

Making the Minnehaha

The Reengineering of a Creek and the Creation of an Envirotechnical
System

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by

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Table of Contents

List of Figures.....	iv
Introduction: The Creek in Context.....	1
Chapter 1: Envirotech, Rivers, and Minnesota History.....	9
Chapter 2: From <i>Wakpa Cistinna</i> to the Minnehaha.....	39
Chapter 3: The Minnehaha Creek and the Minneapolis Park Board.....	62
Conclusion: Natural Mythology and the Environments of Tomorrow.....	96
Bibliography.....	102

List of Figures

Figure 1: “Part of a Map of Canada and the Northern Part of Louisiana” (1762).....	39
Figure 2: “Hydrogeographical Basin of the Mississippi River” (1843).....	43
Figure 3: “Twin City Map” (1891)	48
Figure 4: "Map of Minneapolis accompanying Hudson's dictionary of Minneapolis" (1900)	50
Figure 5: “Boy with His Dog, Spearfishing Carp at Minnehaha Creek” (1940).....	56
Figure 6: "Screen Across Gray's Bay to Sein Some of the Carp Out of Lake Minnetonka" (1945).....	58
Figure 7: Seal of the Board of Park Commissioners (1894)	69
Figure 8: List of Animals at Minnehaha Zoo (1894)	71
Figure 9: Google Map View of Lake Harriet and Minnehaha Creek Intersection (2019).....	74
Figure 10: Lake Harriet and Minnehaha Creek Intersection (1873).....	74
Figure 11: “Water Released from Longfellow Lakelet” (1927).....	85
Figure 12: “Full Flow Released” (1927).....	86
Figure 13: Borling Plan of (1930).....	88

Introduction: The Creek in Context

I met the Minnehaha Creek for the first time when I was around seven years old. Traveling from my home in Highland Park St. Paul across the Mississippi into Minneapolis, the Minnehaha Falls was the first waterfall I had ever seen. However, I didn't really come to form a relationship with the body of water until I moved to Minneapolis at the age of eleven. During my adolescence in Southwest Minneapolis, the Creek, as it is commonly referred, became a perennial home of adventure and escape. In an urban environment dominated by black top, residential houses, and cars, the Creek was the closest thing my friends and I had to nature. At least nature as I thought of it then. Sure, there were parks, even lakes, but the Creek seemed to offer what many of those other spaces often didn't—solace that comes from finding a space free from society. The Creek is of course not removed from society. But as an adolescent striving to find independence, autonomy, and freedom, such technicalities were irrelevant.

The Creek for my friends and I was not just a place of escape. It was also the place where many of us found our first threads of an environmental consciousness. In spring the water in the Minnehaha Creek was high enough to make one feel like it was more than some insignificant stream, but almost a small river. However, by midsummer you were as likely to see a dried-out riverbed as you were actual water. As we discovered, twenty-two miles upstream at its headwaters at Lake Minnetonka's Gray's Bay, the Minnehaha Creek was dammed. From our perspective, Gray's Bay Dam was an injustice. Why did Minnetonkans did deserve a water abundance and us their leftover puddles? What gave them the power over our Creek?

In this history, I attempt to answer the questions that my friends and I posed now over decade ago, to recover the life of a river and the meanings people have given it over time and show how it has changed over time. Rivers, despite being inanimate, have lives of their own. Like the living world, rivers and their smaller associates, streams, brooks, and creeks, are born and eventually die. For most of our planet's history, they have been born of geological and climatological events occurring over thousands, if not millions of years and occasionally in the span of hours or days and have died from the very same forces. In between this continuum of life and death, like the humans that now gather along their shores and navigate their channels, rivers change over time, presenting new iterations of themselves as climatological, geological, and biological forces, such as flooding, erosion, and natural selection, renegotiate their meanders, flows, and biological communities. For the Minnehaha Creek, its life began at the end of the last ice over 10,000 years before present with the retreat of the Wisconsin glacier. From the glacial retreat spawned the abundance of waterways and lakes that now dot and line the Minnesota Landscape, including Lake Minnetonka and the Creek.

The above picture of the life story of rivers, including Minnehaha's, however, has been confronted by the age of human environmental dominance. The first artifacts of human water management date around 11,000 years before present with the first construction of wells on the island of Cyprus. One-thousand years later, the first dam appeared in the Jafr Basin of Jordan. During the three and a half thousand years after the construction of the Jafr Basin dam, water management technologies became dominant features of the fledgling civilizations emerging across the globe. Through technologies and

techniques such as irrigation, wells, canals, cisterns, and dams, humans developed the ability to form larger and more sedentary communities. This several thousand-year period in human history is what prehistorian Steven Mithen has called the “Water Revolution.” In the context of rivers, this wave of novel interactions between humans and the hydrosphere—the collective whole of water on earth—engendered an era where the lives and deaths of rivers and streams could no longer just be described by catastrophic events like floods or steady processes like erosion. Rather, the hydrosphere started becoming anthropogenic.¹

While major hydraulic engineering projects date as far back to the ancient Egyptian and Sumerian civilizations 7,000 years before present, the Industrial Revolution and the advances in mathematics, science, and medicine brought by the Scientific Revolution and the Enlightenment enabled a whole new realm of interventions into the water cycle. Massive sewer systems spanning hundreds of miles such as that exists under New York City, gigantic dams composed of millions of tons of concrete such as the Hoover Dam, and irrigation networks pumping millions of gallons of water from underground aquifers as exists over the Ogallala aquifer in the United States, interact with water on scales unimaginable to our ancient ancestors. In addition to the intellectual and technological advances of the industrial and scientific revolutions, these new scales of interaction with water were also part of a massive increase in global population and access to new sources of energy—fossil fuels. Combined with direct interactions with water through

¹ Steven Mithen, *Thirst: Water and Power in the Ancient World*, Cambridge (Harvard University Press, 2012), 15, 31-32. On page 15, “the Water Revolution” as the “third revolution.” Pages 31-32 for the Jafr Basin dam.

consumption, engineering, and technology, the era of fossil fuels has made human interaction with the hydrosphere a global affair. In consequence of human-caused climate change redefining global weather and temperature norms, the entirety of the hydrosphere is now impacted and being shaped by humans. From its humble origins in the Jafr Basin, human water management and interaction has made the entire hydrosphere a cultural artifact of humanity.²

The history of the Minnehaha Creek in Minneapolis, Minnesota and its western suburbs is a small story in the long narrative of human-environment interaction and the transformation of the hydrosphere. While the Minnehaha Creek may only be a 22-mile-long stream traversing a relatively small metropolitan area, I frame this seemingly hyperlocal history within a larger story because I believe if we are to develop cogent policies about how we as humans want to structure our relations to water and the environment more generally, then we best start making the necessary connections between the macroscopic and the microscopic. The word hydrosphere, the term coined to refer to the collective body of water on earth, acknowledges that all water on earth is connected through the various processes of the water cycle. Thus, at a fundamental level, the idea that small bodies of water are connected to a larger narrative is a given. However, I argue that the same can be said for the relationships we form with bodies of water and the cultural meanings we assign them and develop with them.³

² David L. Sedlak, *Water 4.0: The Past, Present, and Future of the World's Most Vital Resource*, New Haven: (Yale University Press, 2014).

³ For a discussion of the water cycle and the hydrosphere see Daniel Vallero, “The Water Molecule” in *Fundamentals of Air Pollution*, (Elsevier, 2007), 491.

In this history Minnehaha Creek I tell a story of how humans, and more specifically Euro-Americans, interjected themselves into the life of a river by utilizing technology and engineering. In the process of imposing their values, beliefs, and society into the 22-mile-long waterway connecting Lake Minnetonka to the Mississippi River, Minnesotans created the Minnehaha Creek. The result of this transformation is that the river that would become the Minnehaha Creek turned into an envirotechnical system. That is, a system where technology, culture, and nature are so tightly bound that it no longer can be described by one of these constituents alone, necessitating taking them on as a whole.⁴

I argue that the recreation of the Minnehaha Creek as an envirotechnical system first came about in the post Traverse des Sioux era of Minnesota in the mid 19th century when farmers and millwrights began settling the Creek and embedding their technologies—dams, waterwheels, and mill ponds—within the Creek. Displacing Mdewakanton Dakota who referred to the Creek as *Wakpa Cistinna* (little river), the Euro-American settler-colonists were not the first ones to introduce technologies to the Creek. However, the technologies of the Mdewakanton, such as canoes, spears, and fishing nets, were not hydrologically shaping in the case of the Creek like the technologies and engineering practices of the settler colonists. In 1897, after Hennepin County installed the first Gray's Bay Dam and the Minnehaha milling industry was all but gone, a new era of this envirotechnical system was brought into existence. By imposing a rigid barrier between a river and its headwaters, Gray's Bay Dam changed the hydrology and ecology

⁴ Sara Pritchard, *Confluence: The Nature of Technology and the Remaking of the Rhone*. Cambridge: (Harvard University Press, 2011), 11. For a more elaborate discussion of envirotech, see Chapter 1, "Envirotech, Rivers, and Minnesota History: A Historiographical and Theoretical Foundation."

of the Minnehaha Creek and established the values and desires of the Lake Minnetonka Community as paramount in shaping the flow of water.

The other aspect of this history is that of the Board of Park Commissioners of the City of Minneapolis. In 1889 the Board received ownership over a section of the Minnehaha Creek around the Minnehaha Falls and its mouth at the Mississippi River. In the forty years after their purchase the Board would expand its control over almost half of the Minnehaha Creek, becoming the single largest owner of property along the waterway. Part of the story of the Board and the Minnehaha Creek is the struggle to reshape the Creek into their vision of a proper park system and as an extension of what they perceived a proper society to be. To accomplish this, Park Board commissioners and superintendents utilized engineering and technology to reshape land and water.

At the same time, the story of the Minnehaha Creek and the Park Board is one where humans continuously struggled to come to terms with nature and technology. Beginning in 1892, commissioners first started worrying about ensuring a continuous flow of water over the Minnehaha Falls. After the installation of Gray's Bay Dam in 1897, however, the Board would begin a more than sixty-year period of struggling to find a technological solution to the problems imposed by the dam installation. In a series of studies and interventions, commissioners and superintendents proposed using and, in some cases, utilized pipes, pumps, wells, dams, dredging, and reservoirs for providing a flow over the Minnehaha Falls. Despite their efforts and desires, the Board in the seven decades covered in this history was never able to find a solution to the problem of waterflow.

In conclusion, I discuss the creation and problems of a naturalized mythology of the Minnehaha Creek. For a sense of what I mean by natural mythology, in a 2003 publication of the National Park Service and the US Army Core of Engineers titled “River of History: A Historic Resources Study of the Mississippi National River and Recreation Area,” the author John Anfinson claimed that the “Minnehaha Falls offers an observer an opportunity to view a waterfall in its natural state.” Natural in the sense that Anfinson intends is, however, not a precise way of describing the Minnehaha Falls. If natural means untouched by humans, or in a state of nature which is true to its form before human imposition, then this is surely not the case of the Minnehaha Falls. A good example of why this is not the case is the 1964 visit of President Lyndon Baines Johnson. In preparation for the presidential visit, the Falls were “furnished.” Furnishing entailed opening several fire hydrants and allowing them to drain into the Minnehaha Creek to produce a Minnehaha Falls worthy of President Johnson. When furnished as such, the Falls were not much different in function than a garden fountain. If the Falls must be “activated,” are they really natural?⁵

Of course, it does not have to be a zero-sum game. As envirotech argues, a system can be both natural and technological. The Minnehaha Falls can be both an incredible spectacle of hydrology and geology created at the end of the last ice age *and* a product of human engineering and values. However, we do ourselves no favors by calling such systems natural in an uncritical sense. In the context of the Minnehaha Creek, I call the

⁵ *Proceedings of the Minneapolis Board of Park Commissioners*, (Minneapolis: Minneapolis Board of Park Commissioners, 1964), 24.

uncritical and problematic assertions of the Creek's naturalness "natural mythology." To those subscribing to natural mythology, they are not only deluding themselves to the consequences of what it means to live in a world which bears the mark of humanity on every inch of it, but also ignoring the human choices that are remaking and have remade such systems. In this history of the Minnehaha Creek, my intent is to confront such mythology and point discourse in a direction that I believe is more honest. By dropping the pretense of the Creek and other like systems as a natural in an uncritical sense, we can begin the route toward honest reconciliation with the assortment of natural systems we are a part of.

Chapter 1

Envirotech, Rivers, and Minnesota History: A Historiographical and Theoretical Foundation

This history finds itself in the middle of several literary conversations. First among these are conversations about the role of humans in the environment and the role of the environment in the lives of humans. Since the late 1990s, an emerging interest group of historians and STS scholars have taken a stance that within human-environmental interactions, technology plays such an important role in shaping outcomes that it necessitates an approach of its own. At the 2000 meeting of the Society for the History of Technology (SHOT), historians James William and Sara Pritchard formalized this movement by organizing an *envirotech* meeting at the conference. “Envirotech,” the neologism adopted by “historians who deny a separation between environmental and technological history,” argues that at the intersection between humanity and the environment, one is likely to find technology mediating that interaction.⁶ Bridging the gap between scholarship in the history of technology and environmental history, the “envirotechnical turn” has helped usher in a new era of environmental and technological analysis that recognizes technology and nature as intimately related co-constituents of the histories of human societies.⁷

Another conversation that this thesis engages with is that of the history of rivers and streams. The first generation of critical scholarship on the history of waterways dates

⁶ Martin Reuse and Stephen Cutcliffe, “Acknowledgments” in the *Illusory Boundary: Environment and Technology in History*, edited by Martin Reuse and Stephen Cutcliffe, (Charlottesville: University of Virginia Press, 2010), vii.

⁷ *Ibid.*, vii; Pritchard, *Confluence*, 12-13.

to the 1980s with works like Donald Worster's *Rivers of Empire*, which brought some of the lessons of the cultural turn into the study of the environment. Since Worster's groundbreaking work, two other kinds of approaches have emerged to the study of waterways: those that look to write river history without reference to historical trends, discourses, and theory while focusing on the ecological fates of rivers, and works of river history that seek to explore the complex and category-melding relationships humans have formed with waterways through technology, politics, economics, and culture.

Last, this history is directly intervening in the literature about Minnesota. Minnesota has a long tradition of historical scholarship, dating back to even before it was officially a state. In these early histories of Minnesota, the focus was on the frontier past, the emergence of Minnesota to statehood, and the production of a state-mythos which placed Minnesota within an ascending progression of Western civilization. In doing so, the first generation was problematically racist and limited in their scope of analysis by discounting the agency, humanity, and culture of the Dakota and Anishinaabe people who were displaced by Euro-American settlement. This history, admittedly, does not adequately fill in this gap largely because of the constraints of undertaking a semester-long project and the availability of sources that speak specifically to Mdewakanton experiences with the Minnehaha Creek. In future investigations of the Minnehaha Creek, a deeper look at the Mdewakanton uses of the Creek would be no doubt be desired, but for now it largely beyond the scope of this investigation.

Beneath the metalevel of Minnesota history, this thesis is in direct conversation with the works of environmental history that have been written about the state as well as

the histories that have been written about Minneapolis, the Park Board, and the Minnehaha Creek. I argue that while this body literature has been successful in compiling a lot of detail about both the Creek and the Park Board, it has fallen short of probing the ideology driving Board members and capturing the importance of the imposition of technology to transform the environment of Minneapolis and the Minnehaha Creek specifically. What this thesis argues for is an analytical look at the environments of Minnesota and the people and organizations that constructed them. In doing so, my hope is that we can build a more critical discourse in the history of Minnesota and around the environments we encounter and use today.⁸

Envirotechnical Analysis: Negotiating Technology and Nature, or Uncovering the “Illusory Boundary”

One of the first to consciously adopt envirotechnical analysis into their writing was historian and STS scholar Sara Pritchard. Pritchard, starting with her significant contribution to the creation of envirotech in the late 1990s and followed by several articles exploring its themes, published one of envirotech’s most significant works to date with her 2011 publication of *Confluence: The Nature of Technology and Remaking of the Rhône*. In her history of the Rhône River, Pritchard explained that “the term ‘envirotechnical’ calls attention to the entangled web of nature and technology just as early work on the socio-technical stressed the inextricable ties between society and technology, thereby challenging these categories as distinct.”⁹ As a framework of analysis, envirotech “emphasizes the ‘nature’ of technology, or the ways nonhuman nature affords material constraints to

⁸ Pritchard, *Confluence*, 12.

⁹ *Ibid.*, 11

technological development and use, ultimately partly constituting ‘technology’ itself.”¹⁰ Moreover, for at least some of its practitioners, envirotech recognizes that while technology and landscape can be socially constructed, non-human entities—environments, technologies, and non-human organisms—play significant roles in shaping the culture of humans.¹¹

Important theoretical terminologies to envirotechnical analysis include envirotechnical systems, objects, landscapes, and regimes. According to Pritchard, envirotechnical systems are the “historically and culturally specific configurations of intertwined ‘ecological’ and ‘technological’ systems, which may be composed of artifacts, practices, people, institutions, and ecologies.”¹² This definition is sufficient for many if not most applications of using “envirotechnical system” as a conceptual tool, however, environments are more than ecologies. Those interested in the environment are also looking at pedological, geological, climatological, and hydrological forces present in a given area. While ecology is undoubtedly an important force that shapes envirotechnical systems because it is the realm of life, these other layers of the environment provide valuable tools for understanding change over time as well. Thus, it seems that while it would be a broader

¹⁰ Ibid., 11.

¹¹ The best accounts on the philosophy and theory of envirotech include: *The Illusory Boundary: Environment and Technology in History*, ed. Thomas Zellar, (Richmond: University of Virginia, 2010); Thomas Zellar, “Acknowledgments,” in *The Illusory Boundary*, vii-ix; Hugh Gorman and Betsy Mendelson, “Where does Nature End and Culture Begin: Converging Themes in the History of Technology and Environmental History,” in the *Illusory Boundary*, 265-284; Sara Pritchard’s first chapter of *Confluence*, “Introduction: Nature, Technology, and History,” 1-27. Timothy LeCain has stated that the goal of envirotechnical analysis “is to demonstrate how [a given] system that is both human and nonhuman, artifactual and natural, technological and ecological, does actually exist even if our culturally constructed ideas and words often keep us from recognizing it.” *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet* (New Brunswick: Rutgers University Press, 2009), 22.

¹² Pritchard, *Confluence*, 19.

definition, a more accurate or at least more desirable way of thinking of envirotechnical systems would be approaching the term more literally: intertwined environmental and technological systems.

As a concept, envirotechnical systems is indebted to scholars from the sociotechnical and the cultural turn of the 1980s and 1990s.¹³ Most notable among these efforts would be Thomas Hughes's idea of "large technological systems" first expanded upon in his book *Networks of Power*. According to Hughes, a "technological system contains messy, complex, problem-solving components" that are "socially constructed and society shaping. . . they have a mass of technical and organizational components; they possess direction, or goals; and they display a rate of growth suggesting velocity."¹⁴ For Hughes, part of technological systems was the idea of "technological momentum." Somewhat of a compromise with technological determinism, Hughes's technological momentum claims that systems can develop "goals" or "direction." That is, once a system is constructed, the momentum it generates gives the system the ability to be "society shaping." The effect of momentum is that a certain degree of agency is given to technology through the system, but not so far as to suggest that the technologies and the systems are

¹³ Some important theoretical constructs that helped lay the foundation for envirotechnical systems besides Thomas Hughes's "technological systems" (discussed below) include: "second nature" in William Cronon's, *Nature's Metropolis: Chicago and the Great West*, (New York: W.W. Norton, 1991); "organic machines" Richard White, *The Organic Machine: The Remaking of the Columbia River*, (New York: Hill and Wang, 1995); "cyborgs" as discussed in Donna Haraway's, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late 20th Century" (1985), in *The International Handbook of Virtual Learning Environments*, (Dordrecht: Springer Netherlands, 2006), 117-158.; and "hybrid landscapes" a discussion of which can be found in Richard White, "From Wilderness to Hybrid Landscapes: The Cultural Turn in Environmental History." *Historian* 66, no. 3 (2004).

¹⁴ Thomas Parke Hughes, *Networks of Power: Electrification in Western Society, 1880-1930*, (Baltimore: Johns Hopkins University Press, 1983); Thomas Hughes, "The Evolution of Large Technological Systems" in *The Science Studies Reader*, edited by Mario Biagioli (New York: Rutledge, 1999), 202, 218.

not socially constructed. Thus, even though systems generate momentum the consequences of the system are not purely the product of technologies, but also of the systems builders and the social organizational structures that maintain and help operate systems. At its essence, technological momentum for Hughes was a heuristic aid to understand the evolution of technological systems.

While Hughes's technological system is no doubt an intellectual precursor to envirotechnical system, the latter is free from several problematic assertions that the former is not. According to Hughes,

Two kinds of environment relate to open technological systems: ones on which they are dependent and ones on which are dependent on them. In neither case is there interaction between system and the environment; there is simply a one-way influence. Because they are not under system control, environmental factors affecting the system should not be mistaken for components of the system. Because they do not interact with the system, environmental factors dependent on the system should not be seen as part of either.¹⁵

Hughes's articulation of the relationship between the environment and technological systems is predicated on the idea of control. However, within most systems control over its constituents is almost always on a spectrum. For example, within a nuclear power plant control over labor discipline is different than the control exerted over cooling the reactor, which are both different than the control the system has over keeping the building from flooding during storms or tsunamis. Thus, where does one draw the line on the level of control to be considered part of the system? For Hughes, if water were to flood our hypothetical nuclear powerplant, the water would not be part of the system because it was

¹⁵ Ibid., 203.

not under system control. Perhaps in this case that logic would work just fine, but what about in the case of a hydroelectric dam? The dam is *controlling* the flow of water (that is, until a massive flooding event) and the water is helping the machine produce electricity. Thus, not only does it seem to suggest that the environment can be part of a technological system, but it also suggests that influence is not unidirectional. A river can both *shape* an energy grid and be *shaped* by a dam. Even within Hughes's own example which he uses to demonstrate his argument—oil—there are substantial challenges that can be made to his framework. For example, the burning of fossil fuels results in the warming of the planet and the warming of the planet (in many places) increases the demand for electricity because of an increased need for air conditioning. Thus, through fossil fuels the environment and the electric grid develop feedback relationships that change the nature of the system. In contrast to Hughesian technological systems, the idea of envirotechnical systems can accommodate forces such as the greenhouse effect and dam-river interactions because it recognizes that both environmental and technological forces intermix to form systems, often beyond the intent of the original system's creators.

In the case of Pritchard's envirotech framework, she further articulates envirotechnical systems through the forces of "envirotechnical regimes." Envirotechnical regimes being "the institutions, people, ideologies, technologies, and landscapes that together define, justify, build, and maintain a particular envirotechnical system as normative."¹⁶ It is the idea that parts of a given system can be drawn out and given the additional status as the agents drawing a system together. The corollary in the Hughesian

¹⁶ Pritchard, *Confluence*, 23.

technological system would be “system builder,” or those who possess the “ability to construct or to force unity from diversity, centralization in the face of pluralism, and coherence from chaos.”¹⁷

The challenging part of Pritchard’s envirotechnical regime is the use of the word “normative.” Normative is difficult because different actors within a system may have a different idea of normativity. Thus, the problem of defining a regime becomes problematized when there are fractious definitions and agreements upon normativity. Furthermore, how does one account for the perspective of normativity from the non-human?

In Pritchard’s formulation of envirotechnical regimes, non-humans can be a part of a regime, and thus part of the creation of normativity. However, they would be a part of a normativity rationalized by humans. With this in mind, it does not seem productive to throw out the idea of normativity completely just because it is a concept judged by humans and is relative to the observer. I say this because to completely throw out a normative understanding of let’s say a forest or a prairie, deprives us of valuable referential tools and discounts the ecological reasonings behind those judgements. Furthermore, systems that are not created through human actions can achieve relative states of equilibrium for certain periods of time. For example, grasslands and forests in North America interacted along their borders over thousands of years and in the process created hybrid systems like

¹⁷ Hughes, “The Evolution of Large Technological Systems,” 203; Another idea similar to envirotechnical regimes was put forward by fire historian Stephen Pine in *Fire: A Brief History*. (Seattle: University of Washington Press, 2001), 112. Pyne used “fire regime” as a term to describe the system of fire management policies and institutions that shape the culture, physicality, and acceptance of fire.

savannas. Despite hybridizing, within the grassland-forest interaction enough stability and separation between the two environments existed that they were able to maintain their grassland and forest qualities overtime. The persistence of ecological qualities over time enables terms like “grassland” and “forest” to still be valid tools of description. A similar logic could be applied to many animals at the species level. Thus, while normativity is to some degree in the eye of the beholder, especially in the case of social constructs such as gender, sexuality, and race where normativity has been used as a violent tool of oppression, it is hard to argue that relative states of normativity can’t exist within nature. Systems change, but in the case of environmental systems rarely do they fundamentally change overnight, every single day to the point that they no longer possess relatively normal characteristics. In the case of the Minnehaha Creek, I would argue that part of its story is the transition from a regime that allowed the water levels of the Creek and Lake Minnetonka to be dictated by climate, rainfall, and geology to a regime that has used technology and engineering to mitigate the consequences of those forces in pursuit of a more desirable local hydrosphere. To enforce the desires of this regime, in 1897 Hennepin County installed Gray’s Bay Dam which imposed a rigid barrier—both socially and physically—to providing a flow down the Minnehaha Creek regardless of rain fall. By constructing a dam and imposing their will upon the water and life of the lake and the river, Hennepin County commissioners and lake dwellers helped create a regime governing the normative behavior of Lake Minnetonka and the Minnehaha Creek.

Employing the theoretical devices of the envirotech movement, this history joins with many other scholars who are using envirotech to explore the fuzzy boundaries

between humans, technology, and the environment, or the “the illusory boundary.” While still a relatively young sub-field, the envirotech movement has successfully produced many different scholarships and commentaries in the major journals of environmental history and the history of technology.¹⁸ “Envirotechies,” a diverse group of scholars, have published works on topics ranging from industrial meat packing, forest creation, natural disasters, to battery production among many other studies. Besides finding unity under the general desire to develop a sustained discourse around the intersections between technology, a common trend seems to be a focus on how those with power wield it to form new kinds of nature with technologies and into technologies. This trend of looking at power and the production of nature, technology, and environments from seems appropriate for an age where our greatest existential crises are global climate disruption and ecosystem collapse. That is, crises being caused by those with power wielding it to create new forms of nature that are inhospitable to humans and non-humans alike.¹⁹

¹⁸ Robert Gardner, “Constructing a Technological Forest: Nature, Culture, and Tree-Planting in the Nebraska Sand Hills,” *Environmental History*, 14, no. 2, (April 2009): 275–297; Mark Finlay, “Far Beyond Tractors: Envirotech and the Intersections of Technology, Agriculture, and the Environment.” *Technology and Culture* 51, no. 2 (2010): 480–85; Edmund Russel, James Allison, Thomas Finger, John K. Brown, Brian Balogh, and W. Bernard Carlson. “The Nature of Power: Synthesizing the History of Technology and Environmental History.” *Technology and Culture* 52, no. 2 (2011): 246–59; Sara B. Pritchard, “An Envirotechnical Disaster: Nature, Technology, and Politics at Fukushima,” *Environmental History*, Volume 17, no. 2, (April 2012): 219–243; James Morton Turner, “Following the Pb: An Envirotechnical Approach to Lead-Acid Batteries in the United States,” *Environmental History* 20, no. 1, (January 2015): 29–56; Ashley Carse, Christine Keiner, Pamela M. Henson, Marixa Lasso, Paul S. Sutter, Megan Raby, and Blake Scott, “Panama Canal Forum: From the Conquest of Nature to the Construction of New Ecologies,” *Environmental History* 21, no. 2, (April 2016):206–287; Tyler Priest, “Shrimp and Petroleum: The Social Ecology of Louisiana’s Offshore Industries,” *Environmental History* 21, no. 3, (July 2016): 488–515; Sara Pritchard, “The Trouble with Darkness: NASA’s Suomi Satellite Images of Earth at Night,” *Environmental History* 22, no. 2, (April 2017): 312–330;

¹⁹ Also see *The Illusory Boundary: Environment and Technology in History*, edited by Martin Reuss and Stephen H. Cutcliffe, (Charlottesville: University of Virginia Press, 2010); Timothy LeCain. *Mass Destruction: The Men and Giant Mines That Wired America and Scarred the Planet* (New Brunswick: Rutgers University Press, 2009)

This study of the Minnehaha Creek is a continuation and expansion of this trend. Central in this history is how those with power—Euro-American settlers, Hennepin County commissioners, lake dwellers, and Minneapolis park commissioners—chose to change nature according to their desires and beliefs. Furthermore, by exploring the Minnehaha Creek through the lens of envirotech, this thesis shows how envirotech as a heuristic device can be used to deconstruct the mythologies we create about nature, technology, and ourselves. By showing how these categories meld together, envirotech encourages one to think critically about assertions that claim human presence to be absent from environments and alternatively assertions that claim nonhuman entities—both living and nonliving—to be removed from human society. In the case of the Minnehaha Creek, the mythology of its naturalness has created a mythology about its governance and the technological devices used as enforcers. By complicating the story of the Minnehaha Creek, this history shows that we choose to create technological systems and that these systems are not inevitable, and neither are they determining our actions.

Rivers, History, and Technology

In *Confluence*, Sara Pritchard identifies two approaches that have emerged in the writing of river history: “One examines a river’s history for its own sake. The other explores how political questions, economic debates, cultural ideals, and social struggles invariably become interwoven with rivers and their management.”²⁰ Another opinion on the field of river history can be found in the introduction to Christof Mauch and Thomas

²⁰ Pritchard, *Confluence*, 6.

Zeller's anthology *Rivers in History*. According to Mauch and Zeller, three approaches to river history can be identified. The first is the kind of studies are those that focus on "technological control and social transformation."²¹ The second kind of studies are those that "focus almost exclusively on the (ecological) fate of the river."²² The last category being those studies are approaching "humans and nature, technology and the environment, as a continuum" and arguing that "both river systems and human societies are dynamic forces rather than static entities clashing with one another."²³

If one were to put Pritchard's categories into those of Mauch and Zeller's, Pritchard's "river's history for its own sake" overlaps strongly with Mauch and Zeller's "fate of the river" history. According to both scholars, these kinds of histories are often characterized by approaches that are either praising a river or lamenting the "death" of a river. An example of this kind of river history would be Blake Gumprecht's *The Los Angeles River: Its Life, Death, and Possible Rebirth*. In his history of the Los Angeles River Gumprecht argues that the urbanization of Los Angeles killed the river by containing it in concrete and turning its main water source into treated sewage. Besides the fact that this argument seems limited because the Los Angeles River stills floods periodically with water from the Sierra Nevada Mountains, Gumprecht's history is still effective in telling an in-depth account of the Los Angeles River's history and the transformation of the river as it existed when before white settlement. Two other works that would fall under this

²¹ Christoff Mauch and Thomas Zeller, "Rivers in History and Historiography: Introduction" in *Rivers in History*, edited by Christof Mauch and Thomas Zeller, (Pittsburg: University of Pittsburg Press 2008), 5.

²² *Ibid.*, 6.

²³ *Ibid.*, 6.

category of scholarship would John Anfinson's two history about the upper Mississippi River. In both *River of History* and *The River We Have Wrought*, Anfinson focusses on the redevelopment of the Mississippi from Iowa to Minnesota. While not arguing that the river has been killed or destroyed, his narrative functions without any argumentative assertions and is generally not concerned with politics beyond the policies of the Army Core of Engineers. Why we might call such histories as Gumprecht's and Anfinson's as "fate of the river" histories is that such narratives assume their importance from their topic choice, not from the lessons their topic has to teach about politics, power, technology, and industrialized natures.²⁴

Pritchard's second category of river history does not fall quite so neatly into Mauch and Zeller's remaining two. Rather, Pritchard's category of river history that "explores how political questions, economic debates, cultural ideals, and social struggles invariably become interwoven with rivers and their management" would apply for both of Mauch and Zeller's latter categories of river histories that focus on "technological control and social transformation" and those that are exploring "humans and nature, technology and the environment, as a continuum." In this divide Mauch and Zeller's historiographical framework pertaining to the more scholarly, theoretical, and critical of the river histories allows one to be a bit more detailed and specific than Pritchard's.

In the lineage of those interested in technological control, social changes, and, I would add, political power, the first among these is Donald Worster's *Rivers of Empire*.

²⁴ Blake Gumprecht, *The Los Angeles River: Its Life, Death, and Possible Rebirth* (Baltimore: John Hopkins University Press, 1999), 6 and 301.

In his monograph, Worster undertakes a detailed study of the creation of the expansive irrigation networks that created the vast agricultural landscapes of the American West. According to Worster, “putting rivers, and eventually their entire watersheds, to work in the most efficient way possible for the purpose of maximizing production and wealth,” irrigation engineers created a “modern hydraulic society.”²⁵ This “sharply alienating, intensely managerial relationship with nature” reflected the interests of the capitalist elite, effectively turning landscape into an artifact of power and capitalism.²⁶ Rivers in Worster’s history are not the explicit subject of his history as much as they are a tool for understanding a dialectical neo-Marxist account of the transformation of environments. Worster would later call such an approach to environmental history “agroecological,” which he along with Alfred Crosby championed at the famous environmental roundtable at AHA 1990. Worster’s study of the rivers of the American West was an important stepping stone in the development of river history because it showed how bodies of water and water in general could be used valuably to explore industrialization, capitalism, and political power.²⁷

Worster’s *Rivers of Empire* and the agroecological approach he developed from his scholarship in the 1970s and 1980s, however, came up against a new wave of approaches

²⁵ Donald Worster, *Rivers of Empire: Water, Aridity, and the Growth of the American West*. New York: (Oxford University Press, 1985), 7 and 155.

²⁶ *Ibid.*, 5.

²⁷ Donald Worster, “Transformations of the Earth: Toward an Agroecological Perspective in History,” *American Historical Review*, 1990 (76), 1088-106; Alfred Crosby “An Enthusiastic Second” *American Historical Review* 76, no.4 (1990):1107-1110. For similar approaches to Worster’s, see Donald Pisani, *To Reclaim a Divided West* (Albuquerque: University of New Mexico, 1992); Donald Pisani, *Water and the American Government: The Reclamation Bureau, National Water Policy, and the West, 1902-1935* (Berkeley: University of California Press, 2002); and David Nye, *American Technological Sublime* (Cambridge, MA: MIT Press, 1994), 137-142.

to environmental history in the 1990s. In the same roundtable that Worster and Crosby argued for an agroecological approach to environmental history, historians Richard White and William Cronon were championing a slightly different approach. Responding to Worster, White argued “Historians once thought that they had a firm basis for their morality and causality. Historians read the science of ecology as both detailing basic natural processes and yielding certain moral verities: complexity is good, simplicity is bad; natural systems seek equilibrium and battle disruption; there is an ideal balance in nature that once achieved, will maintain itself.”²⁸ Cronon’s response to Worster was that environmental history should instead turn its attention toward “humbler ground, closer to the earth itself. . .[to] the tasks of finding subtler tools for building bridges among ecosystems, economies, and the cognitive lenses through which people view the world.”²⁹

Coming out of the 1990 round table, in their highly influential scholarship both Cronon and White would set about the task of constructing a discourse around environmental history that became critical of framing human-nature discourse as one of inherent expansion and destruction. Rather, nature as seen in Cronon’s *Nature’s Metropolis* and White’s *The Organic Machine* becomes complicated, not destroyed by human intervention in the landscape. It is both this philosophy and historiographical moment that helped shape Mauch and Zeller’s last category of river scholarship—those seeing “humans and nature, technology and the environment, as a continuum.”

²⁸ Richard White, “Environmental History, Ecology, and Meaning,” 1114-1115.

²⁹ William Cronon, “Modes of Prophecy and Production,” 1130.

Specific to river history, White's *The Organic Machine* can fairly be seen as the pioneering piece of scholarship for this latter category. In his short monograph on the Columbia River, White stated that *The Organic Machine* was seeking "to blur boundaries, emphasize impurity, and find, paradoxically, along those blurred and dirty boundaries a way to better live with our dilemmas. What [his] book suggest[ed] [was] that if we want to understand what we have done and how we have acted in nature, we might want to spend more time thinking about Ralph Waldo Emerson and Lewis Mumford and less about Henry David Thoreau and John Muir."³⁰ What Emerson and Mumford offered White in his history as opposed to Muir and Thoreau was a flexibility to see technologies as forces of nature, not inherently as forces antagonistic to nature. According to White, through the installation of dams, through salmon fishing, and the generation of energy, the Columbia river turned into a "organic machine" capable of being put work to produce desired outcomes for humanity. Furthermore, to White, the Columbia has "purposes of its own," separate from those that humans assigned it.³¹ While I would agree with White that rivers assert agency in their interactions with human society, I would disagree that rivers have purposes of their own because purpose requires intent. Rivers have no inherent intent. They are the products of gravity, ecology, climate, and geology, and have been given purposes through human and animal action. Rivers exert agency not through purpose, but through their physicality that predates human intervention that persists despite our best attempts to change it. Like a

³⁰ Richard White, *The Organic Machine*, xi.

³¹ *Ibid.*, 113.

technological system, rivers have both literal and metaphorical momentum that helps them persist over time.

Following in White's footsteps would be work like Pritchard's *Confluence* and Paul Josephson's *Industrialized Nature*. Rather than an "organic machine," Pritchard argues that the Rhône is an "envirotechnical system," formed by a series of damming, dredging, and earthworks projects over its history. Like White, "technology as natural" and the "natural as technology" are integral to her desire to blend the environment and technology together in the creation of a hybrid landscape that is both simultaneously.³² Pritchard accomplishes this by exploring the Rhône's place within French society and economy where it has been made into a tool of facilitating navigation, producing electricity, and supporting agriculture. Through its intentional remaking into an environment to fulfill these intended purposes, the Rhône became both an environment and a technology.³³

In *Industrialized Nature*, Josephson does not singularly set out to explore rivers and technology. Rather, his history explores the interconnections between the various constituents of technological systems in the context of their relationship with their environment. The systems he explores are not

merely large technologies—graders, cement mixers, harvesters, genetically engineered crops—nor are they merely artifacts created by construction trusts and engineer firms, such as dams, canals, highways, railroads, and logging roads. These systems include the government bureaucracies that regulate and promote technology; the scientific researchers whose understanding of geology, geophysics, hydrology, marine fisheries, silviculture, and the like provide the basis for modern

³² Pritchard, *Confluence*, 21-22.

³³ *Ibid.*, 24-27, 251.

management techniques; the engineering firms that design technologies; the construction firms that erect them; and the multitude of pourers, form builders, loggers, and sailors who gather, cut, channel, and transport resources.³⁴

He argues that through these technological systems, which he calls “brute force technologies,” “we have gained extraordinary power to transform nature into something increasingly orderly, rational, and machine-like—in a word, industrial”³⁵ With this reasoning Josephson’s *Industrialized Nature* follows in the footsteps of James Scott’s *Seeing like a State*, which focusses in part on the same reconstruction of nature, but from the level of the state.³⁶

While explicitly more critical of the technological changes he documents in his history than Pritchard or White, Josephson is united with the two in arguing that nature has not died, but it has been industrialized. Furthermore, despite not a project explicitly about rivers, the first chapter “Pyramids of Concrete: Rivers, Dams, and the Ideological Roots of Brute Force Technology” details roughly ten different case studies of rivers and brute force technologies and the environmental costs of the different systems. In one of the most striking of his vignettes detailed in his subchapter “Atomic Salmon” he described how the construction and operation of the Hanford plutonium facility led to the irradiation of fish and agricultural good around Hanford, Washington. Thus, there is a continuum between

³⁴ Paul Josephson, *Industrialized Nature: Brute Force Technology and the Transformation of the Natural World*, (Washington, DC: Island Press, 2002), 4.

³⁵ *Ibid.*, 4.

³⁶ James Scott, *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*, (New Haven: Yale University Press, 1998).

technology and nature in Josephson's river history, but it is a brutal and violent continuum where technological systems destroy nonhuman and human lives alike.³⁷

The attempt of this history of the Minnehaha Creek is to join with scholars like White, Pritchard, and Josephson in constructing narratives about the natural that stand to show something about ourselves and the deeper ways we change environments. I argue that the Minnehaha Creek was not just made into an envirotechnical system through the embedding of technologies and ideas within the river but was remade according to the visions and desires of specific people and institutions and executed through the power of government. In this latter desire I join the with the aims of Worster's *Rivers of Empire* in exploring how power shapes environments. Last, I add to ongoing conversations about the history of rivers by discussing a mechanism used for changing rivers that has not had as much currency with previous scholars, and that is park creation. In the case of the Minnehaha Creek, while park officials used industrial technologies—tractors, asphalt, dredgers, and dams—they did not construct a space intended for industry as in the case of the Columbia, Rhone, and the Mississippi or reconstructed as a drainage pipe as in the case of the Los Angeles River. Rather, the Minnehaha Creek was simultaneously reconstructed to preserve the water of Lake Minnetonka while providing space for recreation and health for Minneapolitans. What the Minnehaha shares with the other rivers is that its transformation to a park space was inherently technological and shaped by politics and economics, and that its history has as much to teach us about nature as it does how we

³⁷ Josephson, 60-61.

choose to prioritize values and see our agency in landscapes and our control over technology.

Minnesota History and the History of the Minnehaha Creek

Formal historical investigations about Minnesota date back even before its statehood. Founded in 1849 by the territorial legislature, the Minnesota Historical Society (MHS) has been a guiding institution in Minnesota history for over 170 years. Following the founding of the MHS, in 1858, the year Minnesota became a state, Edward Duffield Neil published his *History of Minnesota*. Honoring both the founding of Minnesota and its first governor Alexander Ramsey, Neil's history includes an analysis of change over time from the days of the Hennepin expedition in the 17th century to the mid 19th century, a description of Minnesota's geography, and a fascinating look at the culture of Anishinaabe and Dakota from a Euro-American perspective. Neil would follow *History of Minnesota* in 1887 with a "concise" version of his 1858 tome, removing much of the material on the indigenous people of Minnesota and their culture. Neil's work, while not completely devoid of secondary referential value, is now more useful as a primary source for studying mid-19th century European and American perspectives of indigenous people and the environmental conditions experienced by the first waves of settler-colonists.³⁸

The next histories to be produced about Minnesota came from efforts of the Minnesota Historical Society. The first of these was the massive *Minnesota in Three Centuries* published in three volumes of more than five-hundred pages each. This was

³⁸ Edward Duffield Neil, *History of Minnesota*, (Philadelphia: J.B. Lipincott & Co., 1858); Edward D. Neill, *Concise History of the State of Minnesota*. (S. M. Williams, 1887).

followed by the efforts of former president of the University of Minnesota and former president of the Minneapolis Park Board William Watts Folwell who in the early 1920s produced two additional synthetic histories of Minnesota for the Minnesota Historical Society. These massive works of Minnesota history, including Neil's work from the 19th century, set about the task of connecting a European past to an American present. Indigenous people in these histories, while dealt with in substantially more depth by Neil who knew indigenous American cultures through firsthand experience, were relics of a "savage" past. Fairly stated, these histories were as much about creating a Minnesota mythology as they were documents white washing the genocide, forced removal, and displacement that enabled the state's founding. At the same time, they remain as valuable sources for understanding the perceptions that Minnesotans were forming about their state in its first fifty years of statehood and, in the case of the later histories, resources for probing the laws and politics of 19th century Minnesota.³⁹

After this original era of Minnesota history publications, many other histories have followed. The best of these came in the late 80s through an updated effort by Minnesota Historical Society which brought together a mix of geographers and historians to publish the most critical of the synthetic Minnesota histories: *Minnesota in a Century of Change*. In their deep investigation of Minnesota and its people in the 20th century, the various authors in the anthology explore Minnesota's history through perspectives of gender, labor,

³⁹ Lucius Hubbard and Return Holcombe, *Minnesota in Three Centuries, 1655-1908*, vol. 1-3 (St. Paul: Minnesota Historical Society, 1908); William Watts Folwell, *A History of Minnesota*, (Saint Paul: Minnesota Historical Society, 1921); *A History of Minnesota. 2nd Impression*. (Saint Paul: Minnesota Historical Society, 1922).

urbanization, the countryside, and politics. In the context of the historiography of Minnesota, it is also significant that the history is not plagued with overtly racist and inaccurate depictions of native people. In fact, in David Beaulie's chapter "A Place Among Nations: Experiences of Indian People," native people are presented as actors in the creation of Minnesota history and culture in the 20th century. Nonetheless, race as category of analysis is weak within *Minnesota in a Century of Change*. Besides the chapter on the native people of Minnesota, which does acknowledge the legacies of genocide and cultural erasure, important events and aspects of Minnesota history such as the Great Migration, the Civil Rights Movement, Latino migration and their importance in state agriculture, and the immigration of Hmong in the aftermath of the Vietnam war are covered only in passing while ignoring the significant obstacles of racism these groups have faced in Minnesota. Additionally, the legacy of Minnesota's anti-Semitism is dealt with poorly, acknowledging the existence of anti-Semitism in the Twin Cities, but not describing its significant role in shaping the cultural geography of the Twin Cities.⁴⁰

For this history, which is focused on Minnesota waterways, I would also call attention to the interventions of Amélie Allard and Craig N. Cipolla's "The View from Watery Places: Rivers and Portages in the Fur Trade Era" and John Anfinson's two books on the Mississippi River *The River We Have Wrought* and *River of History*. Allard and

⁴⁰ *Minnesota in a Century of Change: The State and Its People since 1900*, edited by Clifford Edward Clark (St. Paul: Minnesota Historical Society Press, 1989). For the brief blip on anti-Semitism 310 and 402, for the bits on Hmong see 474 and 520. Their failure to discuss African Americans and the Civil Right Movement is perhaps the most problematic part of the history because the legacies of racism are crucially important in the development of the Twin Cities and the continued persistence of Minnesota's racial wealth divide. David Beaulie's chapter "A Place Among Nations: Experiences of Indian People," in *Minnesota in a Century of Change*, 397-432.

Cipolla's history is focused on understanding portages during the fur trade era of Minnesota (18th century-1850s) as both cultural and environmental spaces that function similar to crossroads. According to Allard and Cipolla, at portages both culture and practical information was passed between Europeans and indigenous people in their shared interest in searching for game and in the process left behind artifacts of their activities. In contrast to much of Minnesota's historical scholarship, Allard and Cipolla's ground their analysis in theory. Specifically, they argue that "in accordance with assemblage theory and the idea that heterogeneous components constitute and bind each other into wholes, rapids gathered—or trapped—things into an assemblage of nonhumans and humans composed of people's decisions, their practices and their fear, but also the fluidity of the water, the heaviness of metal objects and the fragility of birch bark canoes, the hazardous rocks, and even gravity itself."⁴¹

Anfinson's works, which have already been brought up in several instances above, constitute the most significant works of environmental history in Minnesota's historical literature. Despite several limitations to Anfinson's accounts the Mississippi, he provides valuable in-depth investigations of the most significant hydrological transformations in the history of the upper Mississippi and his treatment of technological-environmental interactions has even garnered the attention of Hugh Gorman and Betsy Mendelsohn in their historiographical essay about envirotech "Where does Nature End and Culture Begin." Thus, while Anfinson's work has some limiting theoretical aspects, it should be

⁴¹ Amélie Allard and Craig N. Cipolla. "The View from Watery Places: Rivers and Portages in the Fur Trade Era." *Open Rivers: Rethinking Water, Place & Community* (2018), no. 12. <http://editions.lib.umn.edu/openrivers/article/the-view-from-watery-places>.

praised for bringing environmental history and the history technology into broader discussions about Minnesota's history.⁴²

Within Minnesota history there is also a sub-literature of Minneapolis history and the history of its parks. The first of these works is John H Stevens's memoir *Personal Recollections of Minnesota and Its People: And Early History of Minneapolis*. Stevens's account, similar to the other original works of Minnesota history, is focused on developing a narrative of Minneapolis as a "savage" to civilization story. Consequently, his memoir is filled with dehumanizing racism against indigenous people. The first of the serious histories of Minneapolis is not better in this regard. In Marion Daniel Shutter's massive *History of Minneapolis, Gateway to the Northwest*, he frames the history of Minneapolis as such:

When the first white men built their rude cabins near the Falls, almost the entire State of Minnesota was a primeval wilderness. With commendable energy the pioneers set to work to redeem that wilderness from savagery. Through their industry and sagacity great changes have come. The railroad has taken the place of the Indian trail, the schoolhouse occupies the site of the council wigwam, skyscrapers rear their heads where once stood the red man's tepee, the scream of the factory whistle and the hum of machinery are heard instead of the howl of the wolf and the war-whoop of the painted savage. And most of this progress has been made within the memory of persons yet living. To tell the story of this progress is the purpose of this history. How well that purpose has been attained is for the reader to determine.⁴³

⁴² Anfinson, *The River we Have Wrought*; Anfinson, *River of History*.

⁴³ Marion Daniel Shutter, *History of Minneapolis, Gateway to the Northwest*. (Chicago, Minneapolis: S.J. Clarke Publishing Company, 1923), 3. "Falls" in this case is St. Anthony Falls, not Minnehaha Falls.

Despite being at times racist and whiggish history, Shutter's massive tome of over 1000 pages is still an excellent source for learning about the early development of Minneapolis. Shutter's history also gives the first substantial account (outside the records of the Park Board and local newspapers) of the changes that happened to the Minnehaha Creek from the 1850s to the 1900. Mentioned nearly fifty times in his history, Shutter was an admirer of the Creek and its park, claiming the only thing wrong with it was its "distance from the heart of the city."⁴⁴

Besides Shutter's tome, the four published works that have most directly covered the history of the Minnehaha Creek and the Minneapolis Park Board include: Theodore Wirth's *History of the Minneapolis Parks*, Foster Dunwiddie's "Five Flouring Mills of the Minnehaha Creek," Jane Hallberg's *Minnehaha Creek: Living Waters*, and David C. Smith's *City of Parks*. Oldest of the four, Wirth's *History of the Minneapolis Parks*, was written by a man who was superintendent of Minneapolis parks for more than thirty years. Under his leadership the Park Board engaged in some of its most aggressive landscape engineering projects while Wirth oversaw, and with near unanimous approval of the park board, a period of tremendous park expansion and creation. Reflecting his genuine belief in the mission of the Park Board, Wirth's narrative was a triumphalist account of the Minneapolis Parks, full of obstacles and moments that were ultimately overcome. While Wirth did do primary document investigations to write his history, much of *History of the Minneapolis Parks* reads like a memoir, recounting the history of the parks from the lens

⁴⁴, John H. Stevens. *Personal Recollections of Minnesota and Its People: And Early History of Minneapolis*. (Minneapolis: Tribune Job Ptg., 1890).

of Wirth's tenure as superintendent. Describing the success of the Minnehaha Creek Valley project that took place between the 1890s and the 1920s, he stated that "Minnehaha Creek Valley project [was] a fine example of man working in unison with Nature, for as extensive as the improvements to the entire length of the parkway area, the valley and its winding brook still remain the attraction and charm that inspired Longfellow." As this passage speaks to, Wirth's history is filled with subjective judgements and ideological statements about nature and engineering. From these statements, his history of the Minneapolis Park Board becomes a primary document useful for investigating the ideology of park officials in addition to being a secondary referential resource for the history of Minneapolis parks.⁴⁵

David Smith's *City of Parks*, while a comprehensive and well researched history of Minneapolis parks, is reminiscent of Wirth's triumphalist narrative style. Centered on the "great men" of the Minneapolis's parks, Smith's chapters on Theodore Wirth, "Man of Action," "Man of Structure," and "Man of his Time," for example, read like historical tributes rather than critical analyses of a complex figure. Another place in *City of Parks* where Smith's "great men" approach makes itself apparent is in his introductory tribute:

In the 1908 annual report, park board president Jesse Northrop wrote of the founders of Minneapolis parks: "their names will be forgotten, but unborn generations will thank them for all they have done.

'They may forget the singer, but they will not forget the song.'" One hundred years later we know

⁴⁵ Theodore Wirth, *Minneapolis Park System, 1883-1944 : Retrospective Glimpses into the History of the Board of Park Commissioners of Minneapolis, Minnesota, and the City's Park, Parkway, and Playground System*. (Minneapolis: Board of Park Commissioners, 1946), 113. This particular passage is explored further in Chapter 3.

the song well. This book was written with the hope that we remember some of the singers too. And thank them. And add our voices to theirs.⁴⁶

As we see in this quote, Smith's project, financed by The Foundation for Minneapolis Parks, was consciously conceived as an homage to the Park Board. Furthermore, while the homage is focused on men, it did not necessarily have to be that way. Despite being the longest serving park commissioner in Minneapolis's history, the impact and influence of Maude Armatage's thirty-year tenure on the board of commissioners makes it on to only two pages and one of those mentions is within the chapter "Man of his Time" about Theodore Wirth. Smith's history, while full of many valuable facts from the Park Board's past, is a whiggish, "great white men" history of Minneapolis parks that largely silences the stories of women and people of color. Furthermore, a consequence of the "great white men" focus of the text, the changed environment that the park system helped create is an underexplored and under-analyzed aspect of Smith's narrative. For example, he describes the introduction of gas-powered machinery and infrastructure into the park system as President Commissioner Howard Moore's "most important contribution to park management" without also discussing this moment when the maintenance of the Park Board increased its use of unsustainable and environmentally damaging technologies. Gas power may have made the Park Board more efficient, but it also increased the systems environmental impact.⁴⁷

⁴⁶ David Smith, *City of Parks: The Story of Minneapolis Parks*, (Minneapolis: The Foundation for Minneapolis Parks, 2007), xi.

⁴⁷ Smith, *City of Parks*, 167. Another chapter worth pointing to is his introduction "A Few Extraordinary Men," which would have made a fair alternative title for the book. However, in fairness to Smith, he does have a photo and a photo description of first female and first African American superintendent Mary Merrill on page 222 and in his chapter "Earth Mover" (also about Theodore Wirth) he

Two histories that specifically look at the Minnehaha Creek as their main subject are Foster Dunwiddie's "Five Flouring Mills of the Minnehaha Creek" and Jane Hallberg's *Minnehaha Creek: Living Waters*. In Dunwiddie's history of the grist mills of Minnehaha Creek he compiles an impressive amount detail into his short study, drawing together information from property records and the histories of William Watts Folwell and Marion Daniel to give a look at the Minnehaha during its first fifty years under American control. While not a critical analysis in conversation with the broader discipline of history, Dunwiddie does successfully give the reader a fair understanding of a period where the Minnehaha Creek was an important part of the south and western part of the metropolitan economy. Hallberg's history, on the other hand, rather than a laser focus study like Dunwiddie's attempts to be a synthetic account of the history of the Minnehaha Creek since the days of fur traders. While Hallberg is a self-taught historian, her history does not fall victim to the type of male-centered whiggish narratives utilized by Smith and Wirth. Rather, Hallberg's focus is on the Creek itself and the value people have given it over time. Using a capitalized "Nature" in her history, Hallberg writes with a reverence toward the Creek characteristic of 19th century romantics. At the same time, while Hallberg acknowledges that the Creek's water flow is largely dictated by a dam controlled by the Minnesota DNR and the Minnehaha Creek Watershed District, she does not broach the

does detail the extensive earthworks projects that the Board commissioned from 1906-1940 (105-113). The rest of the Chapter is about the celebration and vision of Victory Memorial Drive. In the chapter he also makes the misleading claim that "In the space of eight years, from 1917 to 1925, nearly the entirety of the Grand Rounds was either carved from farmland, filled from lake bottom, or completely rebuilt and partially paved." Rather, it was much closer to half as a lot of the river road, Minnehaha Parkway, and the parkways around the lake had a base layer of construction going back the 1890s and started under William Berry.

deeper issues of how technology is infringing upon “Nature” nor the ideology driving the Creek’s redevelopment. Thus, a lot of Hallberg’s history is a retelling of facts gleaned from the archive or secondary sources, but without much in the way of analysis.⁴⁸

This history of the Minnehaha Creek intervenes in the literature of Minnesota history in several ways. Joining John Anfinson, this thesis seeks to contribute to developing a sub-literature of Minnesota environmental history and more specifically, a literature about the water systems of Minnesota. In a state known as the “land of ten thousand lakes,” it seems appropriate to strive for a body of historical literature that speaks to one the most important cultural institutions for both the first Minnesotans, such as the Dakota and Anishinaabe, and the Americans who have followed. While this history does not rectify the gap in the literature by diving into the experiences and contributions of people of color in the history of Minnesota, it does question the framing of our past along the lines of a “great white men” history. This is particularly true in the case of my coverage of the Minneapolis Park Board. I argue that by valorizing these figures of Minneapolis’s history, we do ourselves a disservice to a critical analysis of these individuals and the manipulations they made on the landscape.

Specific to the Minnehaha Creek, this history fills a gap and to some extent revises the understanding of how the Minneapolis Park Board, the development of the Twin Cities, Hennepin County, and the people around Lake Minnetonka have physically changed the Creek over time. While Dunwiddie and Hallberg’s accounts of the Creek mention Gray’s

⁴⁸ Jane King Hallberg, *Minnehaha Creek: Living Waters*. Expanded ed. (Minneapolis: Cityscapes, 1995); Foster, Dunwiddie. “The Six Flouring Mills of the Minnehaha Creek” *Minnesota History*, Vol. 44, No. 5 (Spring, 1975), 162-174.

Bay Dam, they do not probe its consequences, nor do they document the problems that this would cause for the Park Board in trying to find a sustainable way to provide water for the Minnehaha Falls. In the context of what has been written about the Minneapolis Park Board, previous histories, such as Smith's, have not attempted to probe the ideology of the Board nor have they critically engaged with how the largest landowner and manager of land (that is not pavement) in the City of Minneapolis has reshaped the environment of the Twin Cities. While this history does not give a complete look into the Minneapolis Park Board, it does suggest further work could uncover the importance and the power of this actor in shaping the environment and culture of the Twin Cities. By focusing on how the Board negotiated and rationalized the Minnehaha Creek through the production of Parks, this history shows that the creation of Minneapolis parks was itself a technological affair where landscape was remade with technology and as technology. In carving out a new space of analysis and discussion around the Minnehaha Creek, my hope that a more critical discourse can emerge both around the "natural systems"—the city lakes, creeks, and rivers—that Minneapolitans love to enjoy and the power that has been and is being exerted to maintain those spaces. In doing so, creating a space where we can build landscapes that work for the many and not the few and for the humans and nonhumans alike that call these landscapes home.

Chapter 2

From to *Wakpa Cistinna* to the Minnehaha: A River Becomes a Creek

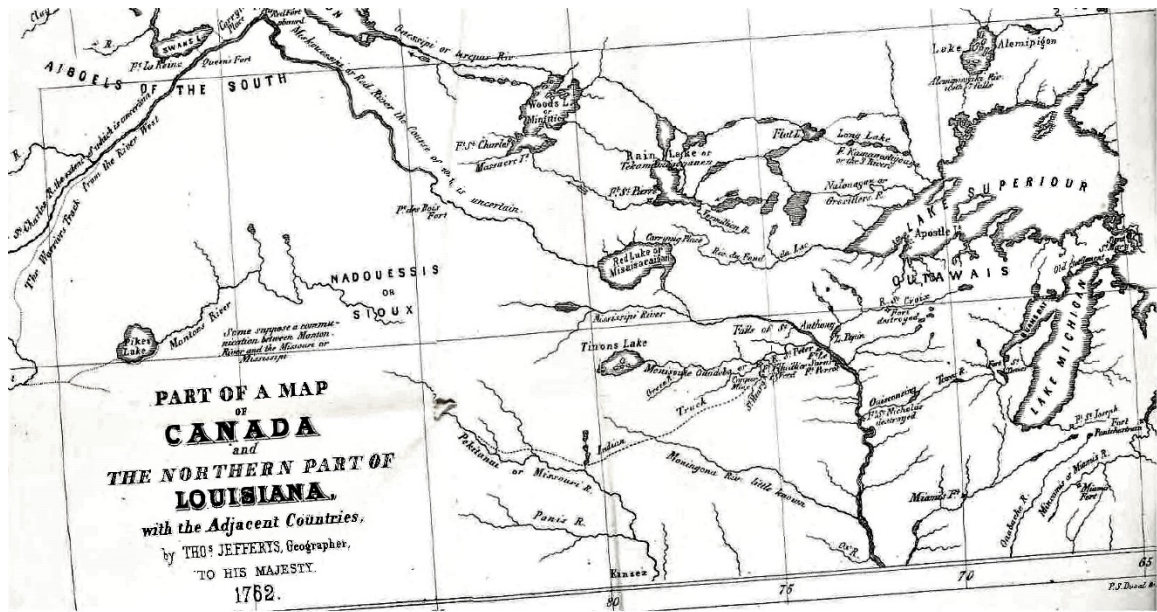


Figure 1: Thomas Jeffrey's "Part of a Map of Canada and The Northern Part of Louisiana" as excerpted in E.D Neil's *History of Minnesota* (1858)

Renowned historian of cartography John Harley commented in his essay "Maps, Knowledge, and Power" that "maps were used to legitimize the reality of conquest and empire [by] help[ing] create myths which would assist in the maintenance of the territorial status quo."⁴⁹ According to Harley, in their drawing of empire cartographers created a framework in which power could be extended and exerted over a territory. The myths that they helped create in this process were as much the products of what cartographers chose to put on the map as what was chosen *not* to be put on the map. Harley characterized these intentional exclusions as "silences." To him silences were "positive statements, and not

⁴⁹ John Harley, "Maps, Knowledge, and Power," in *The New Nature of Maps* ed. Paul Laxton, pp. 52-81. Baltimore: (John Hopkins University Press, 2001), 57, emphasis added.

merely passive gaps in the flow of language.”⁵⁰ That is to say, the practice of not including something on a map could be an assertion of power in the same way that including something could be.

Part of the history of the Minnehaha Creek is the emergence of the river from silence into a staple of the Euro-American society that came to control it. In the map above (Figure 1) a slight protrusion above St. Anthony Falls is a tempting candidate for the Minnehaha, but if it were describing a physical hydrological reality, it would have been Basset’s Creek.⁵¹ For Harley, silences had to be purposeful, but I would argue that silence as a product of ignorance or inattention can be a “positive statement” in its own right. In the case of the Minnehaha Creek, its silence on the map is a consequence of its illegibility and disinterest to European culture in the 18th century. For the map’s creator, British imperial geographer Thomas Jeffreys, the Minnehaha Creek was too small and still too far on the fringes of European society to make it on his survey.

Titled “Part of a Map of Canada and the Northern Part of Louisiana with the Adjacent Countries,” the map excerpt above is a reduced version of Jefferys’s 1762 map of the same name. This reduction is one taken from the first history of Minnesota, E.D. Neil’s 1858 *History of Minnesota*. The map is simultaneously an artifact of the imperial desires of the British empire and part of the creation of a state mythology for Minnesota.

⁵⁰ John Harley, "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe." *Imago Mundi* 40, no. 1 (1988), 58.

⁵¹ Basset’s Creek is a creek that runs from north and west of the city under the of Minneapolis. The history of Bassett Creek is a fascinating tale of an envirotechnical system quite similar to that of the Minnehaha Creek and no doubt in need of serious historical investigation of its own. The best account to date is Meleah Maynard, “Crippled Creek” *City Pages*, Wednesday, November 29, 2000.

Writing in the years leading to statehood, Neil, a former fur trader, proto-anthropologist, a historian, and friend of Minnesota's first governor Henry Sibley, chose Thomas Jeffery's map to give context to the venue of the French and Indian War (the 7-Years War) in the region during the 1760s. Thus, for Neil's history Thomas Jefferys's map helped him to assert Minnesota in a longer history of empire and European culture.⁵²

In a subtler way, Thomas Jeffery's map and the silent state of the Minnehaha is also a testament to the status of Creek in the 18th century. In some sense, the silence of the 1762 map is a testament to the Minnehaha Creek's "first nature." The idea of first nature and its companion "second nature" originated from Georg Wilhelm Frederick Hegel's *Philosophy of Mind* where he used them to describe the transition from original natural impulse to behavioral habit. In William Cronon's influential environmental history of Chicago *Nature's Metropolis*, he used the Hegelian devices to frame the rise of Chicago as a moment when humans became overwhelming forces in shaping the "wild-garlic place." In the context of the Minnehaha Creek, first nature does not mean an absence of human interaction. In 1762, the Creek was a part of Mdewakanton Dakota society, a facilitator of travel and likely a provider of food. At the same time, the Creek and the adjacent woodlands, savanna, and prairie environments provided habitats for deer, elk, bison, wolves, fox, eagles, hawks, jays, cranes, crows, pike, bass, sunfish, buffalo fish, and many more animals once or currently still endemic to Minnesota. Undoubtedly, the terrestrial, botanical, and bio-aquatic communities of the Minnehaha Creek were impacted by the Mdewakanton and their ancestors through activities such as hunting, selective burning,

⁵² Edward Neil, *The History of Minnesota*, (Philadelphia: J.B. Lipincott & Co., 1858), 300.

fishing, and wild rice farming. However, in 1762 the 22-mile meander of the Minnehaha Creek from Lake Minnetonka to the Mississippi, while experienced and used by humans it was not defined by them. Rather, its flow was the product of hydrological and geological forces from the end of the last ice age.⁵³

While European origins in Minnesota date back the Hennepin expedition of the 17th century, the Minnehaha Creek's conquering by European culture did not begin effectively until the 19th century. The Minnehaha was almost surely known to French, British, and American fur traders in the region by the 18th century, but it wasn't until the construction of Fort Snelling in 1812 that part of it became officially under the territorial control of a European culture. A decade after the construction of Fort Snelling the first European descended person, (allegedly) Joseph Brown, first navigated the Creek to its headwaters Lake Minnetonka with the help of some Mdewakanton men. The Brown expedition marks the beginning of a profound period of transformation for the Creek and its ascendance into American culture. In the wake of the Brown expedition, the Creek was given its first Euro-American name—"Brown's Creek." Ironically, Brown in this case was not Joseph Brown, but Major General Jacob Brown of Fort Snelling. In this act of naming, the invading American culture first exerted its ownership over the small river, foreshadowing the years to come. In the 1850s, the Creek received its contemporary name from the 19th century romantic poet Henry Wadsworth Longfellow. In his popular epic poem *The Song of*

⁵³ Georg Wilhelm Friedrich Hegel and William Wallace. *Hegel's Philosophy of Mind*. (Clarendon Press, 1894); Italo Testa, "Dewey, Second Nature, Social Criticism, and the Hegelian Heritage." *European Journal of Pragmatism and American Philosophy* 9, no. 1 (2017), 2. William Cronon, *Nature's Metropolis: Chicago and the Great West*, New York: (Norton, 1991). For an understanding of Cronon's use of the Hegelian devices "first nature" and "second nature," see xvii, 23, 61, 72, 93, 98, 198.

Hiawatha, Longfellow referred to the Creek as “Minnehaha,” which he took to mean “Laughing Water.” However, while *minne* is the Dakota word for water, *haha* means falls. Thus, what was *minnehaha* became Minnehaha through the cultural appropriation of Longfellow of the Dakota language.⁵⁴

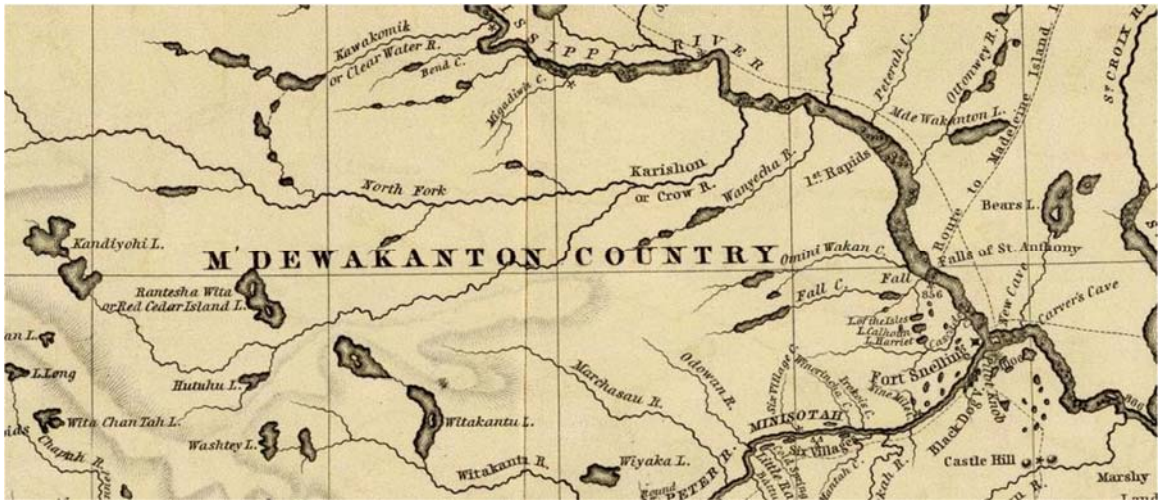


Figure 2: Excerpt of Joseph Nicolas Nicollet's, "Hydrogeographical Basin of the Mississippi River" (1843)

By 1840s, the Creek was emerging from silence on the maps of Americans and American society. By the 1840s the Creek had been rationalized slightly past the Minneapolis chain of lakes, but still not to its headwaters at Lake Minnetonka. A little more than a decade later, Edward Neil was able to offer this perspective on the Minnehaha Creek

A small rivulet, the outlet of Lake Harriet and Calhoun, gently gliding over the bluff into an amphitheatre, form this graceful waterfall [the Minnehaha Falls]. It has but little of “the cataract’s thunder.” Niagara symbolizes the sublime; St. Anthony the picturesque; Ha-ha the beautiful. The fall is about sixty feet, presenting a parabolic curve, which drops, without the least deviation, until

⁵⁴ Warren Upham, *Minnesota Geographic Names: Their Origin and Historic Significance*, Volume 17 of the Collections of the Minnesota Historical Society. (St. Paul: Minnesota Historical Society, 1920), 230.

it has reached its lower level, when the stream goes on its way rejoicing, curling along in laughing, childish glee at the graceful feat it has performed in bounding over its precipice.⁵⁵

However, in the decade preceding Neil's description, the land was still "M'dewakanton Country," and Euro-American settler-colonists were still legally prohibited from settling much of what would become Minneapolis and its western suburbs. In 1851, this picture would begin to dramatically change. Signed in 1851, the Treaty of Traverse des Sioux legalized the settlement of Minnesota west of the Mississippi River and along with the Mendota Treaty signed the same year, laid the foundation for Minnesota statehood in 1858.⁵⁶

The treaties of Traverse des Sioux and Mendota did not just open land to settlement, it enabled the transformation of the environment. While the Mdewakanton utilized an array of technologies prior to the era of American hegemony in Minnesota, by the 19th century not only using their traditional technologies such as canoes, bows, fishing nets, spears, and controlled burnings, but also European technologies which they acquired through trade such as guns and steel weapons, the extent of their environmental impact was nowhere near the scale of what the invading Americans' would come to be. For the Minnehaha Creek, this point is especially salient. Unlike the Mdewakanton, the American society that displaced them would manufacture environments at unprecedented scales in the region, the Minnehaha Creek being included. In the aftermath of Traverse des Sioux, a rush of framers, loggers, and millwrights quickly colonized the newly annexed territory. The

⁵⁵ Neil, *History of Minnesota*, xxxvii-xxxviii.

⁵⁶ Kathy Graves, Elizabeth Ebbott, and the League of Women Voters of Minnesota, *Indians in Minnesota*. 5th Ed. (Minneapolis: University of Minnesota Press, 2006), 327.

Minnehaha Creek found itself in the middle of this transformation, providing a home for both millwrights and farmers. The milling industry in particular would prove to be important for the then small frontier town Minneapolis, which in the course of fifty years emerged as the leading flour producer in the world. In the beginning of the flour industry in the Twin Cities, gristmills⁵⁷ were dispersed around the metro on smaller streams and the Mississippi. However, early on the area around the Mississippi River's St. Anthony Falls became the center of the industry because of its abundance of energy enabled the largest milling operations. Although the Twin Cities flour industry centralized on St. Anthony Falls and the massive mills of Washburn & Crosby and Pillsbury, some of the smaller sites on the banks of creeks and streams across the Twin Cities metro, such as existed around Minnehaha Creek, were themselves important historical forces.⁵⁸

Once home to six mills, the Minnehaha Creek was an important resource for the economic development of the southern and western suburbs of Minneapolis. By 1852, the first of the grist mills—the Minnetonka Mills—was built by millwrights Simon Stevens and Calvin Tuttle near the Minnehaha headwaters less than a mile from Lake Minnetonka. A year later the Godfrey Mill was built by Art Godfrey close to mouth of the Minnehaha after the falls. Between 1853 and 1871, millwrights constructed four more grist mills between: two more in Minneapolis, one in Edina, and one in St. Louis Park. Through these grist mills, the Minnehaha Creek was first put to work. While not all the grist mills used

⁵⁷ Gristmill is a term used to demarcate a mill as one that grinds grain. The common design for a grist mill is to use water power, collected by a water wheel, to turn two or more grinding stones that physically break down grains into smaller granules to be made into flour.

⁵⁸ Dunwiddie, "The Six Flouring Mills," 171; See also Don Larson, *Land of Giants*, Minneapolis: (Dorn Books, 1979) for a good overview on the rise of milling;

dams to enhance the potential power of the Creek, several of them did. At the Globe Mill (or Schussler's Mill) in St. Louis Park, at the Minnetonka Mills, and at the Edina Mills, millwrights constructed dams to create millponds and increase the potential energy that could be harvested by their mill wheels. This first wave of Creek infrastructure would be the beginning of the Creek's development as an envirotechnical system. While technological interaction with the Creek predates the gristmills, technology before the mills was not an embedded constituent changing the Creek's flow for the purposes of assigning it a new utility. Thus, as dams and mills were embedded in the Creek, its water and flow took on a technological purpose and function—to power machines to grind wheat and to cut wood—and in the process became an artifact of humanity.⁵⁹

The mills were of course more than technological forces of environmental change; they were also forces of social and economic changes. Providing a structure to capture economic output in south Minneapolis and its south and western suburbs, which for the citizens of the south and west metro between 1850-1880 was mainly cutting down trees and growing wheat, these early mills functioned as centers of development. From at least two of the early mill sites spawned new towns and villages. From the Minnetonka Mills was founded the village of Minnetonka Mills and from the Globe Mill spawned what would become St. Louis Park. Connecting farmers with a technology that could help commodify

⁵⁹ Dunwiddie, "The Six Flouring Mills."

their wheat and wood, these mills were foundational for the fledgling economies of the frontier metropolitan area.⁶⁰

Reflecting on the strength of the Minnehaha milling community, Dr. Otto Schussler whose father owned the Globe Mill or Schussler's Mill in St. Louis Park, remarked in his 1906 memoir that "During the seventies of the last century [the Minnehaha] furnished power for no less than 5 flour-mills, some of them large in size and all of real importance to the farming population of Hennepin county in those days." Both living on the banks of the Minnehaha and seeing its milling community, Schussler experienced firsthand how the Creek was put to work as a tool of economy and society building. To give some context to Schussler's reflection, the largest of the mills, the Minnetonka Mills, at its peak in 1881 had a storage capacity of 50,000 barrels of wheat, manufactured 300 barrels of flour per day, and shipped its product as far as Europe.⁶¹

While the Minnehaha milling industry was helping develop and settle South Minneapolis and the south and western suburbs of Minneapolis, a combination of railroads, milling, and banking was transforming Minneapolis. Consolidating itself with the village of St. Anthony in 1872, Minneapolis quickly started to outpace its neighbor and competitor St. Paul in both population and economic power. In the sixty years after Traverse de Sioux, the population of Minnesota grew from less than fifty-thousand to over two million. By the

⁶⁰ Ibid.; Isaac Atwater, *The History of Minneapolis*, (New York, 1893), 528; Return I Holcombe and William H. Brigham, *Compendium of History and Biography of Minneapolis and Hennepin County, Minnesota*, (Chicago: 1914), 38.

⁶¹ Otto Schussler, *Riverside Reveries*. Minneapolis: (1906), 105 and 107. Schussler got the number of mills wrong here likely because the Godfrey Mill folded in the 1860s and thus was not around during his childhood; Dunwiddie, 170 and 173.

1892 Republican National Convention in Minneapolis, together St. and Minneapolis were home to more 300,000 people. The consequence of this population growth, driven by an influx of immigrants first from New England and then from Scandinavia, was the need for more space for housing, roads, trains, sewers, and commercial buildings demanded by the emerging metropolitan economy. By the turn of the century, the Twin Cities and especially Minneapolis had transformed from the home of the Mdewakanton Sioux to a full-fledged industrialized American metropolis.⁶²

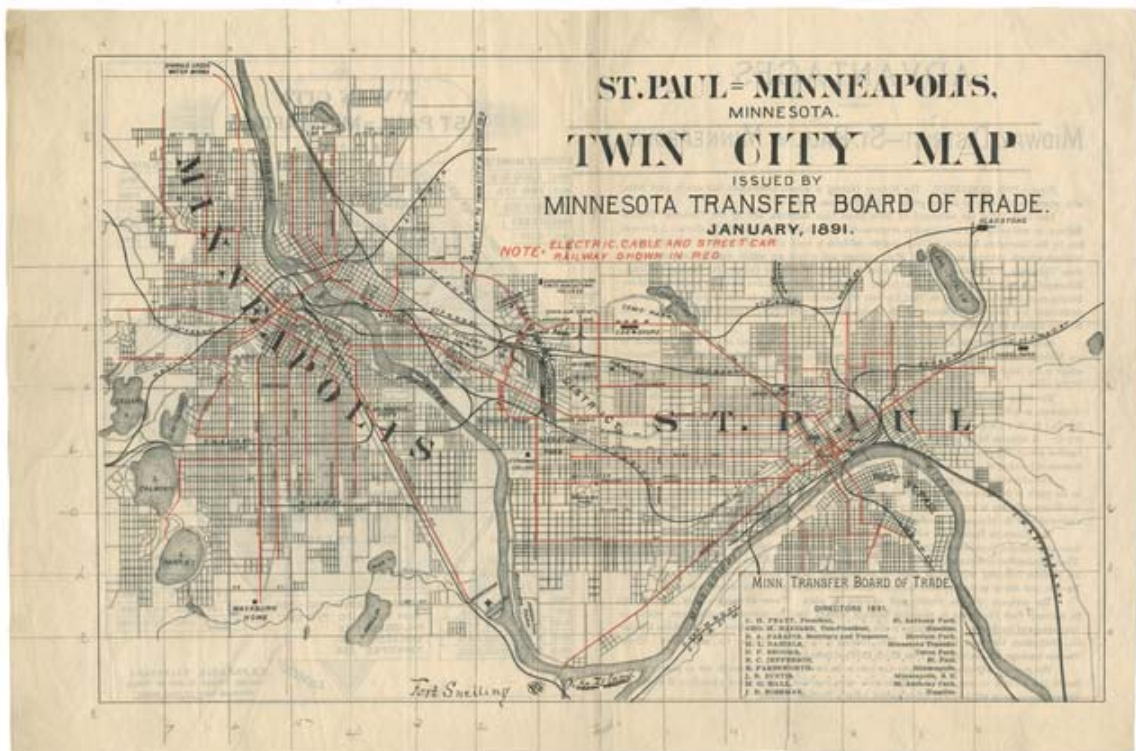


Figure 3: Twin City map: St. Paul - Minneapolis, Minnesota. (1891) Courtesy of the Minnesota Historical Society

⁶² Workers of the Writers Program, *Minneapolis: The Story of a City*, (Minneapolis: Writer's Program, 1940), 67; Minnesota State Demographic Center. "Minnesota Now, Then, When...An Overview of Demographic Change," April 2015. https://mn.gov/admin/assets/2015-04-06-overview-MN-demographic-changes_tcm36-74549.pdf

For the Minnehaha millers, the rise of the Twin Cities would result in the decline of their industry. Already working against the power differential between their locations on the Creek and the locations of Pillsbury and Washburn & Crosby at the Mississippi River, the more connected Minnesota was to national markets and the more connected the different parts of the Twin Cities were to each other, the easier it was to be outcompeted. With their larger operations, Pillsbury and Washburn & Crosby created economies of scale that could not be matched by the smaller milling operations. Consequently, during the 1880s the Minnehaha milling industry went into decline. Selling off their farms and milling sites, whose value had increased with the new population surges and the greater demand for property, the mills began to disappear one by one. For the Minnehaha Creek, losing the milling industry meant losing a constituent invested in its waterflow. While the Minnehaha mills and the farms that fed them imposed themselves upon the hydrology and ecology of the Creek, they also had a stake in preserving a water flow that could sustain their businesses. Without such concern, the Minnehaha Creek became open to a new era of hydrological intervention.

Part of this new era of interaction with the Creek would come to be defined through creating park and leisure spaces, another aspect would be through the demands of drainage and water abundance, and another aspect still would be through the concerns of water scarcity. I argue that this moment can be usefully conceptualized as a regime change; a moment where the conditions governing the perceived normativity of the Creek change and in the process change the Creek itself. In the regime that was replaced, the Creek was being defined through the economic interaction that was facilitated by the Minnehaha mills

and their embedding within the river. In doing so, the mills put the Creek to work as a tool of not only commerce and society, but of environmental change. In the regime that takes charge in the wake of the Minnehaha milling industry collapse, the Creek was again put to work. However, the work that the Creek would do under this new regime, while still economic and social, was not centered around a singular industry. Rather, the new regime had dispersed concerns that included preserving, maintaining, and creating spectacle and spaces of recreation, while simultaneously protecting real estate and draining streets.

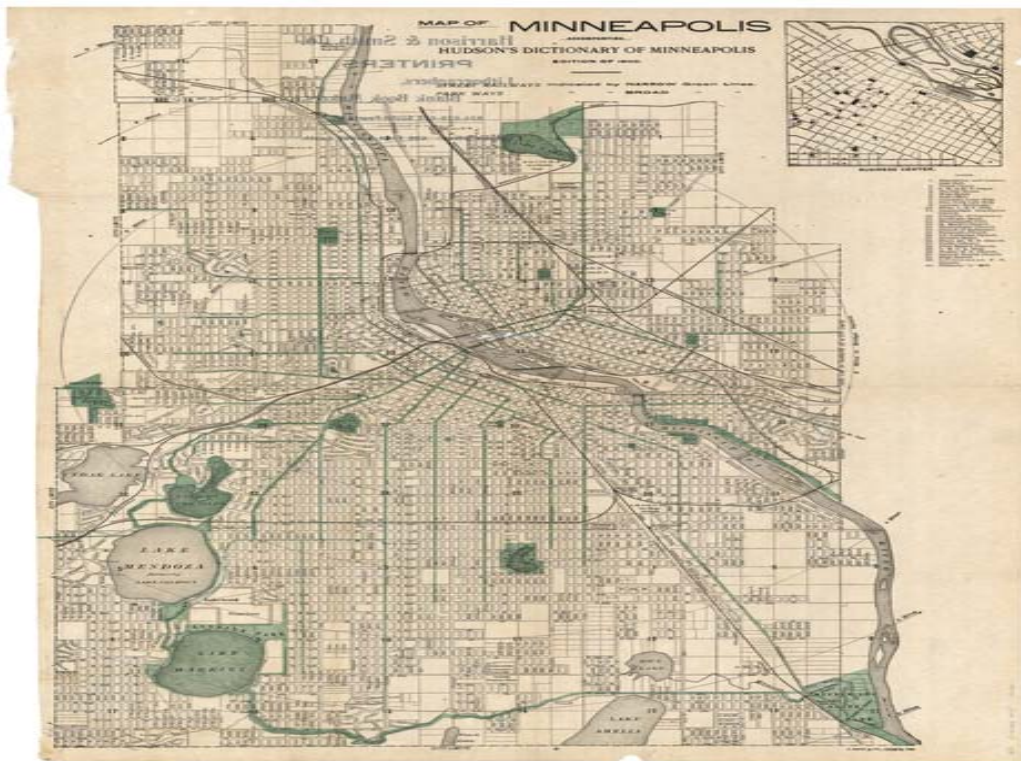


Figure 4: "Map of Minneapolis accompanying Hudson's dictionary of Minneapolis" (1900)

The transition to a new regime was by no means instantaneous and without push back. In the early 1890s concerns about maintaining Lake Minnetonka's water level were already becoming manifest around the lake community. An early expression of this concern

resulted in the raising of the dam belonging to the Minnetonka Mills in 1893. Discontented with losing his access to water for his mill, millwright Peter Schussler, owner of the Globe Mill in St. Louis park, successfully sued the Minnetonka Mills to lower their dam. The case went all the way to the Minnesota Supreme Court who ruled that the Minnehaha Creek was navigable, and therefore downstream owners had rights to water. However, these rights were contingent upon use. Thus, the demise of the last downstream milling operations in the four years after Schussler v Minnetonka Mills left the Creek vulnerable to new kinds of hydrological and ecological manipulations.⁶³

In 1897, the Hennepin County Board of Commissioners approved and constructed the first Gray's Bay Dam at the headwaters of the Minnehaha Creek at Lake Minnetonka. The dam's installation came at the behest of lake dwellers who were looking to ensure the navigability of Lake Minnetonka throughout the summer months and to keep more water for their growing consumption of lake. The first Grey's Bay Dam was a 720ft by 30ft earthworks dam composed of mud and gravel, at a cost of \$19,000. As recorded by Minneapolis Super Intendent of Parks Theodore Wirth and engineers Sven Norling and Harold Lathrop in their hydrology of Lake Minnetonka, this dam brought the Crest level of Lake Minnetonka to 929.42 NGVD.⁶⁴

Commenting on the dam's opening in the fall of 1897, an unnamed author in the Minneapolis Tribune reflected on the dam's opening:

⁶³ Minneapolis Tribune, "The Minnetonka Dam Matter," June 20, 1897.

⁶⁴ Editor of Minneapolis Tribune, "The Minnetonka Dam Matter." Minneapolis Tribune, June 20, 1897; Theodore Wirth, *Hydrological Report on Lake Minnetonka*. Minneapolis: (Hennepin County Board of County Commissioners, 1935), 3.

The water will be shut off this morning at the new dam across Gray's bay at Lake Minnetonka, and no more of the precious water will be allowed to go to waste, for evermore . . . At last, after many years, the county of Hennepin has succeeded in checking the water flow from the lake, and there is little doubt but what from now on there will be plenty of water in Minnetonka . . . Those who wish to see Minnehaha Falls, hereafter, will have to wait until the dam overflows in spring, for there will probably be no more laughing water until that time.⁶⁵

Within this passage, technology presents itself as the savior. For years, the author reflects, water was being “wasted” and the dam was effectively going to limit these unnecessary wastes of nature. This satisfaction comes at the expense of the Minnehaha Falls: “no more laughing water.” For the future of the Creek, it would now have to contend with a mandated lake level enforced by a technological barrier. While the Creek was dammed before 1897, it was never so high nor as extreme because millowners were damming for energy rather than maintaining a water level, and downstream millowners had an interest in preserving this flow. This point in the history of the Minnehaha Creek is significant not only for the power it asserted over what a normative hydrology was to look like for the Creek, but also for what it says about the new nature of Lake Minnetonka and the Minnehaha Creek.

What does a natural lake level look like? For that matter, what does a natural water flow for a creek look like? Since the construction of Grey's Bay Dam in 1897 and to a lesser degree since the urban and suburbanization of the Twin Cities after the 1850s, these questions are shrouded in a layer of culture. Defining natural as “first nature,” one might think a natural lake level or river flow would be the average or median depth or gallons per minutes that is characteristic of a lake or river over a long period of time before mass human

⁶⁵ *Minneapolis Tribune*, “Gates to be Lowered,” August 27th, 1897.

intervention. In this sense, there has not been a first nature water level in Lake Minnetonka nor water flow in Minnehaha Creek since the suburban and urban sprawl of the mid 1800s and especially since the installation of the first Grey's Bay Dam. Another way of approaching the question of what a natural water level and water flow looks like for these systems is asking what a "historic water level" is. This euphemistic governmental phrase is used in contemporary management of Lake Minnetonka. Rather than saying the average lake level since Euro-American settlement in the 1850s, the DNR and the Minnehaha Creek Watershed District, which are the two governing bodies controlling Minnetonka's water level today, use this seemingly innocuous terminology to naturalize what was and is still a social choice. The installation of the Grey's Bay Dam and the water level it has since mandated was a social construction made by humans of the time and maintained by humans since then to satisfy their needs and desires through the (re)structuring of water systems. It is social choices, such as Grey's Bay Dam, that produced the second nature of both Lake Minnetonka and Minnehaha Creek which is what "historic water level" refers.⁶⁶

While the naturalness of Lake Minnetonka and the Minnehaha Creek was not destroyed, their nature did change, and people noticed it. While some such as the anonymous author in the *Minneapolis Tribune* were exuberant, others reflected upon this moment with skepticism or remorse. The editor of the *Minneapolis Tribune*, writing in June of 1897, thought that the dam was a waste of money, was likely to be breached, and could jeopardize the property values in the mile-long section of the Creek from Gray's Bay

⁶⁶ Minnehaha Creek Watershed District, "About Gray's Bay Dam", <https://www.minnehahacreek.org/data-center/grays-bay-dam-operation>, accessed 4/15/2019

to the Minnetonka Mills. For Otto Schussler the changes that Grey's Bay Dam brought to the Minnehaha Creek erased the environment of his childhood.

To those who are accustomed to think of the Minnehaha Creek as a series of isolated stagnant pools that for a few weeks in the spring are joined to form a weed-choked channel in which evidence of a sluggish current is to be discerned only by careful watching, it may seem incredible that this so-called "creek" was once not an inconsiderable river.⁶⁷

At Schussler's "not an inconsiderable river" from his childhood, he saw firsthand how the energy produced by the Creek fueled his father's business and others like it and provided a habitat to the fish he would catch in the millpond. The transformation to the "weed-choked channel" that replaced Schussler's river in summer months was simultaneously an environmental change and a cultural change where the work that was once so visible to dwellers like Schussler became buried within the technologies and new values that instituted the new regime.⁶⁸

Constructing New Natures: Looking at the Ecological Consequences of Gray's Bay Dam through the Common Carp

When Gray's Bay Dam was constructed in 1897, it was not just an event that impacted people. The new regime it helped usher in was as much an ecological event as it was an event of technology, politics, and economics. By damming the Minnehaha Creek at its headwaters, what once was a river running the entirety of the year was turned into a river that had the potential to dry out by mid-summer. How exactly Gray's Bay Dam changed the ecology of the Minnehaha is difficult to say in part because it was not the only force

⁶⁷ Schussler, 107.

⁶⁸ Editor of Minneapolis Tribune, "The Minnetonka Dam Matter." Minneapolis: (Minneapolis Tribune, June 20, 1897)

impacting its biological communities at the end of the 19th century. Farming, milling, park creation, road construction, and wetlands draining were also forces that were restructuring Creek ecology in the same period. However, there is one constituent which does give us a clue—the common carp.

First introduced in the United States in the mid to late 19th century, the exact origin of the common carp in the US is debated. Some evidence suggests there were several breeders who may have taken carp cultivation into their own hands, importing them from Germany for food sources as early as the 1840s. However, the carp's confirmed date of introduction is 1877 when the U.S. Fish Commission began importing the carp from Germany in order to add an additional food source to local economies. The stocking of carp by the Fish Commission continued for over two decades and was aided by local fish commissions and sportsman alike. The stocking efforts led by the Fish Commission would later set the stage for the proliferation of the common carp as a nationally invasive species, one reported in all states except Alaska.⁶⁹

The carp first came to the Minnehaha Creek potentially over one-hundred years ago, but potentially longer. First introduced into Minnesota in the 1880s under the behest of big game fishermen and the U.S. Fish Commission, the carp quickly sprawled across the many interconnected waters of Minnesota. It is hard to say when exactly the carp made

⁶⁹ US Fish and Wildlife Service, "Common Carp (*Cyprinus carpio*) Ecological Risk Screening Summary," Web Version 09/10/24, accessed from <https://www.fws.gov/fisheries/ans/erss/highrisk/Cyprinus-carpio-WEB-09-10-2014.pdf>, 4; L., E. Nico, Maynard, and P.J. Schofield. "Cyprinus carpio." USGS Nonindigenous Aquatic Species Database, Gainesville, Florida. Available: <http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=4>. (November 2009); Andrew Reeves, *Overrun: Dispatches from the Asian Carp Crisis*. (Toronto: ECW Press, 2019), 4.

its way into the into the Creek, but by the 1940s the carp had a sufficient enough population that it not only became a spectacle for newspapers, but a concern for the lake dwellers of Minnetonka. As far as being a spectacle, we see the success of the carp invasion in the Minnehaha Creek and Lake Minnetonka in several photos taken by the *Tribune* in the 1940s of adolescents and boys spear fishing carp in the Creek. From the photos it seems that to the young white boys of Minneapolis, the carp presented itself as part of the available recreational opportunities of the waterway and a masculine coming of age experience. In this lineage of expressing masculinity through fishing, the boys of Minneapolis were in esteemed company.⁷⁰



Figure 5: Boy with His Dog, Spearfishing Carp at Minnehaha Creek (Minneapolis Tribune, 1940)

⁷⁰ “The Farmer's Fish: Interesting Facts about the Introduction and Propagation of Carp in the United States,” *The Minnesota Farmer*, December 21, 1883; “Boy with Large Carp that he Caught at Minnehaha Creek,” (1940), *Minneapolis Tribune* accessed from <https://digitalcollections.hclib.org/digital/collection/MplsPhotos/id/11965/rec/6>

In Richard White's history of the Columbia River, *The Organic Machine*, he framed Rudyard Kipling's dismay over the industrialization of salmon as a lament on the denial of masculine interaction with nature. To reclaim this sense of masculine loss, Kipling decided to give salmon fishing a go with and rod and reel (ultimately unsuccessfully). Like Kipling, the young boys of Minneapolis were able to find a type of masculine-naturalness in their fishing of carp in the Minnehaha despite the encroaching industrial environment jeopardizing such experiences. Ironically, however, "natural" in this case is confronted with the invasiveness of the carp. To be invasive is to not belong, it is to be *unnatural*. At the same time, the carp and the European descended adolescents were united by their invasiveness. Both came to the Minnehaha as uninvited intruders from the Eurasian continent and both it seems found the Minnehaha a fruitful new home. But unlike the white adolescents killing them, they were not labeled as invasive or undesirable. For the carp, we see its invasive quality stressed for the first time in the 1940s when a screen was installed at Lake Minnetonka to keep the carp living in the Minnehaha Creek from entering Lake Minnetonka. Contrasting Gray's Bay Dam keeping the water in was the fish screen keeping the fish out. Thus, by 1940 the Minnehaha Creek to the lake dwellers became the place of both biological and hydrological undesirability.⁷¹

⁷¹ Richard White, *The Organic Machine: The Remaking of the Columbia River*, (New York: Hill and Wang, 1995), 33.



Figure 6: "Screen Across Gray's Bay to Seize Some of the Carp Out of Lake Minnetonka" Minneapolis Daily Times (1945)

After the 1940s, pictures of adolescent males spearfishing carp are no longer featured in local papers and discussion of the fish net at Lake Minnetonka fades from newspaper discussions. Consequently, the carp's existence in the Minnehaha Creek blurs in the pictorial record in the post WWII era. However, the carp never left. In an article written for the *Star Tribune* in 1996 documenting the drying-out of the Minnehaha Creek, the author David Peterson, discussed how one of the consequences of the Creek drying up is the death of fish. Jeff Lee, then the manager of environmental operations for Minneapolis Park and Recreation Board commented "It's too bad about fish and insects in this situation . . . Typically they tend to die, although there isn't much a fish population there to begin

with." Asked about their rescue policy, Lee responded that "we [do] not go out to rescue fish. Most are carp or some northern, or minnows."⁷²

Since Peterson's article, an attempt was made to understand the fish community of Minnehaha Creek. In a 2010 Minnehaha Creek Watershed District and Minnesota DNR survey of the Minnehaha Creek, they showed that despite periodic drought that carp continued to persevere in the Minnehaha. In the survey they found that the most abundant species found in the Minnehaha Creek are the common bullhead, the buffalo fish, and the common carp. The reasons they gave for the prevalence of these species are their shared tolerance for low oxygenated environments and pollution. As an ecologist might say, the three species are similarly adapted, all competing for the same niche.⁷³

This look at the biodiversity of the Minnehaha is of course as much an artifact of evolution and ecology as it is the actions of humans. According to the memoir of Otto Schussler, the Creek once provided excellent fisheries for panfish as well, but the 2010 survey found hardly any at all. What has changed so dramatically since Schussler's time is the water table of the Minnehaha Creek, which has fallen dramatically in many of its parts. As a consequence of Gray's Bay Dam, at times of the year, depending upon rainfall, the Creek can be completely dried out. On the other hand, the pollution that runs through the Creek is a direct consequence of the culture endemic to the sprawling city and suburbs that have imposed themselves upon the Creek. Because we mandate that our imperviable

⁷² David Peterson, "Merely Moist Minnehaha Shows Depth of Drought," *Minneapolis Star Tribune*, August 20th, 1996, 1.

⁷³ Minnehaha Creek Watershed District and the Minnesota DNR, "Fish Surveys for Three Pools in Minnehaha Creek and for Lake Hiawatha, Tributary to Minnehaha Creek," 1.

surfaces, such as sidewalks and roads, are to be free of ice and that our lawns are to be green and free of weeds, herbicide, road salts, and fertilizers are now defining features of the Creek's chemistry. In this new nature of low oxygen and chemical pollutants, the common carp finds a home where many other species wouldn't.⁷⁴

The story of the carp and the Minnehaha, however, is more than a story of a changed ecology in a local setting. Their shared history with the Minnehaha Creek becomes much more significant when we place it within the carp's status globally. In 2008, the International Union for Conservation of Nature (IUNC) declared the common carp vulnerable to extinction in its native habitats around the Aral, Black, and Caspian seas. In the context of the 150-year history of the carp in North America, this event may seem perplexing. Alongside the zebra mussel, the sea lamprey, and its cousins the Asian carps, the common carp is considered one of the worst aquatic invasive species in North America. This strange contrast of a species being an invasive scorn while being threatened in its native environment raises questions not only about the profound ways humans have reshaped the planet, but also questions about where the species of tomorrow will find their homes. Are the anthropogenic environments of today and the future going to welcome them? Or will we cast them out? Will we still consider carp invasive when they only live in invasive habitats?⁷⁵

⁷⁴ Otto Schussler, *Riverside Reveries*. Minneapolis: (1906), 105 and 107.

⁷⁵ J. Freyhof and M. Kottelat, "Cyprinus carpio." The IUCN Red List of Threatened Species 2008: e.T6181A12559362. <http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T6181A12559362.en>. Downloaded on 20 February 2019; Minnesota Department of Natural Resources, "Common Carp, German Carp, European Carp (*Cyprinus carpio*)," accessed from <https://www.dnr.state.mn.us/invasives/aquaticanimals/commoncarp/index.html> on Feb 20th, 2019.

As the history of the carp and the Minnehaha Creek demonstrate, human manipulations of the Minnehaha Creek have created a novel ecological system. Within this new system, humans and non-humans were forced and will continue to be forced to reckon with the questions this new system engenders. For the lake dwellers of Minnetonka, they constructed a net in an attempt to filter out this new nature that they were in part responsible for making. To the adolescent boys of Minneapolis, they found this new nature an opportunity for recreation not normally found in urban environments. If we are going to develop cogent policy in these new environments, if we are to tackle the slippery categories that these new natures create, then we should probably dive into these systems to figure out how they came to be. From the home of Otto Schussler and the Minnehaha milling industry, to the home of the common carp, Gray's Bay Dam did not destroy nature, but it did change nature. Whether we decide that this new nature is a good thing, if we want to continue to let fish, crustaceans, and plant communities periodically dehydrate, is a moral and ethical question that we should see as part of the social construction of technology.

Chapter 3 The Minnehaha Creek and the Minneapolis Park Board

In James Scott's *Seeing Like a State*, he claims that one of the central aims of modern industrial states and states in general has been the legible ordering of nature. By making nature more rational, more easily digestible by bureaucracies, science, and technologies, states have redefined how humans engage with landscapes in places as disparate as cities, farmlands, and forests. In the history of the Minneapolis Board of Park Commissioners, the legible ordering of nature came hand in hand with the project of claiming power over landscape and the projection of its park commissioners' and superintendents' values into society. Rationalizing nature through the creation of parks, the Park Board brought together technology, landscaping, engineering, and leisure to form novel forms of nature. In the case of the Minnehaha Creek, these efforts resulted in a reengineering focused primarily on facilitating road development, connecting park spaces, and preserving its waterfall.⁷⁶

While the Minnehaha milling industry was going into decline during the 1880s, the Minneapolis Park Board was just beginning its rise. Created in 1883, the Minneapolis Board of Park Commissioners is an independent governing body of Minneapolis with its own property, budget, elected officials, and employees. The legislation that enabled the founding of the Park Board was titled "An Act Providing for the Designation, Laying out and Improvement of the Land of the City of Minneapolis for a System of Public Parks and Parkways; and for the Care and Government thereof," abbreviated as the Park Act. In its

⁷⁶ James C Scott, *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. (New Haven: Yale University Press, 1998).

original mandate the Park Board controlled only of the land that would become Loring and Prospect parks. However, the charter of the Park Board gave them broad powers to acquire new properties. Equipped with the ability to generate revenue through taxation, to purchase and receive property, and to condemn land, after the 5,226 to 3,911 votes ratifying the Park Board in Minneapolis, commissioners quickly set about the task of expanding their territory. This imperative of expansion was first laid out by the first president of the Board of Park Commissioners Charles Loring:

While the system may be more extensive than the present needs of the community require, it should be considered that the city is growing at a rate unparalleled among even the most enterprising American cities, and that the opportunity of securing lands for future needs already too long neglected, must be improved before the growth of the city shall have rendered them unattainable.⁷⁷

Within a few years of its founding, the Board expanded its control over Lake Harriet, Bde Maka Ska (then Lake Calhoun), a stretch of the Mississippi river near the University of Minnesota campus, the beginnings of several parkways, and the ownership and management of the trees of Minneapolis. The Minnehaha Creek, not originally conceived as part of the park system because it was thought to be too far from the original city limits, first became incorporated into the park system through the Creation of Minnehaha Parkway. In 1888, the Board made its first purchase for the parkway, securing land from Minnehaha Falls to Lyndale Avenue. In 1889, the Board added to its Creek holdings with the purchase of Minnehaha Park. The 178 acres found its way into the hands of the Park Board by way of the State of Minnesota. A park around Minnehaha Falls was

⁷⁷ *First Annual Report of the Board of Park Commissioners* (Minneapolis: John, Smith, and Harrison, 1884), 2 and 8 for the quote.

first conceived by the Minnesota State Legislature in 1875, but it was not until 1885 that the Legislature was able to secure the land appropriation and annex the property from the US Government and private landholders. According to the dictate of the Minnesota Legislature, Minnehaha Park was to be a “State Park for Horticultural and Mechanical State Exhibition Grounds, [and] for the location of other state institutions and buildings.”⁷⁸ However, at a cost of \$88,736.52 the State was unable to secure the necessary funds, so the Park Board stepped in, financed the project and took ownership of the park. Consequently, a new vision for the park, the Park Boards’ vision, took the place of the State’s.⁷⁹

The Ideology of Park Creation

Unlike the State of Minnesota, the Park Board saw Minnehaha Park more than a stand-alone park. Rather, the Park Board commissioners envisioned Minnehaha Park as a crowning jewel for their expanding empire of parks. Reflecting on the acquisition of its purchase, President Loring commented that Minnehaha Park was “by far the most important addition made to the City’s park area during the year, not only because of its availability for a park, but on account of its necessity to the completion of a park system, is beyond question that charming spot.”⁸⁰ In the context of the greater ambitions of the Park Board, the Minnehaha Creek came into the park system as an integral piece in creating renowned landscape architect Horace Cleveland’s original vision of a “Grand Rounds,” so

⁷⁸ Theodore Wirth quoting the State Legislature in *Minneapolis Park System*, 49.

⁷⁹ *Proceedings of the Minneapolis Board of Park Commissioners: For Year 1883* (Minneapolis: 1884) 8, 12, 54.

⁸⁰ *The Sixth Annual Report of the Board of Park Commissioners of the City of Minneapolis* (Minneapolis: John, Smith, and Harrison, 1890), 6.

named by President Commissioner William Watt's Folwell. In a basic sense Cleveland conceptualized the Grand Rounds as such: "The general system I have endeavored to explain to you would comprise more than twenty miles of parkways completely encircling the central portions of the city."⁸¹ The commissioners interpreted this vision a bit more broadly seeing the Grand Rounds as the idea of a large tract of continuous parklands, likely more than twenty miles, where one could travel between parks and parkways while staying on Park Board property. What the idea of the Grand Rounds provided to park commissioners and superintendents for over 50 years until its by and large completion in the 1940s was a teleology of growth; a framework and a goal to structure their expansionary and developmental efforts. Or simply stated, a Grand Rounds teleology. To park commissioners and superintendents that subscribed to and enacted this vision, the Minneapolis park system would someday emerge to be a defining aspect of Minnesota and Minneapolis, but only if the proper acquisitions were made.⁸²

The park commissioners and superintendents tasked with constructing the Grand Rounds justified and legitimated their endeavors in a variety of ways. Part of their vision was rolled into the still prevalent doctrine of manifest destiny. The Board commissioners, most of them settler-colonists from the East Coast, were not only witnesses but participants in the removal and erasure of the indigenous cultures that preceded them, and several of

⁸¹ Cleveland, "Suggestions for a System of Parks and Parkways for the City of Minneapolis," 11.

⁸² Proceedings of the Minneapolis Board of Park Commissioners: For Year 1883 (Minneapolis: 1884); *First Annual Report of the Board of Park Commissioners* (Minneapolis: John, Smith, and Harrison, 1884); *Ninth Annual Report of the Board of Park Commissioners* (Minneapolis: John, Smith, and Harrison, 1893); *Twenty-Fourth Annual Report of the Board of Park Commissioners* (Minneapolis: 1908); *Seventy-Second Annual Report of the Board of Park Commissioners* (Minneapolis: 1956).

them key figures in the early economic development of Minnesota such as Charles Loring and John Pillsbury. Within this context of manifest destiny and the Westernization of Minnesota, commissioners saw themselves as part of the triumphant development of Minneapolis in its rise to becoming an epitome of a modern industrialized metropolis. As President Loring commented, Minnesota's "resources [were] equal to all of Western Europe," they just required the right people to harness those resources.⁸³

However, parks to these men were more than tools and steps of Americanizing the north west. Parks were also about creating beauty, wealth, health, and democracy. Parks to these men were spaces where people of all classes could enjoy the gifts of "Providence," to partake in recreation, to maintain mental and physical health, and to generate wealth and status for Minneapolitans. The philosophy behind the development of Minneapolis parks started being formed in its very first year. Far from the epicenter of ideas about parks, commissioners were borrowing upon the ideas about public parks from the likes of Frederick Olmstead who designed Central Park and other east coast Park Boards such as existed in Boston.⁸⁴

The creator of the Grand Rounds vision Horace Cleveland, in fact, originally designed parks and landscaped along the East Coast and then Chicago before coming to

⁸³ *The Twenty-Sixth Annual Report of the Board of Park Commissioners of the City of Minneapolis* (Minneapolis: 1910), 14. President Wilbur Decker reflecting on his own thoughts about the nature of Minneapolis and the shared sentiments of the founders.

⁸⁴ Horace Cleveland "Suggestions for a System of Parks and Parkways for the City of Minneapolis," page 5 of the addendum to the *Second Annual Report of the Board of Park Commissioners* (Minneapolis: John, Smith, and Harrison, 1885) for a referenced to the Boston park board; Smith, *City of Parks*, pages 4-5 for discussion of Cleveland's relationship Olmstead and page 6 for a brief summary of his career before coming to Minnesota to design the University of Minnesota campus and consult for the Park Board.

Minneapolis to help design the University of Minnesota. Although a new arrival to the city, Cleveland brought with him a booster's perception of the Twin Cities: "The growth of Minneapolis and St. Paul into one great metropolis is as certain as the existence of the vast wealth now lying latent in the regions beyond, awaiting the development which will be wrought by peaceful hosts of emigrants who are daily pouring through you're your streets and marching onward toward its conquest."⁸⁵ Within this context of inevitable growth and development, Cleveland argued that the first and foremost reason for constructing parks was for reasons of promoting public health. The sanitary qualities of parks, he deemed were "by all odds the most important point for consideration."⁸⁶ Quoting from a Boston park commissioner, Cleveland asserted that "nothing is so costly as disease and sickness, and nothing so cheap as health. Whatever promotes the former is the worst sort of extravagance, whatever fosters the latter is the truest economy."⁸⁷ Thus, parks were not only spaces of health, but in the long run, cost effective sources of healthcare.

Agreeing with Cleveland, a decade later President Commissioner Loring in his section "The Sanitary and Moral Influence of the Park," stated that "It is conceded by all who have given the matter the thought that public parks are essential to the healthy development, physical and moral of the residents of a city, as are well ventilated houses."⁸⁸

⁸⁵Horace Cleveland "Suggestions for a System of Parks and Parkways for the City of Minneapolis," page 5 of the addendum to the *Second Annual Report of the Board of Park Commissioners* (Minneapolis: John, Smith, and Harrison, 1885)

⁸⁶ *Ibid.*, 11-12.

⁸⁷ *Ibid.*, 12.

⁸⁸ C.M. Loring, *The Tenth Annual Report of the Minneapolis Board of Park Commissioners*, (Minneapolis: Minneapolis Board of Park Commissioners, 1894), 13.

Loring substantiated his position by appealing to academic authority, quoting at length from a speech made by Dr. E.R.L. Gould from the US Department of Labor:

The rapid growth of cities is one of the striking facts of the century. Everywhere in civilized countries a rabid drift townwards has been perceptible. There are numerous causes for this. American cities are primarily commercial and industrial centers,—centers of trade naturally, but created of industry by the policy of railroads. Hence working people have flocked to them in large numbers. The superior conveniences and attractions of urban life have caused cities to grow at the expense of the country. . . This fact has given birth to a distinct species of social problems. How are the masses to be properly housed, provided with adequate breathing out-door breathing space and furnished with wholesome facilities for recreation? These are questions which demand the attention, not merely of philanthropists and social reformers, but of all citizens.⁸⁹

In Gould's excerpted speech he goes on to state that public parks are one of the best ways of addressing the problem of urbanization while also espousing a philosophy of egalitarianism and utilitarianism: public parks are to be a "priceless boon to the weak and invalid of all classes, but particularly the poor." The related ethics of egalitarianism and utilitarianism were consistently espoused by the Park Board and perhaps most strongly championed by the Board's second superintendent, Theodore Wirth. Presenting his philosophy to the Board in 1911, the influential parks figure stated that "In my opinion the greatest service that this Board can render in the future will be striving to equalize park privileges and opportunities. In days to come should not be that our natural park features are among the finest in the country, but that people in every quarter of the city enjoy

⁸⁹ E.R.L. Gould, (*American Statistical Association*, 1888) as quoted in "C.M. Loring, The Annual Report of the Minneapolis Board of Park Commissioners, (Minneapolis: Minneapolis Board of Park Commissioners, 1893), 13-14.

adequate privileges and equal opportunities to enjoy the beauties of nature and life in the open air.”⁹⁰

According to the early generations of park officials, the creation and preservation of outdoor beauty was wrapped together in a mission of public health and utilitarianism, idealized in the motto on the seal of the Park Board: “Health and Beauty.” Beginning first with Cleveland and Loring’s pronouncements in 1883 and expanded upon in the several generations after, Park officials consciously saw themselves as part of broader Progressive Era discussions about the problems posed by industrialization and urbanization, but also how best to utilize nature in the promotion of a healthy and equitable society.

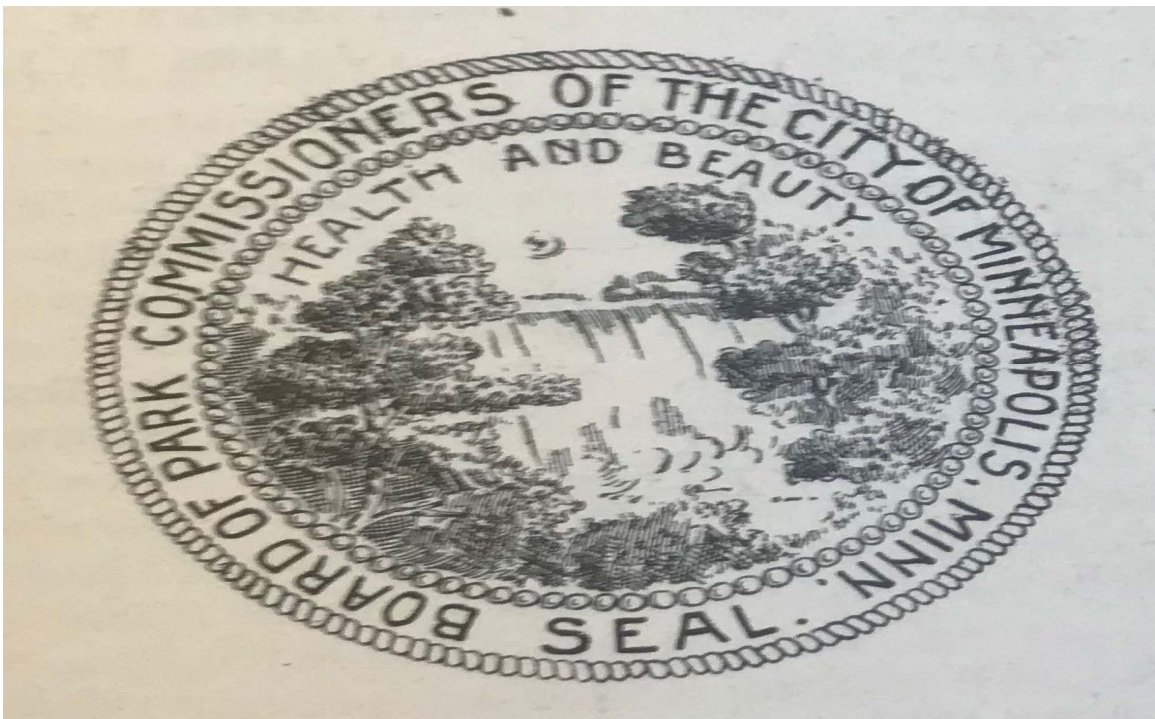


Figure 7: Seal of the Board of Park Commissioners (1894)

⁹⁰ Ibid., 14

Beneath the loftier ambitions of health and equity, however, there was also an economic purpose cited by the Park Board. In justifying their condemnations of land, the idea that parks and parkways, while an intrusion during their construction, would one day result in the increase of property value was a matter of pride for commissioners. Commenting about the effects of the construction of Minnehaha Parkway, Theodore Wirth commented that,

it seems to me that there has been at no time a more extensive and rapid development of residential property in the entire city area than that which took place during the past two years in the sections along the parkway. Not only have the improvements accomplished been a great stimulus to building activities, but they have exercised a decided influence upon the character of the buildings erected, as evidenced by the architectural beauty of the large number of stately new homes. Who can gainsay that are parks and parkways are the best means of building a City Beautiful, and are a sound and well-paying investment?⁹¹

Thus, parks were not only tools of health and beauty, there were tools useful for settling the city and promoting real estate development.

“Creek Bed Corrections”: The Minneapolis Park Board and the Development of the Minnehaha Creek

When the Park Board bought Minnehaha Park in 1889, they wasted no time putting the Creek to work. Having already started projects upriver and northward from Minnehaha Park along the Mississippi, the Board set about the dual task of integrating the new park into older projects and developing their new property. At Minnehaha Park, the early work

⁹¹ *Thirty-Third Annual Report*, (Minneapolis: Board of Park Commissioners, 1927), 33.

to develop the Park Board's new territory included cutting down trees, planting trees (elms and lindens), planting lawn grass, and putting in picnic shelters and walkways across the grounds. The idea of Minnehaha Park was to not only maximize the viewing potential of Minnehaha Falls, the park's center piece, but to utilize the abundant acreage for outdoor leisure and socializing. Within a few years after its founding, the park expanded to include a zoological garden and a flower garden, called Longfellow Gardens so named after poet who gave the Creek its ironic European name. At the Minnehaha Zoo one could find native animals such as elk, moose, and deer, which were brought into roam inside penned fences in the park, but also more exotic animals such as alligators and sealions, which were kept as indoor-outdoor attractions. Taken together, the early Minnehaha Park had two main spectacles: the Minnehaha Falls and animals.⁹²

3 Bears,	3 Foxes,	2 Wolves,
3 Racoons,	22 Deer,	6 Elk,
1 Antelope,	1 Moose,	40 Rabbits,
3 Angora Goats,	2 Alligators,	1 Sea-lion,
13 Guinea Pigs,	3 Guinea Fowl,	2 Owls,
1 Eagle,	3 Pea Fowl,	54 Ducks,
13 Wild Geese,	6 Swan,	1 Pelican.

Figure 8: List of Animals at Minnehaha Zoo (Board of Park Commissioners, 1894)

Upriver from Minnehaha Park, the project of creating Minnehaha parkway required much more significant interventions into the Creek. The end goal of Minnehaha Parkway was to connect Minnehaha Park to Lake Harriet where the Minnehaha Creek met the short Lake Harriet Creek. Soon, however, Minnehaha Parkway got combined with the additional

⁹² See *Annual Report of the Board of Park Commissioners, 1889-1894*;

project of developing not only roads, but park area from Minnehaha Park to what would become 54th and Zenith Avenue South or eight miles up from the mouth of the Creek. Taken together, this extension of the Park Board property westward up the Minnehaha was called the “Minnehaha Creek Valley Project.” Buying land from the remnant farmers at the edge of Minneapolis city limits, the acquisitions made for the Minnehaha Creek Valley Project resulted in almost half of the Minnehaha Creek being owned by the Board. Consequently, the Park Board became the single largest owner of land along the Minnehaha Creek. A project that took over thirty years to complete and managed by superintendents William Berry and Theodore Wirth for over a decade under each of them, the Minnehaha Creek Valley Project combined a mix of road construction, landscape architecture, conventional engineering, hydraulic engineering, sewer building, and forestry to transform almost ten miles of the Minnehaha Creek. What once was a “wooden thicket with sprawling meadows” and interlaced with farms became in large part groomed lawns, roads, and sidewalks with new plantings of lindens and elms.⁹³

At the heart of the Minnehaha Valley Project was making what Superintendent Theodore Wirth called “creek bed corrections.”⁹⁴ By a “correction” Wirth was referring to the process of restructuring or moving the Creek in order to facilitate flood prevention, to make its course straighter, and to make road construction easier. Calling such alterations “corrections,” Wirth was in line with other river engineers in both the United and Europe in. From the Rhine to the Mississippi, the end of the nineteenth century and well into the

⁹³ Quote taken from Theodore Wirth, *History of the Minneapolis Parks*, 54.

⁹⁴ *Ibid.*, 56.

20th century was a period of history filled with such alterations to rivers and streams. In the case of the Minnehaha Creek, the corrections were in a larger sense geared toward the connection of the Minnehaha Creek Valley with Lake Harriet in pursuit of the Grand Rounds. The physicality of the Grand Rounds teleology as an embedded force within the Minnehaha Creek is most evident in its changed connection with Lake Harriet Creek. This project entailed moving the Creek slightly northward and making the Lake Harriet Creek straighter and significantly thinner (it was practically an estuary before) to make connecting Lake Harriet Parkway with Minnehaha Parkway easier. Reflecting on the thirty-year project in his history of the Minneapolis Parks, Theodore Wirth stated that the “Minnehaha Creek Valley project [was] a fine example of man working in unison with Nature, for as extensive as the improvements to the entire length of the parkway area, the valley and its winding brook still remain the attraction and charm that inspired Longfellow.”⁹⁵

⁹⁵ Theodore Wirth, *History of the Minneapolis Parks*, 56 and 113; Mauch and Zeller, *Rivers in History*, 3. Commenting on the jargon of river engineers in the Gilded and Progressive eras, “riverbeds were straightened or, as the experts’ jargon of the time would have it, ‘corrected.’”



Figure 9: Google Map View of Lake Harriet and Minnehaha Creek Intersection 2019



Figure 10: Lake Harriet and Minnehaha Creek Intersection 1873 (Hennepin County Archives)

To Theodore Wirth and other park officials that proceeded him and that would come after him, nature and humanity were not necessarily opposing forces. In their conceptualization of “Nature,” human artifice could enhance or improve nature without comprising a landscape’s naturalness. Thus, activities like “corrections” or the planting of 2,500 elms and lindens along Minnehaha Parkway while changing nature, were seen not seen as the destruction thereof. Rather, they were improvements upon what was already seen as an inspirational landscape in the tradition of 19th century romantics, such as Longfellow.⁹⁶

However, there were limits and places where “improvements” were less tolerated than others. Commenting in his annual report to the Board in 1909, President Wilbur Decker in a section titled “Natural and Artificial Features” commented

“The great river gorge and the Minnehaha Falls cannot be enhanced in beauty by so-called improvement, it is only necessary to protect them and make them accessible. . .roads, paths, and bridges have been built in order that people may get to them, but in my opinion, these accessories should be unobtrusive as possible and made to blend and harmonize with their surroundings . . . I desire to emphasize the fact that our task is different that with which the great majority of park boards have to deal. *While in many park systems the crowning features are artificial, ours are natural, and improvements should generally be of a subordinate character.*⁹⁷

Despite Decker’s reservations, one years later he had no problem considering Lake Nokomis (at the time called Lake Amelia) to be appropriated as a reservoir for Minnehaha

⁹⁶ *Eighth Annual Report of the Board of Park Commissioners* (Minneapolis: Board of Park Commissioners, 1895), 34.

⁹⁷ *The Annual Report of the Board of Park Commissioners of the City of Minneapolis*, (Minneapolis: 1909), 15-17. Emphasis in original.

Falls by way of a new dam and manmade canal. While the plans for Lake Nokomis only in part came into fruition because of cost concerns, for Wilbur, “so-called” improvements were fine in context. Nature could still be improved upon beyond the level of carefully placed “accessories” in the case of Lake Nokomis or the other city lakes, but not in the case of the Minnehaha Falls.⁹⁸

Another consequence of the Minnehaha Creek Valley Project was that the Park Board found themselves a driving force in creating a new drainage regime for parts of South and Southwest Minneapolis. With the expansion of not only the city limits, but also housing developments into neighborhoods bordering the Creek, new roads and sidewalks meant more impermeable surfaces, which meant new sewer networks. The other aspect of this is that by creating Minnehaha Parkway, the Park Board was incentivizing and enabling the settlement of the southern edge of Minneapolis. Incentivizing because proximity to park space made for a valuable real estate investment (as intended by the Park Board) and facilitating because the parkway was the first major road constructed through that part of the city. In the first period of its construction in the 1890s Board officials commissioned the parkway to be lined with storm sewers to help preserve the road and control flooding. However, as the neighborhood around the Creek began to develop, the Creek took on a larger role as a drainage basin, providing a drainage space not only for the Parkway, but for the neighborhoods bordering it as well. This became especially true in the 1920s when these neighborhoods began to fill up and when paved roads became standard in the area.

⁹⁸ *The Annual Report of the Board of Park Commissioners of the City of Minneapolis*, (Minneapolis: 1911), 78.

Already part of the Park Board's budget in the 1910s, the "oiling" or the paving of roads with asphalt became a standard practice around the Creek during these two decades. This was of course largely in response to the popularity of the automobile.⁹⁹

After three decades of increasing amounts of impermeable surfaces emerging around Creek neighborhoods in Minneapolis, the City Engineer and the Park Board agreed new infrastructure was needed for facilitating drainage beyond the existing storm sewers. The first of these projects took place near 54th and Upton Ave S in 1933, drawing together a small neighborhood of housing directly to the Creek through metal and concrete. Another series of projects was conducted in 1938 around the Cedar Avenue section of the Minnehaha Creek, and many more such projects would follow in the years after. Thus, urbanization allowed for the Creek to become a city service. That is, a convenient mechanism to dispose of the excess water that could not be absorbed by the impermeable, desert-like surfaces of the modern industrial metropolis.¹⁰⁰

The work being done on the Minnehaha Creek was not alone in the major works being carried in Minneapolis by the Park Board. In their desire to reshape land and society in pursuit of the Ground Rounds, Park officials were routinely using techniques and technologies such as damming, canal construction, dredging, and pumping. One of the most audacious of these landscaping and engineering projects was digging manmade canals between Lake Calhoun, Lake of the Isles, and Cedar Lake, and the process dredging the

⁹⁹ *The Proceedings of the Minneapolis Board of Park Commissioners: 1921*, (Minneapolis:1922), 25.

¹⁰⁰ *The Proceedings of the Minneapolis Board of Park Commissioners: 1933*, (Minneapolis: Minneapolis Board of Park Commissioners, 1934), 79-80; *The Proceedings of the Minneapolis Board of Park Commissioners: 1938*, (Minneapolis: Minneapolis Board of Park Commissioners, 1939), 43, 49.

lakes in the 1910s. In the original plans Board officials also wanted to connect Lake Harriet to this chain of lakes as well, but the distance and terrain between Calhoun and Harriet proved too difficult. If the inclusion of Lake Harriet had been successful, the Park Board would have connected all of Minneapolis's lakes directly to the Mississippi river and Lake Minnetonka by way of the Lake Harriet Creek-Minnehaha Creek confluence. This would have made for a strange hydrological and ecological upheaval in the 10,000-year history of the lakes and rivers. However, for the park commissioners who developed and approved these restructurings of the natural world, it does not appear that they realized the cognitive dissonance between the mission of preserving and enhancing natural features of the city by creating artificial connections between them. Rather, like in the case of the "creek bed corrections," artificiality was a tool of natural enhancement.¹⁰¹

In the 1920s, just as the Minnehaha Creek Valley Project was in its finishing stages, the Park Board made its most peculiar purchase of its relatively short history. In 1924, the Park Board purchased the land that would become Meadowbrook Golf course—one of a few properties that the Board owns outside of Minneapolis. At the time of its purchase, the property was a wetlands area fed by the Minnehaha Creek. Led by Superintendent Theodore Wirth, the wetlands were drained, lawn grass planted, and the swamp area dredged to create Minnehaha Lagoon. By the time of the creation of Minnehaha Lagoon, there were two other artificially created lagoons on the Minnehaha. One of these was Longfellow Lagoon, which will be discussed more below. The other lagoon, technically a

¹⁰¹ *The Thirty-Seventh Annual Report of the Board of Park Commissioners of the City of Minneapolis*, (Minneapolis: 1911), 78.

reservoir, was the Edina Mill pond at the intersection of the Minnehaha Creek and 50th street. Even though the Edina mill folded in the 1890s, its dam was kept on because residents enjoyed the mill pond. What separated this pond from the others is that its construction was not centered on maintaining property values, facilitating aquatic recreation, or preserving spectacle. Rather, the pond was constructed for facilitating the playing of golf. In fairness to the Board, the vision of golf they had in mind was not the elitist version which one could have found at the neighboring Interlachen Golf Course, but rather a space for golf that would be open to the middle and lower middle classes. At the same time, while not perceived at the time is as such, creating a golf course and dredging the Minnehaha Creek destroyed a valuable center of biodiversity. Besides wide variety of botanical and microbes, wetlands provide habitat to mammals, such as beavers and muskrats, and to a wide variety of birds. However, to people like Theodore Wirth, wetlands were simply unattractive spaces where mosquitoes bred.¹⁰²

At Meadowbrook Pond, we see that while park spaces were seen by the Board as part of creating a more equal society, which perhaps they did, parks also functioned as vehicles for environmental changes. Furthermore, while commissioners like President Wilbur Decker championed an approach to artificiality that would have had technologies as mere accessories of the landscape, the reality was that technologies became integral parts of the landscape. For the Park Board, technologies were used as integral facilitators of creating the Grand Rounds and in the process became part and parcel of the Minneapolis

¹⁰²Smith, *City of Parks*, 134; *Proceedings of the Board of Park Commissioners of the City of Minneapolis, 1931* (Minneapolis: Board of Park Commissioners), 17, 18; *Proceedings of the Board of Park Commissioners of the City of Minneapolis, 1931* (Minneapolis: Board of Park Commissioners), 37.

park system. In the case of the Minnehaha Creek, under the dictate of the Park Board, roads, dams, and storm sewers became normalized constituents of the river. In the process of constructing a park system, the Creek itself became a vehicle to form the Grand Rounds, to create leisure spaces for walking and golfing, and as tool for the disposal of excess water. These changes were not only reflected in its hydrology, in the ecology of its banks, and the gradient in the soil, but also in the physical meander which was moved to fit the desire of park board officials.

The Problem of Waterflow: Coming to Terms with Nature and the Consequences of Technology through Technological Fixes

The first mention of problems relating to the waterflow of the Minnehaha Creek was in 1892: motion “to investigate the feasibility of water control to preserve Falls.”¹⁰³ While the historical record does not clearly point to why this conversation first came about that year, a possible reason was the Republican National Convention of 1892, which was held in the Minneapolis. The convention was a coming of age event for the Twin Cities and its first entrance into the national spotlight. Thus, the commissioners were no doubt concerned about the impression the Minnehaha Falls would leave on their guests. What came from the investigation was one proposition. The main part of the proposal was to deepen and widen the channel connecting Lake Nokomis (then Lake Amelia) to the Minnehaha Creek. The second part of the proposal was to construct a dam facilitating this enhanced connection. The Board, however, was never able to enact this plan due to lack of funds, leaving it an issue for future generations of park commissioners. Discussions about the

¹⁰³ *The Proceedings of the Minneapolis Board of Park Commissioners: 1892*, (Minneapolis:1893), 12.

“preservation” of the Minnehaha Falls, however, did not go away. In fact, the 1892 discussion of the Board was just the first of many.¹⁰⁴

After the Board’s 1892 discussion of a possible plan to preserve the Minnehaha Falls, it does not appear again in the formal discussions of the Park Board for almost two decades. However, the issue remained a matter of public interest and while not discussed by the Board during their proceedings or in their reports, was acknowledged by them. In 1901, the issue of the waterflow over the Minnehaha Falls made its first appearance in Minneapolis newspapers since the installation of Gray’s Bay Dam. In August of 1901, Vice President Theodore Roosevelt was scheduled to arrive in Minneapolis on August 20th. One of his hosts, the St. Paul Commercial Club, in the days before the Vice President’s arrival took a sudden interest in the amount of water flowing over the Falls, even putting together a special committee. Thus, appearing that yet again Republican politics were influencing people’s interest in the Minnehaha Falls. On this matter the Minneapolis Journal reported that “Alderman Lars M. Rand, in an interview in a morning paper, indorses strongly the proposition of the Commercial Club to do something to conserve the water flow at Minnehaha falls, and in this connection takes common ground with C. M. Loring in the scheme of including Lake Amelia in the city's park system.”¹⁰⁵ Providing a fuller picture of this account, the *Minneapolis Tribune* in an article titled “Fish to Climb ‘Haha Falls;

¹⁰⁴ Ibid., 16, 25; *Tenth Annual Report of the Minneapolis Board of Park Commissioners*, (Minneapolis: John, Smith, and Harrison, 1893).

¹⁰⁵ “The City: Town Talk,” *The Minneapolis Journal*, August 15, 1901; “How Minneapolis Will Greet Colonel Roosevelt,” *The Minneapolis Tribune*, August 15, 1901.

Finny Tribe Could Accomplish this Feat by Ladder, Says Sec. Ridgeway; Replenishing the Water Supply of the Minnehaha Creek,” relayed that,

The special committee appointed by the Commercial club to investigate the possibility of replenishing the water supply of Minnehaha creek, has sent a communication to the park board, requesting that they look into the matter, especially as regards the damming of Lake Amelia. In speaking of the matter yesterday Secretary Ridgway of the park board, said: "The board prepared very careful plans a number of years ago for the retention of the water in Lake Amelia, and it was thought that the creek could be maintained in this way. Lack of funds, however, necessitated the dropping of the work, and nothing came of the investigation. The real cause of the lowering of the creek is the fact that no more water is allowed to flow out of Minnetonka. Which is the natural head of the stream. A plan was broached—some time ago—for the converting of a certain creek into the lake. It was thought this would raise the level Minnetonka considerably, and thus furnish a natural flow in Minnehaha. I believe this would be the best way if it were possible."¹⁰⁶

Despite their silence about the construction of Gray’s Bay Dam in their official proceedings, we discover from Secretary Commissioner Ridgway that the Board was not unaware of the changes that the dam made on the Minnehaha Creek and that at least one member of the Board perceived that Gray’s Bay Dam, by then four years old, was causing a new hydrological reality for their portion of the Minnehaha Creek and imposing constraints on their desires for the park system. In the same *Minneapolis Tribune* article, Ridgeway also discussed how the lack of water was complicating introducing new fish species into the park system through a fish ladder. Thus, in consequence of Grey’s Bay

¹⁰⁶ “Fish to Climb ‘Haha Falls; Finny Tribe Could Accomplish this Feat by Ladder, Says Sec. Ridgeway; Replenishing the Water Supply of the Minnehaha Creek;” *The Minneapolis Tribune*, August 15, 1901. “Finny Tribe” is manner of expression referring to fish as a whole. The saying has been dated by the Oxford English Dictionary to 18th and 19th centuries, although there is a band called Finitribe that alleges the phrase comes from Rosicrucianism.

Dam, not only were the Falls in need of restoration, but other plans, such as the introduction of new fish species into the city lakes, were being compromised by the inability to secure enough water. At the same time, in proposing solutions to their problem of waterflow, we see an open willingness to naturalize artificial constructions. Even though the flow which would have been produced by diverting another creek into Lake Minnetonka would have been caused by humans, the end result could still be a “natural flow.”

Although Secretary Commissioner Ridgeway recognized the need to find an adequate source of water for Minnehaha Falls, the discussion does not get formally brought up before the Board again until 1910. This time the proposition gets introduced by the relatively new superintendent Theodore Wirth. Stepping in for William Berry after his 23 years of service for the Park Board, Wirth began his tenure as superintendent in 1906 after being recruited from the park system of Hartford, Connecticut. Consistent in his thirty-year career as superintendent of parks was his willingness to use technology and engineering to reshape and restructure land according to the desires of the Park Board. Picking up where the Board’s discussion of 1892 and the Commercial Club’s proposition of 1901 left off, in 1910 Wirth suggested restructuring Lake Nokomis to be a water reserve for the Minnehaha Creek. Calculating that if properly dredged, if marshes around the lake were removed, if the course of the Creek were to be moved slightly, and if a dam with a gate were to be constructed, Lake Nokomis would be a more than suitable reservoir for the Falls in case of special events. As for the cost effectiveness and difficulty of the “improvements,” Wirth went as far to state that, “There are no difficult engineering features to overcome and the improvements to Lake Nokomis, brought about as suggested, will in themselves be worth

several times the cost of the work whatever it may be.”¹⁰⁷ This bold statement was likely founded in Wirth’s dislike of marshes, which showed its face again during the development of Meadowbrook Golf Course a little more than a decade and a half later. Unlike previous attempts, part of Wirth’s vision did come to light. The Board approved the dredging of Nokomis and the draining of its marshes, but it did not sanction the lake to be a gated reservoir for the Falls.¹⁰⁸

The earthworks projects undergone at the behest of Wirth on Lake Nokomis, however, did not prove successful in producing a sustainable solution for the Minnehaha Falls. In 1917, commissioners again raised the issue that “steps should be taken to preserve the Minnehaha Falls.”¹⁰⁹ Later in the year, for reasons unstated, the Board agreed that any action pertaining to the preservation of the Falls, while needed, should be tabled. In 1925, after another eight year of silence, the Board again decided to tackle the issue of preserving and maintaining a flow over the Minnehaha Falls. Unlike the Board of 1917, the commissioners of 1925 came up with a solution that was agreed upon and adopted. The plan that was advanced by the Board was the construction of a 731-foot well equipped with a “Worthington Coniflow Deep Well Pump, together with [a] dam constructed to store the water in the basin at Longfellow Gardens.”¹¹⁰ According to the Park Board measurements of their constructed system, the system was capable flooding the Creek with 1,000 gallons

¹⁰⁷ *The Twenty-Seventh Annual Report of the Board of Park Commissioners of the City of Minneapolis* (Minneapolis: 1911), 115.

¹⁰⁸ *Proceedings of the Board of Park Commissioners for the City of Minneapolis: 1911* (Minneapolis: Minneapolis Board of Park Commissioners, 1912).

¹⁰⁹ *Proceedings of the Board of Park Commissioners for the City of Minneapolis: 1917*, (Minneapolis: Minneapolis Board of Park Commissioners, 1918), 159.

¹¹⁰ *Forty-Fourth Annual Report of the Board of Park Commissioners: Minneapolis, Minnesota* (Minneapolis: Minneapolis Board of Park Commissioners, 1927), 31.

of water per minute and capable of storing roughly 5,000,000 gallons. Additional plans were made to expand the reservoir to be able to hold almost 9,000,000 gallons of water but was never followed through on. On May 5th, 1926 the Board reconvened their official proceedings at Longfellow Gardens to “formally start the pump installed at the new well which would provide water for augmenting the flow of the creek over Minnehaha Falls.”¹¹¹ Newspapermen even accompanied the commissioners to take pictures of the new rush of water being released from the reservoir, documenting this moment for the public.



Figure 11: Water Released from Longfellow Lakelet (Board of Park Commissioners, 1927)

¹¹¹ *Proceedings of the Board of Park Commissioners of the City of Minneapolis: 1926* (Minneapolis: Board of Park Commissioners of the City of Minneapolis, 1927), 79.



Figure 12: Full Flow Released (Board of Park Commissioners, 1927)

Reflecting on the historicity of the Board’s successful installation of the well, pump, and reservoir, President Commissioner B.L Kinsley excerpted part of a newspaper which was doing a special “In Minneapolis 25 Years Ago”: “To Make ‘Haha Laugh—The municipal affairs committee of the Commercial Club is considering various plans for furnishing a larger volume of water for Minnehaha Creek, in order to improve the falls. One of the plans proposed is to furnish an adequate reservoir by damming the waters of Lake Amelia.”¹¹² Looking back to the discussions of 1901 around the time of President Theodore Roosevelt’s visit to the Twin Cities, Kinsley framed the Board’s interventions of

¹¹² *Forty-Fourth Annual Report of the Board of Park Commissioners: Minneapolis, Minnesota* (Minneapolis: Minneapolis Board of Park Commissioners, 1927), 32.

1925-1926 as a solution long in the making. Despite the perceived success of their technological fix, the issue of waterflow over the Falls was far from solved.

The pump at Longfellow Lagoon was never meant as sustainable solution to the problem of waterflow over the Falls. In 1943, the cost of running the pumps twenty-four hours a day for four months was valued at the contemporary equivalent of \$252,000 a year, and thus was not economically feasible for the Board.¹¹³ Still looking for a solution, in 1930 the Board hired hydraulic engineer Sven Norling to propose a way to maintain the flow over the Minnehaha Falls. In consultation with Theodore Wirth, he proposed a new solution to the problem of waterflow for the Minnehaha Creek and with it an ambitious new expansion to Park Board territory. Titled “Proposed West Minnehaha Creek Development” with the exceedingly long subtitle:

Suggestive Plan for the Reclamation of Swamplands along Minnehaha Creek between Meadowbrook Golf Course and Lake Minnetonka, the Utilization of the Dammed Waters for Sanitary, Navigable Chain of Lakes, the Development of the Reclaimed Lands and Ancient Lands for Residential Subdivisions, Agriculture Purposes and Public Parks and the Construction of Boulevards and Service Roads Affording Access to such Properties¹¹⁴

The essence of the plan was to construct a series of dams and reservoirs to hold water for downstream that could be released during times when Lake Minnetonka could not produce enough water for the Minnehaha Creek. As a bonus to the project, marshes could be cleared and thus allowing for a supposedly more “sanitary” Creek and in the process open space

¹¹³ A.E. Berth, R.L. Freeman, and Chas E. Doell, *Study of Minnehaha Creek*, (Minneapolis: Engineering Division of the Minneapolis of Board of Parks and Recreation, 1943), 94.

¹¹⁴ See Figure 13

for agricultural and residential development. Due to lack of funds, the Norling-Wirth plan of 1930 was never set in motion.¹¹⁵



Figure 13: Borling Plan of 1930 (Hennepin County Special Collections and Archives)

During the same period Norling and Wirth were putting together a plan for the Park Board, they were also hired by the Board of County Commissioners of Hennepin County to develop a plan to provide Lake Minnetonka with a suitable amount of water to provide for the needs of lake dwellers while simultaneously furnishing enough water for the Minnehaha Falls. The main suggestion of Wirth and Norling was diverting the south fork of the Crow River into Lake Minnetonka. The Wirth-Norling plan was far from original, as it is more or less the same idea that Secretary Ridgeway discussed in his 1901 interview with the *Minneapolis Tribune*. However, unlike the plan that Ridgeway discussed, in 1933 the Norling-Wirth plan almost came into fruition through a proposed

¹¹⁵ Wirth, *Minneapolis Park System*, 138; Wirth, *Hydrological Report*, 2.

funding bill that made its way to the Minnesota State Legislature. The Board even took a vote on the proposal, introduced by way of Theodore Wirth and voted unanimously to support the efforts of Hennepin County, although ultimately to no avail. At the legislature the bill failed to gather enough attention to garner a vote and was not reintroduced.¹¹⁶

What did result from the Wirth-Norling efforts of 1930 and 1933 was another more substantial study about the hydrology of Lake Minnetonka in 1935 conducted by Wirth, Norling, and engineer Harold Lathrop. The purpose of the 1935 study, rather than preoccupied with finding water for the Minnehaha Falls, was specifically designed to figure out a solution the receding waters at Lake Minnetonka. The reason for this shift is cited by the three authors as being climatological:

During the subsequent years of 1930, 1931, 1932, 1933, and 1934 the subnormal precipitation and the abnormal temperature has been the primary reason for the constant recession of the Lake level, and the picture has changed from one of providing a flow at all times along Minnehaha Creek to one of providing water to restore Lake Minnetonka to an average normal elevation level, for both economical and recreational reasons.¹¹⁷

In spite Gray's Bay Dam, the water at Lake Minnetonka was still receding. Wirth, despite being a superintendent of Minneapolis parks, was in agreeance with his two coauthors that the lake level of Minnetonka was ultimately of more importance than the condition of the Minnehaha Creek. From an economic standpoint, this point seems reasonable as nearly the

¹¹⁶ *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota; 1933* (Minneapolis: Minneapolis Board of Park Commissioners, 1934), 120, 128, 148; Theodore Wirth, Sven Norling, and Harold Lathrop, *Final Engineering Report on the Restoration and Preservation of Lake Minnetonka & Minnehaha Creek*, Minneapolis: (Hennepin County Board of County Commissioners, 1935), 1.

¹¹⁷ *Ibid.*, *Hydrological Report*, 1.

entirety of the Lake Minnetonka real estate market rested on the ability of an accessible and navigable lake, where the park system of Minneapolis nor the real estate market around the Creek lived or died by the flow of the Creek. But the prioritization of the Lake Minnetonka over the Minnehaha is significant for more than economic reasons because it also reveals the ontological status of the Creek and Lake Minnetonka in that it shows how each body of water has been socially constructed. By imposing Gray's Bay Dam in between Minnetonka and Minnehaha, Hennepin County normalized the priorities of the lake dwellers on the landscape. The Minnehaha Falls drying up in midsummer was not inherently natural, but rather a consequence of humans deciding to value one body of water more than another. When Wirth published his study in 1935, the Falls and Lake Minnetonka were as much the products of nature as they were products of economics and technology.¹¹⁸

In consequence of the 1935 study of Lake Minnetonka, some changes were made to the lake. While the Crow River was not diverted, Hennepin County installed an electric pumping system that could be turned on during drought, similar to the 1926 pump installed at Longfellow Gardens. As for the Minnehaha Creek, the problem of finding a sustainable flow for the Minnehaha Falls continued. In 1940, Minneapolis celebrated its first ever Aquatennial. The Aquatennial is an annual celebration held during the third week of July and centered on the outdoor recreation spaces offered by the various parks across Minneapolis. However, the Aquatennial being in July also meant that the Minnehaha Creek was in its low season because of the absence of water coming from Lake Minnetonka by

¹¹⁸ Ibid., 1,2, 5.

midsummer. To solve this problem the Board procured special funding to activate the Minnehaha Falls through their pump at Longfellow Gardens. Thus, as much as the Aquatennial was a celebration of Minneapolis parks, it was also a celebration dependent upon the artificial aspects of the parks.¹¹⁹

What did result from the effort to supply water for the Falls for the Aquatennial was a renewed interest of the Board to once again search for a sustainable solution to the issue of waterflow over the Minnehaha Falls. In 1942, the Board consulted with hydrologist Adolph Meyer, the hydrologist for Hennepin County and the State Conservation Department, to find a way to provide the Minnehaha Falls with an adequate amount of water. Meyer's main suggestion was to use recycled air conditioning water and diverting storm sewer water into reservoirs that could be utilized for the Falls in times of need. However, the Board found the plan too expensive. On the other hand, Meyer's consulting did lead to a detailed and extensive study conducted by A.E. Berth, R.L. Freeman, and Chas E. Doell of the Engineering Department of the Board of Park Commissioners, presented to the Board in 1942 and published in 1943. To date, the Berth, Freeman, and Doell study is by far the most detailed hydrology that has been made of the Minnehaha Creek. In their report, the authors included precise details not only about flow rates, but also about cultural and economic observations about certain sections of the Minnehaha Creek. In conclusion of their study, the three engineers made a broad range of possible recommendations on how best to ensure a 15 cubic feet per second (cfs) minimum flow

¹¹⁹ *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota; 1940*, (Minneapolis: Minneapolis Board of Park Commissioners, 1941), 104.

rate upriver from the Minnehaha Falls and a 45cfs minimum for the Minnehaha Falls. All the recommendations centered on installing a series of dams and pump installations which were supposed to control and retain the water gained on Lake Minnetonka during the winter and disperse the excess water into a combination of manufactured reservoirs and Lake Nokomis. Although, one of the potential solutions included constructing a pipeline from the Mississippi River all the way to the Minnehaha Creek near Lake Minnetonka. However, none of the solutions, admitted the team of engineers, could guarantee a satisfactory flow every year for the Creek without jeopardizing an acceptable water level for Lake Minnetonka which was seen as being between 928.4 and 929.4 NGVD.¹²⁰

While proposing a wide array of technological fixes for the problem of waterflow over the Minnehaha Creek and the Minnehaha Falls, neither the Board nor Hennepin County enacted any of the recommendations of the 1943 study. Thus, it is perhaps unsurprising that during the years 1950, 1955, 1956, 1957, and 1959 the Board again requested surveys and studies regarding potential ways of restoring water at Minnehaha Falls. However, the Board of the 1950s, like the one of the previous five decades, was unable to find a suitable solution because of the inability to secure proper financing. At that, the solutions they were championing, rather than introducing new ideas, were reiterated solutions from the 1930s and 1940s. In 1961, continuing the trend of the Board of the 1950s, Superintendent Howard Moore was asked to find a way to give the Minnehaha

¹²⁰ Berth, Freeman, and Doell, *Study of Minnehaha Creek*, 94-109; *Proceeding of the Board of Park Commissioners: Minneapolis, Minnesota; 1961* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1962), 139.

Falls a sustainable waterflow, however, his report merely recounted Meyer's report of 1942, remarking how the plan was still neither practical nor cost effective.¹²¹

In 1964 the problem of waterflow was once again triggered by the visit of a prominent politician—President Lyndon Baines Johnson. After more than 70 years of contemplating how to secure a sustainable source of water for the Minnehaha Falls and 67 years since the installation of Gray's Bay Dam had imposed a rigid hydrological barrier to the Minnehaha Creek, on the eve of President Johnson's visit the Board was still without a solution for securing a flow over the Minnehaha Falls during midsummer. So, on the morning of June 28th, 1964 the Board arranged that several hydrants be opened for six hours in order to "activate" the Minnehaha Falls for President Johnson.¹²²

What does it mean that the Falls needed to be "activated"? That the life of the Minnehaha Falls midsummer became predicated on technological intervention? In 1911 Commissioner Wilbur wrote with emphasis that "*While in many park systems the crowning features are artificial, ours are natural, and improvements should generally be of a subordinate character.*" However, the visit of President Johnson in 1964 suggests something else. By 1964, the "crowning features" of the park system were no longer natural

¹²¹ *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota; 1950* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1951), 220; *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota; 1955* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1956), 133; *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota, 1956* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1957), 128,138,278; *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota, 1957* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1958), 6; *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota 1959* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1960), 74; *Proceedings of the Board of Park Commissioners: Minneapolis, Minnesota; 1961* (Minneapolis: Board of Park Commissioners of the City Minneapolis, 1962), 175.

¹²² *Proceedings of the Minneapolis Board of Park Commissioners*, (Minneapolis: Minneapolis Board of Park Commissioners, 1964), 24.

in the same way Wilbur was discussing. If water could only flow over the Falls in a satisfactory way with the help of technology, it seems that the crowning features of the park were as much artificial as they were natural. Humans did not create the Minnehaha Falls, but the history of the problem of waterflow over the Minnehaha Falls shows that they did *recreate* them. In the system that humans constructed through the combined efforts of Hennepin County and the Park Board, technology defined waterflow and produced waterflow, but technology ultimately could not solve the problem of waterflow.

At the center of the problem of waterflow was and still is human values and human priorities. The water level of the Minnehaha Creek is not natural in the sense that Wilbur would have discussed because it is as much the product of glacial retreat that occurred ten-thousand years ago as it is the product of decisions made by humans. This does not mean that the waterflow of the Minnehaha Creek is *unnatural*. Rather, its naturalness reflects our own.

The history of the problem of waterflow also says something about the Minnehaha Creek as a technology. When the discourse around adding water to the Minnehaha Creek becomes more about the preservation of waterflow to produce a spectacle—the Minnehaha Falls—than about producing an ecologically functioning system, it seems that Creek itself is not just artificial, but a technology. That is, a manufactured construction made by humanity for a specific purpose or function. While never fully able to reconstruct the Creek to provide the Falls with a consistent flow throughout the year, the Board, through the pump of 1926 and the furnishing method of 1964, did so in part. What this says about the

Park Board is that nature, while in their original intent was supposed to be preserved, it could also become a technology for the construction of parks.

Conclusion: The Minnehaha Creek, Natural Mythology, and the Environments of Tomorrow

In the summer of 1996, the State of Minnesota experienced a prolonged drought that not only stressed farmers and lawn enthusiasts, but also dried up the Minnehaha Creek. A frontpage article published in the *Star Tribune* titled “Merely Moist Minnehaha Shows Depth of Drought,” documented this moment by interviewing a range of people and including several different perspectives on the matter. Beginning with a story that is reminiscent of the carp fishing in the Creek during the 1940s, the article, written by David Peterson, introduces the reader to a troop of Boy Scouts that saved a fish from the dried-up riverbed (they named the fish Fred). As detailed by Peterson, what used to be a space for the boys to canoe turned into a de facto walking path where one could occasionally come across organisms from a time of waterflow. The story of the Boy Scouts was accompanied by a picture of crayfish walking in a dried-out Minnehaha Creek and a quote from the assistant city manager of Edina, Gordon Hughes, saying that “It’s sad when [the Creek] dries up and becomes unusable. But that’s the fickle cycle of Mother Nature.”¹²³

Contrasting the “fickle cycle of Mother Nature” in Peterson’s article is Gray’s Bay Dam—the modernized one that was installed in 1975. “Some folks along the creek are casting a suspicious eye westward, toward Lake Minnetonka, where the creek originates, wondering whether city folks are having to smell dead fish as they jog beside mud and jagged rocks so that fatcats can cruise comfortably in their yachts to dockside nightspots.”¹²⁴ However, Woody Love of the Minnehaha Creek Watershed District, a

¹²³ David Peterson, “Merely Moist Minnehaha Shows Depth of Drought,” *The Minneapolis Star Tribune*, August 20th, 1996, 1. Brackets in original.

¹²⁴ *Ibid.*, 8b.

governing and stewardship body organized in the 1960s, responded back that this was not the case. “Lots of people know that Gray’s Bay dam exists to control water flow from the lake into the creek, he said, and assume that water is being held back. In fact, he said, the dam’s real purpose is not to donate Lake Minnetonka water to Minneapolis in September but to keep Minnetonka out of certain living rooms in St. Louis Park in the Spring.”¹²⁵

Of course, the Creek drying up midsummer was not solely the product of a “fickle cycle of Mother Nature” and the purpose of Gray’s Bay Dam was not simply for holding back the flood waters for St. Louis Park. True, the drought experienced across the state was a climatological event, and while likely influenced by forces such as greenhouse gasses and global climate disruption, it was not specifically engineered by humans. Also true is that one of the functions of Gray’s Bay Dam was and still is flood prevention. At the same time, “Mother Nature” did not create Gray’s Bay Dam and Lake Minnetonka in the August of 1996 had water in it. If the system was truly the consequence of a fickle “Nature,” then water would have been still flowing down the Creek despite the drought. Contrast to the argument of Woody Love, the origins of Gray’s Bay Dam lie in the securing of Lake Minnetonka water for the communities around Lake Minnetonka. While its modernization was motivated by concerns of flooding, to discount this function of the dam is to completely ignore the seventy-eight years prior and the movement that led to the first Gray’s Bay Dam construction in the 1890s. To those who were assuming that water behind Grey’s Bay Dam was being held back, they were not assuming anything. Rather, such an observation would have been a fact. Nature was causing a drought, but humans were choosing (or at least

¹²⁵ Ibid., 8b.

those in control of the dam), as they had been choosing for the previous one-hundred years, to value Lake Minnetonka over the Minnehaha Creek. To delude ourselves otherwise is to prescribe to a mythologized version of nature that neither recognizes reality nor the dimensions of power that are defining the Minnehaha Creek.

In 2000, the *Star Tribune* published another frontpage article about the Minnehaha Creek titled “Minnehaha Creek myths: Low water prompts flood of suspicion.” The author, Mark Brunswick, was bent on the agenda of confronting what he considered “conspiracy.” As he wrote:

This is the land of 10,000 lakes, so why not 10,000 conspiracies as well? Take the case of the Minnehaha Creek Watershed District, an obscure agency charged with controlling the water flowing into Lake Minnetonka and through the 22 miles of the Minnehaha Creek to the Mississippi River. Some folks living along Lake Minnetonka want to know why the district is pandering to those downstream by keeping water levels low at the lake. Others see a stream of water worthy of garden hose flowing over Minnehaha Falls . . . But district officials say that Mother Nature, not Big Brother, is making water levels.¹²⁶

However, the remainder of the Brunswick’s article, rather than exploring both the conspiracies of creek and lake dwellers, is almost entirely focused on the conspiracies coming from the Lake Minnetonka community. Apparently, some in the community were under the impression that the lake level was falling because the dam was being turned on for special guests like “the King of Norway.” This paranoia was indeed unfounded. Gray’s Bay Dam, while managed to give water to the Minnehaha Creek at certain times during the

¹²⁶ Mark Brunswick, “Minnehaha Creek Myths: Low Water Prompts Flood of Suspicion,” *Star Tribune*, May 5, 2000, 1.

year, it has never been used to value the Falls over Lake Minnetonka. Special furnishings of the Falls have been financed and produced by the Board of Park Commissioners and Minneapolis tax dollars not at the expense of Lake Minnetonka. At the same time, Brunswick's inattention to the conspiracies of creek dwellers is telling. Unlike the lake dwellers, the dismal water levels and flow they experienced were indeed being enforced by "Big Brother." Big Brother, in this case the Minnesota DNR and the Minnehaha Creek Watershed District, were regulating the flow of water from Lake Minnetonka to the Minnehaha Creek consistent with the 1982 management plan. Calling this enforced water level, the product of "Mother Nature" is to mythologize what was and continues to be a social decision. Thus, in in the process of confronting myth, Brunswick was also helping perpetuate myth.

In this brief history of the Minnehaha Creek, a river was taken by white settler-colonists from the Mdewakanton Dakota and brought into an expanding agricultural and industrial American empire. In the process of being integrated into a new culture, the Creek was transformed into an envirotechnical system. This process began with the imposition of mills and dams. Using these technologies, farmers and millwrights put the Creek to work as a source of energy to build economy and community. However, as the mills faded, a new era of hydrological and ecological existence was ushered in by the creation of the first Gray's Bay Dam and the rise of the Minneapolis Board of Park Commissioners. From a "not an insignificant river" to the creek of "weed-choked channel," the Creek became the home of the common carp and a sacrifice space for Lake Minnetonka. Coming to power just as this new reality of the Minnehaha Creek was being set it in, the Park Board was

faced with reckoning with this new nature. While physically moving the Creek, embedding in the river and its banks technology, such as sewers, pumps and roads, and their ideology, such as the Grand Rounds and the virtues of health, utility, and equality, in generation after generation the Board struggled to find a solution to problems posed by this new nature. Utilizing technology and values of humans as forces of environmental change, the envirotechnical regime of the post-Gray's Bay Dam era confronts natural mythology head on. The Minnehaha Creek is not natural in the sense that President Commissioner Wilbur would have considered. Its kind of nature is much more like that described by Theodore Wirth regarding his "creek bed corrections." Its naturalness is found at the intersection between humanity and the environment. To say that its contemporary and historical characteristics for the last one-hundred and seventy years, especially its waterflow and the vigor of the Minnehaha Falls, are the products of "Mother Nature"—the kind of nature that excludes human agency—is to subscribe to a form of technological determinism. I say this because to believe that the nature of the Minnehaha Creek is inevitable and divorced from human decisions is to say that Gray's Bay Dam is not a choice.

In the beginning of this thesis, I made the claim that like the hydrosphere, where interactions at the microscopic level are inherently connected to interactions at the macroscopic level, cultural interactions with the environment at the local level have something to teach us about and connect to cultural interactions with the environment more generally. In this story of the Minnehaha Creek, we first saw this playout on the frontier of Minnesota where the Creek became entwined with the ethos of manifest destiny, capitalism, and industrialization. In this, we saw that these forces were not merely

expansionary, but forces of environmental change. In consequence of these changes, another European import—the common carp—found a niche environment that it is longer able to find in its original center of biodiversity. Furthermore, the Minnehaha Creek has something to teach us about how we value environments and the politics involved with imposing those values on landscapes. The idea that we can sacrifice one environment to save another is hardly unique to the Minnehaha Creek. Every year millions of tons of plastic enter our oceans, millions of tons of pesticides and fertilizers are sprayed on lawns and agricultural fields, and millions of tons of greenhouse gasses are put into our atmosphere. In doing so we sacrifice the environment of tomorrow to preserve the unequally distributed comfort and wealth of today's. The Creek and these other environmental sacrifices are anything but inevitable, but rather the products of how those in power desire society and landscape to be structured. To probe these decisions is to find a way to tear down dams both metaphorical and physical.

Bibliography

Secondary Literature

- Allard, Amélie and Craig N. Cipolla. "The View from Watery Places: Rivers and Portages in the Fur Trade Era." *Open Rivers: Rethinking Water, Place & Community* (2018), no. 12. <http://editions.lib.umn.edu/openrivers/article/the-view-from-watery-places>.
- Anfinson, John. *River of History: A Historic Resources Study of the Mississippi National River and Recreation Area*. St. Paul: National Park Service and US Army Corp of Engineers, 2001.
- *The River We Have Wrought: A History of the Upper Mississippi*. Minneapolis: University of Minnesota Press, 2003.
- Cronon, William. *Changes in the Land: Indians, Colonists, and the Ecology of New England*. 1st ed. New York: Hill and Wang, 1983.
- "Modes of Prophecy and Production: Placing Nature in History." *The Journal of American History* 76, no. 4 (1990): 1122-131.
- *Nature's Metropolis: Chicago and the Great West*. New York: Norton, 1991.
- "A Place for Stories: Nature, History, and Narrative." *Journal of American History* 78, no. 4 (1992): 1347-76.
- "The Trouble with Wilderness; Or, Getting Back to the Wrong Nature." *Environmental History* 1, no. 1 (1996): 7-28.
- Crosby, Alfred. "An Enthusiastic Second" *American Historical Review* 76, no.4 (1990):1107-1110.
- Dunwiddie, Foster. "The Six Flouring Mills of the Minnehaha Creek" *Minnesota History*, Vol. 44, No. 5 (Spring, 1975), 162-174.
- Graves, Kathy and Elizabeth Ebbott, *Indians in Minnesota*. 5th Ed. Minneapolis: University of Minnesota Press, 2006.
- Gumprecht, Blake. *The Los Angeles River: Its Life, Death, and Possible Rebirth* Baltimore: John Hopkins University Press, 1999.
- Finlay, Mark. "Far Beyond Tractors: Envirotech and the Intersections of Technology, Agriculture, and the Environment." *Technology and Culture* 51, no. 2 (2010): 480-85.
- Folwell, William Watts. *A History of Minnesota*. Saint Paul: Minnesota Historical Society, 1921.

- A History of Minnesota*. 2nd Impression. Saint Paul: Minnesota Historical Society, 1922.
- Freyhof, J. and Kottelat, M. "Cyprinus carpio." The IUCN Red List of Threatened Species, 2008:
<http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T6181A12559362.en>.
 Downloaded on 20 February 2019
- Hallberg, Jane King. *Minnehaha Creek: Living Waters*. Expanded ed. Minneapolis: Cityscapes, 1995.
- Harley, John, and Laxton, Paul. *The New Nature of Maps: Essays in the History of Cartography*. Baltimore: Johns Hopkins University Press, 2001.
- Harley, John. "Silences and Secrecy: The Hidden Agenda of Cartography in Early Modern Europe." *Imago Mundi* 40, no. 1 (1988): 57-76.
- Hegel, Georg Wilhelm Friedrich and William Wallace. *Hegel's Philosophy of Mind*. Clarendon Press, 1894.
- Hubbard, Lucius and Return Holcombe. *Minnesota in Three Centuries, 1655-1908, vol. 1-3*. St. Paul: Minnesota Historical Society, 1908.
- Hughes, Thomas Parke. *Networks of Power: Electrification in Western Society, 1880-1930*. Baltimore: Johns Hopkins University Press, 1983.
- “The Evolution of Large Technological Systems” in *The Science Studies Reader*, edited by Mario Biagioli, 202-223. New York: Routledge, 1999.
- Illusory Boundary: Environment and Technology in History*. Edited by Martin Reuse and Stephen Cutcliffe. Charlottesville: University of Virginia Press, 2010.
- Josephson, Paul. *Industrialized Nature: Brute Force Technology and the Transformation of the Natural World*. Washington, DC: Island Press, 2002.
- Larson, Don. *Land of Giants*. Minneapolis: Dorn Books, 1979.
- L., E. Nico, Maynard, and P.J. Schofield. "Cyprinus carpio." USGS Nonindigenous Aquatic Species Database, Gainesville, Florida. Available:
<http://nas.er.usgs.gov/queries/FactSheet.asp?speciesID=4>. (November 2009)
- Maynard, Meleah. "Crippled Creek." *City Pages*, Wednesday, November 29, 2000.
- Minnehaha Creek Watershed District and the Minnesota DNR, "Fish Surveys for Three Pools in Minnehaha Creek and for Lake Hiawatha, Tributary to Minnehaha Creek," 2009: accessed from
<http://www.minnehahacreek.org/sites/minnehahacreek.org/files/Fish%20Survey.pdf>

- Minnesota Department of Natural Resources, “Common Carp, German Carp, European Carp (*Cyprinus carpio*),” accessed from <https://www.dnr.state.mn.us/invasives/aquaticanimals/commoncarp/index.html> on Feb 20th, 2019.
- Minnesota in a Century of Change: The State and Its People since 1900*. Edited by Clifford Edward Clark. St. Paul: Minnesota Historical Society Press, 1989.
- Mithen, Steven. *Thirst: Water and Power in the Ancient World*. Cambridge: Harvard University Press, 2012.
- Neill, Edward D. *Concise History of the State of Minnesota*. S. M. Williams, 1887.
- Pritchard, Sara B. *Confluence: The Nature of Technology and the Remaking of the Rhône*. Cambridge, Mass.: Harvard University Press, 2011.
- “An Envirotechnical Disaster: Nature, Technology, and Politics at Fukushima,” *Environmental History*, Volume 17, no. 2, (April 2012): 219–243
- Reeves, Andrew. *Overrun: Dispatches from the Asian Carp Crisis*. Toronto: ECW Press, 2019.
- Rivers in History: Perspectives on the Waterways in Europe and North America*, ed. Christof Mauch and Thomas Zellar. Pittsburg: University of Pittsburg Press, 2008.
- Russell, Edmund, James Allison, Thomas Finger, John K. Brown, Brian Balogh, and W. Bernard Carlson. "The Nature of Power: Synthesizing the History of Technology and Environmental History." *Technology and Culture* 52, no. 2 (2011): 246-59.
- Sedlak, David L., *Water 4.0: The Past, Present, and Future of the World's Most Vital Resource*. New Haven: Yale University Press, 2014.
- Smith, David. *City of Parks: The Story of Minneapolis Parks*. Minneapolis: The Foundation for Minneapolis Parks, 2007.
- Shutter, Marion Daniel. *History of Minneapolis, Gateway to the Northwest*. Chicago, Minneapolis: S.J. Clarke Publishing Company, 1923.
- Sutter, Paul. “The World with US: The State of American Environmental History.” *The Journal of American History* (June 2013).
- Stevens, John H. *Personal Recollections of Minnesota and Its People: And Early History of Minneapolis*. Minneapolis: Tribune Job Ptg., 1890.

- Testa, Italo. "Dewey, Second Nature, Social Criticism, and the Hegelian Heritage." *European Journal of Pragmatism and American Philosophy* 9, no. 1 (2017): European Journal of Pragmatism and American Philosophy, 22 July 2017.
- Upham, Warren, and Minnesota Historical Society. *Minnesota Place Names: A Geographical Encyclopedia*. St. Paul, Minn.: Minnesota Historical Society, 2001.
- US Fish and Wildlife Service, "Common Carp (*Cyprinus carpio*) Ecological Risk Screening Summary," Web Version 09/10/24, accessed from <https://www.fws.gov/fisheries/ans/erss/highrisk/Cyprinus-carpio-WEB-09-10-2014.pdf>
- Vallero, Daniel. "The Water Molecule" in *Fundamentals of Air Pollution* (5th edition). Elsevier, 2007.
- White, Richard. "American Environmental History: The Development of a New Historical Field." *Pacific History Review* 54, no. 3 (Aug. 1985): 297-335.
- "Environmental History, Ecology, and Meaning." *American Historical Review* 76 (1990): 1111-1116.
- "'Are You an Environmentalist or Do You Work for a Living?': Work and Nature," in *Uncommon Ground* ed. William Cronon. New York: Norton, 1995.
- *The Organic Machine: The Remaking of the Columbia River*. New York: Hill and Wang, 1995.
- "From Wilderness to Hybrid Landscapes: The Cultural Turn in Environmental History." *Historian* 66, no. 3 (2004): 557-64.
- Workers of the Writers Program. *Minneapolis: The Story of a City*. Minneapolis: Writer's Program, 1940.
- Worster, Donald "Transformations of the Earth: Toward an Agroecological Perspective in History," *American Historical Review*, 1990 (76), 1088-106.
- *Rivers of Empire: Water, Aridity, and the Growth of the American West*. New York: Oxford University Press, 1985.

Primary Sources

Unarchived

Neil, Edward. *The History of Minnesota*. Philadelphia: J.B. Lipincott & Co., 1858.

Newspaper

"Fish Fill Creek as Ice Rushes from Rice Lake." *Minneapolis Tribune* April 9, 1924.

"Gates to be Lowered." *Minneapolis Tribune*, August 27th, 1897.

“How Minneapolis Will Greet Colonel Roosevelt.” *The Minneapolis Tribune*, August 15, 1901.

“The City: Town Talk.” *The Minneapolis Journal*, August 15, 1901.

“The Farmer's Fish: Interesting Facts about the Introduction and Propagation of Carp in the United States.” *The Minnesota Farmer*, December 21, 1883.

Brunswick, Mark. “Minnehaha Creek Myths: Low Water Prompts Flood of Suspicion,” *Minneapolis Star Tribune*, May 5, 2000: 1 and 6a.

Editor of *Minneapolis Tribune*, “The Minnetonka Dam Matter.” *Minneapolis Tribune*, June 20, 1897

Peterson, David. “Merely Moist Minnehaha Shows Depth of Drought.” *Minneapolis Star Tribune*, August 20th, 1996: 1 and 8b.

Gale Family Library and State Archive

Wirth, Theodore, Norling, Sven A., and Lathrop, Harold W. *Final Engineering Report on the Restoration and Preservation of Lake Minnetonka & Minnehaha Creek* [by Theodore Wirth, Sven A. Norling and H. W. Lathrop. Minneapolis: Board of Hennepin County Commissioners, 1935.

Wirth, Theodore. *Tentative Study Plan for the West Section of a Metropolitan Park System for the Twin Cities, Minneapolis and St. Paul*. Minneapolis: Board of Park Commissioners, 1935.

—*Minneapolis Park System, 1883-1944: Retrospective Glimpses into the History of the Board of Park Commissioners of Minneapolis, Minnesota, and the City's Park, Parkway, and Playground System*. Minneapolis: Board of Park Commissioners, 1946.

Hennepin County Special Collections and Archives

“Boy with Large Carp that he Caught at Minnehaha Creek,” (1940), accessed from <https://digitalcollections.hclib.org/digital/collection/MplsPhotos/id/11965/rec/6>

Berth, A.E., R.L. Freeman, and Chas E. Doell. *Study of Minnehaha Creek*, prepared by the Engineering Division of the Minneapolis of Board of Parks and Recreation, September 1943.

Board of Park Commissioners of the City of Minneapolis. *Annual Report*, 1883-1964. Minneapolis: Board of Park Commissioners.

—*Proceedings of the Board of Park Commissioners of the City of Minneapolis, 1883-1964*. Minneapolis: Board of Park Commissioners.

Schussler, Otto. *Riverside Reveries*. Minneapolis: 1906.