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MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION

2016 Annual Activity & Financial Report



MWMO Watershed Bulletin: 2017-2



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**MISSISSIPPI
WATERSHED
MANAGEMENT
ORGANIZATION**

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2016 Annual Activity and Financial Report

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Annual Activity & Financial Report 2016

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. Due to its size, the [Annual Monitoring Report](#) is a separate document. A short summary is found in this document.

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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Annual Activity and Financial Report 2016

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, St. 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 of new 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 2016 Services and Operations

Number of Employees including seasonal and interns	20
Number of FTEs	15
FTE Average Length of Service	5 years
FTE Turnover Rate	7 percent
Total Levy Operating Revenue	\$1,645,000
Total Levy Capital Improvements & Program Revenue	\$4,000,000

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 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
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 Steffanie Musich, 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
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 MWMO 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 15th. Appointments are for one year and are renewable annually. Up to two at-large positions may be filled by people that 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 MenardNorth

Perry Dean.....Northeast

Craig Larson.....South

Ann Lewandowski.....Southwest

At-Large Positions (five)

P. Victor Grambsch.....Minneapolis

Anne WilkinsonMinneapolis

Carol HejlMinneapolis

Mark Apfelbacher.....Minneapolis

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.

2016 MWMO Staff

Executive Director

Douglas Snyder
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Capital Projects & Stewardship Specialist

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Michele Ross

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Monitoring & Instrumentation Specialist

Brian Jastram

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Environmental Specialist

Brittany Faust

bfaust@mwmno.org

612-746-4992

Administrative Specialist

Max Dalton

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612-746-4976

Administrative Assistant

Shannon Skally

sskally@mwmno.org

612-746-4972

Water Quality Intern

Melissa Burton

Water Quality Intern

Anna Johnson

Water Quality Intern

Lauren Haydon

Water Quality Intern

Rachel Johnson

Water Quality Intern

Christi Wahlstrom

2016 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 to right to alter the list at any point in order to meet the needs of the organization.

The following is a list of organization that provided services to the MWMO in 2016:

Accounting

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

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

Financial Audit

Redpath and Company
55 East Fifth Street, Suite 1400
St. Paul, MN 55101
651-426-7000

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

Engineering

Barr Engineering
4700 West 77th Street
Minneapolis, MN 55435-4803
952-832-2600

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

Emmons & Olivier Resources
651 Hale Avenue North
Oakdale, MN 55128
651-203-6001

WSB & Associates, Inc.
763-541-4800
701 Xenia Avenue South, Suite 300
Minneapolis, MN 55416

HDR
701 Xenia Avenue South
Suite 600
Minneapolis, MN 55416
763-591-5400

Payroll and Financial Services

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

Banking and Investments

Northeast Bank

77 Broadway Street NE
Minneapolis, MN 55413
612-379-8811

Multi-Bank Securities, Inc.

1000 Town Center, Suite 2300
Southfield, MI 48075

Pershing, LLC

One Pershing Plaza
Jersey City, NJ 07399

Legal

Kennedy & Graven, Chartered

470 Pillsbury Center
200 S 6th Street
Minneapolis, MN 55402
612-337-9215

Information Management & Technology

City of Roseville Management Information

Services – Metro-INET
2660 Civic Center Drive
Roseville, MN 55113
651-792-7092

Other Service Providers

Ruth Murphy

442 Summit Avenue
Saint Paul, Minnesota 55102

Fortin Consulting

215 Hamel Road
Hamel, MN 55340
763-478-3606

MMC Associates

1312 Portland Avenue
Saint Paul, MN 55104
651-647-6816

Saint Anthony Falls Laboratory

University of Minnesota
2 Third Ave SE
Minneapolis MN 55414
612-624-4363

Green Jeans Media

1518 4th Street NE
Minneapolis, MN 55413
612-636-2073

Communications/Website

Cathryn Kennedy Consulting

1955 Aquila Ave North
Golden Valley, MN 55427
612-309-3951

The C-3 Group

232 East 6th Street
Dayton, OH 45402
937-985-4234

Westwerk

1621 E Hennepin Ave, B 26
Minneapolis, MN 55414
612-353-5349

Windmill Design

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

Achievements and Work Plan

The MWMO conducts an annual prioritization and selection of projects and activities based on available funding for capital project grants, planning initiatives, research and watershed studies, communication and outreach initiatives and monitoring. These projects and activities advance the organization's goals, strategies and implementation actions, while responding to changing resource conditions and financial constraints of the MWMO.

The MWMO also continues to seek out opportunities to collaborate and develop partnerships with other organizations to expand the reach of our and their activities, to leverage additional funds and to prevent duplication of services and project efforts within the watershed.



Figure 1. MWMO staff in September 2016: *(top row, from left)* Udai Singh, Jen Keville, Nick Busse, Tammy Schmitz, Melissa Burton, Max Dalton, Doug Snyder, Lauren Haydon, Marcy Bean, Brittany Faust, and *(bottom row, from left)* Dan Kalmon, Charlie Yunker, Shannon Skally, Brian Jastram, Michaela Neu and Stephanie Johnson.

Capital Project Grants

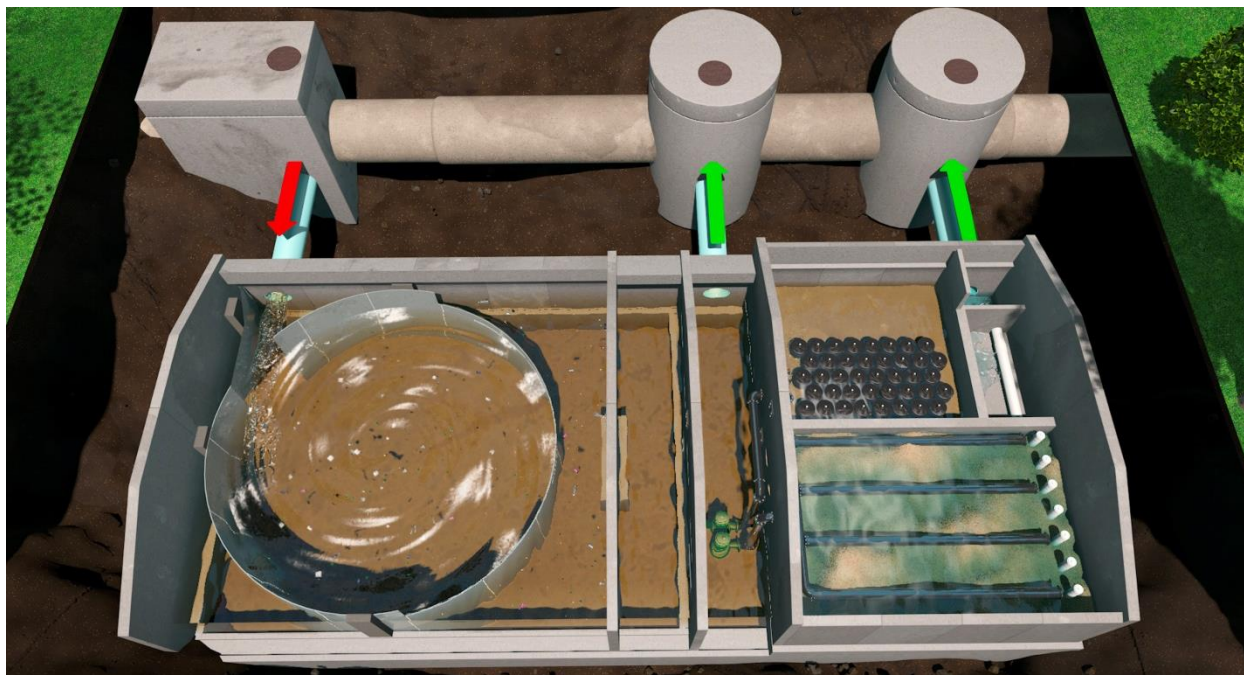


Figure 2. An illustration of the St. Anthony Regional Stormwater Treatment and Research System.

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 years 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.

2016 Implementation

The MWMO completed, entered into or continued agreements in 2016 or allocated capital funds for the following capital projects:

24th Avenue SE Infiltration Project

The City of Minneapolis Public Works 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.

Columbia Heights Public Library

The new Columbia Heights Library includes a number of visible stormwater features that will reduce pollution and help educate visitors. An MWMO grant funded the installation of several treatments, including permeable pavers, a tree trench and biofiltration basins with native plantings. The project also installed interpretive signs that illustrate how the stormwater features work, and that will be integrated pre-kindergarten curriculum. Completed in 2016, the site is designed for estimated annual removals of 2.79 pounds of total phosphorus and 581 pounds of total suspended solids.

Fridley Street Reconstruction

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 project is also creating new opportunities for stormwater education, as the city is partnering with residents on managing the raingardens and bioswales. This project was constructed in 2015, continuing in 2016, with estimated annual removals of 26.37 pounds of total phosphorus and 4,787 pounds of total suspended solids.

Harbor Freight Pond

This stormwater pond captures and temporarily stores runoff from more than 32 acres of mostly impervious land in and around the City of Hilltop. The MWMO funded a reconstruction of the pond, which drains through stormsewers into the nearby Mississippi River. The new design, which provides a deeper basin with retaining walls, adds storage capacity while also providing some filtration to remove pollutants. In addition to preventing flooding, the rebuilt pond captures an estimated 62 percent of sediment and 30 percent of phosphorus from the stormwater.

Hawthorne Eco-Village Apartments

As part of a four block housing redevelopment project, MWMO funding will be used to construct several methods of stormwater capture and treatment, including reuse for irrigation, creation of

an urban raingarden, and an underground filtration system. This project will be constructed in 2016 with estimated annual removals of 1 pound of total phosphorus and 364 pounds of total suspended solids.

Minneapolis Sculpture Garden

A new Minneapolis Sculpture Garden stormwater 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; onstruction 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 2016, 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.

Seward Commons

(aka 24th and Snelling)

As part of a larger City of Minneapolis street reconstruction project, MWMO funding will be used toward boulevard infiltration and filtration areas to remove 90 percent of total suspended solids from the runoff of its contributing watershed. Originally slated for construction in 2015, the project has been delayed until 2016.

St. Anthony Regional Stormwater Treatment and Research Facility

An estimated 169 million gallons of polluted stormwater runoff will be captured and cleaned each year by this underground treatment and research facility near St. Anthony Village. The facility will treat an area that covers approximately 600 heavily urbanized acres. The system uses a combination of technologies to remove an estimated annual average of 176 pounds of total phosphorus and 78,000 pounds of total suspended solids.

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 constructed in 2016 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.

Westminster Stormwater Reuse Demonstration Project

This 3,100-member church in downtown Minneapolis will install 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	2015	2016	2017
CIP Budget	\$2,480,000	\$3,205,000	\$2,500,000
24th Avenue SE Infiltration Project	--	--	--
Columbia Heights Public Library	--	\$600,000	--
Fridley Street Reconstruction	--	--	--
Hall's Island Reconstruction	--	--	--
Harbor Freight Pond	--	\$300,000	--
Hawthorne Eco-Village Apartments	--	--	--
Jackson Pond	\$795,000	--	--
LaBelle Park	\$236,000	--	--
Land Conservation – 1828 Marshall St NE	\$361,000	--	--
Land Conservation – BNSF Railway Parcels	\$60,000	--	--
Land Conservation – 30-31st Ave N, 3101 Pacific St, and 50-31st Ave N	\$500,000	--	--
Land Conservation – 1822 Marshall Street NE	\$131,500	--	--
Land Conservation – 4020 ½ Washington Ave N	--	\$500,000	--
Minneapolis Sculpture Garden	--	\$1,375,000	--
Northeast Green Campus, Phase II	\$630,000	--	--
Seward Commons	--	\$100,000	--
St. Anthony Regional Treatment Facility	\$55,000	\$1,515,000	--
Towerside District Stormwater System	\$300,000	\$920,000	--
Westminster Stormwater Reuse Demonstration Project	--	--	--

2017 Workplan

Projects were underway in 2016 that we will finalize and reimburse for in 2017. Those projects include NE Green Campus Phase II, 24th Avenue SE Infiltration Project, Hawthorne EcoVillage, and Fridley Street Reconstruction projects. New capital projects will get underway, including reconstructing and restoring Hall's Island in the Mississippi River, and demonstrating stormwater reuse within a building at Westminster Presbyterian Church.

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.

Communications and Outreach



Figure 3. Visitors and volunteers at Share the River Northeast in July 2016.

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

- Learn from and work with other groups and efforts.
- 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 and networks to 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 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
- Build support for MWMO efforts through grassroots initiatives
- Develop partnerships between the MWMO and communities

2016 Implementation

The MWMO carried out the following communications and outreach activities in 2016:

Children's Water Festival

MWMO staff assisted in planning and conducting the festival, a day-long learning event about water for fourth-graders, in September. The MWMO also staffed a water conservation station in the arcade where hundreds of pledges were made. The event was attended by one class from Learning for Leadership Charter School, two classes from Pratt School and three classes from Sullivan Elementary School. Schools are chosen by a lottery system, and only a limited number of classes from each of seven counties are invited.

Columbia Heights Outreach

Staff worked to identify target audiences in the city of Columbia Heights and learn more about where these residents' interests align most with the MWMO's in protecting water quality. This information will assist in planning future outreach work and resource development to meet their needs. Staff developed an educational coloring sheet for youth visiting the Columbia Heights Library to engage them in the onsite stormwater features and watershed education this MWMO-funded project provides. Members of the Mississippi River Green Team created a Somali translation of the coloring sheet to assist local residents using the library.

Communications Survey

In an effort to improve its communications products and activities, the MWMO launched an annual communications survey in 2016. The online survey (using SurveyMonkey) was sent out in February 2016 via the MWMO's email lists, social media channels, and MWMO employees' personal and professional networks. The survey asked respondents to provide information about what kinds of information they would like to receive from the MWMO, how they would like to receive information, and how the MWMO could improve its communications efforts. It also asked respondents to rank the MWMO's performance (using a Likert scale) in several different areas, and to provide basic demographic information indicating where the respondents live and what their role/relationship is to the MWMO. A total of 97 responses were received; follow-up surveys are planned annually. The MWMO intends to use the initial survey as a baseline of data with which to compare future survey results.

Community Outreach

The MWMO partnered on 40 community events, providing exhibits and/or activities for participants. More than 1400 visitors engaged with staff during these activities to learn about actions they could take to protect water quality and gain resources to empower them.

One action residents took was to make a bottle of eco-friendly cleaner to reduce harmful chemical use in their homes. More than 750 bottles of eco-friendly cleaners were made during 2016 events. To support the continued use of eco-friendly cleaners, refill stations are located in five locations in the watershed, including one at the MWMO community facility. A bean bag toss game was developed to teach children to keep pollutants out of stormdrains, and adults were asked to make a Salt Smart pledge to reduce their use of road salt. Print resources were also provided to offer seasonal tips for protecting water on residential properties.

The Mississippi River Green Team and MWMO interns were trained to staff the table at events, giving the youth and interns an opportunity to gain community outreach and public presentation skills.

In addition to participating in community-led events, MWMO staff met with 30 youth groups to facilitate other, youth-specific outreach events.

Outreach staff invited the general public to more than 33 events at the Stormwater Park and Learning Center. Events included educational tours, the "Share the River Nordeast" canoe experience, art circles for the "Putting Down Roots" exhibit, and topical programs on solar energy, pollinators, yard care, raingardens and proper use of salt as a deicer. Overall, more than 500 participants attended events at the site.

Document Templates

Following the launch of its new website in late March (see below), the MWMO rolled out new graphic standards and document templates for its staff. The goal is to allow MWMO staff to maintain consistent brand standards and to standardize the look and feel of MWMO documents, presentations and handouts. Professional designers were contracted to help create the new templates as well as a master graphic standards document. Staff were trained in-house on how to use the new templates.

Edison High School IB Biology

The MWMO worked with Edison High School during the spring to incorporate stormwater education into the classroom. The students analyzed the tree trench system in the school's parking lot as part of their Group 4 project for IB Biology. The students learned how water quantity and quality is monitored at the site. The site is designed to demonstrate to the students and the larger community the importance of managing stormwater runoff and its implications on an ecosystem.

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 a 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.

Hydro-Illuminata

Hydro-Illuminata was an interdisciplinary project that would intersect the science of watershed management with the craft and accessibility of public art to illuminate the theme of transformation in our lives. Four community arts engagement workshops hosted at different locations in the MWMO district saw 955 individuals involved and a cast-iron spectacle event produced at the MWMO Stormwater Park and Learning Center on the bank of the river saw approximately 300 attendees. The event was a culmination of the community dialogues that took place in the workshops, a celebration of the river and the elements, and an introduction of MWMO to many community members who had previously not been aware of the organization.

Joint Communications Planning

The MWMO continued its collaboration with Capitol Region Watershed District and Ramsey-Washington Metro Watershed District on communications planning projects in 2016. Principals

from each organization worked with consultants to develop a crisis communications plan that could be customized and adapted to meet the unique needs of each watershed. On Aug. 31, 2016, the three watersheds also held a media spokesperson training workshop for key staff. The training was held at CRWD's headquarters facility and was facilitated by experienced public relations and crisis communications consultants. These efforts successfully allowed the three watersheds to save money by spreading and sharing the cost of consulting work.

Master Water Stewards

The Master Water Stewards program is intended to increase knowledge and awareness of water quality and create a base of volunteers that are able and comfortable to work within their communities to affect change. In 2016 the first cohort of 14 Master Water Stewards finished the program at MWMO and a new cohort of 16 Master Water Steward trainees began their coursework. These Master Water Stewards are all residents of the MWMO and are expected to be active volunteers and community leaders on behalf of clean water.

Media Relations

The MWMO stepped up its media relations efforts in 2016, reflecting the recent addition of new MWMO staff, projects and programming. It distributed a total of six news releases to various local and regional newspapers, TV news organizations and radio stations. By year's end, MWMO staff counted 19 news articles that mentioned the MWMO by name and/or one of its projects or programs in 2016 (not counting press releases, blog posts and other communications materials from MWMO partners).

Mississippi River Green Team

This conservation-focused, youth employment program completed its ninth year. It involved 14-17 year-olds from North and Northeast Minneapolis in a two-year, mentored job experience. In 2016, the 20 team members planted native species of plants in Minneapolis, removed hundreds of pounds of invasive plants from city parks and continued a dragonfly monitoring protocol on the Mississippi River at multiple sites. Being on the team also provided the opportunity to learn about environmental careers and acquire new skills. The Mississippi River Green Team is a special environmental unit of Teen Teamworks. The program is made possible through a partnership between the MWMO and the Minneapolis Park and Recreation Board.

Newsletter

In 2016, the MWMO changed the frequency and format of its newsletter by switching to a monthly email newsletter. The new format launched in May 2016, leveraging the improved content capabilities of the redesigned MWMO website (see below). A total of eight issues were published/sent during the course of the year, featuring a variety of content including new blog posts, videos, news releases and upcoming events.

The MWMO counted 2,082 individual subscribers to its email newsletter list as of December 2016. The eight newsletters published during the course of the year had an average open rate of 23.25 percent and an average click rate of 6.05 percent.

Share the River Nordeast

The MWMO hosted Share the River Nordeast, one of three canoe events, 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 over 180 visitors. Attendees stopped by for a free introductory canoe ride on the Mississippi River and free ice cream! It was a family-friendly event great for kids and adults of all ages. In addition to learning to paddle on the river, participants also learned about the Mississippi River's history, water quality, plants, animals and more. All three canoe events were evaluated to learn about community use of the upper river for future planning.

Stormwater Park and Learning Center

The MWMO, in partnership with Nine Mile Creek Watershed District, developed and hosted *Putting Down Roots*, an artistic fiber representation of plants that are beneficial for clean water and habitat.

The MWMO was granted an Environmental Assistance Grant from the Minnesota Pollution Control Agency to host the Climate, Energy, and Community: What We Can Do exhibit through June 2017 at our Stormwater Park and Learning Center. Along with the exhibit, the MWMO will develop and deliver educational programming.

Photos and Videos

Photography and videography continue to be important tools for documenting and communicating the projects and activities of the MWMO. Most photo and video production is done in-house, but the MWMO also contracts out for professional photo and video services on occasion.

The MWMO catalogs its photos by adding keywords and other metadata and uploading them to Flickr, where they are available privately to staff. Selected photos are made public, and some are released on a Creative Commons license.

The MWMO published a total of 13 new videos in 2016 on YouTube and Facebook. These videos ranged from small features that were produced in-house to professional productions done by contractors. MWMO videos were viewed 7,492 times on Facebook (including 3,523 views that lasted longer than 10 seconds) and 5,086 times on YouTube in 2016.

In 2016, the MWMO also hired a Google Street View-certified photographer to create a 360-degree virtual tour of the MWMO's Stormwater Park and Learning Center. The tour includes both the interior and exterior of the building. It can be found both on the MWMO website and the MWMO's Google maps/business directory listing.

Professional Workshops and Trainings

The MWMO sponsored and facilitated trainings on turfgrass maintenance and winter maintenance with reduced environmental impacts. More than 130 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. In addition, the MWMO developed and hosted a professional development series for planners. There were two sessions during 2016 and a total of 18 participants from across the state of Minnesota.

Social Media

The MWMO maintained an active presence on Facebook, Instagram, Twitter, YouTube and LinkedIn in 2016. In all of these channels, MWMO saw consistent growth across the board in both number of followers and levels of engagement. Facebook is by far the most popular MWMO social media channel, followed by Twitter and the MWMO's newest social media channel, Instagram. The MWMO's LinkedIn page has shown consistent growth, but suffers from relatively low levels of engagement. On YouTube, the MWMO's subscriber growth is marginal (13 subscribers in 2016 vs. 11 in 2015), but video views grew by approximately 76 percent from 2015 to 2016.

Table 2. Snapshot of MWMO Social Media Followers

Year	Facebook	Twitter	LinkedIn	Instagram
2016	881	720	59	133
2015	556	511	23	N/A

Spark-Y Youth Interns

The MWMO partnered with Spark-Y Youth Action Labs to host three interns over the summer who designed and built an infiltration demonstration system for the MWMO Stormwater Park and Learning Center. The intent of the internships was to: 1) introduce real-world applications of sustainability, entrepreneurship, construction, science and math; and 2) increase job experience and environmental knowledge through local action.

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 3. Stewardship Fund Grants

Stewardship Fund Grants	2015*	2016	2017
Total no. awarded/no. proposed	22 (44)	23 (42)	--
Mini Grants (<i>Total; breakdown by season below</i>)	15 (32)	16 (29)	--
Spring	9 (17)	7 (14)	--
Summer	6 (15)	9 (15)	--
Planning Grants	6 (9)	3 (6)	--
Action Grants	1 (3)	4 (7)	--

**The 2015 Annual Activity and Financial Report contained a misprint in the table above. The 2015 data was inadvertently printed as 2014 data; the Stewardship Fund program did not award any grants that year. This chart corrects that error.*

Sustainable Communities Partnership with University of St. Thomas

MWMO partnered with the University of St. Thomas as part of the Sustainable Communities Partnership, which develops partnerships with cities and government entities to integrate real-world projects into existing UST courses across disciplines. In 2016, MWMO partnered with UST faculty and students on seven different projects ranging from creating a K-12 curriculum on stormwater BMPs to examining land use scenarios for vacant lots to recommending best practices for communicating with volunteers.

Watershed Partners

Watershed Partners, also known as Clean Water Minnesota, is a collaborative outreach effort among Twin Cities metropolitan area watersheds. In 2016, the group began implementation of a three-year strategic communications plan designed to provide member organizations with new outreach and communication tools. These will come in the form of a new cleanwatermn.org website and content for blogs and newsletters (year one); a toolkit for organizing community clean-up events (year two); and a metro-wide rollout of the Adopt-A-Drain program (year three). The MWMO supported the program in 2016 with a \$5,000 contribution, which helped fund the creation of a new website, blog posts, photos and graphics. The new content has been incorporated into MWMO email newsletter and social media posts.

Website

The MWMO completed a major website redesign in 2016. The project, which began in November 2015, addressed a number of critical shortcomings in the old MWMO website. Key features of the new site include improved navigation, a mobile-friendly design, a content management system (WordPress), and accessibility features for users with disabilities. In addition, MWMO staff developed a large amount of new content for the site, including project pages, blog posts, “Stormwater 101” educational features and more.

Table 4. MWMO Web Traffic Comparison — Before and After Website Redesign

Year (April–Dec.)	Avg. Monthly Sessions	Avg. Monthly Users	Avg. Monthly Pageviews	Avg. Session Duration
2016	2,854	1,688	7,895	3:23
2015	1,351	812	3,895	2:28

The new website launched March 24, 2016. From April through December 2016, website traffic more than doubled over the same period from 2015. Growth in mobile traffic was particularly strong, with an increase of 239.27 percent in smartphone users and 149.88 percent in tablet users.

Table 5. Communications and Outreach Implementation

Implementation Table	2015	2016	2017
Communications, Outreach and Stewardship Fund Budget	\$150,000	\$250,000	\$250,000
Stormwater Park and Learning Center	\$161,770	35,174	
Children’s Water Festival	\$100	\$600	
Graphic Design and Photography	--	\$9,558	
Greening Teen Teamworks	\$15,990	\$8,000	
Hydro-Illuminata	--	\$16,000	
Joint Communications Planning	\$7,444	\$4,500	
Mississippi River Green Team	\$12,160	\$22,000	
Neighborhood and Community Outreach	\$1,680	\$2,800	
Professional workshops and trainings	\$3,800	\$11,547	
Share the River Nordeast	--	\$15,000	
Spark-Y Youth Action Labs	\$2,800	\$2,600	
Stewardship Fund Action Grants	\$50,000	\$95,000	
Stewardship Fund Mini Grants	\$22,610	\$29,097	
Stewardship Fund Planning Grants	\$30,740	\$28,500	
Three Rivers Park District	\$5,640	--	
Video Production	\$21,140	\$16,057	
Watershed Partners		\$5,000	
Website	\$6,150	\$47,031	
Workshops for local officials, policymakers and community leaders	\$3,500	--	

2017 Workplan

- Columbia Heights outreach will continue into 2016 to assist the MWMO in planning messaging that engages various Columbia Heights audiences in clean water activities.
- 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.
- The MWMO will continue to fund Stewardship Fund Mini Grants, Planning Grants and Action Grants.
- New Citizen Advisory Committee members will be trained and supported through upcoming Planning and Action Grant reviews as they learn their role.
- A new framework for welcoming community volunteers will be implemented in 2017. Applicants will be engaged as their talents and skills align with MWMO work. They can also sign up for news about partners' volunteer opportunities.
- 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 Mississippi River Green Team will enter its tenth year, with expanded support and partnerships. To celebrate the tenth year, a summer reunion will take place.
- The MWMO will work to strengthen youth outreach and education within MWMO activity areas and create place-based stewards of water resources.
- MWMO will work with the University of St. Thomas for their Sustainable Communities Partnership program.
- The MWMO will work with web developers to continue improving the usability and functionality of its website.
- The MWMO will switch from MailChimp to GovDelivery/Granicus as its new email marketing provider. Under the new system, subscribers will be offered a number of choices to customize

the email notifications they receive from the MWMO. Email signups will also be fully integrated into the MWMO's website.

- The MWMO will refine and continue implementing its content strategy using blog posts, email campaigns and social media outreach to reach key audiences with MWMO stories and messaging.
- The MWMO will continue to participate in the development of a planned metro-wide communications campaign led by Watershed Partners. The effort will engage homeowners on best practices to prevent pollution from stormwater runoff.
- The MWMO's annual communications survey will be continued to help gauge strengths, weaknesses and opportunities for the MWMO's communications and outreach initiatives.
- The MWMO will develop a series of graphics illustrating stormwater BMPs. The graphics will be packaged into a booklet designed to help educate homeowners, and will also be made available to partners for purposes such as interpretive signage.

Monitoring



Figure 4. MWMO monitoring team staff inspect equipment in a stormwater outfall in June 2016.

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., best-management-practice performance data).
- Develop emergency monitoring plan in case of emergencies affecting water resources.

2016 Implementation

In 2016, new monitoring initiatives included instrumentation of newly installed stormwater best management practices (BMP) with monitoring equipment to assess the efficacy of each BMP at removing pollutants from stormwater. MWMO monitoring staff also completed biological sampling at the Kasota Ponds wetlands and contracted with the Anoka Conservation District to conduct water quality sampling at Sullivan and Highland Lakes. A new research study was undertaken in partnership with the University of Minnesota Bioproducts and Biosystems Engineering department to investigate the water quality of runoff from four types of impervious surfaces in downtown Minneapolis.

The following is a list of work plan accomplishments for the year 2016:

- Completed the 2015 Annual Monitoring Report.

- Installed monitoring equipment in the St. Anthony Regional Stormwater Treatment and Research System.
- Supported the Capital Improvement Project Implementation team to manage the contract for monitoring equipment and systems installation and setup at the Edison High School Green Campus stormwater harvesting and reuse project.
- Collaborated with Stantec to monitor the flow and water quality of the stormwater flow to tree treatment project for the Edison High School Green Campus.
- Supported the MWMO and City of Minneapolis' hydrologic and hydraulic (H and H) modeling effort by collecting flow data from two subwatersheds in three cities (Bridal Veil Falls in Minneapolis and 11CHF in Fridley and Columbia Heights).
- Implemented Kister's WISKI database for greater efficiency in data management and optimization of monitoring data for analysis.
- Conducted the second biological survey of the Kasota Ponds wetlands which occurs on a five year cycle.
- Installed erosion measurement pins and scour chains to assess the stream bank erosion potential at the Nicollet Island restoration project.
- Developed project objectives, solicited proposals, received approval from the board for, and signed an agreement with the University of Minnesota Department of Bioproducts and Biosystems Engineering (BBE) to study the runoff from four types of impervious surfaces in downtown Minneapolis.
- Organized an Erosion Control Inspection and Installation course for MWMO staff and City of Minneapolis Erosion Control interns.
- Installed a flow logger in the MWMO's Stormwater Park and Learning Center to monitor the surface runoff volume from the parking lot.
- Worked collaboratively with faculty, staff, and students from the University of Minnesota BBE department to assist with field work to install monitoring equipment for multiple projects.
- Collected precipitation data from eight locations using five heated precipitation gauges, two non-heated gauges, and an additional non-heated gauge operated by citizen volunteers.
- Continuously monitored five stormwater outfalls with automated samplers.
- Sampled the Mississippi River at eight locations for water quality analysis.
- Completed monthly monitoring of the Kasota Ponds wetlands in St. Paul.

- Collected bathymetric data from the Mississippi river covering an area from Lock and Dam No. 1 to the CPR Bridge just downstream from the 42nd Ave N Bridge.
- Prepared and signed a professional services agreement with the City of Minneapolis Health Department staff to enhance their erosion and sediment control inspections program.
- Prepared and signed a professional services agreement with Anoka Conservation District to coordinate water quality and water level monitoring for Sullivan Lake and Highland Lake.
- Collaborated with the City of Minneapolis on their illicit discharge monitoring program and spill response activities.
- Shared MWMO data through the MPCA's EQuIS database, the MWMO's annual monitoring report and data requests.
- Continued to work with partner water quality monitoring staff to collaborate on monitoring work and confined space entry training.

Details for the monitoring program and data results are provided in the MWMO's 2016 Annual Monitoring Report, which is available on the MWMO's website at mwmo.org. For more detailed information on this program, please contact MWMO Water Resources Director Udai Singh.

Table 6. Water Quality Monitoring Implementation

Implementation Table	2015	2016	2017
Monitoring Budget	\$140,000	\$150,000	\$150,000
Bathymetry Project	--	\$925	--
Data Management Software	--	\$35,500	
St. Anthony Regional Treatment Monitoring	--	\$67,200	--
Minneapolis Illicit Discharge Monitoring	\$478	\$828	--
Laboratory Analysis	\$114,952	\$116,475	--
Sampling Equipment	\$18,097	\$14,700	--
Monitoring Related Training	\$509	\$8,500	--
Real-time Data Management project Agreement with SAFL	\$13,331	\$35,700	--

2017 Workplan

The 2017 work plan for the MWMO's monitoring program includes:

New Monitoring Initiatives for 2017

- Conduct bathymetric mapping of the Kasota Pond wetlands.
- Provide continuous automated water monitoring at the St. Anthony Regional Stormwater Treatment and Research System to provide water quality and quantity data to evaluate the effectiveness of the system's innovative treatment technologies.
- Provide water quantity and quality monitoring assistance at the Edison High School Green Campus Stormwater Harvest and Reuse project.
- Monitor the MWMO Stormwater Park and Learning Center's outdoor BMPs to determine the effectiveness of the filter media and use the instrumented facility for research, education and outreach.
- Design, build and install a weir and level logger in the outlet of a newly constructed storage, treatment and reuse facility to monitor the overflow volumes to the University of Minnesota's stormwater pipe network.

Ongoing Monitoring Efforts

- Complete the 2016 Annual Monitoring Report.
- Work with the MWMO member cities to assess their monitoring needs and assist in developing additional monitoring plans for stormwater monitoring and lake monitoring.
- Look for opportunities to expand the precipitation monitoring network using heated precipitation gauges and citizen precipitation recorders.
- Continuously monitor five stormwater outfalls using automated samplers. The 2NNBC site will be monitored by grab sampling when there is positive flow from the tunnel to the river. The 7LSTU site will be monitored by grab sampling depending on the presence of tailwater in the outfall.
- Monthly monitoring of the Kasota Ponds wetlands in St. Paul.
- Collection and submittal of biweekly *E. coli* data from seven rivers sites and five stormwater sites to the MPCA.
- Support the MWMO and City of Minneapolis's H and H modeling effort by collecting flow data in targeted pipesheds.
- Continue development of monitoring protocols for the Mississippi River.

- Water quality sampling and data collection at eight Mississippi River sites.
- Finalize Mississippi River bathymetric data from 2014-2016 and collect additional bathymetry data.
- Calculate pollutant loading for stormwater outfalls.
- Work with the MPCA on the Upper Mississippi River Bacteria TMDL Project and the Twin Cities Metro Area Chloride Project.
- Work with the City of Minneapolis Health Department staff to enhance their erosion and sediment control inspections program.
- Collaborate with Stantec to monitor the flow and water quality of the stormwater flow to tree treatment project for the Edison High School Green Campus.
- Share MWMO data through the MPCA's EQulS database, the MWMO's annual monitoring report, and data requests.

Planning



Figure 5. A master planning workshop for the Prospect North Partnership in April 2017.

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 MWMO 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.

2016 Implementation

The MWMO completed, continued or began the following Planning initiatives in 2016:

- The Minneapolis Park and Recreation Board's Ecological System was put on hold most of 2016 due to the reorganization of MPRB staff, and the current contract was closed out. Towards the end of 2016, MWMO and MPRB staff met to discuss a restart of this project in 2017.
- Initially a part of the Prospect North Partnership stormwater planning in 2015, the Towerside District Stormwater System after-action report was closed out and a new contract was started as a Watershed Assessment project in 2016.
- The MWMO completed a capital schedule amendment in its Watershed Management Plan and met with member organizations on the content of their LWMPs.
- The MWMO 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 7. Planning Implementation

Implementation Table	2015	2016	2017
Planning Budget	\$55,000	\$50,000	\$50,000
2015 Plan Amendment	\$9,770	Closed	
Prospect North Partnership Stormwater Planning	\$27,800	Closed	
Ecological Services Plan	\$14,590	\$11,183	
Freshwater Society Snow and Ice Policy Project	--	\$3,000	

2017 Workplan

In 2017 the MWMO will be participating in advisory group meetings for the Minneapolis Park and Recreation Board's Ecological System Plan; completing required 8410 revisions to its Watershed Management Plan; start a Phase II District Stormwater initiative in the Towerside Innovation District; and continuing meeting with member organizations on the content of their LWMPs.

Watershed Assessment



Figure 6. MWMO monitoring team staff observing the Nicollet Island riverbank in May 2016.

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.

2016 Implementation

The MWMO completed, continued or began the following watershed assessments in 2016:

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 S. Results of the work show that stormwater management may be possible on select blocks along 5th Street, if utility conflicts can be avoided.

Analysis of Runoff from Impervious Surfaces Study

The runoff response of urban watershed 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. Analysis of runoff from impervious surfaces study project was undertaken in 2016. The project goals are to gather and analyze data for impervious surfaces important for managing highly urbanized stormwater. The specific objectives are:

1. to collect and analyze runoff and water quality characteristics of streets in Minneapolis, Minn.;
2. to collect and analyze runoff and water quality characteristics of parking lots in Minneapolis, Minn.;
3. to collect and analyze runoff and water quality characteristics of rooftops in Minneapolis, Minn.; and
4. to collect and analyze runoff and water quality characteristics of sidewalks in Minneapolis, Minn.

Integrated Utility Hub Study

In December 2016, the MWMO started this study to clearly define water’s role within a restorative urban development model, provide an overview of how to realize restorative city goals through an Integrated Utility Hub/System (IUH/S) approach, offer preliminary IUH/S performance modeling, siting and cost-benefit analysis, and customize these findings to the MWMO’s unique conditions.

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. Expected to be completed in 2017, the Lincoln Playground feasibility study will evaluate 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 Water Reuse and Water Quality Improvement Project Feasibility Study

The Old Bassett Creek Tunnel Water Reuse and Water Quality Improvement Project Feasibility Study was undertaken in 2015 to assess the potential for the Old Bassett Creek Tunnel to serve as a stormwater storage, treatment and reuse facility. A secondary objective of the study was to evaluate the feasibility of removing the sediments already settled in the tunnel and the need for structural improvements that include design, construction and maintenance costs for the subsequent removal of sediments settled in the tunnel. The study was completed in 2016.

Towerside District Stormwater After-Action Report

Initially apart of Prospect North Partnership Stormwater Planning in 2015 (see planning section) the Towerside District Stormwater Report was closed out and a new contract was started as a Watershed Assessment project in 2016. Information gathering and an outline of the report was completed in 2016. This report is intended to support similar projects in the future by providing a record of lessons learned during the planning and construction of the Towerside District Stormwater System.

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 2016.

- 11CHF Watershed: a 2,057-acre watershed containing portions of southern Fridley, Hilltop and portions of Columbia Heights.

- S NE Minneapolis Watershed: a 1,668-acre watershed in the southern portion of Northeast Minneapolis. The MWMO created a water quality model for the area.
- 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.
- North Minneapolis Region: a 7,500-acre portion of North Minneapolis. The MWMO is working with the City of Minneapolis to create an H&H model of this area.
- 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.

Westminster Reuse Feasibility Study

Completed in 2016, staff worked with designers at Westminster Presbyterian Church to determine the potential to reuse stormwater within a new addition to the church. The feasibility study evaluated options and adequately sized tanks and infrastructure to reuse stormwater for uses within the building, irrigation of plantings, and for a stormwater reuse demonstration fountain in a highly visible public plaza.

Table 8. Watershed Assessment Implementation

Implementation Table	2015	2016	2017
Watershed Assessment and Research Program Budget	\$290,000	\$800,000	\$775,000
5th Street South Pilot Greening Project Feasibility Study	--	\$12,450	--
Analysis of Runoff from Impervious Surfaces Study	--	\$47,178	--
Baseflow Restoration in Minnehaha Creek Watershed	\$15,960	--	--
Green Fourth Feasibility Study	\$36,000	--	--
Green Fourth Report	\$4,910	--	--
H&H and Water Quality Modeling - 11CHF Watershed	\$135,406	\$71,210	--
H&H and Water Quality Modeling - 1NE Watershed	\$33,160	--	--
H&H Modeling - Northern Tributary to the Northern Inlet of the 35W Tunnel	--	--	--
H&H Modeling - S NE Minneapolis	--	\$125,290	--
Harbor Freight Pond Feasibility Study	\$15,000	--	--
Integrated Utility Hub Study	--	--	--
Jackson Pond Feasibility Study	\$14,000	--	--
Lincoln School Playground Stormwater Feasibility	--	\$6,000	--
MWMO Potential Limitations to Infiltration	\$2,635	--	--
New Cities Expansion: Supplemental Historic Waters Study	\$2,695	--	--
Nicollet Island Feasibility Study	\$9,700	--	--
Nicollet Island Upland Restoration Plan	--	--	\$2,800
North Minneapolis H&H Modeling	--	--	--
Old Bassett Creek Tunnel Condition's Assessment, Clean Out Plan, and Structural Integrity Study	--	--	\$105,000
Old Bassett Creek Tunnel-Water Reuse and Water Quality Improvement Project Feasibility Study	\$15,959	\$4,040	--
Towerside District Stormwater After-Action Report	--	\$5,630	--
Westminster Stormwater Reuse Feasibility Study	--	\$23,850	--

2017 Workplan

In 2017 the MWMO will complete Towerside District Stormwater Report. This report will add to the stormwater guidelines currently used to guide redevelopment in Towerside, the MSP Innovation District, and offer insight into ways to improve the planning and implementation processes associated with its district systems approach. The MWMO will complete the Integrated Utility Hub Study and use its findings to inform related projects in Towerside and other areas of the MWMO.

The MWMO will continue work on the H&H and water quality modeling projects that are underway and plans to start working in at least two additional watersheds in 2017. The MWMO will also continue sponsoring feasibility studies to explore the feasibility and potential benefit of capital projects, as needed.

In 2015, the MWMO completed a study of the need for riverbank stabilization along the northwest side of Nicollet Island. In 2017, MWMO will be working with Friends of the Mississippi River to develop an upland stabilization plan for the island. MWMO staff are also monitoring the elevation flux of the bench, the horizontal flux of the bank, and the spatial stability of the channel and the bench adjacent to the island's toe. This upland restoration plan will be developed to complement what happens with future planning of the water's edge. This may include rip rap or bioengineering techniques. This plan development will also include community meetings to get residents input, as well as long term maintenance and management techniques.

In 2016, MWMO conducted the Old Bassett Creek Tunnel (OBCT) Water Reuse and Water Quality Improvement Project Feasibility Study to assess the potential of using this enclosed and engineered 'creek' as a stormwater storage, treatment and reuse facility. With the results of this study showing potential for increased localized flooding if the OBCT was used for this purpose, MWMO decided to focus in a different direction for the future use of the existing infrastructure in 2017. MWMO will continue analysis of the OBCT with a Condition's Assessment, Clean Out Plan, and Structural Integrity Study. In a continued partnership between the MWMO and the City of Minneapolis, the new study will focus on 3 major goals: 1) identify immediate or future maintenance or reconstruction needs within the tunnel; 2) further investigate opportunities to remove the sediments and debris deposited in OBCT; and 3) investigate the integrity of the tunnel to allow for future structural modifications. At the end of the study, MWMO hopes to have a plan of direction forward to cost effectively remove historically accumulated sediment within the tunnel, as well as maintain the tunnel condition and sediment removal onwards.

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, 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 15
- 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 9. MWMO Budget

2016 Budget	
Projects & Initiatives	\$4,000,000
Administration	\$1,645,000
Subtotal Budget	\$5,645,000
Contingency 1.0% (Uncollected Levy)	\$55,000
Total Budget	\$5,700,000
Projects	\$2,500,000
Special Projects/H2O Conservation/Greening Projects	\$0
Regional/District Improvements WQLTY&WGNTY H&H	\$1,320,000
Land Conservation Projects	\$0
MWMO Building Addition	\$100,000
Eco Village	\$80,000
Harbor Freight Pond	\$300,000
Fridley Street Reconstruction	\$450,000
Emergency Project	\$150,000
CIP & Exhibit Maintenance & Replacement Schedule Fund	\$100,000
Initiatives	\$1,500,000
Communications & Outreach	\$250,000
Planning	\$50,000
Monitoring	\$150,000
Watershed Assessments (Research, Hydrologic & Hydraulic Studies)	\$800,000
Stewardship Grant Fund	\$250,000
Administration	\$1,645,000
Staff Salary and Benefits	\$1,350,000
Commissioner Expenses	\$0
Rent, Office Administration, Equipment, and Supplies	\$110,000
Service Providers - Legal, Engineering, IT, HR, Auditor, Accounting	\$185,000
Operating Reserve	\$0

Line items in the 2016 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 2016 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.

District 072 - Middle Mississippi River Watershed Management Organization			
Certification of Apportioned Levies			
Payable 2016			
<i>(1) Payable 2016 Property Tax Levy</i>		<u>\$ 5,700,000</u>	
County	(2) Payable 2015 Taxable Net Tax Capacity	(3) Net Tax Capacity Percent Distribution	(4) Apportioned Payable 2016 Levy (1x3)
ANOKA COUNTY	\$ 15,912,817	7.1436%	\$ 407,186
HENNEPIN COUNTY	\$ 205,589,021	92.2934%	\$ 5,260,726
RAMSEY COUNTY	\$ 1,254,000	0.5629%	\$ 32,088
WATERSHED TOTAL	\$ 222,755,838	100.00%	\$ 5,700,000