



Protect it. Pass it on.

MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION

2017 Annual Activity & Financial Report





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2017 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. From left: Barr Engineering Vice President Jim Herbert, MWMO Projects and Outreach Director Stephanie Johnson, MPR News photographer Evan Frost, MPR News reporter Elizabeth Dunbar, City of Minneapolis Director of Surface Water and Sewers Katrina Kessler, and Barr Engineering Senior Water Resources Engineer Nathan Campeau pose for a photo before entering the Old Bassett Creek Tunnel on May 24, 2017.

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.

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. Falcon Heights and the University of Minnesota left the organization. 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, nexus of the urban area we know as the Twin Cities. 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 2017 Services and Operations

Number of Employees (including seasonal and interns)	25
Number of FTEs	16
FTE Average Length of Service	6 years
FTE Turnover Rate.	0 percent
Total Levy Operating Revenue.	\$1,720,000
Total Levy Capital Improvements and Initiatives Revenue	\$3,925,000

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 MWMO.

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 Jim Saefke, City of Fridley, Vice-Chair

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

Commissioner Mary Gaasch, City of Lauderdale, Treasurer

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

Commissioner Jerry Faust, City of Saint Anthony Village

3301 Silver Lake Road, St. Anthony, MN 55418
612-782-3301

Commissioner Scott Vreeland, Minneapolis Park and Recreation Board

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

Commissioner Cailin Rogers, City of Saint Paul

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

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

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

Alternate Commissioners

Alternate Commissioner Randy Stille, City of Saint Anthony Village

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

Alternate Commissioner Blong Yang, City of Minneapolis

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

Alternate Commissioner Liz Wielinski, Minneapolis Park and Recreation Board

2117 West River Road, Minneapolis, MN 55411

612-230-6443

Alternate Commissioner Matt Haas, City of Saint Paul

2522 Marshall Street NE, Minneapolis, MN 55418-3329

612-746-4970

Alternate Commissioner Linda Johnson, City of Hilltop and City of Columbia Heights

2522 Marshall Street NE, Minneapolis, MN 55418-3329

612-746-4970

Alternate Commissioner Dolores Varichak, City of Fridley

2522 Marshall Street NE, Minneapolis, MN 55418-3329

612-746-4970

Alternate Commissioner Jeffrey Dains, City of Lauderdale

2522 Marshall Street NE, Minneapolis, MN 55418-3329

612-746-4970

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 (Stewardship Fund Grants, Capital Improvement Projects, etc.), 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. 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 (one)

Connie Buesgens

Fridley (one)

Nick Olberding

Hilltop (one)

Open

Lauderdale (one)

Open

Saint Anthony Village (one)

Lona Doolan

Saint Paul (one)

Open

Minneapolis (five)

Charlene Brooks Downtown

Nicole Menard North

Perry Dean Northeast

Craig Larson South

Ann Lewandowski Southwest

At-Large Positions (five)

P. Victor Grambsch Minneapolis

Anne Wilkinson Minneapolis

Phyllis Carol Hejl Minneapolis

William Risse Saint Anthony Village

Open

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 2014, the Executive Director initiated a staff reorganization in order to meet the implementation activities needs of the organization. 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.

2017 MWMO Staff

Executive Director

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612-746-4971

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Youth and Community Outreach Specialist
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612-746-4975

Water Resources Specialist
Jen Keville
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612-746-4986

Monitoring and Instrumentation Specialist
Brian Jastram
bjastram@mwmo.org
612-746-4985

Environmental Specialist
Brittany Faust
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612-746-4992

Administrative Specialist
Max Dalton
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612-746-4976

Administrative Assistant
Shannon Skally
sskally@mwmo.org
612-746-4972

Capital Projects Intern
Maureen Hoffman

Communications Intern
Dayna Ball

Mississippi River Green Team Alumni Intern
Yengsoua Lee

Water Quality Intern
Lauren Haydon

Water Quality Intern
Kyle Blazek

Water Quality Intern
Shanti Penprase

Water Quality Intern
Jacob Bierman

Water Quality Intern
Rachel Johnson

Water Quality Intern
Madison Jaschke

2017 Shared Staff

The MWMO shared the following staff with the City of St. Anthony Village in 2016:

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 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 2017:

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

HDR
701 Xenia Ave. S., Ste. 600
Minneapolis, MN 55416
763-591-5400

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

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

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

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

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

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 Minnesota
2 Third Ave. SE
Minneapolis, MN 55414
612-624-4363

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

Amherst H. Wilder Foundation
451 Lexington Pkwy. N.
St. Paul, MN 55104
651-280-2700

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

AcrossRoads Films
9001 6th St. NE
Blaine, MN 55434
605-484-2827

C-3 Group
232 East 6th St.
Dayton, OH 45402
937-985-4234

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

PixPro Media
1269 Marvin Ct.
Delano, MN 55328
612-386-1292

Sara Specht
3433 Bryant Ave. S. #1
Minneapolis, MN 55408
612-968-0630

Wetland Habitat Restorations
2521 27th Ave. S.
Minneapolis, MN 55406
612-250-1320

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



Figure 2. From left: Minneapolis Park and Recreation Board (MPRB) Commissioner Liz Wielinski, MPRB Superintendent Jayne Miller, MWMO Projects and Outreach Director Stephanie Johnson, Rep. Diane Loeffler (DFL-Minneapolis), Sen. Kari Dziedzic (DFL-Minneapolis), and Minneapolis Parks Foundation Executive Director Tom Evers at an October 24, 2017, press event for the Hall's Island restoration project.

Capital Project Grants

Purpose

The MWMO's capital project grants fund projects that protect and improve the water quality and ecosystem health of water resources within the MWMO watershed. These projects implement unique and innovative solutions for stormwater management in highly developed urban areas. They also develop 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 of all infrastructure systems.
- MWMO staff actively participate as members of the project team from ideation through design and implementation.

- Build the MWMO's CIP List for the year 2017 and beyond with opportunities to collaborate on capital projects that meet both MWMO and member organization goals.
- Strengthen our ability to reach key audiences by leveraging 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.

2017 Implementation

The MWMO completed, entered into or continued agreements in 2017 or allocated capital funds for the following capital projects:

24th Avenue SE Infiltration Project

The City of Minneapolis Public Works Department's Surface Water and Sewers initiated this project to take an innovative approach to the city's combined sewer overflow program. The project is in an industrial area slated for road reconstruction, and the addition of box culverts to allow for infiltration will help improve water quality for the 92 percent impervious 10.3-acre drainage area.

4th Street SE Landscape for Habitat

An extension of the Towerside District Stormwater System, a habitat-rich landscape will be installed in the public right-of-way as part of the 4th Street SE reconstruction. This innovative approach to the urban landscape will be maintained by the Towerside Innovation District developers and will be irrigated reusing stormwater from the district system.

Cemstone Stormwater Reuse

Concrete and aggregate supplier Cemstone will reuse stormwater runoff to help make concrete at their North Minneapolis production facility. The MWMO grant will support construction of an underground tank that will store the runoff, conserving up to 1.2 million gallons per year of potable water.

East Side Storage and Maintenance Facility

This new City of Minneapolis Public Works Department facility will house multiple city agencies and create 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 potential to impact our water resources through their work.

Fridley Street Reconstruction (2015 and 2017)

Several street reconstruction projects completed between 2015 and 2017 proved the ideal chance to construct new cost-effective stormwater control measures in the City of Fridley. The MWMO provided a grant to the City of Fridley to fund improvements like water-absorbing bioswale bumpouts, boulevard raingardens and an underground stormwater treatment system at Summit Square Park. The combination of improvements are now treating stormwater runoff from approximately 57 acres, removing an estimated average of 43 pounds of total phosphorus and 7,828 pounds of total suspended solids each year.

Hall's Island Reconstruction

The Minneapolis Park and Recreation Board is leading the creation of a new park along the Mississippi River as part of the Above the Falls Master Plan. The first phase of the park is to reconstruct an historic island in the river. MWMO grant funds are designated for the engineering of the island and the habitat establishment, as part of a key goal of improving habitat in the Critical Area of the river.

Hawthorne Eco-Village Apartments

As part of a four-block housing redevelopment project, MWMO funding was used to construct several methods of stormwater capture and treatment, including reuse for irrigation, a raingarden, and an underground filtration system. This project was completed in 2017 with estimated annual removals of 1 pound of total phosphorus and 364 pounds of total suspended solids.

Hiawatha Collegiate High School Stormwater Reuse

Hiawatha Collegiate High School's new campus will include a stormwater reuse system capable of irrigating the school's new soccer field and adjacent landscaping. The underground storage tank will capture an estimated 700,000 gallons of stormwater each year for reuse. The school plans to leverage the educational potential of the system to help teach the students about conservation and sustainability.

Minneapolis Sculpture Garden

A new Minneapolis Sculpture Garden water management system will capture stormwater as well as potable water overflow from the famous *Spoonbridge and Cherry* pond, allowing the water to be reused for irrigation for the entire garden and the adjacent ballfields. Native habitat will be incorporated into the garden as a new site amenity. MWMO staff participated in the project design; construction began in 2016, and is expected to be completed in 2017. The project's estimated average annual volume of water captured and reused is 4.75 million gallons.

Northeast Green Campus, Phase II

(aka Edison High School Green Campus)

A two-phase series of complementary projects were installed to manage and reuse stormwater at Thomas Edison High School in Northeast Minneapolis. Phase II was completed in 2017, capturing runoff from the gymnasium roof and plaza and reusing it to irrigate the adjacent athletic fields and track. Stormwater monitoring will be established on both phases, and a water quality educational component will be included for students. The estimated average annual volume of water captured and reused is 962,000 gallons.

Old Bassett Creek Tunnel, Phase I Cleanout

This project provides the opportunity to remove deposited sediments and improve water quality within a large historic tunnel beneath Minneapolis. Approximately 1,200 tons of sediment and debris will be removed within this first phase, with potential for future phases for the remaining 3,300 tons.

Riverfront Regional Park Restoration

In partnership with Anoka County Parks, MWMO is assisting with funding for riverbank stabilization and stormwater treatment as Riverfront Regional Park parking areas are improved. This is the first such project in the park, which contains nearly 7,000 linear feet of riverbank, where there are likely additional projects to partner on in the future.

Towerside District Stormwater System

(aka Prospect North District Stormwater, University Avenue District Stormwater, Green Fourth)

This project is part of a larger redevelopment effort that seeks to establish an urban innovation district. This district stormwater demonstration project, to be completed in 2018, 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.

Water Works Stormwater Reuse System

The Minneapolis Park and Recreation Board is leading in 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 RiverFirst 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.

Westminster Stormwater Reuse Demonstration Project

This 3,100-member church in downtown Minneapolis installed a stormwater reuse system that uses recycled stormwater for flushing toilets and urinals, irrigating the exterior landscape, and running a stormwater reuse demonstration fountain in the church's new main plaza. The MWMO and the Metropolitan Council are co-funding the stormwater reuse system, which will be among the first in the city to use recycled stormwater in interior plumbing.

Table 1. Capital Project Grants Implementation

Implementation Table	2016	2017	2018
CIP Budget	\$3,205,000	\$2,500,000	--
24th Avenue SE Infiltration Project	--	\$650,000	--
4th Street SE Landscape for Habitat	--	--	\$500,000
Cemstone Stormwater Reuse	--	--	\$150,000
Columbia Heights Public Library	\$600,000	--	--
East Side Storage and Maintenance Facility	--	--	\$550,000
Fridley Street Reconstruction (2015)	--	\$330,000	--
Fridley Street Reconstruction (2017)	--	\$196,000	--
Hall's Island Reconstruction	--	--	\$1,500,000
Harbor Freight Pond	\$300,000	--	--
Hawthorne Eco-Village Apartments	--	\$160,000	--
Hiawatha Collegiate High School Stormwater Reuse	--	--	\$180,000
Land Conservation – 4020 ½ Washington Ave N	\$500,000	--	--
Minneapolis Sculpture Garden	\$1,375,000	\$150,000	--
Northeast Green Campus, Phase II	\$630,000	\$380,000	\$23,000
Old Bassett Creek Tunnel	--	--	\$187,000
Riverfront Regional Park Restoration	--	\$10,000	\$18,000
Seward Commons	\$100,000	--	--
St. Anthony Regional Treatment Facility	\$1,515,000	--	--
Towerside District Stormwater System	\$770,000	\$60,000	--
Water Works Stormwater Reuse System	--	--	\$900,000
Westminster Stormwater Reuse Demonstration Project	--	--	\$650,000

Below is an evaluation of progress made towards MWMO's Watershed Management Plan Goals via capital projects implemented.

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

Water Quality and Quantity	2016	2017	2018
CIP Budget	\$3,205,000	\$1,752,200	--
Total Number of Projects	7	4	--
Total Annual TSS Removed (lbs)	87,379	14,857	--
Total Annual P Removed (lbs)	202.69	44.26	--
Total Volume Reused (gal)	5,224,116	155,872	--
Total Volume Infiltrated (cf)	13,462	70,493	--

Urban Stormwater Management	2016	2017	2018
Types of BMPs Installed			
Infiltration Basin	4	21	--
Cistern	2	2	--
Filtration Basin	7	3	--
Permeable Pavement	3	3	--
Iron-Enhanced Sand Filter	2	0	--
Pretreatment	1	2	--
Snowmelt System	1	0	--

**does not include Stewardship Fund BMPs*

Ecosystem Health	2016	2017	2018
SF Vegetation Added	91,312	10,046	--
Trees Added	25	4	--

2018 Workplan

Projects were underway in 2017 that we will finalize and reimburse for in 2018. Those projects include Hall's Island, Westminster, and the Towerside District Stormwater System. New capital projects will get underway, including several stormwater reuse systems at Cemstone, Hiawatha Collegiate High School, and Water Works.

Staff will also collaborate with member organizations to identify priority stormwater projects for the MWMO's future five-year capital improvement project schedule. The MWMO will work with private landowners to design and fund selected stormwater projects where there is a demonstrable public benefit.



Figure 3. Mississippi River Green Team members paddling the Mississippi River along the MWMO shoreline during Share the River Northeast on June 28, 2017.

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

2017 Implementation

The MWMO carried out the following communications and outreach activities in 2017:

Columbia Heights Outreach

Staff continued to conduct targeted outreach in the city of Columbia Heights, attending events and building relationships with diverse crowds of community members. Invitations for the MWMO to table in Columbia Heights increased during this time over the previous year. The MWMO also provided a Mini Grant to help the city prevent trash from entering stormdrains through their “Trash Can Mural Project,” which involved creating artistic trash can “sheds” painted with water protection information and an educational website. As part of this project, the city conducted a three-day camp for local youth at the Columbia Heights Library, where they learned about the stormwater BMPs the MWMO funded at the library, how to prevent water pollution, and how to use art to promote water stewardship.

Community Outreach

The MWMO partnered on 35 community events, providing exhibits and/or activities for participants. More than 1,335 visitors engaged with staff or MWMO volunteers during these activities to learn about actions they could take to protect water quality and gain resources to empower them.

Messaging for exhibits was customized to anticipated audiences to help them take specific actions that protect water quality. An underlying theme was always “only rain down the drain.” Specific topics included making eco-friendly cleaners, installing native plants, building raingardens, water-friendly yard care tips, reducing use of chlorides in deicing and sharing project-related information. A new physical display and an interactive demonstration were created to accompany MWMO print resources about reducing use of chlorides for deicing. The display and demo were used at the North Metro Community Home and Garden Show and then put on display in the MWMO so visitors to the Stormwater Park and Learning Center gain education on this topic, too.

In addition to participating in community-led events, MWMO staff participated in 34 youth-specific outreach events, including Children’s Water Festival, the Mde Maka Ska Canoe Festival and macroinvertebrate sampling events, engaging more than 600 youth.

Greening Teen Teamworks

Greening Teen Teamworks provides water quality education to the Minneapolis Park and Recreation Board’s Teen Teamworks summer youth employment program. Working through Teen Teamworks provides repeated contact with hard-to-reach audiences and practical opportunities to use their knowledge to protect clean water. Greening Teen Teamworks encourages crews to take action to improve water quality at their park work sites. Educators worked with the Teen Teamworks crews multiple times over the course of the summer and reached approximately 200 youth.

Interpretive Signage

The MWMO conducted an inventory of all known interpretive signage installed at MWMO projects around the watershed. Staff worked with a graphic designer to create new interpretive signage templates with the goal of standardizing the look and feel of signage at MWMO-funded project sites. The MWMO worked with a Stewardship Fund grantee to use their project site as a pilot for designing, installing and maintaining MWMO interpretive signage using these new design standards.

Master Water Stewards

The Master Water Stewards program is intended to increase knowledge and awareness of water quality and create a base of volunteers who are able and comfortable to work within their communities to affect change. In 2017, the second cohort of 17 Master Water Stewards installed stormwater BMPs in six different locations around the watershed for their capstone projects. The third cohort of 15 Master Water Stewards trainees began their coursework in the fall of 2017. The MWMO is now actively working with the certified Master Water Stewards in the watershed to provide them with continuing education courses and connect them with volunteer opportunities.

Media Relations

The MWMO continued doing media relations in 2017, including live and pre-recorded TV appearances and several newspaper articles and public radio stories. Staff tracked a total of 25 earned media hits in 2017 (compared to 19 in 2016). When available, links to media stories that mention the MWMO are posted on the MWMO website in the [“Newsroom” section](#).

Mississippi River Green Team

The Mississippi River Green Team is a two-year employment and conservation program for teens from North and Northeast Minneapolis, 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. 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 2017, the Mississippi River Green Team completed its 10th season. After 10 years in operation, the MPRB and MWMO conducted a program evaluation to determine whether program goals were being met. Wilder Research interviewed program alumni and found that:

- 100 percent of alumni expressed caring more about environmental issues compared to before they were on the team;
- 75 percent of alumni said that they learned “a lot” about environmental jobs;
- Of the 11 alumni who were enrolled in college as of fall 2017, eight indicated plans to major or minor in something related to the environment; and
- Nearly 40 percent of alumni have held some kind of seasonal job related to the environment since they were on the team.

[Download the full report](#) to learn more about the impacts of the program.

Newsletter

The MWMO overhauled its email marketing efforts in 2017, switching providers from MailChimp to GovDelivery (also known as Granicus). In addition to providing a quarterly email newsletter, the MWMO now offers subscribers the ability to choose from multiple email lists on various topics of interest. Changes in the MWMO’s email marketing approach resulted in a dramatic increase in both the number of email list subscribers as well as the level of user engagement.

Table 3. MWMO Email List Subscribers

Metric	2016	2017
Number of Bulletins	26	106
Engagement Rate	22.2%	38.8%
Total Subscribers	2,073	3,628

Share the River Nordeast

The MWMO hosted Share the River Nordeast in partnership with Mississippi Park Connection, National Park Service and Wilderness Inquiry. The event was an evening of community, canoeing and ice cream and received nearly 100 visitors. Attendees stopped by for a free introductory canoe ride on the Mississippi River and free ice cream. In addition to learning to paddle on the river, participants also learned about the Mississippi River's history, water quality, plants, animals and more.

Stormwater Park and Learning Center

The MWMO's Stormwater Park and Learning Center hosted a variety of temporary exhibits in 2017. Exhibits were all focused on water and environmental stewardship and included *Climate, Energy and Community: What We Can Do*; *I am a Water Steward*; *Hydro-Illuminata*; and *We Watch the Stream*. Each exhibit had programming or community engagement activities associated with it, and each brought different groups into the space to learn about the MWMO and water quality protection. In addition to hosting exhibits, the MWMO piloted new youth programming utilizing a stream table and watershed model. The success of this pilot will inform further interpretive development in 2018.

Professional Workshops and Trainings

The MWMO sponsored and facilitated trainings on turfgrass maintenance and winter maintenance with reduced environmental impacts. More than 160 winter and summer maintenance professionals, property owners and supervisors in the public and private sectors attended a total of four trainings held in 2016. These trainings are a part of a voluntary maintenance certification program through the Minnesota Pollution Control Agency and were subsidized by a PCA/EPA 319 grant.

Social Media

The MWMO maintained an active social media presence on Twitter, Facebook, LinkedIn, Instagram and YouTube in 2017. MWMO social media channels experienced steady growth in both user engagement and overall numbers of followers.

Table 4. Snapshot of MWMO Social Media Followers

Channel	2015	2016	2017
Facebook	556	881	1,163
Instagram	N/A	133	269
LinkedIn	23	59	89
Twitter	511	720	945

Stewardship Fund Grants

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

Financial assistance is provided through three types of Stewardship Fund Grants. Mini Grants offer up to \$3,000 in funding for short-term or smaller-scale water quality projects. Planning Grants offer up to \$10,000 in funding to plan projects that are significant in scope and cost. These grants are used to assess the potential success of a project or develop the details required to make a project actionable. Action Grants offer up to \$50,000 in funds for the implementation of fully-designed projects, significant in scope and cost.

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:

- **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 MWMO'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 will 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	2016	2017	2018
Total no. awarded (no. proposed)	23 (42)	14 (37)	--
Mini Grants (<i>Total; breakdown by season below</i>)	16 (29)	9 (22)	--
Spring	7 (14)	4 (9)	--
Summer	9 (15)	5 (13)	--
Planning Grants	3 (6)	3 (10)	--
Action Grants	4 (7)	3 (5)	--

Watershed Partners

Watershed Partners, also known as Clean Water Minnesota, is a collaborative outreach effort among Twin Cities metropolitan area watersheds. The MWMO supported the program in 2017 with a \$5,000 contribution, which helped fund the creation of blog posts and photos as well as development of a neighborhood stormdrain cleanup kit.

Website

MWMO website traffic showed modest increases in 2017 compared to the previous year, with approximately 23 percent more sessions, 15 percent more pageviews, and 32 percent more users. The most popular areas of the site were the “Projects” section, the Blog and the “About” section. Upgrades to the MWMO website in 2017 included redesigned project pages, integrated email list signup modules, and various aesthetic and functional improvements.

Table 6. MWMO Website Traffic Overview

Metric	2015	2016	2017
Pageviews	44,929	85,499	98,357
Sessions	15,568	30,634	37,634
Users	9,049	17,641	23,232

Table 7. Communications and Outreach Implementation

Implementation Table	2016	2017	2018
Communications, Outreach and Stewardship Fund Budget	\$250,000	\$250,000	\$250,000
Stormwater Park and Learning Center	\$35,174	\$967	--
Children's Water Festival	\$600	--	--
Graphic Design and Photography	\$9,558	\$5,959	--
Greening Teen Teamworks	\$8,000	\$10,977	--
Joint Communications Planning	\$4,500	\$0	--
Mississippi River Green Team	\$22,000	\$44,105	--
Neighborhood and Community Outreach	\$2,800	\$5,240	--
Professional workshops and trainings	\$11,547	\$9,631	--
Share the River Nordeast	\$15,000	\$1,897	--
Spark-Y Youth Action Labs	\$2,600	--	--
Stewardship Fund Action Grants	\$95,000	\$175,252	--
Stewardship Fund Mini Grants	\$29,097	\$20,648	--
Stewardship Fund Planning Grants	\$28,500	\$12,920	--
Three Rivers Park District	--	--	--
Video Production	\$16,057	\$41,278	--
Watershed Partners	\$5,000	--	--
Website	\$47,031	\$14,961	--
Workshops for local officials, policymakers and community leaders	--	--	--

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

Communications and Outreach	2016	2017	2018
Stewardship Fund			
Stewardship Fund Grants Budget	\$152,597	\$208,820	--
Projects	18	14	--
Master Water Stewards			
Number of Stewards	15	15	--
Capstone Projects	6	In Progress	--
Outreach Projects	6	In Progress	--
Green Team			
Youth Participating in Program	20	20	--

2018 Workplan

- Outreach at community events will continue offering residents resources to take water-friendly actions at home and in their community, including opportunities to make eco-friendly cleaners. Sites will be selected strategically to build relationships with new, underserved, and/or other target audiences, such as those near MWMO-funded projects.
- The MWMO will continue to fund Stewardship Fund Mini Grants, Planning Grants, and Action Grants. Efforts to assist grantees from targeted populations will continue as opportunities to deepen these relationships are growing.
- New Citizen Advisory Committee members will be trained and supported through upcoming Planning and Action Grant reviews as they learn their role. Strategic recruitment of CAC members from underserved populations will continue.
- Information and networking sessions will be offered to volunteers. The framework for implementing volunteers, tracking their hours and recognizing their efforts will be further developed.
- The MWMO will host the Master Water Stewards program to certify and support community leaders.
- The MWMO will host art exhibits that will be on display throughout the year.
- Additional exhibits will be permanently installed at the Stormwater Park and Learning Center.
- The MWMO will pilot a program 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 Mississippi River Green Team will enter its eleventh year, with expanded support and partnerships.
- The MWMO will work to strengthen youth outreach and education within MWMO activity areas and create place-based stewards of water resources.
- The MWMO will work with web developers to continue improving the usability and functionality of its website.

- The MWMO will refine and continue implementing its content strategy using blog posts, email campaigns and social media engagement to reach key audiences.
- An interpretive signage master plan for MWMO project sites will be developed and implemented using MWMO graphic standards.
- The MWMO will launch a new printed product, the “Good Neighbor Guide,” which is designed to educate homeowners and other residents about stormwater BMPs. An outreach campaign will accompany the launch of the product.



Figure 4. MWMO Monitoring and Instrumentation Specialist Brian Jastram uses a multiparameter sonde and an extension pole to measure water quality characteristics of the Mississippi River on October 30, 2017.

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 biological, chemical and physical 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 and public entities and to MWMO staff for use as an education tool (e.g., BMP performance data).
- Develop emergency monitoring plan in case of emergencies affecting water resources.

2017 Implementation

In 2017, new monitoring initiatives included conducting bathymetric mapping of the Kasota Pond wetlands, operation and maintenance of continuous automated water monitoring at the St. Anthony Regional Stormwater Treatment and Research System, and providing assistance with water quantity and water quality monitoring at the Edison High School Green Campus stormwater harvest and reuse project. MWMO monitoring staff also worked to establish a number of ways to monitor best management practices (BMPs) in the watershed and continued to instrument the MWMO Stormwater Park and Learning Center outdoor BMPs to determine the effectiveness of the filter media and use the instrumented facility for research, education, and outreach.

Additionally, monitoring staff continued to work with staff at St. Anthony Falls Laboratory to design a weir and level logger system in the outlet of a newly constructed storage, treatment and reuse facility at the Towerside Innovation District to monitor the overflow volumes to the University of Minnesota's stormwater pipe network.

MWMO monitoring staff, in partnership with the University of Minnesota's Bioproducts and Biosystems Engineering Department, started new research in the 2017 to investigate the water quality of runoff from four types of impervious surfaces in downtown Minneapolis.

MWMO staff also took full responsibility in 2017 to operate and maintain the St. Anthony Regional Stormwater Treatment and Research System and coordinated the first full removal and replacement of of cartridges from the secondary treatment system and removal of deposited sediments and floatables from the primary treatment system.

MWMO's executive director and water resources director were invited to attend an international conference on "Natural Resources Management for Sustainable Development and Rural Livelihood" from October 26–28, 2017, in Mizoram, India. The MWMO's executive director presented a paper titled "Integrated Watershed Management by Mississippi Watershed Management Organization in Minnesota, U.S.A," while its water resources director presented a paper titled "Design and Implementation of Water Resources Monitoring Program for the State of Mizoram-Pilot Project."

MWMO monitoring staff worked collaboratively with the University of Minnesota's Center for Integrated Natural Resources and Agricultural Management and Department of Bioproducts and Biosystems Engineering to develop curriculum and deliver a three-day training and workshop on "Hydro-Meteorological Monitoring and Watershed Management" at the University of Mizoram, Aizawl, India from October 23–25, 2017.

The following is a list of work plan accomplishments for the year 2017:

- Completed the 2016 Annual Monitoring Report.
- Worked with the MWMO member cities to assess their monitoring needs and assist in developing additional monitoring plans for stormwater monitoring and lake monitoring.
- Continuously monitored five stormwater outfalls using automated samplers.
- Completed monthly monitoring of the Kasota Ponds wetlands.
- Collected biweekly *E. coli* data from seven river sites and five stormwater sites and submitted to the MPCA.
- Collected flow data in targeted pipesheds to support the MWMO and City of Minneapolis' hydrology and hydraulics (H&H) modeling effort.
- Continued development of monitoring protocols for the Mississippi River.
- Continued water quality sampling and data collection at eight Mississippi River sites.

- Collected Mississippi River bathymetric data.
- Worked with the MPCA on the Upper Mississippi River Bacteria TMDL Project and the Twin Cities Metro Area Chloride Project.
- Worked with the City of Minneapolis Health Department staff to enhance their erosion and sediment control inspections program.
- Collaborated with Stantec, Inc., to monitor the flow and water quality of the stormwater flow to tree trench treatment project for the Edison High School Green Campus.
- Shared MWMO monitoring data through the MPCA's EQuIS database, the MWMO's annual monitoring report, and data requests.

Details for the monitoring program and data results are available on the MWMO's website at mwmo.org. For more detailed information on this program, please contact MWMO Water Resources Director Dr. Udai B. Singh at usingh@mwmo.org.

Table 9. Water Quality Monitoring Implementation

Implementation Table	2016	2017	2018
Monitoring Budget	\$150,000	\$150,000	\$200,000
Bathymetry Project	\$925	\$925	\$1,400
Data Management Software	\$35,500	\$8,000	\$8,000
St. Anthony Regional Treatment Monitoring	\$67,200	\$1,215	\$10,000
Minneapolis Illicit Discharge Monitoring	\$828	\$455	\$2,000
Laboratory Analysis	\$116,475	\$116,640	\$125,000
Sampling Equipment	\$14,700	\$20,105	\$22,000
Monitoring Related Training	\$8,500	\$1,580	\$1,600
Real-Time Data Management Project Agreement with SAFL	\$35,700	\$11,740	\$12,000
Edison High School BMP Monitoring	--	\$13,630	\$6,000
University of Minnesota Impervious Surface Study	--	\$10,970	\$12,000

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

Monitoring	2015	2016	2017
Number of Stormwater Monitoring Sites	7	7	7
Number of Wetland Monitoring Sites	3	3	3
Number of River Sample Locations	6	8	8
Number of BMPs Monitored	2	4	5

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](#).

2018 Workplan

The 2018 work plan for the MWMO's monitoring program includes:

New Monitoring Initiatives for 2018

- Install additional equipment in the MWMO's Stormwater Park and Learning Center's outdoor best management practices to monitor the effectiveness of the practices and use the instrumented facility for research, education, and outreach.
- Install weir and monitoring equipment in outlet from Towerside stormwater storage, treatment and reuse facility to monitor the outflow to University of Minnesota's stormwater pipe network.
- Finalize the bathymetric mapping of Kasota Pond wetlands.
- Collect bathymetric data for Mississippi River for 2018.
- Update long-term monitoring program outlook, including monitoring for emerging issues.

Ongoing Monitoring Efforts

- Complete the Annual Monitoring Report for the 2017 monitoring season.
- Continue to work with the MWMO member cities to assess their monitoring needs and assist in developing additional monitoring plans for stormwater monitoring and lake monitoring.
- Continue to look for opportunities to expand the precipitation monitoring network using heated precipitation gauges and citizen precipitation recorders.
- Continue to monitor five stormwater outfall monitoring sites using automated samplers.

- Continue biweekly monitoring of seven sites on the Mississippi River and seven stormwater outfall monitoring sites for *E. coli* and submit the data to the MPCA.
- Continue to support the MWMO and City of Minneapolis' H&H modeling effort by collecting flow monitoring data for specific subwatersheds.
- Continue to sample the Mississippi River at eight locations for water quality analysis.
- Finalize the bathymetry data for the Mississippi River that was collected in fall 2014, summer 2015, summer 2016, and summer 2017.
- Continue working on pollutant loading calculations for the stormwater outfall sites.
- Continue to work with the MPCA on the Upper Mississippi River Bacteria TMDL Project and the Twin Cities Metro Area Chloride Project.
- Continue to work with the City of Minneapolis Health Department staff to enhance their erosion and sediment control inspections program.
- Share MWMO data through the MPCA's EQuIS database, the MWMO's annual monitoring report, and data requests.

BMP Monitoring

- Continue the operation, maintenance, and monitoring of the St. Anthony Regional Stormwater Treatment Research System.
- Maintain monitoring equipment for the Edison High School Green Campus project at the school's football field and concession stand.
- Work with projects and outreach director or designee to assess the monitoring needs of past and future capital projects.

Mississippi River Monitoring

- Conduct bathymetric mapping of the Mississippi River.
- Connect and communicate with MN DNR and/or USGS to explore the possibility of collaborating on rating curve determination for Mississippi River.
- Continue development of long term monitoring needs for the Mississippi River.

Research and Watershed Assessment

- Complete the spring run of downtown impervious surface runoff study and work with

projects and outreach director to decide the future direction of the project (2nd year of data collection).

- Continue to serve on MPCA's TMDL advisory group and Minnesota Stormwater Research Council.



Figure 5. Lincoln Playground redesign project partners practice a community outreach exercise in February 2017 at the MWMO Stormwater Park and Learning Center.

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.

2017 Implementation

The MWMO completed, continued or began the following planning initiatives in 2017:

- Drafted a revised Ecological Services Plan contract with the Minneapolis Park and Recreation Board to be approved in 2018.
- Modified the MWMO's Annual Activity and Financial Report to meet Minnesota Rules 8410 requirements.
- Met with MWMO member cities in preparation for writing their local water plans.
- Completed a preliminary information study for a phase II district stormwater initiative in the Towerside Innovation District.
- Continued to manage maintenance, accounting and legal services for the owners of the Towerside District Stormwater System. (All cost for services hired are paid for by private owners.)
- Received a grant from the McKnight Foundation to start a new core partnership and the educational materials needed for securing the funding and financing necessary to meet our long-term goal of building a restorative One Water (Integrated Utility Hub) and green infrastructure and habitat system in the Towerside Innovation District.
- Served as a member of Towerside's Implementation Committee (an interim committee acting in place of an executive director until the director is hired in 2018).
- Initiated MWMO's grant funding for migratory bird and pollinator plantings along Green 4th Street from TCF to 29th Avenue.
- Initiated the expansion of MWMO's Towerside District Stormwater System to add a water truck service connection off of the 206,000 gallon water reuse tank.

- Started a Towerside Master Framework Plan with the Minnesota Design Center that will integrate historic water connections and habitat back into Towerside as it redevelops.
- In partnership with MPRB and Prospect Park Properties, the MWMO started to focus on the exploration of public/private models for the management of the Towerside Innovation District's stormwater and green spaces. The parties are working together to coordinate and align designs, development, ownership, management, and programming of public space and stormwater management in the district.
- Joined a consortium of other watersheds to provide a state-of-the-art model snow and ice removal policy, ordinance, and service provider contract for municipalities. This project was completed in 2016.

Table 11. Planning Implementation

Implementation Table	2016	2017	2018
Planning Budget	\$50,000	\$50,000	\$50,000
Integrated Utility Hub Coalition	--	--	--
Phase II District Stormwater Informational Study	--	\$8,505	--
Towerside Master Framework Plan	--	--	--
Ecological Services Plan	\$11,183	--	--
Freshwater Society Snow and Ice Policy Project	\$3,000	--	--

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	2013	2014	2015	2016	2017	2018
New Initiatives and Related Studies Started	4	5	3	3	7	1
New Initiatives Resulting in CIP Outcome	1	--	--	2	4	--
New Initiatives Resulting in Policy Change	--	--	--	--	1	--
New Initiatives Resulting Partnership Agreements	1	--	--	1	1	--
Amendments Completed to Maintain WMP Relevance	1	--	1	1	--	--

2018 Workplan

In 2018, the MWMO will:

- Continue meeting with member organizations on the content of their LWMPs and bring them to the MWMO Board of Commissioners for a vote.
- Work with the MPRB's Ecological Services Plan.
- Continue to explore options of the Towerside Innovation District green space model for public/private ownership, development, and management.
- Complete the Towerside Master Framework Plan and work to integrate historic water connections and habitat identified into the Minneapolis and St. Paul comprehensive plans.
- Continue to manage maintenance, accounting, and legal services for the owners of the Towerside District Stormwater System.
- Continue to serve as a member of Towerside's implementation committee.
- Continue to build a public/private partnership for securing the financing necessary to build a restorative One Water (Integrated Utility Hub) green infrastructure and habitat system in the Towerside Innovation District.

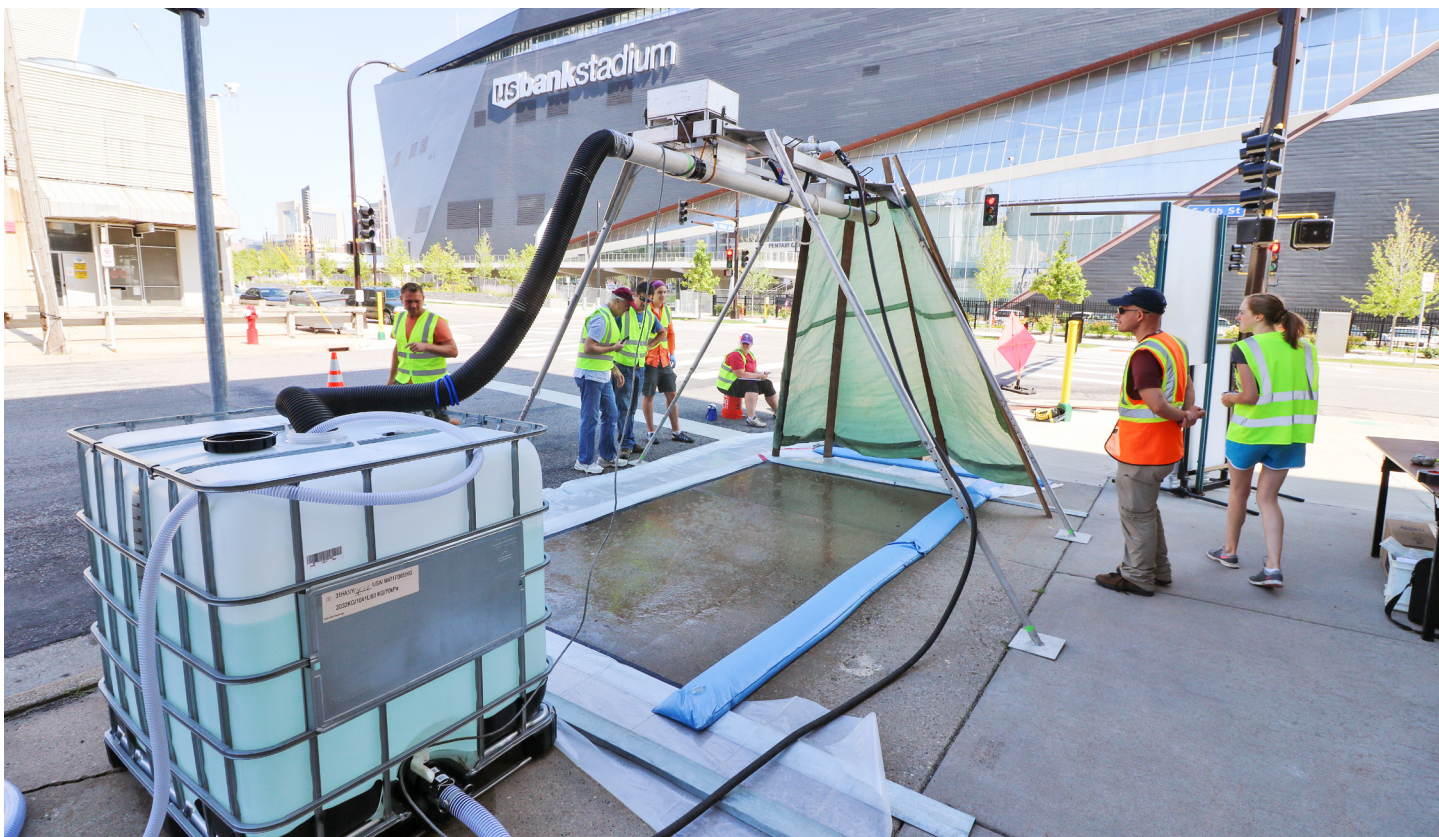


Figure 6. MWMO staff and University of Minnesota researchers use a rain simulator to collect water quality samples of runoff from a downtown Minneapolis sidewalk on July 28, 2017.

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.

2017 Implementation

The MWMO completed, continued or began the following watershed assessments in 2017:

1NE Watershed Stormwater Management Planning and Preliminary Design

The MWMO is partnering with the City of Minneapolis and Minneapolis Park and Recreation Board (MPRB) to improve stormwater management, increase flood resiliency, reduce pollutant loading to the Mississippi River and improve ecological function within the 1NE Watershed. The focus of this project is to evaluate different stormwater management options, including: reconfiguring existing infrastructure, adding new infrastructure, installing stormwater best management practices and/or modifying stormwater management techniques on both city and MPRB-owned properties. In addition, the effort will identify options to enhance or improve habitat along key corridors previously identified by the MWMO. This project builds upon previous work in the 1NE Watershed. Outcomes include stormwater and habitat improvement scenarios that may be feasible within the watershed, as well as recommendations for improvements to be made in the next three to five years.

5th Street South Pilot Greening Project Feasibility Study

One of the goals of the Minneapolis Downtown Improvement District (DID) is to “green” downtown Minneapolis streets by adding trees and perennial planting beds along the sidewalks. The DID is interested in incorporating stormwater management into select greening projects and approached MWMO to partner on a pilot study to examine this possibility. A feasibility study was undertaken to quantify the potential for stormwater treatment on a DID project along 5th Street South. Results of the work show that stormwater management may be possible on select blocks along the street, if utility conflicts can be avoided.

Analysis of Runoff from Impervious Surfaces Study

The runoff response of urban watersheds is dominated by impervious surfaces. Understanding the entrainment and transport of potential contaminants on urban surfaces is necessary for the development and implementation of sound water-management practices. An analysis of runoff from impervious surfaces study project was undertaken in 2016. The project goals are to gather and analyze data from four impervious surface types (streets, sidewalks, parking lots, and rooftops) in downtown Minneapolis.

In 2017, rainfall simulations and subsequent runoff sampling was conducted on three each of street, sidewalk, and parking lot sites in downtown Minneapolis during both the summer season (July and August) and the fall season (October). Automated sampling equipment was installed at two rooftop sites in downtown Minneapolis to collect samples during actual rainfall events. Due to the outdoor plumbing at one site, equipment had to be removed for winter, and the other site was left installed to collect melt samples from the rooftop. Sampling at all sites is expected to occur in the spring of 2018, after which data will be evaluated and the project team will determine whether another year of simulations and sampling will be needed.

City of Minneapolis East Side Storage and Maintenance Facility Feasibility Study

The MWMO led a feasibility study in partnership with the City of Minneapolis to further enhance the stormwater management system design at the new East Side Storage and Maintenance Facility (ESSMF). This facility will be constructed on University Ave and 26th Avenue NE, with the idea that it would expand public green space, add habitat, and capture at least 1.1 inches of runoff for the entire 9-acre site. Some of the BMPs developed include raingardens, tree trenches, permeable pavers, an iron-enhanced sand filter, underground storage system, and potential for re-use. This study will serve as the foundation for the future facility design. The city will finalize the design in collaboration with MWMO and anticipates a summer 2018 construction.

Integrated Utility Hub Study

In the spring of 2017, the MWMO completed the Integrated Utility Hub (IUH) Study and is now being used to inform the MWMO's IUH planning initiative (see the planning section). The study defines water's role within a restorative urban development model, and provides an overview of how to realize restorative city goals through an Integrated Utility Hub/System (IUH/S) approach.

Lincoln School Playground Stormwater Feasibility

As part of a community-led initiative to redesign a neglected school playground space, MWMO undertook analysis of opportunities to manage stormwater. Completed in 2017, the Lincoln Playground feasibility study evaluated ways to manage stormwater to integrate into learning opportunities for the school, as well as any regional stormwater management opportunities to improve water quality adjacent to the playground.

Old Bassett Creek Tunnel Condition Assessment, Cleanout Plan, and Structural Integrity Study

The MWMO is partnering with the City of Minneapolis to remove accumulated sediment in the Old Bassett Creek Tunnel (OBCT). This underground stormtunnel is approximately 1.5 miles long, and historically conveyed runoff from the 40.88 square mile Bassett Creek Watershed and the 1.36 square mile OBCT drainage basin to the Mississippi River. Based on the information gathered through this study, the MWMO has estimated that approximately 4,500 tons of sediment and debris are inside the tunnel. Laboratory testing indicates this sediment contains over 2,000 pounds of nitrogen and over 2,500 pounds of phosphorus. Other study components include inspection and structural integrity tests of the tunnel to account for and anticipate future maintenance needs. The MWMO and the city anticipate beginning the removal of this accumulated sediment through a series of tunnel cleanouts during 2018 and 2019.

Towerside District Stormwater Phase II Feasibility

The MWMO started a Phase II District Stormwater initiative in the Towerside Innovation District. This feasibility study will site design alternatives to improve water quality, flood resiliency and habitat. It will also identify the potential infrastructure needed to accommodate future closed-loop systems at the district scale.

Towerside District Stormwater After-Action Report

The Towerside District Stormwater After-Action Report was brought to 80 percent completion in 2017. Some specific case studies remain to be written. The report will inform similar projects in the future by providing a record of lessons learned during the planning and construction of the Towerside District Stormwater System.

Upper Harbor Terminal District Stormwater Feasibility

The MWMO started a feasibility study for a district stormwater system at the Upper Harbor Terminal. Initial concepts have focused on improving water quality and habitat within the Mississippi River Corridor Critical Area, as well as more efficiently managing the site's water budget. This site might also be considered as a pilot site for an Integrated Utility Hub (IUH) facility.

Watershed-Scale Hydrologic/Hydraulic and Water Quality Models

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 our 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 2017:

- Northern Tributary to the Northern Inlet of the 35W Tunnel: a 1,442-acre watershed containing the MWMO portion of the City of Saint Anthony Village and roughly 600 acres within the City of Minneapolis. The MWMO worked with the City of Minneapolis to create an H&H model of this area. The MWMO then created the water quality model.
- North Minneapolis Region: a 7,500-acre portion of North Minneapolis. The MWMO worked with the City of Minneapolis to create an H&H model of this area. The MWMO will create a water quality model in 2018.
- Southeast Minneapolis Region: a 1,600-acre portion of Minneapolis. The MWMO worked with the City of Minneapolis to create an H&H model of this area. The MWMO then created the water quality model.
- East Minneapolis Region: a 4,300-acre portion of Minneapolis. The MWMO is working with the City of Minneapolis to create an H&H model of this area, focusing on those areas within the MWMO's jurisdiction.

Table 13. Watershed Assessment Implementation

Implementation Table	2016	2017	2018
Watershed Assessment and Research Program Budget	\$800,000	\$775,000	\$500,000
1NE Watershed Stormwater Management Planning and Preliminary Design Project	---	\$128,767	\$118,233
5th Street South Pilot Greening Project Feasibility Study	\$12,450	--	--
Analysis of Runoff from Impervious Surfaces Study	\$47,178	\$58,178	--
City of Minneapolis East Side Storage and Maintenance Facility Feasibility Study	---	\$26,896	---
Integrated Utility Hub Study	--	\$20,000	--
Lincoln School Playground Stormwater Feasibility	\$6,000	\$7,700	--
Nicollet Island Upland Restoration Plan	--	\$2,800	--
Old Bassett Creek Tunnel Condition Assessment, Cleanout Plan, and Structural Integrity Study	--	\$88,108	--
Old Bassett Creek Tunnel-Water Reuse and Water Quality Improvement Project Feasibility Study	\$4,040	--	--
Towerside District Stormwater After-Action Report	\$5,630	\$4,750	--
Towerside District Stormwater Phase II - Feasibility	--	\$48,185	--
Upper Harbor Terminal District Stormwater - Feasibility	--	\$6,095	--
Watershed-Scale H&H and Water Quality Modeling	\$196,500	\$358,035	\$422,905
Westminster Stormwater Reuse Feasibility Study	\$23,850	--	--

2018 Workplan

In 2018, the MWMO will:

- Complete the Towerside District Stormwater Report. This report will contribute to stormwater guidelines for redevelopment in the Towerside Innovation District, and offer insight into improving planning and implementation processes associated with a district systems approach.
- Complete a Phase II District Stormwater feasibility study in the Towerside Innovation District. The project will provide three conceptual plans, and a range of costs for the developer and other potential partners to advance in future design processes.

- Continue to work with the City of Minneapolis and the MPRB to advance plans for a district stormwater system at the Upper Harbor Terminal. Concepts will focus on improving water quality and habitat within the Mississippi River Corridor Critical Area, as well as more efficiently managing the site's water budget. MWMO is partnering with developers and the city on this project. The schedule and pace is determined by them.
- Continue work on the H&H and water quality modeling projects that are underway and start working in at least three additional watersheds in 2018. The MWMO will also continue sponsoring studies to explore the feasibility and potential benefit of capital projects, as needed.

Financial Information

Policy

During plan development (1997-2000), the MWMO 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 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 and 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 to use funds raised in the most effective and efficient manner possible. The MWMO completed an update to its comprehensive plan in 2011 which 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.

The MWMO will continue to coordinate its CIP with that of its members. Projects will be required to have feasibility studies completed that describe estimated water quality and quantity benefits and habitat or resource protection and improvement prior to being selected as a MWMO CIP. This means anyone wishing to partner with the MWMO will need to 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

2017 Budget	
Projects and Initiatives	\$3,925,000
Administration	\$1,720,000
Subtotal Budget	\$5,645,000
Contingency 1.0% (Uncollected Levy)	\$55,000
Total Budget	\$5,700,000
Capital Projects and Initiatives	\$3,925,000
Capital Projects	\$2,500,000
1NE Watershed System (Multi-benefits SW Projects)	\$1,000,000
Fridley Street Reconstruction	\$300,000
MPRB: Work Works	\$500,000
Minneapolis: Upper Harbor Terminal	\$600,000
Initiatives	\$1,425,000
Communications and Outreach	\$250,000
Planning	\$50,000
Monitoring	\$150,000
Watershed Assessments (Research, Hydrologic and Hydraulic Studies)	\$775,000
Stewardship Grant Fund	\$200,000
Administration	\$1,720,000
Staff Salary and Benefits	\$1,400,000
Commissioner Expenses	\$5,000
Office Admin: Energy, Repair, Equipment, and Supplies	\$110,000
Service Providers - Legal, Engineering, IT, Auditor	\$180,000
Facility Replacement Schedule	\$25,000
Operating Reserve (additional funds are not needed in 2017)	\$0

Line items in the 2017 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 2017 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 2016.

Table 15. Certification of Apportioned Levies

**District 072 - Middle Mississippi River Watershed Management Organization
Certification of Apportioned Levies
Payable 2017**

(1) Payable 2017 Property Tax Levy		\$5,700,000	
County	(2) Payable 2016 Taxable Net Tax Capacity	(3) Net Tax Capacity Percent Distribution	(4) Apportioned Payable 2017 Levy (1x3)
ANOKA COUNTY	\$16,347,667	6.3778%	\$407,186
HENNEPIN COUNTY	\$238,644,211	93.1041%	\$5,260,726
RAMSEY COUNTY	\$1,327,901	0.5181%	\$32,088
WATERSHED TOTAL	\$256,319,779	100.0000%	\$5,700,000