

Tempests, Green Teas, and the Right to Relocate

The Political Ecology of Superstorm Sandy

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Until October 30, 2012, Debbie and Sam Manus¹ lived on the East Shore of Staten Island in a neighborhood known as Oakwood Beach (King 2013). Comprising mostly bungalows constructed between 1930 and 1950, Oakwood Beach was the kind of neighborhood where people stuck around, worked on their homes, and passed them down to their children. Sam, for instance, purchased his childhood home from his siblings so that he could live in the house he loved, amid his family and neighbors. From 2008 to 2012, the Manus's renovated their house, piece by piece, as they could afford it. In the summer of 2012 they finished the last renovation—a back deck. But their enjoyment was short-lived. Just a few months later, Hurricane Sandy slammed into New York and New Jersey, laying the Manus's dream house to waste. As Debbie described it, “We were trapped by flood waters that rose so high so quickly that we barely managed to escape up into a small crawl space in the attic of our home.... We struggled to stay calm for the almost twelve hours that we were there, watching the water levels rise to over 8 feet in our home, ending just below the ceilings, and the space we were hiding in.”²

Debbie went on to say that, from the crawl space, she and Sam “could hear each wave come in. You would hear a crash and dishes breaking and everything moving.” When they emerged from their attic on the morning of October 30, they found “everything was in a big pile. It was like a snow globe, like someone shook the house.” Three months later, the Manus's joined approximately a thousand other residents of Staten Island's East and South Shores in petitioning Governor Cuomo to buy out their homes, tear them down and return the land underneath them to wetlands. Still reeling from 2011's Hurricane Irene,³ petitioners believed that floods were

only going to worsen as storms became more frequent and severe. They wanted out.

Across the Island, on the North Shore, the National Hurricane Center reported storm tides (the combination of storm surge and the astronomical tide) of 14.58 ft above Mean Lower Low Water (MLLW).⁴ These waves washed a 72-ton oil tanker ashore (although property damage here was not nearly as severe as it was on the East and South Shores).⁵ This heavily industrialized area contained at least twenty-one industrial sites with uncontrolled contamination, some of which were only seventeen feet away from residential properties.⁶ Residents worried that flood waters could potentially dislodge contaminants and distribute them into the area's dense residential neighborhoods. These neighborhoods housed the borough's largest populations of low-income, immigrant, and people of color; moving away was not an option for most of these people. In 2010 the U.S. Environmental Protection Agency (EPA) named the North Shore as one of its ten environmental showcase communities due to the preponderance of chemical hazards in the area and residents' socioeconomic status and lack of political clout.⁷ (That designation, however, had done little to stop local officials from permitting new industrial facilities on the North Shore, or to encourage them to install better flood barriers and buffers).

Demographically and politically, the densely populated North Shore seemed worlds apart from the suburban East and South Shores. For instance, low-income residents, many of whom were people of color, of the North Shore routinely voted for Democratic candidates in local and national elections (Kramer and Flanagan 2012). The rest of Staten Island, however, was a notorious bastion of conservatism in overwhelmingly liberal, Democratic New York City. It was this area that spawned the city's earliest and largest Tea Party groups (Kramer and Flanagan 2012). But despite these seemingly stark divisions, coastal residents came together to warn local officials that the combination of rising sea levels, ongoing shoreline erosion, and a lack of adequate storm barriers were setting them up for a disaster.

Hurricane Sandy unbinds our notions of disasters. In addition to revealing Staten Island's complex dynamics, it illustrates the far-reaching webs of significance in which disasters are caught up. This chapter shows how a changing global political economy shaped the borough's divergent demographic and political terrains, as it also transformed Staten Island's coastal ecology and produced the conditions of vulnerability that led to the storm's widespread destruction. In addition, my contextual approach to the storm explains why displaced Staten Islanders overwhelmingly preferred to relocate rather than to rebuild, demanding that the state compensate them for their storm-damaged properties and return the land to

wetlands. These demands stood in stark contrast to typical post-disaster activism in which survivors fight for the right to return (Adams, Van Hat-tum and English 2009; Arena 2012; Bullard and Wright 2009), and they opposed the city's resiliency plans that refused to back down from water-front development. Indeed, I argue that residents' holistic and in-depth understandings of the causes of the storm, and their awareness of the ways in which it connects to other disasters, suggest potential new trends in post-storm activism.

Anthropologist Anthony Oliver-Smith defines disasters as processual events that begin prior to "a specific, event-focused agent" and calls for disaster analysts to explode the boundaries of time and space that usually circumscribe disaster studies (Oliver-Smith 1996, 30). Following that call, this volume's editors, Gregory Button and Mark Schuller (see introduction, this volume), emphasize the necessity of researching the broad historical, political, economic and geologic contexts of disaster events in order to fully understand the extent of their destruction, and possibilities for building future resilience. As Button and Schuller note, this perspective also offers an essential counterpoint to media and academic representations of disasters, which portray them as discrete, isolated events. By dramatizing a disaster's unique qualities, such depictions send mixed messages, both playing on public fears about a post-climate change future and giving the impression that devastating storms are freak occurrences (see the introduction). For instance, media reports about Superstorm Sandy emphasized the singular meteorological conditions that allowed several storm systems to collide. My examination, however, reveals that while the meteorological aspects of the storm might be unprecedented, its effects were utterly *predictable*, given a long history of ecological degradation. In addition to exploring the global political and economic conditions that fostered this degradation, I also show how Hurricane Sandy linked Staten Island to other technological and environmental disasters, from Hiroshima to Hurricane Katrina. In short, this chapter demonstrates the degree to which disasters are deeply entangled in extensive political and economic webs that stretch across time and space. Viewed in this way, disasters make visible the ways that local ecologies and communities, however far-flung or historically distant from one another they may seem, are actually connected to each other.

I begin with a brief introduction to the political ecology of Staten Island's northern and southeastern shorelines. I then address each geographic area in turn. Starting on the North Shore, I trace the historic proliferation of industry and the political decisions that facilitated that unrestricted growth, while also allowing builders to create an ample supply of nearby housing for immigrant workers. In the latter half of the twentieth century,

as deindustrialization reshaped many of the city's waterfronts, industry on the North Shore continued to grow. Along with it, residents' environmental risks from chemical contamination, flooding, and/or climate change also rose. Moving south, I then show how these same economic trends and processes produced very different results. Here, residential and commercial development skyrocketed in the late twentieth and early twenty-first century, thanks to a pro-development attitude among city officials and the globalization of real estate investments. Although local residents consistently challenged the environmental consequences of this development, their concerns were largely ignored—until Hurricane Sandy hit in 2012. My concluding sections then focus on how residents' responses to the storm consistently called attention to the multiple and interlocking links between political and economic trends, environmental degradation, and the storm's disastrous aftermath.

A Tale of Two Shorelines

In 1928 the *New York Times* quoted W. Burke Harmon, president of the Harmon National Real Estate Corporation, referring to Staten Island as “this forgotten borough that has suddenly stepped into the limelight.”⁸ Harmon was referencing the vast potential for development on the borough, which at the time remained largely agrarian and sparsely populated (see Steinberg 2014). Thirty years later the nickname resurfaced when mayoral candidate Edward Corsi spoke at a rally on Staten Island. Corsi condemned the Tammany government for ignoring the specific needs of Staten Island residents, including putting an end to the excessive smog that was wafting over from New Jersey and covering the Island (Zuckerman 2012). The nickname stuck, as did the general conditions Corsi decried. In 2016, Staten Islanders were represented by three out of fifty-one New York City Council members, and pollution continued to plague the northern third of the Island, known as the North Shore.

Beryl Thurman, president of the North Shore Waterfront Conservancy of Staten Island (NSWC), liked to joke that her neighborhood “was like an industrial *Girls Gone Wild*” video. The North Shore's dense residential neighborhoods were bordered by a narrow stretch of waterfront that twenty-one contaminated properties, including two private waste transfer stations, a Department of Sanitation garage, a sewer treatment plant, an industrial salt company, and several bus depots. Most of these sites sat on top of older industrial sites that had operated prior to environmental regulations and thus contained high levels of dangerous chemicals. Accordingly, seven properties on the North Shore were scheduled for

state-sponsored remediation and another four appeared on the federal Superfund list. What's more, the Kill Van Kull (a thousand-foot-wide tidal strait that divided this part of the North Shore from Bayonne, New Jersey) was itself contaminated. As the principal access to the Staten Island Port and the Port Newark-Elizabeth Marine Terminal, the Kill also hosted hundreds of ships each day that spilled oil into its waters and polluted the air (Checker 2009). The antiquated Port Richmond Sewage Treatment Plant discharged millions of gallons of storm overrun into the Kill Van Kull each year. Since 1984 the Kill had been part of a federal Superfund cleanup due to its high levels of dioxins, polychlorinated biphenyls (PCBs), mercury, dichlorodiphenyltrichloroethane (DDT), pesticides, and other heavy metals.⁹

The North Shore was also the borough's densest district, historically attracting large numbers of immigrant groups to work in nearby industries. The immigrant population remained, even as industrial jobs dried up. In 2012 40 percent of households on the Island's North Shore were white non-Hispanic, 22 percent were African American non-Hispanic, 29 percent were of Hispanic origin, and 7 percent were Asian (New York City Department of City Planning 2012). These groupings included large populations from Liberia, Sri Lanka, Albania, Pakistan, China, and Mexico (Mansour 2012). In addition to being the borough's most ethnically and racially diverse district, the North Shore was by far its poorest. In 2012 the poverty rate on the \ North Shore was 19.8 per cent compared to 14.5 percent on Staten Island as a whole. (Jorgensen 2014).

But if one followed Staten Island's coastline east and then south, an entirely different physical and social landscape was revealed. Industrial properties and strips of vacant land gave way to beaches, shorefront neighborhoods, small single-family homes, and tree-lined streets. Here, in the borough's mid-Island and South Shore districts, incomes were solidly working and middle class. Average pre-Sandy home values on the South Shore hovered around \$352,000, considerably less expensive than the city's overall average home price of \$485,000. This affordability historically made the area a magnet for public sector employees.¹⁰ In 2012, 22 percent of residents in these neighborhoods were employed by New York City as teachers, police officers, and firefighters (Kramer and Flanagan 2012, 6). These Staten Islanders also stood out for their political views, which leaned far more to the right than those of most New Yorkers. A report by the Center for the Study of Staten Island found that 38 percent of Staten Islanders called themselves conservative, in comparison with 26 percent of New Yorkers. Eighty-eight percent of those conservatives lived in the mid-Island and South Shore districts (Mansour 2012). Importantly, in 2013 17.2 percent of all Staten Islanders were registered as Republicans compared to 6 percent of the city's total population (Kenney 2013). These

statistics earned the entire Island a reputation for being a bastion of Republicanism, despite the North Shore's tendency to vote Democratic.

Racial and ethnic diversity lined up with these political views. That is, according to the 2010 census, approximately 80 percent of households in the mid-Island and South Shore districts were white and 13 percent were Hispanic.¹¹ In 2013 the New York City Planning Department reported, "South Staten Island had the lowest concentration of immigrants of any section in New York City, with only 14 percent of its population born abroad" (as quoted in Sherry 2014). Yet, in recent years, immigrant populations were increasing. For instance, the South Shore saw a 50–80 percent increase in its Hispanic population between 2000 and 2010. Many of these newcomers were working-class and middle-class home buyers (Lavis 2013). At the same time, although Staten Island was a changing borough, its geographic position and its demographic and political history positioned it as isolated from the rest of the city. In turn, this outsider-ness rendered the exploitation of the Island's natural resources invisible to most New Yorkers. In the next section I show how this very invisibility made Staten Island essential to the city's overall economic development strategy.

A Global History of the North Shore

Located a five-mile boat ride across the New York Harbor from southern Manhattan, and providing easy access to East Coast shipping channels, the North Shore has been tied to global politics and economics for over a century. One of the oldest of New York's settlements, during the colonial era and into the nineteenth century the North Shore served mainly as a resort area for the city's hoi polloi. In addition, the area hosted Snug Harbor, a haven for, as Robert Richard Randall put it in 1801, "aged, decrepit and worn out sailors,"¹² and a cluster of farm buildings that provided housing for the city's poor, infirm, mentally ill, and developmentally disabled (Lam 2013) In a way, this story of harboring early New York's elderly and/or disabled citizens foreshadows the area's postindustrial use as a repository for noxious and unwanted facilities.

Once the industrial era ramped up, the North Shore's provincial uses were quickly replaced by industrial ones. Resort homes disappeared, and the Kill Van Kull became an important channel for commerce as it provided a passage for marine traffic between Upper New York Bay and the industrial towns of northeastern New Jersey. The installation of a local rail system in 1860 connected the North Shore to the B&O railway, which carried freight into New Jersey and beyond. The 1914 opening of the Panama

Canal transformed maritime trade across the world by connecting the Atlantic and Pacific Oceans. In 1937 the U.S. government ensured the port's global significance by establishing it as a foreign trade zone, allowing tax-free trade (Tiefrenbrun 2012). As the port flourished, its prosperity spilled over to the immediate, surrounding area. Ship-repair and building yards proliferated, as did manufacturing industries, including a linoleum plant, a Proctor and Gamble factory, and an Archer Daniels Midland (ADM) linseed oil plant (NSWC 2007).

The North Shore's centrality to maritime trade helped some of these manufacturers to globalize and cement their position in international geopolitics. In fact, a unique series of events linked the ADM linseed oil plant to the advent of nuclear science, which in turn indelibly altered the environmental, economic, and geopolitical landscape of countries throughout the world (Button 2015; see also Masco 2006). In the late 1930s ADM's owners made an agreement with African Metals Corporation to store raw uranium from the Belgian Congo in their three-story warehouse located near the base of the Bayonne Bridge. The Metals Corporation then sold the uranium to an Army colonel working on behalf of the U.S. government. The Army planned to use it in a new top-secret initiative, known as the Manhattan Project (Zoellner 2010). At some point during its stay on Staten Island, a significant portion of the uranium spilled, either from leaky barrels or during a transfer. The spill was covered over, first with topsoil and then with pavement (NSWC 2007). ADM sold the property, and it subsequently changed hands numerous times. At some point a chain-link fence was erected to enclose the spill site; otherwise, no remedial action was taken. In the early 1980s the U.S. Department of Energy sent representatives from the Oak Ridge National Laboratory to survey the site. Oak Ridge reported high levels of radium and uranium, but no action was taken. A later study by the New York State Department of Environmental Conservation confirmed those findings; however, once again, no action was taken (Checker 2009; see also Metropolitan Waterfront Alliance 2010).

Nearby residents reported that they had always heard rumors about the radioactive site, although none of the agencies studying it ever contacted them. In 2007 Beryl Thurman was conducting research on contaminated sites around the area and uncovered documents reporting the above history. Concerned that the site flooded frequently during heavy rains, Thurman began to contact state and federal agencies. About a year later, the EPA responded and agreed to conduct a third study of the property. This time they found levels of radium and uranium approximately two orders of magnitude greater than the levels initially reported in 1980 (Checker 2009). After another year of sustained pressure from local activ-

ists, and negotiation with the U.S. Department of Energy, the EPA agreed to clean the site, subject to a congressional funding allocation, which to date has not been fulfilled.

For North Shore residents the dangers of living near long-buried uranium intimately connected them with Native Americans as well as with other communities in nations impacted by nuclear weapons manufacture. For instance, in 2009 a Japanese film crew traveled to the North Shore to film part of a documentary about the legacy of the atomic bomb. Additionally, European journalists or filmmakers contacted Beryl Thurman every so often to discuss what they call “the Manhattan Project site.” In August 2011, to mark the sixty-sixth anniversary of the bombings, the Unitarian Church of Staten Island planned a memorial service, which included Japanese musicians and Native American drummers. These groups were liked through various kinds of technological disasters, as well as the shared experience of being considered expendable by their national and local governments.

The Production of Expendability

If federal policies and practices established the North Shore’s place in a global trade economy, state and local policies ensured that it supplied cheap land to private industries and for public utilities and services. As industrialization took hold of New York City, manufacturing businesses and new immigrant neighborhoods flourished, often side by side. Eventually, elite families grew alarmed by the haphazard industrialization and immigrant-ization of the city, and they pressured political leaders to take steps to curtail it. In 1916 New York City passed its first set of zoning laws, dividing the city into residential, business, or unrestricted (usually industrial) uses. Although zoning laws were meant to protect residents from noxious industries, sociologist Julie Sze argues that they mainly protected the property values of the affluent (Sze 2006, 43). For instance, in contrast to the controlled growth of residential zones, unrestricted zones came to house both industries and massive public housing projects. According to historic records, living near industries gave public housing residents “advantageous opportunities for walking to work” (New York City Planning Commission, Division of Master Plan, 1940, 5, as quoted in Maantay 2002, 70). While residential zones remained relatively stable, unrestricted zones grew increasingly dense. By the mid-twentieth century, over half of the city’s inhabitants lived in these districts (Sze 2006, 45).

Recognizing the need to revise its codes, in 1961 city leaders implemented a new set of zoning laws. This time they specified three kinds of

districts—residential, commercial, and manufacturing (called M zones). The last had substandard or derelict housing and was suitable for urban renewal. As a result, entire swaths of working-class neighborhoods were classified as manufacturing, even if they were solidly residential (Maantay 2002, 71; see also Angotti 2008; Sze 2006). Although city leaders assumed that residents living in M zones would eventually move out of them, the zoning designation itself undermined financial opportunity. M zones were redlined by banks and insurance companies, making it difficult to get home improvement loans, mortgages, or home insurance (Maantay 2000). As manufacturing declined across the city, policies and practices such as planned shrinkage and the Blighted Areas Plan deliberately cut their city services to M zones in order to distribute resources to the city’s central business districts and white middle and upper-middle class enclaves (Greenberg 2010, 141). Geographer Julianna Maantay explains that, as the conditions of M zones continued to deteriorate, their largely minority residents became increasingly trapped in poverty and had little choice but “to live in or near M zones having high concentrations of noxious uses” (Maantay 2002, 99; see also Angotti 2008).

Decades after the 1960s-era zoning reforms, North Shore residents continued to live cheek by jowl with industries, without buffers to protect them from contaminants (Maantay 2002, 71; see also Angotti 2008; Sze 2006). Moreover, as new industries replaced older ones, those contaminants multiplied. Unlike other city neighborhoods in the last half of the twentieth century, the North Shore never really deindustrialized, although the nature of its industries changed. Smaller businesses and municipal services moved in while large factories relocated their operations overseas or to southern states. For instance, a Sedutto’s Ice Cream factory was located on a site where lead paint had once been manufactured. Similarly, the Port Richmond Sewer Treatment Plant took the place of an oil tank storage facility. Dozens of companies changed hands multiple times, turning the North Shore’s waterfront into a toxic layer cake (NSWC 2007).

The area’s M zone designation facilitated this turn-over by allowing industrial properties to change hands without having to obtain new zoning approvals or to install buffers to protect residents from contaminants. In addition, the North Shore’s access to trucking routes, rail lines, and other East Coast ports continued to attract manufacturing businesses. Finally, as the city emphasized gentrification in certain areas, it intensified industrialization in others (see Brown-Saracino 2010; Lees, Slater and Wyly 2013). For instance, Robert Fitch finds that as early as the 1970s New York City leaders made a deliberate attempt to *disinvest* in, and displace, industry, especially in Manhattan. He states, “New York rid itself of everything that blocked its potential to become the biggest and best FIRE [finance, insur-

ance, and real estate] and producer services city in the world” (Fitch 1993, 12–13).

In Manhattan, city leaders accomplished this goal in a number of ways. As Sharon Zukin’s (1989) study of the neighborhood south of Houston Street (known as SoHo) details, in the early 1960s, city officials rejected a proposal for urban renewal clearance and new housing in SoHo because its local industries were still thriving. Yet, as the nearby Wall Street area proliferated with corporate office buildings, city planners began to eye SoHo as prime residential real estate. Accordingly, officials tacitly encouraged landlords to convert manufacturing spaces to residential lofts (see also Curran and Hanson 2005; Marcus 1991). Not only did they look the other ways as these conversions took place, but the strict enforcement of noise constraints and other regulations helped to displace manufacturing firms and make way for more residential conversions (see Zukin 1989; Buck et. al. 2005; Curran and Hanson 2005; Curran 2004; Harvey 1985; Marcuse, 1986). Between 1967 and 1976, New York lost a fourth of its factories and one-third of its manufacturing jobs (Levinson 2006, 99).

As industries were pushed out of gentrifying neighborhoods, many of them relocated to M zones in the city’s outer boroughs (Curran 2007). Thus, the displacement of manufacturing businesses from Manhattan, combined with the North Shore’s port, ensured that it remained a repository for heavy industry, despite its dense residential population. In the next section I describe how Staten Island’s eastern and southern shorelines came to play a strategic role in the city’s economic development, albeit in a very different way.

Global Capital and Hyperdevelopment

During the post-World War II period, as droves of white New Yorkers left the city for the suburbs, Staten Island’s South and East Shores played a strategic role in helping to navigate fiscal crisis. As part of New York City, Staten Island had far fewer land-use restrictions than most suburban areas. At the same time, it contained large swaths of undeveloped land. Thus, developers could cram more homes into smaller tracts of land, and make them affordable to a wider range of buyers. Moving to the Island also appealed to those who wanted to stay close to work and extended family (Jackson 1987; Ross and Levine 2012). Finally the population in these parts of Staten Island was still overwhelmingly white, attracting those would-be suburbanites looking to escape the changing demographics of their inner-city neighborhoods. Thus, this part of Staten Island became “a paradise for the home building industry” (Danielson and Doig 1982, 79)

and for homebuyers who sought greener (and whiter) pastures. Once the Verrazano Bridge was completed in 1964, thousands of Irish and Italians crossed the bridge to buy homes in the mid-Island and South Shore sections of Staten Island (Kramer and Flanagan 2012). These families could enjoy the single-family dwellings, driveways, shopping malls, and homogeneity that the suburbs offered, while easily returning to Brooklyn to attend to family needs.

The prosperity of the early 1980s triggered another residential development boom, largely in piecemeal fashion, as local builders tore down vacation bungalows and subdivided existing lots to make room for year-round homes that were even more densely packed. According to urban planner Tom Angotti, around this time, giant, multibillion-dollar investment firms began to overtake the city's locally based real market. These firms quickly developed powerful alliances with New York City Hall and gained substantial influence (Angotti 2008). On Staten Island city agencies granted more and more permits for closely packed condominiums and master-planned communities, some of which were just feet from the high-tide line (Rudolf et al. 2012). For instance, Port Regalle, a 65-unit condominium project on the tip of Great Kills Harbor, was built by the Lockton Corporation, a Manhattan real estate development firm. Captain's Quarters, which also sits directly on the water, was built by Muss Development, one of New York City's largest real estate developers. Both of these developments were badly damaged during Sandy. At Port Regalle, two elderly residents drowned while attempting to flee after failing to heed evacuation warnings until the storm was already upon them (Rudolf et al. 2012).

The city permitted both developments despite opposition by local conservation groups. As Richard Lynch, a Staten Island biologist and environmental activist said, "It's literally been a pitched battle between conservationists and the developers" (as quoted in Rudolf et al. 2012). Especially after a 1992 nor'easter caused severe flooding, local residents started to agitate for better flood protections and storm management. After much agitation, in 2000 the U.S. Army Corps of Engineers installed some berms and other measures to mitigate beach erosion, although some of those protections began to come undone by the end of the decade (Rudolf et al. 2012). Residents fought hard for better infrastructure. In particular, Dee Vandenburg, president of Staten Island Taxpayer's Association told me in August, 2013, "We have no sanitary sewers, no storm sewers."

In lieu of storm sewers, plentiful vacant lots had always soaked up excess storm water runoff. But the constant subdividing of lots and infilling of vacant land cleared the vegetation and wetlands that acted as natural sponges, soaking up storm water. As William J. Fritz, geologist and presi-

dent of the College of Staten Island told the Huffington Post, “We’ve hard-scaped those sponges, so that they no longer naturally slow down the impact of that incoming surge” (Rudolf et al. 2012). In 2004 the New York City Council responded to residents’ concerns by passing new zoning rules meant to stem unchecked growth. But city officials continued to grant variances that allowed dense new developments, and even state agencies allowed development adjacent to wetland areas. Between 2001 and 2008 nearly seven hundred new structures went up in a high-risk storm surge zone on Staten Island (Benimoff 2010). Indeed, by the time Sandy hit New York, Staten Island’s South and East shorelines had been laid bare of storm protections.

For those coastal residents who fought for better storm protections only to be ignored by government officials, Sandy’s destruction was all the more poignant. The following story (told to the author by Dee Vandenburg in September, 2013) illustrates this point. In 2010, Mike, a South Shore resident, discovered that the New York Department of Environmental Conservation was considering a permit application to turn a vacant lot next to his house into a new housing development. Mike corralled his neighbors and local civic organizations to fight to preserve the lot, which was next to a wetland and held water during heavy rains. They lost the battle, however, and the development proceeded. Two years later, Hurricane Sandy wiped Mike’s house right off its foundation. Like many Sandy survivors, Mike waited nearly a year to get an insurance assessment of the damage to his home. Noting the irony of the situation, Vandenburg said ruefully, “The insurance company keeps going out there to give [Mike] an estimate on his house. Every time, they call him because they can’t find it. [Mike] has to keep telling them, ‘That’s because it’s not there. It’s gone.’”

In sum, the opportunity for suburban-style development in Staten Island’s mid-Island and South Shore neighborhoods made it an essential component of the city’s strategy to combat white flight in the 1970s and 1980s. A decade or so later, the globalization of finance capital available for real estate further amplified the pace of this development. The consequences of this growth, however, were severe. As local residents predicted, developing in wetland areas and the absence of storm sewers obliterated flood protections and left the area vulnerable to flooding from storms and other weather events.

Environmental Gentrification

While the environmental consequences of rampant residential development were clear to Staten Island’s coastal communities, the implications

of waterfront over-development in other parts of the city have been more controversial. The availability of global capital, coupled with a prodevelopment mayoral administration, fueled a citywide building boom during the early 2000s. Former Mayor Michael Bloomberg vowed to rebrand New York as a luxury city (Brash 2011), seeing to it that between 2001 and 2010 one-third of the city was rezoned to make way for new, luxury apartment buildings (Furman Center for Real Estate and Urban Policy 2009). In particular, Bloomberg directed the New York City Economic Development Corporation to provide millions of dollars in subsidies to waterfront development in Manhattan, Brooklyn, and Queens; these boroughs converted former manufacturing zones into loft-, condominium-, and commerce-filled areas that catered to the lifestyles of the creative class,¹³ or the upwardly mobile gentrifiers who could afford to live in the luxury city (Brash 2011; Greenberg and Aronczyk 2008; see also Hackworth 2002; Lees, Slater and Wyly 2013; Schlichtman and Patch 2013).

The concept of sustainability was a central component of this development, in part because it suggested a particular kind of progressivism and sophistication with which members of the creative class identified (see Greenberg 2015). Moreover, Michael Bloomberg was already a famed warrior in the global fight against climate change. Stressing sustainability, his mayoralty created bike lanes and street trees, installed green and white roofs, and took other measures designed to reduce the emissions that contribute to global warming. However, Bloomberg was equally famous for refusing to retreat from waterfront development. Notable climate scientists, meanwhile, frequently warned that the city's waterfronts were increasingly at risk from rising sea levels and storm surges (Navarro 2012). Further pointing out the degree to which waterfront development has eroded natural habitats, and caused nutrient pollution, historian Ted Steinberg calls the massive coastal flooding during Hurricane Sandy a "self-inflicted calamity" (Steinberg 2014).

The implications of contemporary redevelopment are especially felt by those living in nongentrifying areas like the North Shore. Elsewhere I define the joining of environmental improvements and sustainability measures to high-end redevelopment as "environmental gentrification" (Checker 2011). As formerly industrial waterfronts are cleaned up and greened for incoming, affluent residents, noxious facilities are displaced to those neighborhoods not slated for redevelopment, and which already host a disproportionate number of toxic facilities. Among other things, environmental gentrification highlights the way that popular political rhetorics and discourses about sustainability actually add to the environmental risks and burdens carried by low income communities of color (see Checker 2011, 2015). The following case describes the gentrification of

Gowanus, Brooklyn and exemplifies how environmental gentrification in one neighborhood leads to environmental degradation in another.

Completed in 1869, the Gowanus Canal connected the Upper New York Bay to Brooklyn's maritime and commercial shipping activity. Soon, factories, warehouses, tanneries, coal stores, and manufactured gas refineries sprang up alongside the Canal, and the neighborhoods surrounding it grew rapidly. These new populations generated more sewage, which drained downhill into the Gowanus. By World War I the Gowanus was the nation's busiest commercial canal and, arguably, its most polluted. In the 1950s the amount of dredging required to maintain the Canal made it no longer viable. In addition, the rise of the freight trucking industry was rendering the need for the Canal obsolete. Throughout the 1960s and 1970s industries declined until the Canal had become more of a dump site than a waterway. Its putrid waters, contaminated with toxic chemicals, sewage, and debris, became legendary (Pearsall 2013).

Throughout the late 1990s and early 2000s gentrification overtook all of downtown Brooklyn except for the areas adjacent to the Gowanus Canal. The waterway's reputation and reported stench continued to deter investors. But toward the late 2000s, artists who had been priced out of their gentrified neighborhoods found that the cheap rents and ample spaces of Gowanus outweighed its smells and noxiousness. As they settled in, popular cafés, clubs, art galleries, and restaurants followed. In 2009 the city caught on to this trend and launched an aggressive campaign to rezone parts of the neighborhood. Here again, with global financing behind them, real estate developers began to make grand plans for Gowanus (Navarro 2009; see also Pearsall 2013). The city facilitated these plans by offering incentives to those who wanted to purchase and redevelop contaminated properties (see Checker 2015).

Meanwhile, long-term Gowanus residents had been lobbying the EPA to clean the Canal since the 1970s. In 2009 the EPA finally heard their pleas and announced a plan to add the Canal to the federal Superfund list. The Bloomberg administration, however, stridently opposed the designation, arguing that it could scare away developers and stigmatize the area (Navarro 2009). Instead, the city proposed its own plan, a piecemeal strategy that relied on private development (funded partially through tax incentives) to clean contaminated properties around the Canal, and federal and state dollars to clean the water. After a protracted series of public meetings and delays, the EPA plan prevailed. While the city's grand rezoning plan was shelved, individual developers could apply for and receive single variances that enabled them to build large, multifamily apartment complexes. Soon, plans were in the works for a 470-residence condominium at

the edge of the canal, and a 700-apartment rental compound alongside it (Navarro 2009). Interestingly, the city's fears about the Superfund stigma seemed unwarranted. In 2013 a 56,000-square foot Whole Foods Market opened, complete with an in-house record shop, bike repair station, rooftop beer garden overlooking the Canal, and the only commercial rooftop greenhouse in the entire country. Median rent in Gowanus increased 17.4 percent to \$3,134, twice as much as Brooklyn as a whole in 2014, and the median sales price rose to \$785,000, up 6.1 percent from the year before (Kaysen 2014). The upcoming Gowanus Canal cleanup seemed to amplify development, rather than impede it.

Reindustrialization and Vulnerability

In 2013 the EPA announced that it planned to dispose of dredged materials from the Canal by transporting the least toxic portion of the sediment to a barge just off the shore of Red Hook, a neighborhood about a mile from Gowanus (also gentrifying at a rapid pace). There, the sediment would be mixed with concrete and repurposed as construction materials. (Berger 2013). Red Hook residents, however, ferociously opposed the plan. Eventually, the EPA announced that neither Gowanus nor Red Hook would bear the environmental burden of treating Gowanus sludge. In fact, the agency promised to ship the waste out of Brooklyn entirely (Musumeci 2013).

Not coincidentally, several months later, North Shore residents learned of a permit application to expand operations at Flag Container Service so that the facility could start bringing in dredged spoils from across the five boroughs and process it into concrete mixtures (Rizzi 2013). Making matters worse, the facility would be located right near the site of a new plaza and green space being planned as part of a community-based initiative.

North Shore residents recognized that, as one of the few heavily industrialized waterfronts left in the city, they were bearing the brunt of gentrification. As activist Victoria Gillen commented in August, 2012, “Wonderful Hipster Havens are created; Water-front parks offer diversion to the residents of new “luxury” units. Where do the displaced heavy industrial firms go? ... Bottom line: the areas with people of color, people without tremendous economic resources, are paying the price for Bloomberg’s projects—while our taxes support these changes, we do not share in the benefits, and find ourselves, here on Staten Island, once again a dumping ground for the City’s unwanted garbage.”¹⁴ In sum, the globalization of real estate investment, along with pro-development policies, fueled a real estate boom across most of the city’s waterfronts. Displaced industries

then concentrated in those neighborhoods that had been left out of the boom.

These shifts accompanied other kinds of shifts in global trade. For instance, in 2007 the Panamanian government began widening the Panama Canal so that it could accommodate enormous cargo ships, known as Post-Panamax vessels. Although the larger ships already served Chinese, European, and U.S. West Coast ports, the Canal was too narrow to allow them to pass through to U.S. East Coast and Gulf Coast ports, putting these ports at a serious trade disadvantage. In anticipation of the Canal's long-awaited widening, the Port Authority of New York and New Jersey (PA) initiated two major projects to expand Staten Island's ports to accommodate Post-Panamax ships. First, they issued a permit to raise the Bayonne Bridge; and second, they proposed to expand the Staten Island port into seventeen acres of regulated wetlands.

Unsurprisingly, both proposals came under fire from North Shore activists. First, they pointed out that the bridge-raising project could disturb local contaminants (in particular, much of the construction was taking place directly adjacent to the radioactive ADM site). Second, the project risked the health of thousands of local residents, truck drivers, and port workers who would be exposed to pollutants during the construction period as well as from the new ships. Studies estimate that just one of the gigantic ships spews out as much cancer-causing pollutants as 50 million cars every year (Cannon 2008). Both the completion of the bridge and the expansion of the port would bring larger ships closer to North Shore neighborhoods. Finally, the proposed expansion encroached on the western edge of Arlington Marsh, the largest tidal wetland and one of the last remaining natural wetlands in New York City (Sherry 2011). By extending the bulkhead and channeling the creek that flowed through the marsh area, the project would also likely affect tidal flow to other important wetlands (Schwartz 2007).

The campaign to save Arlington Marsh drew support from across the borough, bringing North Shore activists together with their South and East Shore counterparts. The campaign emphasized the importance of the Marsh to the Island's entire ecosystem, which was already made vulnerable by decades of residential and industrial development. In other words, the dangers of overdevelopment and impending climate change affected all of the Island's coastal communities. Beryl Thurman articulated these concerns in an e-mail to her usual list, which included the New York City Council; the mayor; officials from city, state, and federal environmental regulatory agencies; and assorted civic leaders. Thurman wrote, "What preventive measures can New York City provide to protect the coastal communities before a severe Nor ' Easter [sic], or class 1 to 3 Hurricane hits

Staten Island? ... It can and will happen, it's just a matter of when." Notably, this e-mail was dated June 29, 2010, over two years before Sandy hit.

After the Storm

Even the prescience of Beryl Thurman's e-mail about the dangers of climate change could not predict the extent of the destruction wrought by Hurricane Sandy. On the East and South Shores of Staten Island, peak storm tides rose as high as sixteen feet and spread three-quarters of a mile inland (NYRCRP 2014). Twenty-three of New York City's forty-three deaths caused by the storm occurred on the South and East shores, and thousands of households in those areas were displaced. In mid-October 2013, nearly a year after Hurricane Sandy hit, I attended a public workshop sponsored by New York Rising, the state's storm recovery program. The workshop was held in a high school gym in Midland Beach, one of the areas hardest hit by the storm. Throughout the gym, the state had set up stations based on different categories of recovery—infrastructure, housing, transportation, natural resources, and so on. Attendees were asked to go to the stations, write down their suggestions on sticky notes, and stick them on posters displayed at each station. By the end of the meeting, the posters were filled with sticky notes with statements such as, "Give us what we're entitled to," "We paid insurance for a house that's gone," "Accelerate the blue belt," "Without proper drainage, what good is anything else?," and "They never should have let them build over there."

By the date of the meeting, almost no residents had settled their recovery claims, or received money from the city's Build it Back Program, which was meant to help eligible applicants make up the difference between insurance payouts and costs of repairs. Although more than five thousand Staten Islanders registered for the program, six months later, only a handful had reached the second phase of the process, home evaluations, and no one had received any funds.¹⁵ Meanwhile, many displaced homeowners were still paying mortgages on their houses, as well as rents on their temporary homes. As well, thousands of storm survivors complained that their private insurance companies had barely paid out on their claims. "A lot of people are only getting half of their policy. So they're getting \$125,000 but they need more like \$250,000," said Nicole Romano-Levine, president of the New Dorp Civic Association. She went on to explain that insurance payouts were based on national averages that were far below the costs of construction in New York City.

But the main issue on meeting-goers' minds was buyouts. In February 2013, three months after the storm, Governor Cuomo had announced the

state program that offered homeowners in Fox Beach, Oakwood Beach and Ocean Breeze, all of which suffered severe storm damage, 100 percent of the prestorm value of their homes. The state would demolish the houses and leave the properties undeveloped, returning the land to wetlands. But a few weeks later, the city put forward its own acquisition plan. In this case, though, it offered homeowners poststorm home values plus a relocation bonus. The city also intended to redevelop land it acquired to be more storm-resilient. Over a thousand Staten Islanders signed petitions to be included in the state's program, but few supported the city's acquisition program. Just before the meeting, however, the state announced that it would not be expanding its buyout program beyond the areas already mentioned, although the city would continue to acquire certain storm damaged properties.¹⁶

A sense of betrayal pervaded the meeting, as residents listed all of the ways that development had chipped away at their storm protections. A woman named Joanne, for instance, remembered that sometime around 2010 she awoke to find the city taking down a bunch of trees across the street from her house to create a soccer field. "As soon as we saw the trees come down, we got nervous," she said. Joanne, whose family had lived in a community called New Dorp for four generations, did not want a buyout herself, but she supported her neighbors who were signing up for them. "I want people to have the option," she explained.

Other residents believed that the city should have never allowed development in wetlands. "We can't take a beating every year," said Dimitri, who along with his neighbor, Alex, purchased townhomes in 2002. Their townhouse development was just a few blocks from the Lower New York Bay in a former marsh. "We suspected [the development] was in a wetlands when we bought," they said, but they assumed since the city had permitted a development there, "it was safe." But every year, they experienced floods. Both men signed a petition asking to be added to Governor Cuomo's buyout program. For them, it made perfect sense that the government should relocate them since it was the government that had betrayed them in the first place. "Rising sea levels makes it all worse," said Alex.

In a sense, residents believed that the whole system of homeownership had failed them. For years they invested in homeownership and the complex of institutions—insurance, property taxes, mortgages, and so on—that it entails. Now, they were unable to collect on their investments. As Debbie Manus said, "We did everything right, and now you're telling us that we're not entitled [to relief]." Others agreed, saying, "It doesn't seem like they care about the homeowner," and "The middle-class working homeowner is falling through the cracks here."

Conclusion

Studies of the aftermath of disasters in the United States reveal similar levels of frustration, disaffection, and betrayal as survivors encounter labyrinthine bureaucracies (Arena 2012; Bullard and Wright 2009; Button 2010; Reed 2006). In most of these cases, people struggle to return to and rebuild their original homes. But Sandy survivors were different. They fought to *relocate* from, rather than return to, their homes, no matter how deep their attachments had been. I argue that these responses reflect several recent political and economic shifts.

Across the Island, residents' foretelling of the risks of overdevelopment, and their inability to stop it, created a common sense of skepticism. While East and South Shore activists continued to support and campaign for Republicans, and North Shore activists consistently voted Democratic, all of these Islanders' agreed that in certain ways their shared experiences overrode party partisanship. For instance, when I asked one South Shore activist how she reconciled her different political views with those of her colleagues on the North Shore, she answered, "The differences don't matter. This is a dire situation. It crosses party lines all over the place."

Historically, home ownership had insulated Staten Island's middle-class residents from the vulnerabilities facing the low-income and minority residents of the North Shore. But an era of late-stage global capitalism ensured that only the very wealthy and privileged were protected from the dangers of rising sea levels and increasing storms. The recognition of this situation effectively ruptured the social contract between middle-class homeowners and a government they saw as increasingly controlled by financial interests. Perhaps the case of Staten Island shows us that in the wake of this rupture, new forms of dis-sensus politics may arise to offer crucial alternatives to an unjust, exploitative, and inherently disastrous system.

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Notes

I would like to thank the editors of this volume, anonymous reviewers and, most of all, the residents and activists of Staten Island for their contributions to this essay.

1. I have used pseudonyms unless permitted otherwise by the person quoted.
2. This quote is taken from a letter to Governor Cuomo, written approximately three months after the storm. The letter is posted on the following website: <http://foxbeach165.com/stories/>.
3. Residents whose homes were damaged during Irene claimed that they never received insurance reimbursements or Federal Emergency Management Agency (FEMA) recovery money.
4. MLLW is the standard against which storm tides are measured (Blake et al. 2013).
5. Geologists agree that the differential damage had much to do with the fact that the storm was funneled through Raritan Bay, between southeastern Staten Island and New Jersey, as it made its way toward the Atlantic coast. Combined with the strong winds, the storm surge kept waters from receding during low tide as they normally would (Gammon 2012).
6. Research conducted in the aftermath of Hurricane Katrina found that flood waters dislodged and distributed heavy metals in some places; in others, Katrina's waters breached retaining walls and other barriers meant to seal in toxic chemicals (Rotkin-Ellman et al. 2010; Valhouli 2012; Zahran et al. 2010).
7. See US EPA 2016.
8. Popik 2005.
9. U.S. EPA 1987.
10. Data obtained from: <http://www.city-data.com/neighborhood/Midland-Beach-Staten-Island-NY.html>
11. Data obtained from: <http://www.city-data.com/neighborhood/Midland-Beach-Staten-Island-NY.html>
12. Randall as quoted on the Snug Harbor website. See <http://snug-harbor.org/about-us/history/>
13. Economist Richard Florida coined this term to refer to upwardly mobile professionals who work in a range of post-industrial jobs including finance, insurance, law, education science, engineering, computer programming, research, as well as arts, design, and media. He predicted that these people would drive economic growth in 21st century cities (Florida 2002).
14. This quote is taken from an unpublished response to an editorial in *Architects Newspaper* (Iovine 2012). The response was written and circulated (via email) by Victoria Gillen the day after the editorial's publication.
15. Fourteen thousand people applied for assistance from the Build it Back Program.

But in 2014, two years after the storm, only 727 construction projects had been started and 878 reimbursement checks had been sent out, up from zero in January of that year (Wolfe 2014).

16. In the end, no further land acquisitions were protected from further development.

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