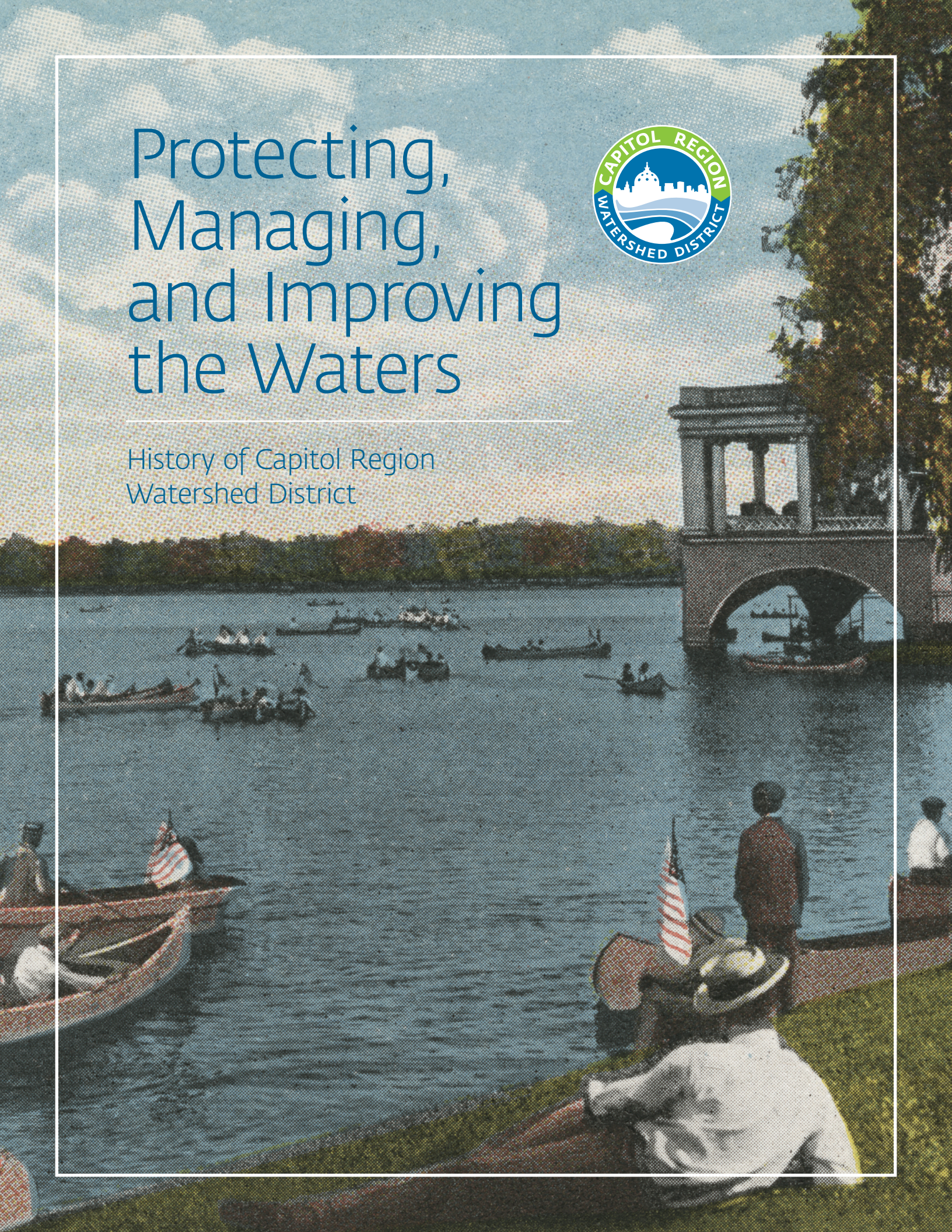


Protecting, Managing, and Improving the Waters



History of Capitol Region
Watershed District





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By Nancy O'Brien Wagner with Patricia Cavanaugh
Edited by Sara Yaeger

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Preface

In the summer of 1995, a small group of dedicated residents gathered to share their concerns about Como Lake. Little did they know, they would become part of a long history of people working together to improve water quality in Saint Paul.

With fierce dedication, this group studied the problem, explored possible solutions, and built momentum with many partners to make a change. In 1998, they petitioned the Minnesota Board of Water and Soil Resources to create Capitol Region Watershed District.

Today, the District has grown from our modest roots to become a national leader in stormwater management. During the first decade of our existence, we surveyed residents, implemented rules for development and completed the landmark Arlington Pascal project. During the second decade, we developed the District's second Watershed Management Plan, strengthened and diversified our partnerships, and developed legacy projects like Trout Brook Nature Sanctuary. We are immensely proud of these efforts and the difference they have made for water quality and the residents in our watershed.

The next 20 years will no doubt bring about more change. As we face the future, we are committed to being innovative, resilient, and equitable in our approach to watershed management. We will continue to collaborate with diverse partners as we focus on our mission to achieve cleaner waters for all residents.

And finally, this report would not have been possible without the time and dedication of Patricia Cavanaugh. As a member of our Community Advisory Committee, she hosted countless interviews of the many people who helped shape our work and helped co-write this report. We are deeply grateful for her work.

Sincerely,

A handwritten signature in black ink that reads "Mark Doneux". The signature is fluid and cursive, with the first name "Mark" and last name "Doneux" clearly legible.

Mark Doneux
Administrator
September 3, 2019

Introduction

For generations, our waters have been critical to the health of Saint Paul. Our ancestors relied on the river, lakes, wetlands, and streams for drinking water, transportation, habitat for fish and wildlife and as destinations for tranquility and recreation.

While the Mississippi River remained central to Saint Paul's emerging identity as a river city, development and industrialization shifted the uses for and the significance of the river. For decades, the river was seen as the convenient conveyance for our waste and pollution – a supposedly self-cleaning system that would remove any pollutants and repair itself. To make space for industry and agriculture and address public health concerns as a society, we drained our wetlands, submerged our streams, and even filled in our lakes.

Today, our relationship with our waters has changed for the better. They are still central to our health – they have always been. Thanks to the efforts of concerned citizens and government agencies such as Capitol Region Watershed District, we are treating our waters as a treasured resource to be cared for and protected.





A large, dark green, stylized number '1' that serves as a background element for the text.

1830-1950

Currents
of Change

Land of the Dakota

For the Dakota, the Mississippi River was home.

For centuries, Dakota villages dotted the Mississippi River Valley, and their canoes traveled the river and streams. The Dakota fished and hunted along the banks and cultivated wild rice in the ponds. They grew their crops along the river flats and learned to predict and utilize the seasonal fluctuations. The confluence of the Mississippi and Minnesota rivers (Bdote) marked their spiritual birthplace, and burial mounds marked the graves of their ancestors. The Dakota established the village of Kaposia at the fertile confluence of Trout Brook and the Mississippi – a location that allowed them

easy access to land routes to northern areas, as well as water routes up the Mississippi and Minnesota rivers.

The earliest Euro-American fur traders were drawn to the area for the same reasons as the Dakota—the natural resources and geography of the Mississippi River Valley. The rich animal resources, convenient water routes, fertile land, and fresh water supported their lifestyles, too. After the land cession treaties of 1837, which pushed out the Dakota and Ojibwe, settlers began to move in. They established Saint Paul where Kaposia was, and the newest residents began to build the city of Saint Paul.



The Dakota established the village of Kaposia along the banks of the Mississippi, near where Trout Brook entered the river. They valued the natural characteristics and resources of the river valley.

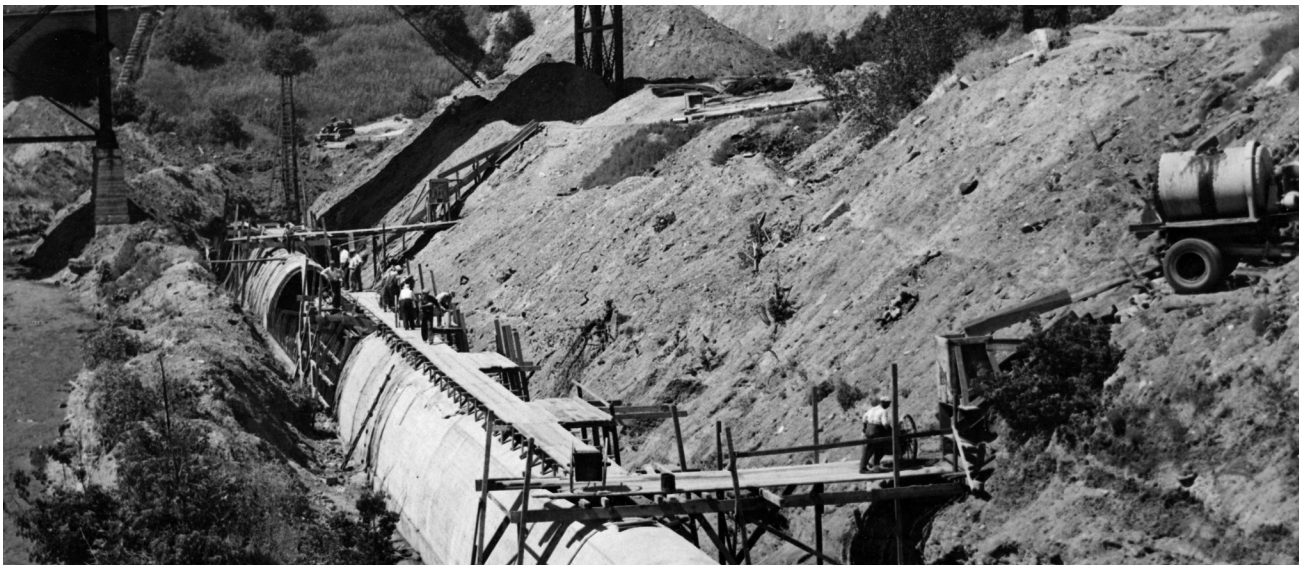
The Beginning of Saint Paul's Water System

By the 1850s, Saint Paul was a boomtown. Steamboats chugged up the river and docked at the landings. The residents used Trout Brook as a sluiceway for mills and began to drain and fill nearby wetlands and lakes to create more land for agriculture and homes. Residents continued to use the Mississippi River as a source for drinking water (along with wells), as well as a depository for trash, animal and industrial waste, and sewage. As the population increased, the river began to suffer.

The need for clean drinking water was soon apparent. In 1869, the Saint Paul Water Works built seventeen miles of pipes to provide water from Lake Phalen to 1,100 buildings throughout the city.¹ For the first time, Saint Paul residents were not drawing water from the same source that they disposed waste into. By 1881, the system had expanded to twenty-two miles and included 185 hydrants.

Soon after the public water supply system was established, a sewer system was started. In 1873, although not all residents were convinced of the need for one, the city began building a sewer system that piped sewage to just down river of downtown.² Most homes and businesses had outhouses with privy pits or cesspools, which were supposed to be emptied out as needed – their contents likely used as fertilizer or dumped in the river.³ In 1878, some residents were still opposed to city sewage, arguing that the taxes were too high and that sewers were not really needed to improve sanitation.⁴ City leaders took a longer view.

By 1881, fifteen miles of sewers had been constructed.⁵ Unfortunately, the sewer system was woefully undersized and under-engineered for the city. Even the buildings that did connect to the sewer system faced challenges: inadequate water pressure to flush their systems or poor connections to the central pipes that froze in the winter. At the turn of the century, many of the homes outside the downtown area were still not connected to the sewer system.⁶

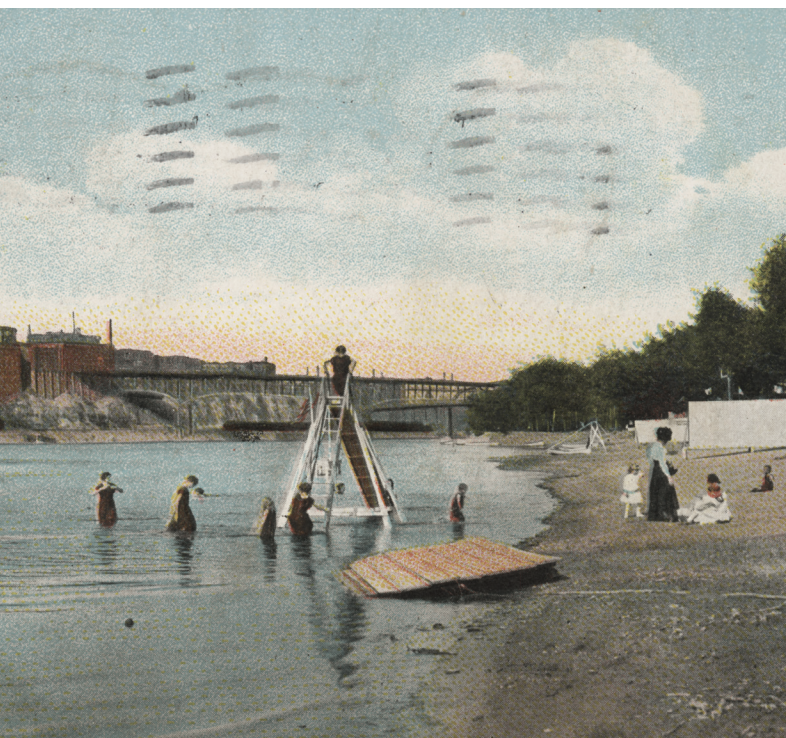


The transformation of Trout Brook from a natural stream into a sewer system began in the 1870s. In 1937, as this photo shows, the city was expanding the system and building an enormous Interceptor where Trout Brook had been.

Public Waters and Public Health

Around the turn of the century, citizens and leaders began to see that the treatment of waste water, quality of drinking water, and public health were interrelated and the connection to broader regional concerns.

In 1901, the public baths opened on Harriet Island. Residents were concerned about the water quality, but Dr. Justus Ohage, the city's first public health officer (and park benefactor), claimed that the water around the island was fine. He believed the raw sewage entering on the downtown side of the river didn't reach the island, and the sewage that came from Minneapolis was disseminated and likely traveling on the east side of the river, anyway.⁷ Just a year later, though, new wing dams in the Mississippi River caused Saint Paul's sewage to slow and circle along the west side of the river. As the Saint Paul Globe pointed out, this was "forming stagnant pools of filth which must necessarily be a menace to health."⁸ Saint Paul's sewage was undeniably a problem. The proposed solution was to extend the sewer pipes to discharge further into the current.⁹



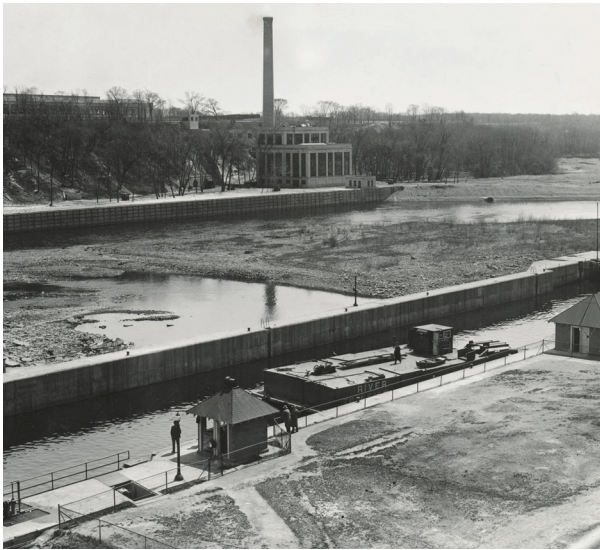
In 1911, swimmers at Harriet Island risked exposure to many pollutants, including industrial waste and raw sewage.

In 1903, the first attempt was made to consider water and sanitation issues on a regional scale. The State Board of Health held a full-day meeting with leaders from around the state and public health experts to discuss sewage issues. The meeting revealed a range of political, environmental, and practical challenges. The State Board of Health explained that it was not authorized to interfere with city sewer management unless a city's system failed and put the public's health in danger. Delegates discussed the environmental challenges of places like Canby and Marshall in western Minnesota, where seasonal conditions left a shallow and weak Minnesota River that could not flush waste away. Attendees also considered the serious problem that Minneapolis faced: the town of Anoka was draining sewage into the Mississippi River just upriver of Minneapolis' water intake.¹⁰

Minneapolis' water supply was severely contaminated. Within a year, the State Board of Health stepped in and ordered Anoka to upgrade its sewage systems, triggering a complaint that the State Board was requiring Anoka to make costly improvements while ignoring the sewage pollution coming from cities.¹¹ Even after Anoka took moderate efforts to treat its sewage, Minneapolis' water quality remained poor. Minneapolis took a simplistic approach to solving this problem by shifting their intake pipes a bit farther upriver. This passive approach infuriated public health officials, who responded, "This is little short of municipal murder ... the laws of health show that it is equivalent to free distribution of death certificates."¹²

As the Twin Cities grew, leaders continued with this localized and scattershot approach to clean water and sanitation. Only dramatic developments seemed to jump-start broader conversations. In 1917, the construction of Lock and Dam #1 near the Ford Bridge dramatically slowed the Mississippi River's current and diminished the effect of the spring floods, preventing an annual scouring of the river. Within three years, an estimated three million cubic yards of sewage sludge settled behind the dam, creating enormous mats of floating sludge and an unbearable stench. The Mississippi River was noxious from Minneapolis all the way down to Hastings, with as much as 50 percent of the river covered with scum and sludge mats.¹³

In 1923, the State Board of Health commanded the cities of Saint Paul and Minneapolis to address the broader issue of untreated sewage and polluted



The construction of the dams in the 1910s dramatically altered the Mississippi River, creating a reliably navigable route up to Minneapolis while eliminating the seasonal spring floods that had previously cleared away sludge. The change in water currents and temperatures, along with the creation of barriers, significantly altered the fish and aquatic life.

waters. Despite the seriousness of the problem, political progress moved slowly, with three different commissions attempting and failing to address the problem. In 1933, the Minneapolis-Saint Paul Sanitary Sewer District was formed, and this time progress on designing a shared sewage treatment plant was finally begun in earnest.¹⁴ In early 1934, the federal Public Works Administration agreed to provide \$16 million in grants and loans for the plant, and construction began that summer.¹⁵

In July 1938, the Metropolitan Wastewater Treatment Plant was opened near Pig's Eye Lake along the Mississippi River. It was the first major sewage treatment plant on the river, treating sewage from both Minneapolis and Saint Paul with screens, settling tanks, and skimming devices to remove the sand, grit and larger solids, and using chlorination to disinfect the water.¹⁶ The plant was hailed as an engineering wonder, and within four months the floating mats of stinking sludge and scum were gone.¹⁷ Within two years, fish species were returning. The success of the wastewater treatment plant was widely acknowledged, and other local communities began to build their own wastewater treatment plants. During the 1940s and 1950s, river water quality generally improved.¹⁸



The new Pig's Eye sewage treatment plant was considered a huge success. It immediately improved the health of the river and inspired other communities to build their own plants.

A large, stylized number '2' in a dark blue color, serving as a background element for the text.

1960-1998

Rescuing
the Waters

By 1960, water quality problems were emerging again. Across the metropolitan area, aging private septic systems frequently failed, and the resulting sewage seeped into wells, streams, and the river. A Minnesota health department study found that half of area wells were contaminated with septic waste.¹⁹ The Metropolitan Wastewater Treatment Plant was not keeping up with the growing population. In 1966, secondary treatment capacity was added to the plant adding aeration to encourage natural micro-organisms, which consume the waste.²⁰ These changes helped reduce pollution by 85-90 percent at that plant.²¹ Even so, many of the region's smaller wastewater treatment plants were outdated and overtaxed. Once again, the river's health was in danger.

In 1967, the Federal Water Pollution Control Agency hosted a conference focused on pollution in the upper Mississippi River.²² That same year, Minnesota adopted

the first statewide water quality standards, creating varying standards for lakes or streams based on their designated uses such as drinking water, supporting aquatic life, recreation, and agricultural irrigation.

Clearly, more comprehensive public solutions were needed. In 1969, the State of Minnesota established the Metropolitan Sewer Board, which combined the Minneapolis-Saint Paul Sanitary District with thirty-three suburban wastewater treatment facilities. Eventually, the thirty-three separate wastewater treatment plants were consolidated into nine larger, more sophisticated plants.²³ These wastewater plants (now managed by Metropolitan Council Wastewater Services) have had numerous improvements to better handle both sewage and other pollutants.²⁴ While consolidation and technology can address many sewage-related problems, there are other sources of water pollution.



Rapid growth of the Twin-Cities metropolitan region in the decades after World War II put a strain on water quality.

The Clean Water Act

In 1972, the federal Clean Water Act was amended to address the significant water pollution issues in the United States. (The original Act passed in 1948.) The new amendments required that states assess all waters and determine if they meet water quality standards. The 1972 Clean Water Act set the goal of making the Mississippi River fishable and swimmable.²⁵ The Clean Water Act also established the basic process of regulating and permitting discharge of pollutants into waters, including the discharges from sewage treatment plants.

The Clean Water Act amendments grew out of a growing realization of the dangers that U.S. waters faced. In addition to sewage, the nation's waters were endangered by both point-source pollution (factories, specific pipes, or smokestacks) and nonpoint source pollution. Nonpoint sources are widespread, often tied to land-use practices. Nonpoint source water pollution is generally transported by rainfall, snowmelt, or flooding events, such as when sand, salt, yard and animal waste, pesticides, and pollutants are washed into gutters and waterways. While laws, regulations,

and solutions for point source pollution are fairly easy to develop and identify (if not always to implement), addressing nonpoint source pollution is more difficult.

Around this time, scientists, engineers, and citizens began to focus on the nonpoint source pollution caused by phosphates. Phosphates from sewage, fertilizers, and laundry detergent were causing eutrophication (oxygen depletion) in water bodies, killing fish and other animals and plants. The Great Lakes were particularly threatened – in the mid 1970s, Lake Erie's dead zone was around 60 percent. Initially, the Nixon Administration and the Environmental Protection Agency discouraged a ban on phosphates arguing that wastewater treatment plants should be upgraded to remove them. When scientists pointed out that no such technology was effective, states and cities began to implement bans. Minnesota's 1977 ban on phosphorous in laundry detergent initially faced a court challenge, but was ultimately successful. The phosphorus ban in laundry detergent was immediately impactful, quickly reversing some of the eutrophication in the Great Lakes.²⁶



In the decades since the passage of the 1972 Clean Water Act, the health of the Mississippi River has made a remarkable recovery. After pollution into the river largely ceased, the river was able to heal. But today the river faces new threats from organic matter, fertilizer, and modern contaminants.

Separating the Stormwater and Wastewater Systems

By this time, people began to pay more attention to the issue of combined wastewater and stormwater systems. When most cities developed their sewer systems, they had channeled both road run-off and sewage/wastewater into the same pipes, which led to the wastewater treatment plants. During heavy rains or spring melts, the stormwater overwhelmed the pipes and treatment plants – and the overflow (combined sewage and stormwater) backed up into streets, flooded basements, and spilled into rivers. Separating the stormwater and sewage systems would eliminate much of this problem. The City of Saint Paul began separating storm sewers from sanitary sewer pipes in 1960, but made slow progress. A series of floods in the 1950s and 1960s demonstrated how far-spread and unpleasant the problem was.

In 1975, the Cities of Saint Paul and Minneapolis, and the Metropolitan Waste Control Commission received their first National Pollutant Discharge Elimination System (NPDES) permit under the Clean Water Act to discharge combined sewage into the river, as did the City of South Saint Paul. When the two permits expired in 1977, they were not renewed, as a Metropolitan Waste Control Commission study for improving the broader, regional system was underway.²⁷ In 1981, after four years of studies, the Metropolitan Waste Control Commission proposed a system of storm sewer separation, storage, and conveyance facilities.²⁸

To address nonpoint source pollution, the State of Minnesota passed the Metropolitan Surface Water Management Act in 1982, which said that the surface water in the metro region would be managed on a



During the 1950s and 1960s, a series of floods caused sewage from local outhouses and metro sewage plants to flow into the river.

watershed basis as a way to reduce nonpoint source pollution. The entire metro area would now be covered by a water management plan. Jurisdictions were given the choice of forming *watershed districts* or joint powers agreements through *watershed management organizations* among member communities. A watershed district had levy and rule-making authority. In a watershed management organization, resources were drawn from the participating communities.²⁹ In Saint Paul, a handful of different joint power agreements were established with nearby cities in 1985, including both the Southwest Ramsey Watershed Management Organization (SWRMO) and the Central Ramsey Watershed Management Organization (CRWMO).

Meanwhile, the complexity of the storm sewer separation problem led to the development of the State Combined Sewer Overflow Advisory Task Force in 1983. The task force recommended that each city create its own Combined Sewage Overflow Plan. In response, the City of Saint Paul developed a comprehensive sewer plan in 1984 that recommended sewer separation. With the other cities' plans outlined, NPDES permits were then approved in 1985.³⁰

During this decade of slow political progress, Saint Paul engineers estimated that rainfall events caused untreated sewage and stormwater to overflow and reach the Mississippi every three days, on average.³¹ The City of Saint Paul's original 1984 plan and budget for the solution was extremely slow and low – at the plan's pace, the sewer separation would not be complete until 2025. Local citizens and activists demanded a better solution. In 1984, Governor Rudy Perpich announced a plan to use state funds to speed up completion of the project to within a ten-year timeline.³²

From 1985 to 1995, the cities separated their stormwater and wastewater systems. The projects included complex scheduling, engineering, construction, and funding challenges, but dramatically improved the health of the river.

In Saint Paul, the creation of new stormwater ponds, as well as updated streetlights, accessibility ramps, and repaved streets altered the look and feel of many Saint Paul neighborhoods.³³ In 1991, just north of Maryland Avenue, the city added twelve additional acres to the existing four-acre Willow Reserve and planned a four-acre retention pond. By summer of 1992, the retention pond was completed and filtering runoff.



During the separation of the stormwater and sewer systems, a new outlet for the Trout Brook storm sewer was constructed at the edge of the Mississippi River near Warner Road.



1998-2008

The Birth of
Capitol Region
Watershed District

In the summer of 1995, the District 10 Como Community Council invited neighbors to explore what could be done to improve Como Lake's water quality and lakeshore. About ten people who lived near the lake came to the initial meetings and expressed concerns about the green, smelly water and the barren, goose-riddled lawns surrounding the lake. Concerns about the lake was matched with a strong commitment by citizens to improve their communities. The group decided to form an Environment Committee, and Sherri Knuth was elected to serve as the Chair. Knuth had buttons made that quoted Margaret Mead: "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it's the only thing that ever has."³⁴

The Environment Committee did not have any particular plan in mind, but set about making one. The group was well-educated and knew how to access resources. Their members included Mike Perneil, an associate planner in Water Management at the Metropolitan Council, and Susan Schmidt, former director of the Legislative Water Commission and employee of the Minnesota Pollution Control Agency (MPCA). Others had expertise in law, urban planning, writing, and other related fields.

By October 1995, the members were meeting monthly at St. Timothy Lutheran Church and were learning about water quality, collecting resources, and inviting

speakers who could help them determine their next steps.³⁵ They planned a full year of information gathering. The overall process was a little haphazard, but they were scrappy and determined.³⁶

The committee quickly realized that water and lakeshore quality issues were not the only areas they needed to study. The governance of Como Lake was surprisingly complicated, with multiple local jurisdictions touching some aspect of the lake and its surrounding land. "It was a much more complicated issue than any normal citizen would imagine," recalled committee member David Arbeit.³⁷ The jurisdictions included the Department of Natural Resources, Saint Paul Parks and Recreation, and Ramsey County.

Most significantly, the committee learned that the area's watershed was overseen by the CRWMO, a joint-power water management organization group that included the Cities of Saint Paul, Maplewood, and others. This was the organization that was actually responsible for water quality.

During the summer of 1996, members of the committee began attending the meetings of the CRWMO. For over a year, the Environment Committee worked to persuade CRWMO to take action to improve water quality in Como Lake. Susan Schmidt got appointed as a citizen representative, and Mike Perneil used his



Early Citizen Advisory Committee and Board watershed tour.

vacation time to attend the meetings and raise concerns. Despite these efforts, the CRWMO failed to make meaningful progress to address water quality problems in Como Lake.

The CRWMO's effectiveness was hampered because each member city had different resources and priorities. Getting everyone to agree to a project that would increase public spending was extremely challenging.³⁸ This was a common challenge among Watershed Management Organizations that was resolved in 2006 when a new state law required that metro watersheds must be managed by independent watershed districts with their own taxing authority.³⁹

The Environment Committee members grew increasingly concerned by the inaction.⁴⁰ It was clear another approach was needed.

The Environment Committee began to search for other ways to improve the waters. The committee explored what more the city could do, whether there was something a non-profit organization could do, or whether they needed a watershed district. As the committee explored its options, members kept coming back to the idea of a new watershed district.⁴¹ In one meeting, city council member Bobbi Megard distilled the issue to a central point: a watershed district has a particularly valuable tool – taxing authority. Without that, there are very few options for raising the kind of money that is needed to improve water quality.⁴²

The choice had become clear: the group needed to form a watershed district. Once the decision was made, they sought and received the support they needed from the necessary entities.⁴³ District Council 10's enthusiastic and unwavering support gave critical legitimacy to the effort and created a government-to-government dynamic. The staff at the State Board of Water and Soil Resources (BWSR) were receptive to the idea because they were aware that the CRWMO was behind on updating their stormwater management plan.

The Metropolitan Council also strongly supported the establishment of a watershed district. The Council was enthusiastic about having a new partner focused on water quality, but it had another reason to support establishing a watershed district: the Council owned the Trout Brook Interceptor and needed to find someone to take over its ownership and operation. The Trout Brook Interceptor was a massive, old, and undermaintained section of the stormwater system, and the Metropolitan Council hoped a new watershed district could solve this problem.⁴⁴

Support also came from the Ramsey County Board of Commissioners, the Ramsey Soil and Water Conservation District, and the Department of Natural Resources. Most importantly, the Cities of Roseville and Falcon Heights supported it. The City of Saint Paul was concerned about adding in another governmental layer, but appreciated the opportunity to both resolve the Trout Brook Interceptor and better manage stormwater.⁴⁵



The early Como Lake Advisory committee had a cross section of Como Environment committee members, contract staff, board members and consultant and agency staff.

Establishment of Capitol Region Watershed District

On April 6, 1998, local citizens gathered at the Como Park Pavilion for a hearing to establish Capitol Region Watershed District.

The new watershed district would cover 40 square miles and include portions of the Cities of Falcon Heights, Lauderdale, Maplewood, Roseville and Saint Paul. The district would include Como Lake, Crosby and Little Crosby lakes, and Loeb Lake in Saint Paul and Lake McCarrons in Roseville. The new watershed district would be committed to protecting, managing, and improving the waters in this area. As a new and independent unit of government, it would be able to

levy taxes, establish rules, and build capital projects. It was a bold idea.

No one spoke against the petition. Rather, local residents spoke strongly in favor of it. David Arbeit stated that the Environment Committee wanted a responsive and effective organization to care for the Como Lake watershed and other watersheds because “water respects no political jurisdictions.” A few months later, the Minnesota Board of Soil and Water Resources approved the petition and ordered the establishment of Capitol Region Watershed District on September 23, 1998.



Prior to the formation of Capitol Region Watershed District, Como Lake was dangerously polluted.

First Board and Early Years

The first step was to create a Board of Managers for Capitol Region Watershed District. There were twenty nominations for the five-member Board of Managers from the member cities and District 10 Como Community Council. The first Board of Managers included Pat Byrne, Marylyn Deneen, Jim Leuthner, Jay Riggs, and Michael Thienes.⁴⁶

The Ramsey County Board of Commissioners recommended that the first Board use the expertise and offices of the County and the Ramsey Soil and Water Conservation District (RSWCD) to get started. RSWCD agreed. Tom Peterson from RSWCD and Terry Noonan from Ramsey County Public Works began to offer technical support and continued to do so for years. Initially, Capitol Region Watershed District meetings included staff from the different cities, Ramsey County, and the RSWCD, and their input was invaluable.

Despite minimal resources, the Board turned to the important tasks of developing the foundational documents and structure for the organization. It was during this time that the first Board developed the mission statement: “To protect, manage and improve the water resources of the Capitol Region Watershed District.”⁴⁸ Reflecting the values that had spurred its creation, the Board also created the Citizen Advisory Committee (CAC), which held its first meeting on April 8, 1999. The CAC assisted the Board with review of all the foundational documents and helped develop an education and outreach program.

After the first year, the Ramsey County Board began appointing managers. Starting in the second year, the Board consisted of John Connelly, Marylyn Deneen, Mary Jo Murray, Bob Piram, and Michael Thienes. Throughout the years, the Board has been deeply

"We wouldn't have gotten started at all if we had not had the tremendous support of Ramsey County, the Soil Water and Conservation District, and Ramsey County Public Works. They were just a huge help. We called it a three-legged stool at the time. The Watershed District had one leg, Soil and Conservation District was another leg, and Ramsey Public Works was the third leg. We needed all three to stay up, otherwise we'd fall over."

– Mike Thienes, Manager

As the deadline for submitting taxing documents is September 15, and Capitol Region Watershed District was formed September 23, it was not able to certify a levy to the county to raise funds. For almost three years, Capitol Region Watershed District had no funds of its own. So it relied on RSWCD for financial as well as technical support. Even after their first levy was approved and a budget created, the Board was concerned about financial spending, and took a conservative approach.⁴⁷

committed to progressive and innovative approaches to water quality and measurable outcomes. “Do your homework and find a better way,” has long been the Board’s directive to staff.⁴⁹ According to Mike Thienes, a Manager from the first year through 2017, even when there have been disagreements there is the sense that everyone is traveling down the same road. He believes most of the votes have been unanimous because the Board does the work needed to get to consensus.⁵⁰



Capitol Region Watershed District board and staff celebrated their early successes.

The Board began its work by creating its first Watershed Management Plan. This plan would become the foundation for prioritizing projects and developing budgets.

A critical first step in developing a Watershed Management Plan was to conduct an inventory of the watershed district's land and water resources. They needed to develop a detailed understanding of the water resources in the district and the role of a watershed district in intergovernmental relations. In addition, the plan outlined issues relating to the Trout Brook Interceptor, Como Lake, Lake McCarrons, the Mississippi River, and urban development. Capitol Region Watershed District's first Watershed Management Plan was published on December 14, 2000.⁵¹

Only once a plan was developed could Capitol Region Watershed District establish a levy. The first levy was certified in 2000 and was payable in 2001. There was a rush to complete the plan in 2000 so they could certify that first levy and start receiving their own funds by July 2001.⁵²

Shifting Values and Shifting Laws

As awareness about nonpoint source pollution increased, Minnesotans began to press for new laws that would improve water health. In 2001, Minnesota outlawed the sale of mercury thermometers. In 2004, a new law limited the use of phosphorus as a fertilizer on sod and turf in the metro, and expanded that limit to other areas in 2005. A 2010 ban on phosphorus in dishwasher soap quickly resulted in a decrease of phosphorous in wastewater treatment plants.⁵³ In 2015, a new buffer law established that all public waters should have an average of a 50-foot buffer of perennial vegetation to prevent soil erosion and run-off.

In all, these new laws have helped change behavior and improve the health of Minnesota's waters.

First Staff

In 2003, the Board of Capitol Region Watershed District made its first hire and initiated a new, truly independent phase for the organization. Mark Doneux was hired as Capitol Region Watershed District's first administrator. He had been working for the Washington Conservation District, where he was the administrator for the Brown's Creek Watershed District and had witnessed the effectiveness of the Rice Creek Watershed District and Ramsey-Washington Metro Watershed District (RWMWD). Doneux brought both technical expertise and familiarity with the benefits and challenges of watershed districts.

In his first year, Doneux took charge of the effort to move out of the RSWCD offices and into their own space in Saint Paul's Bandana Square office complex.

Doneux tackled the basics of getting up and running: setting up banking, accounting, employee benefits, and hiring systems. For the first year he did everything from making packets for the Board and running the office to figuring out the basic functions of a new organization. Doneux helped negotiate the political challenges of establishing a new, independent government body.⁵⁴ Doneux had an exceptional mix of technical, organizational, political, and social skills. Seitu Jones, a current Manager, calls Doneux "the Kofi Annan of watershed districts."⁵⁵

In 2003, Debbie Anderson was hired as administrative staff.⁵⁶ With a Watershed Management Plan, a budget, new office, staff, and capacity, it was finally time to tackle some projects.

Implementing New Rules

As Capitol Region Watershed District began to actively step into water management, they began to review plans proposed by private developers and the city and to provide recommendations to implement water quality practices. The developers were not required to follow those recommendations. In 2004 and 2005, Capitol Region Watershed District followed up to see whether any of their recommendations were being implemented and found that mostly they were not. After examining the cost of implementing the recommendations, Capitol Region Watershed District found that an increase in cost of just two to three percent per project would result in a 60 percent phosphorus reduction and 90 percent sediment reduction. When this information was presented to the Board, everyone realized that they would need to replace the recommendations with rules.⁵⁷

The rule adoption process was started in 2005 and done in partnership with the RWMWD. By partnering, the two watershed districts had access to each other's staff, experts, and advisory councils. The two districts determined that a rule that required a reduction of one

inch of runoff at a project site would ensure all the other water quality goals were being met.⁵⁸ The collaborative planning process itself was innovative, and the resulting consistent standards helped simplify rules for developers.⁵⁹

The new rules were controversial. The one-inch-runoff standard was higher than what had been adopted at the state level. Capitol Region Watershed District and RWMWD were the first two watershed districts to establish it. Another challenge was applying the standard to city streets, which had not been regulated in this way before. Even though the new standards would be implemented only when streets were reconstructed, the cities, county, and Minnesota Department of Transportation thought the new rules would be difficult to implement.⁶⁰ In order to make progress in water quality, however, the large amount of impervious surface comprised of city streets had to be managed. The board of Capitol Region Watershed District was firm in its commitment to the new rules. The entire Board was committed to forward-thinking, and they

believed that doing so required the implementation of rules. The Board did not seek to cause economic hardship, but recognized that there were costs involved in improving water quality.⁶¹

As a way to alleviate the concerns about the increased costs associated with the new rules, Capitol Region Watershed District added a cost cap for linear projects.

Cities could plan their budgets knowing that they could limit expenditures to \$20,000, with any costs over that being covered by Capitol Region Watershed District. This compromise provided predictability for planning and largely addressed cost concerns. The rules were adopted with the cost cap, which has since been updated and increased.

Caring for Como Lake

The health of Como Lake has always been important to local residents, and the obvious poor health of the lake in the 1990s was the prime instigator for the creation of Capitol Region Watershed District.

In 1998, as Capitol Region Watershed District was forming, Como Lake was added to the MPCA's list of impaired waters for high mercury in fish tissue caused by air pollution. As Capitol Region Watershed District got up and running, it developed the 2002 Como Lake Strategic Plan to address water quality issues in the lake. That same year, Como Lake was added to the MPCA's impaired waters list for high nutrient and eutrophication—biological indicators caused by high phosphorous.⁶²

Soon after, a series of projects were conducted to help Como Lake. In 2003, the City of Saint Paul and the Ramsey Conservation District collaborated to stabilize and restore the shoreline. In 2007, the City of Saint Paul and Capitol Region Watershed District re-engineered the stormwater management in the Arlington-Pascal neighborhood, helping to reduce phosphorous and sediment flowing into Lake Como from the surrounding area. These efforts have already shown a positive result: between 2002 and 2018, the nutrient load into Como Lake was reduced by 37 percent – an impressive change.

Within the lake, a variety of different efforts have been used to address the high phosphorous levels. Dredging in 2001 and 2002 removed sediment from areas in the southwest side of the lake. This removed

the phosphorous that was stored in the sediment and increased the volume of the lake. Since 1985, aerators have been used to add oxygen to the water to help fish. Mechanical harvesting of curly-leaf pondweed was completed to clear boating lanes for navigation. Past applications of fish pesticides and algaecides had altered the balance of aquatic life.

Despite these efforts, Como Lake continues to be impaired. In 2014, it was added to the MPCA's impaired waters list for high chloride levels caused by road salt.

Capitol Region Watershed District is deeply committed to its responsibility to Como Lake, and continues to actively monitor the lake and manage its health. Capitol Region Watershed District collaborated with the City of Saint Paul to create a Como Regional Park Stormwater Management Plan in 2016, and in 2017 completed a Water Quality Drivers Analysis to study the different factors that are impacting the lake. In 2017, Capitol Region Watershed District also installed three water quality sensors in the lake to continually monitor the oxygen, temperature, pH, and conductivity in the lake. This highly detailed data will allow specialists to measure changes, identify trends, and develop strategies for improving water quality in the lake.

In 2018, Capitol Region Watershed District commenced efforts to create a new Como Lake Management Plan. This new plan combines the best scientific knowledge and community input to help guide the efforts to protect and manage the lake.

Arlington Pascal Stormwater Improvement Project

In 2003, Saint Paul Public Works contacted Capitol Region Watershed District for help with the area around Arlington and Pascal streets. At the time, there was frequent flooding in the neighborhood, and the stormwater ran directly to Como Lake. This stormwater carried sand, salt, and phosphates to the lake, causing damage to the water quality. The City's initial plan was to reconstruct the streets and to stop flooding by putting in bigger storm sewer pipes. Instead, Capitol Region Watershed District recommended installing an infiltration system that would remove pollutants and resolve the flooding problem.

Capitol Region Watershed District first proposed creating an infiltration pond in a nearby green space. Local residents were concerned, however. They did not want to lose the green space and were worried about safety.⁶³ Capitol Region Watershed District then proposed an underground infiltration system, which neighbors supported. The system would be more expensive, but Capitol Region Watershed District brokered a cooperative construction and funding agreement between the different government entities.

In 2004, Capitol Region Watershed District hired its first technical staff member, Bob Fossum, to manage the complex Arlington-Pascal project. In addition to

the underground infiltration system, there were eight rain gardens and eight infiltration trenches, all of which were innovative at that time. The large underground stormwater and infiltration system slowed and filtered the water. A redesign and regrading of the nearby Como Park Regional Pond (located in the northwest corner of the golf course) increased its capacity and allowed for rerouting of a drainage pipe.

In the end, the project ended up costing less than the city's initial plan and achieved higher improved water quality. Combined, the new improvements annually prevent approximately 155 pounds of phosphorous and 188,000 pounds of solids and particulates from reaching Como Lake.⁶⁴ Staff presented the project at national conferences and received several awards.⁶⁵

This project was the first big project that Capitol Region Watershed District completed, and it demonstrated the mission, goals, and values that the organization had committed to at the start: use best practices, listen to the residents, and improve water quality. This project helped build credibility with the public and other government agencies.⁶⁶ Bob Fossum articulated its significance:

"If we hadn't had that project, I wonder where we'd be right now. We wouldn't be as far as we are. It did a great job of exemplifying why watershed districts can be extremely effective and valuable to other government jurisdictions."⁶⁷



The enlargement of the Como Regional Park Pond within Como Golf Course allowed stormwater to be better stored and filtered, helping to improve Como Lake.

Trout Brook Storm Sewer Interceptor

For years, the Metropolitan Council had been negotiating with Capitol Region Watershed District to purchase the Trout Brook Interceptor. Trout Brook was one of several interceptors that the Metropolitan Council was no longer using after the sewer separation project of the 1980s and 1990s. The first parts of this system were built when Saint Paul began to construct its sewer system in the 1870s. The large pipes vary from six to thirteen feet in diameter, and sections reflect the varied building technologies from different eras. Because the Metropolitan Council could not use fees collected from sewer rates on the interceptors, they could not maintain the interceptors.⁶⁸ For years, the Metropolitan Council had tried to negotiate a solution to transfer ownership of the interceptor to the Cities of Saint Paul, Roseville, Maplewood, and Falcon Heights, but they were unsuccessful.⁶⁹ It seemed clear to the Metropolitan Council that Capitol Region Watershed District should take over this responsibility.

The Board of Capitol Region Watershed District understood the need to resolve the issue and that Capitol Region Watershed District was in a unique position to do so. They also recognized that if they were going to take ownership, they would need significant funds to repair it.⁷⁰ The Board of Capitol Region Watershed District proceeded cautiously in the negotiations, requesting funds from the Metropolitan Council to repair the interceptor. By December 2004, the Metropolitan Council and the Board agreed that Capitol Region Watershed District would take ownership of the Trout Brook Interceptor, and the Metropolitan Council would provide \$4.2 million for repairs. It then took an additional year to work out the details of an agreement.⁷¹

In 2006, Capitol Region Watershed District took ownership of Trout Brook Storm Sewer System from the Metropolitan Council and quickly set about addressing significant maintenance issues. Capitol Region Watershed District hired staff during this time to help manage the project and soon began repair of 3,800 feet of the interceptor (located near where

the Trout Brook Nature Sanctuary is today). Capitol Region Watershed District also conducted repairs on a 200-foot section of eight-foot diameter pipe near Willow Reserve.

As owner and manager of this stormwater system, Capitol Region Watershed District is required to have a permit from the state to discharge into the Mississippi River. As part of the permit requirements, Capitol Region Watershed District had to develop a Stormwater Pollution Prevention Program (SWPPP) to minimize the discharge of pollutants into the river. The program outlines a variety of different measures, including public education and outreach, public involvement, illicit discharge detection and elimination, construction site stormwater controls, post-construction stormwater management, and pollution prevention and good housekeeping for municipal operations. Each year, Capitol Region Watershed District evaluates and reports progress on these measures to the Minnesota Pollution Control Agency.

Since 2006, Capitol Region Watershed District has continued to monitor and repair the Trout Brook Storm Sewer system. In 2012 and 2013, Capitol Region Watershed District began a major project triggered by the realignment of the Interstate 35E near Cayuga Avenue in Saint Paul. The Minnesota Department of Transportation determined that the interceptor needed to be shifted to avoid conflict with new bridge piers for the freeway. Capitol Region Watershed District undertook a complex effort to build a new 830-foot section of underground pipe in a highly developed transportation corridor. Over a dramatic 30-hour period, a main railroad line was shut down as construction crews raced to remove the tracks, dig out a trench, build a 160-foot section of storm sewer pipes, cover up the pipes, and replace the tracks.

*Large sections of the Trout Brook Interceptor is more than 100 years old.
Repairs to the pipes are critical to protect the water quality.*





2008 – 2018

Nurturing
Progress

In 2008, Capitol Region Watershed District celebrated its tenth anniversary – a significant milestone for the organization. Over those ten years, the organization had grown from no staff, no budget, and borrowed office space to eight staff, a budget of \$2,000,000 and an independent office.⁷²

That year, the Board and staff collaborated to develop a five-year strategic plan. That plan reaffirmed the organization's values and commitments to partnerships and public collaboration. Even while the organization was growing, it was still deeply connected to its heritage originating from a grass-roots neighborhood organization.

2010 – A First Watershed Management Plan

In 2010, Capitol Region Watershed District adopted a new Watershed Management Plan, its first since the original one in 2000. The 2010 plan reflected the increased experience, capacity, and sophistication of the organization, and identified a series of seven focal areas and related goals to guide the efforts over the next decade. The issues were education and outreach, urban stormwater management, monitoring and data assessment, future trends, funding and organization, regulation and enforcement, and ecosystem health.

During the planning process, the theme “Bring Water Back to Saint Paul” emerged from meetings with the public and other stakeholders. Capitol Region Watershed District embraced this message, interpreting it to mean both the physical restoration of the water resources in the district and bringing water back to the consciousness of the public. The theme was integrated into the plan along with the ideas of partnerships and community collaborations, innovations and emerging trends, adaptive management, and new information technology.

The plan outlined a number of concise goals that would address numerous issues within the watershed district. One of the most exciting goals associated with the theme “Bring Water Back to Saint Paul” was to identify and restore historic water resources within the district. This vision caught the attention and sparked interest in a variety of partners.⁷³

As the new plan outlined, Capitol Region Watershed District sought to increase its monitoring and data assessment programs. In 2010, they began to monitor six different locations within the watershed for total discharge, pollutant loads, metals toxicity, and bacteria. This investment in year-round monitoring began to give the organization more accurate and timely data on the water quality within the watershed district. Thanks to this advancement in monitoring, Capitol Region Watershed District is now better able to identify which subwatershed has the most pressing issues.⁷⁴

Developing Partnerships

As Capitol Region Watershed District continued to evolve and grow, developing close partnerships with its cities became critical to implementing complex capital improvement projects. One such example is the Villa Park Wetland project in Roseville.

Over the years, different government agencies had studied and attempted to resolve the issues at Villa Park Wetland, an area in Roseville that feeds into Lake McCarrons. Despite decades of studies and interventions, the wetland was still suffering high nutrient loads and contributing to pollution levels downstream. In 2009, Capitol Region Watershed District created a management plan for Villa Park that outlined new ideas for addressing the problem.

In 2013, Capitol Region Watershed District and the City of Roseville coordinated a large dredging effort to remove 17,360 cubic yards of sediment from the wetlands. This increased the wetland's capacity to hold and treat water. In 2015, a second project created an enormous underground storage and infiltration system under Roseville's Upper Villa Park ballfield and parking lot. This system includes a cistern to store water for the irrigation of the ballfield and massive 10-foot diameter pipes to store and filter water. The project now captures 18.7 million gallons of runoff each year, reuses 1.1 million gallons for irrigation, and prevents approximately 50 pounds of phosphorous from flowing into Lake McCarrons.⁷⁵



A crane is used to set the modular concrete pieces of the rainwater cistern into place.

Public Outreach and Growing Connections to Schools

One of Capitol Region Watershed District's responsibilities is to educate the public on water quality issues. Capitol Region Watershed District's staff has worked closely with neighborhood groups, schools, and other organizations to share information about healthy water management practices.

Throughout the year, Capitol Region Watershed District staff offer workshops and host presentations on topics such as rain gardens, rain barrels, the Adopt a Drain program, and specific projects related to local lakes, wetlands, and other efforts.

Capitol Region Watershed District has also created portable, table-top interactive displays on topics

such as "Pollute or Protect," "Rain Route," and "Eutrophication." These displays are used at presentations, schools, and community events to help demonstrate the fundamental concepts about land use, pollution, and water quality. Additional material delivered via the Capitol Region Watershed District website is frequently used by schools.

In 2011, a model of healthy water management practices took place at a school. In 2011, a group of Saint Paul's Central High School parents formed a group to advocate for physical improvements to the school building and its grounds. This group, called Transforming Central, identified the need to improve the beauty and functionality of the school grounds.

They reached out to Capitol Region Watershed District for help designing an improved water management plan. Capitol Region Watershed District helped design and install numerous features to help manage stormwater on the site.

In 2016, new permeable sidewalks, rain gardens, native plantings, and an underground rock trench were installed, and now help divert and treat over 1.4 million gallons of runoff annually.⁷⁶ For the Saint Paul Central community, these changes both improved the space and educated them about the benefits of best practices on local water quality. In 2017, the Transforming Central project received the Water Quality and Conservation Sustainable Saint Paul Award from Saint Paul Mayor Chris Coleman and the Saint Paul City Council.⁷⁷



Capitol Region Watershed District worked closely with Transforming Central to add beauty and water management to the school's campus.

Natural Resource Management

While Capitol Region Watershed District continued its focus on water quality projects, it began to work more deliberately to improve and enhance the natural resources associated and connected to its water resources. One major project that highlights this effort is the Willow Reserve project.

In 2016, Capitol Region Watershed District partnered with the City of Saint Paul, District 6 Planning Council, and Ward 5 City Council Member Amy Brendmoen to develop plans for the restoration of Willow Reserve. The Reserve, located 13 blocks east of Como Park and just north of Maryland Avenue, is a nature sanctuary for birds and other wildlife and home to an important

stormwater retention pond. As part of the Trout Brook Storm Sewer Interceptor System, Willow Reserve Pond collects, slows, and filters sediment, phosphorous and other pollutants.

Plans for the restoration of the Reserve include removing invasive species, creating a pedestrian path, and building interpretive stations to allow visitors to better view the secluded interior of the reserve. These changes will help improve public access and sight lines and will also help to educate the public about the importance of water quality. The improvements will be completed in 2020.



Since its creation in 1992, the Willow Reserve Pond has helped store and filter local stormwater. Migrating birds and other wildlife use the pond. Efforts to continue to remove invasive species and improve the Reserve are underway.

Neighborhood Rain Gardens and Stewardship Grants

One clear piece of evidence about the success of public education efforts is the increased interest in planting rain gardens. Since its earliest years, Capitol Region Watershed District has sought to educate citizens on the benefits of rain gardens. A rain garden captures runoff from hard surfaces like roads, driveways, sidewalks and parking lots. The water is cleaned as it soaks into the ground. Rain gardens can be planted with shrubs, perennials or native wildflowers and grasses, which attract many birds and butterflies. Rain gardens capture sediment, phosphorous, and other pollutants while decreasing runoff. Rain gardens can be established anywhere, but curb-cut rain gardens are created at the edge of streets, capturing stormwater from the street before it flows into a storm sewer.

In 2014, a neighbor in Saint Paul's Hamline-Midway neighborhood reached out to Capitol Region Watershed District to express interest in and get guidance about developing a curb-cut rain garden. Capitol Region Watershed District collaborated with the neighbor to

build support for a coordinated, broader effort. Capitol Region Watershed District also led an effort to identify potential sites for curb-cut rain gardens, gather approval from the property owners, coordinate with the City of Saint Paul for permits, and gather bids from contractors for installation. In 2015, five rain gardens were constructed, and in 2017, another ten were built.

These rain gardens immediately added beauty and habitat to their neighborhoods, while improving water quality. It is estimated that the 2017 rain gardens capture and filter 550,000 gallons of stormwater each year, removing 2.4 pounds of phosphorous and 1,600 pounds of sediment.⁷⁸ As rain gardens proliferate, these small steps add up to big progress.

To help promote projects like this, Capitol Region Watershed District offers the Stewardship Grant program to residents of the District. These grants help fund projects like shoreline restorations, water reuse systems, and permeable hardscapes like pavers.



New rain gardens in the watershed district have added beauty to the local landscape while improving stormwater management.

Landmark and Legacy Projects

Near the midpoint of the ten-year 2010 Watershed Management Plan cycle, Capitol Region Watershed District began work on one of its most significant projects: a legacy project with the City of Saint Paul that demonstrated the values of public engagement, long-term investment, and water management. Conditions were finally right to begin work on the Trout Brook Nature Sanctuary.

In 2015, Capitol Region Watershed District was a proud partner in the development of a new 40-acre park in Saint Paul. Trout Brook Nature Sanctuary is located in the heart of Saint Paul's Trout Brook Valley – the first area of the city to have its natural stream diverted underground and converted into a sewer. Since the city

first established its water supply in 1869 and its sewer system in 1873, Trout Brook's natural stream has been significantly altered, almost entirely buried, and nearly forgotten. As the valley filled up with train tracks, a train yard, and I-35E, few people knew there had once been a stream there.

In the late 1970s, the rail yard was closed, and local neighbors, including the District 6 Community Council and the Tri Area Block Club, began to advocate for turning the land into a park. By 2015, their dreams were realized, as the City of Saint Paul and Capitol Region Watershed District collaborated to develop a transformative park.



The new Trout Brook Nature Sanctuary has improved stormwater treatment, beautified the local landscape, and created a new refuge for neighbors to enjoy.

The new park created a much-needed natural amenity in an area of the city with few parks. Most dramatically, the project included the creation of a new stream that mimicked the historic Trout Brook. As Capitol Region Watershed District had articulated in its 2010 “Bring Water Back” report, lifting historic waters to the surface again created significant opportunities to promote wildlife and connect people with water and nature. The new stream was fed by a combination of local runoff and stormwater from the Trout Brook Interceptor. The new park also used state-of-the-art stormwater management solutions to filter and slow the stormwater in a series of rain gardens, wetlands, and ponds.

The new park has been an enormous success, serving as a respite for residents, supporting the return of dragonflies and other wildlife, and hosting nature programs. The new stream helps to strengthen the connection between people and the environment, and illustrates the impact that people have on water. Its connections to city and regional bike trails have helped create an appealing bicycle corridor that has stimulated low-impact transportation. The reemergence of Trout Brook has inspired citizens and political leaders to consider similar projects in other areas, such as Phalen Creek in nearby Swede Hollow.⁷⁹

Technology and Innovation

Capitol Region Watershed District continues to collaborate with other government agencies and private entities to promote clean water management practices. Technology and innovation have become mainstays in stormwater management. In 2014, Capitol Region Watershed District joined with the City of Saint Paul, the Saint Paul Saints, and the Metropolitan Council to design an innovative rainwater harvesting and irrigation system for the team’s new CHS Field.


Ballfields require a lot of water for irrigation, and CHS Field was expected to host 400,000 visitors annually. The project designers worked with Capitol Region Watershed District to identify smart ways to conserve water and meet the water needs of the stadium. While rooftop rainwater is often an ideal source for water,

the CHS building had little rooftop area. The team approached the Metropolitan Council, which agreed to allow CHS to collect and use the rainwater from the roof of its Green Line light rail operations and maintenance facility next door. The system collects this water and stores it in a large 27,000-gallon cistern, where it is filtered and disinfected. The water is then used to irrigate the two-acre ballfield and fill a portion of the stadium’s public toilets.⁸⁰

Since CHS Field opened in 2015, the success of the rainwater harvesting and irrigation system has been widely lauded. Capitol Region Watershed District and its partners were awarded a Clean Water Champion Award from Freshwater Society for their efforts.

The turf at CHS Field is irrigated with stormwater that has been collected on the roof of the adjacent light rail maintenance building. This clever use of stormwater helps improve water quality in the watershed.



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Capitol Region Watershed District Today

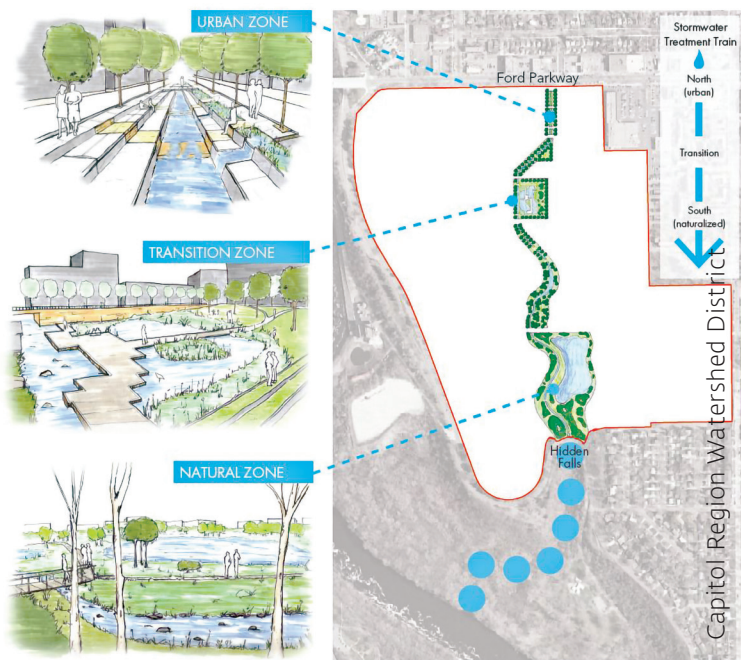
Today, Capitol Region Watershed District is a critical partner in local stormwater management and an active advocate for sound stormwater practices. Due to its

efforts, Capitol Region Watershed District has helped improve water quality in lakes, wetlands and the Mississippi River.

Promoting New Technologies and New Ideas

As part of its responsibility in local stormwater management, Capitol Region Watershed District is at the forefront of local development issues such as the redevelopment of the former site of the Ford Motor Company in Saint Paul's Highland Park neighborhood.

Aspirational Renderings of a "Centralized" Stormwater Management Approach
(Concept presented to the public at an open house on June 23, 2015, to test ideas)



The redevelopment of the Ford site offers an unusual opportunity to thoughtfully design a new neighborhood and its infrastructure. Capitol Region Watershed District has promoted a surface level stormwater feature that has become especially popular with the public.

Even before Ford closed the plant in 2011, local leaders and neighbors had begun to discuss the future of the 134-acre site. The intense interest in the site reflected local residents' concerns about issues such as density, transportation, open space, affordable housing, and the environment. With most of Saint Paul's land already developed, the Ford site offered a rare opportunity to thoughtfully consider and address these issues on a larger scale.

As the discussions progressed, Capitol Region Watershed District worked with the City and residents to explore opportunities for stormwater management on site. Capitol Region Watershed District outlined the opportunity to develop a more thoughtful, integrated Hidden Falls Headwaters approach that would centralize and better manage the stormwater with surface collection of the water in an open stream and retention pond. In addition to saving money and improving water quality, the proposed solution would offer significant benefits to the neighborhood's environment and landscape.⁸¹ When the site developer, Ryan Companies, announced their initial plans for the site in October 2018, they had already embraced the vision and message, explaining their goal to create a "best-in-class" stormwater system.⁸² The proposed stormwater feature has become one of the most popular ideas with the public and will be central to the character of the project.

New Building and Looking to the Future

At the smaller end of the scale, Capitol Region Watershed District has embraced the opportunity to “practice what they preach” in the renovation of their new home at 595 Aldine Street in Saint Paul. Rather than demolishing the existing industrial building, Capitol Region Watershed District chose to use a variety of sustainable design practices to re-use the building. The project includes several rain gardens, permeable pavement, a tree trench system, rainwater harvesting and a state-of-the-art beneficial infiltration system. The organization is very proud of the addition of a small pocket-park with an interactive exhibit and

water feature. This will serve as a space for neighbors to enjoy a natural oasis, learn about water quality issues, and gather to discuss and share ideas about how to protect and improve our environment.

As Capitol Region Watershed District begins its third decade, the new building models its commitment to best practices in water management: promoting and relying on sound science and research, utilizing the best technology, and collaborating with peers and neighbors to help improve our neighborhoods, our city, and our state.



Capitol Region Watershed District's new offices at 595 Aldine opened at the end of 2018. The new space includes public art features, such as this iron-poured art piece, that help educate the public about the Mississippi River watershed and water health. This piece was created by Tamsie Ringler, instructor of foundry and sculpture at the University of Minnesota, and her MFA students.

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- ⁴³ Cliff Aichinger continued to be available to them. Janice Rettman, as a new Ramsey County commissioner and resident of District 10, offered guidance and support. Jim Haertle, Metro Supervisor for the Board of Water and Soil Resources (BWSR), and Matt Moore, a staff person at BWSR, provided support. Tom Peterson from the Ramsey Soil and Water Conservation District and Terry Noonan from Ramsey County were available for support and guidance as well.
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- ⁴⁵ Establishment Petition attachments; Karl Keel, personal interview with Patricia Cavanaugh, October 18, 2017, Saint Paul, MN; Anne Weber, personal interview with Patricia Cavanaugh, September 27, 2017, Saint Paul, MN.
- ⁴⁶ Order Establishing Capitol Region Watershed District, p. 8-11.
- ⁴⁷ Jay Riggs, personal interview with Patricia Cavanaugh, September 21, 2017, Saint Paul, MN, Janice Rettman, personal interview with Patricia Cavanaugh, October 31, 2017, Saint Paul, MN, Mike Thienes, personal interview with Patricia Cavanaugh, August 28, 2017, Saint Paul, MN, Tom Peterson, personal interview with Patricia Cavanaugh, September 20, 2017, Saint Paul, MN.
- ⁴⁸ Capitol Region Watershed District, *Watershed Management Plan 2000*, December 14, 2000.
- ⁴⁹ Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.. Terry Noonan, personal interview with Patricia Cavanaugh, October 9, 2017, North Saint Paul, MN.
- ⁵⁰ Mike Thienes, personal interview with Patricia Cavanaugh, August 28, 2017, Saint Paul, MN.
- ⁵¹ Capitol Region Watershed District, *Watershed Management Plan 2000*, December 14, 2000.
- ⁵² Anne Weber, personal interview with Patricia Cavanaugh, September 27, 2017, Saint Paul, MN.
- ⁵³ Alex Cohen and David Keiser, "The Unintended Consequence of Household Phosphate bans," *Agricultural Policy Review*, Fall, 2015.
- ⁵⁴ Jay Riggs, personal interview with Patricia Cavanaugh, September 21, 2017, Saint Paul, MN.
- ⁵⁵ Seitu Jones, personal interview with Patricia Cavanaugh, October 4, 2017, Saint Paul, MN.
- ⁵⁶ Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.

- ⁵⁷ Mike Thienes, personal interview with Patricia Cavanaugh, August 28, 2017, Saint Paul, MN; Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.
- ⁵⁸ Bob Fossum, personal interview with Patricia Cavanaugh, October 11, 2017, Saint Paul, MN; Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.
- ⁵⁹ Jay Riggs, personal interview with Patricia Cavanaugh, September 21, 2017, Saint Paul, MN.
- ⁶⁰ Bob Fossum, personal interview with Patricia Cavanaugh, October 11, 2017, Saint Paul, MN.
- ⁶¹ Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.
- ⁶² Capitol Region Watershed District "Como Lake Management Plan" web pages, retrieved April 9, 2019.
- ⁶³ Joe Collins, personal interview with Patricia Cavanaugh, October 6, 2017, Saint Paul, MN.
- ⁶⁴ Capitol Region Watershed District, "Arlington-Pascal Stormwater Project," undated.
- ⁶⁵ Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN; Bob Fossum, personal interview, October 11, 2017, Saint Paul, MN.
- ⁶⁶ Bob Fossum, personal interview with Patricia Cavanaugh, October 11, 2017, Saint Paul, MN; David Arbeit, personal interview with Patricia Cavanaugh, August 24, 2017, Saint Paul, MN.
- ⁶⁷ Bob Fossum, personal interview with Patricia Cavanaugh, October 11, 2017, Saint Paul, MN.
- ⁶⁸ Judy Sventek, personal interview with Patricia Cavanaugh, October 4, 2017, Saint Paul, MN.
- ⁶⁹ Anne Weber, personal interview with Patricia Cavanaugh, September 27, 2017, Saint Paul, MN.
- ⁷⁰ Mike Thienes, personal interview with Patricia Cavanaugh, August 28, 2017, Saint Paul, MN.
- ⁷¹ Janice Rettman, personal interview with Patricia Cavanaugh, October 31, 2017, Saint Paul, MN; Mike Thienes personal interview with Patricia Cavanaugh, October 11, 2017, Saint Paul, MN; Mark Doneux, personal interview with Patricia Cavanaugh, October 26, 2017, Saint Paul, MN.
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- ⁷³ Capitol Region Watershed District, "2010 Watershed Management Plan," 2010.
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