



2019

PUBLIC
ANNUAL
REPORT

RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT



14

10

16

FEATURES

INTRO

Message from the Administrator.... 1

OVERVIEW

The Watershed 4-5

Table of Contents

Staff & Board 2-3

RWMWD Boundary Map 4

2019 Projects 6

Education & Outreach..... 8-11

Natural Resources..... 12

Water Quality 14

Recognition & Awards..... 16

By the Numbers 17

Financial Report Breakdown..... 18

LETTER FROM THE ADMINISTRATOR

Quality Water for Quality Life.

Ramsey Washington Metro Watershed District has been working to preserve and improve water resources and their ecosystems in the eastern Twin Cities metro for 45 years. In that time, we have seen several shifts in the watershed we serve and have evolved to face those new challenges. Water quality monitoring, flood risk management, habitat restoration, and community education have all been vital tools to address the changing needs of the watershed as we see changes in our climate. **The past few years have logged record-breaking precipitation levels, and local climatologists indicate this is part of a long-term trend of wetter weather for the Metro area.**

Our partnerships with cities and counties within the watershed are crucial to administering best practices and addressing the watershed’s evolving needs. RWMWD staff worked closely with cities in preparation for the Spring 2019 season, providing technical support and modeling to predict the impact on local infrastructure and homes so that the municipalities could plan a strategic response to potential flooding. We also worked closely with Ramsey County Parks on the Vadnais Snail Lake Regional Park wetland restoration and the Snail Lake beach area.

We couldn’t do this work without our resident partners who complete projects through our stewardship grant fund program, master water stewards who assist with education and community projects, or those taking steps to care for the watershed on their properties. I invite you to invest in our local water resources by learning more about RWMWD today and then engaging with us at future events, meetings, or volunteer opportunities.

Tina Carstens
Administrator



ARE YOU LOOKING TO BE A PART OF YOUR LOCAL WATERSHED? (651) 792-7950 FOR MORE INFORMATION

2019 STAFF & PARTICIPANTS

Watershed Staff,
Board Members
& CAC Advocates



RWMWD BOARD

Cliff Aichinger
Marj Ebensteiner
Pam Skinner

Larry Swope
Dianne Ward

2019 CITIZEN ADVISORY
COMMITTEE MEMBERS

Cliff Aichinger
Jill Danner
Randee Edmundson
Hallie Finucane
Mark Gernes
Jennifer Gruetzman
Michele Hanson
Kathryn Keefer
Dana Larsen-Ramsay
Dennis McComas
Linda Neilson
Scott Ramsay
Karen Wold

STAFF LIAISONS:

Carrie Magnuson
Sage Passi



Tina Carstens
ADMINISTRATOR



Paige Ahlborg
WATERSHED
PROJECT MANAGER



Debbie Barnes
DISTRICT SECRETARY



Bill Bartodziej
NATURAL RESOURCES
SPECIALIST



Simba Blood
NATURAL RESOURCES
TECHNICIAN



Matt Doneaux
NATURAL RESOURCES
TECHNICIAN



Mary Fitzgerald
DISTRICT INSPECTOR



Lauren Hazenson
COMMUNICATIONS
COORDINATOR



Eric Korte
WATER MONITORING
COORDINATOR



Carrie Magnuson
GIS TECHNICIAN



Shelly Melser
OFFICE MANAGER



Sage Passi
WATERSHED EDUCATION
SPECIALIST



Lyndsey Provos
WATER TECHNICIAN



Nicole Soderstrom
PERMIT COORDINATOR



Dave Vlasin
WATERSHED PROJECT
COORDINATOR



2665 NOEL DRIVE
LITTLE CANADA, MN 55117

RWMWD Offices



RAMSEY-WASHINGTON METRO WATERSHED DISTRICT

OUR MISSION

To **PRESERVE** and **IMPROVE** water resources and related ecosystems to **SUSTAIN** their long-term health & integrity and **CONTRIBUTE** to the well-being and engagement of stakeholders within the community.

OUR BACKGROUND

Ramsey Washington Metro Watershed District works across municipal boundaries to manage about 65 square miles that eventually drain into the Mississippi River, including 20 lakes, five streams and over 1,000 wetlands.

We contribute funding and technical expertise to water infrastructure projects, help regulate development through permitting, manage natural resources and educate the public on watershed issues. As a special-purpose unit of government, we were established in 1975 under what is now the Minnesota Watershed Act. This provides planning, regulatory and taxing authority to coordinate watershed management efforts between city, county and state agencies.

OUR DISTRICT

ARDEN HILLS

NORTH OAKS

WHITE
BEAR TWP

DELLWOOD

GRANT

MAHTOMEDI

STILLWATER

BAYPORT

LAKELAND SHORES

ST. MARY'S POINT

AFTON

WOODBURY

NEWPORT

SOUTH
ST. PAUL

ST. PAUL

LANDFALL

LAKE ELMO

OAKDALE

MAPLEWOOD

NORTH ST. PAUL

PINE SPRINGS

GEM LAKE

VADNAIS
HEIGHTS

SHOREVIEW

LITTLE CANADA

WHITE BEAR LAKE

ROSEVILLE

FALCON HEIGHTS

RWMWD Boundaries & 2019 Projects

- Stewardship Grants
- Targeted Retrofit Projects
- Capital Improvement Projects (CIPs)

LOCATIONS

- 1 | Aldrich Arena
- 2 | Concordia Arms
- 3 | Cornerstone Montessori
- 4 | Flood Risk Reduction Fund
- 5 | Maplewood YMCA
- 6 | Markham Pond Aeration
- 7 | North Park & Pathways Townhome Associations
- 8 | Redeemer Lutheran White Bear Lake
- 9 | Wakefield Park Stormwater Project
- 10 | Willow Pond CMAC

20
LAKES

1,000+
WETLANDS

65
SQ. MILES

5
STREAMS

2019 Projects

Both Capital Improvement Projects and the Stewardship Grant Program work in concert to create resilient, effective, and long-lasting solutions to water quantity, flood risk, and ecological concerns in the watershed.

Capital Improvement Projects, including targeted retrofits, are large scale measures to manage flood risk and improve water quality and comprise the majority of the RWMWD budget. They include outlet control structures, stormwater treatment systems, and other infrastructure improvements. Also included in this category are long term feasibility studies such as the Beltline Resiliency Study. This report evaluates system-level flood risk reduction options to actively manage stormwater runoff from flood-prone areas tributary to the Beltline storm sewer.

The Stewardship Grant Program offers financial, educational, and technical assistance to protect and improve water resources within our watershed. These grant funds are available to public or private landowners for projects designed to filter and reduce runoff, protect groundwater, restore native ecosystems, prevent flooding, and lessen the effects of drought.



CORNERSTONE MONTESSORI
This shoreline restoration project is located at a pond near the play area of Cornerstone Montessori in St. Paul. This area is used by students daily for outdoor play and classroom activities. The slopes of the pond were experiencing severe erosion. RWMWD worked with the staff of Cornerstone Montessori to develop a plan to install native plants to make the area more usable and educational for the students as well as prevent erosion.

REDEEMER LUTHERAN CHURCH
Redeemer Lutheran Church in White Bear Lake partnered with RWMWD to install two extensive rain gardens to treat street, parking lot, and roof runoff as well as incorporate native plantings to help filter runoff before it drains into Willow Creek. The church also incorporated project updates in their weekly bulletins and held educational discussions during their coffee hours to promote the benefits of the rain gardens.

ALDRICH ARENA
Aldrich Arena is a facility used year-round for various activities, including hockey, concerts, and farmers’ markets. In 2019 Ramsey County

Parks and Recreation (RCPR) made many improvements to the facility. As part of the project, they worked with RWMWD to remove more than 45,000 square feet of asphalt parking lot and turn those areas into rain gardens. These rain gardens intercept and filter rainwater runoff that drains into Wakefield Lake. RWMWD and RCPR plan to incorporate signage and education opportunities into the project.

WAKEFIELD PARK
In 2019 the City of Maplewood reconstructed Frost Avenue to narrow it to 38 feet wide and add sidewalks. RWMWD, along with a Clean Water Fund grant, funded the installation of two large filtration basins that treat stormwater runoff from Frost Avenue before it enters Wakefield Lake. Public art, a bridge, and sitting stones are incorporated into the project to increase public enjoyment of the native plantings in the filtration basins.

MARKHAM POND AERATION
Winter fish kill can occur when a lake or pond is completely covered with ice and snow, cutting off oxygen from the fish below. When this happens, sometimes the fish cannot get enough oxygen and die.

“
Without the Stewardship Program, improvements to Frost Ave and Wakefield Park would not have been possible... Features such as large infiltration basins, native plantings, and street width reductions (50% reduction!) would not have happened without this valuable partnership

”
JON JAROSCH (CITY OF MAPLEWOOD)
Wakefield Lake/Frost Avenue Project

RWMWD installed an aeration system at Markham Pond to provide regular oxygen supply to bluegill sunfish and largemouth bass during winter months. This project is part of greater efforts to remove carp from the Phalen Lake Chain and support naturally occurring aquatic life.



WILLOW POND SPENT LIME FILTER
The spent lime filter takes in intermittent flow from Willow Pond in Roseville through the use of Continuous Monitoring and Adaptive Control (CMAC) technology. The completed project will remove phosphorus to benefit Bennett Lake.

GRASS LAKE, SNAIL LAKE, AND WEST VADNAIS LAKE
RWMWD in partnership with the City of Shoreview and Ramsey County worked to manage the risk of flooding to structures and roads in this area. Projects included berm improvements, improved overflow areas, and the pedestrian tunnel barrier. Known as the “stop-log” project, this barrier keeps water from moving into wetlands on the north side of the road near the tunnel. The stop-log will help alleviate pressure

on local groundwater levels in the Crestview Addition, which is of concern to that nearby neighborhood. The overflow from Snail Lake was also changed from a path heading towards the Crestview Addition to Wetland A, where it would not impact structures. Berm improvements and an improved overflow were completed to direct water to lower areas northeast of Grass Lake.

TWIN LAKE
RWMWD worked with the City of Little Canada to provide technical assistance regarding rising water levels on Twin Lake. Staff coordinated with the City on obtaining a permit to pump water from Twin Lake into the MnDOT system, which would provide relief to homes at potential risk of flooding.

INVOLVING LOCAL YOUTH TO IMPROVE & PROTECT

RWMWD'S EDUCATION AND OUTREACH PROGRAMS FOCUS ON INFORMING AND EMPOWERING THE COMMUNITY TO IMPROVE AND PROTECT THEIR WATERSHED THROUGH BEST MANAGEMENT PRACTICES, SUSTAINABLE LANDSCAPING, AND ECOLOGICAL RESTORATION, REDUCTION OF POLLUTION, SMART SALTING, AND CONSERVATION OF GROUNDWATER RESOURCES.

In 2019 RWMWD involved 1650 youth in watershed-based projects and outreach activities in the cities of St. Paul, Roseville, Maplewood, Shoreview, and North St. Paul. These activities focused on water pollution, groundwater resources, stormwater management, water quality monitoring, and clean-ups in wetlands, resilient lawns, habitat and shoreline restoration. We also worked with

768 youth in 26 classrooms at five schools to grow native plants.

Our key partners in this work were 59 classes at 16 schools and five youth groups, including the St. Paul-based Boys and Girls Club leadership team, Urban Roots, an East St. Paul Church youth collaboration with three churches, 3 Jr. ROTC teams at Johnson, Arlington and Harding High Schools in St. Paul, and 75 youth in Summer YMCA programs held at Lake Phalen in St. Paul.

Lionsgate Academy

Lionsgate Academy in Shoreview was our first opportunity to work with a school that has a program designed to address the unique learning needs of students on the autism spectrum or with other learning differences. A large area of the school's asphalt parking lot was removed and replaced with a large-scale rain garden. Adjacent to it, the school installed a 9000 square foot playing area containing an alternative turf seed mix. They then added a 4000 square foot native plant bed around the periphery of the playing area. RWMWD was an active partner and funder throughout the process.

Students observed the progress of the watershed projects on the site, studied water quality issues, practiced using water testing equipment, and explored maps to see how water from the school flowed from their campus to the Mississippi River. As a culminating activity at the end of the school year, students worked with 6 Master Gardeners, watershed staff and teachers to plant the rain garden.

Snail Lake Restoration - Wetland A

RWMWD recruited over 300 students from five schools to participate in planting 1000 linear feet of the shoreline buffer in Snail Lake Regional Park in Shoreview. Fifteen



Master Gardeners and three Master Naturalists assisted the students in this large-scale restoration project.

Collaboration with Master Gardeners and Master Naturalists

Our educational programs with youth and residents in our watershed are supported by the dedicated engagement of a group of Ramsey and Washington County Master Gardeners and Master Naturalists. This Master Gardener program collaboration has been growing since 2004. In 2019 thirty-eight Master Gardeners and three Master Naturalists were involved in our native seedling growing operation with 26 classes at five schools. Six of these volunteers assisted us with our Lionsgate Academy rain garden project, and eighteen of these volunteers helped twelve classes with our shoreline restoration project at Snail Lake Regional Park.

Master Water Stewards

Six new Master Water Stewards

joined the team in 2019, bringing the total active volunteers to 24. As part of their certification this year, one worked on a capstone project that provided rain barrel education for attendees at WaterFest. Another team worked with Watershed and Conservation District staff to develop plans for a shoreline restoration project at a home on Gervais Lake to be installed in 2020. Some of the additional 2019 service projects include piloting an Adopt A Church Rain Garden program in Woodbury, pet waste education, Tamarack Nature Preserve tours, and organizing a STEM Saturday event at the Stafford Library.

Adopt-A-Drain

In 2019 RWMWD recruited 170 new Adopt-A-Drain participants and added 236 adopted storm drains. We focused outreach efforts on several St. Paul and Maplewood neighborhoods. In Maplewood, three Weaver Elementary fifth grade classes distributed 400 Adopt-A-

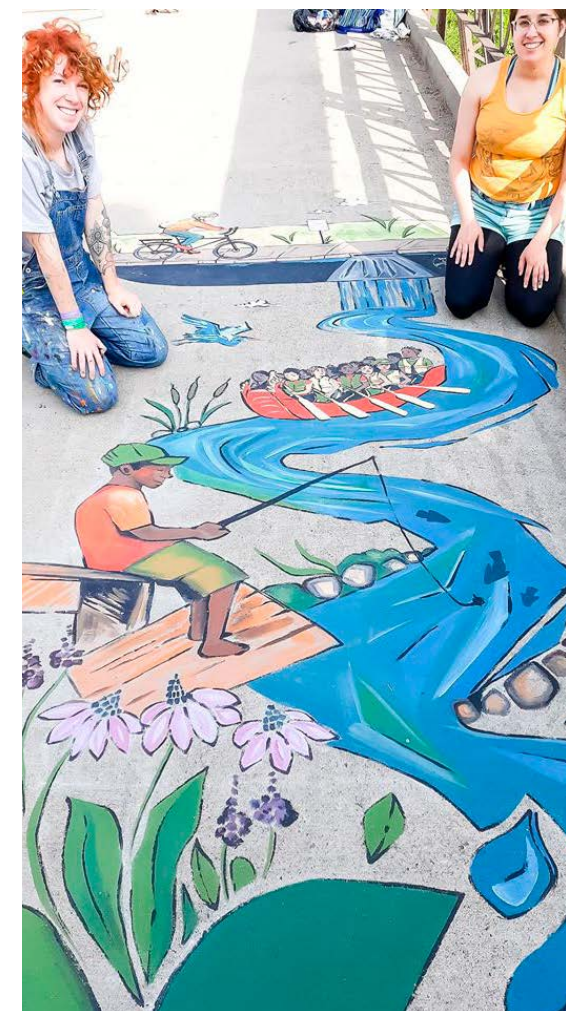


Drain promotional door hangers in the Wakefield Lake and Lake Phalen neighborhoods. Junior ROTC Johnson High students also distributed 306 door hangers on the west side of Lake Phalen. Finally, sixteen youth from a summer service-learning program organized by three east St. Paul churches distributed door hangers east of Lake Phalen, initiating a partnership with these church communities.

WaterFest & Phalen Freeze Fest

In 2019 we celebrated the twentieth

anniversary of WaterFest. This annual, free family event is held at Lake Phalen. It features watershed related educational exhibits and activities on land and water that engage volunteers, exhibitors, community partners, and a broad audience from our watershed cities and beyond. Approximately several thousand people attended the event. Over ninety exhibitors signed up to participate, and about a hundred volunteers worked the event, including sixty-six Jr ROTC volunteers.



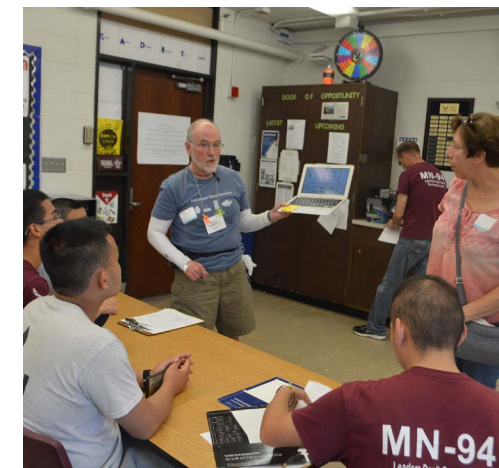
Phalen Park Mural

RWMWD created the Phalen Park bridge stormwater mural in conjunction with the twentieth anniversary of WaterFest. The mural highlights the connection between our streetscapes and nearby bodies of water. We partnered with Friends of the Mississippi River (FMR), to find the location and conduct community engagement throughout the design process. Artists Liv Novotny and Violeta Rotstein led the project and sought design input from area youth.

Urban Roots and the Junior ROTC volunteered to assist in painting the mural.

Ames Lake Heron Sculptures

Randee Edmundson, an educator, and CAC member and art teacher, Aloun Phoulavan collaborated on a plan to replace the bronze Great Blue Heron sculpture that disappeared from Ames Lake in 2016. They put together a team of community leaders to provide support for this project. Youth artist Koua Vang created a clay prototype of new heron sculptures,



which will be mounted in a stone near the coffee shop directly across from Ames Lake and also across the street at Ames Lake. Additionally, RWMWD will add a sculpture designed by two high school youth, Shoua Tao and Tynaijah Mcentyre-Brown, that focuses on the insects of the wetland, incorporating three dragonflies suspended in a block of textured steel. We will install the three sculptures in Fall 2020 or Spring 2021.



Preserve & Restore

Our natural resources program creates, preserves, restores aquatic, wetland, and surrounding watershed habitats. Over the last 20 years, RWMWD has completed multiple large-scale restoration projects and actively manages invasive species. We accomplish this through active partnerships with numerous organizations and the University of Minnesota on applied natural resources research. We are committed to long-term monitoring and maintenance of restoration projects to ensure residents can enjoy their benefits for years to come. RWMWD staff currently monitor and maintain 100 acres of restoration area.

PHALEN CHAIN OF LAKE CARP MANAGEMENT

In 2019 Natural Resources completed an intensive, ten year in-lake and stormwater management effort to improve water quality in the Phalen Chain of Lakes. One of the practices was removing invasive common carp from the lake chain. Carp reduction in the shallow lakes greatly reduced pollutants like phosphorus and improved water clarity. Casey Lake and Markham Pond now enjoy clear water thanks to carp management.

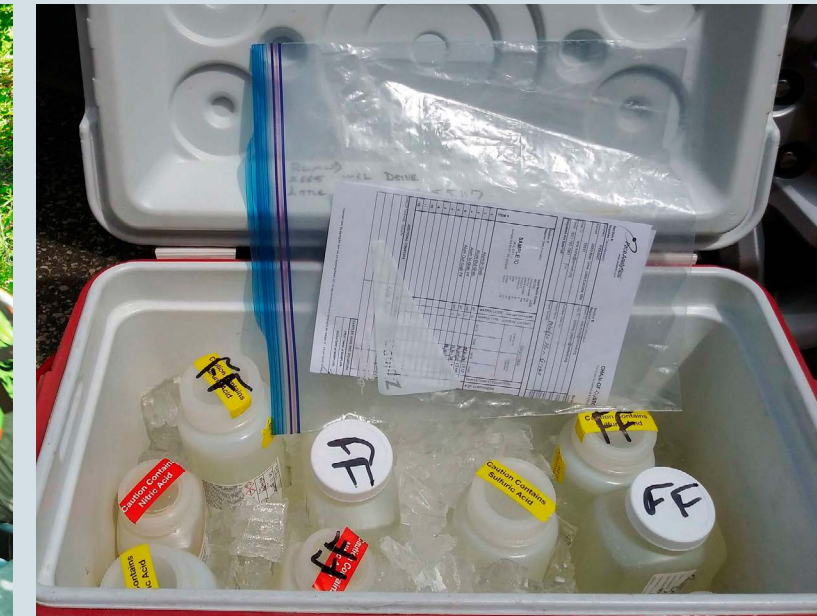
OWASSO CHAIN OF LAKES CARP MANAGEMENT

Like the Phalen Chain of Lakes, the Owasso Chain of Lakes has benefited as a result of carp management. In 2019 a total of 2,047 carp were removed from the lake chain, and barriers kept remaining carp from moving into spawning areas. We will continue to conduct carp management for the Owasso Chain of Lakes throughout 2020.

WETLAND A ECOLOGICAL RESTORATION

Wetland A, situated near Snail Lake in Shoreview, is one of the most substantial natural wetland remnants in the watershed. RWMWD partnered with Ramsey County and other organizations to conduct a three year ecological restoration project in the area. Over this period, 1.4 miles of wetland buffer edge will be restored, with 200 native plant species installed in the place of invasive species. The project will add resiliency to the Wetland A ecosystem and substantially improve its overall condition.





- VISIT OUR WATERSHED MAP ON THE RWMWD WEBSITE TO LEARN ABOUT EACH OF THE WATERS WE MANAGE. -

Quality Water for Quality Life

Many of the lakes within our watershed offer recreation as part of the Ramsey and Washington County park systems and are also home to a diverse set of urban wildlife. Our water quality staff collects data to identify and track water quality over time, utilizing widely recognized best practices in the field. This data is utilized to determine and prioritize projects within the district and also can be used as a resource for public and private partners.

LAKE MONITORING

RWMWD staff monitors 15 lakes every 2-3 weeks from May – September. We collect data on each lake in the watershed to track changes in water clarity, temperature, conductivity, pH, and dissolved oxygen. Samples are collected from the top 2 meters and the deepest point of the lake. All lakes currently show stable or improving water quality indicators.

CREEK MONITORING

RWMWD contributes to the Metropolitan Council's Stream Monitoring and Assessment Program by sampling at Fish Creek, Battle Creek, Kohlman Creek, and Gervais Creek. These streams are monitored every two weeks and after every rain event.

BELTLINE STORM SEWER MONITORING

The Beltline Interceptor is a 5-mile-long tunnel that extends from Lake Phalen and Beaver Lake to the Mississippi River. Approximately half of the stormwater that flows through the district to the Mississippi River travels through this tunnel. RWMWD tracks long-term trends in chloride, e. coli, temperature, conductivity, pH, phosphorus levels and other attributes of surface water runoff in the Beltline.

SPECIAL PROJECTS MAINTENANCE AND MONITORING

In addition to lake and creeks, RWMWD monitors the Beam Ave. Iron Enhanced Sand Filter, Shoreview Commons Pond, and

Frost Kennard Spent Lime Filter. Testing is completed after every storm occurring between April and November.

ALUM TREATMENT

RWMWD owns and operates an alum treatment facility in Maplewood. This facility was designed to automatically treat nutrient-rich water with alum (aluminum sulfate) prior to discharging into Tanners Lake. Alum chemically binds with phosphorus. Eventually, this alum/phosphorus compound, known as "floc", is precipitated out of treated water. Floc cannot be metabolized by algae. Alum treatment safely limits phosphorus and algae, and can even prevent algae blooms. The result is clearer water, and a healthier aquatic ecosystem for all to enjoy.



AND THE WINNER IS...

20

NINETEEN

AWARDS

& Recognition



Landscape Ecology Awards Program L.E.A.P.

The Landscape Ecology Awards Program (LEAP) recognizes landowners in the Ramsey-Washington Metro Watershed District, including private residences, public and commercial properties, who use management practices that support clean water and wildlife habitat. Over 18 years, 105 awards have been given to residents, churches, schools, and community organizations.

2019 L.E.A.P. RECIPIENTS

Jaime & Patrick Willoughby
Rotary Club of North St. Paul
City of White Bear Lake

Watershed Excellence Awards

The Watershed Excellence Awards celebrate accomplishments in watershed management, education, stewardship, advocacy, and collaboration.

**OUTSTANDING
PARTNER AWARDS**
Michael Schumann

**RAIN GARDEN
CHAMPION AWARD**
John Denham

**CONSTRUCTION
STEWARDSHIP AWARD**
Ben Lato

**CITIZEN CATALYST
AWARD**
Karen Wold

**OUTSTANDING
EDUCATOR AWARD**
Aloun Phoulavan

**ROGER LAKE
STEWARDSHIP
EXCELLENCE AWARD**
Scott Ramsay

By the Numbers

2019 STATS & FINANCIALS



1968

BLOG SUBSCRIBERS



170

NEW ADOPT-A-DRAIN
PARTICIPANTS



6

EDUCATIONAL
VIDEOS
CREATED



100

ACRES

OF RESTORED HABITAT
is currently monitored
and maintained by staff



1657

YOUTH PARTICIPATED

in education projects or events
16 schools; 5 youth groups



2,130

LINEAR FEET OF SHORE
AND 2.5 ACRES OF WETLAND
buffer created at Wetland A



12,127

CONTAINER PLANTS
planted in Wetland A
restoration area

3,700

APPROXIMATE OUTREACH EVENT
PARTICIPANTS



2,037

INVASIVE CARP REMOVED
from the Owasso
Chain of Lakes



91

WORKSHOP
PARTICIPANTS

By the Numbers

2019 GENERAL FUND BUDGET

Engineering	\$1,008,000
Attorney	\$50,000
Managers	\$10,000
Finance/Auditing	\$55,000
Miscellaneous	\$54,500
Administrative	\$2,031,000
Program Activities	\$916,000

TOTAL GENERAL FUND BUDGET \$4,124,500

2019 CAPITAL IMPROVEMENT BUDGET

Debt Service	\$593,998
(Maplewood Mall, Beltline, Office Building)	
Targeted Retrofit Projects	\$978,760
BMP Stewardship Grant Funds	\$1,250,000
Project Repair and Maintenance	\$1,120,000
Wakefield Park Project	\$1,100,000
Markham Pond Aeration	\$65,000
Willow Pond CMAC	\$300,000
Impervious Surface Reduction Fund	\$1,500,000
Flood Damage Reduction Fund	\$2,500,000

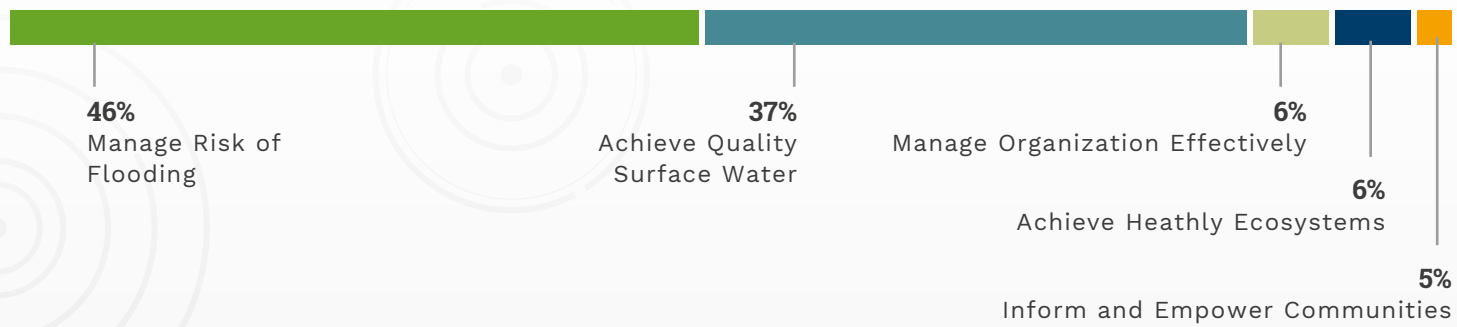
TOTAL CAPITAL IMPROVEMENT BUDGET \$9,407,758

TOTAL 2019 BUDGET \$ 13,532,258

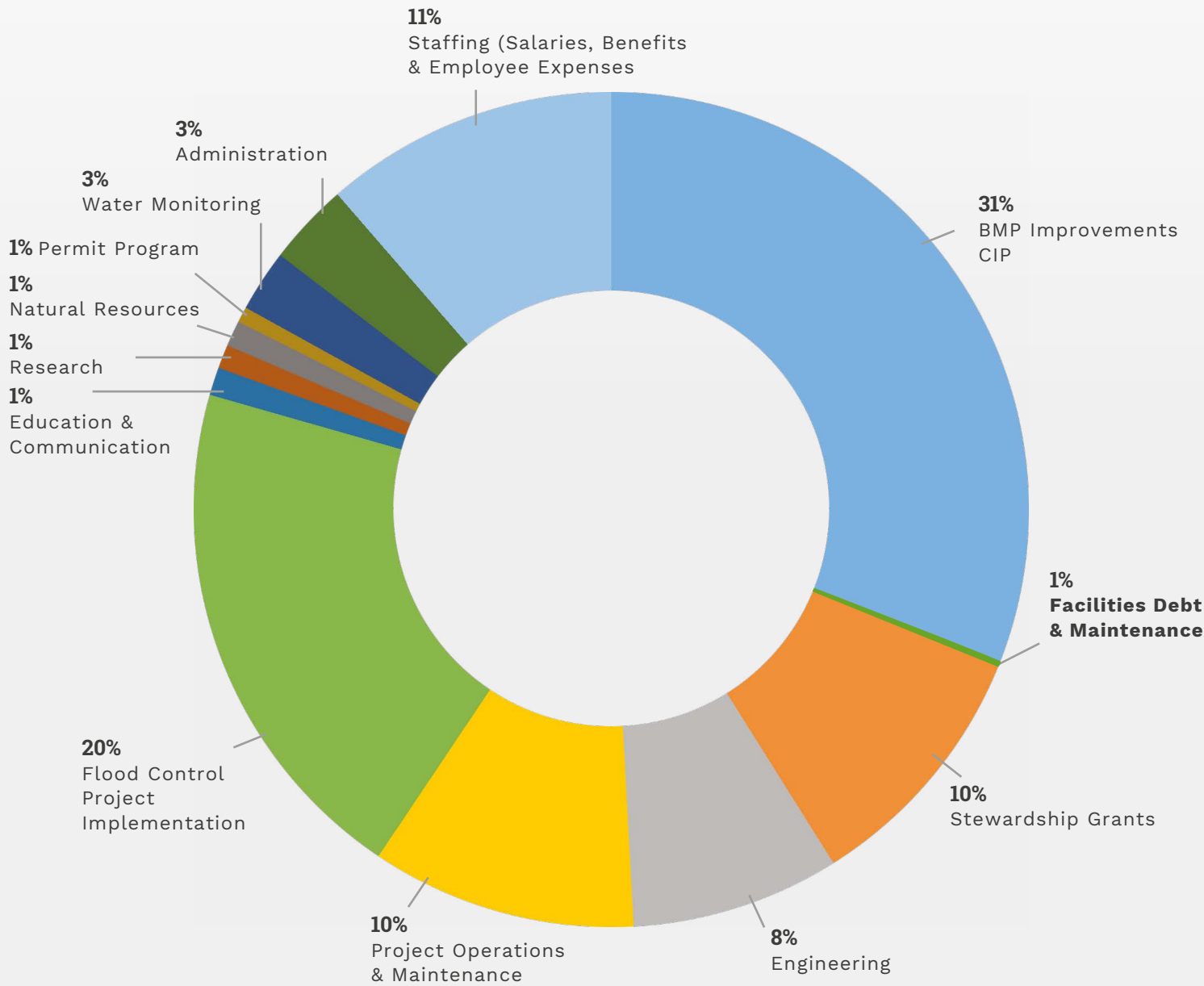
With considerations for carry over from 2018, grant funds and reserve funds:

TOTAL 2019 LEVY \$ 6,763,498

2019 PLAN/GOALS
Budget Percentage by Goal



2019 TOTAL BUDGET
Detailed View





RAMSEY-WASHINGTON
METRO WATERSHED DISTRICT



rwmwd.org

2665 NOEL DRIVE
LITTLE CANADA, MN
55117