to contamination accompanied by the realization that remediation is many decades from fulfillment.

## CHAPTER FOUR: COPING WITH CONTAMINATION

Much of the literature on environmental justice case studies focuses on the human and environmental health impacts of contamination and the cleanup process (Brulle and Pellow 2006; Kiessling and Maxwell 2021). However, our ethnographic research reveals that there are also significant social, political, and economic impacts that communities must contend with. These impacts are sometimes mentioned in environmental justice research (e.g., Momberg 2002; Randle 2022), but are rarely the focus of research. As such, environmental justice cases documented in the literature often lack ethnographic detail about how contamination impacts all aspects of people's lives and livelihoods. Here, we explore these collateral impacts and how Tallevast residents have coped with them over the years. The greater goal of this effort is to bring attention to the ways in which human and environmental health are intertwined and often interdependent with social, political, and economic challenges.

### *Household Displacement*

Household displacement (mean TF-IDF = 51.70) was a key theme that residents identified when discussing how the contamination has impacted their families and social networks. Many residents, for example, noted that the contamination has caused a growing number of families to leave the community, not only out of fear for how their health could be impacted if they remained, but also in response to dwindling employment opportunities after ABC closed. The exodus of these residents has resulted in an influx of people from outside the community, mostly renters with low household incomes who work in the nearby industrial and commercial areas.

Darryl, a lifelong Tallevast resident whose grandmother moved to the town in 1912, told us, "The people ain't the same people no more. Like I said it was like one big family. Now I think everybody for themselves. I guess that's life." Betty, a proud resident of Tallevast who built her house there in 1979, offered another perspective: "So yeah, I don't like the idea of the different people that we have moving into our community right now. And it's nothing against them. It's just that it's a family-oriented community, and I would like it to see it stay that way." This changing composition of the community is a common occurrence in many areas with environmental justice challenges (Sze 2007). In some cases, residents are pushed out by the contamination while others are displaced by gentrification as cleanup and redevelopment progress (Checker 2021).

One of the ways in which Tallevast residents have coped with a changing community is through the use of the local community center, which was initially established in 1966. The center was used for a wide array of community events, such as birthdays, weddings, and family reunions as well as after-school programming for neighborhood children. The center became increasingly important after the contamination was discovered in 2003 as families started moving away. However, by 2019, the county was unwilling to continue to fund the operation of the center and its programming, and it was subsequently closed and later purchased by someone from outside the community. Every resident we spoke with lamented this move. Malcolm, who was born and raised in Tallevast alongside his sister Betty, said: "I wish that would change. The community center has been taken away from us, taken away, not just from us, but all generations. That was a safe haven for all kids in Tallevast to go and play and exercise. And now kids don't have a place to just walk out and play, they have to play on the streets." For many residents like Malcolm, the community center was seen as the heart of the community and the

place where, for over 50 years, neighbors could congregate to share information and recall stories from the past, further strengthening their collective identities as Tallevast residents.

Since the closure of the community center, Tallevast residents have increasingly relied on their church families — social networks that serve as support sources and as a resource for community building (Porter, Ganong, and Armer 2000). When we discussed with Isaac, the former ABC employee, the role of the church and his faith in coping with the contamination and all the demographic changes he has witnessed in the community, he remarked: "You know, I go to church every Sunday. And I believe in that higher power. And I said, well, I'm good to go ... It's in God's hands. I don't even worry about it anymore. Yeah, you know, I just try to be the best of who I am, you know, and kind of raise my damn kids, my grandkids, the best way I can. And I just keep moving forward. You know, that's my mentality." In Isaac's case, the church provides the social and emotional support he and his family need to navigate the stress experienced from health concerns as well as the stress from seeing many long-time residents abandon Tallevast. This feeling was echoed by other residents, such as Georgia, another lifelong Tallevast resident, who told us "I love [the church], they're like family. They welcome you with open arms. You know, they show love. I think we actually have all that we need."

***Failed Governance***

Another key theme we discovered was failed governance (mean TF-IDF = 64.63), with specific reference to local county government. Tallevast is in unincorporated Manatee County and so must depend on a single tier of government for their needs. The town was one of the last in the county to receive paved roads, sidewalks, streetlights, and phone lines. The relationship between the community and the county has a long history of tension, partly stemming from a 1985 Community Development Block Grant the county received to install water and sewer lines in

Tallevast after having rezoned the community as commercial. While some households received access to piped infrastructure, many others did not. Although residents did not know it at the time, those who did not receive infrastructure access continued to rely on drinking water wells likely contaminated by solvents from ABC (Collins 2014). Bonita, who was born in Tallevast and now works as a community advocate, said "We've had a history with Manatee County not being very helpful. I'm just gonna say it's just, it goes back years, at a time when they rezoned our property and never told us. They changed our property to commercial. This is like, well over 30 years ago." When asked why the relationship with the county was strained, Bonita replied, "To be honest, it's a black community. It's a *small* black community. I mean, I can't see any other reason…I'm not the type of person to call it racist or anything like that...but that is one of the main reasons I do believe Manatee County over the years has been able to do this to us. [They] don't care about us, which is sad, you know. These people pay taxes too." Bonita's response makes reference to the process of racial underbounding, the selective expansion of city boundaries to exclude certain neighborhoods based on racial demographics (Aiken 1987; Anderson 2008). Recent research demonstrates that the historical legacy of underbounding has significant implications for access to water and sanitation infrastructure as well as environmental contamination and public health (Leker and MacDonald Gibson 2018; Morello-Frosch and Lopez 2006; Wells et al. 2022).

In addition to a strained relationship with local governance, distrust of state level governance was cited as a major impact of the contamination. As reported by Manigault-Bryant, Bagwyn, and Constantine (2021), in 2002 Lockheed Martin notified the Florida Department of Environmental Protection about the presence of trichloroethylene (TCE), a highly carcinogenic chemical used as an industrial cleaner, "migrating off-site" at concentrations above the EPA's

maximum contaminant level (MCL). Yet, neither Lockheed Martin nor the state notified Tallevast residents, some of whom continued to use drinking and irrigation wells. It took over two years for the state to test these wells, finding five wells with TCE levels 44 times the EPA's MCL for drinking water. In the end, Manigault-Bryant, Bagwyn, and Constantine (2021) discovered that Lockheed Martin, the county, and the state all knew about the contamination for at least four years prior to alerting residents — and only then because local residents began asking questions and demanding answers. Many residents we spoke with felt angry that both the local and state governments, charged with protecting public health, failed to do so in their community. Self-advocacy therefore became an added burden which residents are forced to bear.

In some ways, residents we interviewed feel like Tallevast is, from a governance perspective, what Gilmore (2008) and others (Lyson and Falk 1993) call a "forgotten place," not quite urban yet not quite rural communities that are chronically underdeveloped and whose residents are overlooked by local governance. Yet, as Gilmore (2008, 32, emphasis original) points out, these communities are resilient: "People in these locales, exhausted by the daily violence of environmental degradation, racism, underemployment, overwork, shrinking social wages, and the disappearance of whole ways of life *and* those who lived them, nevertheless refuse to give up hope." In Tallevast, Laura Ward and Wanda Washington created a community-based nonprofit organization, FOCUS (Family Oriented Community United Strong), to advocate for revitalization and redevelopment of the community and, once the contamination was discovered, to demand justice and accountability. FOCUS's primary activities include liaising with government officials and Lockheed Martin to track the continuing assessment and cleanup efforts, serving as a repository of information about the contamination and its impacts, building partnerships with outside organizations that can bring resources and services to the community,

and assisting residents with quality-of-life issues, including during the COVID-19 pandemic. Raymond, a proud lifelong resident of Tallevast and former ABC employee told us, "Yeah, FOCUS, we'd probably needed it before contamination came up because they have helped us out with a lot of things, to help us bring a lot of things into the community that we haven't had before."

***Financial Stress***

The economic impacts of the contamination have been severe for local residents, especially as they relate to financial stress (mean TF-IDF = 77.55) of medical expenses and housing. In 2012, an epidemiological study by Florida International University investigated the health of Tallevast residents because of the widespread groundwater contamination (Gasana 2012). The study, which drew on a comprehensive questionnaire and existing medical records, explored the frequency and pattern of cancer and other health conditions to assess the association between the contamination and the health of residents, many of whom drank and showered with contaminated groundwater for over 40 years. The survey collected health data on 99 current and 53 former residents, finding that many residents suffered from related health problems including cancers (29 cases), heart disease (30 cases), thyroid problems (13 cases), liver/kidney disease (14 cases), gastro-intestinal disease (17 cases), neurological disease/musculo-skeletal disorder (14 cases), miscarriages (15 cases), and birth defects (4 cases). Statistical analysis revealed that those who lived in Tallevast after 1962 for 10 or more years and used well water were 8.4 times more likely to develop cancers of concern (controlling for the effects of age, gender, and alcohol/tobacco use). For those born in Tallevast after 1962 who used well water, the rate of cancer was 4 in 15 (27%). This positive disease-exposure relationship may be due to the main route of exposure to chemicals of concern from the use of well water. Overall, cancers are 36% higher in Tallevast

compared to cancer indices in African Americans for Florida. As Myrtle, the former ABC deburrer, told us, "When you hear about so many people in Tallevast having cancer and all this and then some people who have moved away were dying with cancer. Then you think about it, oh, did the contamination have something to do with all this?" Like Myrtle, many residents lamented the escalating cost of healthcare associated with, what most believe, are ailments, illnesses, and diseases directly related to the contamination.

In addition to healthcare cost concerns, property values and salability of homes have declined precipitously since the discovery of the contamination. Meanwhile, home prices have soared in the greater Sarasota area, leaving residents with few options. As Myrtle told us, "When I had my house built, I didn't even pay like $50,000 for it. And now if I leave here, even if I can sell my house, I cannot afford that, you know. So, people tell me, they say stay and live with [the contamination]." In recent years, as commercial industry has continued to box in Tallevast residents, some properties, especially those located on the edges of the community, have become desirable to local industries, including the new Amazon warehouse, the regional airport, light industry, and heavy manufacturing. Some residents feel they are being "squeezed in" by surrounding businesses that are "waiting for them to die" so they can acquire their properties (field notes, Tallevast, June 7, 2022). Residents like Myrtle feel like they cannot afford to move yet others have left or are planning to leave, even though it will disrupt their families and livelihoods. In this way, Tallevast is similar to other communities for which chronic contamination creates economic hardships for residents while providing financial opportunities for capitalists (Taylor 2014).

In 2005, 270 former plant workers and residents sued Lockheed Martin, pursuing claims for healthcare costs and property damages to help some relocate. The settlement, in 2010 for an

undisclosed amount following court-mandated meditation, provided some relief for local residents but not enough to relocate (Paben 2017). Andre, the former ABC employee who became ill from working at the plant, told us, "I think back when we was going through this class action lawsuit. I think we should see what would have happened with that deal…But people wanted money so bad, they wanted to settle. They went for it because it could go on another distant many years." A second lawsuit, stemming from a breach of contract associated with a consent order that required Lockheed Martin to pay for technical consulting costs incurred by FOCUS, resulted in $3 million in economic losses being awarded to FOCUS in 2012 (Paben 2017). Those funds have helped the organization maintain its involvement in monitoring the contamination and cleanup process. While this was seen as a windfall for Tallevast residents at the time, members of FOCUS worry about what will happen when the funds run out, well before the contamination is remediated. Who will advocate for the community in the future?

## CHAPTER FIVE: TOWARD A RESTORATIVE JUSTICE FOR TALLEVAST

"The community is tired. We're tired." —Laura, public remarks, Sarasota, October 26, 2022

Checker (2005) describes the immense pressure and stress that residents of contaminated communities often have to take on when local and state governments fail to hold themselves or private companies accountable. At a 2022 environmental justice conference in Sarasota, Laura and Wanda described their efforts toward seeking environmental justice for Tallevast over the past 25 years, summing up how they feel with the quotation above. We heard this phrase often from the residents we spoke with, as they described in detail the social impacts of contamination from displacement, the political impacts from failed governance, and the economic impacts from rising healthcare costs and declining property values.

We wondered how residents continue to persevere while living in a situation of chronic environmental contamination (Schmitt et al. 2021l Sullivan et al. 2021). In these settings, Schmitt et al. (2021) have found that psychological health, including anxiety, stress, depression, and PTSD, constitute an important public health burden and are caused, in part, by institutional delegitimization of community concerns. While not a focus of this research, the oral histories we recorded make multiple mentions of stress and anxiety from uncertainty about the future and the constant dismissal of their concerns by local and state governments. As Laura said, everyone in Tallevast is tired.

Our research identifies several ways in which Tallevast residents have coped, and still are coping, with groundwater contamination. Residents historically relied on their community center and, more recently, local churches to maintain a sense of community and the social and

emotional support networks that undergird the community. They also have come to rely on FOCUS as a source of quasi-governance when local and state governments have failed them. In this capacity, FOCUS provides resources and support to residents and advocates on their behalf to outside stakeholders. FOCUS also has assisted with organizing civil legal actions against Lockheed Martin that have provided some financial relief to residents for their healthcare costs and property damage. However, self-governance adds yet another burden on those experiencing injustices by forcing them to seek accountability without state or local governmental resources.

Notably, all of these coping strategies involve different forms of environmental justice organizing based on grassroots and coalition building. When the target of organizing is a common pool resource such as groundwater, Clement et al. (2019, 2) refer to these strategies as "commoning," or "a process of making and remaking the commons" by contesting power structures through the promotion of emancipation, social justice, and sustainability (Centemeri 2018). Dobbin (2021), for example, examines California groundwater reform as an environmental justice issue, finding that successful commoning strategies include contesting participation (social), scope (economic), and authority (political). Dobbin (2021, 14) argues that "if we fail to consider natural resource management regimes within their broader social, political, and economic context, we risk missing the important ways these processes are mutually shaped and subsequently limit our understanding of them." Our research has aimed to better understand these contexts for Tallevast with the greater goal of contemplating the role of environmental justice organizing.

If, as we have suggested, organizing around environmental justice issues should make room for restorative justice in which equity and participation in decision making are prioritized, then we argue that strategies must emphasize three qualities. First, as the Tallevast case makes clear,

organizing needs to be multivocal, seeking to incorporate many voices and perspectives, and approaching the past (e.g., the contamination and its discovery) from multiple standpoints instead of a single, privileged position (Balazs and Morello-Frosch 2013). Doing so can help make visible the invisible history of Tallevast through the stories of its residents. For example, Tallevast residents identified how their voices were continually disregarded or muted for the sake of county development, even after contamination at the former ABC site was discovered.

Second, organizing should be dialogical, that is, geared toward cultivating a collaborative exchange of knowledge, experiences, and opinions between community residents and other stakeholders. In this way, we can better understand how local knowledge overlaps with or diverges from outside expertise and other forms of authoritative knowledge (Derickson and Routledge 2015). Moreover, given the important role that structural racism has played in Tallevast's history from segregation to contamination, restorative justice needs to approach reconciliation through dialogue that fosters cross-cultural conversation and understanding. Tallevast residents discussed how representatives of the state and local governments, as well as a legal team from Lockheed, refuse to participate in an open dialogue.

Finally, as the Tallevast oral histories demonstrate, organizing needs to center history and people's individual stories. This will allow us to not only document the trauma and violence that stems from the contamination but also reveal the structural mechanisms of that violence embedded in social, political, and economic institutions (Lehigh, Wells, and Diaz 2020). Without oral histories, our understanding of the injustices associated with contamination would be incomplete We argue that oral history is vital in this regard because it provides an important counterweight to a reliance on "top-down" accounts of "what's best" for the community. For Tallevast, oral history practice provides for expanded participatory and grassroots engagement

that can lead to key interventions, especially gaining greater equity in decision making, in pursuit of an environmental justice that restores relationships and trust between stakeholders needed for community redevelopment and revitalization.

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Figure 1. Interior view of the American Beryllium Company, 1979 (M01-16077-A). Courtesy of Manatee County Public Library Historical Digital Collections, Manatee County, Florida.

# Appendix A: USF IRB Approval

UNIVERSITY of SOUTH FLORIDA

EXEMPT DETERMINATION

June 28, 2022

Eric Wells
4202 E. Fowler Ave.
SOC 107
Tampa, FL 33620

Dear Dr. Eric Wells:

On 6/27/2022, the IRB reviewed and approved the following protocol:

| | |
|---|---|
| Application Type: | Initial Study |
| IRB ID: | STUDY004442 |
| Review Type: | Exempt (2)(iii) |
| Title: | Environmental Justice Assessment for Tallevast, Florida |
| Funding: | Environmental Protection Agency |
| Protocol: | • PROTOCOL_Environmental Justice Assessment for Tallevast, Florida_STUDY_004442_clean.docx; |

The IRB determined that this protocol meets the criteria for exemption from IRB review.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a new request to the IRB for a determination.

UNIVERSITY of SOUTH FLORIDA

Sincerely,

Shanitra Butler
IRB Research Compliance Administrator