



2014

YEAR IN REVIEW



MINNEHAHA CREEK
WATERSHED DISTRICT



Pictured: A flooded Meadowbrook Golf Course in June, after the wettest spring on record (Details, p. 10)

Budget

	2013	2014	Change
Levy	\$ 7,742,006	\$7,897,095	2.00%
Expenditures	\$12,693,785	\$13,019,231	2.56%

2014 BUDGET ALLOCATIONS

Administration	\$237,869	Planning	\$530,850
General Operations	\$2,141,817	Communications	\$168,600
Government Relations	\$31,410	Education	\$123,500
Information Technology	\$155,000	Grants	\$1,323,209
Permitting	\$230,000	Maintenance	\$326,000
Hydrodata	\$332,058	Land Conservation & Restoration	\$2,800,000
ALS Management and Control	\$642,140	Capital Projects	\$3,976,779

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The Minnehaha Creek Watershed District (MCWD) is responsible for 181 square miles that drain into the Minnehaha Creek and ultimately the Mississippi River. There are eight major creeks, 129 lakes, and thousands of wetlands within the MCWD. The MCWD includes all or part of 27 cities and two townships in Hennepin and Carver counties.



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Executive Summary

2014 was a whirlwind year. It saw unprecedented spring flooding, progress on the District's major restoration of Minnehaha Creek, zebra mussels in Christmas Lake, and the receipt of the Freshwater Society's Clean Water Champion award. 2015 is a year with great potential as the District welcomes a new administrator and embarks on preparing its next 10-year plan.



WELCOMING DISTRICT ADMINISTRATOR LARS ERDAHL

After a nationwide search that attracted a pool of more than 50 applicants, the MCWD Board of Managers named Lars Erdahl as the new MCWD Administrator in January. Erdahl comes to the District with a wealth of leadership and public service experience that will complement the District's wide-ranging work.

Erdahl most recently served as Interim Grants Officer at the Minnesota Landscape Arboretum and prior to that spent 23 years at the Minnesota Zoo, including 13 years as the Director of Education and a member of the senior management team. He holds a Masters of Business Administration degree from the University of Minnesota and has a strong science background, too, having earned his undergraduate degree in biology and begun his career as a high school science teacher.

PARTNERING FOR CLEAN WATER

In 2014 the Board of Managers adopted a policy titled "In Pursuit of a Balanced Urban Ecology," formalizing the organization's commitment to a holistic and partnership-driven approach to improving and protecting water resources.

Modeled after Hennepin County's award-winning Community Works approach, it seeks to align MCWD's work with the goals of its communities and partners -- such as open space, parks, transportation, housing, and economic development -- to achieve greater water quality benefits than the District could by working alone.

A VISION FOR THE NEXT 10 YEARS AND BEYOND

In 2015 the MCWD will ramp up planning for its next 10-year Comprehensive Water Resources Management Plan, due in 2017, with input from an array of technical experts, policy makers, recreational users, and interested residents. The 2017 update will build on the strong foundation of the current plan, which took an extensive technical look at the water quality issues throughout the District. The plan update will use the District's Balanced Urban Ecology approach to improve its services and allow the organization to achieve its water resources goals by aligning MCWD's work with the goals of its partners.

One of the most notable proposed features of the new plan is a "two-track approach." One track allows the District to focus resources on specific areas for years at a time, so that it can understand the dynamics of the area and coordinate a suite of initiatives to make significant, long-term improvements. The second track allows for responsiveness and flexibility across the District and assures all 29 communities are being served by MCWD. Learn more at www.minnehahacreek.org/2017.

In Pursuit of a Balanced Urban Ecology

Recognizing the relationship between our natural and built environments, the MCWD works in partnership with the public, private and civic sectors to help protect and improve our natural systems, make wise investments in public infrastructure and improve the quality of water and quality of life in our communities.

Guiding Principles:

- » We will join with others in pursuing our watershed management goals
- » We will intensify and maintain our focus on high-priority projects
- » We will be flexible and creative in adapting our practices to those of our partners

Projects

MINNEHAHA CREEK GREENWAY - REACH 20 TRAILS

After restoring a degraded stretch of Minnehaha Creek in St. Louis Park in 2013, the District constructed a trail system around the project in 2014. The District and City of St. Louis Park built a boardwalk and paved trail to provide access to this previously-hidden stretch of creek, create educational opportunities and facilitate future connections between 600 housing units, the planned Southwest Light Rail Transit line, Methodist Hospital, SW Cedar Regional Trail, and other District projects and green space along the creek.



Boardwalk system under construction along Minnehaha Creek

LONG LAKE CREEK CORRIDOR IMPROVEMENTS

MCWD is working to improve the health of Long Lake Creek, which contributes unwanted sediment and nutrients to Tanager Lake and Lake Minnetonka. The District is working with the Metropolitan Council to restore a former wastewater treatment pond connected to the creek into a healthy wetland with a meandering stream running through it. Construction began in January 2015.



Construction work at Long Lake Creek

COTTAGEVILLE PARK

Working with the City of Hopkins and a variety of other partners, the District finalized plans for a major expansion to Cottageville Park. The project adds nearly four acres of improvements to the park, which is located near the proposed Blake Road Light Rail Station and along Minnehaha Creek. With the help of a \$400,000 grant from the Clean Water Fund, the project will treat stormwater from 30 acres of surrounding area, restore and reintegrate Minnehaha Creek into the landscape, and add new play areas, a community garden, and trails.



Concept plan for new play area at Cottageville Park

Research

SIX MILE CREEK CARP STUDY

MCWD completed the first year of a multi-year assessment of common carp in the Six Mile Creek chain of lakes, the first step toward sustainably managing the invasive fish in the area. The results will help the District and its partners develop a long-term, sustainable carp management plan.

TOTAL MAXIMUM DAILY LOAD STUDIES

Staff worked in partnership with the MN Pollution Control Agency and more than 20 other public agencies to finalize and obtain federal approval for Total Maximum Daily Load Studies for 21 water bodies in the Upper Minnehaha Creek Watershed and Minnehaha Creek-Lake Hiawatha. The studies set benchmarks for pollution reduction.

STATISTICAL ANALYSIS OF THE WATER QUALITY LAKE DATA

The District assessed phosphorus levels in samples taken from the bottom of 27 bays on Lake Minnetonka and 11 upper watershed lakes to identify long-term trends, potential solutions, and additional opportunities for monitoring.



Locating radio-tagged carp in Parley Lake

Grant Programs

CYNTHIA KRIEG WATERSHED STEWARDSHIP PROGRAM

MCWD awarded seven grants to projects that use education to protect clean water. These projects include a Lake Minnetonka Guide to Shoreland Gardening, which aims to create excitement for restoring shoreland while developing a well-designed landscape on Lake Minnetonka and beyond.

COST-SHARE GRANTS

MCWD awarded grants for a record-breaking 75 new clean-water landscaping features such as raingardens, pervious pavement driveways, and natural shoreline plantings. Staff received more than 100 inquiries about the program.

AIS PUBLIC ACCESS IMPROVEMENTS

District staff adapted standard signage and facilities from Hennepin County to help boaters check for and dispose of AIS, and is offering to help fund installation of the signs. The first use will be at Lake Minnewashta in 2015.



A raingarden partially funded by the District's Cost Share grant program

Data Collection

WATER QUALITY MONITORING

Staff and trained volunteers monitored 20 bays on Lake Minnetonka and 42 lakes monthly during the open water season. Staff monitored 11 sites on Minnehaha Creek and 36 sites on the upper watershed streams weekly for flow and water quality from March to November. MCWD also monitors water levels, stream flow, and stormwater at sites across the District.

ECOSYSTEM EVALUATION PROGRAM

The District continued to develop a new grading system for holistically evaluating the health of a variety of ecological features (deep and shallow lakes, streams, wetlands, surrounding land, groundwater, and hydrology). The new program will evaluate the health of individual subwatersheds and the watershed of the whole, and provide the District with a better understanding of where and how to focus its water quality improvement efforts.



Water quality sampling on a canoe-only lake

AIS EARLY DETECTION AND MONITORING

In 2014 the District began aggressively monitoring for aquatic invasive species (AIS) in lakes at higher risk for infestation, allowing staff to respond quickly to new infestations. Early detection of Eurasian watermilfoil in Saunders Lake and zebra mussels in Christmas Lake allowed for rapid response and possible eradication. The District will have a second early-detection crew in 2015.



Sampling for the presence of spiny waterflea

Operations

STAFF SUPPORT

Non-managerial staff members formed a collaboration group to provide input on District operations, and in 2014 created a list of core values to describe the organizational culture of the District. The group's activities also included re-purposing unused offices into a creative thinking space and a quiet working suite. District staff worked throughout the year with Springsted Inc. to complete updates to several human resource activities including the employee handbook, performance reviews and employee orientation procedures.

ORGANIZATIONAL SUPPORT

MCWD began using Laserfiche technology to make its archiving more reliable and efficient and improve access to public documents dating back to the 1960's. Technology in the boardroom was improved to make meetings more efficient and to provide videos of board meetings online. The District fully implemented its safety plan that includes training and manuals designed to meet Occupational Safety and Health Administration standards.

Aquatic Invasive Species (AIS)



Applying potassium chloride (potash), the final zebra mussel treatment, to Christmas Lake in December.

ZEBRA MUSSELS IN CHRISTMAS LAKE

As a result of the District's early detection monitoring, staff discovered zebra mussels in Christmas Lake in mid-August and worked with a variety of partners to rapidly respond, in hopes of eradicating the new infestation. *(Read more on Page 11).*

AIS WATERCRAFT INSPECTIONS

MCWD continued to help fund inspectors at boat launches at Lake Minnetonka, the Minneapolis Chain of Lakes, Christmas Lake, and a variety of lakes throughout Carver County. More than 43,000 watercraft were inspected in the District in 2014.

HAND REMOVAL OF FLOWERING RUSH

The District continued its highly-successful hand removal of the invasive plant flowering rush in Lake Minnetonka, and conducted an herbicide treatment for flowering rush in the rocky-bottomed Maxwell Channel.

Permitting

PERMIT APPLICATIONS AT A 10-YEAR HIGH

In a sign of an improving building market, the District received 626 permit applications in 2014, the most since 2004. Staff continues to work diligently to process permits quickly and efficiently. The District also saw a 15 percent increase in applications related to the Wetland Conservation Act, which MCWD enforces on behalf of 18 communities.

ENSURING COMPLIANCE

In 2014 MCWD staff members inspected more than 1,000 construction sites to ensure compliance with District rules. By using new mobile tools and an improved database, staff has been able to increase efficiency, accuracy, and responsiveness in the field.

WETLAND BANKING

The District and City of Minnetrista are assisting a private landowner in pursuing a possible 23-acre wetland restoration to be used as a "wetland bank," or a bank of wetland credits, which would be the first within the District. Developers and others who disturb wetlands with a project must compensate for that disturbance by creating wetlands elsewhere or purchasing credits from a wetland bank. The move would promote conservation while meeting the economic goals of the landowner.



Permitting staff inspecting a construction site

Events

MINNEHAHA CREEK CLEANUP

This event required considerable work in 2014 due to flooding that caused it to be re-scheduled twice. It was eventually held on Sunday, September 7th and attracted nearly 1,000 people who collected three tons of trash, breaking the old record of two tons set the previous year. New in 2014 was a satellite location in St. Louis Park and sponsorship from Target Corporation.



Volunteers cleaning along shore of Lake Hiawatha

WATERSHED HEROES

More than 120 people attended the 2014 Watershed Heroes Awards at the Bayview Event Center in Excelsior. Seven awards were given to individuals and organizations for clean water work in the community. Local newswoman Kevyn Burger served as Master of Ceremonies.



2014 Minnesota AIS Symposium

AIS SYMPOSIUM

About 100 people attended the 2014 Aquatic Invasive Species Symposium on March 19 at the Kelley Inn in St. Paul. The event focused on the role of the boat industry and other private partners in preventing the spread of AIS.

Community Involvement

MASTER WATER STEWARDS

MCWD assisted the Freshwater Society in implementing the second year of a three-year pilot project to empower residents to protect clean water. The second class of 31 Master Water Stewards candidates participated in a 50-hour training program and installed water-friendly projects to reduce polluted runoff. Stewards also educated fellow community members on water quality issues. The pilot program is funded by a Clean Water Fund grant.



Master Water Stewards planting a large raingarden at St. Luke's Presbyterian Church in Minnetonka

VOLUNTEER CITIZEN MONITORING

MCWD Water Quality staff recruited and trained 11 citizens to take water quality samples in local lakes and monitor precipitation gauges throughout the District.

Outreach

SPRING FLOODING

During record flooding from May through July, the District kept communities and stakeholders updated on flooding potential, water levels, Gray's Bay dam discharge and weather conditions. MCWD collected information from cities about flooded areas and impacted structures, and fielded dozens of media requests for information and interviews. *(Learn more about spring flooding response on Page 10).*

WORKSHOPS AND TOURS

In partnership with the University of Minnesota - Extension, the District offers training on stormwater management issues for local decision makers. In 2014 these opportunities included a tour of projects within the watershed district on water and land. Both events brought policy makers up close to clean water work and featured a variety of speakers on today's most pressing water quality issues.



Tour for local policy makers

ONLINE PRESENCE

The District's website received nearly 400,000 views in 2014, up 80 percent from 2013. MCWD saw record-breaking engagement on both Facebook and Twitter, with more than a 100 percent increase in Facebook post views from 2013. The District also launched an Instagram account to feature highlights from the District's deep photo collection.

BIG WATERSHED GAME

More than 400 people turned out on October 18-19 for "Ruination: City of Dust," a large game played along Minnehaha Creek and Lake Nokomis with a focus on clean water education. The event connected the participants with each other and the landscape to inspire collective action around clean water. The game was organized by Northern Lights.mn in collaboration with MCWD, game designer Ken Eklund, and the Minneapolis Parks and Recreation Board, with additional support from a Bush Foundation Community Innovation Grant.

WATERSHED ASSOCIATION INITIATIVE

MCWD continued to support the development of new lake and stream associations within the watershed, and to assist existing groups. In partnership with the Freshwater Society, the program built capacity in these groups through workshops, meetings and operational support.



One of many interactive stations at "Ruination: City of Dust"



Methodist Hospital staff using sandbags to fend off high water (credit: Jeffrey Thompson/MPR News)

Water, water everywhere

It wasn't normal spring weather in the District -- in fact, even "unusual" would be quite an understatement.

The Twin Cities saw the wettest spring, by far, since modern-day record keeping began in 1871. June 19 was the sixth wettest day ever recorded in the Twin Cities. Lake Minnetonka shattered its previous record for high water by more than seven inches. Coupled with a long winter and late snow melt, this extreme precipitation led to record water levels and more than \$1 million worth of damages along the six main streams in the District.

Working with local, state, federal, nonprofit, and private partners, MCWD served as a key conduit of information regarding water levels, public safety tips, weather projections, and more. With the hectic season now safely in the past, the District is attempting to learn all it can from these unprecedented scenarios to help its communities prepare and respond in the future, and to help fix the damage.

HISTORIC WATER LEVELS

Lake Minnetonka rose above its all-time record-high on June 1 and didn't come back down for 45 days. Minnehaha Creek was recorded flowing at an unprecedented 889 cubic feet per second above Minnehaha Falls. In all, 16 lakes set all-time records for water levels and 10 streams and tributaries set all-time records for flow. The Gray's Bay Dam, which MCWD operates to manage water levels in Lake Minnetonka and Minnehaha Creek, was submerged from May 9 to July 30. During that time the dam could not stop water from flowing between the lake and creek, and thus could not have a significant impact on the levels of either.

CRITICAL COMMUNICATION

The District served as a key point of contact for the public and media, fielding more than 50 requests from local and national press outlets for information about the flooding. The District's website, Facebook page and Twitter feed provided daily updates on water levels and other flooding information, and all three experienced record engagement and traffic between May and July.

WIDESPREAD DAMAGE

Damage from flooding was widespread and diverse, including slope failures, shoreline erosion, damaged culverts, flooded homes and washed out roads. The District received more than 300 flood-related phone calls and issued more than 40 permits to repair flood damage. MCWD staff is working with the Federal Emergency Management Agency to fix more than 100 damaged sites along the District's six main streams.

NEXT STEPS

After compiling a detailed report on the historic flooding, District staff is now creating a detailed Flood Response Plan, which will detail protocols to make future responses as effective and efficient as possible.

Zebra mussels in Christmas Lake



Perhaps the hardest part about controlling aquatic invasive species is that, once they're introduced, it can be nearly impossible to get rid of them. There is a caveat, however: if you can catch them right away, you have a chance to nip the problem in the bud.

On a sunny Saturday afternoon in August, an MCWD staff member conducting a routine check as part of the District's new Early Detection Monitoring Program discovered a group of zebra mussels near the public access at Christmas Lake in Shorewood. The rapid response that followed is a testament to the power of partnership, quick and decisive action, solutions based on sound science, and proactive monitoring.

If no mussels are found this spring, the coordinated effort will have led to the first documented zebra mussel eradication in a Minnesota lake and will provide a blueprint for responses around the country.

ACT I: DISCOVERY AND CONTAINMENT

Immediately after the discovery, MCWD, Minnesota Department of Natural Resources (DNR) and City of Shorewood began developing a plan to contain and eradicate the invasive mussels. The group rigorously checked the lake for the extent of the mussels and, only finding mussels in the area around the launch, installed a curtain to isolate the area from the rest of the lake. The Christmas Lake Association arranged to remove all boats for the winter through a private property, so as not to disturb the containment area.

ACT II: A CUTTING-EDGE SOLUTION

In September the area was treated with Zequanox, a non-chemical treatment that is uniquely selective for only killing invasive mussels. The District had already been assisting the U.S. Geological Survey in testing Zequanox in Lake Minnetonka and was familiar with the product. Divers did not find any live zebra mussels after the Zequanox treatment, which was the first open-water use of the treatment in Minnesota. Copper sulfate treatment was also used in the enclosure.

ACT III: POTASSIUM CHLORIDE

In what is hoped to be the final blow to the mussels, the area was treated with potash (potassium chloride) in December after the DNR received a special permit from the U.S. Environmental Agency. Potash has been shown to be effective in killing 100 percent of zebra mussels in limited applications.

EPILOGUE

The District and partners will closely monitor for the presence of zebra mussels in the spring and document the lessons learned from the process. Encouraged by the success of the early detection monitoring program -- which also included the discovery and removal of Eurasian watermilfoil from Saunders Lake -- MCWD will add another early detection monitoring team in 2015.

AIS Program – Top Accomplishments in 2014

1. Rapid Response to Zebra Mussel Infestation at Christmas Lake – Zebra mussels were found in Christmas Lake in mid-August, a few weeks after they were introduced. MCWD, DNR, City of Shorewood, and Christmas Lake Homeowners Association quickly responded and performed three different treatments over the next four months to eradicate them. The results of the cutting-edge response will be assessed next spring.
2. Early Detection and Monitoring Program – District staff began the program for early detection and monitoring of AIS in higher-risk lakes. Benefits were readily apparent: Eurasian watermilfoil was found for the first time in Saunders Lake, and removed; and zebra mussels were found in Christmas Lake, and rapid response began immediately. The District will have a second early-detection crew in 2015.
3. AIS Symposium – The MCWD co-sponsored an AIS Symposium in March, and over 150 persons attended the sessions. Topics focused on watercraft, and featured initiatives by private industry and inspection protocols in Colorado.
4. AIS Watercraft Inspections – MCWD continued its involvement in watercraft inspections in cost-share grants and arranging for roaming inspectors. The District authorized over \$185,000 to provide services with Carver County, Lake Minnetonka Conservation District, Minneapolis Park and Recreation Board, City of Shorewood, and Three Rivers Park District.
5. Public Access AIS Prevention Improvements – MCWD staff developed standard designs for signage and facilities to help boaters check for and dispose of AIS. The first use of these improvements will be at Lake Minnewashta in 2015.
6. Carp Assessment, Six-Mile Creek – As part of efforts to improve water quality in the Six-Mile Creek subwatershed, the District contracted with the University of Minnesota to assess the carp movement and populations in the area. The assessment will take 2.5 years to complete, and will provide strategies to manage carp and, in so doing, improving water clarity and lake and stream habitat the creek's headwaters to Halsted Bay of Lake Minnetonka.
7. USGS Zequanox® Trials – MCWD provided logistical assistance to the United States Geological Survey in its testing for effectiveness of a variety of techniques in the use of Zequanox®. The product is a biologically-based molluscicide, specifically targeted at zebra and quagga mussels. The trials were conducted in Robinson Bay of Lake Minnetonka, and partially funded by a grant from the Legislative Citizens Commission on Minnesota Resources.
8. AIS Economic Study – MCWD commissioned a study on the economic aspects of AIS. Researchers found it difficult to identify a general cost-benefit framework, but noted that prevention efforts had generally proved less costly than managing the presence of AIS.
9. Flowering Rush Removal – Flowering rush is present in Crystal and Maxwell Bays of Lake Minnetonka, and in the lower reaches of Minnehaha Creek. The hand-removal program continued in Lake Minnetonka, and in 2014 included an herbicide treatment for flowering rush in the rocky-bottomed Maxwell Channel. The District continued its highly-successful hand removal of flowering rush plant in Lake Minnetonka, and included an herbicide treatment for flowering rush in the rocky-bottomed Maxwell Channel.

Communications Program – Top Accomplishments in 2014

1. Spring flooding: Issued multiple e-mail updates per week to communities and other stakeholders about flooding potential, water levels, dam discharge and weather conditions. Posted daily updates on water levels, creek flow, and flood information on the front page of the website. Collected information from cities about flooded areas and impacted structures. Fielded dozens of media requests for information and interviews.
2. Creek Cleanup: This event required considerable work in 2014 due to flooding which required it to be re-scheduled twice. It was eventually held on Sunday, September 7th and attracted nearly 1,000 people who collected three tons of trash, breaking the old record of two tons set the previous year. Added a satellite location in St. Louis Park and brought in Target as a sponsor.
3. Media relations: Coordinated strategic media relations regarding a number of sensitive issues that garnered heavy media interest, including spring flooding, the departure of the District Administrator, and Board and CAC relations. Issued 31 news releases, 16 newspaper columns and 53 e-newsletters. For print alone, the District was mentioned in 513 news articles which had a combined circulation of 23.6 million readers.
4. AIS Symposium: Lead organizer for the day-long 2014 AIS Symposium, which drew about 100 people to the Kelly Inn in St. Paul on March 19.
5. Signage: Worked with the Education Program to refine creek and district signage using new color palette and updated logos in the District's revised brand manual. Worked with the District's AIS and Education Programs to adapt Hennepin County's boat launch signage which came out of the county's social marketing research and is currently on display at the Lake Minnetonka North Arm boat launch to fit other launches throughout the District. Prepared packet with sign and pricing options for offering cost-share opportunities to partners.
6. Annual and Mid-Year Reports: Implemented new format for annual report and launched mid-year report summarizing District activities at key points during the year. Improved layout for aesthetic appeal and readability and incorporated new branding elements that were incorporated into the District's brand manual.
7. Online presence: Website received 399,631 views, up 80 percent from 2013. Record-breaking engagement on both Facebook and Twitter, with more than 100 percent increase in Facebook post views from 2013. Launched Instagram account to feature the District's deep photo collection.
8. Videotaping meetings: Within one month of a Board directive to videotape Board of Managers meetings, instituted system for recording meetings and posting them online, both on the MCWD site and the District's YouTube channel.

9. Watershed Heroes Awards: Drew more than 120 people to the 2014 Watershed Heroes Awards at the Bayview Event Center in Excelsior. Recruited local newswoman Kevyn Burger to emcee the ceremony. Created series of posters highlighting District's work.

Cost Share Program – Top Accomplishments in 2014

1. Cost Share Projects: Worked with property owners on their applications for 2014 Cost Share grants and the installation of projects that received funding dating back to 2012. Presented grant proposals to the CAC and Board of Managers for approval. Obtained funding for 39 new cost share projects, 8 of which were community groups, churches or businesses - the highest number of approved projects in the history of the District's cost share program.
2. Demonstration and Innovation: Funded the installation of 75 new BMPs to be used as demonstration projects in the District. A majority of these are raingardens, but they also include pervious pavers, green roofs, re-use systems, shoreline buffers, catch basins, an underground storage system, dry creek beds and bio swales.
3. Engagement and Education: Received over 100 inquiries about the program. Met with homeowners, churches and community groups to discuss the Cost Share program and help guide their interest in building community capacity through stormwater management projects.
4. St. Luke Presbyterian Church: Worked with the Minnetonka congregation to assist in the design and funding of two raingardens and a dry creekbed. Cumulatively these BMP's capture 400,000 gallons of water per year, and reduce pollutants going to Lake Minnetonka by 97 lbs. of suspended solids and .54 lbs. of phosphorus annually. This congregation also hosted an open house, highlighting all of the sustainable practices the church is implementing. The church and the District met many residents in the surrounding neighborhoods and increased awareness about stormwater management in the community.
5. Nokomis Blooming Alleys: Metro Blooms created an alleyway initiative to build community capacity and awareness of stormwater management in a way that connects residents to their alley and celebrates the space as part of the neighborhood. The project involved residents capturing runoff on their property that would otherwise drain untreated to the alley and into Lake Nokomis and Minnehaha Creek. The project redirected downspouts and other impervious surfaces to drain into stormwater BMPs, including bio swales, trench drains, raingardens and pervious pavers. The project brought the community together for a common cause and created interaction between residents to focus on a common goal. The District assisted the partnership between the City of Minneapolis and Metro Blooms by applying for a BWSR grant to fund 15 more alleyway projects over the next three years.
6. Greening your Congregation: As a follow up to previous initiatives by the District and the Alliance for Sustainability, multiple congregations came forward asking for individual meetings with Cost Share staff to do site visits at their property and assist in the development of stormwater plans. These projects have great potential to reduce the pollutants flowing off of large impervious surfaces like the buildings and the parking lots, and a great opportunity to reach many people with their demonstration sites and outreach programming. Three churches

implemented projects in 2014, and staff expects even more in 2015 as projects continue to develop.

7. Interactive Map: Staff is developing an interactive map that will highlight the impact of the program across the District. There will be a more detailed map for internal use and a public map, which will show general information about the location of the BMP, when it was installed and most recent photos and designs of the project.
8. MN GreenCorps Member: MCWD became a host site for a MN GreenCorps member for the 2014-2015 service year. This AmeriCorps program is organized through the PCA, and was created to help assist young professionals in the sustainability field gain real life experience. The District's member, Heidi Quinn, is assisting the Cost Share program with inspections of all past funded cost share projects, helping the program develop the interactive map, and programming future targeted outreach in focused geographies of the District.
9. Master Water Stewards: Worked with Freshwater Society staff to integrate the Master Water Stewards (MWS) program with the Cost Share program. Helped facilitate a tour of District projects, created curriculum and delivered presentations to classes. Assisted stewards with funding and implementation of their capstone projects through the Cost Share program.

Education Program – Top Accomplishments in 2014

1. Cynthia Krieg Watershed Stewardship Grant Program: Awarded six grants to fund various programs involving education and outreach to communities throughout the watershed, including the Lake Minnetonka Guide to Shoreland Gardening. This guide will be a resource for lake shore residents surrounding Lake Minnetonka in addition to other lakes in the watershed. The guide is aimed at restoring shorelands while developing a well-designed landscape.
2. MS4 Education: Staff continued to provide education and training opportunities for municipal staff and officials to help them meet MS4 permit requirements. In 2014 these opportunities included NEMO workshops on land use and water quality, Stormwater U workshops on stormwater management and low impact development, workshops on winter maintenance activities, rain garden workshops for municipal residents, content for articles submitted for municipal newsletters, and education brochures for display in public areas. This past year a summer boat tour of Lake Minnetonka focused on plans, practice and policies and a fall bus tour focused on stormwater practices and restoration projects throughout the west metro watersheds.
3. Master Water Stewards Program: In the second year of the three year pilot in the Minnehaha Creek Watershed there were 31 Master Water Stewards candidates. These individuals were active with designing and implementing run-off prevention capstone projects coupled with outreach campaigns to increase awareness and encourage neighbors to take action to protect clean water. District staff was also involved with preparing for the third year of the pilot and planning for the development of an online component of the MWS curriculum.
4. Big Watershed Game: In the Big Watershed Game More than 400 people turned out on October 18-19 to play "Ruination: City of Dust," a large game played along Minnehaha Creek and Lake Nokomis with a focus on clean water education. Players assumed the role of explorers in the year 2314 who return to the ruins of Minneapolis on a quest to uncover why this once flourishing metropolis collapsed. The event connected the participants with each other and the landscape to inspire collective action around clean water. The game was organized by Northern Lights.mn in collaboration with Minnehaha Creek Watershed District, game designer Ken Eklund, and the Minneapolis Parks and Recreation Board, with additional support from a Bush Foundation Community Innovation Grant.
5. Watershed Association Initiative (WAI): In 2014, the WAI underwent an assessment and program review. The report provided recommendations on the future direction of the WAI and focus on programming and projects with lake and river organizations in the watershed. On November 5th the WAI in partnership with MCWD and the Freshwater Society hosted the annual Lakes and River Summit in St. Louis Park. The event was an opportunity for people involved in their local lake or river groups to learn about new trends in water quality, and provides an opportunity to network and exchange ideas. This year's summit focused on state funding

options available to local groups, and will also provide tips and strategies for communicating with members. Approximately 75 people attended the summit.

6. Minnehaha Creek Sign and Landings Standards: In partnership with citizens interested in Minnehaha Creek, MCWD staff completed the Minnehaha Creek Signage and Landings Master Plan. The plan will be used as a foundation and guide for discussions with local partners in the upcoming year. In addition, the plan will be used to enhance the recreational value of the creek, create consistent expectations for creek users, and foster stronger partnerships throughout the creek corridor.
7. Districtwide Signage: Inspired by the creek signage plan, the Board of Managers directed staff to develop new, consistent designs for District signage across the watershed. Working in partnership with the District's communication staff, new templates were developed for a range of signs including interpretive, construction, and warning signs and signs that designate conservation areas.
8. Clean Water Summit: Calculating the economic, social and ecological costs and benefits of green infrastructure projects was the goal of the 2014 Clean Water Summit, which was held on September 11 at the Minnesota Landscape Arboretum. Among the topics addressed at the summit: How we currently value clean water, why we need to change the way we think about water as a finite resource, and tools and strategies that have been used to develop green infrastructure projects.

Research and Monitoring Department: Water Quality Program – Top Accomplishments in 2014

1. Ecosystem Evaluation Program: Developing a grading report system that will evaluate the ecosystem in deep and shallow lakes, streams, wetlands, terrestrial, groundwater, and hydrology throughout Watershed District.
2. High Water Response: Rapid response monitoring was conducted throughout the watershed to assess record high water levels. The culvert at McGinty road acted as the new control structure for Lake Minnetonka. The flow at this site provided an estimated discharge from Lake Minnetonka.
3. Statistical Analysis of the Water Quality Lake Data: Assessed the bottom phosphorus samples from 27 bays on Lake Minnetonka and 11 upper watershed lakes for long-term trends.
4. Water Quality Database: Completed upgrading the water quality database that allows staff to enter, view and graph the water quality data for lakes and streams.
5. Lake Water Quality Monitoring: Monitored 21 bays on Lake Minnetonka and 11 upper watershed lakes monthly from May to October, and 16 limited access lakes monthly from May to September.
6. Stream Flow and Water Quality Monitoring: Monitored stream flow and water quality weekly from March - November at 11 sites on the Minnehaha Creek and 37 sites on the creeks in the upper watershed.
7. Continuous Monitoring Stations: Water level instruments were located at 7 stations and storm sampling equipment were located at 2 stations on Minnehaha Creek. On the Upper Watershed streams there were 9 stations with water level instruments and 3 stations with storm sampling equipment with an intense focus in the Six Mile Marsh subwatershed to coincide with projects within the area.
8. MCWD Volunteer Citizen Monitoring Programs: Recruited, trained and managed citizens to monitor water quality on 14 lakes and record precipitation at 3 stations throughout the District.
9. Monitoring Partnerships: Partnership with the Minnesota Department of Natural Resources to monitor water levels on 23 lakes. Work with the USGS to monitor and publish the water level and flow on Minnehaha Creek site prior to the falls. Lake water quality data collected by the Minneapolis Parks and Recreation Board, Three Rivers Park District, Metropolitan Council and District's cities.
10. Bathymetry: Completed the mapping of Kreatz and Snyder lakes within the Gleason Lake Subwatershed.

Permitting Program – Top Accomplishments in 2014

1. Permits Received: District Permitting staff continue to review a high volume of permit applications. In 2014, MCWD staff received and reviewed 626 permits. This is the highest number since 2004 and represents a 27 percent increase from average. Non-fast track permits have also increased. Staff reviewed 59 Stormwater Management permits and 61 Wetland Protection permits, which represents a 47 percent and 136 percent increase respectively. The District also saw an increase in permits due to the high water this spring. The District issued 6 emergency work permits, more than 30 high-water related shoreline and streambank stabilization permits, and 12 floodplain alteration permits. Staff continues to work diligently and timely to process and issue permits. Pre-application meetings have been successful in providing information early on to applicants and facilitating an efficient permitting process.
2. Wetland Conservation Act: The District is the Local Government Unit responsible for administration and implementation of the Wetland Conservation Act. This year, the District processed 70 WCA applications. This represents an increase of 15 percent from the previous year and approximately 80 percent increase from average. Permitting staff continues to offer technical assistance to residents and Cities within the District regarding wetland protection and regulation.
3. Wetland Bank: Permitting staff advanced a Memorandum of Understanding between the City of Minnetrista, the Mader Family Trust, and the District. The MOU outlined a partnership to assess feasibility of wetland restoration and wetland bank creation, and its effect on future development on the Mader Family Trust land. If restored, a 23-acre wetland bank would be created and would be the first to be located within the District.
4. City Coordination: District staff has been working hard to collaborate with cities to assist with the permitting process and compliance. In 2014, the District signed a Memorandum of Understanding with the City of Edina to facilitate effective coordination for permitting and compliance efforts.
5. Inspections: Staff regularly inspect sites to ensure compliance with District rules. This year, 979 inspections of permitted sites and 92 non-permitted inspections were completed. By utilizing the new mobile database and iPad, staff has been able to record and photograph inspections for increased efficiency and accuracy while in the field.
6. Training Manual: Permitting staff has completed a training manual for on-boarding new hires in the department. Staff took the initiative to create a more comprehensive manual that addresses the full suite of duties required of permitting staff and permitting representatives. This resource will be vital to the success of new employees and can be used by other departments to understand permitting responsibilities.

7. Laserfiche and Database: All permit files are now stored in Laserfiche, a content management system that stores files electronically. Staff is now able to easily search files based on key words and archive documents. All incoming permit materials are scanned directly into Laserfiche. Permitting staff has worked with North Point Geographic Solutions to develop a new, web-based database. This new system directly links to the Laserfiche system allowing for better data management. The system also enables staff to access the database in the field, which reduces time spent in the office to generate inspection reports

8. Department Reorganization: Permitting staff is now under leadership of the Planning and Projects Director. This new structure will help identify opportunities for collaboration and increase interdepartmental communication.

Planning and Projects Program – Top Accomplishments in 2014

1. Reach 20 Trails:

With completion of the stream restoration and stormwater management in 2013, the District turned its focus to construction of the trail system in 2014. A boardwalk and bituminous trail was constructed to provide passive recreation and educational opportunities around the restored creek system, and facilitate future connections between Methodist Hospital, SW. Cedar Regional Trail, 325 Blake Road, and Cottageville Park, through the Reach 20 Minnehaha Creek Greenway. Construction activities will continue into early 2015 – slightly longer than anticipated due to unfavorable spring and summer conditions – with continued vegetation management, educational signage and bituminous trail finish work.

2. Long Lake Creek Corridor Improvements – Phase II:

Focused at the site of a former waste water treatment facility, the Long Lake Creek Phase II restoration project involves dredging and disposing of excess sediments and reconnecting the basin to Long Lake Creek, resulting in a mixed-type wetland with the restored creek meandering through it. The District and Metropolitan Council Environmental Services (MCES) executed a cooperative agreement to further collaborate on design of the project and jointly fund remediation of the site. Final project design was completed in 2014, with construction of the restoration beginning in January 2015.

3. Cottageville Park:

As part of a long range plan for the restoration of the urban Minnehaha Creek corridor, in 2010 the MCWD purchased 427-429 Blake Road, 415 Blake Road, 1303 and 1305 Lake Street in Hopkins. The acquisition provides for riparian restoration, stormwater management, increases public access to Minnehaha Creek and overlaps community goals such as expansion of Cottageville. In September 2010, MCWD and Hopkins entered into a cooperative agreement to pursue these goals. To efficiently take advantage of a Clean Water Fund grant, this year the City and MCWD agreed to amend the cooperative agreement which maintains the City's funding obligation, but allows the District to take the lead role in project design and construction. The District completed design of the park improvements which includes above ground open space, park amenities and creek bank restoration in addition to underground stormwater management. The construction contract is scheduled to be awarded in January 2015 and construction completion is anticipated in the fall of 2015.

4. 325 Blake Road (Cold Storage):

Design of the Powell Road Stormwater Diversion was completed by the District in 2014 and is scheduled for construction in 2015. Design of the Lake Street Stormwater Diversion continues in cooperation with Metropolitan Council as part of their waste water force main project. Construction of this phase of the project will also be conducted in a coordinated effort with Met Council as they complete their lift station and force main work on Lake Street, consequently saving the District significant expense. Staff worked diligently to secure outside funding opportunities, and has modified design and construction schedules to provide the greatest opportunity of receiving these resources. The portion of the 16.9 acre site not slated for creek corridor restoration and stormwater facilities is planned for redevelopment. A team of staff and consultants has been working to develop a pre-development plan, which outlines major elements requiring planning in advance of development including planning for additional

environmental investigations, market and economic analysis, tenant arrangements and construction timelines.

5. Comprehensive Plan:

Staff established a complete framework and scope for developing the District's 2017 Comprehensive Plan which will focus on improving service delivery and implementation effectiveness. A stakeholder engagement process has also been developed and will be initiated in early 2015.

6. Policy Development:

Staff assisted in the development of some significant policies in 2014 that will guide the next generation Comprehensive Plan, including:

- **Balanced Urban Ecology** - Adopted by the Board in January 2014, this guiding policy institutes the District's philosophy of sustained focus, innovation, and collaboration with public and private sector partners.
- **Focal Geographies** - Building on the adoption of the *Balanced Urban Ecology* policy, the Board identified the Six Mile Creek Subwatershed as a priority focus area in addition to the Minnehaha Creek Subwatershed.

7. Partnership Building:

Staff developed and strengthened a number of partnerships in 2014 and entered into MOUs with the City of Edina, Park Nicollet, and Great River Greening to help align goals, interests, and resources. The partnership with Edina has resulted in improved regulatory coordination, a cost share project to manage stormwater in the Arden Park Neighborhood, and potential for a large-scale stream restoration project.

8. Program Staff Collaboration Group:

Building upon discussions amongst staff about department integration and the desired core cultural traits of the organization, staff led the formation of a collaboration group – comprised entirely of program level staff – for the purpose of strengthening the organization and advancing the District's mission. This group worked to develop a manifesto related to culture and core values titled *Organizational Culture: A Foundation of Core Values*. This document emphasizes the power of cross-department coordination, leadership at all levels, and matrix style management designed to eliminate silos and create a platform for idea sharing. The influence of this document has extended into the hiring process of the new administrator, been incorporated into the annual staff review process, and integrated into the District handbook. This group continues its focus to develop routine staff seminars and lectures, compile leadership literature, and influence elements of the District's daily operations.

9. Urban Corridor Planning:

In 2014, staff completed feasibility analysis of the Powell-Meadowbrook corridor – including strategic partnership with the City of St. Louis Park and a major regional employer – to address stormwater runoff, riparian corridor constraints and trail connectivity. 2014 also saw the continuation of South West Light Rail Transit (SW LRT) planning, in which District staff continued collaboration on issue resolution, station area planning and community works investment strategies. Planning and projects staff continues work on multiple other initiatives including Blake Road Corridor Study, 325 Blake Road stormwater and redevelopment, Knollwood Mall

Area plan, Louisiana Avenue Study Area, and the Meadowbrook-Hiawatha Golf Course collaborative with the MPRB.

10. Six Mile Planning:

Planning activities in the Six Mile Creek priority subwatershed in 2014 included: initiation of the 3-year U of M Carp Study (managed by AIS program staff), conducting additional water quality monitoring needed to fill data gaps identified through the Six Mile Diagnostic, and reengaging with landowners around Pierson and Parley Lakes to discuss project opportunities. An implementation plan for the subwatershed will be developed as part of the Comprehensive Plan process with the help of a stakeholder advisory committee beginning in 2015.

Project Maintenance & Land Management Program – Top Accomplishments in 2014

1. Flood Response: Led the multi-jurisdictional coordination of the District's response during record high water conditions due to the wettest spring (Jan. 1- June 30) on record. Coordinated with Hennepin County Emergency Management, National Weather Service, local communities, and District partners on response measures and provided technical assistance.
2. Flood Damage Repair/Federal Emergency Management Agency (FEMA) Coordination: Assessed high-water damage throughout the District through site inspections and a stream assessment of the District's six major streams. Led FEMA coordination following disaster declaration to document and obtain federal funding for an estimated \$1.3 million in flood damage to District infrastructure.
3. 2014 Flood Report: Aggregated and synthesized data gathered throughout the flooding event to assess impacts across the watershed. The flood report will document the flooding event, discuss the effects of high water across the District, discuss the organizational impact across District departments, summarize agency coordination, and will be used to inform a Response Plan which will define the District's role during future flooding events.
4. Partnerships: Developed working relationships with the National Weather Service and Hennepin County Emergency Management to provide improved interagency coordination regarding stream and lake level forecasting, long-range weather forecasting, and emergency management preparation, messaging, and response.
5. Dam Operations: Operated and maintained the Gray's Bay Dam during record high water conditions. Coordinated with the National Weather Service to obtain local weather forecasts to help inform dam operations. Coordinated with District engineer to perform lake level predictions and estimate discharge.
6. Capital Project Vegetation Planning: Contributed to and reviewed vegetation plans for Cottageville Park, Reach 20 Streambank Restoration, Long Lake Creek Corridor Improvement Plan, Big Island Phase II and Bushaway Road.
7. Natural Resource Management Plans: Completed Natural Resource Management Plans (NRMP) for 12 District properties, which contain vegetation inventories and identify restoration opportunities. This NRMP information will then be used to develop comprehensive Management Plans for all the District's properties.
8. Stormwater Pond Survey: Completed sediment surveys on 7 of the District's 25 stormwater ponds and began coordination with project partners on required maintenance.
9. Project Inspections: Completed two rounds of 56 District project and land inspections and two additional rounds of inspection for 32 sites known to have vulnerability to high water.

10. Vegetation Management: Managed the vegetation maintenance at 21 past District project sites and 23 active capital project sites.