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MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION

2020 Annual Activity & Financial Report





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Contributing Authors

Doug Snyder, *Executive Director*

Nancy Stowe, *Projects and Outreach Director*

Udai Singh, *Water Resources Director*

Nick Busse, *Communications Principal*

Dan Kalmon, *Planning Principal*

Alicia Beattie, *Capital Projects and Stewardship Specialist*

Brittany Faust, *Water Resources Specialist*

Adam Flett, *Communications and Outreach Specialist*

Brett Eidem, *Project Planning and Implementation Specialist*

Sadie Loose, *Administrative and Project Support Specialist*

Abby Moore, *Training and Community Learning Specialist*

Michaela Neu, *Youth and Community Outreach Specialist*

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2020 Annual Activity & Financial Report

Mississippi Watershed Management Organization

Abstract

All metro-area watershed management organizations are required to annually submit an activity report, financial report and financial audit within 120 days of the end of the organization's fiscal year.

This report meets the requirements of the Metropolitan Water Management Act ([MS 103B.231](#)) and [Minnesota Rules 8410.0150](#). The intent of an activity and financial report is to provide an annual snapshot or record of where this organization is in meeting its mission, goals and objectives, and what its goals and objectives are for next year. This record is important — not only to meet rule requirements, but also for future organization board and staff members to understand why past decisions were made and directions were taken.

Key components of the required reporting are:

- Budgets and expenditure information
- Annual workplan and evaluation of past workplan
- Status of local water management plan adoption
- Summary of monitoring data
- Permit and enforcement activity
- Status of wetland plans and banking

This report is organized by MWMO areas of expertise and activity. The workplan description is delivered at an area of activity or expertise level, rather than at an individual staff level. Individual workplans are adjusted quarterly to reflect and meet the ever-changing work environment of the MWMO, while areas of activity and expertise needs are driven by annual budget processes of the watershed and its members.

This report may be updated periodically throughout the year. The most recent version will be available on the MWMO's website at www.mwmo.org.

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Figure 1. An aerial view of the MWMO's Stormwater Park and Learning Center in Northeast Minneapolis.

Organizational Summary

Formation and History

The MWMO encompasses 25,543 acres (39.9 square miles) of fully-developed urban lands and waters within the Minneapolis—Saint Paul metropolitan core area. The original members included the cities of Falcon Heights, Lauderdale, Minneapolis, Saint Anthony Village and Saint Paul, the Minneapolis Park and Recreation Board and the University of Minnesota.

Key Events in the History of the Organization

The first draft of the MWMO Plan was published in December 1986. The 1986 plan was prepared to meet the then-current Minnesota Chapter 509 requirements. The 1986 plan addressed surface water quality and quantity, land use and identified significant point and nonpoint source pollution in the MWMO. It also noted significant groundwater pollution problems from past industrial and commercial practices and storm sewer drainage, but was never approved by the Board of Water and Soil Resources (BWSR) or the MWMO Commission.

In 2000, the University of Minnesota opted out the organization. During second-generation

planning (1997-2000, adopted in 2001), the MWMO acknowledged the limits of its member communities to incur additional financial expenses. Consequently, the MWMO developed strategies for new funding mechanisms. The MWMO sought inclusion on the list of Special Taxing Districts (MS 275.066) and, in 2001, the MWMO became the first joint powers WMO to receive an ad valorem levy authority necessary to implement plan goals and objectives. In addition, MWMO land in Falcon Heights and Lauderdale was placed in the Capitol Region Watershed District during its formation by the Minnesota Board of Water and Soil Resources. In September of 2002, the MWMO hired its first two full-time staff members to implement the plan.

The current plan, approved in May 2011, uses information and data from past studies and actions to address a variety of issues deemed significant by the MWMO Citizen Advisory Committee (CAC), the MWMO Technical Advisory Committee (TAC) and the MWMO Board of Commissioners.

The Mississippi River is the MWMO's natural resource focus and the nexus of the urban area we know as the Twin Cities, and the river is the setting for our work. The river itself provides important water-based ecosystem advantages and facilitates many other beneficial activities and services, including: hydroelectricity; barge access; habitat, wildlife corridors and recreational water-related amenities; industrial, commercial and residential land uses; public drinking water; and stormwater and municipal wastewater discharge. Within the boundaries of the MWMO, surface water either flows directly overland or drains through pipes to the river. All groundwater generally flows toward the river as well.

The MWMO is one of several entities that has developed plans to address critical watershed issues within the MWMO. The MWMO believes coordination of these plans and the entities that drafted them are imperative to successful watershed management. The complex network of private and public (federal, state, regional, municipal and local) agencies involved in water and natural resource management and land-use planning and development must work together to achieve mutual goals. To put financial and human resources to best use, land use and environmental policies, projects and programs stemming from those agencies must be implemented in a complementary, non-duplicative manner.

In 2011, Six Cities Watershed Management Organization was dissolved. The Cities of Columbia Heights, Fridley and Hilltop became members of the MWMO in July 2012, joining the Cities of Minneapolis, Saint Paul, Lauderdale and Saint Anthony Village, and the Minneapolis Park and Recreation Board. These entities entered into a new, revised joint and cooperative agreement (i.e., Joint Powers Agreement under MS Section 471.59) that now form the MWMO.

The MWMO Watershed Management Plan was amended to include the area within the new member cities. In 2014, the MWMO went through a staff reorganization to better meet the

goals of the organization and to support and coordinate implementation with its members to achieve water quality, water quantity and habitat goals. Depending on the season, the MWMO may have up to 20 staff members across all employment categories—full-time employees, temporary or seasonal employees and interns.

Vision and Mission Statements

Vision Statement: To lead, to inspire, to act, to educate, and to create a shared vision for a river system with ecological integrity.

Mission Statement: To lead, and to foster stewardship of the watershed with actions that promote civic ownership and responsibility and through measures that achieve diverse and functional ecosystems.

Summary of 2020 Services and Operations

Number of Employees (including seasonal and interns)21
Number of FTEs15
FTE Average Length of Service5.86 years
FTE Turnover Rate.	14 percent
Capital Improvements and Initiatives Revenue	\$3,500,000
Capital Asset Replacement Revenue	\$240,000
Operating Revenue	\$1,905,000
Total Levy	\$.5,700,000

Board of Commissioners

The governing body of the MWMO is its commission, which consists of seven voting commissioners. All appointments to the commission are made in accordance with Minnesota Statutes 103B.227 and Articles III and IV of the MWMO Joint and Cooperative Agreement. These statutes and articles together lay out the appointment process and powers of the Board of Commissioners of the MMWO.

Notices of all vacancies and appointments shall be published at least 15 days prior to filling a vacancy in a legal publication of the member’s community seeking a commissioner. The council of each member shall appoint one commissioner to represent the member to the commission. Each commissioner shall serve until his or her successor is appointed.

Member councils may select and appoint alternates to the commission in the same manner as commissioners. In the absence of a member's commissioner, the designated alternate may vote and act in the commissioner's place. The alternate shall serve a term concurrent with the member's commissioner. The council of each member shall determine the eligibility and qualifications of its commissioner and alternate.

Commissioners

Commissioner Kevin Reich, City of Minneapolis, Chair

350 South 5th Street, Room 307, Minneapolis, MN 55415
612-673-2201

Commissioner Jeffrey Dains, City of Lauderdale, Vice-Chair

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Commissioner Donna Schmitt, City of Columbia Heights and City of Hilltop, Treasurer

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Commissioner Steve Eggert, City of Fridley

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Commissioner Chris Meyer, Minneapolis Park and Recreation Board

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Commissioner Randy Stille, City of Saint Anthony Village

3301 Silver Lake Road, Saint Anthony, MN 55418
612-782-3301

Commissioner for City of Saint Paul

Open

Alternate Commissioners

Alternate Commissioner Jan Jenson, City of Saint Anthony Village

3301 Silver Lake Road, Saint Anthony, MN 55418
612-782-3301

Alternate Commissioner Steve Fletcher, City of Minneapolis

350 South 5th Street, Room 307, Minneapolis, MN 55415
612-203-1459

Alternate Commissioner Mary Gaasch, City of Lauderdale

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Alternate Commissioner Kale Severson, Minneapolis Park and Recreation Board

2117 West River Road, Minneapolis, MN 55411
612-230-6443

Alternate Commissioner Bertha Risdahl, City of Hilltop and City of Columbia Heights

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Alternate Commissioner Tom Tilberry, City of Fridley

2522 Marshall Street NE, Minneapolis, MN 55418-3329
612-746-4970

Alternate Commissioner for City of Saint Paul

Open

Citizen Advisory Committee

The MWMO Citizen Advisory Committee (CAC) meets at the request of the MWMO Board of Commissioners to assist in managing the water resources of the MWMO. The scope of responsibilities for the CAC include: reviewing funding proposals (e.g., Planning and Action Grants through the Stewardship Fund program), reviewing the MWMO’s annual capital budget and participating in planning for the watershed. Other responsibilities may be assigned to the CAC by the Board of Commissioners as needed. The CAC provides review and feedback in the form of recommendations to the Board of Commissioners.

Applications are accepted year-round, and open positions are filled throughout the year. Applications submitted to replace incumbents are due by December 15 each year. Appointments are for one year and are renewable annually. Up to two at-large positions may be filled by people who live outside of the MWMO boundaries. All CAC members may be contacted through the MWMO office.

CAC Positions

Columbia Heights (two)

Joe Schluender

Open

Fridley (one)

Nick Olberding

Hilltop (one)

Open

Lauderdale (one)

Open

Saint Anthony Village (one)

Lona Doolan

Saint Paul (one)

Open

Minneapolis (five)

Nicole Menard North

Perry Dean Northeast

Craig Larson South

Ann Lewandowski Southwest

Open Downtown

At-Large Positions (five)

Phyllis Carol Hejl Minneapolis

Mary Fitzgerald Minneapolis

Sam Westlund Minneapolis

Andrew Dickhart Minneapolis-Southwest

Joe Handtmann Minneapolis-Southwest

William Risse Saint Anthony Village

Staff

The MWMO Board of Commissioners first hired staff in September of 2002. The Board of Commissioners first established, and now maintains, personnel policies and structures to attract and retain qualified personnel to implement MWMO activities. This is accomplished by encouraging continual performance improvement through a well-administered training, salary and performance-review programs. In addition to its own full-time employees, the MWMO shares employees with the City of Saint Anthony Village in the areas of human resources and financial management, and the MWMO hires part-time regular and seasonal employees and interns as needed to complete its annual plan of work.

2020 MWMO Staff

Executive Director

Douglas Snyder

dsnyder@mwmo.org

612-746-4971

Projects and Outreach Director

Nancy Stowe, PE

nstowe@mwmo.org

612-746-4978

Water Resources Director

Udai Singh, PhD, PE
usingh@mwmo.org
612-746-4980

Communications Principal

Nick Busse
nbusse@mwmo.org
612-746-4974

Planning Principal

Dan Kalmon, AICP
dkalmon@mwmo.org
612-746-4977

Capital Projects and Stewardship Specialist

Alicia Beattie
abeattie@mwmo.org
612-746-4989

Project Planning and Implementation
Specialist

Brett Eidem
beidem@mwmo.org
612-746-4983

Water Resources Specialist

Brittany Faust
bfaust@mwmo.org
612-746-4992

Communications and Outreach Specialist

Adam Flett
aflett@mwmo.org
612-746-4988

Monitoring and Instrumentation Specialist

Brian Jastram
bjastram@mwmo.org
612-746-4985

Training and Community Learning Specialist

Abby Moore
amoore@mwmo.org
612-746-4981

Environmental Specialist

John Mueller
jmueller@mwmo.org
612-746-4998

Youth and Community Outreach Specialist

Michaela Neu
mneu@mwmo.org
612-746-4975

Environmental Specialist

Jim Rudolph
jrudolph@mwmo.org
612-746-4987

Water Quality Intern

Marta Wichman

Water Quality Intern

Nathan Strom

Water Quality Intern

Anne Doolan

Water Quality Intern

William Howlett

Water Quality Intern

Lucas Clapp

FT Employees Leaving the MWMO in 2020

Administrative Specialist
Max Dalton

Stewardship and Community Outreach Specialist
Tammy Schmitz

Administrative and Project Support Specialist
Katherine Dowlding

Capital Projects and Stewardship Specialist
Marcy Bean

2020 Shared Staff

The MWMO shared the following staff with the City of St. Anthony Village in 2020:

Accountant
Ka Vue
ka.vue@ci.saint-anthony.mn.us
612-782-3334

Human Resources Coordinator
Charlie Yunker
charlie.yunker@ci.saint-anthony.mn.us
612-782-3315

Finance Director
Shelly Rueckert
shelly.rueckert@ci.saint-anthony.mn.us
612-782-3316

Consultants

In accordance with Minnesota Statutes [Section 103B.227](#), subdivision 5, the MWMO sends out requests for proposals for legal, professional and technical (engineering) and consultant services at least once every two years (in the fall of even-numbered years). At its annual business meeting in January, the MWMO Board of Commissioners reviews and approves a list of approved consultants. The Board reserves the right to alter the list at any point in order to meet the needs of the organization.

The following is a list of organizations that provided services to the MWMO in 2020:

Accounting

City of Saint Anthony Village
3301 Silver Lake Rd.
St. Anthony, MN 55418
651-782-3301

Financial Audit

Redpath and Company
55 E. Fifth St., Ste. 1400
St. Paul, MN 55101
651-426-7000

Engineering

Barr Engineering
4700 W. 77th St.
Minneapolis, MN 55435-4803
952-832-2600

Emmons and Olivier Resources
651 Hale Ave. N.
Oakdale, MN 55128
651-203-6001

HGA
420 N. 5th Street
Minneapolis, MN 55401
612-758-4000

Houston Engineering, Inc.
6901 East Fish Lake Rd., Ste. 140
Maple Grove, MN 55369-5400
763-493-4522

Inter-Fluve
2121 Randolph Ave., Ste. 200
St. Paul, MN 55105
651-243-9700

RESPEC
1935 County Rd. B2 West, Ste. 230
Roseville, MN 55113
651-305-2280

TKDA
444 Cedar St., Ste. 1500
UBS Plaza
St. Paul, MN 55101
651-292-4400

Stantec
2335 West Highway 36
St. Paul, MN 55113
651-636-4600

Wenck Engineering
P.O. Box 249
1800 Pioneer Creek Center
Maple Plain, MN 55359
763-479-4201

WSB and Associates, Inc.
763-541-4800
701 Xenia Ave. S., Ste. 300
Minneapolis, MN 55416

Payroll and Financial Services

City of St. Anthony Village
3301 Silver Lake Rd.
St. Anthony, MN 55418
651-782-3301

Banking and Investments

4M Fund
5298 Kyler Ave. NE
Albertville, MN 55301
763-497-1490

Multi-Bank Securities, Inc.
1000 Town Center, Ste. 2300
Southfield, MI 48075

Northeast Bank
77 Broadway St. NE
Minneapolis, MN 55413
612-379-8811

Pershing, LLC
1 Pershing Plaza
Jersey City, NJ 07399

Legal

Kennedy and Graven, Chartered
470 Pillsbury Center, 200 S. 6th St.
Minneapolis, MN 55402
612-337-9215

Smith Partners
400 2nd Ave. S.
Minneapolis, MN 55401
612-344-1400

Information Management and Technology

City of Roseville Management Information Services — Metro-INET
2660 Civic Center Dr.
Roseville, MN 55113
651-792-7092

Other Service Providers

Ruth Murphy
442 Summit Ave.
St. Paul, MN 55102

Fortin Consulting
215 Hamel Rd.
Hamel, MN 55340
763-478-3606

MMC Associates
1312 Portland Ave.
St. Paul, MN 55104
651-647-6816

St. Anthony Falls Laboratory, University of MN
2 Third Ave. SE
Minneapolis, MN 55414
612-624-4363

Three Rivers Park District
3000 Xenium Ln. N.
Plymouth, MN 55441
763-694-7651

Freshwater Society
2424 Territorial Rd., Suite B
St. Paul, MN 55114
651-313-5800

Wilderness Inquiry
808 14th Ave. SE
Minneapolis, MN 55414
612-676-9400

Communications/Website

Dogtooth Design
755 Montana Ave. E.
St. Paul, MN 55106
612-547-6461

Windmill Strategy
1227 Tyler St. NE #180
Minneapolis, MN 55413
612-521-4286



Figure 2. A worker uses a skid loader to remove sediment from the Old Bassett Creek Tunnel in Minneapolis.

Capital Project Grants

Purpose

The MWMO's capital project grants fund projects that protect and improve water quality and ecosystem health within the MWMO watershed. These projects provide unique and innovative solutions for stormwater management in highly developed urban areas. They also provide opportunities for community partnerships to build understanding, knowledge, and initiative related to water, habitat, and natural resource issues and solutions.

Objectives

- Encourage the integration of the stormwater system with other infrastructure systems — e.g., energy, water supply and reuse, and wastewater treatment — to create greater efficiencies for all infrastructure systems.
- Participate as members of project teams from ideation through design and implementation.

- Build the MWMO’s capital improvement project (CIP) list with opportunities to collaborate on capital projects that meet both MWMO and member organization goals.
- Strengthen our ability to reach key audiences by collaborating with other MWMO activity areas.
- Leverage funding sources to acquire key parcels of land within the MWMO that will lead to establishment of water quality and habitat improvements.

2020 Implementation

In 2020, the MWMO completed, entered into, continued agreements, or allocated capital funds, for the following capital projects:

2333 Jackson Street NE Blue-Green Roof

The MWMO provided funding for a smart blue-green roof system at “JAX Apartments,” a 0.4-acre multifamily housing development in Northeast Minneapolis. This project features a multi-tiered roof that allows for a unique approach to stormwater volume reduction, monitoring and reuse. Through smart valve controls, and utilizing real time weather data, the system can open and close roof drains. This system can detain precipitation, thus minimizing runoff from entering into a sewer system during storm events. The project includes a blue roof to hold and retain water, a green roof on a lower floor, and a modular underground reuse system that holds filtered water to be used for irrigation. The total system is designed to manage the equivalent of just less than a static 70,000-gallon cistern. This project is the first blue/hybrid roof system in the Twin Cities metro area. The system will be monitored for at least five years, and the MWMO will have access to the data to monitor effectiveness and learn about how well these types of systems perform in Minnesota.

26th Avenue North Overlook

The Minneapolis Park and Recreation Board (MPRB) built a river overlook at 26th Avenue North. Also known as the Great Northern Greenway Overlook, the project consists of a large beacon and cantilevered viewing platform to connect North Minneapolis residents to the river. The overlook, beacon, and plaza are designed to provide an iconic and dynamic community place that serves as a catalyst for future park development.

The MWMO partnered with the MPRB to stabilize the riverbank with a vegetated reinforced soil slope (VRSS). This included minor grading, soil amendments, and native plants to capture site runoff while adding pollinator habitat within the Mississippi River Corridor Critical Area (MRCCA). The project incorporates cultural and historical interpretive opportunities in collaboration with the community and Juxtaposition Arts. The project construction is

complete. The MWMO and the MPRB will complete final plant establishment in spring 2021.

[More details are available at mwmo.org.](https://www.mwmo.org)

8th Street Stormwater Planters

The MWMO partnered with the City of Minneapolis and the Downtown Improvement District to construct five stormwater planters along a one-block stretch of South 8th Street in Downtown Minneapolis. These bioinfiltration basins will capture and treat runoff from the street, sidewalks, and nearby alleys. The project will remove an estimated 200 pounds of total suspended solids and 1 pound of total phosphorus annually. The MWMO is monitoring these planters to collect data on infiltration rates, total volume captured, and vegetation health. Placement of final soil amendments and planting of trees and sedges was completed in spring 2020. The MWMO worked with partners to develop an Operation and Maintenance plan defining partner roles and responsibilities.

[More details are available at mwmo.org.](https://www.mwmo.org)

Columbia Stormwater Pretreatment

The MWMO and the City of Minneapolis installed a stormwater pretreatment unit known as a hydrodynamic separator at the intersection of 35th Avenue NE and NE Tyler Street to help ensure the long-term functionality of the Northern Columbia Golf Course and Park BMPs project to the west (downstream). The system is designed to screen, separate, and trap trash, debris, sediment, and hydrocarbons from stormwater runoff. The project coincided with the city's replacement of a stormsewer system on 35th Avenue NE, which made this the most cost-effective time to install a pretreatment unit. The city replaced an estimated 4,300 feet of storm pipe (35th Avenue NE from Central Avenue NE to Ulysses Street NE, and Tyler Street NE from 35th Avenue NE to 36th Avenue NE) with larger pipes to reduce surface flooding in the neighborhood. Manholes and catch basins in the project area will also be replaced.

[More details are available at mwmo.org.](https://www.mwmo.org)

Eastside Maintenance Facility

This new City of Minneapolis Public Works facility houses multiple city departments and creates space for city vehicle storage and maintenance areas. With a highly visible location, the project provides opportunities to demonstrate green infrastructure practices to a key user group — public works maintenance staff — who have the potential to impact our water resources through their work. The 9-acre site was designed to capture and hold nearly 90 percent of the runoff (and its pollutants) from a 1.25-inch rain event. The project includes underground storage, permeable pavers, and a series of connected raingardens. The majority of the building and stormwater BMPs were constructed in 2019. The planting of the site's

raingardens and installation of interpretive signage in the spring and summer of 2020 completed the project.

[More details are available at mwmo.org.](http://mwmo.org)

Hoyer Heights Tree Trenches

The City of Minneapolis installed a series of stormwater-absorbing tree trenches along portions of Fillmore Street NE, Buchanan Street NE, and Lincoln St NE (south of 37th Ave NE) in Hoyer Heights as part of a street reconstruction project. This pilot project is among the first in the city to capture and treat runoff directly from the street in a residential neighborhood using a type of stormwater best management practice (BMP) called a tree trench. The design includes curb cuts that allow stormwater runoff to feed directly from the street into the tree trenches, which then filter out pollutants.



The project was planned as part of the Northeast Stormwater Management Initiative, which seeks to improve water quality and flood resiliency in Columbia Park (including Columbia Golf Course) and the surrounding neighborhoods. Construction of the tree trenches, including plantings, was completed in the summer/fall of 2020, with final inspections and any needed follow-up grading or planting to occur in 2021.

[More details are available at mwmo.org.](http://mwmo.org)

Islands of Peace Park Restoration

The MWMO partnered with Anoka County Parks to stabilize riverbank and restore habitat at Islands of Peace Park in Fridley. The project used bioengineering techniques like vegetated rip rap and more direct access points down to the water's edge to stabilize shoreline, and increase the diversity of the native plant community to be more beneficial to pollinators and other wildlife that inhabit the park and larger natural space in the area. The project restored 7 acres of upland and floodplain habitat in the Mississippi River Corridor Critical Area (MRCCA). Anoka County Parks reconstructed trails at the park as well, resulting in a 34 percent reduction of impervious surfaces on the island. The project also included enhancements to a back-channel and culvert replacement for improved fish passage. The MWMO previously worked with Anoka County Parks on a similar stabilization/restoration project at Riverfront Regional Park. The MWMO is continuing to measure bank erosion pins there to prioritize future bank stabilization and habitat restoration needs.

Metro Transit Bus Garage

The MWMO worked with Metro Transit to design and implement a stormwater reuse system that will be used for washing buses at a new bus operations and maintenance facility in North Minneapolis. The system utilizes a 40,000-gallon underground cistern and multiple filtration methods to capture and treat runoff from the building's roof. This will allow facility staff to conserve up to 13,000 gallons of potable water each day, and up to 2.5 million gallons of water per year. The facility is currently under construction and is expected to open in late 2022.

[More details are available at mwmo.org.](http://mwmo.org)

Northern Columbia Golf Course and Park Stormwater BMPs

Following extensive outreach and engagement in 2019, the MWMO and its partners began installation of new stormwater best management practices (BMPs) at the Columbia Golf Course and Columbia Park in October 2020. The project will expand an existing wet stormwater pond and construct one dry pond and one bioinfiltration basin at the golf course and nearby park, along with the necessary stormsewer improvements to convey the stormwater in and out of them. Part of the Northeast Stormwater Management Initiative, these upgrades will improve water quality, restore habitat, enhance the playability of the golf course, and improve the flood resiliency of the park, golf course and upstream neighborhoods. Construction and habitat restoration work is expected to continue into summer 2021.



[More details are available at mwmo.org.](http://mwmo.org)

Old Bassett Creek Tunnel Phase II Cleanout

The MWMO worked with the City of Minneapolis to remove decades' worth of accumulated sediment and debris from the Old Bassett Creek Tunnel (OBCT), which runs beneath Downtown and North Minneapolis. The multi-phase project is designed to prevent accumulated sediment and its pollutants from being mobilized and flushed into the Mississippi River. This second phase of the project, completed in 2020, removed 800 tons of sediment from an 853-foot section of the tunnel from Fourth Avenue North to Olson Memorial Highway in North Minneapolis.

The MWMO has been working together with the city since 2012 to study and ultimately remove the sediment from the tunnel. This Phase II project resulted from a 2017 assessment and cleanout plan prepared by Barr Engineering Co. for the City of Minneapolis and MWMO to remove deposited sediment and debris within the OBCT. The study found approximately 4,500 tons of sediment, 2,500 pounds of phosphorus, and hundreds of pounds of metals accumulated within the 7,915 linear feet of tunnel. The first phase, totaling 1,080 feet, was completed in

2018. That phase removed approximately 935 tons of sediment and debris.

[More details are available at mwmo.org.](http://mwmo.org)

Towerside District Stormwater System

This project is part of a larger redevelopment effort that seeks to establish an urban innovation district. This district stormwater demonstration project will model the difference between a conventional stormwater system layer that provides a singular treatment and conveyance function and an integrated district stormwater system that manages stormwater as a valued resource and redesigns stormwater infrastructure at a net savings to public spaces. The stormwater park, district infrastructure, and reuse tank have all been installed. In 2020, the system was connected and brought online, including the pumps, UV treatment, and reuse lines going back to each of the individual properties.

[More details are available at mwmo.org.](http://mwmo.org)

Water Works Stormwater Reuse System

The Minneapolis Park and Recreation Board (MPRB) is leading the creation of a new park along the Mississippi River at a highly visited area adjacent to the Stone Arch Bridge in Downtown Minneapolis. Part of the River First initiative, the project will implement a long-term vision for the area, integrating historical features of the city with park space, green infrastructure, and stormwater reuse within its park pavilion.

The MWMO funded a stormwater reuse system that will collect and treat roof runoff from the existing rooftops of adjacent buildings. This water will be used for irrigation at the Water Works site and toilet flushing in the pavilion. The 100,000-gallon storage tank is projected to conserve and reuse up to 956,000 gallons a year. The stormwater reuse system was installed in 2019, and MWMO staff will be working with the MPRB on getting the system online in 2021, as well as adding interpretive signage and outreach for the project.

[More details are available at mwmo.org.](http://mwmo.org)

Funding Availability and Outcomes

Table 1 on the following page shows the funding spent or anticipated to be spent over a three-year window for each MWMO capital project. Amounts spent are rounded to the nearest \$1,000. Capital projects are either identified in the MWMO's Watershed Management Plan or are awarded funding through a competitive grant application process. Each year, funding is made available to allow for the completion of the projects identified in the plan (\$2,700,000 allocated for 2021). In addition to MWMO funding, several projects are supported by additional funders.

Table 1. Capital Project Grants Implementation

Implementation Table	2019	2020	2021
CIP Budget	\$2,500,000	\$2,500,000	\$2,500,000
2333 Jackson Street NE Blue Roof	\$200,000	--	--
26th Avenue Overlook	--	\$45,000	\$5,000
4th Street SE Landscape for Habitat	\$400,00	\$45,000	\$55,000
8th Street Stormwater Planters	--	\$278,000	\$17,000
Columbia Stormwater Pretreatment			\$160,000
Eastside Maintenance Facility ¹	\$531,000	\$39,000	--
Fridley Smart Salting BMPs	\$80,000	--	--
Hiawatha Collegiate High School Stormwater Reuse	\$18,000	--	--
Hoyer Heights Tree Trenches ²	--	\$365,000	\$157,000
Islands of Peace Park Restoration	--	\$140,000	--
Metro Transit Bus Garage	--	--	\$400,000
NorthPoint Health and Wellness Center Expansion	\$34,000	--	\$316,000
Northern Columbia Golf Course and Park Stormwater BMPs ³	--	\$1,327,000	\$6,053,000
Old Bassett Creek Tunnel Phase II Cleanout	--	\$126,000	--
Towerside District Stormwater System	\$315,000	--	--
Water Works Stormwater Reuse System	\$800,000	--	\$50,000
Westminster Stormwater Reuse Demonstration Project	\$50,000	--	--

On the following page is a summary of progress made towards MWMO's Watershed Management Plan Goals via capital projects. The projects are associated with the year they have been deemed substantially complete.

Projects implemented in 2018: Cemstone Stormwater Reuse; Fridley Street Reconstruction – second phase (2017); Hall's Island Reconstruction; Hiawatha Collegiate School Stormwater Reuse; Old Bassett Creek Tunnel Phase I Cleanout; and the Riverfront Regional Park Restoration.

¹ An \$18,400 Metropolitan Council grant supported the project.

² \$113,459.00 will be reimbursed through Board of Water and Soil Resources (BWSR) Minnesota Clean Water Fund watershed-based funding grant.

³ \$800,000 will be reimbursed through a BSWR grant (via the state's Clean Water, Land and Legacy Amendment) and \$100,000 will be reimbursed through a Hennepin County Natural Resources Opportunity Grant. Up to \$2,908,012 will be reimbursed by the City of Minneapolis. There is a separate contract with SRF Consulting for bidding and construction services (not to exceed \$644,799.00).

Projects implemented in 2019: 2333 Jackson St NE Blue Roof; 26th Avenue Overlook; 4th Street SE Landscape for Habitat; 8th Street Stormwater Planters; Eastside Maintenance Facility; Edison Safe Routes to School; and the Waterworks Stormwater Reuse System.

Projects implemented in 2020: Hoyer Heights Tree Trenches; Old Bassett Creek Tunnel Phase II Cleanout; Islands of Peace Park Restoration; and Metro Transit Bus Garage. (The Old Bassett Creek Tunnel Phase II Cleanout was a one-time removal of sediment and pollutants.)

Table 2. Capital Project-Related Watershed Management Plan Goals and Measures Achieved

Water Quality and Quantity	2018	2019	2020
Total Number of Projects	6	7	4
Total Annual TSS Removed (lbs.)	1,870,864	2,860	1,477,745
Total Annual P Removed (lbs.)	450	15.65	360
Total Volume Reused (gal.)	1,900,000	1,100,000	0
Total Volume Infiltrated (cu. ft.)	51,035	836,604	538,503
Urban Stormwater Management			
Types of BMPs Installed			
Infiltration Basin	2	1	1
Cistern	2	3	0
Filtration Basin	0	8	0
Permeable Pavement	0	0	0
Iron-Enhanced Sand Filter	0	0	0
Pretreatment	0	0	0
Streambank Stabilization	2	1	1
Habitat Restoration	1	2	1
Tree Trench	0	0	1
Ecosystem Health			
Vegetation Added (sq. ft.)	92,610	29,833	--
Trees Added	61	87	--

2021 Workplan

Several projects were underway in 2020 that will be finalized and reimbursed in 2021. Those projects include:

- Hoyer Heights Tree Trenches
- Metro Transit Bus Garage
- 26th Avenue Overlook

In addition, two new capital projects will get underway in 2021:

Northrup King Campus Redevelopment

The Artspace Projects, Inc., (Artspace), a nonprofit arts organization specializing in creating, owning, and operating affordable spaces for artists and creative businesses, received approval for an MWMO Capital Project Grant for the Northrup King Campus Redevelopment Project at the January 2021 board meeting at a not-to-exceed amount of \$750,000. The Northrup King Campus is approximately 13 acres and is located at 1500 Jackson Street NE in the City of Minneapolis. Design work and cost estimates for stormwater management and habitat enhancement features will be refined in 2021. The applicant proposes multiple ways to improve stormwater management for this historic site that currently has no stormwater practices, including two filtration tanks, a combined rate control and treatment tank (with upflow filter), permeable pavement areas, tree trench filtration systems, sunken trenches along streets, bioswales, runnel conveyance, and reuse/cisterns. The project also includes native and pollinator friendly plantings.

NorthPoint Health and Wellness Center Expansion

Construction of a stormwater-friendly landscape for the expanded NorthPoint Health and Wellness Center in North Minneapolis will take place in 2021. Stormwater management on-site will include a raingarden, modular wetlands, and underground storage with a stormwater reuse system. This system will be constructed to manage stormwater from a portion of the new building, the plaza, and new parking lot. MWMO has been partnering with Hennepin County on this initiative since 2018. During 2020, the project was redesigned to come up with a more cost-effective solution to achieve the county's goals for the project. Staff is anticipating a summer/fall 2021 start to the project construction.



Figure 3. Volunteers clear leaves and debris from a Minneapolis stormdrain as part of an MWMO Stewardship Fund Grant project.

Communications and Outreach

Purpose

The MWMO's communications and outreach initiatives provide information, training, educational opportunities, financial resources and other services to promote community partnerships and good stewardship of water and natural resources.

Objectives

- Provide services and products to inform and educate the watershed community using a variety of methods and media.
- Create and support opportunities for public participation and involvement.
- Collaborate with other professionals, networks and communities to develop partnerships, leverage funding and increase the reach and effectiveness of watershed education.
- Inform and educate land use decision-makers about the relationship between land use and

natural resource protection/conservation.

- Develop cultural competencies to directly reach diverse communities of the MWMO.
- Provide training and certificate programs for the evaluation, development and use of new technologies and management practices.
- Promote and host workshops and training opportunities for MWMO staff, staff of member organizations, Master Water Stewards, Citizen Advisors, community volunteers and other entities involved in water resources management.
- Support and promote local stewardship initiatives, community leadership and citizen involvement.
- Create demonstration sites to inform and educate the watershed community.

2020 Implementation

The MWMO carried out the following communications and outreach activities in 2020:

Community Outreach

The MWMO partnered on 17 community events, providing tours, activities and/or presentations for participants. Many of these events were hosted virtually. The MWMO also hosted a new virtual workshop series to relay common practices for individuals around the home and yard that protect water quality or improve habitat. The workshops featured concepts of understanding watersheds, stormwater, runoff pollution, and actions that can prevent pollution, and were tailored to seasonal changes. More than 530 participants engaged with staff during these events to learn about actions they could take to protect water quality. Additionally, the MWMO continued to build connections with communities through general neighborhood outreach and responding to inquiries for information or help around stormwater issues, and highlighted community projects through communications channels to demonstrate the diversity of perspectives and efforts in protecting water in the MWMO. The MWMO continues to seek opportunities for outreach in under-served or under-represented areas of the watershed, and prioritizes these opportunities as they arise.

Email Communications

Email communications are a key part of the MWMO's overall communication strategy. The MWMO provides a quarterly email newsletter, as well as periodic email bulletins on a variety of topics which can be chosen individually by MWMO email subscribers. The MWMO uses the GovDelivery/Granicus platform for its mass emails, and has experienced consistent growth

in both the number of subscribers as well as the engagement rate since implementing the platform and providing regular email newsletter content beginning in 2017.

In 2020, the MWMO saw continued growth in overall numbers of email subscribers; however, fewer bulletins were sent out (mainly due to a lack of in-person outreach events to promote). Notably, the engagement rate (i.e., percentage of trackable recipients who open emails and/or click on links) fell beginning in May 2020 — a time frame that roughly coincides with the beginning of civil unrest that dominated the local and national news cycle for months.

Table 3. Snapshot of MWMO Email Communications

Metric	2016	2017	2018	2019	2020
Number of Bulletins	26	106	135	118	85
Impressions	--	30,100	42,600	70,000	70,600
Engagement Rate	22.2%	38.8%	45.7%	53.8%	40.8%
Total Subscribers	2,073	3,628	5,016	6,129	7,874

Minnesota Water Stewards

The Minnesota Water Stewards program, formerly known as Master Water Stewards, increases knowledge and awareness of water quality and skilled volunteer corps who work within their communities to effect change. In 2020, the MWMO focused staff time and financial resources on developing volunteer leadership among the certified Stewards in the MWMO and creating opportunities for education and engagement. A Steering Team of five Stewards and one MWMO staff member met bimonthly throughout 2020 to plan communication, continuing education, volunteer and social opportunities to keep stewards engaged, learning and motivated. The steering team hosted a tour of Westminster Presbyterian Church’s new stormwater and sustainability features as well as a happy hour at Brit’s Pub. They sent out a newsletter and hosted a discussion group about turf management, as well. They planned additional events that had to be canceled due to COVID-19, but worked hard to keep Stewards engaged and informed through virtual means. They look forward to opportunities to gather as conditions allow in 2021.

Mississippi River Green Team

The Mississippi River Green Team is a two-year employment and conservation program for teens from North and Northeast Minneapolis. The Green Team was co-created by the Minneapolis Park and Recreation Board (MPRB) and the MWMO as an opportunity for youth to have a mentored job experience, learn about environmental careers and acquire new skills. Typical daily activities include working to prevent water pollution, removing invasive species, building raingardens, planting trees and prairie plants, and assisting in citizen

science projects. In 2020, due to the COVID-19 pandemic, regular hiring and programming was suspended for the summer season. By fall, an optional program was offered, and eight second year team members were able to participate.

Youth have the chance to participate in the Mississippi River Green Team for two years. After those two years, they are a part of a supportive network that works with them to help secure jobs to expand their skills and get them ready for the future. In 2020, at least three Mississippi River Green Team alumni found jobs in environmental fields at local organizations such as MPRB, the Conservation Corps Minnesota & Iowa Increasing Diversity in Environmental Careers program and Blooming Heights Garden in Columbia Heights. Alumni spotlight videos were created to highlight these youth and the videos were uploaded to YouTube, Facebook, LinkedIn and Twitter, and are also embedded where appropriate on the MWMO website.

Project Communications

The MWMO took a more focused approach to project communications in 2020. Communications staff worked with projects and planning staff to develop a framework for improved and more consistent communication around new grant awards and project implementation. A working group was created to meet two weeks before each MWMO Board of Commissioners meeting to identify potential board actions that might merit news releases, newsletter articles or other forms of communication. Staff agreed to routinely publish news releases announcing new Stewardship Fund Grant awards and developed an editorial process to allow for partner review in an appropriate timeframe.

Also in 2020, partners asked the MWMO to take the lead on communications for the Northern Columbia Golf Course and Park Stormwater BMPs project. MWMO staff developed a communications plan, created and sent out a mailing to area residents, and created new web and social media content in collaboration with the City of Minneapolis, Minneapolis Park and Recreation Board, and other project partners.

Professional Workshops and Trainings

Again in 2020, the MWMO sponsored and facilitated trainings on turfgrass maintenance and smart salting. More than 108 winter and summer maintenance professionals, property owners, and supervisors in the public and private sectors attended a total of six trainings held in 2020. All training sessions between March and December were delivered virtually.

These trainings are a part of a voluntary maintenance certification program through the Minnesota Pollution Control Agency (MPCA) and were subsidized by a MPCA/Federal Clean Water Act Section 319 grant.

Staff also gave presentations to city councils of some of the member cities to update them on

current projects and priorities of the MWMO. Through these presentations, 23 elected and appointed officials were reached.

Social Media

The MWMO maintains an active social media presence on Twitter, Facebook, LinkedIn, Instagram, Flickr and YouTube. Generally speaking, the MWMO is a leader among its peer organizations in the area of social media engagement.

In 2020, MWMO staff took a measured approach to posting on social media, pausing its news feeds when staff deemed it appropriate to leave space for more urgent conversations taking place around major local and national news events. Staff also produced a variety of original video content for MWMO social media channels (see “Video Production” below.)

Table 4. Snapshot of MWMO Social Media Followers

Channel	2016	2017	2018	2019	2020
Facebook	881	1,163	1,624	2,100	2,287
Instagram	133	269	650	972	1,156
LinkedIn	59	89	134	242	428
Twitter	720	945	1,178	1,346	1,435
YouTube	42	55	70	103	168

Stewardship Fund Grants

MWMO Stewardship Fund Grants provide financial assistance to community-led projects and educational efforts to improve and conserve water and natural resources in the watershed.

Financial assistance is provided through four types of Stewardship Fund Grants. In 2020, Mini Grants offered up to \$3,000 in funding for short-term or smaller-scale water quality projects. Planning Grants offered up to \$10,000 in funding to plan projects that are significant in scope and cost; they are used to assess the potential success of a project or develop the details required to make a project actionable. Action Grants offered up to \$50,000 in funds for the implementation of fully-designed projects that are significant in scope and cost. Minnesota Water Steward (formerly Master Water Steward) Grants are offered to certified stewards who wish to accomplish projects that will improve and/or protect water quality.

All proposals are reviewed by MWMO staff. Planning and Action Grants are also reviewed by the MWMO Citizen Advisory Committee and approved by the MWMO Board of Commissioners.

Grants are awarded based on a project’s ability to:



Figure 4. Metro Blooms staff pose with community volunteers at a rain garden planting event at Riverside Plaza in Minneapolis. The MWWMO provided an Action Grant for the project.

- **Develop partnerships with community organizations.**
Projects create partnerships and build community understanding with organizations and people wanting to proactively engage in clean water issues, demonstrate new methods, and extend the MWWMO's ability to protect clean water and improve water quality, and protect and restore habitat and natural resources through building community knowledge and stewardship.
- **Protect or improve the quality of water, habitat, and natural resources.**
Projects reduce pollution entering our streams, wetlands, lakes, river and groundwater, and projects that prevent flooding, lessen the effects of drought, retain water on site and/or restore and maintain habitat.
- **Build community understanding, knowledge, and initiative related to water, habitat, and natural resource issues and solutions.**
Projects engage and educate people in the community about water quality issues. These projects result in awareness of water issues and changed behaviors that protect water. Organizations receiving grants will increase their ability to lead and promote clean water efforts.

Note: Stewardship Fund Grants may be used to create new external programs, but are not intended to sustain ongoing efforts. Projects must benefit people who live, learn, and/or work in or near the MWMO watershed. Physical projects must also lie within the MWMO watershed boundaries or drain to receiving water bodies within the watershed.

Table 5. Stewardship Fund Grants

Stewardship Fund Grants	2019	2020	2021
Total no. awarded (no. proposed)	20 (27)	10 (22)	--
Minnesota Water Steward Grants	1 (1)	0 (0)	--
Mini Grants (<i>Total; breakdown by season below</i>)	10 (16)	2 (5)	--
Spring	4 (8)	1 (3)	--
Summer	6 (8)	1 (2)	--
Planning Grants	4 (4)	4 (5)	--
Action Grants	5 (6)	4 (12)	--

Stormwater Park and Learning Center

From January through March, the MWMO hosted artist Alyssa Baguss and her exhibit, *Relief*, in the gallery at Stormwater Park and Learning Center. *Relief* was a collection of tactile cartographic experiences of Minnesota’s natural water features through experimental processes and materials. The artist hosted a public event to engage people with the work and encourage them to create their own pieces exploring rivers, maps and textures in Minnesota.

Subsequent temporary exhibits and events were canceled but will be rescheduled when the building reopens.

The build-out of the Wet Classroom as laid out in the 2017 Stormwater Park and Learning Center Interpretive Plan, was completed in 2020. This included the completion of an interactive urban watershed model, new multi-function cabinetry to hold the stream table and watershed models, and an interactive roots display.

Website

The MWMO website serves as the main hub for information about MWMO projects and programs. Significant updates made to the website in 2020 included integration of the new Story Map and Path to the River Tool and an expansion and restructuring of the site’s educational and outreach-related content.

MWMO website traffic in 2020 was similar to 2019. Pageviews and sessions (blocks of time

when individual users are engaging with the website) decreased slightly, while the total number of users increased slightly. This represents a departure from the previous five years, which saw more consistent increases in web traffic (see Table 6 below). The largest declines occurred from April to August and then again in November and December, which might suggest that website traffic was down, at least in part, due to several major local and national news events competing for attention.

Table 6. MWMO Website Traffic Overview

Metric	2016	2017	2018	2019	2020
Pageviews	85,499	98,357	96,610	101,827	96,667
Sessions	30,634	37,634	44,080	48,551	48,338
Users	17,641	23,232	29,418	34,580	34,766

Video Production

With much of their regular summer programming disrupted by the COVID-19 pandemic, MWMO communications and outreach staff adapted partly by focusing their efforts on producing a series of videos for social media. Using the MWMO’s own camera and audio recording equipment, MWMO staff shot, edited and published a total of 26 individual videos on topics ranging from eco-friendly yard care practices to highlights of current and past MWMO projects. The videos were uploaded to YouTube, Facebook, LinkedIn and Twitter, and are also embedded where appropriate on the MWMO website.

In addition to racking up thousands of views on these platforms, several videos were shown at various professional conferences. One video, “Sustainability at the Minneapolis Sculpture Garden,” was named “Best Picture of the Year” by the Minnesota Association of Watershed Districts at their virtual annual conference in December.

Youth Outreach

The MWMO partnered on eight youth events such as the Minneapolis Public Schools (MPS) STEM and Career Exploration Expo and virtual education sessions, engaging 228 youth. The MWMO also participated in adapted programming for the Children’s Water Festival and Mde Maka Ska Canoe Festival, moving from in person events to online activities and virtual presentations.

Due to the ongoing COVID-19 pandemic, the MWMO Stormwater Park and Learning Center has been closed and unavailable to host groups for our signature “Stormwater 101” programs and other engagement opportunities.

Table 7. Communications and Outreach Implementation

Implementation Table	2019	2020	2021
Communications, Outreach and Stewardship Fund Budget	\$250,000	\$250,000	\$250,000
Stewardship Fund Grants Budget	\$250,000	\$250,000	\$250,000
Community Outreach	\$3,112	\$3,781	--
East African Outreach	\$6,901	--	--
Graphic Design	\$2,201	\$3,440	--
Minnesota Water Stewards	\$23,000	\$23,000	--
Mississippi River Green Team	\$26,390	\$8,834	--
Professional Workshops and Trainings	\$13,211	\$2,885	--
Share the River Nordeast	\$2,702	--	--
Stormwater Park and Learning Center	\$20,412	\$20,412	--
Story Map and Path to the River Tool	\$62,367	--	--
Website	\$5,716	\$12,318	--
Youth Outreach	\$7,918	--	--

Table 8. Communications and Outreach-Related Watershed Management Plan Goals and Measures Achieved

Number Engaged (by Audience)	2018	2019	2020
Professional	170	225	130
Community	1,311	1,250	535
Youth	826	1,137	240

2021 Workplan

- The MWMO will continue its focus on producing video content during the COVID-19 pandemic.
- The MWMO will switch from a quarterly to a monthly format for its main email newsletter. This will allow for delivering more timely and relevant content to the largest email audience.
- MWMO staff will lead communications efforts for the Northern Columbia Golf Course and Park Stormwater BMPs project, coordinating with the City of Minneapolis, Minneapolis Park and Recreation Board and other partners.
- The MWMO will organize a joint media training workshop with Capitol Regional

Watershed District and Ramsey-Washington Metro Watershed District.

- The MWMO will offer resources and support for residents to take water-friendly actions at home and in their communities. Priorities will be building relationships with new, underserved, and/or other target audiences, such as those near MWMO-funded projects. As part of these efforts, the MWMO will continue to support community cleanups and promote the Adopt-A-Drain program.
- The MWMO will continue to fund Stewardship Fund Community Grants, Planning Grants, Action Grants, and Minnesota Water Steward Grants. Efforts to assist grantees from targeted populations will continue as opportunities to deepen these relationships are growing.
- Citizen Advisory Committee (CAC) members will be trained and supported through upcoming Planning and Action Grant reviews as they learn their role. Strategic recruitment of CAC members from underrepresented populations will continue.
- The MWMO will train ten new Minnesota Water Stewards and support continued engagement of certified Stewards in their work as community leaders on behalf of water quality and habitat.
- The MWMO will integrate the use of new interpretive components into programs at Stormwater Park and Learning Center. Temporary exhibits and programs will be offered as conditions allow.
- The MWMO will continue to offer opportunities to educate and engage local policy-makers and community leaders.
- The MWMO will offer training opportunities for professional audiences whose work directly impacts water quality.
- The MWMO will work with partners to develop and support training opportunities that support the development of a skilled workforce for green infrastructure maintenance.
- The Mississippi River Green Team will enter its fourteenth year, with expanded support and partnerships.
- The MWMO will continue to support youth programs to strengthen awareness and connection to our water resources. Program offerings will be highlighted on the web.



Figure 5. MWMO Environmental Specialist Jim Rudolph pilots the MWMO’s boat near Boom Island in Minneapolis.

Monitoring

Purpose

The MWMO’s water quality monitoring efforts provide a scientific basis for identifying and tracking water quality and quantity issues, and provide information to aid in the selection of projects and evaluate the success of those projects. The MWMO is charged with protecting water quality within the watershed, pursuant to Minnesota Statutes Chapter 103B.201 and Minnesota Rules Chapter 8410.003, which established a Joint Cooperative Agreement among the MWMO’s member organizations. Minnesota Rules Chapter 7050 requires that all water bodies comply with water quality standards. Furthermore, section 303d of the Federal Clean Water Act requires states to develop total maximum daily loads (TMDLs) for waters with impaired uses.

Objectives

- Monitor physical, chemical and biological parameters of surface and groundwater resources in the watershed.

- Monitor water quality within the watershed.
- Develop a record of baseline data to characterize water quality and identify pollutants that exceed water quality standards.
- Assess pollutants listed on the Minnesota Impaired Waters list for the TMDL process.
- Collect rate and volume data for the Mississippi River and key subwatersheds.
- Monitor performance of stormwater management practices.
- Collaborate with stakeholders to identify and apply a standardized data collection and assessment approach.
- Develop partnerships and collaborate with other organizations and/or agencies both inside and outside the watershed boundaries to improve water quality in the Mississippi River.
- Assess land use impacts on water quality.
- Participate in the technical development and update of statewide monitoring databases.
- Make data accessible to the public, other organizations, and MWMO staff.
- Develop emergency monitoring plan in case of emergencies affecting water resources.

2020 Implementation

Best Management Practice (BMP) Inspection, Operation, Maintenance and Monitoring

MWMO monitoring staff continued to inspect, operate, maintain, and monitor the St. Anthony Regional Stormwater Treatment and Research System. Biannual inspections were conducted and adjustments were made to the system to improve its functioning. The quantity and quality of water entering and exiting each component of the facility were monitored in order to assess the treatment systems' effectiveness. In October, the sluice gates were closed to begin system cleanout and settled stormwater was pumped out. Sediment in the swirl chamber was partially cleaned out in November and cleanout activities will recommence in early 2021.

Monitoring continued at the Edison High School Green Campus BMPs, including assessment of water quantity into a reuse tank from various surfaces as well as the amount of water reused for irrigation. Water quality data from the reuse tank was also collected. The parking lot tree trench was not monitored for stormwater flows in and out of the trench. A new weir for the tree trench inlet has been designed and installed to improve data collection. Data were

provided to MWMO outreach staff to share with educators at Edison High School.

Other BMP monitoring activities included:

- Precipitation and tank level and overflow monitoring continued at the Towerside District Stormwater System.
- Data continue to be collected at BMPs within the MWMO's Stormwater Park and Learning Center site. A new design for data collection was developed and installed at the parking lot catch basin to monitor stormflow into the filter bed media area. New stormflow weir boxes were also designed and installed at the outlet of the three filter beds to monitoring treated water quantity and quality to assess stormwater treatment.
- Data loggers were installed to monitor infiltration rate and treatment efficiency of the 8th Street Stormwater Planters in downtown Minneapolis. Vegetation health is also being monitored.
- Monitoring equipment were installed at Jackson Pond in Columbia Heights and data was collected to monitor the water quality and quantity of stormwater treated by the iron-enhanced sand filter bench. Vegetation maintenance work was performed in collaboration with City of Columbia Heights public works staff at the Jackson Pond iron-enhanced sand filter system.
- In collaboration with City of Fridley public work departments, water quality monitoring data was collected at the newly constructed stormwater ponds at the city hall and public works campus.

Data Management, Reporting, and Outreach

MWMO monitoring staff started the in-house operation, maintenance, and management of the MWMO's remote monitoring data network in 2018. All monitoring data are now stored and managed together in one database. MWMO staff continued to collaborate with several other metro-area organizations using the same database software. Monitoring staff also reached out to and met with member cities to assess their monitoring needs and develop monitoring plans.

Water quality data collected by the MWMO are submitted annually to the Minnesota Pollution Control Agency's (MPCA) EQUIS database at the end of monitoring year and summary data are reported on the monitoring pages of the MWMO website. Other data are made available upon request to monitoring staff, stakeholders, agencies and research institutions.

Lake and Wetland Monitoring

The MWMO continued to monitor water levels in the Kasota Ponds Wetlands. Water quality

and biological sampling will occur on a five-year schedule, with the next round in 2021. In 2019, the MWMO released a report summarizing data from the past 10 years of monitoring activities at three Kasota Ponds Wetlands.

The MWMO contracts with Anoka Conservation District (ACD) to monitor lake levels and water quality of Sullivan (Sandy) and Highland (Unnamed) lakes. In 2020, the lake levels were recorded weekly and data were submitted to the Minnesota Department of Natural Resources (DNR) LakeFinder database. ACD staff submitted water quality data to the MWMO for the 2020 season.

River Monitoring

Water quality samples were collected twice per month between April and October and once per month from November to February at eight sites on the Mississippi River within MWMO's jurisdiction. Water samples were also collected on biweekly basis from eight sites on the Mississippi River for E. coli analysis, specifically for continuing the data collection for the Upper Mississippi River Bacteria TMDL. Staff gauges at six locations along the river were visited on a weekly basis to track river level changes throughout the year. A continuous data level logger was installed at the staff gage in the Mississippi River at the MWMO. Bathymetry data were collected in the Mississippi River upstream of the Upper St. Anthony Lock and Dam to a railroad bridge at North 41st Avenue in Minneapolis. This data will be combined with previous and future years' bathymetric data to assess any changes to the river bottom that may be occurring as a result of the Upper St. Anthony Falls Lock Closure in summer of 2015.

Special Projects

Monitoring staff collected water level data in a number of ponds on the Columbia Golf Course in Northeast Minneapolis to support a watershed assessment study investigating groundwater flow in and around the golf course for the purpose of determining potential future BMP placement in the southern portion of the golf course.

MWMO monitoring staff worked with the City of Minneapolis Health Department to help fund an Erosion and Sediment Control internship program; however, due to COVID-19, interns were not hired in 2020 and funds were not expended.

Monitoring equipment was installed and water quality and quantity data were collected at the Dowling Avenue stormwater tunnel in North Minneapolis.

MWMO monitoring staff assisted the West Mississippi Watershed Management Commission with instrumenting and collecting water quantity and quality data at their 65th Avenue stormwater tunnel monitoring site in Brooklyn Park.

Stormwater Piped (Source) and Precipitation Monitoring

The MWMO continued to monitor seven long-term stormwater piped monitoring sites in 2020. At five of those sites, a combination of area/velocity sensors and automated samplers were used to collect water quantity and quality data throughout the year. Those data are used to calculate stormwater runoff volume and annual pollutant loads for the piped areas. Summaries of stormwater runoff volume and other monitoring data is available on the MWMO website.

Additional stormwater pipes throughout the watershed were equipped with flow monitoring equipment to provide stormwater runoff flow data for the calibration and validation of Hydraulic and Hydrologic (“H&H”) modeling efforts further discussed in the Watershed Assessment section of this report.

MWMO monitoring staff also worked with staff from the City of Minneapolis to survey for and sample potential illicit discharges from stormwater outfalls emptying into the Mississippi River. Precipitation data were collected at several manual and automatic rain gauge sites throughout the watershed.

Table 9. Water Quality Monitoring Implementation

Implementation Table	2019	2020	2021
Monitoring Budget	\$200,000	\$150,000	\$150,000
Bathymetry Project	\$2,500	\$2,500	\$7,500
Data Management Software	\$8,000	\$8,000	\$8,000
Edison High School BMP Monitoring	\$1,000	\$1,000	\$1,500
EnviroDIY Datalogging system	\$15,000	\$5,000	\$7,000
Laboratory Analysis	\$115,000	\$100,000	\$100,000
Minneapolis Illicit Discharge Monitoring	\$1,000	\$1,000	\$2,000
Monitoring Equipment	\$35,000	\$42,000	\$40,000
Monitoring Related Training	\$2,000	\$1,000	\$1,500
MWMO Outdoor Filter Media Laboratory Instrumentation	--	\$2,500	\$2,500
Real-Time Data Management	\$10,000	\$1,500	\$1,500
St. Anthony Regional Treatment Monitoring	\$5,500	\$1,500	\$20,000
U of M Impervious Surface Study (Lab and permit costs only)	\$5,000	--	--

Table 10. Monitoring-Related Watershed Management Plan Goals and Measures Achieved

Monitoring	2018	2019	2020
Number of Stormwater Monitoring Sites	7	7	7
Number of Wetland Monitoring Sites	3	3	3
Number of River Sample Locations	7	7	7
Number of BMPs Monitored	5	6	7

Note: The MWMO is currently gathering long-term trend data. For more detailed monitoring information, visit the [MWMO website](#) or contact [Water Resources Director Udai Singh](#).

2021 Workplan

The 2021 work plan for the MWMO’s monitoring program includes:

New Monitoring Initiatives for 2021

- Assist with updating MWMO’s 10-year (2021-2031) Watershed Management Plan.
- Complete installation and start monitoring water quantity and water quality for two stormwater outfall monitoring stations at stormwater tunnels near Highway 694 in Fridley.
- Install additional monitoring equipment and new filter media (regular sand, iron-enhanced sand, and Biochar-enhanced sand) at the MWMO Stormwater Park and Learning Center’s outdoor filter media laboratory.
- Delineate catchments and investigate connections and groundwater flow, etc., at the Kasota Ponds Wetlands.
- Research, design, purchase and install a device to monitor the stormwater reuse at the Minneapolis Sculpture Garden in collaboration with Minneapolis Parks and Recreation Board staff.
- Update the Big River study to include the assessment of the Mississippi River reach between new upper boundary of MWMO and previous upstream boundary (53rd Avenue N) of the MWMO.
- Update the MWMO’s long-term monitoring program outlook, including monitoring for emerging issues.

Ongoing Monitoring Efforts

Many of the monitoring activities conducted in 2020 will continue in 2021, including: stormwater and precipitation monitoring at long-term monitoring sites; Mississippi River monitoring for water quality, bacteria, and bathymetry; monitoring BMPs at the Edison High School Green Campus and selected other sites throughout the watershed. MWMO monitoring staff will continue to work with Anoka Conservation District for monitoring Highland and Sullivan Lakes, and will continue to work with member cities to assess and assist in accomplishing their monitoring needs.

MWMO staff will now support City of St. Anthony Village public works staff in inspection, operation, and maintenance of the primary treatment chamber of the St. Anthony Regional Stormwater Treatment and Research System and will continue to lead the inspection, operation, and maintenance of the secondary treatment system cells and monitoring the treatment efficiency of the total system.

The MWMO will continue to work with the MPCA and other federal, state and local agencies on projects as they arise, including existing Total Maximum Daily Load (TMDL) studies work. Monitoring data will be submitted to the MPCA's EQUIS database, published on the MWMO website, and will be available upon request to MWMO staff, member organizations and researchers.



Figure 6. The Upper Harbor Terminal redevelopment site as seen from the MWMO shoreline in January 2020.

Planning

Purpose

Planning provides direction to the MWMO’s activities. Our planning efforts clarify and integrate the MWMO’s goals, responsibilities and future courses of action. Through planning, we coordinate implementation of MWMO standards and goals by member organizations, and maintain involvement with Mississippi River regional working groups.

Objectives

- Develop and maintain the MWMO’s role in water management.
- Keep the MWMO’s Watershed Management Plan current to address new circumstances and changing priorities.
- Develop plans for new watershed initiatives.

- Review and approve local management plans and amendments that impact water and natural resources.
- Develop consensus among stakeholders for managing resources in the watershed.
- Work with member organizations on the implementation of ordinances, standards, plans, and enforcement.
- Participate in regional working groups for protection and improvement of the Mississippi River.

2020 Implementation

The MWMO completed, continued or began the following planning initiatives in 2020:

10-Year Watershed Management Plan (2021-2031)

Work completed in 2020 related to the MWMO's 10-year plan update included: developing requests for proposals (RFPs) and hiring three firms to assist with the plan; gathering, analyzing and incorporating public input to inform the plan via a survey released first in 2019 and multiple times thereafter through the spring of 2020; holding a series of internal MWMO Board of Commissioners workshops to guide the plan; meeting with agencies during a two-week pre-draft review period; and all staff working together to complete a draft of the plan for a 60-day agency review period.

A Blue/Green Framework for the Creative Enterprise Zone and Towerside Innovation District

In 2020, the MWMO completed the Blue/Green Framework for the Creative Enterprise Zone and Towerside Innovation District. These documents provide guidance to developers and neighborhoods on how to utilize the existing water budget and drainage to expand public spaces, green infrastructure and habitat in the community. It provides the initial engineering and design needed to continue building out a system of stormwater storage, reuse, and habitat corridors in this region. This was done in collaboration with Capitol Region Watershed District (CRWD), the City of Minneapolis, the Minneapolis Park and Recreation Board (MPRB), developers and other key stakeholders.

Member City Stormwater Ordinances

The MWMO continued working with member cities on implementing ordinances equal to the standards in the MWMO's Watershed Management Plan.

MPRB Ecological System Plan

MWMO staff continued working with the Minneapolis Park and Recreation Board (MPRB) on the Ecological System Plan. In 2020, the MWMO worked with MPRB to rewrite the plan goals and strategies, and MPRB advanced on their own the final plan language. The final plan was adopted in 2020, and MWMO and MPRB hope to utilize it in future planning initiatives.

Restorative Development Partnership

The MWMO and Restorative Development Partnership members contributed to completing Phase 1 of the Restorative Development Feasibility Study and began organizing a series of three workshops to share findings on how restorative development can address resiliency, sustainability, and larger issues like climate change and inequity.

Towerside District Stormwater Administration

MWMO staff completed a fourth amendment to the Owners' Stormwater Declaration and Easement Agreement for the addition of the ultraviolet (UV) treatment facility in the new Towerside Park, which will result in an operational UV treatment system that provides treated water to the park's irrigation system and community gardens. The MWMO also completed an easement agreement, and excess capacity agreement with the Minneapolis Park and Recreation Board. In addition, staff also provided all owners an annual report on operations and maintenance (O&M) expenses and fees paid into the owners O&M escrow.

The MWMO continued its membership on the Towerside Technical Advisory Committee, which consists of a mix of experts on stormwater, energy, zoning, affordable housing, architecture, public realm, restorative systems, etc., who will provide support services for the neighborhood review committees that approve development projects in the area prior to the plans advancing to the cities.

Table 11. Planning Implementation

Implementation Table	2019	2020	2021
Planning Budget	\$50,000	\$150,000	\$150,000
10-Year Watershed Management Plan (2021-2031)	--	\$116,842	--
A Blue/Green Framework for the Creative Enterprise Zone and Towerside Innovation District	\$40,000	--	--
Member City Stormwater Ordinances	--	--	--
MPRB Ecological System Plan	\$33,074	--	--
Restorative Development Partnership (Integrated Utility Hub)	--	\$35,000	\$12,000
Towerside District Stormwater Administration	--	--	--

Below is an evaluation of progress made towards MWMO’s Watershed Management Plan goals via planning initiatives undertaken.

Table 12. Planning-Related Watershed Management Plan Goals and Measures Achieved

Planning	2016	2017	2018	2019	2020
New Initiatives and Related Studies Started	3	7	7	5	4
New Initiatives Resulting in CIP Outcome	2	4	--	1	1
New Initiatives Resulting in Policy Change	--	1	--	--	--
New Initiatives Resulting Partnership Agreements	1	1	3	1	3
Amendments Completed to Maintain WMP Relevance	1	--	3	2	0

2021 Workplan

In 2021, the MWMO will continue or begin work on the following initiatives:

10-Year Watershed Management Plan (2021-2031)

MWMO staff will finalize the 10-year plan update in 2021. We will be responding to 60-day comments, meeting with review agencies, releasing a 90-day draft, seeking final approval of the plan, and distributing it in 2021.

A Blue/Green Framework for the Creative Enterprise Zone and Towerside Innovation District

Staff will continue to collaborate with the Towerside Technical Advisory Committee, Capitol Region Watershed District (CRWD), the City of Minneapolis, the Minneapolis Park and Recreation Board (MPRB), developers, and other key stakeholders to build out a system of stormwater storage, reuse, and habitat corridors in the Creative Enterprise Zone and Towerside Innovation District.

Member City Stormwater Ordinances

The MWMO will continue working with member cities on implementing ordinances equal to the standards in the MWMO’s Watershed Management Plan.

Restorative Development Partnership

The MWMO and Restorative Development Partnership members will complete a series of three workshops based on the Phase 1 Restorative Development Feasibility Study. Following

the workshops, the partnership's leadership team will determine what resources are needed and available to grow the partnership and start Phase 2 of the Restorative Development Feasibility Study.

Towerside District Stormwater Administration

The MWMO will start a fifth amendment to the Towerside Owners' Stormwater Declaration and Easement Agreement which will document and record to the Owners' titles changes to the system due to 2019 and 2020 construction activities. Staff will also begin discussions with Owners on transferring administrative duties over with them in October 2022.

Upper Harbor Terminal Community Engagement

MWMO will launch a new engagement effort with communities in North Minneapolis to understand how to we can better engage and create real, meaningful public input around the Upper Harbor Terminal redevelopment project. We want to support communities in arriving at a deeper understanding of the MWMO's work related to public infrastructure and development. We want to listen and learn from the unique lens of each community's culture, values, and needs for ways to best restore lost assets and value in the community. We intend to use these lessons to drive how we implement our projects.

As the starting point, this is about participating in a community conversation. This initiative will be informed by the following principles outlined in the Black Space Manifesto:

- **Move at The Speed of Trust:** Grow trust and move together with fluidity at whatever speed is necessary.
- **Plan With, Design With:** Walk with people as they imagine and realize their own futures; be connectors, conveners and collaborators-not representatives.
- **Be Humble Learners Who Practice Deep Listening:** Listen deeply and approach the work with an attitude towards learning, without assumptions and predetermined solutions; take criticism without dispute.
- **Center Lived Experience:** Lived experience is an important experience; center it so it can be a guide and touchstone of all work.
- **Create Circles, Not Lines:** Create less hierarchy and more dialogue, inclusion and empowerment



Figure 7. An aerial view of the City of Fridley's civic campus and its stormwater treatment train.

Watershed Assessment

Purpose

The MWMO's watershed assessment and research activities seek to develop a scientific base of knowledge that characterizes physical, chemical, cultural, historic, biological, social, economic, organizational and political resources of the MWMO to guide planning and management decisions in the watershed.

Objectives

- Conduct assessments within the watershed to define the ecological, physical, biological, cultural, social, economic, organizational and political characteristics of the MWMO.
- Conduct project-based diagnostic and feasibility studies.
- Provide information to support other MWMO projects and activity areas.

- Provide watershed information to organizations both inside and outside the MWMO's boundaries.

2020 Implementation

The MWMO completed the following Watershed Assessment activities in 2020:

Columbia Heights Huset Park-Zurek Pond Stormwater Management Study

Huset Park is located in the southern portion of the City of Columbia Heights. The park contains John P. Murzyn Hall; playground equipment; a picnic shelter, walking trail, and splash pad; five ballfields; and Zurek Pond. Zurek Pond receives runoff from a large upstream drainage area and discharge from the splash pad. It drains south via storm sewer into the City of Minneapolis and then east to the Mississippi River.

The City of Columbia Heights identified a number of needs regarding Huset Park and Zurek Pond. The ballfields in the park currently do not have any irrigation system. Flooding has occurred periodically south of Zurek Pond around the northwest corner of Columbia Park. Hydrological and hydraulic (H&H) modeling results from the MWMO specifically identified flood inundation around the intersections of 5th Street NE with 35th Avenue NE and Columbia Parkway. Runoff from Zurek Pond is conveyed through an existing stormsewer system in a fully developed neighborhood with little water quality.

MWMO identified and agreed to collaborate, with the City of Columbia Heights, to further build on this project to improve water quality as well as reduce flooding issues downstream in Minneapolis. The City of Columbia Heights, with funding provided by the MWMO, retained Stantec to evaluate a number of potential improvements to the park.

For this study, Stantec evaluated a number of potential improvements to the park, as follows:

- Use stormwater from Zurek Pond to irrigate the four ballfields in Huset Park west of Jefferson Street NE;
- Retrofit the Zurek Pond outlet with a pumping system to lower the pond level in advance of storm events, in order to increase flood storage and reduce downstream flooding;
- Add a pond south of the softball field in Huset Park east of Jefferson Street NE to increase flood storage and reduce downstream flooding;
- Provide an iron-enhanced sand filter bench with a recirculating pump in Zurek Pond to provide additional water quality treatment to pond runoff.

The following recommendations are made by Stantec based on the results of the evaluation:

- **Ballfield irrigation:** Three options (Water Reel, in-ground sprinklers, post-mounted sprinklers) are suitable for using Zurek Pond water for irrigation of ballfields in Huset Park. Of these, the Water Reel is recommended as the most flexible and cost-effective.
- **Increasing pond storage for flood reduction:** Neither option for increasing pond storage in Huset Park (retrofitting Zurek Pond outlet, adding new pond to the east) provided significant flood reduction benefit downstream, and therefore is not recommended for this purpose.

Water quality treatment: Adding an iron-enhanced sand filter bench to Zurek Pond is recommended as a feasible option for improving water quality treatment in the pond. A small pump for recirculating pond water over the bench is recommended as part of this option.

Field Evaluation of Stormwater BMPs to Characterize the Comprehensive Contaminant Removal Performance of Biochar-Augmented Filter Media

MWMO staff have been working on retrofitting the outdoor filter media laboratory at the MWMO Stormwater Park and Learning Center since spring of 2019 to measure the inflow from the parking lot to three filter media cells as well as outflow from those filter media cells. During the fall of 2019, the MWMO supported researchers from the Natural Resources Research Institute (NRRI) at the University of Minnesota—Duluth and the Department of Bioproducts and Biosystems Engineering from University of Minnesota—Twin Cities (UMN) to submit a research grant proposal to Minnesota Stormwater Research Council (MSRC) to conduct field evaluation of stormwater best management practices to characterize the comprehensive contaminant removal performance of biochar-augmented filter media. NRRI and UMN researchers received the grant funding from MSRC; however, because of COVID-19, field installation of the experiment did not take place.

Minnesota Stormwater Research Council Funding for Applied Stormwater Research

MWMO staff, along with staff from other watershed districts, watershed management organizations, state agencies, soil and water conservation districts and several research institutions, have been part of the team to conceptualize, formulate, and establish the Minnesota Stormwater Research Council (MSRC).

Prior to being part of the MSRC, the MWMO had worked with Minnehaha Creek Watershed District (MCWD) to establish MCWD/MWMO Joint Watershed Research Grants (JWRG) and had provided funding and managed the two cycles of JWRG and completed a total of six research projects between 2008 to 2016.

The MSRC was established as a nonprofit organization in 2016 to facilitate the completion of needed applied research that enables more informed decisions about the use, management, and protection of water resources in urbanized areas. MSRC periodically assesses the status of research, identifies consensus research priorities, and communicates these to Minnesota's public and private research agencies and organizations. It also promotes coordination of research goals, objectives, and funding among the research agencies and organizations. The MSRC is an independent organization of stormwater professionals, practitioners, managers, engineers, researchers, and others currently operating as an unincorporated association with the University of Minnesota Water Resources Center (WRC) as the fiscal agent.

The purpose of the Minnesota Stormwater Research Council is:

- to facilitate relevant, applied stormwater research and connect surface water managers to actionable research that is responsive to their needs, to benefit Minnesota and its public waters through the following efforts;
- to coordinate and build partnerships at local, regional, state, and federal levels to leverage stormwater research resources (personnel and funding);
- to provide a clear process for identifying research needs, prioritizing, soliciting, submitting, approving and implementing stormwater-related research proposals;
- to find solutions that improve the design, constructability, maintainability, cost effectiveness, hydraulic performance, and treatment efficiency of stormwater facilities, as well as stormwater management operations and maintenance practices;
- to improve the compilation, tracking, and dissemination of stormwater research findings;
- to facilitate a collaborative approach that ensures the involvement of stakeholders in identification, prioritization, and implementation of stormwater research; and
- to provide a sustainable source of funding and a process that insures independent, unbiased, and objective research.

A total of \$100,000, \$115,000, \$15,000, and \$163,000 were raised by the MSRC in 2017, 2018, 2019, and 2020, respectively. The MWMO has provided \$25,000 per year in funding to the MSRC in 2017, 2018, 2019 and 2020. The WRC also received \$1.5 million for stormwater research from the State of Minnesota's Clean Water, Land and Legacy Amendment funds for the 2017-2018 funding cycle and \$1.35 Million for the 2019-2020 funding cycle. A total of 23 research projects have been funded since 2017, and 13 research projects were completed by end of 2020.

Restorative Development Feasibility Study: Integrated Utility Hub

Phase I of the Restorative Development Feasibility Study, which evaluated Minneapolis's existing social, economic, and environmental conditions using 11 Key Performance Indicators for restorative development, was completed in 2020. This has resulted in a baseline assessment of the city that will serve as the starting point to evaluate progress towards a long-term restorative city goal — a goal where social, economic, and environmental conditions progress beyond sustainability to one that is restorative in nature and a part of a circular economy. The feasibility also completed a high-level technical analysis (engineering and material flows) that confirmed the viability of an onsite production facility (integrated utility hub) that is a closed-loop system producing energy, food, water and restoring soils.

Towerside District Stormwater Phase II 30-Percent Design

MWMO staff continued to work with Minneapolis Park and Recreation Board (MPRB) and Wall Development Company on bringing additional partners to the table to assist with seeking grants and providing funding to advance the existing shared concept design to a 30-percent design. Towerside was brought on as a partner and Minneapolis as a grantor and the partners worked collectively to secure a \$100,000 Livable Communities Demonstration Account (LCDA) Pre-Development Grant from the Metropolitan Council. Barr Engineering was hired to proceed with the 30-percent design.

Upper Harbor Terminal District Stormwater Feasibility Study

The MWMO continued to work with the City of Minneapolis, the Upper Harbor Terminal (UHT) development team, the Minneapolis Park and Recreation Board, and neighborhood representatives to develop a shared public/private district stormwater plan. The design team advanced a blue-green framework, within which roads and the built environment will be integrated. The city was provided with a range of costs that included an off-site regional treatment facility, which is linked to the on-site 50-acre UHT district system.

Watershed-Scale H&H and Water Quality Modeling

The MWMO is undertaking a major initiative to create detailed hydrology and hydraulic (H&H) and water quality models across our jurisdiction. The H&H models are being used to simulate and inform the management of flooding throughout the MWMO, while the water quality models are used to estimate pollutant loading from the landscape and into MWMO waterbodies. Results of the modeling initiative will be used to help the MWMO and its member communities to better understand the functioning of our stormwater systems, as well as prioritize the placement and design of future capital projects.

The MWMO is divided into multiple project areas for this effort. The following areas had modeling projects ongoing in 2020:

- East Minneapolis Region: a 4,283-acre urbanized area covering parts of South Minneapolis and referred to as the East and St. Mary’s Watersheds. The MWMO worked with the City of Minneapolis in 2019 to create a P8 (P8 Urban Catchment Model) water quality model of this area, which was finalized in 2020.
- Como Tunnel and Southeast Minneapolis Industrial—University Research Park (SEMI-URP) Area of Minneapolis (2,300 acres) and a portion of the University of Minnesota Campus (417 acres). The MWMO worked with the City of Minneapolis to create an H&H model of this area in 2019, which was finalized in 2020.

Table 13. Watershed Assessment Implementation

Implementation Table	2019	2020	2021
1NE Watershed Stormwater Management Planning and Preliminary Design Project	\$89,383	--	--
Columbia Golf Course Field Investigations	\$105,390	--	--
Columbia Heights Huset Park Zurek Pond	--	\$40,000	--
Field Evaluation of Stormwater BMPs to Characterize the Comprehensive Contaminant Removal Performance of Biochar-Augmented Filter Media	\$43,310	--	--
Islands of Peace and Riverfront Regional Park Feasibility Study	\$43,310	--	--
Minnesota Stormwater Research Council Funding	\$25,000	\$25,000	\$25,000
NorthPoint Health and Wellness Center Expansion Feasibility Study	\$33,845	--	--
Restorative Development Feasibility Study: Integrated Utility Hub	\$112,361	--	--
Towerside District Stormwater Phase II 30-Percent Design	\$10,000	--	\$32,500
Upper Harbor Terminal District Stormwater Feasibility Study	\$55,427	\$18,000	--
Watershed-Scale H&H and Water Quality Modeling	\$114,825	\$420,000	\$84,000

2021 Workplan

In 2021, the MWMO will continue or begin work on the following initiatives:

Field Evaluation of Stormwater BMPs to Characterize the Comprehensive Contaminant Removal Performance of Biochar-Augmented Filter Media

MWMO staff will work collaboratively with researchers from the Natural Resources Research Institute (NRRI) and University of Minnesota to install filter media at the outdoor experimental filter media laboratory at the MWMO Stormwater Park and Learning Center in April and May 2021, and start collecting data to evaluate the performance of sand, iron-enhanced sand, and biochar-augmented sand filter media.

Minnesota Stormwater Research Council Funding for Applied Stormwater Research

The MWMO will provide \$25,000 in research funding to support the Minnesota Stormwater Research Council (MSRC) in 2021. MWMO staff will also continue to serve on the MSRC board and participate in reviewing and awarding research projects for the 2022-2023 grant cycle.

Restorative Development Feasibility Study: Integrated Utility Hub

Staff and Restorative Development Partnership members will utilize the work completed in Phase I of the feasibility study to advance the support and resources needed to initiate Phase II. Phase II will work with the partnership on decisions regarding financing, governance, proposed restorative development lines of production, technical performance outputs, community services and benefits, integration of development with surrounding natural systems, and integration of development with the city's existing infrastructure. See the Restorative Development website for details.

Towerside District Stormwater Phase II 30-Percent Design

MWMO staff will continue to work with the Minneapolis Park and Recreation Board (MPRB), Towerside partners, City of Minneapolis, University of Minnesota, and Wall and Development Company on the Towerside District Stormwater Phase II 30-percent design. Barr Engineering has scheduled a 30-percent design kickoff meeting for January 2021.

The partners are focused on creating an integrated district system that includes privately owned public spaces, an extensive district stormwater system with habitat corridors, a regional linear park system, and opportunities for future restorative energy, water, and food systems.

Upper Harbor Terminal District Stormwater Feasibility Study

MWMO staff will continue to work with the City of Minneapolis, the Upper Harbor Terminal development team, the Minneapolis Park and Recreation Board, and neighborhood representatives to develop a shared public/private district stormwater plan and final

30-percent design in 2021 that meets the community, MWMO, and partner goals at Upper Harbor Terminal. Staff will continue working with the developers and MPRB's design team on riverbank restoration, habitat connectivity throughout the site, and stormwater features.

Watershed-Scale H&H and Water Quality Modeling

Watershed modeling will be completed for the Como Tunnel and Southeast Minneapolis Industrial—University Research Park (SEMI-URP) Area of Minneapolis (2,300 acres). The MWMO will create a P8 (P8 Urban Catchment Model) water quality model and existing conditions assessment, which will be used to inform future project planning.

Financial Information

Policy

During the plan development in 1997-2000, the MWMO board acknowledged the limits of its member communities to incur additional financial expenses and therefore developed strategies for new funding mechanisms. The MWMO sought inclusion on the list of Special Taxing Districts ([MS Chapter 275.066](#)); and, in 2001, MWMO became the first joint powers WMO in Minnesota to receive levy authority. This funding is necessary to implement plan goals and objectives of the watershed management plan. Taxes are levied in accordance with procedures specified in the Joint and Cooperative Agreement (JCA) and [Minnesota Statutes 103B.201–103B.255](#), also referred to as the Metropolitan Surface Water Management Act (Act), and are subject to limitations set forth in Minnesota Tax Statutes, the Act, the JCA and the Watershed Management Plan. It is the Board of Commissioners' policy intent to use funds raised in the most effective and efficient manner possible. The MWMO completed an update to its comprehensive plan in 2011 that changed the way projects are selected for inclusion on the CIP. This was amended in May 2015 with a minor CIP Schedule update occurring in September 2016. In 2020, the MWMO began a major update of its 10-year watershed management plan.

The MWMO will continue to coordinate its CIP with those of its members. Projects are required to have feasibility studies completed that describe estimated water quality and quantity benefits and habitat or resource protection and improvement prior to the MWMO committing funds to the construction of the project. Anyone wishing to partner with the MWMO should invite the watershed to the table early in project design and assessment. The MWMO believes this will improve the project selection process and allow for better budgeting.

Budget

In general, the MWMO follows the following process to set its annual budget and select capital projects to which grant funding is allocated:

- Seek and receive project proposals from members by May of the prior year.
- Submit a draft budget and amended CIP at the July board meeting.
- Select proposed projects for the next fiscal year at the September board meeting.
- Submit a preliminary budget to counties by September 30.
- Make the updated CIP final and approve a final budget at the November board meeting.
- Submit a plan amendment, if needed, to the Minnesota Board of Water and Soil Resources.
- Submit final levy documents to Anoka, Hennepin and Ramsey Counties by December 15.

Table 14. MWMO Budget

2020 Budget	
Projects and Initiatives	\$3,500,000
Capital Asset Replacement Fund	\$240,000
Administration	\$1,905,000
Subtotal Budget	\$5,645,000
Contingency (Uncollected Levy)	\$55,000
Total Budget	\$5,700,000
Capital Projects and Initiatives	\$3,500,000
Capital Projects	\$2,500,000
Upper Harbor Terminal	\$1,500,000
Northern Columbia Golf Course and Park Stormwater BMPs	\$1,000,000
Initiatives	\$1,000,000
Communications and Outreach	\$250,000
Planning	\$150,000
Monitoring	\$150,000
Watershed Assessments	\$200,000
Stewardship Grant Fund	\$250,000
Capital Asset Replacement Fund	\$240,000
Administration	\$1,905,000
Staff Salary and Benefits	\$1,630,000
Commissioner Expenses	\$5,000
Office Admin: Energy, Repair, Equipment, and Supplies	\$70,000
Service Providers - Legal, Engineering, IT, Auditor	\$200,000
Operating Reserve (additional funds are not needed in 2020)	\$0

Line items in the 2020 budget with no money raised in the current fiscal year does not mean there is no money available to the line item. Rather, it means additional funds did not need to be raised in the current fiscal year. For additional financial information, including the 2020 audit, go to mwmo.org or contact [Douglas Snyder, Executive Director](#).

Each year the MWMO receives a Certification of Apportioned Levies from the Minnesota Department of Revenue. This chart is then used by the three counties in the MWMO to apportion the levy. The following table represents the estimated breakout of levies for each county within the MWMO for 2020.

Table 15. Certification of Apportioned Levies

**District 072 - Middle Mississippi River Watershed Management Organization
Certification of Apportioned Levies
Payable 2020**

(1) Payable 2020 Property Tax Levy			
			\$5,700,000
County	(2) Payable 2019 Taxable Net Tax Capacity	(3) Net Tax Capacity Percent Distribution	(4) Apportioned Payable 2020 Levy (1x3)
ANOKA COUNTY	\$20,793,191	6.0628%	\$345,581
HENNEPIN COUNTY	\$320,482,010	93.4454%	\$5,326,388
RAMSEY COUNTY	\$ 1,686,597	0.4918%	\$28,031
WATERSHED TOTAL	\$342,961,798	100.0000%	\$5,700,000

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