



SOUTH WASHINGTON WATERSHED DISTRICT

2021 Annual Report



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Board of Managers

2021

Manager	Position	Term Expires	City/County
Mr. Brian Johnson 4353 Dorchester Drive Woodbury, MN 55129 612-710-8585	President	05/01/2022	Woodbury/Washington
Ms. Sharon Doucette 8966 Jasmine Lane South Cottage Grove, MN 55016 651-216-2555	1 st Vice-President	05/01/2023	Cottage Grove/Washington
Ms. Cole Williams 7987 River Acres Road Cottage Grove, MN 55016 612-999-8562	2 nd Vice President	05/01/2024	Cottage Grove/Washington
Mr. Kevin ChapdeLaine 601 2 nd Avenue Newport, MN 55055 612-508-1284	Treasurer	05/01/2022	Newport/Washington
Mr. Mike Madigan 2366 Hidden Lake Cove Woodbury, MN 55125 651-702-0488	Secretary	05/01/2023	Woodbury/Washington

Introduction

The Cottage Grove Ravine Watershed Management Organization (WMO) was formed in 1984 to manage the resources of the watershed. This WMO was based on a joint powers agreement among the five cities in the watershed. A draft watershed management plan for the WMO was completed in April 1988; however, this plan was never approved or adopted by the WMO.

The WMO was later disbanded, and, in 1993, the Cottage Grove Ravine Watershed District was formed as the 42nd watershed district in Minnesota. The watershed district changed its name to the South Washington Watershed District (SWWD) in 1995. The SWWD was formed under, and operates in accordance with, Minnesota Statutes, Chapter 103B, "Metropolitan Surface Water Management Act", and Chapter 103D, "Watershed Districts." In 2018, the SWWD celebrated its 25th year Anniversary as the 42nd watershed district in Minnesota. SWWD partnered with Great River Greening in October to host a volunteer planting and anniversary celebration at the SWWD prairie. In December 2018, the SWWD anniversary milestone was recognized at the Minnesota Association of Watershed District Annual Meeting.

The SWWD completed development of the watershed plan in 1996, approval of the plan was granted by the State Board of Water and Soil Resources in 1997, and later amended in 2002. Since that time the SWWD has focused its efforts on determining potential flood risk and developing a comprehensive flood relief system. The proposed system is designed in two phases; 1) reduce potential flood damages for existing developed areas of the watershed; 2) develop a comprehensive solution that provides stormwater management and flood control with capacity for the planned growth included in the 2020 comprehensive land use plans.

In April 2003, the SWWD petitioned the Minnesota Board of Water and Soil Resources to enlarge the boundary and include the East Mississippi Water Management Organization. The East Mississippi Water Management Organization included all or portions of Grey Cloud Island Township, Cottage Grove, Woodbury, St. Paul Park, and Newport. The enlargement was completed as a part of recommendations from the Washington County Water Governance Study (1999). The enlargement petition was approved on May 28, 2003 by the Board of Water and Soil Resources (BWSR). SWWD again petitioned BWSR in May 2010 to enlarge the SWWD boundary and include portions of the dissolved Lower St. Croix Watershed Management Organization (LSCWMO) which included all of Denmark Township and portions of Afton, Cottage Grove and Hastings. BWSR approved the enlargement in September 2010.

SWWD updated the Watershed Management Plan (WMP) through 2007, with BWSR approval in September of 2007, and SWWD Board adoption in November 2007. The updated plan lays out guidance on the management of water and natural resources through the year 2017. The WMP plan was amended in 2010 to include the new Coordinated Capital Improvement Program and three additional capital improvement projects. Another amendment to incorporate areas in its expanded boundary and the priorities and projects identified in the LSCWMO plan was completed in 2011.

In 2016, the SWWD updated the WMP dated 2007, amended in 2010 and 2011. On October 26, 2016, BWSR approved the October 2016 WMP, and the SWWD Board adopted the WMP in November 2016.

This third generation WMP once again builds on past work in the District and is intended to serve SWWD for decades to come. It is structured in three parts.

Part I serves as a summary of various District plans and assessments and points the reader to more regularly updated District data, all of which is available on the District's website, www.swwdmn.org. The website which includes the District's water quality database and web map viewer with extensive spatial data and serves as a repository for District plans and reports. Part II includes identified issues and goals and serves as the basis for all actions that the District takes. Progress toward achieving goals will be routinely assessed and implementation actions adjusted as necessary. Should additional issues be identified by SWWD they will be incorporated through amendment. Part III serves as the District's implementation plan, establishing District programs, Long Range Workplan, and Administrative procedures. This part will be routinely updated through amendment to continue to serve the District.

The WMP complies with Minnesota Rules Chapter 8410, "Metropolitan Area Local Water Management," (July 13, 2015), the Metropolitan Surface Water Management Act, and Minnesota Statute 103D.

This report has been prepared in accordance with Minnesota Rules Chapter 8410.0150, Annual Reporting Requirements. Content of this report pertain to the calendar year 2021.

2021 Financial Report

The 2021 audit report is in Appendix A. Revenue and program expenditure summaries 2021-2022 are presented below.

Revenue

Revenue Source	2021	2022*
Ad Valorem Levy	\$ 1,219,805	\$ 1,247,861
Stormwater Utility		
SWWD Area	\$ 2,288,116	\$ 2,285,036
E. Mississippi	\$ 374,550	\$ 378,750
Lower St. Croix	\$ 102,545	\$ 106,300
Total Revenue	\$ 3,988,971	\$ 4,017,947

*Anticipated Revenue

Program Expenditures

Program Area	2021 Budget	2021 Actual/Unaudited	2022 Budget
1.0 Planning	\$ 365,950	\$ 224,587	\$ 286,880
2.0 Regulatory	\$ 26,550	\$ 88,814	\$ 40,130
3.0 Implementation & Maintenance	\$ 3,063,154	\$ 2,148,213	\$ 6,425,300
4.0 Education & Information	\$ 179,150	\$ 238,065	\$ 144,570
5.0 Operational	\$ 446,925	\$ 383,915	\$ 458,141
6.0 Debt Service	\$ 275,000	\$ 280,020	\$ 250,000
Total Budget	\$4,356,729	\$3,363,614	\$7,605,021

2021 Activity Report

Fund 1-Planning

PURPOSE: TO PROVIDE CURRENT, SOUND GUIDANCE FOR IMPLEMENTATION

Surface Water

- Climate Adaptation and Resiliency Plan. In September 2017, SWWD held a two-day climate adaptation and resiliency plan workshop. The workshops were focused on adaptation and building resiliency into infrastructure and systems. This planning effort is an opportunity for our communities to address risks due to non-climate concerns as well; including poor planning, under-design, lack of maintenance, etc. Representative from local governments, institutions, and businesses participated in the workshops. The workshops resulted in a plan that identifies vulnerabilities and prioritizes actions to address them (https://www.swwdmn.org/wp-content/uploads/2018/03/FINAL_SWWD-Climate-Resiliency-Plan-3_26_2018.pdf). That completed plan was adopted by the SWWD Board in 2018 and has been incorporated into the Watershed Management Plan as a guidance document. One of the common concerns across cities was a need to coordinate on flood response. In early 2019 SWWD worked with HDR, Inc to update SWWD's flood response and mitigation plan. In 2020, additional efforts will focus on updating operation and maintenance plans for active stormwater controls throughout the primary drainage path running north to south through SWWD including SWWD's central draw storage facility at the Woodbury/Cottage Grove border. In 2020, SWWD was awarded the 2021 Organization Award from the Minnesota Climate Adaptation Partnership for providing local leadership for climate adaptation and resiliency. The award reflects SWWD's accomplishments and ongoing work.
- In 2021, SWWD completed another Newport retrofit analysis that identified targeted BMPs within the City of Newport that will reduce the amount of total suspended solids (TSS) entering the Mississippi River. Network 4 analysis includes a roughly 519 acre primarily residential drainage area routed to the 48-inch storm sewer trunkline along 16th St. The trunkline outlets to the Mississippi River just west of the intersection of 16th St. and Cedar Ln. There are 3 existing stormwater ponds upstream of the proposed BMP location. Shallow bedrock is expected in the area, but is anticipated to be weathered based on the BMP installation at 15th and Cedar. Network 5 is over 1,330 acres and consists primarily of open space and residential area. Stormwater is routed to a 1.5 meter storm sewer trunkline within the 8th St. right-of-way (ROW) west of 4th Ave. The trunkline outlets to a ravine that flows west to the Mississippi River between the 8th St. and 7th St. ROWs. This trunkline has a steady baseflow as noted during the site visit and confirmed by the adjacent homeowner. There are 8 stormwater ponds and 1 grassed swale within the Network 5 watershed. Construction of Network 4 will be in 2022.
- In 2019, SWWD updated its flood response and mitigation plan. That plan identified a need to coordinate system operation between SWWD, Woodbury, and Cottage Grove. Those three agencies are currently working to evaluate and operate the interconnected system. Additionally, the effort will identify potential improvements to increase resiliency of the overall system. This was completed in 2021.

- **Street Sweeping Plan.** In 2021, SWWD and the City of Woodbury agreed to participate in developing an enhanced street sweeping plan. Based on research from University of Minnesota, enhanced street sweeping appears to be extremely cost effective at reducing phosphorus loading to water resources. However, there is often difficulty in getting public works departments to implement enhanced programs. By developing an enhanced plan together with the city of Woodbury SWWD expects to end up with a program that has buy in from public works and that addresses City concerns about staff capacity, disposal, etc.

Natural Resources

- **Glacial Valley Interpretative Center.** SWWD’s Watershed Management plan, identifies the potential and need for a facility (learning center) on the CDSF Prairie site to carry out desired functions of the site. In 2017 SWWD and its partners began work on scoping and designing a future facility and evaluating the need for the facility. A completed schematic design includes parking, regional and interior trail alignments and circulation, a shelter facility with restrooms, informational/interpretive kiosks, and gateway and wayfinding signage/structures. That schematic design has been incorporated into the SWWD Watershed Management Plan as a guidance document. SWWD and its partners will continue pursuing funding opportunities. The SWWD in partnership with Washington County and MNDNR updated the management plan for the prairie to include the conceptual design in early 2020. Plans for the Learning Center, trails, and interpretive features will be finalized in 2022.
- In 2017, the SWWD began working with the Washington Conservation District to inventory and prioritize ravines within the Trout Brook subwatershed that have the greatest potential for pollutant load reduction for Trout Brook and the St. Croix River. The completed assessment was adopted as a guidance document to the SWWD Watershed Management Plan. SWWD continues to address priority ravines, and seek funding for restoration.

Water Quality Assessment

- **SWWD Lake Management Plans.** Consistent with the SWWD Watershed Management Plan, SWWD worked with its consultants to review existing SWWD lake management plans. In 2021, SWWD began lake vegetation management planning with the MndNR to determine the vegetation management options in Colby, Ravine, and Markgrafs Lakes. Analysis completed in 2018 indicated that SWWD’s lakes are seeing more inflow and higher internal loading than previously thought. SWWD continues to monitor and assess water quality annually.
- **Regional BMP Feasibility.** Concurrent with review of SWWD’s lake management plans, SWWD, its consultants, and City staff evaluated feasibility of potential regional BMPs in the Armstrong, Wilmes, and Powers Lake watersheds. Several potential BMPs were identified to make large reductions in lake nutrient loading. In 2019, SWWD and the City of Woodbury completed 30% design for a regional stormwater filter that will benefit Wilmes Lake. That project will be constructed in 2021. Additional regional BMPs are currently in design and should be ready for construction in 2022-2023.

Fund 2-Regulatory

PURPOSE: TO LIMIT THE AFFECTS OF LAND ALTERATIONS AND PROTECT THE PUBLIC HEALTH, WELFARE, AND NATURAL RESOURCES OF THE DISTRICT

Development Reviews

- Development Reviews. SWWD ensures compliance with rate and volume requirements by coordinating development reviews with Municipalities that have adopted a local surface water management plan and updated official controls. Staff conducts full development reviews of projects in Municipalities that have yet to adopt their plan or update controls. In Municipalities with an adopted plan and updated controls, SWWD reviews projects for regional impact. SWWD staff provided development review support for several Cities throughout 2021.
- In 2014, SWWD began the process for updating the SWWD Rules and Standards. SWWD's current rules were adopted December 13, 2011. Since that time, a new MS4 general permit has been issued, the District has updated its hydrologic guidance documents to include Atlas 14 rainfall rates, and the District updated its Ravine Lake management plan. All of these changes necessitate changes to District Rules. After the public comment period, the Rules were formally adopted by the SWWD in early 2015. With the reissued MS4 permit in 2021, SWWD will need to update its rules for redevelopment projects within the District. In 2021 SWWD contracted with Barr Engineering to provide support to review implications of the re-issued MS4 permit on SWWD rules, analyze SWWD campus greening projects under requirements of the re-issued MS4 permit, and research potential mechanisms to credit trees for meeting stormwater rules. Planning and updates to the SWWD Rules are planned for 2022.
- SWWD monitored potential floodplain impacts from projects as part of its development review process. Multiple projects within the floodplain were reviewed, none of which decreased floodplain storage.
- Multiple projects within the Wilmes Lake watershed were reviewed for potential downstream impact at Wilmes Lake which has exhibited past flooding. No projects reviewed in 2021 are expected to exacerbate existing flooding concerns.
- SWWD maintains extensive hydraulic and hydrologic modeling of the District. Staff continues to work with City staff to accommodate incoming development while preserving critical floodplain storage in the District as identified in District models.

Wetland Conservation Act

- Wetland Conservation Act Administration. In 2012, SWWD became the Local Governmental Unit (LGU) for wetland permits within the SWWD boundary. In 2021, SWWD reviewed 18 applications. SWWD staff conducted development reviews to ensure compliance with SWWD wetland standards and participated as part of the Technical Evaluation Panel (TEP) to evaluate wetland impacts of proposed projects.

Erosion and Sediment Control

- Erosion and Sediment Control. SWWD standards require projects to meet NPDES requirements for erosion and sediment control. SWWD's Stormwater Pollution Prevention Plan (SWPPP) calls for SWWD to complete up to four inspections annually on active construction sites. Additionally, SWWD rules require Municipalities to identify an inspector and conduct regular inspections. In 2021, SWWD contracted with the Washington Conservation District to provide inspection services for the Cities of Woodbury and Cottage Grove. SWWD works with City staff to enforce compliance on issues identified in inspections. Inspection services will continue through 2022.

Fund 3-Implementation and Maintenance

PURPOSE: TO PROVIDE INFORMATION NECESSARY TO ASSESS STATE OF DISTRICT RESOURCES AND IMPACT OF DISTRICT ACTIONS

Monitoring

- SWWD continued to operate an extensive stormwater monitoring network. Data collected as part of the program is used to identify trends in water quality which are largely driven by changes in stormwater runoff. The monitoring data is available on the SWWD Web-based database that allows users to access District data and performs basic statistical and plotting functions. 2021 data is now available on the web database and reports will be uploaded to the website when complete.

Maintenance

- In 2021, Great River Greening continued contract work on the prairie restoration and maintenance at SWWD's Central Draw Storage Facility. The contract includes proposed work through 2021 and includes prairie/savanna establishment and maintenance, development and coordination of volunteer events, development and oversight of a simulated grazing (i.e. haying) program, and development of research opportunities with the University of Minnesota. This work will partially be funded through LCCMR funds through Great River Greening. Once restored, the basins will provide regional water quality treatment and flood control while also serving as public open space and providing key connections in regional greenway and trail corridors.
- SWWD, the City of Woodbury, and Great River Greening (GRG) initiated work through GRG's Pollinator Seed Initiative to address the shortage of pollinator-friendly seed. The primary goal of the initiative is to create a sustainable future for pollinator habitat restoration and conservation by creating local sources of genetically appropriate seed which could be harvested when commercial seed suppliers lack sufficient inventory. In 2018, over 10 acres of Koch pipeline corridor and adjacent parkland from Bailey Road to Ojibway Park in Woodbury was planted in native vegetation. This corridor is a prime location not only for seeding and propagation - where the corridor is accessible by trail and the current vegetation needs improvement, but also as an ideal setting to engage the neighborhood and schools adjacent to the corridor – over 1,500 households and 3 schools within 0.5 miles of corridor. Maintenance of the corridor was ongoing throughout 2021 and will continue in 2022.

Implementation

- SWWD implements projects to achieve District goals and objectives. Projects include:
 - Nuevas Fronteras TSS and TP filter system (2021)
 - Seasons Park Stormwater Filter (2021)
 - McQuade Ravine Stabilization (2021)
 - Wilmes Lake Alum Treatment Facility (2022)
 - Powers Lake/Hasenbank Woods BMP (2022)
 - County Road 74 and Genevas Avenue Ravine Stabilization (2022)

Capital Improvement Plan

- SWWD has now completed construction of its Central Draw Storage Facility and Central Draw Overflow projects. Together, this system provides flood control for stormwater draining out of SWWD's Northern Watershed. The system is designed to capture and infiltrate all runoff from the former design storm event and continue to function even under more extreme events. That event has now increased both in rainfall amount and intensity which SWWD's system will continue to handle effectively in order to protect communities at the Woodbury/Cottage Grove border. Additional work is ongoing with both Woodbury and Cottage Grove to analyze their systems that connect to SWWD's Central Draw in order to optimize operation of those systems and identify potential improvements to protect against increasing storm intensity.
- Restoration of Trout Brook was identified as a local priority by the former Lower St. Croix Watershed Management Organization which previously managed SWWD's Trout Brook watershed. SWWD and its partners developed and implemented a channel remeander and restoration project at Afton Alps Ski Area. That project relocated a ditched stream section out from the middle of the Afton Alps parking lot to the south side of the lot and recreated natural stream features. Construction was completed in 2019. In 2021 design for additional restoration work was done and included replacement of the remaining double barrel culvert crossing at Afton Alps as well as in stream restoration work at Afton Alps and within the State Park. Construction for this restoration work will likely occur in 2022.
- Glacial Valley Park Learning Center and Interpretive Area Design. The District's management plan as required by the conservation easements covering the property has been updated and approved by both Washington County and MnDNR. The management plan now contains the completed conceptual design for the learning center, trails, and interpretive features. SWWD is working with City of Woodbury to plan for implementing the project. Extension of Glacial Valley Road is likely in the next 1-2 years which would provide utilities for the learning center. The City of Woodbury is planning an active park area immediately West of Glacial Valley which will also provide parking for Glacial Valley. SWWD is currently working with the City to review the site plan. There is interest in establishing trails and interpretive signage prior to constructing the learning center as there seems to be a lot of resident use of the existing trail around CDP85. SWWD is working with its consultant to begin the formal design process. Plans should be in place to construct the learning center and associated site improvements when the road is built.

Incentives

- In 2021 SWWD continued its performance-based cost-share program. Instead of reimbursing land owners for a specific percentage of total project cost, SWWD reimburses land owners based on the amount of phosphorus that their project is expected to retain. SWWD's 2021 reimbursement rate was \$5,000.00 per pound of phosphorus retained with reimbursement capped at total project cost. SWWD allocated \$70,000 to 10 projects in 2021. Together, the projects are expected to capture 54 lbs of phosphorus. Four of the projects were completed in 2021 along with three cost share projects

funded through past years' programs. The remaining projects are pending. Projects with higher funding levels typically treated runoff from several properties.

- In 2021 the SWWD continued to implement a BMP Maintenance Program. The SWWD has recently installed several stormwater BMPs in conjunction with road improvements projects with Cities where vegetation maintenance is the responsibility of the SWWD. Other older stormwater BMPs installed were also in need of maintenance. Maintenance was performed through contract by Washington Conservation District staff.
- The SWWD Board of Managers awarded \$377,538 through its Coordinated Capital Improvement Program (CCIP) in 2021. \$101,825 was awarded to the City of Cottage Grove for pond maintenance. \$100,000 was awarded to the City of Woodbury for BMP maintenance work. \$144,726.50 was awarded to the City of Woodbury to purchase a regenerative air sweeper. \$30,986.50 was awarded to City of Woodbury for vegetation management in Bailey's Arbor and Eagle Valley golf course.
- The SWWD and the City of Woodbury share similar goals and values regarding surface water management and flood storage protection. In 2021, the SWWD Board of Managers awarded \$177,719.66 through the SWWD Flood Damage Reduction program to reimburse 50 percent of the City's Flood Risk Reduction Grant program cost share portion for projects approved and completed within the Watershed District Borders. Six projects were completed in 2021 with another seven projects anticipated to be completed in 2022 and 2023.
- SWWD staff worked with Washington Conservation District and the Minnesota Pollution Control Agency to continue development and operation of a groundwater quality regional assessment program. The program consists of collecting seasonal water quality samples from wells existing around the CD-P85 and CD-P86 regional infiltration basins and Bailey Lake. Collected data are included in the SWWD monitoring report and will be used to monitor groundwater quality and serve as an indicator of potential impacts resulting from use of regional infiltration facilities. This effort is part of a larger initiative by State agencies to evaluate potential effects of large scale infiltration.
- SWWD continued its collaboration with the Minnesota Department of Natural Resources with monitoring wells on SWWD property as part of an effort to expand the State's groundwater monitoring network. Information on these wells located on SWWD property can be found at <http://www.dnr.state.mn.us/waters/cgm/index.html>.
- The SWWD maintains communications with Municipal water suppliers to understand the implications of the North and East Metro Groundwater Management area draft plan. A major effort of the draft plan is promoting water conservation. The SWWD partners with Municipal water suppliers to promote water conservation through residential irrigation retro-fits, education, smart technology and stormwater reuse.
- In 2021, the SWWD continued to partner with the Cities of Woodbury and Cottage Grove to address water conservation through smart irrigation, a City wide Residential Irrigation Controller program.

Fund 4-Education and Information

PURPOSE: TO EFFICIENTLY INFORM AND EDUCATE DISTRICT RESIDENTS AND STAKEHOLDERS

- SWWD participated and continued support of the East Metro Water Resource Education Program (EMWREP). The EMWREP annual activities report is in Appendix B.
- SWWD contracted with Carpenter St. Croix valley Nature Center in 2021 to provide education activities and workshops with 5th graders. Due to the COVID-19 pandemic, education programming was limited in 2021. Carpenter Nature Center continue programming in 2022. Programming will include a 6-week, in-class program focused on water quality and watershed science. The program culminates with a daylong field trip to Minnesota Valley National Wildlife Refuge.
- SWWD continued using social media as well as the Districts website as a communication platform. A Facebook and Twitter account were created in 2017.
- WD staff continues to collect and organize all SWWD monitoring data from the Washington Conservation District. SWWD maintains an online database for accessing monitoring data through the SWWD website.
- In 2021, SWWD and the South Washington County School District (ISD833) continue its campus greening efforts. As part of ISD833 school improvement projects, SWWD works with ISD833 and school staff to plan and implement campus greening projects. Those projects generally include conversion of turf to prairie, woodland restoration or tree planting, and construction of outdoor classrooms. Projects are complete or ongoing at Lake Middle and Middleton Elementary campus, Nuevas Fronteras Elementary, Valley Crossing Elementary, Crestview Elementary, and the Cottage Grove Middle and Grey Cloud Elementary campus. When complete, campus greening results in a more resilient landscape while also providing expanded opportunities for on-site outdoor education, increased stormwater infiltration and requires less irrigation, fertilizer, and pesticide use. South Washington County School District Campus Greening.
- In 2021, the SWWD continued to provide funds to the MN Stormwater Research Council (MSRC). The MSRC is an independent organization of stormwater professionals, practitioners, managers, engineers, and researchers working cooperatively to facilitate applied stormwater research in MN. Identified research priorities for 2019 include stormwater reuse, chloride effectiveness and deicing alternatives, and development or evaluation of stormwater practices and technologies.

Fund 5-Operational

- The SWWD District Board annually prioritizes work activities from the long range work plan constituting targeted efforts for the coming year. These work activities translate into the annual work plan and budget for the SWWD. The annual work plan allows the District Board to establish a short term operating budget while maintaining connection to the overall long term management goals of the District. Six Management areas have been defined through which the SWWD will work

to execute the annual work plan. The areas are: (1) Planning, (2) Regulatory, (3) Implementation & Maintenance, (4) Education & information, (5) Operational, and (6) Debt Service Fund. According to Minnesota Statute 103D.911 the SWWD must hold a hearing and adopt a preliminary budget on or before September 15th of each year. The Final budget certification is due to Washington County by December 31st of each year.

- In 2021, SWWD continued collecting stormwater utility fees in the South Washington Watershed, East Mississippi, and Lower St. Croix management units. Revenue will be used to fund water quality projects only within each of the management units.
- The SWWD maintains an operational general fund for daily operations of the district. Operational general funds include, staff, managers, office expenses, insurance, audit and legal services.

Fund 6-Debt Service

- In 2011, the SWWD issued general obligation bonds for the construction of three projects within the East Mississippi management area. In 2016, SWWD refinanced the 2011 general obligation bonds. In March 2019, the 2011 general obligation bonds crossed over to general obligation refunding bonds resulting in a principal payment made by SWWD in the amount of \$3,145,000. In 2021, SWWD continued principal and interest payments on the 2016A General Obligation Refunding Bonds, and will continue paying on these bonds through March 2031.

2022 Workplan

As part of its annual reporting, the District evaluates performance of programs and progress toward meeting goals through implementation indicators established in this Plan and adopted guidance documents. SWWD has developed a workplan layout matching issues and program categories and subcategories outlined in the Watershed Management Plan:



Progress Evaluation for the Issue: FLOODING
Subcategories: FLOOD DAMAGE REDUCTION AND MITIGATION

Issue Goal:

Minimize existing and complete establishment of a controlled overflow from SWWD’s Northern Watershed to the Mississippi River resources due to flood events.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Prevent increases in runoff from development activity through development and enforcement of District Rules;	Ongoing.	-	Enforce SWWD rules.
2	Prevent increases in flooding risk due to development (e.g. Wilmes, Ravine, and O’Conner’s Lakes);	Ongoing.	-	Enforce SWWD rules.
3	Achieve no net loss in inventoried key flood storage areas;	Ongoing.	-	Enforce SWWD rules.
4	Achieve progress towards identified inter-community flow limits as development occurs;	Ongoing. Currently working with Woodbury and Cottage Grove to review the current West Draw flow limit.	-	Enforce SWWD rules. Review inter community flow limits from Woodbury into Cottage Grove as part of model update process.
5	Maintain implementation flexibility (program framework and funding) to respond to identified flood damage reduction/mitigation needs that may arise.	Limited funds budgeted to begin building a reserve balance. Flood Response and Mitigation Plan updated. System optimization study complete.	-	Allocate budgeted funding to assist Cities in implementing identified improvements to systems and infrastructure to build resilience.



Progress Evaluation for the Issue: FLOODING

Subcategories: CENTRAL DRAW STORAGE FACILITY AND OVERFLOW

Issue Goal:

Complete establishment of a controlled overflow from SWWD’s Northern Watershed to the Mississippi River.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Phase III, modification of the Ravine Lake outlet by 2017;	Complete	-	None
2	Phase IV, stabilization of Ravine Park by 2018	Complete	-	Monitor vegetation establishment, Continue to manage invasive species
3	Phase V, construction of remaining pipe sections by 2019;	Complete	-	Monitor vegetation establishment, incorporate new structures into routine inspections
4	Completion of functioning overflow system by January 1, 2020 as specified in SWWD/Lower St. Croix WMO consolidation agreement, unless otherwise agreed to by Cottage Grove, Woodbury, and SWWD.	Complete	-	None



Progress Evaluation for the Issue: WATERSHED ALTERATIONS
Subcategories: SURFACE WATER DEGRADATION AND IMPAIRMENT

Issue Goal:

Protection and restoration of District resources to meet local resource goals and State standards.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Adoption of completed TMDLs for Statewide and Regional resources for which implementation actions are identified for SWWD;	N/A	-	Review TMDLs as they are finalized.
2	Colby Lake: Restore Colby Lake to state eutrophication standards by reducing the annual total phosphorus load by 1,303 lbs/yr.	SWWD estimates that the annual TP load has been reduced by 220 lbs.	Accelerate implementation with existing fund balance	Develop and implement upstream regional BMPs. Begin AIS vegetation control. Begin enhanced sweeping program in partnership with Woodbury.
3	Wilmes Lake: Restore North and South Wilmes Lake to state eutrophication goals by reducing the annual total phosphorus load by 265 and 108 lbs, respectively.	SWWD estimates that the annual TP load to Wilmes Lake has been reduced by 99 lbs.	Accelerate implementation with existing fund balance	Develop and implement regional BMPs. Construction of the Seasons Park stormwater filter is complete. The potential Wilmes alum facility is at 30% design. Begin enhanced sweeping program in partnership with Woodbury.
4	Powers Lake: Protect Powers Lake from exceeding state eutrophication standards by maintaining existing watershed phosphorus load.	Powers Lake continues to meet State standards.	Accelerate implementation with existing fund balance	Advance concept for stormwater park between Fish and Powers Lake from 30% to final design. Begin restoration of Hasenbank Woods and Fish Lake wetlands to decrease watershed loading. Begin enhanced sweeping program in partnership with Woodbury.
5	Armstrong Lake: Protect Armstrong Lake from exceeding state eutrophication standards by reducing the annual total phosphorus load by 89 lbs	15 th and Hilo IESF BMP complete and functional.	Accelerate implementation with existing fund balance	Opportunistically pursue projects as part of development and redevelopment. Explore feasibility of cattail harvesting to reduce internal loading of Armstrong Lake wetland complex.
6	Markgrafs Lake: Restore Markgrafs Lake to state	N/A	Conduct a Subwatersh	Complete a Subwatershed Retrofit Analysis in 2022 to

	eutrophication standards by reducing the annual total phosphorus load by 209 lbs/yr		ed Retrofit Analysis to identify BMP opportunities	identify BMP opportunities. Begin AIS vegetation management in 2022. Begin enhanced sweeping program in partnership with Woodbury.
7	Ravine Lake: Restore Ravine Lake to state eutrophication standards by reducing the growing season total phosphorus load by 141 lbs/yr at full build-out through enforcement of established total phosphorus loading standards.	Improvements completed throughout Ravine Park and within the Lake itself.	-	Begin AIS vegetation management in 2022.
8	Mississippi River: Meet proposed TMDL loading rate of 154 lbs/ac/yr of Total Suspended Solids;	SWWD’s MS4 meets the TMDL with zero discharge. SWWD continues to assist Cities in achieving reductions in their systems. Conducted a Subwatershed Retrofit Analysis (SWA) for City of Newport in 2018; Underground TSS BMP at 15 th and Cedar in Newport; Nuevas Fronteras underground TSS/TP BMP in St. Paul Park.	-	Design of additional underground BMP opportunities in Newport. Stabilization of 65 th and Geneva ravine in Newport.
9	Lake St. Croix: Achieve 36%, or approximately 315 kg of total phosphorus load reduction for Trout Brook as specified in the Lake St. Croix TMDL.	Multiple BMPs have been installed in the Trout Brook watershed to date. Monitored stream load at SWWD's regional assessment location meets the proposed TMDL loading rate. Stabilization of the McQuade ravine directly tributary to Lake St. Croix.	-	Begin construction on Phase III of Trout Brook in stream restoration. Design of ravine stabilization projects on active ravines near St. Croix Bluffs County Park.
10	No net loss in wetland acreage or function;	Ongoing.	-	Enforce SWWD and WCA rules.
11	Protect/promote soil health as part of District projects and through District rules as a means to limit hydrological impacts of land alteration.	N/A	-	Participation in ag programs as part of the Lower St. Croix 1W1P partnership.
12	Continue existing Incentive programs to encourage voluntary implementation of BMPs;	Programs are ongoing.	-	Distribute up to \$70,000 for BMP cost share.
13	Coordinate CIP plan with municipalities through	Program is ongoing.	-	Distribute up to \$550,000 for CCIP projects.

	engagement of a standing Technical Advisory Committee and implementation of the District's CCIP program;			
14	Evaluate impact of emerging contaminants and identify District programs or actions to control or mitigate that risk.	District staff and Board participated in various PFAS work grounds related to 3M settlement fund.	-	Ongoing participation in PFAS work.



Progress Evaluation for the Issue: WATERSHED ALTERATIONS
Subcategories: EROSION

Issue Goal:

Prevent resource degradation of District resources from bluff, streambank, shoreland, and construction site erosion.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	In partnership with State and Municipal programs, promote and ensure erosion and sediment control compliance at active construction sites.	SWWD rules require compliance with ESC rules. SWWD staff assists its municipalities in site inspections during the construction season.	-	Enforce SWWD rules. Continue to support municipalities with ESC inspections.
2	Develop and implement buffer regulatory measures to comply with State requirements;	N/A	-	Update rules to reflect changes in State issued MS4 permit. Update MS4 SWPPP.
3	Establish and maintain a 50 foot, permanently vegetated buffer along all bluffs, ravines, lakes, and streams;	N/A	-	Work with developers to ensure adequate buffers as part of development.
4	Identify and prioritize actively eroding ravines and address as budget allows;	Inventory complete for Trout Brook – McQuade ravine stabilized. Ongoing for rest of St. Croix watershed.	-	Begin stabilization of the 65 th and Geneva ravine in Newport. Evaluate active ravines near St. Croix Bluffs County Park.
5	Maintain and enforce rules which prevent increased channel instability due to development;	Rule is in place and enforced during development.	-	Enforce SWWD rules.



Progress Evaluation for the Issue: GROUNDWATER SUSTAINABILITY

Subcategories: SUPPLY

Issue Goal:

Implement conservation efforts to ensure long term viability of groundwater resources in South Washington County.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Participate in development of a county-wide groundwater monitoring effort as identified in the County Groundwater Plan;	N/A	-	Continue partnership with MPCA to monitor SWWD wells as part of the MPCA ambient groundwater monitoring program.
2	Maintain rules and permitting program necessary to adequately protect groundwater resources, protect recharge potential, and promote low impact development as identified in the County Groundwater Plan	Ongoing.	-	Enforce SWWD rules.
3	Implement conservation actions identified through regional planning efforts identified in the County Groundwater Plan;	Ongoing. SWWD routinely funds improvements in municipal de-icing operations through its CCIP program.	-	Continue to support cities in improving De-icing operations.
4	Incentivize practices that reduce demand on groundwater supply;	Ongoing. SWWD is currently assisting Woodbury and Cottage Grove with several pilot conservation programs.	-	Continue to support conservation programs.
5	Promote and incentivize feasible re-use of water;	Ongoing. Re-use is routinely used for required treatment on development projects, especially where soils, bedrock, or karst make infiltration infeasible.	-	Support use of re-use in development and re-development applications.

6	Promote use of infiltration as a tool for recharge where appropriate;	Not started.	-	Nothing planned.
7	Evaluate feasibility of active recharge.	UMN has completed a feasibility report on active storage of water within aquifers. The report identifies Woodbury as having high potential. Existing PFAS concerns and its likely solutions makes active recharge less of a priority.	-	Nothing planned.



Progress Evaluation for the Issue: GROUNDWATER SUSTAINABILITY

Subcategories: PROTECTION (POLLUTION PREVENTION)

Issue Goal:

Protect groundwater resources through pollution prevention and management of surface water groundwater interactions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Continue enforcement of existing karst rules;	Ongoing.	-	Enforce SWWD rules.
2	Consider pollution potential in siting and design of District funded stormwater BMPs;	Ongoing.	-	Enforce SWWD rules.
3	Utilize alternative compliance sequencing for meeting District development rules in areas where infiltration is not appropriate;	Ongoing. Several proposed developments in SWWD have used alternative compliance sequencing due to shallow bedrock, wellhead protection, and poor soils.	-	Enforce SWWD rules.
4	Participate in State and regional efforts to quantify risks to groundwater resources from de-icing operations;	SWWD is partnering with MPCA to include SWWD's groundwater monitoring sites as part of the MPCA ambient groundwater monitoring program.	-	Continue monitoring program.
5	Supplement County incentive programs to prevent pollution from septic systems and abandoned wells;	Not started.	-	Nothing planned.
6	Incentivize road authority upgrades to de-icing operations to prevent overuse of road salt;	Ongoing. SWWD continues to incentivize improvements through its CCIP program.	-	Continue to support cities in improving De-icing operations.

7	Continue groundwater quality monitoring at District regional infiltration facilities sufficient to identify potential impacts to groundwater from large scale infiltration practices.	Ongoing.	-	Continue monitoring program.
8	Consider additional protection of surface water features with potential to impact groundwater quality with guidance from State Agencies.	SWWD continues to engage Cottage Grove and Washington County in identifying and pursuing protection for Vandenberg Lake which has risen 20+ feet in the past 5 years, mirroring aquifer level increases.	-	Pursue protection for Vandenberg Lake if and when acceptable strategy is identified by SWWD and its partners.



Progress Evaluation for the Issue: **NATURAL RESOURCES**

Issue Goal:

Protect, restore, and reconstruct native terrestrial and aquatic habitat for the benefit of resource management.

1	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Protect, restore, and reconstruct native terrestrial and aquatic habitat for the benefit of resource management.	Ongoing. SWWD continues restoration efforts on its Central greenway which includes over 200 acres of prairie and 50 acres of woodland restoration; Campus greening efforts ongoing at several school campus sites.	-	Continue current restoration efforts at SWWDs CDSF, Ravine Park, and school campuses throughout the District. Begin restoration of Hasenbank Woods near Powers Lake.
2	Participate in development of regional programs to address spread and management of invasive terrestrial and aquatic invasive species;	Not started.	-	Begin vegetation management on Colby, Markgrafs, and Ravine lakes.
3	Implement local actions identified in regional planning efforts;	Not started.	-	Nothing planned.
4	Avoid impacts to rare, unique, and high quality habitats as part of all District projects;	Ongoing.	-	Nothing planned.
5	Maintain natural buffers or riparian areas on all District water resources;	Ongoing.	-	Nothing planned.
6	Promote use of site appropriate native plants as part of District funded projects;	Ongoing.	-	Continue use of native plants on SWWD projects and promote their use throughout the District.
7	Promote compliance with guidance for pollinator friendly design practices as	Ongoing. Continued campus greening effort at Lake/Middleton and	-	Work with ISD 833 schools to continue turf to prairie conversions. Continue use of pollinator-focused native plants

	part of District funded projects;	beginning additional campus greening projects throughout District.		on SWWD projects and promote their use throughout the District.
8	Consider preservation or restoration of native habitat and benefits to pollinators and other wildlife in allocation of incentive funding.	Ongoing.	-	Continue use of pollinator-focused native plants on SWWD projects and promote their use throughout the District.
9	Evaluate potential credit mechanisms to incentivize developers to maintain mature trees during development within 3 years;	Woodbury has altered development review policies to allow consideration of hydrologic and water quality benefits of natural land cover, including trees.	-	Review of potential credit mechanisms underway. Any identified mechanisms likely to be successful will be incorporated into District Rules during 2022 rules update.
10	Implement habitat improvement practices identified in completed Resource Management Plans.	SWWD has completed an update of its Lake Management Plans and continues to implement watershed improvements to reduce watershed loading. Future efforts at internal load control will be evaluated as watershed load reductions continue.	-	Continued implementation of watershed improvements. Beginning of in lake vegetation management efforts.



Progress Evaluation for the Issue: CLIMATE CHANGE

Issue Goal:

Facilitate increased resilience of District resources and public infrastructure through development of information and strategies and implementation of accepted climate adaptation practices.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Consider adaptive capacity—ability of a system to adjust to climate change to mitigate potential damages, take advantage of opportunities, or cope with consequences— of District systems and resources in Developing projects and management plans;	Ongoing	-	Consideration being made as part of planning for ongoing campus greening projects. District CCIP program now includes projects that build resilience in District resources and infrastructure.
2	Require use of up to date hydrologic data for meeting District development and redevelopment standards;	Ongoing. SWWD requires use of Atlas 14.	-	Enforce SWWD rules.
3	Utilize District surface water modeling and County Groundwater model to explore changes in surface water/groundwater interactions as a result of predicted changes in hydrologic conditions and water demand;	Not started.	-	Nothing planned.
4	Utilize District CCIP or similar program framework to assist Cities in adapting their infrastructure systems to increase resiliency—capability to anticipate, prepare for, respond to, and recover from significant threats with minimum damage to social well-being, the economy, and the environment;	SWWD’s CCIP program has been modified to include resiliency focused projects as eligible for funding.	-	Continue CCIP program.

<p>5</p>	<p>Promote use of alternative landscapes which require less water;</p>	<p>Ongoing partnership with ISD 833 on campus greening projects throughout District</p>	<p>-</p>	<p>Continue to implement turf to prairie conversion on utility corridors and at school campuses.</p>
<p>6</p>	<p>Promote water re-use where feasible to reduce demand on aquifers;</p>	<p>Re-use routinely used where constraints prevent traditional treatment.</p>	<p>-</p>	<p>Continue to pursue opportunities that arise.</p>
<p>7</p>	<p>Work with local partners to improve delivery of soil conservation programs to prevent increased field erosion from changing precipitation patterns.</p>	<p>SWWD and its partners will begin engaging landowners on soil conservation efforts as part of the Lower St. Croix 1W1P development.</p>	<p>-</p>	<p>Work with partners to engage landowners in SWWD.</p>



Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: RESOURCE ASSESSMENT

Issue Goal:

In partnership with Local, State, and Regional partners, operate a monitoring program adequate to establish baseline water quality and quantity measures and identify long-term trends. Operate a monitoring program adequate to detect changes in loading rate as a result of District implementation actions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Maintain equipment inventory to quickly establish additional monitoring locations in response to identified resource concerns;	Ongoing.	-	Repair and replace monitoring equipment as needed. Program will be expanded in 2022 to include additional regional assessment and BMP monitoring locations.
2	Biennially, complete trend analyses for all lakes and Regional Assessment Locations and complete a review of the District’s Monitoring Plan;	Ongoing.	-	Complete SWWD monitoring reports for inclusion on the website.
3	Expand groundwater monitoring program in partnership with Washington County, MnDNR, MDH, and MPCA to adequately characterize groundwater resources in the District;	Ongoing.	-	Continue partnership with MPCA to monitor SWWD wells as part of the MPCA ambient groundwater monitoring program.



Progress Evaluation for the Issue: INFORMATION AND EDUCATION
Subcategories: DISTRICT-WIDE HYDROLOGIC MODELING

Issue Goal:

Maintain updated, District-wide hydrological modeling to inform District and Municipal management of resources and infrastructure.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Complete development of subwatershed models to complete District-wide coverage within 6 years;	Ongoing. Completed model update for West Draw;	-	Nothing planned.
2	Calibrate completed models to collected monitoring data once every 3 years.	Ongoing, along with model development and update.	Calibrate to available data during model updates.	Nothing planned.
3	Promote use of District models and modeling specifications through dissemination on SWWD website.	Ongoing. Draft modeling spec is available on web. Models are available through request.	-	Update website to ensure that stakeholders can access models as needed. Models are being used by DNR for floodplain updates.



Progress Evaluation for the Issue: INFORMATION AND EDUCATION

Subcategories: RESEARCH

Issue Goal:

Work with local and regional partners to advance knowledge of watershed management issues.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Further identify and refine research and information needs as ongoing role of Technical Advisory Committee;	Identified climate related topics as part of climate adaptation plan. Staff participates as member of MN Stormwater Research Council. MSRC routinely works to identify and prioritize research needs.	Participation in MSRC	Continued participation in MSRC.
2	Pursue research opportunities to provide for identified information needs;	Ongoing. SWWD staff participates on the Stormwater Research Council advisory board and contributes funds to the collaborative effort.	Participation in MSRC	Participate in the MSRC through staff participation on advisory board and through contribution of funds.
3	Biannually publish a summary of completed and ongoing research efforts as part of annual reporting.	Not started.	-	SWWD will work to disseminate results of research completed as part of the MSRC.
4	As part of annual reporting, review existing District web tools for improvements and incorporation of new technologies.	Completed PTMapp model for the rural portions of SWWD; Updated monitoring database to improve function	-	Regular website info updates.



Progress Evaluation for the Issue: INFORMATION AND EDUCATION
Subcategories: EDUCATION

Issue Goal:

Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs, and activities.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Heighten the awareness of key constituencies within the District, sufficient to modify behavior to improve the recognition and implementation of District policies, programs, and activities.	Ongoing. Participating in the Master Water Steward Program	-	Continue to support the Master Water Steward Program by sponsoring interested residents, See EMWREP
2	Actively participate in regional education efforts as an active partner in the East Metro Water Resources Education Partnership (EMWREP);	Ongoing.	-	See EMWREP
3	Develop District facilities for use as interpretive and educational sites as user demand grows with development (i.e. Signage trails, programming at CDSF);	Ongoing. Developed conceptual plan for future learning center at CDSF with Cities and stakeholders	Funding allocated for design and construction	Complete final design for CDSF learning center, trail, and interpretive facilities. Begin construction of trail and interpretive signage.
4	Evaluate the need and opportunity for shared Learning Center at the Central Draw Storage Facility;	Complete	-	None
5	Develop shared interpretive and educational programming through EMWREP for use at Municipal and District facilities focused on identified District issues;	Ongoing. Developed and installed signage at outdoor classrooms and Trout Brook.	-	Continue to develop and construct outdoor classrooms as part of campus greening program.
6	Engage local public, private, and NGO partners to develop experiential programming for children;	Ongoing. Successful development and continued implementation of	-	Continue in-class experiential programming in partnership with Carpenter Nature Center.

		in class programming.		
7	Maintain a website to disseminate consistent information and coordinate program implementation;	Ongoing.	-	Update website as needed.
8	Utilize existing Municipal committee structure to educate residents and disseminate information as part of the District’s Citizen Advisory Committee;	Ongoing.	-	Re-engage CAC following covid-19. Focus in 2022 will be development of interpretive programming for Glacial Valley Park and 2022 WMP updates.
9	Develop a mechanism to gauge effectiveness of educational programming efforts.	Not started.	-	Nothing planned.



Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: PROGRESS EVALUATION

Issue Goal:

Utilize a Results Based Accountability approach in evaluating and refining implementation strategies for achieving resource goals and to evaluate and improve program performance.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Ongoing development and use of documented strategies and actions (i.e. Management plans and other guidance documents) to achieve established resource goals;	Ongoing. Minor plan amendment adopted in April 2019.	-	Minor plan amendment planned for 2022. Rules update planned for 2022.
2	Incorporate strategy documentation, progress evaluation, and annual workplan into annual report;	Ongoing.	-	Continue to refine reporting and documentation methods.
3	Amend Watershed Plan as necessary to provide the District with programs and tools necessary to implement identified strategies.	Minor plan amendment adopted in April 2019.	-	Complete plan review and prepare plan amendment.



Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: UNIFORM STANDARDS

Issue Goal:

Establish and maintain District controls necessary to achieve established District resource goals, comply with mandated permits and programs, and maximize regulatory consistency with neighboring jurisdictions.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Regularly review and update District Rules as necessary to keep pace with changing resource issues and mandated regulatory programs;	Ongoing.	-	Revise Rules to maintain MS4 compliance.
2	Ensure uniform MS4 program coverage across District using a documented cooperative approach;	Ongoing.	-	Complete required MS4 reporting. Apply for continued coverage under new permit. Revise SWPPP and Rules as necessary to maintain compliance.
3	Work with neighboring Watershed Districts to develop uniform standards where possible;	Not started.	-	Review neighboring WD rules during rule update.
4	Require municipal adoption of District Rules within 2 years of any completed update;	Ongoing.	-	Assist municipalities in Comp Plan and ordinance updates as requested.



Progress Evaluation for the Issue: EFFICIENCY AND ACCOUNTABILITY

Subcategories: COLLABORATION AND COORDINATION OF EFFORTS

Issue Goal:

Limit duplication of planning and implementation efforts by the District and its State and Local partners by improving collaboration and coordination of efforts. Create efficiencies in implementation through partnerships.

	Implementation Indicator	Issue Progress	Recommended Change /Action	Current Year Workplan
1	Collaborate and coordinate agency efforts through engagement of a standing Technical Advisory Committee;	Ongoing. TAC was engaged as part of climate adaptation planning in 2017. TAC members were engaged as part of regional BMP feasibility study.	-	Continue to work with City staff as members of TAC to develop and pursue regional projects. SWWD meets quarterly with City of Woodbury and Cottage Grove staff to develop and implement regional BMPs.
2	Incorporate local input into District planning efforts through engagement of a standing Citizens Advisory Committee	Ongoing. Standing CAC chooses to only meet when input needed, not for routine matters. No meetings were held in 2020 or 2021 due to covid-19. Multiple former CAC members are now members of the SWWD Board of Managers.	-	Re-engage CAC as part of planning for future learning center at Glacial Valley Park and in support of minor plan amendment.
3	Inform State and Regional agencies and organizations of local efforts through participation in their advisory committees;	Ongoing.	-	Participate as opportunities arise.
4	Combine local implementation to gain economy of scale;	Ongoing.	-	Nothing planned.
5	Incorporate implementation actions identified in regional planning efforts into District programs.	Not started.	-	Nothing planned.



Progress Evaluation for the Program: Planning

Subcategories: RESOURCE, FLOOD DAMAGE REDUCTION & MITIGATION PLAN, CLIMATE ADAPTATION PLAN, NATURAL RESOURCES, GROUNDWATER, GUIDANCE DOCUMENTS, ADVISORY COMMITTEES, MODELING

Program Purpose:

Through its various planning efforts, SWWD evaluates resource issues, risks, and uncertainty in formulating a strategy or identifying practices to address identified issues. The District routinely collects information to evaluate success of implemented practices and better informed understanding of resource issues. Using that information, the District re-visits planning efforts to revise strategies as necessary.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Maintain up to date planning documents necessary to guide District Implementation (staff time);	Ongoing.	\$ 532,206	\$ 330,601	Prepare and submit minor plan amendment.	As Planned	-	\$125,950
2 Complete SWWD Flooding Emergency Response Plan within 6 years;	Complete by 2023.	\$ 45,000	\$ 45,000	Plan completed. Subsequent system optimization plan also completed. SWWD to assist Cities in implementing identified improvements.	Ahead of schedule	-	\$
3 Complete development of subwatershed hydrologic models within 6 years;	Complete by 2023.	\$ 160,000	\$ 297,605	Complete	Ahead of schedule	-	\$225,000

4	Update/calibrate completed hydrologic models every 3 years	Ongoing.	\$ 390,208	\$ -	On schedule. Models calibrated at they are developed or updated.	As Planned	-	\$
5	Review and update inter-community flow limits within 3 years (modeling);	Review/ update by 2020.	N/A, included above	\$ -	Discussions ongoing between SWWD and Cities re inter community flow follow West Draw model update. Cities are now reviewing their models and plans.	Behind schedule	-	\$ -
6	Complete resource management plans for all lakes and perennial open channel streams within the District within 6 years;	All plans completed by 2023.	\$ 100,000	\$ 100,000	Plans were completed in 2018 and included in the minor amendmen t submittal in 2019	Ahead of schedule	-	\$
7	Re-assess completed management plans at a minimum of once every 3 years to evaluate progress and review and adjust strategies;	Re-assess all plans by 2020. Every 3 years thereafter.	\$ 227,821	\$ -	Review and update of plans were completed in 2019.	As Planned	-	
8	ID excessively eroding bluff ravines within 3 years;	Completed by 2020.	\$ 45,000	\$ 6,806	ID is complete. SWWD is pursuing stabilizatio n of prioritized ravines.	As Planned	-	\$

9	Update the District's Greenway Plan within 3 years;	Completed by 2020.	\$ 30,000	\$ -	Plan will be updated as part of County's greenway plan update process	N/A, will be evaluated when County undertakes an update.	-	
10	Develop a Climate Adaptation Plan within 6 years;	Completed by 2023.	\$ 105,000	\$ 107,000	Complete	Ahead of schedule		
11	Participate in State or Regional planning efforts to coordinate groundwater resource assessment and regulation.	Ongoing.	N/A, included above	\$ -	Not Started	N/A, on hold indefinitely while PFAS workgroups assess and plan.	-	\$ -
12	Work with partners to develop a Strategic Groundwater Assessment Plan to guide and coordinate groundwater monitoring efforts within 3 years;	Completed by 2020.	\$ 8,000	\$ -	Limited coordination with MPCA. SWWD's groundwater monitoring efforts now under umbrella of MPCA ambient groundwater monitoring program.	Monitoring is ongoing.	-	\$ -
13	Work with partners to develop a Strategic Groundwater Regulatory Coordination Plan within 3 years;	Completed by 2020.	\$ 15,000	\$ -	Not started.	N/A, on hold indefinitely while PFAS workgroups assess and plan.	-	\$ -
14	Update and finalize the Districts Wetland inventory within 3 years.	Completed by 2020.	\$ 50,000	\$ 3,962	Nothing planned.	Behind schedule	-	\$15,000



Progress Evaluation for the Program: REGULATORY
Subcategories:

Program Purpose:

Established under authorities granted in MN Statute 103D.341, District Rules seek to limit the affects land alterations to protect the public health, welfare, and natural resources of the District, reduce the need for additional storage capacity and the potential need for the construction of systems to convey storm water, preserve floodplains and wetland storage capacity, maintain or improve the chemical and physical quality of the surface and groundwater, reduce sedimentation, preserve the hydraulic and navigational capacity of water bodies, preserve natural shoreland features, and minimize the public expenditure to avoid or correct such problems in the future.

	Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1	Development Reviews and Assessments	Ongoing	\$ 343,916	\$ 131,267	Ongoing	As planned	-	\$ 9,050
2	Wetland Conservation Act (Staff Time)	Ongoing	\$ 30,000.00	\$ 15,974	Ongoing	As planned	-	\$5,500
3	Erosion and Sediment Control (Staff Time)	Ongoing	\$ 140,000.00	\$ 109,567	Ongoing	As planned	-	\$6,600
4	Rules (Staff Time)	Ongoing	\$ 10,000	\$ 9,000	Ongoing	As planned	-	\$4,400



Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: MONITORING

Program Purpose:

To optimize monitoring efforts for regional assessment, the District has designated key locations at critical crossings and checkpoints throughout the watershed as regional assessment locations (Chapter 6, Section 8 of the SWWD 2007 WMP, Houston Engineering). Locations were chosen to characterize water quality and quantity entering or leaving a region and are included on the District's web viewer. Data collected at these locations is used to identify trends in regional water quality and quantity as well as potential areas for concern, develop and verify regional models, set benchmarks for regional water quality, evaluate effectiveness of District Rules and evaluate regional effects of proposed development projects. Once established, all regional assessment locations are part of the District's permanent monitoring program and will be operated until deemed unnecessary by analysis and modeling.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Survey aquatic vegetation of District Lakes a minimum of every 3 years;	Survey completed in 2015. Re-survey every 3 years.	N/A, included in monitoring budget	\$ -	Surveyed in 2018, again in 2021	As Planned	-	\$ -
2 Annually implement District's monitoring plan;	Ongoing.	\$ 1,776,901	\$ 803,675	Ongoing.	As Planned	-	\$185,454
3 Monitor levels and water quality of all publicly accessible lakes annually;	Ongoing.	N/A, included in monitoring budget	\$ -	Ongoing.	As Planned	-	\$
4 Monitor established Regional Assessment Locations a minimum of 3 out of every 6 years;	Monitor established sites 3 of every 6 years.	N/A, included in monitoring budget	\$ -	Ongoing.	As Planned	-	\$ -
5 Implement recommendations of the Strategic Assessment Plan once complete.	TBD	N/A, included in monitoring budget	\$ -	Not started.	N/A	-	\$ -



Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: WATERSHED RESTORATION, RECONSTRUCTION, AND RESILIENCY

Program Purpose:

The District's Watershed Restoration, Reconstruction, and Resiliency program provides implementation funds to address problems that these changes cause including altered hydrographs or increase in peak flows as water runs off of the watershed more quickly, stabilization of natural drainage systems to withstand anticipated discharges, protection and restoration of rare and native communities, increasing resiliency of natural and man-made systems against climate changes, reducing habitat fragmentation by creating or maintaining linear corridors, managing invasive species, and protecting groundwater resources.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Establishment and protection of identified greenway corridors (Greenway Plan);	Limited implementation on ongoing under SWWD's existing greenway plan.	\$ 700,000	\$ 250,000	Work continues on the Central Greenway (Lake Elmo to Ravine Park) in cooperation with Washington County, Woodbury, Cottage Grove, and S Washington School District.	As Planned	-	\$175,000
2 Implementation of completed resource management plans as guided by accompanying retrofit analyses;	Ongoing.	\$ 3,875,000	\$1,510,600	Underground TSS BMPs completed in Newport in 2020, St. Paul Park in 2021. Seasons Park stormwater filter completed	As Planned	Accelerate implementation.	\$900,000

					in 2021. Several others in development for future construction.			
3	Establishment and protection of vegetated buffers along streams, ravines, bluffs and around lakes and wetlands (Buffers, Part II);	TBD	\$ 100,000	\$ -	Not started.	Not started.	-	\$ -
4	Stabilization of identified ravines to prevent downstream transport of sediment and nutrients (Ravine Survey and Assessment Plan);	TBD	\$ 179,591	\$ -	McQuade ravine stabilization complete. 65 th and Geneva Ravine stabilization planned for 2022. Additional design for ravines near St. Croix Bluffs park planned for 2022.	As Planned	-	\$ 75,000
5	Implementation of yet to be identified practices to increase resiliency of natural and man-made systems against land use and climate change (Climate Adaptation Plan)	TBD	\$ 1,000,000	\$ 250,000	Plan complete. Resiliency efforts now eligible for funding through SWWDs CCIP program.	Ahead of schedule	-	\$190,000
6	Implementation of regionally identified strategies to address aquatic and terrestrial invasive species.	TBD	\$ 40,000	\$ -	Vegetation management efforts to begin in 2022 on Markgrafs, Colby, and Ravine lakes.	As planned.	-	\$ -
7	Implement yet to be identified flood damage reduction and mitigation projects and	TBD	\$ 101,423	\$ -	Multiple planning efforts have been completed.	As planned.	-	\$ -

	practices (Flood Damage Reduction and Mitigation Plan;				SWWD has funds budgeted to assist Cities with identified improvements.			
8	Identify willing landowners and begin operation of pilot agriculture BMP research program within 6 years;	Identify participants, develop program, and roll out by 2023.	\$ 383,123	\$ -	SWWD to participate in LSC 1W1P ag outreach and improvements efforts. Also engaging potential partners in complimentary effort.	As planned.	-	\$72,000
9	Provide adequate funding for local implementation actions identified in the Washington County Groundwater Plan		\$ 132,026	\$ -	Not started.	N/A, all efforts on hold while PFAS planning continues.	-	\$ -



Progress Evaluation for the Program: **IMPLEMENTATION AND MAINTENANCE**

Subcategories: INSPECTION AND MAINTENANCE

Program Purpose:

Communities rely on public watercourses, both natural and piped, for conveyance of stormwater runoff. Additionally, the District and its partners utilize an increasingly long list of BMPs to meet local resource goals. Conveyance systems and physical BMPs need routine inspection and maintenance to ensure long term functionality.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Maintain database of all physical BMPs;	Ongoing.	\$ 185,000	\$ 11,300	Work completed annually in cooperation with WCD and other Washington County WMOs.	As Planned	-	\$3,900
2 Inspect BMPs at a minimum of 10, 33, and 66% of expected BMP lifetime;	Ongoing.	\$ 50,000	\$ 22,000	Work completed annually in cooperation with WCD and other Washington County WMOs.	As Planned	-	\$6,000
3 Perform maintenance or enforce maintenance agreements as necessary to maintain full resource benefits of BMPs.	Ongoing.	\$ 523,194	\$ 80,297	SWWD currently contracts with WCD to complete maintenance needs identified as part of annual inspection program.	As Planned	-	\$70,000



Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: CAPITAL IMPROVEMENT

Program Purpose:

Consistent with MN Rule 8410.0080 subp. 2, SWWD defines Capital Improvement Project (CIP) as a physical improvement with an extended useful life. For the purposes of its CIP Program, the District further defines a CIP as having a lifetime of greater than 25 years and a total project cost greater than \$50,000. Generally, projects implemented under the District's CIP are developed and analyzed through completion of a feasibility study

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Provide adequate funding to carryout identified capital projects	Ongoing.	N/A	N/A	Current funding levels are adequate to complete planned work.	As Planned	-	N/A; broken out below
2 Deliver Capital improvements as scheduled in the long-range workplan	Ongoing.	\$ 18,183,123	\$ 11,547,259	Work on phases 3 and 4 of the CDO were completed in 2018. Excavation of regional basins at CDSF began in 2018 and will continue through 2020. Phase 5 was completed in 2020. Trout Brook Remeander was completed in 2019. Subsequent phase planned for 2022-2023.	As Planned	-	\$538,500



Progress Evaluation for the Program: IMPLEMENTATION AND MAINTENANCE

Subcategories: INCENTIVES

Program Purpose:

Implementation need outpaces the District's implementation capacity. To address that need and gain efficiency by drawing on the capacity of public and private entities in the District, SWWD operates several incentive programs to facilitate implementation by District residents and partners. Those programs are briefly described here. Additional information is available on the SWWD website.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Maintain and refine existing incentive programs to adequately leverage community interest;	Ongoing.	\$ 6,738,742	\$ 3,297,824	Programs were modified for use as incentivizing improvements identified in development of SWWD's climate adaptation and resiliency plan. Includes funds granted to Woodbury for their irrigation controller cost share program.	As Planned	-	\$ 848,600
2 Expand existing cost share program to effectively target rural areas for source reduction within 3 years;	Expand/refine program by 2020.	N/A, included above.	\$ -	Not started.	Behind schedule, will be evaluated in 2022.	-	\$ -
3 Annually review District's role in and need for supplementing County groundwater focused cost share and loan programs.	Ongoing.	N/A	\$ -	Not started.	Behind schedule. Nothing planned.	-	\$ -



Progress Evaluation for the Program: **INFORMATION AND EDUCATION**

Program Purpose:

SWWD is a member of the East Metro Water Resource Education Program. EMWREP is a partnership formed in 2006 that serves 20 local units of government in the east metro area. The purpose of the shared education program is to provide education to District communities and their residents about the impacts of non-point source pollution (e.g. Nutrients, de-icing chemicals) on local lakes, rivers, streams, wetlands and groundwater resources and to engage them in projects that will help to protect and improve water quality in the region.

SWWD intends for this plan and its website to serve as a repository of water resource related information. The District's website includes several tools which serve to deliver information to District residents and stakeholders including: Resource Library, Water Quality Monitoring Database, Web Map Viewer and project Story Maps.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Continue support of and participation in EMWREP; Local Education Programs	Ongoing.	\$ 366,844	\$ 573,546	Ongoing. Includes support for EMWREP, Master Water Stewards, Watershed Partners, and SWWD's experiential education programming	As Planned	-	\$97,100
2 Increase use of Website and Web Tools (staff time); Research; Databases; GIS	Ongoing.	\$ 261,376	\$ 325,496	Continue to maintain up to date website.	As Planned	-	\$82,050
3 Annually update story mapping as part of annual report to reflect current project status;	Ongoing.	N/A, included above	\$ -	Ongoing	As Planned	-	\$ -
4 Annually update water quality database to	Ongoing.	N/A, included above	\$ -	Database is current through the 2020	As Planned	-	\$ -

	include previous year's data;				monitoring season.			
5	Annually update web viewer to reflect most recent spatial data;	Ongoing.	N/A, included above	\$ -	Ongoing.	As Planned	-	\$ -
6	Distribute semi-annual newsletter to District residents and stakeholders regarding District efforts and progress in addressing identified resource issues.	Ongoing. News distributed in 2018 via website, Twitter, and Facebook.	N/A, included above	\$ -	Information distributed via social medial and website.	Continue to increase news distribution via web.	-	\$ -
7	Maintain up to date files on electronic library;	Ongoing.	N/A, included above	\$ -	Ongoing.	As Planned	-	\$ -



Progress Evaluation for the Program: **ADMINISTRATION**

Program Purpose:

Watershed administration program has five focus areas to develop and maintain: District Boundary, Funding, Local Water Plans, Reporting and Progress Evaluation and Long Range Workplan.

Performance Indicator	Implementation Schedule	Long Range Work plan Budget	Amount Spent to Date	Status	Program Performance	Recommended Change	Current Year Work plan
1 Annually, evaluate District progress in achieving identified issue goals and effectiveness of District programs (staff);	Ongoing.	\$2,226,090	\$ 1,759,408	Ongoing.	As Planned	-	\$446,925
2 Maintain funding levels adequate to meet implementation demand of the District;	Ongoing.	N/A, included above	N/A, included above \$ -	Ongoing.	As Planned	-	N/A, included above \$ -
3 In partnership with neighboring Districts, maintain legal boundary that reflects SWWD's hydrological boundary.	Ongoing.	N/A, included above	N/A, included above \$ -	Ongoing.	As Planned	-	N/A, included above \$ -



Progress Evaluation for the Program: **DEBT SERVICE**

Program Purpose:

Not specifically mentioned in the 2007 SWWD Watershed Management Plan as a management area, debt service is included in the SWWD annual budget as an accounting fund. In 2002 the SWWD issued \$5.8 million in General Obligation Bonds for the purchase of real property as described in the 1997 watershed plan. The SWWD completed acquisition of 150+ acres for increased downstream stormwater system capacity, flood control and stormwater management. Bonds were paid off in 2017. In 2011, SWWD bonded for three projects in the East Mississippi watershed (Newport Ravine, Clear Channel Pond, and Grey Cloud Slough). In 2016, SWWD refinanced the 2011 general obligation bonds. In 2019, the 2016 general obligation bonds crossed over to general obligation **refunding** bonds, which will save the SWWD \$186,134.

Appendix A 2021 Audit Report on Compliance

The 2021 SWWD Financial Audit will be completed and submitted in May 2022.

Appendix B Education



2021 Annual Report



Members of the East Metro Water Resource Education Program:
 Brown's Creek Watershed • Carnelian-Marine-St. Croix Watershed •
 Comfort Lake-Forest Lake Watershed • Bayport • Cottage Grove • Dellwood • Forest Lake
 Grant • Hugo • Lake Elmo • Middle St. Croix Watershed • Newport • Oak Park Heights • Oakdale
 Ramsey-Washington Metro Watershed • Rice Creek Watershed • South Washington Watershed
 Stillwater • St. Paul Park • Valley Branch Watershed • Willernie • West Lakeland
 Woodbury • Washington Conservation District • Washington County

**East Metro Water Resource Education Program
2021 Annual Report**

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About the East Metro Water Resource Education Program

Background: The East Metro Water Resource Education Program (EMWREP) is a partnership hosted by Washington Conservation District that was formed in 2006 to educate community residents, businesses, staff and decision-makers about issues affecting local lakes, rivers, streams, wetlands and groundwater resources and to engage people in projects that will help to protect and improve the health of these water resources.

Over the past 15 years, the EMWREP program has grown from seven local government partners to 30. In 2022, five new members will join the partnership: Chisago County, Chisago Lake Improvement District, Chisago Soil and Water Conservation District, Isanti County, and Isanti Conservation District.

Partnership Structure:

In 2021, EMWREP partners included:

- Washington Conservation District (host)
- Washington County
- Watershed management organizations: Brown’s Creek, Carnelian-Marine-St. Croix, Comfort-Lake Forest Lake, Rice Creek, Ramsey-Washington Metro, South Washington, and Valley Branch Watershed Districts, and the Middle St. Croix Watershed Management Organization
- Cities and townships: Bayport, Cottage Grove, Dellwood, Forest Lake, Grant, Hugo, Lake Elmo, Newport, Oakdale, Oak Park Heights, Stillwater, St. Paul Park, Willernie, and Woodbury, West Lakeland Township

Partners jointly fund the program based on a set formula, with fees determined by population (cities and counties) or taxable market value (watershed organizations). See [Appendix A](#) for more detail. A steering committee comprised of representatives from each of the partner organizations meets twice a year to provide recommendations on the program budget and activities.

EMWREP staff communicate regularly with local staff at partner organizations, council members, and board members; prepare an annual report detailing program activities; and provide data for partners’ MS4 Permit reports. EMWREP plans and reports are available on-line at www.mnwcd.org/emwrep.

Coordination and collaboration: The EMWREP partnership helps to strengthen relationships between member entities and allows for better coordination and less overlap in the management of local water resources.

EMWREP staff provide leadership for several regional partnerships including Watershed Partners; St. Croix Environmental Education Partnership (SWEEP); Blue Thumb – Planting for Clean Water; and Minnesota Water Stewards. In addition program staff regularly collaborate with nonprofit and citizen-led groups in the Twin Cities and Lower St. Croix regions.

Program staff:

- Angie Hong, Water Resource Education Senior Specialist, angie.hong@mnwcd.org
- Barbara Heitkamp, Water Resource Education Specialist, bheitkamp@mnwcd.org

PUBLIC EDUCATION AND ENGAGEMENT

Audience: General Public, Urban and Rural Landowners, Youth

Program Goals:

1. Educate the public about nonpoint source water pollution, groundwater conservation, and basic watershed ecology and management.
2. Build partnerships with state and local government, non-profit organizations, and community groups.
3. Engage citizen volunteers to help conduct education and outreach.
4. Motivate urban and rural landowners to practice behaviors that protect water resources.
5. Train and assist urban and rural residents to complete projects on their land that reduce runoff pollution, conserve groundwater, and increase infiltration.
6. Support EMWREP partners in meeting MS4 Stormwater Permit public education and public engagement requirements.

Educational Objectives:

Citizens will learn:

1. That nonpoint source water pollution comes from a variety of land uses - residential, commercial, and agricultural.
2. That common pollutants impacting surface and groundwater resources in the east metro area include phosphorus, sediment, nitrates, *E. coli*, chloride, and mercury.
3. That a watershed includes all of the land draining to a lake, stream or river, and that Watershed Districts and Watershed Management Organizations are special-purpose local units of government charged with managing the resources of a given watershed to prevent flooding and protect water quality.
4. That surface and groundwater resources interact.
5. That area residents can help to prevent nonpoint source water pollution through a variety of behaviors, including raking leaves and grass clippings out of the street, using less fertilizers and chemicals on lawns and gardens, covering bare soil during landscaping and construction, picking up pet poop, replacing failing septic systems, using less salt for winter maintenance and water softening, disposing of household waste properly, and using less electricity.
6. That landowners can help to reduce runoff pollution, conserve groundwater, and increase infiltration by installing best management practices such as habitat plantings, raingardens, and shoreline plantings; repairing erosion; and managing drainage around homes, farms, and commercial buildings.

Remember:

Scoop the poop!

Please pick up poop in your yard and on city streets.

Dog poop can contain harmful bacteria. Protect our water and help keep our city clean.

Don't forget to bring a bag.



PUBLIC EDUCATION AND ENGAGEMENT: ACTIVITIES & ACCOMPLISHMENTS

1. MS4 Stormwater Education Support for MS4 Permit Compliance

To assist partners in meeting education requirements for the MS4 Permit, EMWREP staff:

- Created a 2pg summary for partners of new MS4 permit requirements and recommendations for completing MCM1 and MCM2
- Deliver monthly emails with print materials, videos, and social media graphics for partners to use in their communications
- Have created numerous educational materials, available through the [MPCA Stormwater Wiki – MS4 Toolkit](#) and [EMWREP Resources page](#)
- Offer training opportunities for municipal staff and stormwater professionals

The current MS4 General Permit, issued in November of 2020, requires permittees to educate the public about illicit discharge detection and elimination (IDDE), pet waste, and winter salt and deicing materials. In addition, permit holders must identify two additional stormwater education priorities within their communities. The new permit also requires at least one opportunity for public input on the stormwater program each year and one public participation activity.

Stormwater related priorities for EMWREP (partners can choose different priorities for themselves if needed):

1. Reducing stormwater runoff through landscape changes to commercial, residential, and public properties (ie. Installing raingardens or converting turf to native plantings)
 - May include public projects, completed with support from community residents, or landowner-led projects, completed with encouragement and/or support from EMWREP partners.
2. Encouraging residents to keep leaves and grass clippings out of roadways, ditches, and drainage pathways in order to reduce nutrient inputs to stormwater runoff
 - May include promotion of the Adopt a Drain program.

2021 Calendar of Public Education messaging

During 2021, EMWREP provided partners with a variety of education materials including newsletter articles, social media graphics, and videos to be used in public education activities, and shares these messages in print and social media communications.

- Jan./Feb.
 - Reminder about SMART salting practices
- March
 - Reminder to collect and dispose of pet waste safely (timed to coincide with snow melt)
- March/April/May
 - Promotion for workshops and site visits to initiate residential landscape projects
 - Promotion of Adopt a Drain (could be timed to coincide with Earth Day events)
- June/July/Aug
 - Information about lawn care best practices, including water conservation
 - Reminder to keep grass clippings out of streets and drainage pathways
 - Information about small-scale construction best practices
 - Potential IDDE messages: proper disposal of concrete washout; best practices for car washing

- Sept.
 - Potential IDDE message: proper draining of swimming pools and hot tubs
 - Reminder to collect and dispose of pet waste properly
- Oct.
 - Reminder to rake leaves out of street & not dump into ditches, ravines or wetlands
 - Promotion of Adopt a Drain
- Nov.
 - Potential IDDE messaging: waste disposal (general); proper disposal of carpet cleaning wastewater
- Dec.
 - Information about SMART salting

Public Participation and Involvement

During 2021, EMWREP helped partners to engage the public through the following programs:

- Adopt a Drain www.Adopt-a-Drain.org - 764 storm drains adopted in Washington County
- Webinars about residential landscaping – 1354 residents participated in webinars

In addition, EMWREP hosted or attended the following community events:

- SWEEP Earth Month Passport Competition: April 1-30
- Watershed Pop-up Events:
 - Stacy Lions Park (June 3)
 - Tanner’s Lake in Oakdale (June 17)
 - Lakeside Park in Forest Lake (July 27)
 - Edgewater Park in Woodbury (August 10)
 - Woodridge Park in Cottage Grove (August 25)
- Lake Demontreville-Olson Association Event in Lake Elmo (June 22)
- Washington County Fair (Aug. 4-8)
- “Nedible Gardens” Walk and Talk at the Growth for Good Community Garden in St. Paul Park (Aug. 19)
- Brown’s Creek Watershed District community celebration in Stillwater (Sept. 18)
- Cottage Grove public works open house (Sept. 23)

Outreach to Lawn Care Professionals: On April 30, we sent information to 67 lawn care providers who work with private landowners, golf course, school districts, and public parks in the East Metro area. The e-package included links to training videos - [Park Maintenance](#) & [Pesticide and Fertilizers](#) - as well as a 1pg Guidance for Lawn Care Providers handout and info about nitrates groundwater contamination in Washington County.

2. Volunteer engagement:

Minnesota Water Stewards
23 Stewards certified in Washington County 3 new stewards certified in 2021

EMWREP has participated in the Minnesota Water Stewards program since 2018 and has certified 23 volunteers over the past four years. Three new stewards were certified in 2021.

Water stewards participate in 50-hours of in-person and on-line training and complete a capstone project to become certified. Once certified, stewards volunteer 50-hours during their first year of service and 25-hours per year afterwards to remain in the program.

MEET THE STEWARDS: Check out this virtual tour to meet the water steward volunteers in Washington County – [meet the stewards](#).

New stewards certified in 2021 include:

- **David Nuccio (SWWD)** – worked with City of Woodbury to conduct an irrigation efficiency audit at Cardinal Crossing HOA
- **Wally Wadd (SWWD)** – working with Grove United Methodist Church in Woodbury to remove buckthorn and restore oak savanna. Working with other community members to develop a climate action plan for the city.
- **Desiree Weins (CLFLWD)** – installed a raingarden at a private home in Chisago County

In addition to training the new volunteers, EMWREP also hosted an in-person gathering for stewards on Aug. 3 and attended the Water Stewards Confluence event on Oct. 16.

Adopt a Drain
764 drains adopted in Washington County 16,944 drains adopted in Minnesota

The [Adopt-a-Drain](#) program engages community residents in helping to prevent stormwater pollution by cleaning leaves, litter and other debris off of storm drains near their homes. Volunteers get reminders via text or email and are asked to report their actions on-line so that cities can track the program's impact.

The Adopt-a-Drain program was created by Hamline University's Center for Global Environmental Education on behalf of Watershed Partners, a metro area collaborative with 60+ partners.

In 2021, EMWREP continued to promote the program through a variety of means, including:

- Participating in Watershed Partners and financially supporting the Adopt-a-Drain program
- Publishing articles in local newspapers and city newsletters
- Distributing door-hangers in Forest Lake
- Volunteer promotion in Stillwater with Sustainable Stillwater
- Volunteer promotion in Woodbury with Water Stewards

- Teacher promotion in Mahtomedi
- Publishing a TikTok video on (Oct. 12)
 - 57 adoptions in the next 24hrs (compared with 8/day normally)
 - 20 new adoptions in Washington County over the next week

Adopt a Raingarden

55 raingardens adopted in Stillwater and Oak Park Heights

The Adopt-a-Raingarden program engages community volunteers to care for raingardens in Stillwater and Oak Park Heights. Volunteers commit to removing weeds, litter, and built-up sediment during the growing season and reporting larger maintenance concerns to staff at Washington Conservation District.

In 2021, EMWREP updated the adopt-a-raingarden map and continued to collaborate with Sustainable Stillwater MN to engage Adopt a Raingarden volunteers and ensure that gardens are well-maintained.

More info at: www.mnwcd.org/adoptaraingarden.

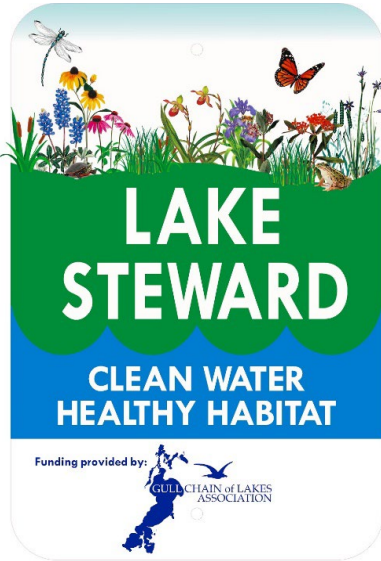
Nonprofit, citizen, and community groups

In addition to these larger volunteer programs, EMWREP works closely with nonprofit, citizen, and community groups in our area, including:

- Master Gardeners
- Lake associations
- St. Croix River Association
- Pollinator Friendly Alliance
- Wild Ones
- Sustainable Stillwater MN

Additional volunteer engagement activities in 2021 included:

- Recruited volunteers to lead storm drain stenciling and Adopt-a-Drain promotion for River Rally on Sept. 11.
- Purchased supplies for Sustainable Stillwater to conduct volunteer storm drain stenciling
- Helped to promote CMSCWD volunteer planting events on June 5, July 31, Aug 21, and Sept 11
- Attended RWMWD and Sustainable Stillwater volunteer appreciation events
- Attended the Comfort Lake Lake Association Annual Meeting on Thu., Oct. 7 and talked about shorelines and buffer management
- Attended BCWD, CMSCWD, and CLFLWD citizen advisory committee meetings to discuss educational programs and priorities



Lake Steward Program

As we explore ways to engage shoreline landowners and lake associations in our area, we've been talking with Jeff Forester from Minnesota Lakes & Rivers Advocates (MLRA) about their new [Lake Steward Program](#).

The program translates the MN DNR Score Your Shore tool into a quick online quiz that lake associations can send to their members. Lake Association representatives then follow-up to help people make changes on their land to better protect their lake. If a property meets the Lake Steward standards, they are awarded a beautiful sign designating them as a Lake Steward.

This program uses already existing programs available through the MN DNR and watershed districts, but puts Lake Associations in the driver's seat when it comes to community outreach and engagement.

EMWREP hopes to pilot this program with lake associations in our area and will also be working with MLRA to develop Shoreline Landowner guidebooks. Stay tuned for more info in the coming months.

3. Education Partnerships

One of the most important strategies utilized by the EMWREP program is to build partnerships and work collaboratively with federal, state and local government; non-profit organizations; and community groups to educate and engage the public.

Two of our key partnerships include:

Watershed Partners
70 partners in the Twin Cities

Metro Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area. Through collaborative education and outreach, the Metro Watershed Partners promote a public understanding that inspires people to act to protect water in their watershed. Since 1996, partners have cooperated through educational projects, networking, and resource sharing.

The mission of the Metro Watershed Partners is two-fold:

- To provide and promote collaborative watershed education programs with consistent messages to the general public, local government staff and elected officials; and
- To provide WSP members a place and means to share information, generate ideas, and coordinate and support collaborative watershed education programs.

Watershed Partners holds monthly meetings with special presentations, publishes blog-style stories through its www.cleanwatermn.org website, produces content for partners to use in their educational programming, and is host to the Adopt a Drain program.

In 2021, EMWREP coordinator Angie Hong continued to serve on the Watershed Partners' steering committee and act as convener for large group meetings.

St. Croix Watershed Environmental Education Partnership (SWEEP)
78 partners in the Lower St. Croix Watershed

SWEEP (St. Croix Watershed Environmental Education Partnership) brings together staff from parks and nature centers, non-profit organizations, local government, and community groups in the Lower St. Croix watershed to inspire leadership in environmental education through networking, community engagement and collaborative events within the St. Croix River Watershed.

In 2021, SWEEP partners distributed a monthly newsletter to highlight outdoor destinations and activities in the St. Croix region, organized an Earth Day passport program, and planned a St. Croix Youth Summit. EMWREP coordinator Angie Hong continued to serve as a member of the SWEEP leadership team.

4. Youth education

Though K-12 students are not a primary audience for our education programming, EMWREP provides support for youth education initiatives that are partner-led.

In 2021, these included:

- **South Washington Watershed District (SWWD) Campus Greening projects:** EMWREP staff supported SWWD and Carpenter Nature Center staff in teaching classroom lessons for 4th and 5th grade students at Valley Crossing (Woodbury), Crestview (Cottage Grove), and Nuevas Fronteras (St. Paul Park). Each class of students participated in five hands-on, classroom lessons and one field trip to Carpenter Nature Center.
- **Support for implementation of the Washington County Groundwater Plan:** In 2021, this included promoting the Children's Water Festival and supporting school education in South Washington School District.
- **Marine Art & Nature Camp:** Angie Hong led activities on the morning of Tuesday, June 15.



South Washington – Campus Greening Program

South Washington Watershed District (SWWD) and South Washington County School District are collaborating on a unique program to renovate school campuses and provide students with hands-on, environmental education. The SWWD created its Campus Greening program to provide schools with an alternative way to meet their stormwater management rules during construction and redevelopment. Typically, when schools and businesses expand their parking lots and buildings, they build stormwater retention ponds to manage the extra runoff pollution that is generated. Instead, this program takes a more holistic approach.

So far, seven schools within SWWD have participated in the program. At Lake and Middleton Schools in Woodbury, the school district replaced 15 acres of non-active use turf with native prairie and planted 200 trees (with help from the kids). At Crestview in Cottage Grove, the school is converting 2.5 acres of turf to prairie and rehabbing 7.5 acres of low-quality woodlands. Similar projects are planned or underway at Valley Crossing (Woodbury), Nuevas Fronteras (St. Paul Park), Grey Cloud Elementary (Cottage Grove), and Cottage Grove Middle School.

In addition to replacing turf with native habitat, SWWD has also worked with the schools to construct outdoor classrooms and is contracting with Carpenter Nature Center to provide hands-on watershed education for 4th and 5th grade students. Last fall, staff from Carpenter worked with Valley Crossing, Crestview and Nuevas Fronteras to do a series of five in-school programs plus a field trip to the nature center. Abbey Kuntz from EMWREP provided additional staff support.

5. Groundwater education

EMWREP provides support for implementation of the Washington County Groundwater Plan through a separate annual contract with Washington County.

Education support provided in 2021:

- Provided education about groundwater-surface water interaction to local staff and decision-makers through webinars
- Created an inventory of local communities' progress in developing SMART irrigation programs
- Created a story map to share the Stormwater Reuse Assessment
- Delivered educational videos to lawn care providers, municipal parks departments, and golf courses on the proper use and disposal of fertilizers and lawn chemicals.
- Helped to promote Children's Water Festival.

- Create fact sheets and other print and video resources:
 - - Disposal of lawn and garden chemicals
 - - How to detect leaks inside the home
- Prepared an article about proper waste disposal in wellhead protection areas for city newsletters
- Distributed new education materials:
 - - Waste disposal fact sheet;
 - - Lawn care and illegal dumping videos

6. Aquatic Invasive Species (AIS)

EMWREP also provides support for AIS education through a separate contract with Washington County.

2021 activities included:

- Collaborating with St. Croix River Association to share AIS prevention information at community events (COVID dependent) and point-of-sale locations for bait and fishing licenses.
 - Lake Demontreville-Olson Association
Event: June 22, 5-7pm
- Delivering 4 emails to the East Metro Lakes network (160 lake association members)
- Supporting one volunteer from Square Lake to become certified as an AIS Detector and purchasing 10 AIS Identification Guides for Square Lake Lake Association members.
- Sharing info about watercraft inspections and AIS on Facebook, Instagram, and TikTok
- Publishing AIS information in print and social media.
 - [New fish barrier will keep carp out of Forest Lake](#) – Feb. 9
“This February, CLFLWD replaced an old, dilapidated fish barrier on the northwest side of Forest Lake, where the lake outlets to the Sunrise River to prevent carp and other rough fish from migrating into Forest Lake.”
 - [Breaking Eurasian watermilfoil’s stranglehold on Minnesota Lakes](#) – March 4
“Researchers and lake associations search for new ways to control this aggressive invasive species. Meanwhile, watercraft inspections remain the first line of defense in preventing the spread of AIS.”
 - [Now is the time to stop zebra mussels](#) – Sept. 7
“Aquatic invasive species — or AIS — include a wide range of animals, plants, and diseases. One species of particular concern in Minnesota is zebra mussels: small D-shaped shells that grow no bigger than a thumbnail. Zebra mussels are native to eastern Europe and western Russia—and they were first detected in Minnesota in the late 1980s. A single female can produce 100,000 to 500,000 eggs per year, resulting in explosive population growth wherever the mussels are found.”



7. Media and Communications

In 2021, EMWREP will continue to use a variety of communications platforms to share watershed and stormwater information, promote partner projects and programs, and publicize events and activities.

Print Communications

Newspaper articles: Angie Hong has published a weekly column for the Valley Life – Stillwater Gazette for 15 years. The articles are posted on-line at www.eastmetrowater.org and frequently appear in other local newspapers as well.

- **Chisago Press** (Circulation - 3963)
- **Forest Lake Lowdown** (Circulation – 13,997)
- **Forest Lake Times** (Circulation - 13,029) – *Hong column featured monthly*
- **Hugo Citizen** (Circulation – 14,500)
- **Scandia Country Messenger** (Circulation - 1075)
- **St. Croix 360** (On-line: 25,647 followers)
- **St. Croix Lowdown** (Circulation – 5000)
- **Valley Life / Stillwater Gazette** (Circulation - 17,479) – *Hong column featured weekly*
- **White Bear Press** (Circulation – 19,331)

Newsletters: EMWREP will also continue to provide content for city, watershed and WCD newsletters.

Articles published in 2021:

[Frozen fish and salty toes](#) – Jan. 7

“One growing concern for urban lakes and streams is pollution from winter road salt. Currently, there are 50 lakes and streams in Minnesota that are listed as impaired due to elevated chlorides and another 75 that are “nearly” impaired.”

[Tracking the health of lakes in Washington County](#) – Feb. 4

“During 2020, Washington Conservation District monitored water quality on 71 lakes in Washington County. Here’s what recent data tell us about five local lakes.”



[New fish barrier will keep carp out of Forest Lake](#) – Feb. 9

“This February, CLFLWD replaced an old, dilapidated fish barrier on the northwest side of Forest Lake, where the lake outlets to the Sunrise River to prevent carp and other rough fish from migrating into Forest Lake.”

[South Washington Watershed District Receives Climate Adaptation Award](#) – Feb. 18

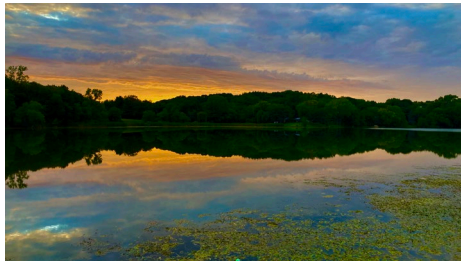
“South Washington Watershed District (SWWD) is working to build resiliency and protect local communities against climate-related threats, including flooding, aquifer draw-down, and invasive species. In recognition of its accomplishments, ongoing work, and leadership on climate adaptation and resiliency, SWWD has been awarded the Minnesota Climate Adaptation Partnership’s 2021 Organization Award.”

[Intersex fish and cocaine shrimp](#) – Feb. 25

“Scientists lay the blame for these strange phenomena on endocrine-disrupting chemicals and pharmaceutical compounds, such as pesticides, medications, and even common household products like shampoo.”

[Breaking Eurasian watermilfoil’s stranglehold on Minnesota Lakes](#) – March 4

“Researchers and lake associations search for new ways to control this aggressive invasive species. Meanwhile, watercraft inspections remain the first line of defense in preventing the spread of AIS.”



[Cleaner water ahead at Carver Lake Park in Woodbury](#) – March 11

“This summer, visitors to Carver Lake Park will discover a newly renovated parking lot, complete with a 5220 sq ft raingarden and 8000 sq ft of native plantings designed to filter and treat polluted runoff, as well as create habitat for birds and pollinators. The raingarden will capture 0.7 lb of phosphorus, which is enough to

prevent 350 pounds of algae from growing in the lake.”

[Two miles, three raingardens, and 100 feet of native buffer: Charting Perro Creek’s journey to cleaner water and better health](#) – March 18

“Local partners including City of Bayport, the Middle St. Croix Watershed Management Organization (MSCWMO), and even area Girl Scouts have worked to reduce erosion and improve water quality in Perro Creek through a series of projects including raingardens and native buffer plantings.”



[Preserving a piece of paradise in the St. Croix Valley](#) – March 25

“Paul Goodwin and his family have established a 49-acre conservation easement on land abutting Silver Creek near Stillwater, MN and are working to convert 14-acres of fallow farmland to prairie and oak savanna.”

[Students help to seed an outdoor laboratory at Crestview Elementary](#) – April 1

“The school is converting 2.5 acres of turf to prairie and rehabbing 7.5 acres of low-quality woodlands.”

[A flower’s fleeting charm](#) – April 8

“Of all the flowers that exist, spring ephemerals are the ones that I hold dearest in my heart.”

[Let the gardening begin!](#) – April 15

“Thanks to a relatively early start to spring this year, many people are already beginning to dream about gardens and planting projects. Here is a run-down of upcoming workshops and other support for eco-friendly gardening projects.”

[Mahtomedi Teacher Inspires Earth Day Action throughout the Year](#) – April 22

“Ms. Comfort, as her students know her, is a STEM specialist at Wildwood Elementary in Mahtomedi who is always looking for unique ways to teach her kids to protect the environment.”

[Transformation underway at Sunfish Lake Park](#) – April 29

“Sunfish Lake Park visitors will immediately notice the changes on site, where contractors and volunteers have been clearing buckthorn since late winter.”

[Art in the Pines](#) – May 6

“This spring, a photographer from Lake Elmo named Sarah Lilja is calling the St. Croix Watershed Research Station’s Pine Needles cabin home.”

[Marine community works to revitalize village center and protect St. Croix River](#) – May 13

“On Saturday, May 1, volunteers in Marine on St. Croix planted 1,500 native plants along a wetland to create a natural buffer that will help to hold the soil in place and guard against erosion.”

[When watershed educators go rogue](#) – May 20

“How to dispose of five common waste products without polluting our water.”

[Cheap Trick Remix \(the lawn version\)](#) – May 27

“Five cheap tricks for a beautiful, healthy lawn that is safe for your kids and pets.”

[Heat Wave Spurs Harmful Algal Blooms in Some Minnesota Lakes](#) – July 29

“Usually, algae and aquatic plants are merely a nuisance, but sometimes a form of cyanobacteria known as blue-green algae can bloom and release toxins that make humans and animals sick.”

[Bee Lawns are Green Lawns](#) – July 22

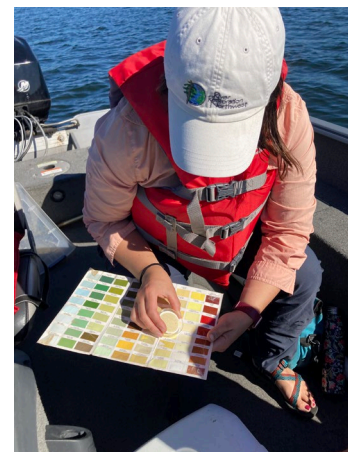
“Unlike typical lawns, bee-friendly lawns feature a mix of drought-tolerant fine fescue grasses and low-growing flowers such as Dutch white clover, creeping thyme, and self heal.”

[In the Woods and on the Water](#) – July 8

“Here is a lineup of some of the many FREE, fun, outdoor events scheduled in Washington County during the coming month.”

[A Martha Stewart Guide to Lake Water Quality](#) – July 1

“Three variables – water clarity, total phosphorus, and chlorophyll – are combined to create a metric known as a trophic state index. A few years back, Jerry Spetzman began noticing that the color of the algae samples on a white filter corresponded almost perfectly with the lakes’ overall water quality.”



[Holey Pavement](#) – June 24

“Conventional pavement is impermeable, which is a fancy way of saying that water does not soak through it when it rains. In contrast, porous pavement is holey – in a good way.”

[Feeling parched in the Land of 10,000 Lakes](#) – June 17

“According to the University of Minnesota, approximately 20% of all treated drinking water in the Twin Cities metro area is used outdoors, with a majority of this being used on lawns and landscapes.”

[Can that baby dragon fly?](#) – June 10

“Most people consider dragonflies and damselflies to be terrestrial flying insects, but in fact, they spend more than half of their lives in the water.”

[Create pockets of habitat with native plants](#) – June 3

“Minnesotans can help to restore habitat for wildlife by planting native flowers, shrubs and trees in our yards to create pocket oases and connected corridors near larger parks and natural areas.”

[Where the Land is Neither Wet nor Dry](#) – Sept. 2

“Dave Medvecky’s project in Isanti County will restore approximately 13 acres of wetlands that have been lost to farming for nearly a century.”

[Hard Fescue and SMART Controllers Allow for Green Grass with Less Water](#) – Aug. 26

“At the end of a long, hot summer with no irrigation or rain, the plot with 100% hard fescue grass was still lush and green, while the one with Kentucky bluegrass was almost entirely dead.”

[Touring Wakáŋ Tipi at Bruce Vento Nature Sanctuary – Same View, New Perspective](#) – Aug. 19

““We’ve never lost our connection to this space but it’s important to bring Native people back here and have them making decisions on how the land is managed,” says Keeli Siyaka, Environmental Justice Educator at the Lower Phalen Creek Project.”

[Tree care and woodland management](#) – Aug. 16

“If you are working to remove large areas of buckthorn, MyMinnesotaWoods staff advise that late summer and fall are the best times to cut and treat buckthorn stumps with herbicide in order to prevent regrowth.”

[Protecting Mill Stream and the St. Croix River](#) – Sept. 9

“(IBI) scores function much like grades on a report card. According to Mike Isensee, Administrator for the Carnelian-Marine-St. Croix Watershed District, Mill Stream will likely get an IBI score of “B” in 2022.”

[A River Unites](#) – Sept. 16

“Though rivers have long been used as borders to divide one group of people from another, it also strikes me that they have the power to bring us together as well.”

[Wildlife-friendly fall gardens](#) – Sept. 23

“In the coming weeks, there are several steps you can take to prep your yard and gardens for winter and continue to support pollinators, birds and other wildlife.”

[New project aims to take Lily Lake off the impaired water’s list](#) – Sept. 30

“A new regional infiltration basin will collect and filter stormwater from a large area of land that includes commercial and residential property, delivering it to Lily Lake cleaner and with less phosphorus.”

[On the forest and the trees](#) – Oct. 11

“Take a break from raking leaves and get involved in efforts to create more resilient woodlands this fall.”

[Street Sweepers to the Rescue](#) – Oct. 14

“Cities use street sweepers to maintain a tidy appearance, but these machines can also be an important and cost-effective tool for reducing stormwater pollution.”



[Channeling a life-long passion for water protection toward community change in Forest Lake](#) – Oct. 21

“Curt Sparks would love to see more people in the community get involved in lake and watershed stewardship, whether it is by joining the watershed district’s citizen advisory committee, participating in activities led by one of the local lakes associations, or merely adopting a storm drain in their neighborhood.”

[Salt a growing problem for Minnesota’s water](#) – Oct. 26

“Overall, the MPCA has determined that road salt is responsible for 42% of the chloride in groundwater, lakes and streams. Two other major sources of chloride that are less well-known include agricultural fertilizers (23% of the total chloride) and water softeners, which account for up to 65% of the chloride discharged from municipal wastewater treatment plants.”

[Rich Fen, Poor Bog](#) – Oct. 28

“Bogs are acidic and nutrient-poor for plant growth. Fens are rich in nutrients and are alkaline. The Tamarack Nature Preserve is unique because it has characteristics of both.”

[Wetland in your yard?](#) - Nov. 4, 2021

“Wetlands protect nearby homes from flooding and help to reduce shoreline erosion along the edges of rivers and lakes. If you have a wetland on or near your property, however, you may need to make some changes in your landscaping and seasonal yard care.”

[PFAS contamination works its way to the St. Croix River](#) – Nov. 11, 2021

“Six water bodies in Washington County will likely be added to the state’s impaired waters list due to perfluorinated alkylated substances (PFAS), also known as the “forever chemical.” The affected waters include Tanners Lake (Oakdale), Eagle Point wetland and H.J. Brown Pond (Lake Elmo Park Reserve), Clear Lake (City of Forest Lake) and the St. Croix River/Lake St. Croix from Taylors Falls to Prescott.”

[Fifty-three Minnesota lakes and streams to be de-listed in 2022](#) – Nov. 18, 2021

“Local lakes scheduled to be delisted next year include East Boot (May Twp), Echo (Mahtomedi), Hay and Jellums (Scandia), Lily and South Twin (Stillwater), and Plaisted (Hugo).”

[Give me a home where the bees and butterflies roam](#) – Nov. 26, 2021

“A native plant revival is underway and Lawns to Legumes grants are here to help.”

[Fossils, glaciers, and the water we drink](#) – Dec. 1 , 2021

“Groundwater provides 100 percent of the drinking water for people in Washington County and 70 percent of the drinking water in Minnesota.”

[The secret life of the St. Croix’s freshwater mussels](#) – Dec. 9, 2021

“The St. Croix River is a rare example of a complete and intact river ecosystem,” explains Marian Shaffer, an Aquatic Biologist with the National Park Service. “In fact, all of the freshwater mussel species that existed in the St. Croix Riverway before European settlement are still here today.”

[Sustainable Stillwater recognized as Washington County’s 2021 Community Conservationist](#) –

Dec. 16, 2021

“Sustainable Stillwater’s Natural Resources team has helped to recruit 45 rain garden adopters and 218 storm drain adopters. They have also engaged volunteers to stencil storm drains, weed and clean-out a native shoreline buffer at Lily Lake, and install cigarette disposal canisters in downtown Stillwater.”



[Valley Branch Watershed District named 2021 Minnesota Watershed of the Year](#) – Dec. 23, 2021

“To protect homes in land-locked basins, the district built an emergency conveyance system to pump water out, taking care not to overwhelm any other water bodies or drainage systems during the process.”

[Minnesotans asked to share ideas for climate resiliency](#) – Dec. 30, 2021

“The state has set up a website to provide information and collect ideas from the public related to: 1) Investing in clean transportation; 2) Protecting our natural and working lands; 3) Creating stronger, resilient communities; 4) Moving to clean energy and efficient buildings; and 5) Promoting health, equity, and a strong economy: <http://www.climate.state.mn.us/ideas-lead-bold-action>.”

Online Communications

EMWREP uses a variety of online communication platforms to educate and engage with the public, including websites, social media (TikTok, Facebook, Instagram, Twitter, YouTube), webinars, and story maps, and our blog.

People reached through social media accounts in 2021:

- TikTok - [@mnnature_awesome](#) 7.7 million
- Facebook - [@mnwcd](#) - 67k
- Instagram - [@wcd_mn](#) - 39k
- Twitter - [@angiehongwater](#) – 18k
- East Metro Water blog – www.eastmetrowater.org - 8500
- YouTube – [Washington Conservation District](#) – 8400

TikTok Mania!

TikTok has 65.9 million users in the United States and 689 million worldwide (1.29 billion if you include the Chinese version Douyin). In January of 2021, it was the second most downloaded app worldwide. Unlike Facebook and Instagram, TikTok is built entirely on short-form video. Users can post videos up to 59-sec long for others to like, share, and comment on. The app is highly interactive – users can respond to questions in video format or build off of videos that other people have posted – and 62% of users are ages 10-29.

We’ve been active on TikTok since last summer [@mnnature_awesome](#) and use it to share a variety of content, including partner projects, water science, nature destinations, and outdoor skills. Because the videos are short, they can be cross-posted to other social media platforms such as Facebook and Instagram, or combined to create longer videos for YouTube. This year, the account has surged in popularity and now has 63,700 followers. We’ve been featured in articles by CNET and Racket.

Racket: This Minnesota Environmental Educator is Blowing up on TikTok

Racket is a new online culture and news site, founded by former editors at City Pages. This November, editor Jay Boller interviewed Angie about her experience launching the [@mnnature_awesome](#) TikTok account. “TikTok afforded Hong the opportunity to take her IRL lessons outside the classroom and into Minnesota’s lakes, rivers, prairies, and forests.” Read the article [here](#).

CNET: “TikTok goes wild: Meet the adventurers taking you into the great outdoors”

Our [@mnnature_awesome](#) account was also featured in an article by CNET, an American media website that publishes reviews, news, articles, blogs, podcasts, and videos on technology and consumer electronics globally. Read the article [here](#).

Over the course of the year, 7.7 million people watched our videos. The table below shows statistics for the most popular videos in 2021.

	Topic	Views	Likes	Shares
1.	Poison ivy	4.6M	724.6k	23.8k
2.	Drought in Minnesota	645.6k	129.4k	3.5k
3.	How to use a compass	484.3k	69.1k	120
4.	PFOS in St. Croix River	380.1K	52.7k	7.7k
5.	Lawn to native plants in HOA, Woodbury	316.8k	39.7k	580
6.	How to use a compass	167.1k	11.9k	418
7.	Porous pavement	128k	21k	160
9.	Bee friendly lawns	102.1k	16.3k	937
10.	Poison sumac	98.6k	5289	336
11.	MN watersheds	94.4k	10.4k	302
13.	Gardening with native plants	91.2k	18.7k	329
12.	RWMWD Green Streets	91.2k	13.1k	134

Clean Water MN: Watershed Partners produces photos and articles for the www.cleanwatermn.org website, and also allows partners to use this content in their own communications. We also rely on the campaign for high quality photos to use in our web and print communications. In 2021, Clean Water MN blog posts included:

[Pollution takes a toll on trout habitat](#) – Feb. 12

“Minnesota’s lakes, rivers, and streams provide year-round recreation opportunities for outdoor enthusiasts. Many Minnesotans connect with nature through fishing, and anglers play an important role in the fight to protect wildlife habitat. The nonprofit organization Minnesota Trout Unlimited provides anglers with a unique perspective on the link between water quality and fish populations.” *Featuring photos from Cottage Grove Ravine Regional Park*

[Taking a closer look at Mississippi River plastic pollution](#) – April 8

“Presley Martin brings an artist’s perspective to cleaning up the river. He scours the riverbank near his Minneapolis home for discarded bits of styrofoam and plastic and then arranges the items he finds for photographs or reassembles them into found-object sculptures. For one of his recent projects, Floating Meditations, Presley spent 30 minutes on a dock, grabbing all the plastic that floated by within arm’s reach, and then he photographed the items. The resulting images represent a tiny sample of the vast quantity of plastic polluting the river.”

[Choose clean lakes for safer swimming](#) – July 7

“The summer of 2021 is off to a scorching start with record high temperatures and drought affecting most of Minnesota. As the temperatures soar, many have sought relief from the heat at their favorite swimming spots. In the land of 10,000 lakes, one question might be on the mind of swimmers: how do I know I’ve picked a safe place to swim? With a little bit of research, you can plan your next beach outing with confidence that you’re heading to a healthy lake or stream.”

[Planting Shorelines to Protect Water Quality](#) – Aug. 6

“The city of Blaine is home to a unique, man-made body of water: Sunrise Lake. Dug nearly 20 years ago, Sunrise Lake won’t appear on most lists of Minnesota lakes, nor is it managed by the DNR. However, when it comes to pollution, it faces many of the same challenges as other lakes around the state. Learning about those challenges offers lessons for anyone who cares about protecting water quality.”

[Now is the time to stop zebra mussels](#) – Sept. 7

“Aquatic invasive species — or AIS — include a wide range of animals, plants, and diseases. One species of particular concern in Minnesota is zebra mussels: small D-shaped shells that grow no bigger than a thumbnail. Zebra mussels are native to eastern Europe and western Russia—and they were first detected in Minnesota in the late 1980s. A single female can produce 100,000 to 500,000 eggs per year, resulting in explosive population growth wherever the mussels are found.” *Featuring photos from our Lake Demontreville-Olson event.*

[Grower of giant produce shares tips for cultivating healthy soil](#) – Oct. 28

“Six-foot long gourds, 20-foot tall sunflowers, and 1,000 lb pumpkins might sound like science fiction, but these supersize plants flourish in Chris Brown’s backyard. An avid gardener from the town of Nowthen, Minnesota, Chris took first place in this year’s Minnesota State Fair Giant Pumpkin Competition when his brilliant and beastly orange pumpkin weighed in at 1,104 lbs. “I tell kids at the Fair that I’m growing Cinderella’s Carriage,” he says with a grin.”

Websites:

In addition to individual partner websites, EMWREP uses the following websites to share education and information:

- Washington Conservation District: www.mnwcd.org
 - [/events](#) – event info and registration
 - [/emwrep](#) – annual reports and plans
 - [/planting-for-clean-water](#) – resources for planting projects
 - [/virtual-tour](#) – short videos highlighting outdoor destinations and activities
- East Metro Water: <https://eastmetrowater.org>
 - Blog posts on a variety of topics
- Blue Thumb – Planting for Clean Water: www.bluethumb.org
 - Resources for raingardens, native plants, shoreline buffers, and Lawns to Legumes
- Clean Water Minnesota: www.cleanwatermn.org
 - Watershed Partners produces high quality photos and articles for partners to use in their communications. Blog stories highlight actions that Minnesotans are taking to protect water.

OUTREACH SUPPORT FOR PROGRAM AND PLAN IMPLEMENTATION

Audience: General public, landowners and land managers

Program Goals:

1. Publicize EMWREP partner programs and projects.
2. Engage public and private land owners to complete habitat and water quality improvement projects on their land.
3. Promote partners' BMP (Best Management Practices) and cost-share incentive programs and connect landowners with state and federal grants for water quality improvement projects.
4. Engage community members and other stakeholders to help meet water quality goals identified through local water plans, TMDL (Total Maximum Daily Load) studies, WRAP (Water Restoration and Protection) strategies, and regulatory programs.
5. Educate the public and engage community members to support implementation of the Lower St. Croix Comprehensive Watershed Management Plan.

Educational Objectives:

1. Community members will be aware of partner projects and programs happening in their communities and understand the benefits of these activities.
2. Landowners will develop the knowledge and skills to complete habitat and water quality improvement projects on their land, including: native plantings, raingardens, and native shoreline buffers.
3. Landowners will be aware of and utilize BMP, cost-share and other incentive programs to complete projects.
4. Community members will participate in public meetings, provide input for plans, and take action to support the goals outlined in local and regional plans.

OUTREACH SUPPORT: ACTIVITIES & ACCOMPLISHMENTS

1) Blue Thumb – Planting for Clean Water

The Blue Thumb – Planting for Clean Water Program is a Minnesota partnership hosted by Metro Blooms. Public, private and nonprofit partners work together to educate the public about native plants, raingardens and shoreline plantings and encourage homeowners to complete projects on their land. The program operates the www.BlueThumb.org website, hosts workshops and other events, delivers educational messaging through several media platforms, and has produced numerous print resources, including the Blue Thumb Guide to Year Round Yard Care.

Blue Thumb is affiliated with the Minnesota Lawns to Legumes program and offers web resources and workshops to help landowners develop pollinator-friendly gardens and plantings.

EMWREP helped to launch the Blue Thumb partnership in 2007 and developed many of the original education materials for the program. Currently, we use the website as a resource for the public and collaborate with Blue Thumb / Metro Blooms staff to conduct workshops in our region. Workshops help residents to connect with local resources including, incentive grants, free site visits, garden designs, plant lists, and conservation plans for larger properties.

In 2021, EMWREP held workshops via webinar on the following topics:

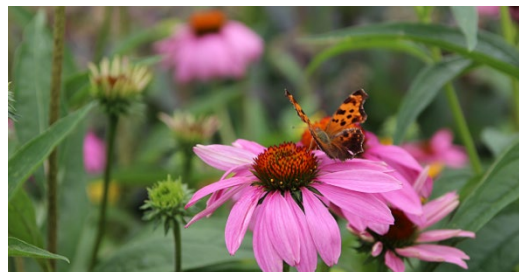
- Pollinator habitat plantings (Jan. 18) – 95 participants
- [Shorelines and buffer maintenance](#) (Feb. 25) – 92 participants (+ 303 on YouTube)
- Building climate resiliency (March 10) – 30 participants
- Shorelines and buffer maintenance (April 29) – 103 participants
- [Raingarden design and maintenance](#) (May 11) – 53 participants (+ 51 on YouTube)
- Shoreline properties for realtors (May 26) – 66 participants
- [Healthy lawns and lawn alternatives](#) (July 7) – 13 participants (+ 12 on YouTube)
- [Bee lawns & lawn alternatives](#) (Sept. 15) – 108 participants (+ 90 on YouTube)
- [Creating pockets of habitat with native plants](#) (Sept. 21) – 100 participants (+70 on YouTube)
- [Bird-friendly yards](#) (Oct. 5) – 25 participants
- [Managing woodlands for resiliency](#) (Oct. 20) – 55 participants (+17 on YouTube)
- [Wetlands habitat and management](#) (Nov. 9) – 50 participants (+21 on YouTube)

Total workshop participants = **1354**

BMP PROJECT MAINTENANCE

Two years ago, EMWREP created a project maintenance calendar for Google and Outlook to provide landowners with raingardens monthly reminders for common maintenance activities (ie. cleaning inlets or weeding):

www.mnwcd.org/maintenance-guide.



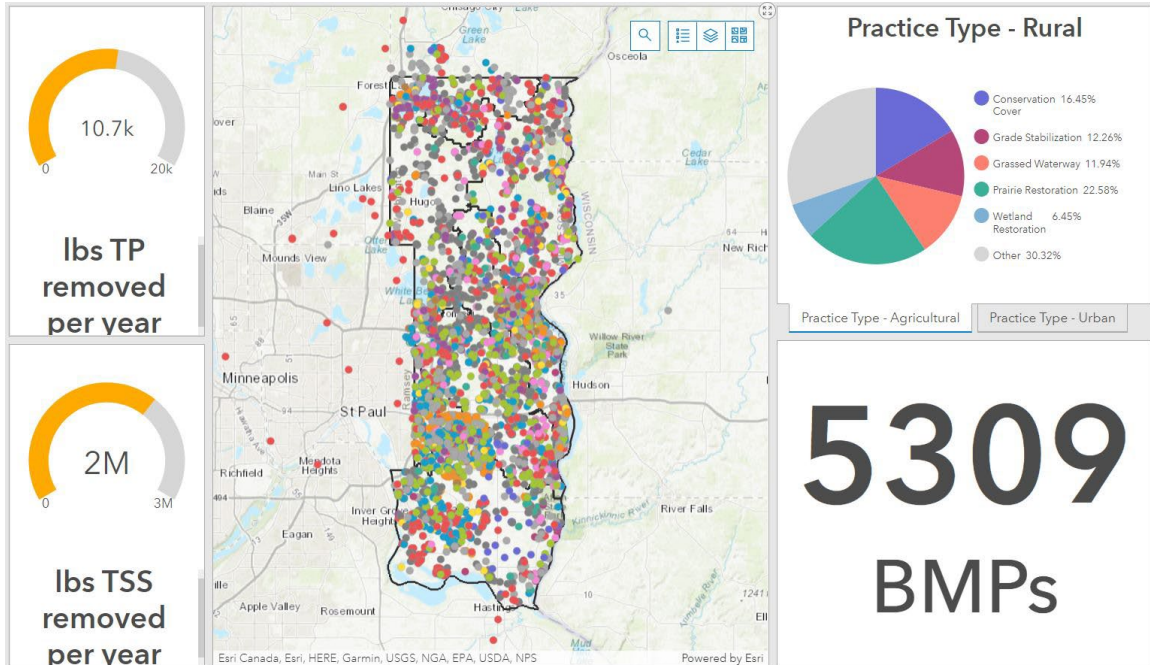
Additional resources for raingarden maintenance are also available at

www.mnwcd.org/adoptaraingarden.

2) Promotion of BMP and cost-share incentive programs

During 2021, EMWREP outreach and education led to **226** site visit requests for Washington Conservation District staff. These in-person visits help people to get started on voluntary conservation projects such as raingardens and native plantings. WCD staff provide technical assistance, advice, and connect landowners with available grants.

A map showing all conservation projects completed in Washington County during the duration of the EMWREP partnership can be found at: www.mnwcd.org/project-map.



Professional Trainings for Business and Local Government

Audience: Water resource professionals, municipal staff, consultants and contractors, local elected and appointed officials, business owners, lawn care providers, winter maintenance providers

Program Goals:

1. Provide technical training to help EMWREP partners meet MS4 Permit requirements and reduce stormwater pollution.
2. Work in partnership with University of Minnesota to provide high-quality professional education at a local level.
3. Provide local decision makers (city councils, planning commissions, watershed boards, county commissioners, etc.) with information and training needed to implement policies, programs, and practices that protect and restore water resources. This includes, but is not limited to, Minimal Impact Development Standards (MIDS) and Shoreland/Buffer rules.
4. Offer professional trainings for area business owners, lawn care providers, and winter maintenance contractors to share information about local water issues and encourage business practices that protect surface and groundwater resources.

Educational Objectives:

1. Municipal employees will understand that stormwater runoff, erosion, and illicit discharge contaminate surface and groundwater resources and, also, that there are best management practices to reduce these causes of water pollution.
2. Local decision makers will understand that land use impacts water quality and that there are a variety of policies, programs and practices cities, counties, and watershed management organizations can implement to protect their water resources, including MIDS and shoreland/buffer rules.
3. Area business owners, lawn care providers, and winter maintenance contractors will learn how to conserve groundwater resources and reduce surface and groundwater pollution through a variety of practices, including:
 - a. Completing water efficiency audits;
 - b. Mowing higher and using fewer lawn chemicals; and
 - c. Reducing road salt application by using new technology, calibrating equipment, and adjusting anti-icing and deicing methods based on weather forecasts; and storing salt properly to reduce leaching.
 - d. Using and storing pesticides and fertilizers safely.

PROFESSIONAL TRAININGS FOR BUSINESS AND LOCAL GOVERNMENT

1) Training for Municipal Staff and Businesses

MS4 Municipal Training Resources

MS4 Permittees are required to provide training for staff on a variety of topics related to stormwater and pollution prevention. Below are links to eleven short videos developed by EMWREP that partners are encouraged to share via email or incorporate into staff meetings and training workshops.

- [Stockpile Management](#)
- [Use and Storage of Significant Materials](#)
- [Routine Street and Parking Lot Sweeping](#)
- [Pesticides and Fertilizers](#)
- [Right of Way Maintenance](#)
- [Vehicle Maintenance](#)
- [Road Maintenance](#)
- [Waste Disposal](#)
- [Emergency Response](#)
- [Cleaning of maintenance equipment, building exteriors, and dumpsters](#)
- [Illicit Discharge Detection and Elimination](#)
- [Raingarden Maintenance](#)
- [Parks Maintenance](#)

EMWREP has also developed print resources to help partners explain MS4 permit requirements to the public, and understand requirements related to stormwater inspections and maintenance.

- [Stormwater pollution and the MS4 permit program](#)
- [Stormwater systems mapping and inspections](#)

In addition to the videos listed above, EMWREP staff are able to speak at staff trainings on request.

Professional Training Opportunities

In 2021, EMWREP hosted/conducted (noted by *) or promoted these professional trainings:

Maintenance of Permanent Stormwater Treatment Systems - online April-May, \$250

- A certification course from University of Minnesota
- This course is designed for those who inspect, maintain or direct maintenance on stormwater control measures and practices, such as ponds and infiltration systems. Attendees will learn the fundamentals of BMP processes, mechanics, operations and maintenance needs, and how to create and execute a maintenance work plan.

MIDS Calculator Trainings – April 12 and 13, FREE

- Hosted by MPCA
- MIDS Calculator introduction: April 12, 1:30-3:30pm
- MIDS Calculator updates (Version 4): April 13, 10-11am

Spring Turf Care - April 15, 10-11am, FREE

- Webinar by University of Minnesota and Met Council
- Topics include: Prepping your irrigation system; Turfgrass species for Minnesota lawns; Common weeds; Demo of new education trailer for outdoor events

Economics of Soil Health on Farms - April 29, 1pm, FREE

- By Soil Health Institute and Cargill
- The Institute interviewed 100 farmers in nine states who have adopted soil health systems and used partial budget analysis to evaluate their economics.

Spring Turf Care - [watch the Zoom recording](#)

- Additional resources:
 - [Auditing home lawn irrigation systems](#) (UMN Extension)
 - [Recommended Audit Guidelines](#) (Irrigation Association)
 - [Lawn care](#) (UMN Extension)
 - [Purchasing Turfgrass Seed](#) (UMN Turfgrass Science)
 - [National Turfgrass Evaluation Program](#) (NTEP)
 - [Growing Degree Day Tracker](#) (Michigan State University)
 - [Finding the right grass seed](#) (UMN Turfgrass Science)
- Would you like to have the mobile education trailer at a community event? Please visit [Reserving our Irrigation Efficiency Educational Trailer](#) for more information.

Conservation Finance in Agricultural Projects – May 12, 2pm, FREE

- Hosted by North Central Region Water Network – [Register here](#)
- Three examples of conservation finance in practice - from incorporating conservation into ag leases to aggregating conservation drainage bids and public-private collaboration.
- Featured speakers:
 - Alejandro Plastina, Associate Professor and Extension Economist, Iowa State University
 - Keegan Kult, Executive Director, Agricultural Drainage Management Coalition
 - Ricardo Costa, Field Crops Educator and 4R Nutrient Management Specialist, Michigan State Extension

***IDDE In-Person Training for Cottage Grove public works staff** – May 13, 7-10am



Street Sweeping - May 13, 9:30-11am, FREE

- Hosted by MPCA
- Topics include: Nutrients in urban stormwater, focused on impacts of trees: Street sweeping calculator; Guidance for street sweeping; Additional research needs
- Presentations by Randy Neeprash (MCSC), Dr. Sarah Hobbie (U of MN), and Aileen Molloy and Hillary Yonce (Tetra Tech)

Salt Symposium – Aug. 3-4

- Aug. 3: New Directions in chloride – water softening, fertilizers, and more
- Aug. 4: Winter maintenance – latest research and technology

SMART Salting for Roads

- Wednesday, September 8
- Thursday, October 7
- Thursday, November 4
- Tuesday, December 14

SMART Salting for Parking Lots and Sidewalks

- Wednesday, September 15
- Tuesday, September 21
- Thursday, October 14
- Wednesday, October 20
- Friday, December 5
- Tuesday, December 9

SMART Salting for Property Managers

- Thursday, September 23, 2021
- Tuesday, October 6, 2021
- *Tuesday, November 2 (Co-hosted by Dakota and Washington Counties)
- Wednesday, December 17

SMART Salting Assessment Tool – Level 2 Certification

- Wednesday, Dec. 8

Shoreline Realtor Workshop



EMWREP partnered with Sponsored by Saint Paul Area Association of Realtors® (SPAAR) to host a workshop for realtors on May 26.

The workshop was for realtors that sell lakeshore and riverfront properties and covered the following topics:

- Lakeshore development and redevelopment rules
- St. Croix Riverway special regulations
- Building a deck, dock, stairway, or home addition? Learn what permits are required for common building projects.
- Planting for Clean Water and assistance for shoreline planting projects

Presenters included: Matt Bauman (MN DNR), Monica Zachay (St. Croix River Association), Karen Kill (Brown's Creek Watershed District), Angie Hong (East Metro Water)

Participants received 3.7 CEUs through Minnesota Department of Commerce. A total of 66 realtors attended.

2) Other education opportunities for local staff and decision-makers

During 2021, EMWREP helped to recruit speakers for Washington County Water Consortium and Watershed Partners meetings. In addition, Angie Hong conducted the following professional trainings:

- Apr 15 - Presentation for technical staff about social aspects of shoreline restoration (workshop hosted by MN DNR)
- Oct. 27 - Workshop on virtual communications at BWSR Academy
- Nov. 3 - Workshop about virtual communications at MPCA staff training
- Dec. 14 - Training about social media for MN Extension staff

3) Racial Equity

In 2021 EMWREP continued to work with staff and local leaders from EMWREP member entities to create more inclusive programming and develop racial equity goals for our work.

Specific activities included:

- Working with Washington Conservation District (WCD) to incorporate equity into the new comprehensive plan
- Compiling resources and recommendations for racial and gender equity and a list of possible consultants for WCD equity training.
- Developing a gender equity survey for WCD and facilitating a staff-level conversation.

- Participating in Watershed Partners CARE subcommittee (Culturally Aware and Relevant Education). Facilitated the group conversation in February about education for non-English speaking audiences.
- Met with consultants to discuss health and equity concerns and future programming opportunities in Oakdale and Landfall.
- Article - Touring Wakan Tipi
- TikTok video - Environmental justice
- TikTok video - native plants for container gardens

In 2022, EMWREP will submit two grant applications to support continued equity work:

- Grant request to National Association of Conservation Districts (NACD) to support a new partnership with Big River Farms in May Twp., and listening sessions with immigrant, refugee, and BIPOC farmers.
- Grant request to MN Board of Water and Soil Resources (BWSR) to create a demonstration pollinator neighborhood in Landfall, a manufactured home community near Tanner's Lake.

Recognition and awards in 2021

MN Board of Water and Soil Resources - December 2021 Snapshots

December's BWSR Snapshots highlights EMWREP as an excellent example of shared services for conservation implementation. "Over the past 15 years, EMWREP programming has led to nearly 2,000 water-quality improvement projects on public and private land; 751 storm drains adopted in Washington County; 20 volunteers trained as Minnesota Water Stewards; 14 volunteers trained as Aquatic Invasive Species Detectors; 780 articles about water in weekly newspapers; and more than 1,000 people educated at workshops each year."

Due to the success of EMWREP, Lower St. Croix partners are now using state funds to expand our shared education model with a focus on outreach to farmers, shoreline landowners, and land use decision-makers. Read BWSR's summary [here](#).

Association of Minnesota Counties – 2021 County Conservation Award

The 2021 Association of Minnesota Counties (AMC) Executive Committee awarded the Lower St. Croix Watershed Partnership with a County Conservation Award at its 2021 Annual Conference on Dec. 8. This annual award is given in partnership with Minnesota Board of Water and Soil Resources (BWSR) to recognize leadership, innovation, and excellence by counties in protecting or improving their natural resources.

The Lower St. Croix Partnership award recognizes the leadership provided by Anoka, Chisago, Isanti, Pine and Washington Counties in helping to bring together a 16-member partnership, forging relationships that cross the urban-rural divide, and working collaboratively to protect and improve the St. Croix River, groundwater, lakes, streams, rivers, wetlands, and upland habitat in the Lower St. Croix watershed.

The Lower St. Croix Partnership builds on the partnerships and success established by EMWREP over the past 15 years.

Valley Branch Watershed District: Watershed District of the Year

The Minnesota Department of Natural Resources (DNR) has named the Valley Branch Watershed District as "2021 Watershed District of the Year" in recognition of its flood mitigation efforts during 2020 and 2021. The announcement was made on December 2, during the Minnesota Association of Watershed Districts Annual Conference.

The Valley Branch Watershed District covers one square mile of Ramsey County and 70 square miles of Washington County, containing Valley Creek, Belwin Land Conservancy, Lake Elmo Regional Park, Sunfish Lake Park, the Tri-Lakes, Oakdale Nature Preserve, and Silver Lake in North St. Paul.

To protect homes in land-locked basins, the district built an emergency conveyance system to pump water out, taking care not to overwhelm any other water bodies or drainage systems during the process. As they worked, Valley Branch staff had to coordinate closely with two counties, fifteen cities and townships, and five adjacent watershed management organizations. This required intensive communication with landowners and local government partners, as well as constant monitoring of equipment, water levels, and water quality for water being pumped out to downstream locations. The district also acquired flood damage reduction grant funding from the DNR to buy-out homes in flood-prone locations.

Comfort Lake - Forest Lake Watershed District: Watershed Program of the Year

Comfort Lake - Forest Lake Watershed District (CLFLWD) covers 49 square miles of land in Chisago and Washington Counties that contain 20 named lakes, 300 drainage ditches, 1000 wetlands, and the headwaters of the Sunrise River.

The CAT program utilizes trained volunteers to take water samples at small and flashy drainage points surrounding selected lakes, then deliver those samples to the CLFLWD for analysis using inexpensive, yet accurate, digital colorimeters. The CAT program is a low-cost (about \$12 per sample) screening tool that both complements and focuses more expensive full scale diagnostic efforts. The outcome of these monitoring efforts is a refined understanding of the distribution of watershed pollutant sources that impact surface water quality.

This program acts as a piece of the bigger picture, allowing the CLFLWD to diagnose nutrient loading sources and prioritize and target where future water quality improvement projects should be located.

[Open Rivers Journal – Issue 19, Fall 2021: Water? I’ve got a story about that](#)

Open Rivers: Rethinking Water, Place & Community is an interdisciplinary online journal by University of Minnesota that “recognizes rivers in general, and the Mississippi River in particular, as space for timely and critical conversations about the intersections between biophysical systems and human systems.” This fall, Angie was invited to write about the EMWREP program and, specifically, how her weekly blog and news column helps us to build relationships with the public for the watershed protection and restoration work that we do. Read the article [here](#).

[Racket: This Minnesota Environmental Educator is Blowing up on TikTok](#)

Racket is a new online culture and news site, founded by former editors at City Pages. This November, editor Jay Boller interviewed Angie about her experience launching the [@mnnature_awesome](#) TikTok account. “TikTok afforded Hong the opportunity to take her IRL lessons outside the classroom and into Minnesota’s lakes, rivers, prairies, and forests.” Read the article [here](#).

[CNET: “TikTok goes wild: Meet the adventurers taking you into the great outdoors”](#)

Our [@mnnature_awesome](#) account was also featured in an article by CNET, an American media website that publishes reviews, news, articles, blogs, podcasts, and videos on technology and consumer electronics globally. Read the article [here](#).

Appendix A: 2019-2021 Annual Budget

Staff Support and Overhead Expenses	Materials	Total
\$144,200	\$10,000	\$154,200.00

MEMBERSHIP STRUCTURE AND FUNDING CONTRIBUTIONS*

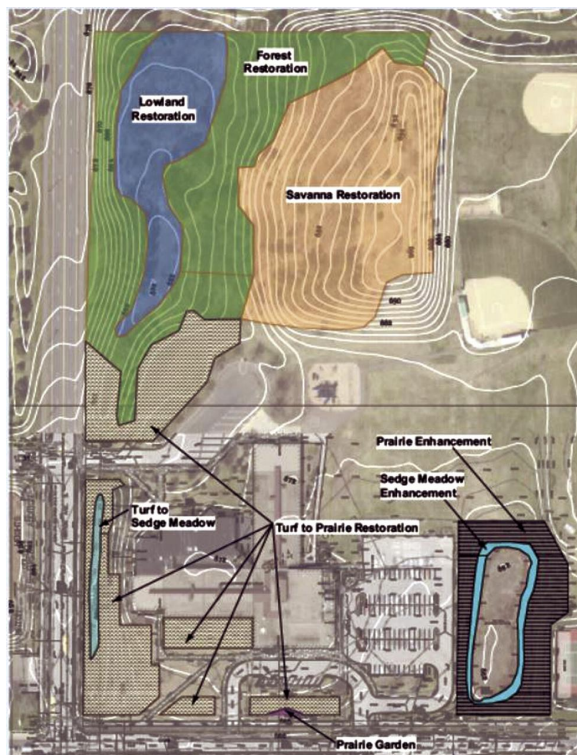
PARTNER	Annual Contribution
SWWD	\$25,000
VBWD	\$19,300
BCWD	\$19,300
CLFLWD	\$19,300
CMSCWD	\$12,700
RWMWD	\$12,700
RCWD	\$3,000
Washington County	\$12,800
MSCWMO	\$6,300
Bayport	\$700
Cottage Grove	\$2,700
Forest Lake	\$2,700
Lake Elmo	\$2,700
Hugo	\$2,700
Oakdale	\$2,700
Stillwater	\$2,700
Woodbury	\$2,700
Dellwood	\$700
Grant	\$700
Newport	\$700
Oak Park Heights	\$700
St. Paul Park	\$700
West Lakeland	\$700
Willernie	\$700
TOTAL	\$154,900.00

Appendix C Local Articles

https://www.hometownsource.com/stillwater_gazette/news/local/students-help-to-seed-an-outdoor-laboratory-at-crestview-elementary/article_69754e4c-9586-11eb-86df-179a2ef4d4fe.html

Students help to seed an outdoor laboratory at Crestview Elementary

by ANGIE HONG Guest columnist
Apr 6, 2021



Angie Hong

On a snowy Tuesday in March, dozens of giggling children assembled outside of Crestview Elementary in Cottage Grove for a very important job. Guided by volunteer bag fillers, wranglers, and mayhem avoidance coordinators, the students filled their hands with tiny prairie seeds and set to work creating an outdoor learning lab for their school.

The project is one of seven campus greening projects underway at South Washington County Schools. At Crestview, the school is converting 2.5 acres of turf to prairie and rehabbing 7.5 acres of low-quality woodlands. The project also includes an outdoor laboratory for the students, as well as environmental education programming through Carpenter Nature Center.



“Our hope is that future generations of Crestview students and staff will use these restored areas to learn about the science and beauty of Minnesota’s native plant and animal communities and be inspired to support a greener, healthier planet for us all,” said Tony Randazzo of the South Washington Watershed District, lead coordinator for the campus greening program. In addition to Crestview, the watershed district is also working with Lake, Middleton, Valley Crossing, Nuevas Fronteras, Grey Cloud, and Cottage Grove Middle schools on similar projects.

The South Washington Watershed District created its Campus Greening program to provide schools with an alternative way to meet their stormwater management rules during construction and redevelopment. Typically, when schools and businesses expand their parking lots and buildings, they build stormwater retention ponds to manage the extra runoff pollution that is generated. Instead, this program takes a more holistic approach that provides unique learning opportunities for the children. The campus greening project at Crestview will use less groundwater for irrigation, capture more rainwater on-site, and create habitat for wildlife.

Initially, the watershed district had planned to begin educational programming for the students at Crestview last spring. Due to complications with COVID, however, that programming has been postponed until the coming fall. Staff from Carpenter Nature Center will lead hands-on lessons for the students and coordinate a field trip to the nature center as well. Happily, the planting event this spring gave the kids an opportunity to get outdoors while some of the early habitat restoration work is underway and begin learning about prairies and native plants.

“Yesterday was fabulous,” said Cole Williams, a volunteer Minnesota Water Steward who helped out at the planting event. “The classrooms were engaged and asked great questions. They did a very good job helping spread seed; and I see so much potential for future work and teaching/interaction possibilities for the children attending Crestview.”

In the open areas, students seeded a mix of native grasses, sedges and flowers that like sun and dry soils. Some of the species included: Side-Oats Grama, Little Bluestem, Prairie Dropseed, Plains Oval Sedge, Purple Prairie Clover, Black-eyed Susan, Anise Hyssop, Wild Bergamot, Blue Vervain, Common Ox-Eye, and Stiff Goldenrod.

In the shadier areas, the students seeded a very simple grass seed mix, comprised mostly of cool season grasses. The goal is to provide quick ground cover in areas where buckthorn was recently removed. Then, goats will be brought to the school in May to clear out new buckthorn when it pops up.

Crestview serves 390 students, more than half of which are students of color. There are also a large number of low-income students at the school. In addition to funding provided by the South Washington Watershed District and South Washington County Schools, Crestview was also received a \$49,920 Conservation Partners Legacy Grant from the Minnesota DNR to support habitat restoration and the creation of an outdoor learning laboratory.

“It is through direct stewardship that a true relationship grows with an individual and the environment,” says Williams, “I’m excited to watch this site change and flourish.”

Angie Hong is an educator for East Metro Water, a local government partnership with 25 members - www.mnwcd.org/emwrep. Follow her on YouTube or TikTok at “MN Nature Awesomeness” or contact her at 952-261-9599 or angie.hong@mnwcd.org.

Schools

SoWashCo Schools Team Up With South Washington Watershed District To Help Improve Our Environment

SoWashCo Schools also partners with SWWD for "CampusGreening" efforts.

By Press Release Desk, News Partner

Apr 19, 2021 3:30 am CDT | Updated Apr 19, 2021 4:18 pm CDT

Like 3 Share

Reply



SoWashCo Schools also partners with SWWD for "CampusGreening" efforts. (Shutterstock)

[Press release from South Washington County Schools:](#)

April 18, 2021

Subscribe

For several years, seven South Washington County Schools (SoWashCo Schools) have partnered with the South Washington Watershed District (SWWD) for projects that help improve our groundwater, environment, and create habitats for birds and pollinators. The projects also offer unique learning opportunities for students at Crestview Elementary School (CES), Grey Cloud Elementary School (GCES), Middleton Elementary School (MES), Nuevas Fronteras Spanish Immersion (NFSI), Valley Crossing Elementary School (VCES), Cottage Grove Middle School (CGMS) and Lake Middle School (LMS).

One upcoming project will let students at CES experience how goats are used to improve the overall health and habitat of the land they are grazing on. The goats will be brought in later this spring, but before they are put to work, students will get an opportunity to learn what invasive plants the goats will be feasting on, such as buckthorn, honeysuckle, garlic mustard and more. They'll also learn how the goats help create a healthier environment for native plants, birds and pollinators.

This summer, SWWD is planning to construct a new outdoor classroom at VCES. Outdoor classrooms are also under design for GCES and CGMS. LMS and MES already have outdoor classrooms that allow for more hands-on, immersive learning in outdoor education.

SoWashCo Schools also partners with SWWD for "CampusGreening" efforts. One example is when parking lots are replaced and redesigned to meet current watershed standards that may have not existed when the lots were first constructed. Instead of using traditional water treatment practices, such as holding ponds, we work with SWWD to incorporate prairie restoration practices to offset treatment needs. Prairie restoration projects result in reduced construction costs, increased water infiltration and reintroduction of native prairie species. Oftentimes, students are able to participate in prairie restoration projects by learning about native species and helping plant seeds that will bloom into native plants that will create habitats for birds and pollinators while also creating a natural filtration system for groundwater.

To learn more about these projects, visit swwdmn.org.

This press release was produced by South Washington County Schools. The views expressed here are the author's own.

[Reply to this article >](#)

More from Woodbury, MN

News | 15h

Appendix D Biennial Solicitation for Professional Services



SOUTH WASHINGTON WATERSHED DISTRICT

October 3, 2019

Mr. Paul Dierking
HDR Engineering, Inc.
701 Xenia Avenue South, Suite 600
Minneapolis, MN 55416

RE: South Washington Watershed District Request for Professional Services.

Dear Mr. Dierking:

The South Washington Watershed District (SWWD) is required to biannually solicit for professional services. The SWWD is requesting letters of interest for Engineering, Legal, and Financial consulting services. This request was published in the Bulletin newspaper for two consecutive weeks beginning October 2, 2019. Enclosed is a copy of the request for HDR Engineering, Inc. If your firm is interested in providing services, please submit **3 copies** of the requested information by November 6, 2019. If you have any questions or need additional information, please contact me at 651.714.3729 or matt.moore@woodburymn.gov

Thank you.

Sincerely,
South Washington Watershed District

Matt Moore
Administrator

c: SWWD Board of Mangers



Memo

To: SWWD Board of Managers
From: Matt Moore. SWWD Administrator
CC:
Date: December 3, 2019
Re: 2020-2021 Professional Services

***** Please note in an interest of saving paper we are not providing copies of the consultant information, if you would like this information please contact the SWWD office *****

The SWWD received 16 responses for engineering services, 1 legal response and 2 financial responses. There are 13 firms in the engineering pool that are returning responses.

Engineering:

- 1) AECOM
- 2) Barr Engineering
- 3) Bridge & Stream Engineering, Inc.
- 4) Burns & McDonnell
- 5) Emmons & Olivier Resources, Inc.
- 6) HDR Engineering Inc.
- 7) HR Green, Inc.
- 8) Houston Engineering Inc.
- 9) Inter-Fluve
- 10) ISG
- 11) Kimley-Horn and Associates, Inc.
- 12) MSA Professional Services, Inc.
- 13) RESPEC
- 14) SRF Consulting Group
- 15) Stantec Consulting Services
- 16) Wenck

Other:

- 1) Sunde Land Surveying

Legal

- 1) Jack W. Clinton P.A.

Financial

- 1) Abdo, Eick & Meyers, LLP
- 2) Redpath and Company

The Board could choose one of the following processes to establish engineering services for the 2020-2021 calendar years.

- 1) Place all responders in the pool and delegate work on a project by project basis.
- 2) Select a preferred vendor list using the information we have or request additional information.
- 3) Generate a short list from the twelve responders and conduct interviews to select one or multiple firms.
- 4) Other options

Each engineering firm has ample qualifications, personnel and experience in the types of watershed projects the SWWD is completing. Billing rates average \$215/hour for Principals, \$170/hour for Professional Engineers, \$150/hour for Scientists and \$120/hour for Technicians.

Requested Board Action

- The Board Sub-Committee recommendations:
 - Approval of 2020-2021 engineering services pool to include all respondents, providing a wide range of capabilities to address upcoming SWWD projects.
 - Approval of 2020-2021 legal services with Mr. Jack Clinton, Jack W. Clinton Law.
 - Approval of 2020-2021 financial services with Redpath and Company.
 - Approval of the 2020 and 2021 financial audits with Abdo, Eick, & Meyers, LLC.