

2019

“A stench in the nostrils of Brooklyn:” whole foods, gentrification, and environmental inequality along the Gowanus Canal

Cullen M. Riley-Duffy
Vassar College

Follow this and additional works at: https://digitalwindow.vassar.edu/senior_capstone

Recommended Citation

Riley-Duffy, Cullen M., "“A stench in the nostrils of Brooklyn:” whole foods, gentrification, and environmental inequality along the Gowanus Canal" (2019). *Senior Capstone Projects*. 851.
https://digitalwindow.vassar.edu/senior_capstone/851

This Open Access is brought to you for free and open access by Digital Window @ Vassar. It has been accepted for inclusion in Senior Capstone Projects by an authorized administrator of Digital Window @ Vassar. For more information, please contact library_thesis@vassar.edu.

“A Stench in the Nostrils of Brooklyn:”

Whole Foods, Gentrification, and Environmental Inequality along the
Gowanus Canal

Cullen M. Riley-Duffy
April 2019

Senior Thesis

Submitted in partial fulfillment of the requirements
for the Bachelor of Arts degree in Geography

Advisor, Joseph Nevins

Abstract:

In December of 2013, Whole Foods, an American supermarket chain, opened a flagship store in the Gowanus section of Brooklyn, N.Y., on the banks of the environmentally degraded Gowanus Canal. While the company arrived in the area with promises of sustainability and commitments to its new neighbors, Whole Foods has been a catalyst for negative neighborhood change in the Gowanus. Examining the Whole Foods store on the Gowanus Canal through a lens of environmental inequality and gentrification reveals how the store's presence proliferates the racial and class unevenness of the distribution of resources in the neighborhood. The origins of the unevenness lie in the colonization of both the people and the nature that occupied the canal area. This thesis project traces the historic roots of the creation of the Gowanus Canal from a naturally occurring creek to an industrial powerhouse to a neglected, polluted place ripe for commercial redevelopment and exploitation. Urban spaces are increasingly manipulated for the benefit of private, capital gain, as demonstrated in the example of the ways in which the economic interests of Whole Foods are favored over environmental justice and equality for all the residents of the Gowanus neighborhood.

TABLE OF CONTENTS

Acknowledgements.....	4
Introduction: The Story of a Creek, a Supermarket, and the Convergence of the Forces of Gentrification.....	5
Chapter Two: The Historical Geography of Block 978, Lot 16.....	21
Chapter Three: Brownfield to Whole Foods: The Greening of Second Nature.....	34
Chapter Four: Whole Foods and the Gentrification of the Gowanus Neighborhood.....	45
Conclusion: Our Shared Urban Future.....	62
References.....	71
Appendix: Maps.....	88

Acknowledgments

I would like to thank my thesis advisor, Professor Joseph Nevins for his galvanizing strive for justice, his never ending patience, for challenging me to write & think with clarity, and, of course, for the pizza.

Thank you to my academic advisor, Professor Brian Godfrey, for his intense academic rigor, his vivid imagination, and for helping me find my place at Vassar.
Muito obrigado.

To my parents, and to Eoin and Stella, for being my first inspirations, and for instilling in me a passion to find the truth. Thank you for showing me the Gowanus Canal, and the world along with it. We are all Cutters. This thesis is for you.

To Catherine, Benjamin, and Matthew, for being the fiercest of friends. Thank you for listening and talking through my thesis with me, and simply for being with me everyday. Our BK walking was the guiding force of my writing.

To Marvin, Aidan, Dean, Devon, and Storm, for being my band of brothers, for your unwavering love, and for tolerating my piles of books & obsession with the Cardinals.

To Liu, Angie, Orville, Precious, Anthony, Cathy,
and the Vassar College Dining Staff, for being my Poughkeepsie family.
To Antoine, for helping me discover my voice.

For Miles Algernon Rutlin; Big Heart, Big Love, always.

And finally, for Brooklyn and all my friends back home, for everything.
“All the County of Kings, may your ground stay fertile.”

INTRODUCTION:

The Story of a Creek, a Supermarket, and the Convergence of the Forces of Gentrification

On January 25, 2013, a dolphin glided into the Gowanus Canal, a small waterway that cuts through South Brooklyn. The dolphin, which was seven feet long and weighed three hundred and forty-five pounds, spent the day struggling to breathe and swim, getting covered in sludge near the Union Street Bridge, on the northern end of the canal. A small crowd of people gathered to watch the animal and take pictures; one man even climbed down to the water to rub it. After several hours of agony, the dolphin died. At the time, there was outrage from local activists and news outlets, questioning why the Riverfront Foundation (the group in charge of rescuing marine life in NYC's waterways) did nothing to save the dolphin. The foundation defended its decision, explaining the difficulties of taking such a large marine mammal out of water and the risk of causing it more harm if they even attempted to do so. The foundation's leader Robert DiGiovanni also expressed trepidation about sending human rescuers into the canal's polluted waters, saying that he was extremely worried about exposure to the toxins in the Gowanus (Newman, 2013). This was a legitimate concern, because the Gowanus was so contaminated with industrial waste and fecal matter that it had been designated a Superfund site in 2010.

Eleven months later, in December of 2013, a Whole Foods Market opened along the canal, a few blocks away from where the dolphin died. Situated in a small basin on Third Street Bridge, the Whole Foods boasts an impressive greenhouse, solar panels, and other hallmarks of sustainability. It also has a

remarkable rooftop restaurant and a pleasant walkway around its parking lot, both of which provide scenic views of the canal and the surrounding neighborhoods. The arrival of the Whole Foods symbolized the transformation of the Gowanus neighborhood from a decrepit, seemingly dangerous, post-industrial wasteland into one of the most desirable neighborhoods in all of New York City. Even as the Gowanus neighborhood has become increasingly hip and trendy, though, the canal itself remains extremely polluted and environmentally degraded.

The Gowanus Canal itself is a 1.8 mile long-channel located in Brooklyn, New York. It flows out into the Gowanus Bay, which in turn flows into Buttermilk Channel, and then the Upper New York Bay. The mouth of the canal, located at the southern end of it, separates the Greenwood Heights and Red Hook neighborhoods. The canal runs in a northeasterly direction from there, passing through Carroll Gardens, Park Slope, the Gowanus neighborhood, and parts of Cobble Hill and Boerum Hill, terminating at Butler Street, running parallel between Bond and Nevins Streets. Along its route, the canal goes under the Brooklyn Queens Expressway and the Culver Viaduct Subway bridge, which carries the F and G New York City Transit Authority Lines above the canal. There are five pedestrian and vehicle bridges that cross the canal¹.

The Whole Foods in the Gowanus is located right along the Gowanus Canal itself, on Third Avenue and Third Street, landside, and the Fourth Street Inlet section of the water itself. The designers made a point to place architectural

¹ Throughout my thesis, I use “Gowanus Canal,” “the Gowanus,” and “the canal” to refer to the canal and the land immediately touching it. When I am referring to the Gowanus neighborhood, I will specify by using the terms “the neighborhood,” “the area,” and “the community.”

focus on the store's proximity to the canal. The terraced restaurant on the top floor provides scenic views of the water and the neighborhood around it. The promenade is right on the water, with benches and attractive landscaping that make it a pleasant place to walk and sit.

All along the Whole Foods promenade, the store has put up plaques proclaiming "This is the Greenest Supermarket in New York State." The store has been LEED certified, which means that the United States Green Building Council has deemed the building a "Leader in Energy and Environmental Design" (LEED). A LEED certification is a popular way to encourage businesses, developers, and even whole cities, to build in an environmentally conscious way. This means, for example, utilizing alternative energy sources and reusing materials, which the Whole Foods does. A major part of the Whole Foods marketing is the promotion of its supposed dedication to sustainable design and consumption. The fact that the Gowanus Whole Foods is LEED certified contributes to this perception. By doing so, Whole Foods has portrayed its Gowanus store as a healthy, sustainable part of the changing neighborhood.

Whole Foods is situated at the center of the gentrifying Gowanus neighborhood that surrounds the canal, which lies between some other gentrified Brooklyn neighborhoods, including Carroll Gardens, Park Slope, Cobble Hill, and Boerum Hill. There are chic restaurants, art galleries, upscale bars, and other expensive establishments in the blocks surrounding the Whole Foods, from about Ninth Street to Union Street, south to north, and Bond Street to Third

Avenue, east to west. Just two blocks north from the Whole Foods is a gigantic new luxury apartment complex, also built on the banks of the canal.

This luxurious pocket around the Whole Foods is not representative of the entire neighborhood, however. The mouth of the canal is located between the Greenwood Heights neighborhood, an area that is still industrial, and the Red Hook section of Brooklyn, which is home to many housing projects and light industry, though it is a neighborhood that is also rapidly gentrifying. At the northernmost edge of the canal, closer to the Whole Foods, there are the Wyckoff House and Gowanus Houses, two public housing projects. These areas are by no means luxurious and do not stand to benefit from the Whole Foods and the gentrification of the Gowanus.

The Whole Foods, which is now owned by Amazon (the company bought Whole Foods in June 2017), is an expensive grocery store in the middle of an economically diverse section of Brooklyn. Branding itself “the greenest supermarket in New York State,” Whole Foods is positioning itself as a force of good in terms of the cleaning of the canal itself. In many ways, though, it represents the changes happening in the Gowanus that are only available to those who can afford it. The City of New York gave Whole Foods specific dispensation and special tax breaks to build on the Gowanus. I want to explore how city policies favor private business and encourage gentrification, which is exemplified in the Gowanus neighborhood.

The Whole Foods embodies the environmental inequality that is occurring in the Gowanus neighborhood. The issue with the Whole Foods development on

the Gowanus Canal is that an environmentally degraded site lies at the heart of a rapidly gentrifying area, causing long-term socio-nature and economic ramifications and exacerbating racial and socio-economic discrimination. This is the problem I address in my thesis. Relying on well-established scholarship, I offer a unique way of looking at gentrification, not just in terms of environmental injustice but, just as importantly, environmental inequality. Both involve social and political imbalances, with some groups benefiting from urban amenities while others are excluded. The distinction between the two is one of scale. Environmental injustice is mostly seen when certain groups of people, based on race and class, are more likely to be exposed to environmental hazards than other groups, also based on race and class (Pulido, 2000). Environmental inequality is more about race and class based discrimination affecting different groups' access to environmental amenities.

The discord between commercial interests and environmental concerns that lays the groundwork for both environmental injustice and inequality has existed since the first conceptions of the Gowanus Canal. To understand the current debate surrounding the canal, it is essential to examine its history. The Gowanus was not always such a highly developed residential or industrial area. In the 1630s, Dutch colonizers began to settle in the land around what was then Gowanus Creek, a small saltwater creek located in the fertile marshland of Brooklyn. The name *Gowanus* comes from Gouwanee, the chief of the local Lenape tribe that lived along the creek. The Dutch were very interested in the creek's potential as a trade route and center for production. (Peter Stuyvesant,

during his reign in New York City, was the first to propose a canal where the Gowanus Creek was.) They began building mills and houses along the creek, a practice that continued through the Revolutionary War period, as Brooklyn grew from marshland into a bigger city. When the city started to shift from a farmland to an industrial global power, New York City legislature began seriously planning a canal to cut through South Brooklyn. Construction of the Gowanus Canal began in 1849 and was completed twenty years later, in 1869.

Once finished, the canal was the biggest transportation and trade center in Brooklyn. Goods from all over the country, indeed the rest of the world, flowed in and out of the canal, on barges and other ships. Factories, warehouses, and other industrial enterprises grew from the old Dutch farmland. As a result, water and airborne pollutants, like sulfur and oil, were released into the canal from the gas plants and scrap yards that began to line it.

This pollution continued for the next century. The Gowanus became infamous as a stinking, disgusting trough of sludgy water, left behind as industry moved on to other areas and used as a dumping ground for bodies by the Italian mob (Lewine, 1998). The ultimate tragedy of the Gowanus Canal is that the once fertile beautiful farm- and marshland was ruined and pillaged by rampant and reckless industrialization. The Gowanus remains extremely polluted today, despite efforts made in both the beginning and end of the 20th century to flush and clean it out using a sewage pipe. In 2010, the Environmental Protection Agency declared the Gowanus Canal a “Superfund” site and placed it on its National Priorities list (NPL). The Superfund program was established in 1980

with the passing of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The act gives the federal government the authority to remediate sites throughout the country that it deems contaminated and thus pose an environmental threat. The CERCLA also allows the government to force the “responsible parties,” i.e. companies, individuals, or cities that it determines are responsible for the contamination, to pay for the clean-up process (EPA, 2018). In the case of the Gowanus, the EPA named several different responsible parties, all of whom I name in my third chapter.

Even after the canal’s designation as a Superfund site, the clean-up efforts have been sluggish, while other neighborhood revitalization projects have been prioritized. Development on Superfund sites is discouraged by the EPA until the clean-up process is well underway, yet the entire Gowanus area has been rapidly redeveloped over the past ten years, with those requisite special permissions granted to developers by both former Mayor Michael Bloomberg and current Mayor Bill De Blasio. (Whole Foods, for instance, was given tax breaks to build on the land where the Gowanus store sits.) Instead of turning the Gowanus into a place of environmental resilience, priority has been placed on the commercial viability of the area.

I grew up in Carroll Gardens, Brooklyn, a five-minute walk from the Gowanus Canal. I trudged on the bridges over its murky waters every day on my way to middle school and countless more times to piano lessons, the public pool, or just walks with my friends. The Gowanus I saw growing up was vastly different from the neighborhood that exists today. The area was still very much a post-

industrial one. There were abandoned warehouses and oil refineries, vacant parking lots, and giant piles of trash everywhere. Where Whole Foods now stands, there was a large empty lot that was being taken over by weeds and bushes. At the same time though, there was bustling industry of a different kind: lumber yards, sanitation salt plants, taxi depots, and a Verizon headquarters. At the middle of it all sat the canal, which seemed to smell and look worse every day. The color and odor would ebb and flow, on some days a darker color, on others a technicolor toxic mix, and on others still, the water looked glossy with oily patches.

I witnessed the dolphin dying in the canal, on my way home from school one day in January 2013. Living so close to the canal and spending so much time around it, I have always been curious about what it means to have such contaminated body of water in the middle of neighborhood, especially since the boom of the Gowanus as a desirably hip and fabulous place. The canal has played a vital role in the construction of Brooklyn as a borough throughout its history and continues to do so, as the canal was built to support Brooklyn's growth as a powerhouse. It represents an interesting case study of the relationship between society and nature in Brooklyn. The Gowanus is a unique body of water that has been shaped by and, in turn, helped to shape the development of Brooklyn and New York City as a whole. The Whole Foods is an example of the relationship between environmentalism and gentrification, which is the relationship I explore in depth in my thesis.

I analyze the implications and making of the Whole Foods in the Gowanus as the “greenest supermarket in New York State.” The Whole Foods, with the complicity of the city government, uses this designation to justify its presence along the Gowanus Canal, which itself has been officially designated the opposite of this "green image," a Superfund site. I look at the relationship between the Whole Foods and the Gowanus Canal as a Superfund site, namely how has the Whole Foods helped to transform the Gowanus into one of the most highly sought-after neighborhoods in New York City. The canal, as a piece of constructed, human-made nature in an urban environment, has always been a tool for economic development. With careful planning and care, the Gowanus had the opportunity to become a dynamic neighborhood built around environmental resiliency and affordable housing; instead it has been redeveloped into a high-end commercial area that will only benefit a certain demographic, not the majority of Brooklynites and New Yorkers (Bellafante, 2014). I want to know the factors that created this situation.

To begin my investigation of the Gowanus, I read Joseph Alexiou’s book, *Gowanus: Brooklyn’s Curious Canal*, which is an encyclopedic and hyper-specific retelling of the history of the canal. Beginning with an early ecological record of Gowanus Creek, Alexiou ends his book with an examination of the canal as a Superfund site. He writes about how the Gowanus Canal came to be built, how it became polluted, and why it held its status as a critical player in the growth of Brooklyn. He also investigates the canal’s place in the revitalization and gentrification of the area of South Brooklyn, particularly the Gowanus

neighborhood. He shows that although the Gowanus may have been a “forgotten” corner of Brooklyn during the second half of the 20th century, it was always an important precedent for the struggle between monetary interests and Brooklyn’s ecology. This book is vital to my understanding of the canal and its dialectical connection to the borough of Brooklyn. My thesis draws on Alexiou’s historical work, while moving into the present day and the aftermath of the Superfund designation.

In order to answer my questions, I have conducted extensive archival research, starting with Alexiou’s book. He provides a comprehensive bibliography with other useful, scholarly sources about the canal. Books about gentrification in Brooklyn in general, such as Suleiman Osman’s *The Invention of Brownstone Brooklyn, The World in Brooklyn*; a collection of recent scholarship about Brooklyn edited by Judith N. DeSena and Timothy Shortell, and Jeremiah Moss’s *Vanishing New York* examine the broader changes in the borough. The photographs of Steven Hirsch, which show the level of pollution in the canal, are also very useful. Larger almanacs, like the *AIA Guide to New York City* and the *Encyclopedia of New York City*, provide context for the canal’s place in a bigger narrative of New York City. There are also works that inform my topic more broadly, dealing with issues of gentrification, geographic scale, environmental justice, and sustainability, such as Kay Hymowitz’s *The New Brooklyn*, Sarah Schulman’s *Gentrification of the Mind*, and Ronald Sandler’s *Environmental Justice and Environmentalism*.

I also, in order to fully assess the relationship between the Whole Foods and the Gowanus Canal, have developed a broad theoretical framework that deals with issues of environmental justice, sustainability, and geographical scale, based on existing scholarly work. When considering the presence of the Whole Foods on the Gowanus Canal, the issue of environmental justice is twofold: distributional environmental justice and procedural environmental justice (Pearsall & Pierce, 2010). This definition of environmental justice identifies the “distribution” of environmental benefits and burdens between different peoples and places and the procedural component as the “focus on the right of all people to participate in environmental decision-making” (Pearsall and Pierce, 2010, 571). Pearsall (2010b) also examines the ways in which distributional and procedural justice are considered in urban sustainable planning and how they affect the human populations in cities. Laura Pulido extends the discourse around environmental injustice to include the concept of environmental racism, “the idea that nonwhites are disproportionately exposed to pollution” (Pulido, 2000, 12).

Environmental urban planning is directly related to issues of geographic scale and how the local and federal government deal with distributional and procedural environmental justice. Geographers Eugene McCain and Byron Miller both agree that “Scale...is not given but constructed” (Miller, 1997, 173). McCain asserts that scale is a framing device, used by political actors, scholars, and planners to define specific spatial boundaries of a specific “focal setting,” thus making scaling a political act (McCain, 2003, 162). It frames a space with a

specific set of boundaries. Because scale is fluid, it leaves open the opportunity for both manipulation by those in power (state scale), but also for citizen involvement (local scale) in those spaces. When dealing with scales as related to both kinds of environmental justice, scholars like Pearsall and Pearce assert that the more localized procedural justice is, the more environmentally democratic a space can become. In the case of the Whole Foods, there seems to be a fundamental lack of both distributional and procedural justice, which stems from the lack of involvement of the citizens of the Gowanus, as well as the profit-driven bias of the governmental policies around development. It is important to consider though, as Branden Born and Marc Purcell write, local scales are “equally likely to be just or unjust, sustainable or unsustainable, secure or insecure” (Born & Purcell, 2006, 195). Local isn't always better, as people in the community are often just as focused on short-term economic benefits rather than long-term environmental and civic benefits as their corporate or governmental counterparts. I use these ideas to dissect Whole Foods' role in both continuing old, and establishing new, environmental inequalities in the canal area. Building on these existing theories, I look at the ways in which environmental injustice has always, since the arrival of European settlers, been tied to the industry and people in the vicinity of the Gowanus, on the political and personal scale.

Additionally, I provide a theoretical definition of the phenomenon of gentrification to explore the extensive change going on in the Gowanus neighborhood in my fourth chapter. To fully understand gentrification, I describe the origins of property and the colonization of Brooklyn, using the work of

Nicholas Blomley, who writes that “the very creation of the city, and its symbolic value as a site of civilization and settled property has often been yoked to its role as a propertied space.” Property ownership contributes to the exclusionary structuring of urban spaces, as it breaks space up into private and public (Blomley, 2004, xvii). Access to space is thus divided into those who can own it and those who cannot. Invoking Blomley’s notions of property as inherently constructed to be unequal, I look at how developers and companies like Whole Foods are proliferating the inequality of private property.

I also examine the Whole Foods’ place in the neighborhood changes in the Gowanus by combining a more traditional definition of gentrification, based on geographer Ruth Glass’s original scholarly definition of the wealthy, rural gentry class moving into to urban centers (Glass, 1964) and more recent work done by academics Jeremiah Moss and Samuel Stein. I use Moss’s and Stein’s perspectives on gentrification to examine how the Whole Foods is related to the ways in which the administrations of Mayors Michael Bloomberg and Bill de Blasio have attempted to rezone the Gowanus neighborhood for increased real estate development, and how this lead to gentrification in the neighborhood. Moss uses his definition to bemoan the loss of a more “authentic,” and the proliferation of a more suburbanized, New York City. Stein (2019, 5-7) writes about the proliferation of “the real estate state,” or how “the state is both used by and uses (the) organized capital” of real estate developers and landlords. He opines that the partnership between governmental urban planners and private developers has transformed the ways cities function by prioritizing private capital

over public interests. I build upon their framework to examine the ways in which the gentrification occurring in the Gowanus neighborhood has economic implications for the neighborhood's marginalized residents, in addition to the role of gentrification in the "greening" of the Gowanus neighborhood (Hart, 1996).

Using a political-ecology lens and my understanding of socio-nature, I observed the Gowanus Canal and Gowanus area myself, in an attempt to understand the complex conflicts going on in the different parts of the neighborhood. The concept of socio-nature that I utilize comes from scholar Erik Swyngedouw, who says that "society and nature, representation and being are inseparable, integral to each other, infinitely bound up," (Swyngedouw, 1996, 2). Swyngedouw's work helped me assess the impact of the Gowanus Canal itself, a piece of human-made nature, on the residents of the Gowanus neighborhood and Brooklyn generally. When I was looking at the canal from this socio-nature perspective, William Helmreich's book *The New York NoBody Knows* was a helpful text in making these trips to the canal and using effective research methods, including talking to strangers. I also researched the work of local activist groups and was able to talk with a leading officer from one of them. In addition, I met with a representative from the city council office that represents the neighborhood². The NYC Planning Department also has a very useful website of up-to-date information about redevelopment projects in New York City,

² Brad Lander is the City Council member representing the Gowanus and has done a lot of work around the canal clean-up; I spoke to the Deputy Chief of Staff in charge of zoning and land use in his office to understand the political processes behind the clean-up and general development in the Gowanus area, as well as New York City as a whole. In addition, I was able to meet with one of the leading officers of the Friends of the Greater Gowanus (FROGG), a local advocacy group, who was heavily involved in the protests that happened when the Whole Foods' plan was first announced and beginning construction, and was generous enough to speak with me. Another member of FROGG, Katia Kelly, has kept a comprehensive and encyclopedic blog on all of the current events in the Gowanus since 2006. Her work was extremely useful in informing my understanding of the recent history and conflicts in the neighborhood.

including the ongoing Gowanus project. The Brooklyn Historical Society and New York Public Library both have a collection of Sanborn fire insurance maps that I used to investigate the history of property ownership in the Gowanus area.

My thesis begins with a retelling of the history of the Gowanus Canal, first as a creek, then as the canal we know it as today, as well as a historic site of conflict between economic and environmental issues. Thus, in my next chapter, I outline the history of the Gowanus: an ecological history of what would become the canal, the early settlements by the Lenape tribe who were in the area, the Dutch colonial period, the canal during its years as an industrial actor and its decline into post industrial ruin. I explore the making of the canal as an industrial tool and the dialectical relationship between the canal and the cities of Brooklyn and New York.

Following that, in Chapter 3, I dissect the evolution and creation of the Whole Foods in the Gowanus Canal, as well as how and why the store came to be on the banks of such a polluted site. Whole Foods' self-proclaimed classification as "the greenest supermarket in New York State" is of particular interest to me. I explore what the company means by this and how its definition of "green" relates to issues of environmental injustice.

In Chapter 4, I write about the transformation of the Gowanus area from a neglected post-industrial area to the neighborhood it is today, specifically by looking at the struggles around the Whole Foods and examining the conflicts of socio-nature surrounding the canal. I illuminate the correlation between the

development of the Whole Foods and the rest of the neighborhood and the issues of environmental injustice and inequality that surround the canal.

In my conclusion, I broaden my scope to illustrate the connection between what is going on in the Gowanus and the ties between socio-nature and the “green” neoliberal city more generally. This is especially relevant given the trends of rezoning and development occurring in New York City. The Gowanus Canal Whole Foods is a microcosm for the kinds of economic and environmental issues that plague post-industrial societies; it provides a great example of the conflicts present in these spaces.

CHAPTER 2:

The Historical Geography of Block 978, Lot 16

At the heart of the changing Gowanus neighborhood, Whole Foods is situated about halfway down the canal from the mouth. It sits on the Fourth Street Basin, which dips from the canal towards Third Avenue, providing the store with direct access to the main waterway. Because of its prime position both on the canal and at the convergence of the major neighborhoods that surround it, this little, 2.15-acre-plot of land, now occupied by Whole Foods, has played a crucial role in the development of the Gowanus Canal. In this chapter, I tell the story of what is now Lot 16, beginning in the 1600s with violent colonization of the Lenape people by European (mainly Dutch) settlers, through the Industrial Age of the 18th and 19th centuries when the canal was at its peak, finishing in the 20th and early 21st century, when the canal and the neighborhood along with it was forgotten. I end the chapter with an examination of the Environmental Protection Agency's decision to designate the canal as a Superfund site.

Examining the historical geography of the lot and the canal helps explicate the roots of environmental inequality and racism that have been an integral part of the area's development since it was first settled. We see this in the way the Gowanus was alternatively colonized by industry and commerce at different points of its history and then abandoned and left to decay, befouled by the

exploitive use, until the next round: the current revitalization that prioritizes profit over environmental health, exemplified by the Whole Foods. We also see this in the absence of the indigenous peoples in the Gowanus today, because of the violent colonization by the Dutch. Additionally, the colonization of the land in the Gowanus led to the construction of private property in the area, which we see as the beginning of establishing exclusionary spaces, like the Whole Foods today. Each of these layers built upon the next to become an efficient system of the environmental inequality and racism thriving in the Gowanus neighborhood.

Even before it was a fully realized and constructed canal, the Gowanus played a key part in the development of Brooklyn. Early maps of Brooklyn, under Dutch settlement, reveal that the Gowanus Creek was once connected to a small pond just south of where Whole Foods now stands, before splintering off into more tiny, winding creeks (see Figure 5, Appendix). The land that became the Gowanus neighborhood was a marsh with a tidal creek running through it. The Canarsie branch of the Lenape Nation lived in the area; the Whole Foods stands on land that was once home to Chief Gouwane and his people (some scholars contest the chief's name as the origin of the word "Gowanus." As Joseph Alexiou points out, other scholars believe the name to be derived from several different Dutch, Lenape, or Iroquois words, such as *gawunsch*, meaning "thorn bush," *gauwin*, "to sleep," or *Ogowanda*, "surrounded by hills" [Alexiou, 2015, 28]). The Dutch first started to colonize the land around the Gowanus in the late 1630s, establishing the Town of Gowanus as a tobacco plantation along the creek. Although the Dutch were the most influential colonial power in the area, the first

official “purchase” of land was actually made by two British men, William Bennett and Jacques Bentin from Native American chief Sachem Ka (Alexiou, 2015, 21). Though the specifics of the deal have been lost over time, this purchase and the colonizing activity by the Dutch in the Gowanus area was later categorized by historian Henry Reed Stiles as the “first step in the settlement of the City of Brooklyn” (Stiles, 1867, 24).

The process of settlement was a violent one, in two different ways. The more direct violence was the physical war waged by the Dutch against the Lenape. In 1638, William Kieft took over as the director-general in charge of the increasing Dutch presence in Brooklyn. Despite a relatively good relationship between the Dutch owners and the Canarsee Tribe, Kieft sought to get the Native Americans off what he considered to be Dutch land. He attempted to tax the Lenape for living on the property that the Dutch had bought from them, and when they refused to pay, Kieft began sending the soldiers at his disposal to attack the indigenous people. This led to a year-long bloody conflict between 1642 and 1643 that left the Lenape mostly dead or “subdued,” the Dutch nearly bankrupt, and many of the settlements destroyed (Alexiou, 2015, 32). There were many Dutch colonials who were opposed to Kieft’s treatment of the Lenape, but no one tried to prevent him from waging war against them.

By the 1670s, the Dutch were harvesting the oysters that were native to the creek and using those oysters as a major export for trading with England, Spain, and other colonial powers. Slowly, the area began attracting more Dutch residents, who built mills and small farm houses along the creek. The most

famous extant example of these early Dutch houses is the Old Stone House, built in 1700 by Dutch farmers, Claes Arentsen Vechte and his son Hendrick Claessen Vechte. The Old Stone House served as the rebel headquarters of General William Alexander's army during the American defeat of the Battle of Brooklyn in 1776 (Plunz & Culligan, 2007, 34-35). Most of the rest of the 18th century activity is categorized by the Dutch farming that was common all over Brooklyn.

At the start of the nineteenth century, more and more people built along the creek. Then the small water body began to attract businessmen who were able to see the industrial potential of the natural landscape, for manufacturing and transportation. One of these business people, Edwin C. Litchfield, a lawyer and railroad tycoon from Albany, bought the plot where the Whole Food is now located in 1852 from a Dutch man named Jacques Cortelyou, whose family had owned the land since before the Revolutionary War. Litchfield also bought the marshy farmlands and mills that became Gowanus and Park Slope for \$150,000. In that one year, he acquired over 200 acres of land surrounding the Gowanus Creek. Litchfield was not alone in his investment in the area, but he was the biggest player in Brooklyn real estate at the time. With Litchfield's investments in the area, the Gowanus began to industrialize quickly. His money and influence were key not only to getting the Gowanus Canal built, but also in the creation of the Park Slope neighborhood (Alexiou, 2015, 140-160).

During the 1850s, the New York State Legislature dredged and widened the creek into a slightly larger canal that would be the starting point for the fully

formed Gowanus Canal. This dredging was first ordered in 1849 to connect the increasing number of mills and industries being established along the creek to the Upper New York Bay and Manhattan. Coal, oil, and garment factories were the main industries that clustered along the newly built canal, in addition to many different construction companies, like one that set up on the Whole Foods lot.

At this time, Brooklyn was growing as both a city and an industrial force in the nation. Bud Livingston, in his book on Civil War-era Brooklyn, refers to the borough as “Lincoln’s third biggest city” (Livingston, 2012). As of 1869, around seven hundred industrial and residential buildings were built in South Brooklyn per year, a phenomenal growth (Plunz & Culligan, 2007, 34). Litchfield took advantage of the sudden boom on the canal and had both the Fourth and Eighth Street Basins built off of the main canal. These 100-foot-wide basins provided direct water access to the plots of land he owned that were just off the canal proper (Postal, 2006, 6). This convenience attracted a growing number of Brooklyn business, including the New York and Long Island Coignet Stone Company, which leased the land around the Fourth Street Basin from Litchfield.

There is still evidence of the New York and Long Island Coignet Stone Company’s presence on that lot. At the very tip of the block of Third Street and Third Avenue stands a relatively small, square, concrete building. With Whole Foods looming over it, the Coignet Building serves as a reminder of the lot’s industrial past in the face of its shifting present and future. The Coignet Building was the administrative building for the New York and Long Island Coignet Stone Company starting in 1872, designed for the company by the construction firm

William Field and Son (Postal, 2006, 4). More significantly, however, the building was the initial use of the then-revolutionary Coignet concrete technique. It was patented by French entrepreneur Francois Coignet as the first form of iron reinforced concrete for building. Though popular because of its cheap prices and relative durability, the design limitations of the Coignet concrete caused concern, so William Field built the Coignet Building to show off the capacity of the material to create a beautiful and structurally sound building. Field's work was such a success and the building was so well received by the Brooklyn media that, in 1873, the NYLICSC made 765 building facades with the Coignet material (Alexiou, 2015, 208). Like many of the rest of the industrial powers that once occupied the area, the New York and Long Island Coignet Stone Company is long gone from the Gowanus, but the Coignet Building still stands on that corner. It was designated a historic landmark by the New York City and has been undergoing a restoration since 2016.

The New York and Long Island Coignet Stone Company occupied two lots on the Fourth Street Basin, the eventual Whole Foods land, and the space directly across the water from it on Third Ave and Sixth Street. The company was first situated elsewhere on the Gowanus, on modern-day Smith Street and Hamilton Avenue. However, as the business grew, it needed a larger headquarters, which is why it moved onto Litchfield's land on the Fourth Street Basin. Initially, the company was extremely successful, contracted to construct big projects in the growing city, including parts of St. Patrick's Cathedral in Manhattan, bridges in the newly established Prospect Park, and multiple building

facades on Atlantic Ave. Despite its strong beginnings, the NYLICSC had to file for bankruptcy in 1874 and went out of business in 1882 (Padwee, 2014).

It was also around this time that the first negative effects of the industrialization of the Gowanus began to show. Less than ten years after the canal was completed, in April 1876, the *Brooklyn Daily Eagle* published an article titled, "A Stench in the Nostrils of South Brooklyn." The *Eagle* reported that the Gowanus Canal and the area around it had developed a particularly horrible odor. This was caused by thousands of pounds of ash and other "offensive materials" being dumped both into and around the canal daily. A build-up of these materials, mixed with the natural marshes that had been cut off from the tidal canal during its construction, produced "foul, mismanaged swamps," around the canal (Alexiou, 2015, 221). The *Eagle* article pointed to the Fourth Street Basin as a particularly egregious example of the foul, polluted water. This newspaper article reveals three important things about the state of the canal in its first decade. First, just seven years after the canal was completed, there were already signs of the permanent ecological damage the industry along the Gowanus would cause. Second, the presence of the swampy, odorous marshes shows how the architects of the canal were ignorant of, and likely indifferent to, the environmental consequences of its construction: namely, the separation of naturally occurring marshes that caused them to stagnate. Finally, as far back as one hundred and forty years ago, there were prescient calls to clean up and protect the canal.

The *Eagle* continued publishing articles about the degradation of the canal during the end of the 1870s. A piece from August 1877, revealed that a total of 1,676 tons of “solid waste” (sewage) were dumped into the canal every year. One landowner pointed to Litchfield’s properties, specifically those along the Fourth Street Basin as one of the worst offenders, calling the basin a “perfect cesspool...day after (day) I have seen the same carcasses floating in the water by the half-dozen,” (Alexiou, 2015, 222). All of this pollution and press coverage of it forced the New York State Legislature to pass laws in attempt to protect the canal and prevent further damage. Despite the protests of Litchfield and other powerful landowners in the Gowanus (Alexiou, 2015, 225-227), the State of New York enacted a law to build a giant waste pipe to divert and control the combined sewer overflow from harming the canal (Plunz & Culligan, 2007, 35).

When the Stone Company closed, the Coignet became the headquarters for Litchfield’s Brooklyn Improvement Company, the organization Litchfield had established to oversee all of his land holdings, which operated out of the building until 1957 (Postal). Litchfield himself experienced a quasi-fall from grace in the 1880s. After a series of both financial and personal scandals, he sold his land on the Gowanus in the Fourth Street Basin to Nicholas Cowenhaven, a descendant of one of the early Dutch farmers in the Gowanus. Cowenhaven, in turn, rented the land to a stone yard, a coal yard, and the Pure Oil Company (Sanborn, 1904). These were some of the biggest industries in the Gowanus and some of the worst polluters.

In 1920, the Gowanus Canal was the single busiest waterway in the country, with six million tons of cargo passing through it every year (Plunz & Culligan, 2007, 35). This prosperity did not last. Many changes occurred during the twentieth century in Brooklyn that had a mostly detrimental impact on the Gowanus. It started in 1933 with the completion of IND Subway line, which included a bridge that took the subway over the Gowanus. The Verrazano Narrows Bridge opened in 1959, connecting South Brooklyn to Staten Island. This meant that Brooklyn was now accessible to the rest of the United States by car and truck for the first time, further diminishing the need for water transport (Lewine, 1998). Robert Moses, in one of his many highway projects, created the Gowanus Expressway, which opened in 1964 and diverted traffic around the canal, rendering it irrelevant. This was at the same time that, country-wide, industrialization was in decline. In 1948, just after World War II, eighty percent of Brooklyn's coal and oil made its way through the canal. By 1970, fifty percent of the properties in the Gowanus were abandoned (Plunz & Culligan, 2007, 36).

In a little over a hundred years, the Gowanus Canal had gone from being the linchpin of growth and industrialization in Brooklyn to a discarded, irrelevant canal and an abandoned neighborhood in decline. During this time of deindustrialization, the pollution in the canal actually grew worse. In 1961, the main flushing tunnel that had been finished in 1911 and was supposed to keep the canal's waters moving failed, and the stagnant water allowed the toxics to begin to eat at the walls of the waterway, becoming embedded in its floor. Fifteen years later, in 1976, there was a devastating fire at the Patchogue Oil Terminal,

which caused nine hundred thousand gallons of oil to dump into the canal (Plunz & Culligan, 2007, 36). Bleak as this situation was, it mirrored what was happening across New York City. The government seemed to have abandoned urban areas in New York, as President Ford made clear when he denied NYC a federal bail-out, prompting the *Daily News* headline: “FORD TO CITY: DROP DEAD” (Van Riper, 1975).

Things began looking up for the Gowanus in 1985, when the City of New York announced an Industrial Renewal Plan to help revitalize the area. This would include some sort of attention being paid to the environmental clean-up of the canal. Nothing was acted upon, however, until 1998, when the flushing tunnel was finally reactivated and allowed “clean oxygenated water to flow down the canal from the Buttermilk Channel,” for the first time in 37 years (Plunz & Culligan, 2007, 37). Four years later, in 2002, the United States Army Corps of Engineers began a study on the feasibility of a clean-up process. There was an increase in real estate speculation and renewed interest in rezoning the Gowanus neighborhood from Mayor Michael Bloomberg’s administration in the early 2000s, which I will talk about more in chapters three and four.

This development was put on hold somewhat in 2008, after the Environmental Protection Agency found PCBs, PAHs, pesticides, and other toxins in the canal, in alarming, dangerous amounts. As Alexiou (2015, 351) describes, “There was an average of ten feet of toxic sludge on the floor of the canal...on the rating system for the level of toxic pollution, the Gowanus scored a 50 out of 100, the same score given to the Love Canal in the early 1980s.” To put

that in perspective, the minimum score required to nominate a site to the Superfund is a 28. In April of 2009, the EPA announced its nomination of the Gowanus Canal as a Superfund site, causing an uproar in New York City. The Bloomberg Administration feared that the involvement of the federal government would infringe on the real estate development that it was strongly supporting and that the EPA would fine the city for its neglectful care of the combined sewer overflow that ran into the Gowanus, which the EPA determined contributed greatly to the pollution in the canal. The Bloomberg Administration came up with its own, alternate plan to clean the Gowanus and garnered the support of the development group the Toll Brothers, Bill de Blasio, then the councilman representing the Gowanus, and the Gowanus Conservancy, a community group lead by local heavyweight Buddy Scotto. This plan would favor real estate and commercial development over the environmental clean-up of the Canal. The city's plan sought to fund the clean up with \$150 million of the city's capital budget, grant money from the federal government, and a \$30 million contribution from the Toll Brothers. In exchange for their financial help, the Toll Brothers would receive "exclusive rights to canal front development," but they would walk away from the project if the canal were Superfunded. The Bloomberg administration championed its plan as cost effective and time efficient, citing a 2013 completion date (Farrell, 2014, 197-198). Mayor Bloomberg maintained that the involvement of the EPA and Superfund would be a hindrance to both the environmental and economic changes his administration prioritized.

The support for the Superfund, though, greatly outweighed that of its few, albeit influential and vocal, detractors. During the 90-day public comment period following the Superfund nomination, there were more than a thousand responses in favor of the EPA's cleanup, compared to only two hundred comments protesting. Additionally, the City of New York was never able to provide a detailed plan for the clean up and was uncooperative when the EPA attempted to collaborate on any concrete clean-up methods. Finally, in March of 2010, after a year of the EPA negotiations with the city, community groups, businesses, and the general public, the Gowanus was named a Superfund site and placed on the National Priorities list (Alexiou, 2015, 350-354). The Toll Brothers abandoned their project on the canal, and Mayor Bloomberg's rezoning plan was put on hold.

Until the Whole Foods came to town, the lot on the Third and Third was home to the city's largest concrete recycling plant, known as the Red Hook Crushers. Every major construction project brought concrete to the giant crushers that stood high along the canal, which smashed the concrete back into useable cement. When Whole Foods executives wanted to use the land for their store in 2005, the Department of Sanitation forced the family that owned the crushers to lease the land to Whole Foods for 99 years, otherwise threatening to sue them, based on a vague infarction involving alleged problems of "honest and integrity" that the DOS filed against them in the 1990s. New York City's concrete recycling is now mostly shipped and trucked to New Jersey and Maspeth, Queens (Kuntzman, 2006).

One of the major conflicts surrounding the Whole Foods development initially was the fact that the lot lay in the Gowanus Industrial Business Zone. An IBZ, according to the New York City Economic Development Corporation is a: designation that fosters high-performing business districts by creating competitive advantages over locating in areas outside of New York City. The IBZs are supported by tax credits for relocating within them, zone-specific planning efforts, and direct business assistance from Industrial Providers of NYC Business Solutions Industrial and Transportation. In light of the purpose of IBZs to foster industrial sector growth by creating real estate certainty, the previous administration stated that it would not support the rezoning of these areas for residential use (NYCDEC, 2014). This means that the area is zoned for the sole purpose of industrial businesses. Gowanus blogger and member of the community activism group Katia Kelly points out that the Whole Food disrupting the IBZ was a major concern, as it would be taking away several acres of land, jobs, and would increase commercial traffic in an industrial zone (Kelly, 2012).

This is an example of one of the many conflicts at the center of Whole Foods' move into the Gowanus neighborhood, which has, in turn, caused years of struggles and controversies, including an ongoing debate surrounding the rezoning of the area. In my next chapter, I dissect the conflicts that characterized the building of the Whole Foods and the continued strife caused by the store's presence in the neighborhood, particularly its environmental impact.

CHAPTER 3:

Brownfield to Whole Foods: The Greening of Second Nature

The process of making the Gowanus Canal and the neighborhood around it, from the original creek that was home to the Canarsie Lenape Native Americans to the industrial powerhouse it was in the 19th and early 20th centuries, can be characterized as a journey from “first nature” to “second nature.” First nature describes nature in its original state, outside of human influence. Second nature, on the other hand, applies to nature as altered by humankind (Smith, 1984, 6-7, 40). People have always influenced the natural environment in which they live. In the Gowanus, both the Lenape and early colonial settlers certainly had an impact on the nature they encountered. They hunted, fished, chopped down trees for lumber and fuel. But their transformation of nature did not permanently damage it. Then came the industrialization and the drive for profit in the 18th century and onward, which deformed the first nature of the Gowanus Creek into the polluted Gowanus Canal, contaminated to the point that it is now a Superfund site. As a result of human interference, the Gowanus became an environmentally damaged piece of second nature. With its Gowanus

store, Whole Foods brands itself as the remedy to this mutilation, through allegedly green building materials and supposed environmentally conscious products. Throughout this chapter, I demonstrate Whole Foods' methods of doing this and the negative effects of a kind of greening that is environmentally inconsequential and causes race and class based exclusion.

We can see this calculated branding of Whole Foods as the salve to the problems in the neighborhood in the official announcement video for the opening of the Whole Foods in the Gowanus. The Northeast Regional Manager for Whole Foods Christina Minardi proudly says, "Our goal with the Whole Foods Brooklyn store was to create a store that looks like it's been in Brooklyn for a hundred years," (WholeFoodsMarket, 2013b, 1:20). Later in the same video, various Whole Foods administrators and the co-founders emphasize the positive effect the Brooklyn store would have on the community and strong relationship the company was forming with the neighborhood residents. As examples of Whole Foods' investment in the borough, they cite their commitment to locally-sourced products and the impressive number of employees who are native Brooklynites. In a separate interview, Minardi calls the store "groundbreaking" and says that it was the intention of the company to build a store that the Brooklyn community "felt best represented their borough, its rich history, and forward-thinking residents" (Whole Foods, 2013).

At the grand opening, former Brooklyn Borough President Marty Markowitz gave an impassioned speech about the store's contribution to Brooklyn, proudly proclaiming:

I am here not only as your borough president, but as the borough's foodie in chief. There is an old saying, "Man and woman does not live on bread alone." And that's why there's Whole Foods! For all the organic, artisanal, local, ethical, hand crafted, grass fed, free range, sustainable, eco-friendly, gluten free, rooftop hydroponic grown, gourmet, cruelty free food that you could ever dream of.

Congratulations!

Markowitz was notorious during his tenure as a boisterous, outspoken, quasi-caricature of a Brooklynite. In some ways, this speech is the embodiment of his outrageous rhetoric; calling himself the borough's foodie-in-chief, for example. At the same time though, Markowitz points out important aspects of the store's essential characteristics.

As Markowitz asserts, Whole Foods is a natural foods supermarket. In all its branding, the company focuses on the fact that it doesn't not sell any products containing artificial ingredients or hydrogenated fats. They employ an aspirational idea of food that's "artisanal, gourmet, organic," or any of the other adjectives Markowitz used, to justify exorbitantly high prices. Stores like Whole Foods that use their organic, health-centric rhetoric to drive up prices create a racial and economic injustice, points out Isabella Anguelovksi. She writes that the presence of Whole Foods in diverse and gentrifying neighborhoods like the Gowanus create "food mirages," or neighborhoods where "grocery stores abound, but they are unaffordable for lower-income residents...Such grocery stores are the traditional shopping places of higher-income and whiter residents, who see them

as destination stores because of their aesthetically pleasing, relaxing and calm atmosphere,” (Anguelovski, 2016). This holds true for the Gowanus, a neighborhood that is home to people of all different backgrounds (29 percent of the neighborhood population is Latinx and 25 percent is African American [Niche, 2019]). The Whole Foods only attracts a certain segment of these residents: the more affluent, mostly white citizens. After repeated observations, the racial dynamic of the store is clear: the majority of the shoppers are white professionals, the creative class, or white families with small children. The employees, on the other hand, are largely people of color (Personal observation, 2019). The store reproduces race and class divisions already at play in the gentrifying Gowanus neighborhood.

This food racism and classism is one kind of injustice, but the development of the Whole Foods in the Gowanus exemplifies yet another pervasive strain of injustice. This kind of large-scale construction (commotion and disruption) always creates some issues for a community, but in this case it negatively affected the physical infrastructure (the polluted canal and the traffic) and failed to adequately address the inherent environmental hazards. The struggle between the company and the city government, on one side, and Gowanus residents, on the other, over the building of the Whole Foods lasted for years, and continues to shape the neighborhood to this day.

To understand how the Whole Foods store came to be in the Gowanus, it is useful to look at the history of this American supermarket chain. It was started in 1978, in Austin, Texas by friends John Mackey and Renee Lawson, as a

vegetarian-only health food store called SaferWay. Two years later, Mackey and Lawson merged with another Austin health food store Clarksville Natural Grocery, owned by Craig Weller and Mark Skiles. These four rebranded as Whole Foods and were extremely successful in Austin. By the mid-1980s, Whole Foods was able to expand outside of Austin, first to Houston and Dallas, then to New Orleans, LA, and Palo Alto, California. In the 1990s, the chain was so successful that they were able to “continue to open new stores from the ground up, (and) fueled rapid growth by acquiring other natural foods chains” (Whole Foods, 2017). The company expanded internationally to Canada in 2003, and to the United Kingdom in 2004.

The year 2001 saw the opening of the first Whole Foods in New York City, on 24th Street and 7th Avenue in Chelsea, Manhattan. Four years later, Whole Foods turned its eyes on New York’s up-and-coming borough: Brooklyn. It makes sense that the chain would want to move into Brooklyn, as at the turn of this century Brooklyn was being “rediscovered” by hipsters and developers alike. Yet to the casual observer, it might have seemed perplexing that the Gowanus neighborhood was chosen, as it was still viewed as a seedy, rundown place.

Despite these perceptions of the area, the Whole Foods began working on its “Third and Third” store in 2006. There were incentives to build at this location, given the lower real estate prices, proximity to transportation, and the promise of tax incentives from both the city and federal government. Almost as soon as the Whole Foods plans were made public, the community board and activist groups like Friends of Greater Gowanus were extremely concerned by the proposal,

which initially included a below-ground parking lot, then an alternate plan with rooftop parking (Durkin, 2012). In 2011, the Friends of Greater Gowanus local advocacy group argued at hearings before the NYC Board of Standards and Appeals in favor of denying any variances that would allow Whole Foods to sidestep the traditional Gowanus zoning laws in the neighborhood and the canal itself (Kelly, 2011). There was particular controversy around the store's proximity to the historic Stone Coignet Building and the number of entrances to the parking lot for the cars because of the disruption of traffic. Although the city panel did, in fact, deny Whole Foods' request for variances, delaying construction in 2011, eventually, the grocery store chain prevailed by making a few concessions to the community concerns. As the *New York Times* points out, while the company ended up building a 248-space ground floor parking lot, "original plans called for a parking deck and for the building to be partially underground" (Robbins, 2012). By February of 2012 however, Whole Foods succeeded in getting the zoning changes from the Board of Appeals: "The board voted 5-0 to let Whole Foods build a 52,000 square foot store - about five times bigger than what zoning regulations would otherwise approve" (Durkin, 2012).

One city and federal requirement did have to be addressed though: Whole Foods needed to prove that the land in question was suitable for human occupation and public use. The years of industry on the canal left behind toxins imbedded in the soil. To mitigate these concerns, beginning in 2009, Whole Foods took part in the New York State-sponsored Brownfield Cleanup Program. According to the official website of the New York State Department of

Environmental Conservation, the goal of the Brownfield program is “to encourage private-sector cleanups of brownfields and to promote their redevelopment as a means to revitalize economically blighted communities. The BCP is an alternative to greenfield development and is intended to remove some of the barriers to, and provide tax incentives for, the redevelopment of urban brownfields” (NYSDEC). Both the NYSDEC and the United States Environmental Protection Agency have their own criteria for classifying a site as a brownfield. A brownfield is a piece of property that the “expansion, redevelopment, or reuse of which may be complicated by the presence of a hazardous substance pollutant, or contaminant” (EPA, 2018). The Whole Foods was definitely one such site. The “soil, (on the Whole Foods lot), was laced with toxins such as xylene, cadmium, benzopyrene, mercury, benzene, lead and phenol,” (Albrecht, 2017). All of these toxins were cause for concern, but the presence of benzene, a natural gas byproduct that is classified as a carcinogen and escapes from crude oil tanks into the ground or air, forced Whole Foods to pause construction of the Gowanus store in 2009. Although Whole Foods was aware of underground oil tanks as early as 2006 (Shield, 2006), the discovery of the actual tanks themselves in 2009 meant that construction was halted. To remedy this, Whole Foods simply had to remove the oil tanks, excavate two feet of the contaminated land, and replace it with new topsoil in order to receive a “certificate of completion” for the NYSDEC (del Signore, 2012). The Brownfield Program does not require that its participants complete a comprehensive clean up; the sites simply have to be deemed suitable for human use. The program has faced much scrutiny and

skepticism from environmental activists because of the fairly low standard for “completion” and because of the ample tax incentives the program offers to private companies, like the ones it gave to Whole Foods.

In 2017, it was revealed that Whole Foods received 12.9 million dollars in tax credits (Alrecht, 2017) for its participation in the State Brownfield Program. This is a trend in urban environmental cleanup, one with a proliferation of incentives like those offered by the Brownfield program. Local and federal governments grant private companies land and tax incentives to transform areas that have been neglected in one way or another: in the case of the Whole Foods, it was environmental.

To underscore this image, the Whole Foods website for the Gowanus store boasts: “...Our Brooklyn store offers electric vehicle charging stations, wind turbines built into the parking lot light poles and solar panels on our carports to help sustain operations while minimizing our carbon footprint” (Whole Foods, 2019). The company asserts that the store is the “Greenest Grocery Store in New York State.” With the impressive visuals of a rooftop greenhouse, wind turbines, and solar panels, the LEED certified store checks all the boxes for a commercially green space. When constructing the store, Whole Foods pledged not to add any more contaminants to the area. They used reclaimed bricks and wood (the wood came from pieces of the Coney Island boardwalk when it was damaged by Superstorm Sandy [Piccoli, 2013]) and sustainable construction materials (WholeFoodsMarket, 2013a, 2:11-2:30). As laudable as these efforts may be, they are still largely superficial and symbolic, not nearly significant

enough to offset the damage of the construction and operation of the store at that location. The additional pollution and interruption of natural processes caused by the store are in opposition of truly effective sustainability.

Writing on her blog, "Pardon Me for Asking," in 2013, Katia Kelly poses the question "Is the Whole Foods' Gowanus Store Really that Green?" (Kelly, 2013). Kelly points out that though the Whole Foods has a greenhouse, electric car charging stations, and wind turbines, its presence on the canal is an environmental injustice in it of itself. The store sits on a naturally occurring marshland, which could have continued to exist if it had been simply cleaned up for environmental use, rather than commercial profit. As Kelly points out, the National Wildlife Federation strongly discourages building on marshlands because it prevents the wetland from "act(ing) like natural sponges on the landscape, absorbing and then gradually releasing storm waters and lessening flood damage." Additionally, by Whole Foods' own admission, 68 percent of the visitors to the Gowanus store drive there, thus contributing to air pollution and greenhouse gases in an already overly motor-vehicle-trafficked area. This is an alarming number considering the store's proximity to NYC's extensive mass transit system and the environmental costs of increased fossil fuel use and exposure (Kelly, 2013). Though the store installed wind turbines, they have not been in use for years, having broken soon after the store opened.

The store's mere presence on the canal has had additional consequences. The natural slope of the Gowanus also forces rainwater run-off to flow straight into the canal. The built environment of the Whole Foods blocks a lot

of this rainwater, despite the use of permeable concrete. This is causing the bulkheads holding the land itself from sliding in the water to buckle and move away from the land towards the canal. If they break, the Whole Foods promenade will fall into the canal, further polluting it and creating the need for a more expensive clean-up (Donnelly, 2019).

Despite these detrimental consequences of the Whole Foods presence, in November of 2018, the Environmental Protection Agency declared a portion of the Gowanus Canal free of pollution for the first time in a hundred and fifty years. The EPA successfully dredged the bottom of the canal of its toxin filled bed and capped the newly clean canal floor with a “a multi-layer protective cover...to keep new debris from settling at the bottom,” (Walker, 2018). Although the clean-up process took twice as long as predicted (a full year rather than six months) the EPA viewed the trial clean up as a triumph and will continue using this method to clean the rest of the canal. Tellingly, this particular trial clean up took place in the Fourth Street Basin, adjacent to the Whole Foods (as an aside, the Whole Foods promenade touted as a public amenity was damaged during the clean up and continues to be closed to the public). The EPA maintains that it chose the basin because it was the smallest polluted section of the canal, so that the EPA could test the clean-up techniques in a controlled area. In fact, there are two other small basins, the Sixth Street and Eighth Street Basins, that the agency could have been cordoned off, as well as several natural sections of the canal that could have served as adequate testing areas. Starting with the portion of the canal nearest to the Whole Foods sends the distinct message that the Whole

Foods matters more than other residents of the canal, something I dissect more thoroughly in my next chapter.

Whole Foods maintains that it's a green influence on the Gowanus neighborhood and its residents, one and all. To frame its existence on a heavily polluted Superfund site in a positive way, it touts eco-friendly construction materials, solar panels, and other hallmarks of "greening." As opposed to true sustainability, greening makes use of the rhetoric of sustainability without making a commitment to substantial environmental improvements. Stuart Hart (1996, 67-68) points to the common practice for companies to institute pollution prevention programs in their businesses that bolster their public images and saves them money by lowering their rates of waste. At Whole Foods, that is evident in its recycled building materials and abundance of compost bins in the store, among others. All the while however, Whole Foods encourages people to drive to shop there (use of fossil fuels) and to purchase large quantities of its products. The company supports a kind of high-end consumption that is inherently unsustainable, whether or not it is marketed through the lens of "green."

None of that is illegal, but it belies the heavily branded image upon which Whole Foods is banking. As Wolch et. al (2014, 235) point out, access to the green work that Whole Foods is doing "is often highly stratified based on income, ethno-racial characteristics, age, gender, (dis)ability, and other axes of difference." The organic food and products allow Whole Foods to use a supposed dedication to health and wellness for profit, which, in turn, excludes people who aren't financially able to participate. The Whole Foods version of

greening is superficial. All of these purported greening efforts have had grave consequences for the whole neighborhood, which I talk about more in depth in my next chapter.

CHAPTER 4:

Whole Foods and the Gentrification of the Gowanus Neighborhood

While Whole Foods has attempted to “green” the polluted area of the Gowanus, it has worked in concert with the larger neighborhood changes. By examining the gentrification occurring in the Gowanus neighborhood in the present day, a history of policies designed to exclude certain groups (the working class and people of color) from cities and public space becomes clear. As high-end realty has moved into the neighborhood, it has displaced many of the working-class people that lived in the area before this current revitalization. There is a symbiotic relationship between the larger scale political-economic forces of gentrification and the unique process of the Whole Foods development project in the Gowanus neighborhood. Wrapped in the trappings of on-trend green amenities, this combination has actually undermined the environmental equality and community cohesion of this part of Brooklyn. Throughout this chapter, I point to the systemic causes of gentrification that are negatively impacting the Gowanus community, specifically its residents’ access to public resources such

as green space. By examining historical tactics of spatial exclusion, like redlining, and more modern phenomena as hyper-gentrification, I illuminate how the Gowanus Whole Foods is concurrently part of a larger series of changes in Brooklyn and also a cause of change in the Gowanus.

The Gowanus is a neighborhood that is rapidly gentrifying. British geographer Ruth Glass is credited by most scholars with the first use of the term *gentrification* in 1964, when she described the process of middle-class rural dwellers (the Gentry) in England moving into London and displacing the lower-class people who worked there (Glass, 1964). More recently, urban geographer Tom Slater (2011) has expanded on Glass's ideas and defined gentrification as “the transformation of a working-class or vacant area of a city into middle-class residential and/or commercial use.” In its 2016 report on gentrification in New York City, New York University's Furman Center for Real Estate and Urban Policy simply defined gentrification as, “neighborhoods that had households earning lower incomes later experienced rent growth at a higher rate than the median neighborhood” (Small, 2017).

To say that Brooklyn as a borough has been gentrified is to more than state the obvious. It's an observation so often repeated in media and daily conversation that it has just about lost its meaning. Brooklyn is a poster child for urban gentrification. It has become part of the cultural lexicon to talk about gentrification in the borough. From Brooklyn residents themselves to late-night talk shows to the various movies, songs, and other works of art made about the changes in Brooklyn, it's well-established, almost a cliché. While gentrification

itself has serious repercussions for the people and neighborhoods it touches, the concept is an over-beaten dead horse. It is so commonplace that it no longer seems threatening. Yet it is, in fact, a major crisis in cities all over the world, including Brooklyn and NYC in general.

Evidence of gentrification in the Gowanus neighborhood abounds. For example, in 2015, the readers of *Curbed NY*, an online real estate blog that focuses on New York City neighborhoods, voted Gowanus the “Neighborhood of the Year” (Plitt, 2015). This is a symbolic honor; the *Curbed* readers voted online for their “favorite” neighborhood in New York City that year. Similarly, the magazine *Condé Nast Traveler* named Gowanus one of the “Hippest Hoods” of 2016, saying “Brooklyn's hip neighborhood of Gowanus packs in great coffee, cutting-edge shopping and the city's coolest new restaurants. Go now, before word gets out” (Marx, 2018). The neighborhood guide website Compass describes the Gowanus as “a creative, stylish crowd tucked into old school industrial Brooklyn. There’s still an intimate, frontier feel and people are happy to be part of the adventure. The charm of Gowanus doesn’t present itself immediately...while cleanup of the canal is well underway (and developers have taken note), an intimate feel and sense of frontier living are still palpable” (Compass, 2014). The fact that these sites are branding the Gowanus neighborhood as such a hidden hipster gem, as an appealing place to live, and as place with a rich blend of Old and New Brooklyn characteristics represents the changes going on in the neighborhood. In the early 2000s, residents, developers, and city officials alike perceived the Gowanus as deserted; an area of industrial

ruin, devoid of any redeeming qualities. By the turn of the decade, a new attention had been turned to the Gowanus. It has become one of the most sought-after neighborhoods in New York City.

Since the Whole Foods opened in the Gowanus in December 2013, the neighborhood around it has undergone some of its most dramatic changes, and not simply in the branding rhetoric used to describe it. Across the canal from the store, there is the new luxury high-rise apartment building known as “365 Bond,” which is owned by the real estate conglomerate the Lightstone Group. The building boasts beautiful “Italian kitchens,” hardwood floors, and stunning views of the ever-growing Brooklyn skyline, as well as impressive amenities like valet dry cleaning, workout and yoga rooms, a private library, and the white whale of New York City living, in-building storage units. On the website for 365 Bond, the group cites *Curbed NY*’s 2015 Neighborhood of the Year award, in addition to *Travelers* Hippest Hood designation, calling the Gowanus “New York’s most celebrated neighborhood” (Lightstone Group). There are ads with impeccably dressed young people enjoying themselves on Brooklyn streets that look more like Park Slope and Brooklyn Heights, historically wealthy neighborhoods in Brooklyn, than the traditional grittier image of the Gowanus. One of the other major selling points of the building is, in fact, its proximity to the Whole Foods. The Lightstone Group is using this reinvented version of Gowanus to sell its apartments, distancing the high-end building from the formerly seedy Gowanus; 365 Bond is a firmly established component of the Gowanus Renaissance.

The idea of a Gowanus “Renaissance” or transforming the Gowanus into Brooklyn’s Venice was most ardently articulated by Buddy Scotto. Scotto, known as the “Mayor of Carroll Gardens,” was a longtime activist in South Brooklyn and one of the most important figures in the nonprofit sector around the borough. He founded the Gowanus Canal Community Development Corporation (GCCDC) in 1978. The GCCDC is an advocacy group that “...was formed to revitalize the communities of South Brooklyn, with particular emphasis on the area surrounding the Gowanus Canal,” which the group says is “one of the most challenging, exciting and complex urban revitalization projects in the country” (GCCDC). One of the organization’s (and Scotto’s) numerous accomplishments was to raise the money from the federal government to reactive the flushing tunnel at the mouth of the canal in the 1990s. Scotto had a vision of a commercially vibrant, redeveloped Gowanus area, with affordable housing, (particularly for seniors,) built along the canal and businesses, like Whole Foods, taking over the former industrial warehouses and lots. He was one of the voices most vehemently against the canal’s designation as a Superfund, as he saw the EPA’s involvement detrimental to the neighborhood’s “renaissance.” Though the EPA won the Superfund debate, development still continued, and the neighborhood currently looks more like Scotto’s dream for it than the future he feared under the Superfund.

Now there is an official attempt to make the Gowanus Renaissance a reality. In October 2016, the City of New York Planning Department announced plans to rezone the Gowanus into a “a sustainable, inclusive, and mixed use

neighborhood” (NYC Department of Planning, 2019). The plan, the most recent draft of which was released in February of 2019, places an emphasis on affordable housing, commercial development, and revitalization. The city government sees the neighborhood as a viable place for urban and commercial growth. The attitudes of real estate investors, the city government, and Gowanus newcomers towards the area has transformed, and the neighborhood has with it. The Whole Foods is itself one of those major changes, also acting as a catalyst for the larger shifts occurring in the area; it is both a cause and an effect of the change occurring in the Gowanus.

Namely, this change is a case of active and violent hyper-gentrification, a process that is a step beyond a so-called normal gentrification. Jeremiah Moss, in his book on the changes occurring in New York City, *Vanishing New York*, considers hyper-gentrification to be “the complicity between municipal government and big private money to reconfigure whole sections of a city, with dubious consequences, chief among them the ceding of space, goods and social currency from the ordinary classes to the ruling order” (Bellafante, 2017). When describing the phenomenon, Moss clearly articulates that hyper-gentrification is intentional. Moss defines this as the partnership of both city government and private developers to reconstruct entire neighborhoods to suit the needs of the wealthy in New York City (Moss, 2018, 7). This partnership is particularly beneficial to the real estate developers like the Lightstone Group in the Gowanus, who profit from turning properties bought at low value, often with real estate tax breaks from the city, into high-end housing. By doing so, they foster

gentrification by preventing those who cannot afford their high prices from living in the area (Stein, 2019, 19-20.)

As a result of hyper-gentrification, the Gowanus has become an astoundingly wealthy and unaffordable neighborhood. In January of 2000, the median price of a home in the Gowanus neighborhood was \$277,500. By April of 2010, after the Gowanus Canal had been designated a Superfund site, that price was up to half a million dollars, close to double what it had been at the beginning of the decade. At this point, that price seems cheap though, considering that in 2017 the median price of a home in the Gowanus was \$2,333,619 (Trulia). By comparison, the median price of a home in all of New York City, one of the most competitive and expensive real estate markets in the country, was \$620,000, (the national median was still half that at \$355,400) (Zillow). In December of 2013, when the Whole Foods opened on Third Street and Third Ave, the median price was \$728,049 (Trulia). That means that after the Whole Foods opened, in a span of only four years, the median price of a home in the Gowanus rose by \$1,605,570.

The racial makeup of the neighborhood has also undergone significant change since 2000. A map showing the demographic transformation produced by online urban studies website CityLab details the increases in the white population in Brooklyn neighborhoods. In the Gowanus, a 30% increase of (18,043) white people have moved into the neighborhood since 2000. That is not as transformative compared to the 1,235% (38,116 people) increase seen in the northern Brooklyn neighborhood Bedford-Stuyvesant, but 30% is still a notable

population change (Small, 2017). Equally notable is the class shift in the Gowanus. The neighborhood has long been home to working-class citizens of Brooklyn, like Irish, Puerto Rican, and Italian families who worked in the industries on the canal and at the docks on the Brooklyn side of the New York harbor. There was a small number of Native American residents starting in the 1920s, who moved down state from the Mohawk reservation to work in New York City's steel plants. In the 1970s, artists started moving in, attracted by the space and ample light available in the abandoned warehouses along the waterfront (Moss, 2017, 349). These are the groups that are now excluded and displaced from the Gowanus as gentrification has taken hold.

Systemic, widespread gentrification is caused by years of oppressive policies made by local and federal governments. Scholars like Peter Moskowitz point to long-term methods of excluding and displacing certain groups of people from urban centers as the driving force of gentrification. According to Moskowitz, hipsters and business people with families, or the other stereotypical gentrifiers are symptoms of a larger problem, rather than the cause. He explains this further, saying, "Gentrification is not about individual acts; it's about systemic violence based on decades of racist housing policy in the United States that has denied people of color, especially black people, access to the same kinds of housing...as white Americans" (Moskowitz, 5). Gentrification, by Moskowitz's definition, is a decades-long process, ingrained in urban politics and occurring from the top-down.

Moskowitz outlines how the City of New York government worked with real estate developers in order to transform and gentrify supposedly dilapidated neighborhoods in New York City. In the 1970s, when New York City was bankrupt, the city began appealing to private developers by subsidizing them for choosing to spend money in New York (Moskowitz, 192). This practice continued in the 1980s-90s, with the city working with real estate developers, giving away land and tax breaks with few restrictions on equitable use or access. Stein details this process: the city will divest from certain neighborhoods, cutting social services, which causes forced displacement and abandoned neighborhoods. With property values and real estate taxes lowered, real estate developers are able to purchase mass amounts of land for small amounts of money (Stein, 2019, 47-48). These neoliberal practices have continued today, alive and well in the Gowanus. Mayor Bloomberg and Mayor de Blasio encouraged developers to move into the Gowanus in order to revitalize the neighborhood, giving tax breaks to the Lightstone Group and Whole Foods for their investments. The city's involvement moves beyond allowing private groups to reconstruct the built environment, giving these kinds of commercial developers basically unfettered access to land in the city that should be used to benefit the public. Moskowitz points to the double-dealing of Mayor de Blasio's apparent do-gooding zoning policies, writing, "Bill de Blasio's plan to rezone areas of the city to add more market rate and affordable housing rarely mentions the West Village...instead relying on rezoning large sections of low-income neighborhoods..." (Moskowitz, 190). Rezoning is a way to configure the neighborhoods where land is cheap to

reflect the goals of the mayoral administration. In the case of the Gowanus, de Blasio is rezoning to make room for more upscale housing and commercial development on the once-industrial land.

The mayor's current policies of rezoning have historical roots that also affected the construction of its neighborhoods, like the Gowanus. The government's practice of redlining played a role in establishing the Gowanus as a neighborhood ripe for cheap development. In the 1930s, the Home Owners' Loan Corporation, as part of Franklin D. Roosevelt's New Deal, sent appraisers to neighborhoods to determine the value of homes in those districts. The areas that were deemed most desirable were highlighted in green and the least desirable in red, hence the term "redlining." The distinctions were based on what were considered "hazardous places to underwrite mortgages," and these classifications, as well as the work of the HOLC, had lasting consequences. "The lines they helped draw, based in large part on the belief that the presence of Blacks and other minorities would undermine property values, altered what would happen in these communities for years to come" (Badger, 2017). Banks were less likely to approve mortgages for homes in the red areas, which led, in part, to the disparity in housing ownership between people of color and white people.

Gowanus was one of the Brooklyn neighborhoods originally labeled red or "hazardous" (Badger, 2017). In the 1930s, the Gowanus Canal was at its peak in terms of industrial power. Historically, housing around centers of industry were undesirable to those who could afford to live elsewhere. The Gowanus was not an area that higher income people lived in, thanks to the air and noise pollution

from all of the activity and businesses, like the concrete plants and oil companies, on the canal. The redlining of the neighborhood made the land and housing in the neighborhood extremely cheap. This is what allowed working-class Brooklynites and artists to live there, but is also what attracted real estate developers to the neighborhood. Redlining is not the sole cause of gentrification in the Gowanus and beyond, but the practice of devaluing the homes of certain groups and areas certainly contributed to the phenomenon of developers being able to snatch up properties cheaply and flip whole neighborhoods.

Some of these changes in the Gowanus are not necessarily sinister or even bad for the neighborhood. There is a danger in gentrification discourse that opposes all change, that creates a negative perception of newcomers, and glorifies a violent or poverty-stricken vision of New York City. There are definitely positive, healthy changes taking place in the neighborhood. For instance, it didn't used to be safe to walk around the Gowanus³. However, most of these new spaces are mostly, if not entirely, racial and economical segregated.

This segregation of space is evident in the distributional injustices of urban green space that run rampant in cities in the United States. Geographers Jennifer Wolch, Jason Byrne, and Joshua Newell say that "...(t)here is abundant evidence of environmental injustice in the distribution of urban space ... racial/ethnic minorities and low-income people have less access to green space, parks, or recreational programs than those who are white or more affluent" (Wolch et al., 236). This kind of environmental injustice is writ large around the Gowanus

³ In 1990, 5,173 crimes were reported in the 78th Police precinct, which includes the Gowanus. Comparatively, in 2018, there were 864 reported crimes, a 83.3 percent decrease (NYPD, 2019).

Canal. The one pumping station, which chugs out clean water into the canal to keep the water from becoming stagnant, is situated where the Gowanus Housing Projects meet the canal, not where the Whole Foods, with its landscaped walkway or expensive wedding venue sit. While Whole Foods and 365 Bond, the luxury apartment complex, each have expertly curated water promenades along the canal with well-manicured green space, the areas to the north and south of the Whole Foods, especially by the housing projects, lack such pedestrian-friendly waterfront green space. There are pitiful “Green Streets” that lead up to the canal, with tree pits and flower beds choked with dead plants and litter. This shows the inequality in environmental amenities, with people with low income and people of color having disproportionately less access. The most egregious case of environmental inequality and racism, however, is the case of the Double D pool.

The Double D pool is a public swimming pool on Nevins Street (which runs directly parallel to the canal,) between Douglass and Degraw Streets, hence the moniker “Double D.” It has kiddie pools, lap swim for adults, and is one of the most popular and busiest attractions for neighbor residents in the Gowanus during hot weather. In the summer of 2016, 28,000 people visited the pool (Kamin, 2016). Because it is a public pool, it is also one of the only places where the residents of wealthy parts of the Gowanus and Park Slope, (those who shop at Whole Foods,) and residents of the nearby projects interact. The pool was built in the 1950s as an amenity for the largely Irish population that then lived in the Gowanus Houses and Wyckoff Gardens. It sits on the site of the former Brooklyn

Union Gas, a utilities company that left a large deposit of the dangerous carcinogen coal tar in the land below the pool (Kamin, 2016). The EPA wants to move the pool to a vacant lot closer to the Wyckoff Gardens, clean up the coal tar, and place sewer tanks where the pool currently is to prevent the combined sewer overflow from further polluting the canal. The de Blasio administration has other plans for the lot where the EPA proposes to put the new pool, having already promised that land to two developers, Two Trees and Arker Companies, for two sixteen-story apartment towers with half of the units designated as “below market rate” in each (Cuba, 2018). The residents of the NYCHA houses have no other pool, yet by swimming in the Double D are risking exposure to coal tar⁴. The city is prioritizing real estate development over cleaning a toxic site that is dangerous to both neighborhood residents and the canal itself.

Writing about the Gowanus in comparison to other neighborhoods around it, Dennis Holt said, “And in truth, there are three Gowanus--the large housing projects, Gowanus Houses and Wyckoff Gardens, in the northern part; the neat row houses west of the canal down to about 4th Street; and the eastern part, which also contains row houses especially in the southern part, but is mainly the remains of a once thriving industrial center” (Holt, 2003). Too often, the housing projects are left out of the conversation surrounding all the changes and the environment issues that plague the Gowanus. The City of New York proposes vast rezoning plans to open up the neighborhood to more real estate development. Whole Foods is used by developers to draw a wealthier, mostly

⁴ Exposure to coal tar increases the risk of skin, lung, bladder, kidney, and digestive tract cancer, among other health issues. (NCI, 2018.)

white demographic, to the new apartment complexes, while less affluent people of color, who make up almost of all of the residents of the Gowanus Houses and Wyckoff Gardens, are excluded from the grand Gowanus Renaissance. They cannot afford the upscale housing, yet the increased tax base is not used to improve existing public housing (Greene, 2019).

Additionally, the businesses that serve these lower-income residents are also being driven out of the neighborhood. Since the grand opening of the Whole Foods in 2013, three grocery stores have closed in the area directly around it: Met Food on Smith Street, Pathmark on 9th Street, and Key Food on Fifth Avenue, each about a ten-minute walk from the Whole Foods, each largely serving the original residents of the Gowanus rather than the newcomers. There is no way to definitively say that the Whole Foods is the cause of these store closures. However, these closures do coincide with the influx of the wealthy young people who shop at Whole Foods moving into the area. As more people shop at luxury brands like Whole Foods, or the many Starbucks in the neighborhood, it makes it difficult for smaller, more affordable stores, coffee shops, bodegas, and restaurants to stay open. Whole Foods is thus both a cause and a reflection of the demographic shifts in the Gowanus.

As their local stores are shuttering, long-time residents are left without convenient access to food shopping. Residents of these housing projects are neither the intended market for Whole Foods, nor can they necessarily afford to shop there. Commonly known as the “whole paycheck” store, Whole Foods does accept food stamps, but so much of its food is so expensive (Peterson, 2016)

that it would be an inefficient use of those stamps. Food stamps cannot be used at the restaurant and bar on the top floor of the store, with its outdoor deck and artisanal menu, yet another way in which the Whole Foods is exclusive. Whole Foods advertises its outreach to the housing projects by touting its hiring of local residents and its job fairs in those projects. However, the jobs are mostly low paying and not unionized. Now that Whole Foods is owned by Amazon, given that company's track record on employment equity, it is unlikely that situation will improve (Godlewski, 2018).

Even in its basic construction, the Whole Foods does not fit into the needs of those living near it, or physical neighborhood it occupies. The architects who designed the building chose a neo-colonial style brick pattern and color, which is popular in suburban construction, but not at all in keeping with the neighborhood aesthetic or the other buildings around the store. Architectural continuity with the warehouses and row houses that characterise the Gowanus is not a necessity, but failing to even make an attempt to respect the predominant architectural style shows a disinterest in becoming a part of the visual fabric of the neighborhood. This disregard is evident in the enormous parking lot for Whole Foods, which not only disrupts the entire flow of traffic on Third Street, which poses more dangers to pedestrians and cyclists, but also indicates that most of its customers will be driving to the store. The design of the loading dock indicates this, as well. Instead of setting the area back from the road, to avoid blocking traffic, it is flush with 3rd Avenue. Delivery trucks frequently take up half of Third Ave, choking the bike lanes and clogging traffic. This is out of step with the typical Brooklyn shopping

experience, in which people walk to their closest grocery store and buy what they can carry, as opposed to the big box store model of Whole Foods. It demonstrates a certain level of privilege expected of the Whole Food shoppers. It also signals the corporate vision of drawing car-owning customers from beyond the Gowanus, eschewing the idea of a local market. Whole Foods wants and expects people to drive from all over Brooklyn and New York City to shop at their store. Rather than working to “create a store that looks like it’s been in Brooklyn for a hundred years,” as Christina Minardi said at the grand opening (Whole Foods, 2013b, 1:20), Whole Foods seems to be doing everything in its power to force the neighborhood to change around it.

This establishes Whole Foods as the embodiment of the worst kind of gentrifier. The store was drawn to the cheap land prices and local flavor of the Gowanus, but instead of integrating, acclimating, accommodating itself to its neighbors, Whole Foods created a store for its particular customers; affluent, mostly white newcomers to the Gowanus or other gentrifying Brooklyn neighborhoods. There is a clear lack of regard for the functioning of the neighborhood. The building eclipses the historic Cogent Concrete building, symbolic of the Whole Foods eclipsing the rest of the neighborhood. Beyond this physical footprint, Whole Foods merchandise underscores its disregard for its position in the neighborhood. In chapter three, I discussed the ways in which Whole Foods’ emphasis on healthy foods are intended to be part of the greening of the Gowanus neighborhood. The sourcing for Whole Foods products is also a part of its gentrifying influence on the neighborhood. It tends to purchase from

small-batch companies from other parts of gentrifying Brooklyn, selling homemade mayonnaise and small-batch coffee and beer. These companies are mostly from expensive neighborhoods and reflect the buying habits of wealthy Brooklynites. The Whole Foods does not embrace nor represent the rich diversity of cultures in Gowanus and other non-gentrified parts of Brooklyn. In no substantial way is Whole Foods a good neighbor.

The Gowanus neighborhood has been gentrified and changed by massive redevelopment, as the Gowanus Canal on which it lies remains a site of environmental injustice and toxicity. Unfortunately, the case of the Gowanus Canal and surrounding neighborhood is not unique in the modern urban landscape. It is emblematic of many neighborhoods throughout New York City and the world more broadly. In my final chapter, I will discuss how the Gowanus serves as an example of a larger urban problem.

CONCLUSION: Our Shared Urban Future

“All this prosaic attention to infrastructure and repair, strewn haphazardly on either side of the canal amid weeds and ailanthus trees, this strange combination of industrial, residential and bucolic speaks to the plain, somnolent essence of Brooklyn.” -Phillip Lopate (2006, 4).

Phillip Lopate captures the three main features of the physical environment in Brooklyn that converge at the Gowanus Canal: the industrial (or commercial) the residential, and the bucolic (or the natural landscape). In the Gowanus neighborhood, the increasing exclusivity of commercial, residential, and environmental amenities reveal how our cities have been transformed by state-sponsored gentrification, creating urban oases for only those who can afford them. Similarly, as environmental features are cordoned off by private establishments, like Whole Foods, our society’s relationship to nature is inequitable. Ultimately, the case of the Gowanus Canal shows us that we are in need of new socio-natures. In this final chapter, I dissect the implications of my

thesis: how the Gowanus Canal is an example of larger changes occurring in urban centers. While looking gentrification and environmental inequality, I parse the ramifications of our shifting socio-natures while providing alternatives to our hierarchical urban policy making. The Whole Foods development in the Gowanus provides entry into all these critical issues.

An upscale grocery store chain moves into a seemingly derelict area, containing a heavily polluted, toxic waterway. Those are the simple facts, the bare bones, of the story of the Whole Foods development along the Gowanus Canal, in Brooklyn, New York. Yet in examining the layers of this densely complicated tale, the issues of environmental inequality, environmental injustice, government support for the interests of private corporations over public health, and race and class based exclusion, become clearer and clearer. The environmental and social costs of the current frenzy of gentrification are demonstrated at every stage, painting a stark picture of the way we are allowing our cities to be dominated by forces that run counter to the creation of healthy urban communities.

The Whole Foods opened in the Gowanus because the city and state governments offered this private company incentives to build on the canal. It is “no accident” as Jeremiah Moss points out (Moss, 194). This common practice of governments providing tax breaks to improve or clean up derelict areas, as seen in the state’s Brownfield program, which rewarded the Whole Foods for its removal of oil tanks and soil remediation, fuels many urban improvements in New York City. Thus the financing for neighborhood environmental improvements

often comes from the private sector, although the taxpayers wind up shoring up these corporations with tax breaks. Industry City, a former industrial park in Sunset Park, Brooklyn, that has been remade as a mixed-use office park is another example of this kind of neoliberal partnership. When private interests control the ways in which our cities are built, and what kind of spaces we inhabit, the influence of those private investors then dominate those spaces, spaces that should instead reflect their communities. Private interests can then dominate who benefits from the places they make, who gets access to the city's built environment, and just as importantly, who does not.

In almost all of its messaging and corporate branding, Whole Foods stresses the importance of community and portrays its stores as catalysts for community building. As Christina Minardi, the Northeast Regional Manager for Whole Foods stresses, "It was our goal from the beginning to not only create a store that the Brooklyn community wanted to shop, but a place they felt best represented their borough, its rich history, and forward-thinking residents. We're excited to continue to support the growth of hundreds of producers and neighbors who, like us, call Brooklyn home" (Whole Foods, 2013). To them, "community" seems to mean uniting people over a shared shopping experience and cloaking what is essentially retail consumption in eco-trendy trappings and faux greening. In theory, they are transmuting the desire for this kind of consumption into a perceived need and then satisfying it. In reality, they are invading existing communities with unique characteristics, like the Gowanus, and failing to either redress existing problems or substantially improve them. The

investment that Whole Foods has undeniably made over the years, in the long process of delays and zoning waivers, building and state-supported environmental remediation, community opposition and some requisite corporate compromise, was self-serving and profit-driven. Few retail establishments would, in fact, be community-oriented, but in the case of the Gowanus Whole Foods, the dynamic with the residents of the neighborhood is even more troubling. Rather than serving their needs or creating a shopping experience that would be inclusive and egalitarian, these kind of aspirational, expensive so-called health-centric “food mirages” (Anguelovski, 2016) exacerbate wealth and racial disparities in the Gowanus. Community is not shaped by exclusive expensive grocery stores. In terms of what does shape a community, Brooklyn as a whole has endured waves of community tumult.

Etymologically, “Brooklyn” comes from the Dutch word *breuckelen* meaning “marshland.” It is hard to imagine a time when Brooklyn was anything but the over-built, concrete jungle we know today. Over the last hundred years, cycles of industrialization, transportation shifts from water to rail to highway, and economic peaks and valleys have shaped the once bucolic borough. From the colonizing Dutch to mid-twentieth-century Robert Moses to the real estate barons of today, Brooklyn has been irrevocably altered. The first nature was transformed, replaced with brownstones, highrises, factories, warehouses, subway tracks, roads, and the canals that were used for Brooklyn’s industrial revolution. The “marshland” theory has no connection to the second nature that exists in Brooklyn today.

There is another theory of the origins of the name *Brooklyn* that might be a more accurate descriptor for much of the borough now. Instead of “marshland,” some definitions of *breuckelen* translate to “broken land.” The promise of Brooklyn was that it existed as an accepting welcoming place for people from all walks of life and all parts of the world. Dinaw Mengestu, an Ethiopian-American author and current Brooklynite, writes optimistically about his experience in the borough, saying, “...Brooklyn is always reinventing itself, (so) that there is room for us all” (Mengestu, 218). This is maybe the rosy part of the picture, but there is a dark side, too. From the beginning, Brooklyn was shaped by outside forces to exclude. It started with the Dutch, killing, stealing, and driving out the Lenape Native Americans. It continued with the government’s redlining practices from the 1930s onward that relegated people of color and poor people to certain areas, creating long-lasting racial and economic disparities. It lives on today, in the form of state-sponsored gentrification and environmental inequality that is fostered in New York’s public-private development relationships and practices. The case of the Gowanus Canal reveals the connection of these practices to environmental and economic inequality, in the form of gentrification.

Gentrification and environmental inequality are increasingly linked. Gentrification is a worldwide phenomenon due to the public-private re-development partnerships between real-estate and commercial developers and city governments that has led to mass displacement and mass disenfranchisement of people from their homes and neighborhoods, based on race and class. As a result of gentrification, environmental injustice excludes

those who can't afford it from taking part or benefitting of environmental amenities that often accompany these new urban spaces. Green spaces created in these kinds of renovated urban areas are ostensibly public, but positioned to be accessible to the gentrifiers (residents of the highrises, for example, or shoppers at the high-end stores), rather than the community at large. Our socio-nature has shifted, becoming one that is reserved for the wealthy, while cutting off lower income people and people of color. The use of these amenities is also rigidly prescribed, to limit universal use and favor the newcomers, further maintaining the exclusivity of the space. This becomes a struggle over how land is owned and used, whether it favors private, corporate actors or long-time residents and community members in these gentrifying areas.

Geographic scale is also a factor in the hyper-gentrifying urban structure. A great deal of both gentrification and environmental inequality is coming from historic state-sponsored policies, like redlining, eviction, and disinvestment of poorer neighborhoods (Stein, 2019, 195). Larger governments, state and city, control what happens to smaller entities, like neighborhoods and communities who then, in turn, suffer from these on-high policies. The natural alternative or solution to this issue would be local, neighborhood-based planning where the citizens control and shape policies at a local level. However, as we know from Born and Purcell (2006, 195) and have seen through the work of Buddy Scotto in the Gowanus, local is not always the solution, either. Local government is not necessarily morally superior to larger governance. It can also be driven by profit. What is needed in order to move away from this cycle of private commercial

bodies owning and controlling public land is a new perception of planning that is not based on capital gain. Instead, it has to be based on principles that are environmentally sustainable and equitable. The Superfund designation should have brought some measure of environmental sustainability and equality to the Gowanus neighborhood. In theory, these principles are inherent in the goals of the program.

One of the stated objectives of the Superfund program is to “return Superfund sites to productive use...generally reuse falls into one of six categories: green space; commercial; residential; public service; industrial; military/federal use; and mixed use” (EPA, 2016). The Gowanus area has already been established as an area of commercial and residential reuse, in fact, increasingly so. As part of the mayor’s rezoning plan for the neighborhood, the de Blasio administration announced a construction goal of 8,200 new apartments units, with 3,000 being designated as affordable. While the need for affordable housing is crucial in New York City, building that housing on a Superfund site that is leaking toxins detrimental to human health is a continued form of race and class based environmental inequality. It seems that, given the opportunity for a equitable revitalization project on the canal as it is cleaned up, the mayor’s office is instead continuing the trends of injustice we have seen throughout the history of the Gowanus.

As an alternative to the city sponsored plans, Eric W. Sanderson (2009) advocates for a New York City that returns to a closer version of the marshland that the Dutch saw when they began colonizing the land and people. He believes

in a harmonious coexistence of city and nature, with public transportation and pedestrian traffic replacing cars, and green land taking over parking lots and skyscrapers. As the Whole Foods lot evidences, even when land is left alone for a few years as it was when Whole Foods was still fighting for permission to build, the earth begins to take over again, and we get a glimpse the islands that the Lenape called home (Kelly, 2012). Sanderson wants us to embrace the ecological past of New York City and to plan the city around an increased natural presence. His vision is one that allows for more environmental justice for all New Yorkers, not just the chosen few.

If I were to make further examinations into the relationship between environmental inequality and gentrification, I would follow Sanderson's proposal. I would want to look closely at alternative revitalization projects that could transition the Gowanus neighborhood into an environmental sustainable and just area. Another way to continue my research would be investigating more fair and equitable ways to re-develop sites like the Gowanus by creating natural solutions that would help deal with issues of flooding, severe storms, and climate change. After writing and researching my thesis, I am also curious about the ecology of the canal itself, and the changes in that regard that have occurred over time; how has the pollution affected non-human lives. If I had more time and resources, I would have liked to explore other aspects of pollution in the Gowanus, such as air pollution, water quality, or soil health. While I do generally cover Whole Foods sourcing for its local produce and commodities, I would be curious to investigate a more complete picture of the products the company sells; where they come

from and how they are shipped using what methods; and the economic, as well as environmental, cost involved. Tracing the overall environmental impact of the company would be a natural extension of my exploration of the Whole Foods' detrimental effect on the Gowanus. Additionally, I am interested in the strain Whole Foods puts on public resources like transportation and sanitation, and how that impacts already marginalized residents in the Gowanus.

But while all these areas are all worthy of further examination, I wrote *this* thesis because I wanted to understand one critical relationship: the one between the exclusive Whole Foods store and the tragically polluted Gowanus Canal, as a symbol of what generations of pro-business, pro-industry, environmental indifference looks like. I saw a contradiction in the revitalization of the Gowanus neighborhood to further narrow commercial interests and the continued degradation of the ecological health of the canal, which in turn endangers the larger ecological health of the area and its residents. After growing up near its banks, as putrid as they may have been, I felt like I owed an extended exploration to this beleaguered waterway. This was very much a personal project for me, which I think reveals the impact of the Gowanus Canal on its residents.

References

Albrecht, Leslie. "Whole Foods Got \$12.9M Tax Credit For Building in Polluted Gowanus: Data." *DNAINFO*, February 7, 2017. Last Accessed: 11 Mar. 2019, <https://www.dnainfo.com/new-york/20170207/gowanus/whole-foods-third-avenue-street-tax-breaks/>.

Alexiou, Joseph. *Gowanus: Brooklyn's Curious Canal*. New York University Press, 2015.

Anguelovski, Isabelle. "Healthy Food Stores, Greenlining and Food Gentrification: Contesting New Forms of Privilege, Displacement and Locally Unwanted Land Uses in Racially Mixed Neighborhoods." *International Journal of Urban and Regional Research*, John Wiley & Sons, Ltd (10.1111), 18 Jan. 2016.

Badger, Emily. "How Redlining's Racist Effects Lasted for Decades." *The New*

York Times, The New York Times, 24 Aug. 2017. Last Accessed: 8 Mar. 2019, <https://www.nytimes.com/2017/08/24/upshot/how-redlinings-racist-effects-lasting-for-decades.html>.

Bellafante, Ginia. "The Once and Future Gowanus." *The New York Times*, The New York Times, 23 Feb. 2014, Last Accessed: 30 Mar. 2019, <https://www.nytimes.com/2014/02/23/nyregion/the-once-and-future-gowanus.html>

Bellafante, Ginia. "Tracking the Hyper-Gentrification of New York, One Lost Knish Place at a Time." *The New York Times*, The New York Times, 27 Sept. 2017, Last Accessed: 5 April, 2019, <https://www.nytimes.com/2017/09/27/books/review/vanishing-new-york-jeremiah-moss.html>

Blomley, Nicholas. "Law, Property, and the Geography of Violence: The Frontier, the Survey, and the Grid." *Annals of the Association of American Geographers*, vol. 93, Mar. 2003, pp. 121-141.

Blomley, Nicholas. *Unsettling the City*. Routledge, 2004.

Born, Branden, and Mark Purcell. "Avoiding the Local Trap: Scale and Food Systems in Planning Research." *Journal of Planning Education and Research*, 2006, pp. 195-207.

"Brooklyn Atlas: No 63. Vol. 1, 1886." *Sanborn Map Company*, 1886. New York

Public Library Digital Collections, Last Accessed: 24 April, 2019,
<https://digitalcollections.nypl.org/items/7b035af8-6257-07e3-e040-e00a18064b5a>.

“Brooklyn Luxury Apartments for Rent | 365 Bond – Building.” *365 Bond*,
Lightstone Group. Last Accessed: 11 Mar. 2019, <http://365bond.com/>.

Brooklyn Public Library Clippings Files. Accessed on March 14, 2019.

“Brownfield Cleanup Program,” New York State Department of Environmental
Conservation, Last Accessed: February 1, 2019,
<https://www.dec.ny.gov/chemical/8450.html>.

Campbell, Scott. “Green Cities, Growing Cities, Just Cities?” *Journal of American
Planning Association*, vol. 62, no. 3, 1996, pp. 214–240.

“Coal Tar.” *National Cancer Institute*, National Institutes of Health, 28 Dec. 2018,
Last Accessed: 25 April, 2019,
[https://www.cancer.gov/about-cancer/causes-
prevention/risk/substances/coal-tar](https://www.cancer.gov/about-cancer/causes-prevention/risk/substances/coal-tar).

“Crime Stats Gowanus.” *NYPD CompStat Division*, New York Police Department,
2019, Last Accessed: 23 April, 2019,
[www1.nyc.gov/assets/nypd/downloads/pdf/crime_statistics/cs-en-us-
078pct.pdf](http://www1.nyc.gov/assets/nypd/downloads/pdf/crime_statistics/cs-en-us-078pct.pdf).

Cuba, Julianne. "Double Dipping: Feds Eye Land for Replacement Gowanus Pool That City Already Set aside for Housing." *Brooklyn Paper*, 3 July 2018. Last Accessed: 24 Mar. 2019, <https://www.brooklynpaper.com/stories/41/27/dtg-wyckoff-gardens-two-trees-verse-pool-2018-07-09-bk.html>.

Del Signore, John. "Whole Foods Gowanus Site No Longer Toxic, Construction Set to Begin," *Gothamist*, October 23, 2012. Last Accessed: 7 Mar. 2019, http://gothamist.com/2012/10/23/whole_foods_gowanus_site_no_longer.p hp.

Donnelly, Marlene. Personal correspondence, 15 Jan. 2019.

Durkin, Erin. "Whole Foods Gets City Nod to Build First Brooklyn Store on the Banks of the Gowanus Canal ." *Nydailynews.com*, 29 Feb. 2012, Last Accessed: 21 April, 2019, www.nydailynews.com/new-york/brooklyn/foods-city-nod-build-brooklyn-store-banks-gowanus-canal-article-1.1030115.

Farrell, Shanna. "The Gowanus Canal: Local Politics of 'Superfunding' Status." *The World in Brooklyn: Gentrification, Immigration, and Ethnic Politics in a Global City*, edited by Timothy Shortell and Judith N. DeSena, Lexington Books, 2014, pp. 185–209.

Garcia, Tonya. "Price of a Whole Foods Basket of Groceries Has Barely Budged

since Amazon Took Over.” *MarketWatch*, 17 Sept. 2018, Last Accessed: 26 April, 2019,
www.marketwatch.com/story/the-price-of-a-whole-foods-basket-has-barely-budged-since-amazon-acquisition-2018-09-13.

“GCCDC History.” *Gowanus Canal Community Development Corporation*, GCCDC, 2011. Last Accessed: 15 April, 2019,
http://gowanus.org/gccdc/?page_id=130.

Glass, Ruth. *London: Aspects of Change*. University College London, 1964.

Godlewski, Nina. “Amazon Working Conditions: Urinating in Trash Cans, Shamed to Work Injured, List of Employee Complaints.” *Newsweek*, 12 Sept. 2018, Last Accessed: 23 April, 2019.
www.newsweek.com/amazon-drivers-warehouse-conditions-workers-complaints-jeff-bezos-bernie-1118849.

“Gowanus.” *AIA Guide to New York City*, by Norval White et al., Oxford University Press, 2010, pp. 628–629.

“Gowanus Neighborhood Guide.” *Compass*, 2014. Last Accessed: 26 Mar. 2019,
<https://www.compass.com/neighborhood-guides/nyc/gowanus/>.

“Gowanus Canal Site Profile.” *EPA*, Environmental Protection Agency, 20 Oct. 2017, Last Accessed: 21 April, 2019,
cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.red

evelop&id=0206222.

“Gowanus Demographics and Statistics.” *Niche*, Last Accessed: 25 Mar. 2019,
www.niche.com/places-to-live/n/gowanus-new-york-city-ny/residents/.

“Gowanus Kids Neighborhood Guide.” *Mommy Poppins - Things To Do with Kids*, 2 Feb. 2016, Last Accessed: 15 Mar. 2019,
<https://mommypoppins.com/family-neighborhood-guide/gowanus-kids-neighborhood-guide>.

“Gowanus Neighborhood Planning Study.” *Gowanus Framework - DCP*, NYC Department of Planning.

Greene, L.T. “NYCHA Residents Claim They Are Being Left Out of Gowanus Rezoning Plan.” *Kings County Politics*, 13 Feb. 2019, Last Accessed: 23 April, 2019, www.kingscountypolitics.com/nycha-residents-claim-they-are-being-left-out-of-gowanus-rezoning-plan/.

Greenspan, Elizabeth. “A Whole Foods Grows in Brooklyn.” *The New Yorker*, The New Yorker, 19 June 2017, Last Access: 3 April, 2019.
www.newyorker.com/business/currency/a-whole-foods-grows-in-brooklyn.

Hart, Stuart L. “Beyond Greening: Strategies for a Sustainable World.” *Harvard Business Review*, 1996, pp. 66-76.

“A History of Pollution in the Gowanus Canal.” *The New York Times*, The New York Times, 26 Sept. 2013, Last Accessed: 16 April, 2019,

archive.nytimes.com/www.nytimes.com/interactive/2013/09/26/nyregion/gowanus-pollution-map.html.

Helmreich, William. *The New York Nobody Knows: Walking 6,000 Miles in the City*. Princeton University Press, 2015.

Holt, Dennis. "It's Not Carroll Gardens, Park Slope or Boerum Hill-It's Gowanus." *Brooklyn Daily Eagle*, 3 Apr. 2003.

Hubert, Craig. "Why Did the EPA's Gowanus Canal Pilot Dredging Program Damage a Building?" *Brownstoner*, 29 Jan. 2018, Last Accessed: 3 April, 2019, www.brownstoner.com/development/gowanus-canal-cleanup-epa-whole-foods-pilot-dredging-pilot/.

Hymowitz, Kay S. *New Brooklyn: What It Takes to Bring a City Back*. Rowman & Littlefield, 2018.

Kadinsky, Sergey. *Hidden Waters of New York City: A History and Guide to 101 Forgotten Lakes, Ponds, Creeks, and Streams in the Five Boroughs*. Countryman Press, 2016.

Kamin, Jennie. "A Murky Future for Gowanus' Beloved Double-D Pool." *The Brooklyn Ink*, 19 Oct. 2016, Last Accessed: 17 Mar. 2019, <http://brooklynink.org/2016/10/19/55375-a-murky-future-for-gowanus-beloved-double-d-pool/>.

Kelly, Katia, "At Yesterday's BSA Hearing on Gowanus Whole Foods Variance."

Pardon Me For Asking, Blogspot, 14 Dec. 2011, Last Accessed: 24 April, 2019, <https://pardonmeforasking.blogspot.com/2011/12/at-yesterdays-bsa-hearing-on-gowanus.html>.

Kelly, Katia. "BSA Delays Decision On Gowanus Whole Foods Market Till

February." *Pardon Me For Asking*, Blogspot, 24 Jan. 2012, Last Accessed: 24 April, 2019, <https://pardonmeforasking.blogspot.com/2012/01/bsa-delays-decision-on-gowanus-whole.html>.

Kelly, Katia. "Whole F(l)oods: Site of Future Gowanus Organic Supermarket

Submerged During Hurricane Sandy." *Pardon Me For Asking*, Blogspot, 6 Dec. 2012, Last Accessed: 20 April, 2019, pardonmeforasking.blogspot.com/2012/12/whole-floods-supermarkets-gowanus-site.html.

Kelly, Katia. "Is Whole Foods' Gowanus Store Really That Green?" *Pardon Me*

For Asking, Blogspot, 9 Dec. 2013, Last Accessed: 24 April, 2019, <https://pardonmeforasking.blogspot.com/2013/12/is-whole-foods-gowanus-store-really.html>.

Kerr, Sara, and Annie Nova. "Under Trump, the Great Gowanus Canal

Superfund Cleanup Gets More Uncertain." *WNYC*, 22 Feb. 2018, Last Accessed: 21 April, 2019, www.wnyc.org/story/under-trump-great-gowanus-canal-superfund-cleanup-gets-more-uncertain/.

Kully, Sadeef Ali. "City Projects Gowanus Rezoning Will Lead to 8,200 New Apartments." *City Limits*, 27 Mar. 2019, Last Accessed: 21 April, 2019, citylimits.org/2019/03/27/city-projects-gowanus-rezoning-will-lead-to-8200-new-apartments/.

Kuntzman, Gersh, and Tom Callan. "Builders Crushed by Closure of the 'Red Hook Crushers'." *Brooklyn Paper*, Mar. 2006. Last Accessed: 3 April, 2019, www.brooklynpaper.com/stories/29/12/29_12bklynangle.html.

Lethem, Jonathan. "Ruckus Flatbush." *Brooklyn Was Mine*, by Chris Knutsen and Valerie Steiker, Riverhead Books, 2008, pp. 73–81.

"LEED Green Building Certification." *USGBC*, LEED, Last Accessed: 10 April, 2019, new.usgbc.org/leed.

LeVay, Gina and Tony Perrottet. "How New York City Is Rediscovering Its Maritime Spirit." *Smithsonian.com*, Smithsonian Institution, 1 May 2017, Last Accessed: 31 March, 2019, www.smithsonianmag.com/travel/new-york-rediscovering-maritime-spirit-180962769/.

Lewine, Edward. "The Gowanus Canal: An Appreciation." *The New York Times*, The New York Times, 30 Aug. 1998, Last Accessed: 31 Mar. 2019, <https://www.nytimes.com/1998/08/30/nyregion/the-gowanus-canal-an-appreciation.html>.

Livingston, E.A. *Brooklyn and the Civil War*. The History Press, 2012.

- Lopate, Phillip. "Introduction." *Brooklyn Was Mine*, by Chris Knutsen and Valerie Steiker, Riverhead Books, 2008, pp. 1-10.
- Marx, Willem. "Gowanus - Brooklyn's New Hotspot." *Traveller*, CN Traveller, 2016, Last Accessed: 27 Mar. 2019, <https://www.cntraveller.com/gallery/gowanus-brooklyn-new-york>.
- McCann, Eugene J. "Framing Space and Time in the City: Urban Policy and the Politics of Spatial and Temporal Scale." *Journal of Urban Affairs*, Apr. 2003.
- Mengestu, Dinaw. "Home At Last." *Brooklyn Was Mine*, by Chris Knutsen and Valerie Steiker, Riverhead Books, 2008, pp. 211.
- Miller, Byron. "Political Action and the Geography of Defense Investment: Geographical Scale and the Representation of the Massachusetts Miracle." *Political Geography*, vol. 16, no. 2, 1997, pp. 171–185.
- Miller, Jessica T. "Is Urban Greening for Everyone? Social Inclusion and Exclusion along the Gowanus Canal." *Urban Forestry & Urban Greening*, Urban & Fischer, 19 Mar. 2016
- Moskowitz, Peter. *How to Kill a City: Gentrification, Inequality, and the Fight for the Neighborhood*. Nation Books, 2018.
- Moss, Jeremiah. *Vanishing New York: How a Great City Lost Its Soul*. Dey Street

Books, 2018.

Nazaryan, Alexander. "Gowanus Canal: Cesspool of Dreams." *Newsweek*, 4 May 2016, Last Accessed: 11 Mar. 2019,
<https://www.newsweek.com/2015/12/11/gowanus-canal-cesspool-dreams-398999.html>.

Newman, Andy. "The Hard Decision Not to Rescue an Ailing Dolphin." *The New York Times*, The New York Times. January, 26, 2013, Last Accessed: 2 Mar. 2019,
<https://cityroom.blogs.nytimes.com/2013/01/26/the-hard-decision-not-to-rescue-an-ailing-dolphin/?mtrref=www.google.com&gwh=57F83AD1D87A20739BC715B14FBEBAEF&gwt=pay>

"New York City Industrial Business Zones." *NYCEDC*, New York City Economic Development Corporation, 2 Nov. 2014, Last Accessed: 18 Mar. 2019,
<https://www.nycedc.com/industry/industrial/nyc-industrial-business-zones>.

"On Food Privilege: When Is Good Nutrition Code for Entrenched Social Status?" *Everyday Democracy*, 20 Nov. 2017, Last Accessed: 20 April, 2019,
www.everyday-democracy.org/news/food-privilege-when-good-nutrition-code-entrenched-social-status.

"Overview of EPA's Brownfields Program," United States Environmental

Protection Agency, November 6, 2018, Last Accessed: 18 Mar. 2019,
<https://www.epa.gov/brownfields/overview-epas-brownfields-program>.

Padwee, Michael. "Béton-Coignet in New York: The New York and Long Island Coignet Stone Company." *Architectural Tiles, Glass and Ornamentation in New York*, Blogspot, 2014, Last Accessed: 4 April, 2019,
<https://tilesinnewyork.blogspot.com/2014/03/beton-coignet-in-new-york-new-york-and.html>.

"Park Slope and Gowanus - DNAINFO.COM Crime and Safety Report."
DNAINFO.COM, 2011, Last Accessed: 24 April, 2019,
www.dnainfo.com/crime-safety-report/brooklyn/park-slope/.

Pearsall, Hamil, and Joseph Pierce. "Urban Sustainability and Environmental Justice: Evaluating the Linkages in Public Planning/Policy Discourse." *Local Environment*, vol. 15, no. 6, 2010, pp. 569–580.

Pearsall, Hamil. "From Brown to Green? Assessing Social Vulnerability to Environmental Gentrification in New York City." *Environmental and Planning C: Government and Policy*, vol. 28, 2010, pp. 872-886.

Peterson, Hayley. "Here's Exactly How Much More You're Paying to Shop at Whole Foods." *Business Insider*, Business Insider, 16 June 2016, Last Accessed: 20 April, 2019,
www.businessinsider.com/how-much-more-expensive-is-whole-foods-2016-6.

Piccoli, Sean. "New Brooklyn Whole Foods Is Eco-Friendly Heaven." *New York Post*, New York Post, 16 Dec. 2013, Last Accessed: 23 April, 2019, nypost.com/2013/12/16/new-brooklyn-whole-foods-is-eco-friendly-heaven/.

"Plan of the Town of Brooklyn and Part of Long Island-1767." *NYPL Digital Collections*, 2015, Last Accessed: 24 April, 2019, <https://digitalcollections.nypl.org/items/871fda48-ba46-c1d9-e040-e00a18064c0a>.

Plitt, Amy. "The Curbed Cup Neighborhood of the Year Is Gowanus!" *Curbed NY*, Curbed NY, 4 Jan. 2016, Last Accessed: 15 Mar. 2019, <https://ny.curbed.com/2016/1/4/10850064/the-curbed-cup-neighborhood-of-the-year-is-gowanus>.

Plunz, Richard, and Patricia J. Culligan. *Eco-Gowanus: Urban Remediation by Design*. Columbia University Urban Design Program, 2007.

Postal, Matthew A. "New York and Long Island Coignet Stone Company Building." *NYC Landmarks Preservation Commission*, 2006, Last Accessed: 16 April, 2019, <http://s-media.nyc.gov/agencies/lpc/lp/2202.pdf>.

Pulido, Laura. "Rethinking Environmental Racism: White Privilege and Urban Development in Southern California." *Annals of the Association of American Geographers*, vol. 90, 2000, pp. 12-40.

“Real Estate Data for Gowanus.” *Trulia*, 2019, Last Accessed: 31 Mar. 2019, https://www.trulia.com/real_estate/Gowanus-New_York/5120/market-trends/.

“Report Analyzes New York City's Gentrifying Neighborhoods and Finds Dramatic

Demographic Shifts.” *NYU Furman Center*, May 2016, Last Accessed: 16 Mar. 2019, <https://furmancenter.org/thestoop/entry/new-report-analyzes-new-york-citys-gentrifying-neighborhoods-and-finds-dram>.

Robbins, Liz. “Whole Foods Faces Decisive Vote in Brooklyn.” *The New York Times*, The New York Times, 27 Feb. 2012, Last Accessed: 23 April, 2019, www.nytimes.com/2012/02/28/nyregion/whole-foods-faces-decisive-vote-in-brooklyn.html?mtrref=www.google.com.

Sanderson, Eric W., et al. *Mannahatta: A Natural History of New York City*. Abrams, 2013.

Sandler, Ronald L., and Phaedra C. Pezzullo. *Environmental Justice and Environmentalism*. MIT Press, 2007.

Santora, Mike. “Curiosity, Then Concern for a Dolphin in Difficulty.” *The New York Times*, The New York Times. January, 25, 2013, Last Accessed: 19 Mar. 2019, <https://www.nytimes.com/2013/01/26/nyregion/dolphin-in-gowanus-canal.html>,

Schulman, Sarah. *The Gentrification of the Mind: Witness to a Lost Imagination*. California University Press, 2013.

Shield, S. "Whole Foods Brownfield." *Brooklyn Ramblings*, 6 June 2006, Last Accessed: 14 April, 2019, brooklynramblings.blogspot.com/2006/06/whole-foods-brownfield.html.

Small, Andrew. "New York City's Modern Transformation (Now With Maps)." *CityLab*, 9 May 2017, Last Accessed: 22 April, 2019, <https://www.citylab.com/life/2017/05/mapping-the-transformation-of-new-york-city/525330/>.

Smith, Neil. *Uneven Development: Nature, Capital, and the Production of Space*. Basil Blackwell, 1984.

Slater, Tom. "Gentrification of the City." *The New Blackwell Companion to the City*, by Gary Bridge and Sophie Watson. Blackwell, 2011.

Stein, Samuel. *Capital City: Gentrification and the Real Estate State*. Verso, 2019.

Stiles, Henry R., *History of the City of Brooklyn*, Brooklyn, 1867.

"Superfund Redevelopment Initiative Reuse Definitions." *EPA*, Environmental Protection Agency, 12 Dec. 2016, Last Accessed: 25 April, 2019, www.epa.gov/superfund-redevelopment-initiative/superfund-

redevelopment-initiative-reuse-definitions.

Swyngedouw, Erik. "The City as a Hybrid: On Nature, Society and Cyborg Urbanization." *Capitalism Nature Socialism*, vol. 7, no. 2, 1996, pp. 65–80.

"Third and 3rd (Brooklyn)." *Whole Foods Market*, 3 Jan. 2019, Last Accessed: 18 Mar. 2019. <https://www.wholefoodsmarket.com/stores/thirdand3rd>.

Van Riper, Frank. "FORD TO CITY: DROP DEAD." *New York Daily News*, 29 Oct. 1975.

Walker, Ameena. "Gowanus Canal Is Partially Clean for the First Time in 150 Years." *Curbed NY*, Curbed NY, 29 Nov. 2018, Last Accessed: 18 Mar. 2019, <https://ny.curbed.com/2018/11/29/18117708/gowanus-canal-cleanup-pilot-program-update>.

WholeFoodsMarket. "Brooklyn, NYC Store | Sustainably Built | Whole Foods Market." *YouTube*, YouTube, 16 Dec. 2013, Last Accessed: 2 April, 2019, <https://www.youtube.com/watch?v=yaBhyjuZXyo>.

WholeFoodsMarket. "Brooklyn, NYC | Store Openings." *YouTube*, YouTube, 24 Dec. 2013. Last Accessed: 2 April, 2019, <https://www.youtube.com/watch?v=6vbaE960Uh0>.

"A Whole Foods Market Grows in Brooklyn." *Whole Foods Market*, 17 Dec. 2013, Last accessed 24 April, 2019, media.wholefoodsmarket.com/news/a-

whole-foods-market-grows-in-brooklyn.

“Whole Foods Market History.” *Whole Foods Market*, 13 Oct. 2017, Last Accessed: 3 April, 2019, <https://www.wholefoodsmarket.com/company-info/whole-foods-market-history>.

Witty, Joanne, and Henrik Krogius. *Brooklyn Bridge Park: A Dying Waterfront Transformed*. Empire State Editions, 2016.

Wolch, Jennifer R., et al. “Urban Green Space, Public Health, and Environmental Justice: The Challenge of Making Cities ‘Just Green Enough.’” *Landscape and Urban Planning*, vol. 125, 2014, pp. 234–244.

Zillow, Inc. “New York NY Home Prices & Home Values.” *Zillow*, Zillon, Inc., 2019, Last Accessed: 19 Mar. 2019, <https://www.zillow.com/new-york-ny/home-values/>.

Zinnel, Catherine, Personal correspondence, 11 Jan. 2019.

Appendix: Maps⁵

⁵ Figures 1-3 were mapped using NAD83 New York Central in ArcMap.

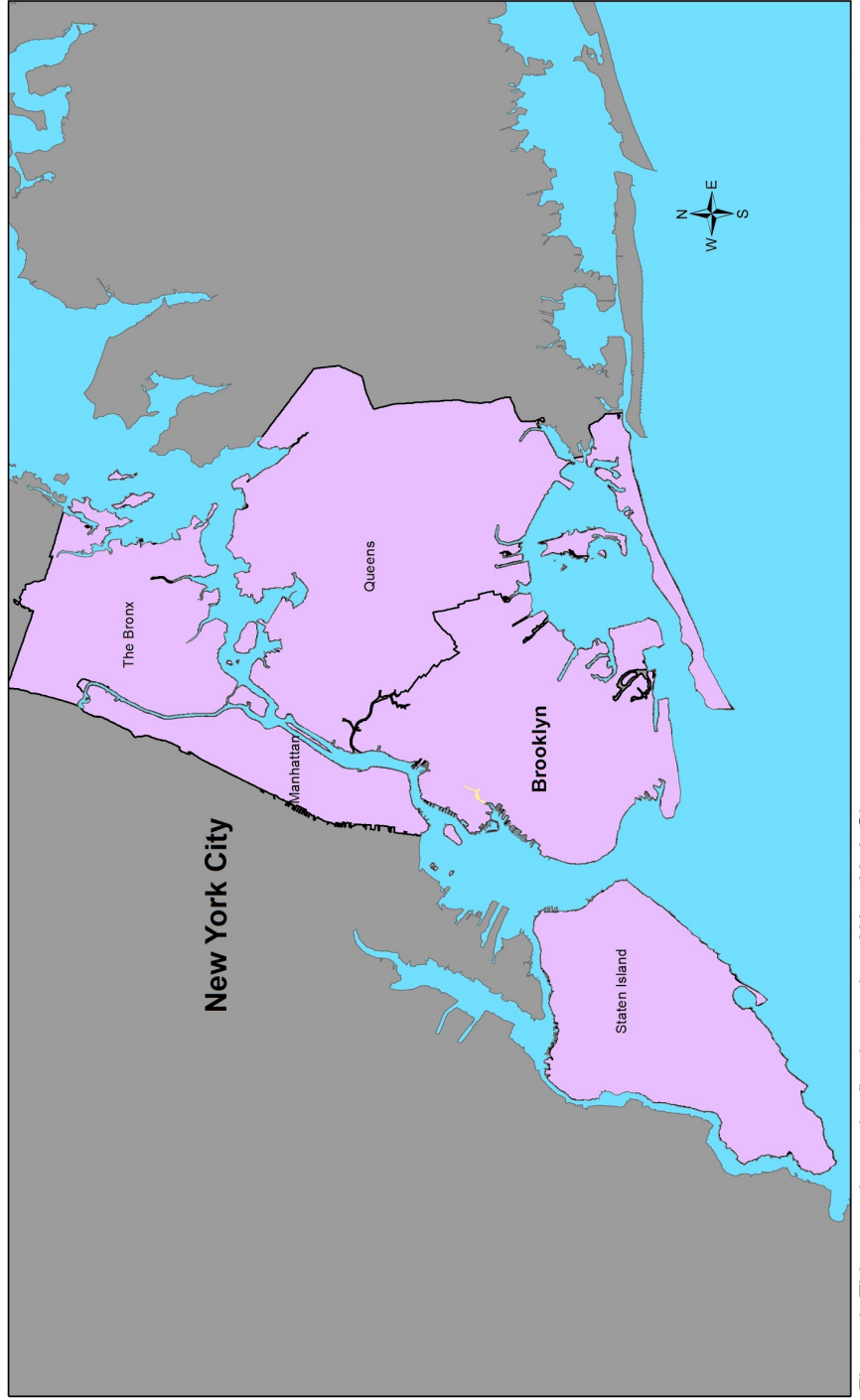
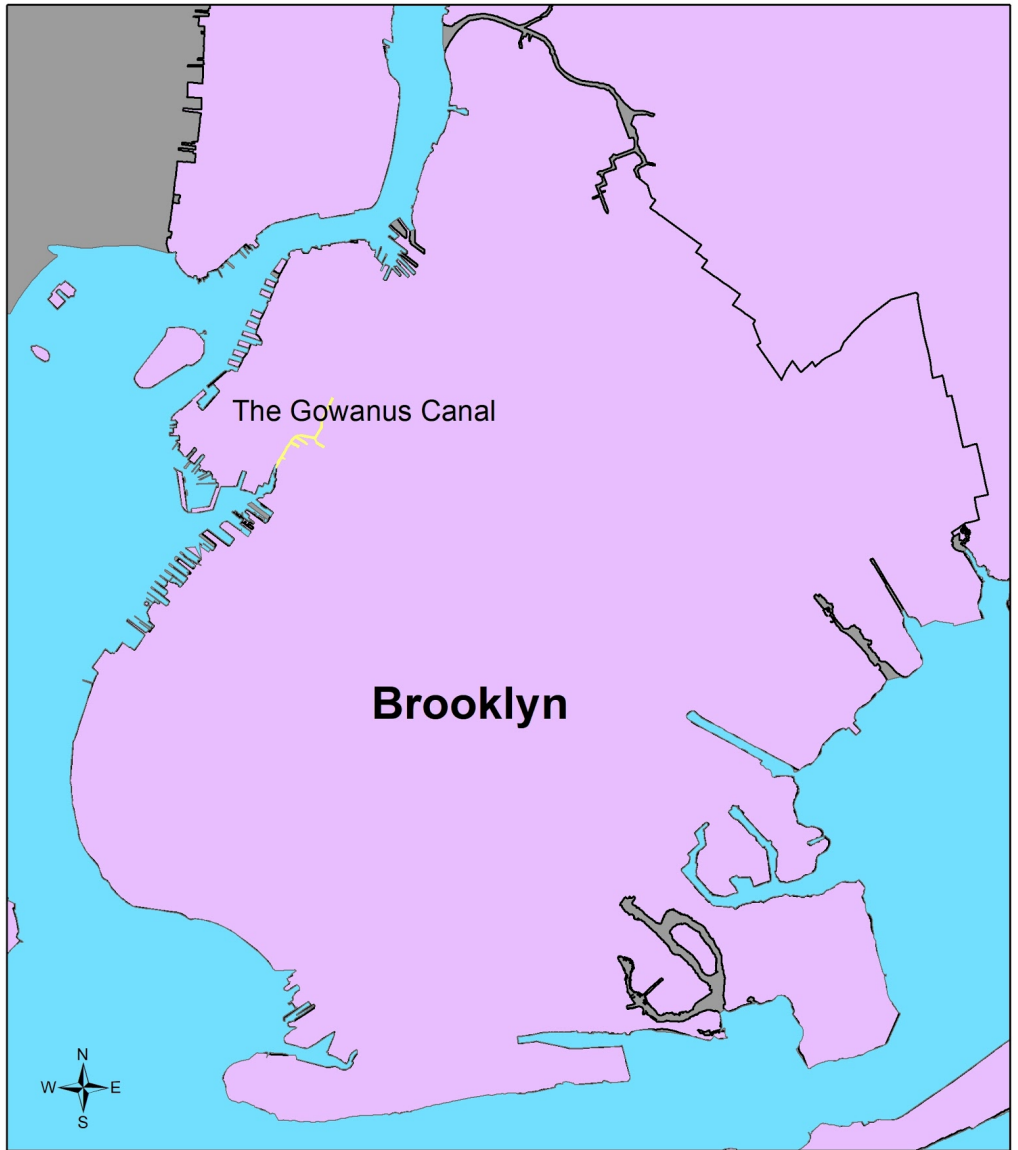


Figure 1. This map shows the five boroughs of New York City.

2.5 1.25 0 2.5 Miles
Sources: NYC Open Data, ECSI



Sources: NYC Open Data, ECSI

Figure 2. This map highlights the borough of Brooklyn. The Gowanus Canal is yellow and labeled.

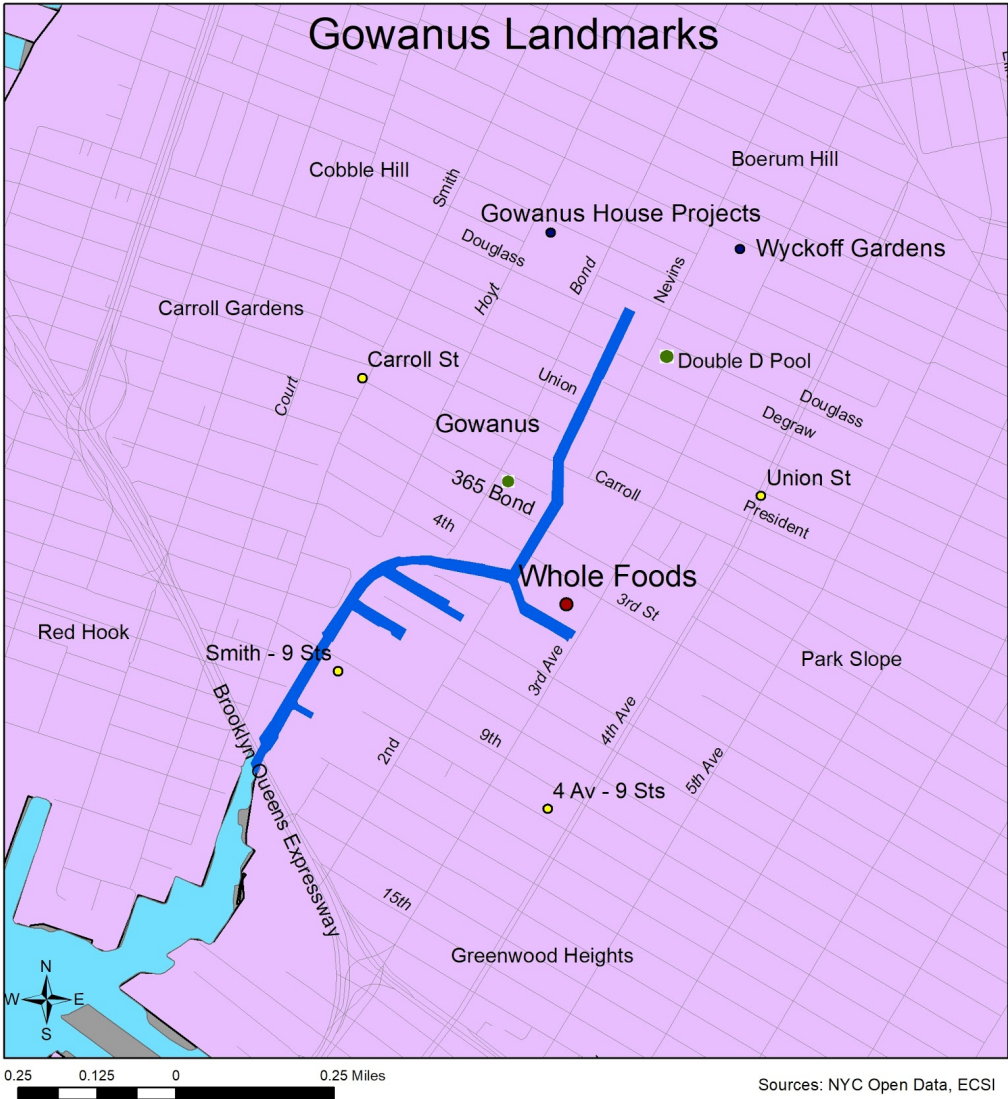


Figure 3. This map shows important landmarks surrounding the Gowanus Canal. The yellow dots represent the subway stops that service the neighborhood.

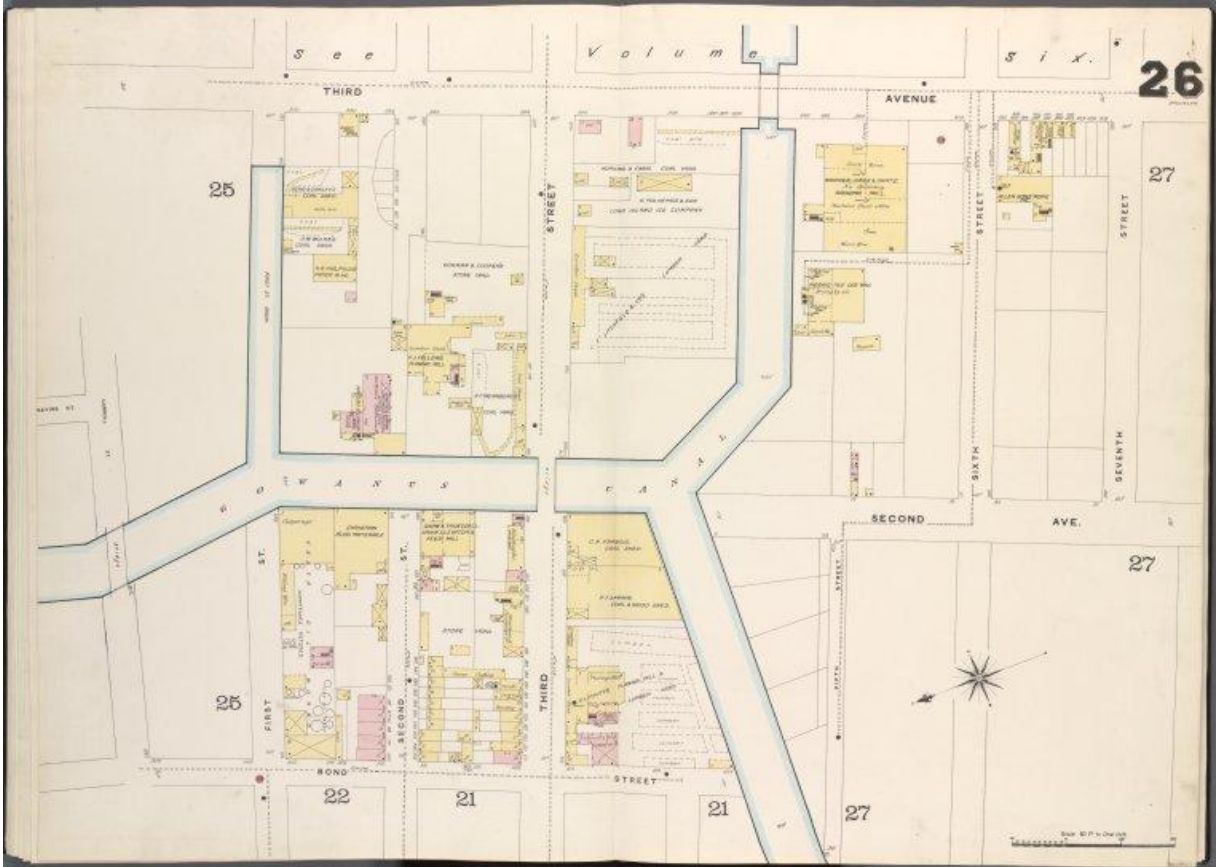


Figure 4. This a Sanborn Insurance Map from an 1886 atlas of Brooklyn, showing the property owners on the Fourth Street Basin and the surrounding blocks. It includes Edwin C. Litchfield's properties on the canal.

Source: "Brooklyn Atlas: No 63. Vol. 1, 1886." *Sanborn Map Company*, 1886. New York Public Library Digital Collections, Last Accessed: 24 April, 2019, <https://digitalcollections.nypl.org/items/7b035af8-6257-07e3-e040-e00a18064b5a>.

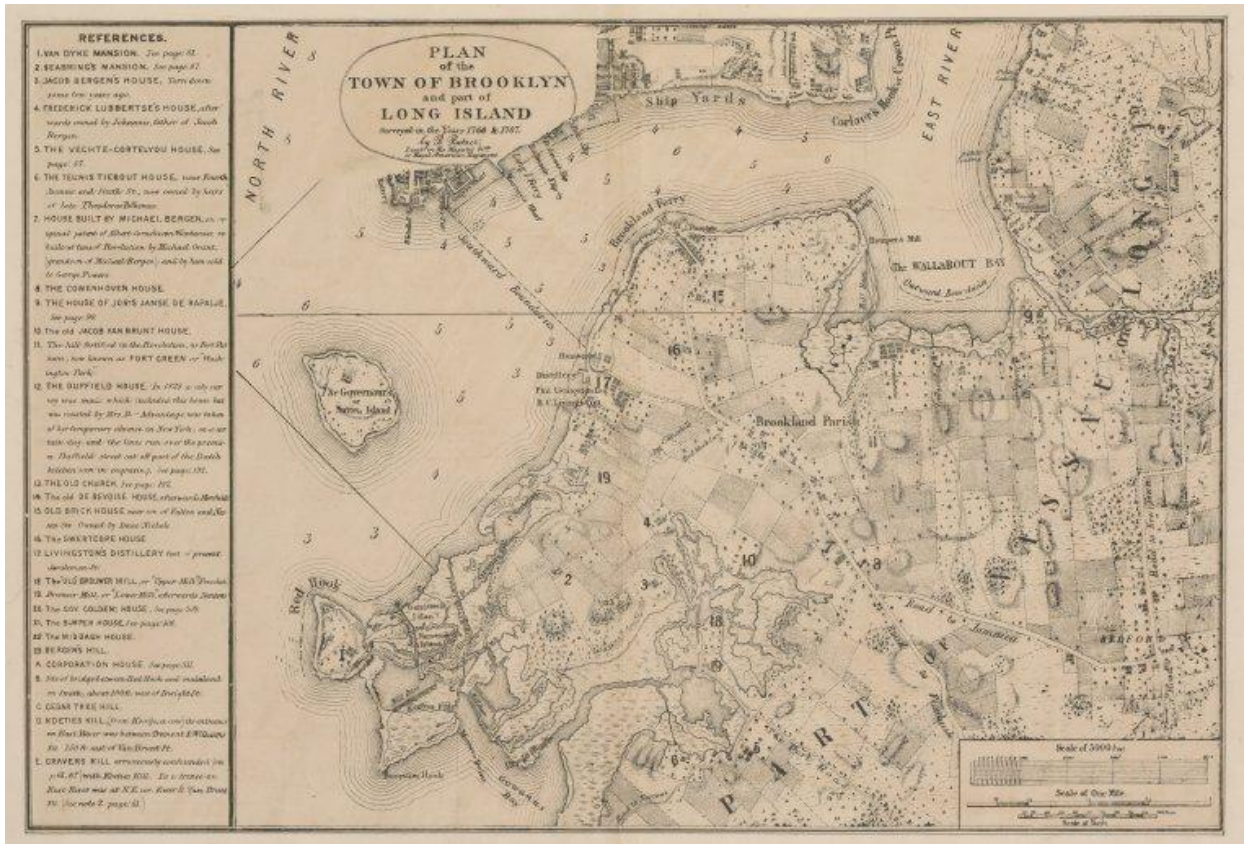


Figure 5. The map above, from 1767, shows the Gowanus Creek and some early Dutch settlements in Brooklyn, before industrialization.

Source: "Plan of the Town of Brooklyn and Part of Long Island-1767." *NYPL Digital Collections*, 2015, Last Accessed: 24 April, 2019, <https://digitalcollections.nypl.org/items/871fda48-ba46-c1d9-e040-e00a18064c0a>.