



SOUTH WASHINGTON WATERSHED DISTRICT

2022 Annual Report



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Board of Managers

2022

Manager	Position	Term Expires	City/County
Mr. Brian Johnson 4353 Dorchester Drive Woodbury, MN 55129 612-710-8585	President	05/01/2025	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	05/01/2025	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 2022.

2022 Financial Report

The 2022 audit report is in Appendix A. Revenue and program expenditure summaries 2022-2023 are presented below.

Revenue

Revenue Source	2022	2023*
Ad Valorem Levy	\$ 1,247,861	\$ 1,372,647
Stormwater Utility		
SWWD Area	\$ 2,285,036	\$ 2,342,600
E. Mississippi	\$ 378,750	\$ 382,650
Lower St. Croix	\$ 106,300	\$ 109,250
Total Revenue	\$ 4,017,947	\$ 4,207,147

*Anticipated Revenue

Program Expenditures

Program Area	2022 Budget	2022 Actual/Unaudited	2023 Budget
1.0 Planning	\$ 286,880	\$ 141,293	\$ 338,940
2.0 Regulatory	\$ 40,130	\$ 165,649	\$ 50,600
3.0 Implementation & Maintenance	\$ 6,425,300	\$ 1,875,248	\$ 11,762,060
4.0 Education & Information	\$ 144,570	\$ 164,448	\$ 144,570
5.0 Operational	\$ 458,141	\$ 403,584	\$ 446,682
6.0 Debt Service	\$ 250,000	\$ 278,495	\$ 250,000
Total Budget	\$7,605,021	\$3,028,717	\$12,992,852

2022 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 a 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 an underground TSS BMP at the end of network 4 is scheduled for 2023.
- 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.

- **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, SWWD was able to work through those concerns. Following completion of the enhanced street sweeping plan in 2022, SWWD and City of Woodbury entered into an agreement to begin implementing the plan in the fall of 2022. The initial effort was successful, with the City capturing an estimated 75 lbs of TP from their sweeping operations over 1 month. Implementation will continue through 2023.

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, progressed in 2022 and will be ready to construct as development continues.
- 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. Analysis indicated that SWWD's lakes are seeing more inflow and higher internal loading than previously thought. SWWD has shifted its retrofit strategies to larger regional BMPs to make larger reductions in watershed loading. SWWD continues to monitor and assess water quality annually.
- In 2021, SWWD began in-lake AIS control efforts on Colby and Ravine Lakes, in consultation with MnDNR. Those efforts will continue in 2023 and expand to other District Lakes.
- **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. Those BMPs are in various stages of development and implementation. The Seasons stormwater filter was completed and brought online in 2022. The Kargel Park alum treatment facility was advanced to final design and is ready to construct in 2023. The Hasenbank Stormwater Park is progressing to final design and construction in 2023 as well.

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 2022.
- With the State MS4 permit reissued in 2021, SWWD undertook an effort to update District rules. Several changes were made to make the rules consistent with various State requirements. The updated rules were adopted in October. SWWD is currently working to update its guidance materials to help stakeholders understand District rules and how to meet them.
- 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 2022 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 2022, SWWD reviewed 13 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 2022, SWWD contracted with the Washington Conservation District to help provide inspection services for the Cities of Woodbury and Cottage Grove. SWWD works with City staff to enforce compliance on issues identified in inspections.

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. 2022 data is now available on the web database and reports will be uploaded to the website when complete.

Maintenance

- In 2022, Great River Greening continued contract work on the prairie restoration and maintenance at SWWD's Central Draw Storage Facility. Work 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 2022 and will continue in 2023.

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)
 - Hasenbank Woods restoration (2022)
 - County Road 74 and Geneva Avenue Ravine Stabilization concept development (2022)

- Kargel Park alum treatment facility (expected 2023)
- Hasenbank Stormwater Park (expected 2023)
- 16th and Cedar TSS BMP (expected 2023)

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 2022 design for additional restoration work was completed. That work, including replacement of remaining perched culverts, instream stabilization at Afton Alps, and a new channel in Afton State Park will be completed in 2023.
- 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 2022 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 \$36,650 to 11 projects in 2022. Together, the projects are expected to capture 9 lbs of phosphorus. Five of the projects were completed in 2022 along with two 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 2022 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 \$727,000 through its Coordinated Capital Improvement Program (CCIP) in 2022. Funded work includes, equipment for improved deicing, resilience planning, BMP maintenance, ravine stabilization, and new and retrofitted BMPs.
- 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 2022, 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 2022 to provide education activities and workshops with 5th graders. Programming includes a 6-week, in-class program focused on water quality and watershed science. The program culminates with a daylong field trip to Carpenter Nature Center. The program will continue in 2023; however, the focus will shift from 5th to 6th graders to allow easier expansion to all District students.
- 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 2022, 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 2022, 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 2022 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 2022, 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 2022, SWWD continued principal and interest payments on the 2016A General Obligation Refunding Bonds, and will continuing paying on these bonds through March 2031.

2023 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. Working with partners to review West Draw flows and La/Ria Lake flows.	-	Enforce SWWD rules. Review inter community flow limits from Woodbury into Cottage Grove as part of model update process. Partner with Woodbury and Newport to establish/improve outlets for Ria and La Lakes.
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. Ramp up 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. Construct Wilmes alum facility in 2023. Ramp up 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 Construct Hasenbank Stormwater Park to treat flows from Fish Lake. Continue restoration of Hasenbank Woods and Fish Lake wetlands to decrease watershed loading. Ramp up 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	Continuing to pursue regional opportunities	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 eutrophication standards by	N/A	Conduct a Subwatershed Retrofit Analysis to Evaluate regional BMP opportunities. Ramp up enhanced sweeping program in partnership with Woodbury.

	reducing the annual total phosphorus load by 209 lbs/yr		identify BMP opportunities	
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.	-	Continue vegetation management efforts throughout Ravine Park. Evaluate BMP opportunities as watershed develops.
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. Executed agreement with Newport and St. Paul Park for SWWD to fund purchase of vac truck and the Cities to maintain SWWD constructed BMPs for 20 years.	-	Construct underground TSS BMP at 16 th and Cedar. Develop BMP opportunity at St. Paul Park public works.
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 in 2023. 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. Launch partnership with International Water Institute to implement their

				Stewardship Program with District landowners.
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 engagement of a standing Technical Advisory Committee and implementation of the District’s CCIP program;	Program is ongoing.	-	Distribute up to \$550,000 for CCIP projects.
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 as requested. SWWD developed an ESC inspection tracing app currently used by Woodbury and Cottage Grove.	-	Enforce SWWD rules. Continue to support municipalities with ESC inspections.
2	Develop and implement buffer regulatory measures to comply with State requirements;	Rules were updated to reflect new MS4 permit. Changes included clarifications to buffer requirements.	-	Enforce SWWD rules.
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.	-	Partner with County to design 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. Rules updated to reflect additional prohibitions on infiltration where groundwater pollution is a concern.	-	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.

<p>6</p>	<p>Incentivize road authority upgrades to de-icing operations to prevent overuse of road salt;</p>	<p>Ongoing. SWWD continues to incentivize improvements through its CCIP program.</p>	<p>-</p>	<p>Continue to support cities in improving De-icing operations.</p>
<p>7</p>	<p>Continue groundwater quality monitoring at District regional infiltration facilities sufficient to identify potential impacts to groundwater from large scale infiltration practices.</p>	<p>Ongoing.</p>	<p>-</p>	<p>Continue monitoring program.</p>
<p>8</p>	<p>Consider additional protection of surface water features with potential to impact groundwater quality with guidance from State Agencies.</p>	<p>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.</p>	<p>-</p>	<p>Pursue protection for Vandenberg Lake if and when acceptable strategy is identified by SWWD and its partners.</p>



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

Issue Goal:

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

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. Continue 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;	Began in lake AIS control at Colby and Ravine Lakes.	-	Continue work on Colby and Ravine Lakes. Begin vegetation management on Markgrafs, La, and Wilmes 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.	-	Incorporate guidance into SWWD Standards Manual on modeling and calculating water quality benefit of natural vegetation and trees.
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.

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



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 2023 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;	Complete	-	Nothing planned.
2	Calibrate completed models to collected monitoring data once every 3 years.	Current models are up to date.	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	-	Launch updated web viewer. Begin website and WQ database 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. Final planning for Hasenbank stormwater park. Signage for Seasons park filter	Funding allocated for design and construction	Complete final design for CDSF learning center, trail, and interpretive facilities. Begin construction of trail and interpretive signage. Construct Hasenbank stormwater park interpretation.
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 in class programming.	-	Continue in-class experiential programming in partnership with Carpenter Nature Center.
7	Maintain a website to disseminate consistent information and coordinate program implementation;	Ongoing.	-	Begin website update.
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 2023 will be on formalizing CAC logistics and integrating new members.
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 2019. Minor plan adopted in 2022.	-	Initiate in depth review of current WMP, goals, and programs leading into plan update process.
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.	-	Continue to re-engage CAC.
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. Executed agreement with Newport and St. Paul Park. SWWD is providing substantial funding for a vac truck to be shared by both	-	Nothing planned.

		Cities who will in turn maintain District constructed BMPs.		
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	\$ 395,312	Minor plan amendment completed in 2022. Rules updated 2022. Standards Manual and SWPPP to be updated in 2023. Will initiate comprehensive review of WMP in 2023 as a start to the next round of major WMP planning.	As Planned	-	\$88,480
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	Ahead of schedule	-	\$15,000

					assist Cities in implementing identified improvements.			
3	Complete development of subwatershed hydrologic models within 6 years;	Complete by 2023.	\$ 160,000	\$ 348,167	Complete	Ahead of schedule	-	\$25,750
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 amendment submittal in 2019	Ahead of schedule	-	\$ 105,150
7	Re-assess completed management plans at a minimum of once every 3 years to evaluate progress and	Re-assess all plans by 2020. Every 3 years thereafter.	\$ 227,821	\$ -	Review and update of plans were completed in 2019.	As Planned	Delay review of management plan to allow completion of	

	review and adjust strategies;						upcoming regional BMPs.	
8	ID excessively eroding bluff ravines within 3 years;	Completed by 2020.	\$ 45,000	\$ 6,806	ID is complete. SWWD is pursuing stabilization 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		\$30,000
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	Completed by 2020.	\$ 15,000	\$ -	Not started.	N/A, on hold indefinitely while	-	\$ -

	Regulatory Coordination Plan within 3 years;					PFAS workgroups assess and plan.		
14	Update and finalize the Districts Wetland inventory within 3 years.	Completed by 2020.	\$ 50,000	\$ 3,962	Planned for 2023.	Behind schedule	-	\$



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	\$ 156,498	Ongoing	As planned	-	\$ 9,050
2	Wetland Conservation Act (Staff Time)	Ongoing	\$ 30,000.00	\$ 19,202	Ongoing	As planned	-	\$2,380
3	Erosion and Sediment Control (Staff Time)	Ongoing	\$ 140,000.00	\$ 112,795	Ongoing	As planned	-	\$4,760
4	Rules (Staff Time)	Ongoing	\$ 10,000	\$ 10,000	Ongoing	As planned	-	\$2,380



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	\$ 1,021,541	Ongoing.	As Planned	-	\$250,000
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 ongoing under SWWD's existing greenway plan.	\$ 700,000	\$ 279,879	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	-	\$150,000
2 Implementation of completed resource management plans as guided by accompanying retrofit analyses;	Ongoing.	\$ 3,875,000	\$2,186,737	Underground TSS BMPs completed in Newport in 2020, St. Paul Park in 2021. Seasons Park stormwater filter completed	As Planned	Accelerate implementation.	\$1,750,000

					in 2021. Several others to be constructed in 2023.			
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.	-	\$ 100,000
4	Stabilization of identified ravines to prevent downstream transport of sediment and nutrients (Ravine Survey and Assessment Plan);	TBD	\$ 179,591	\$ 263,726	McQuade ravine stabilization complete. 65 th and Geneva Ravine stabilization on hold waiting for County. Additional design for ravines near St. Croix Bluffs park planned for 2023.	As Planned	-	\$ 155,000
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	-	\$165,000
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. Will continue in 2023 and add in La and Wilmes	As planned.	-	\$ -

7	Implement yet to be identified flood damage reduction and mitigation projects and practices (Flood Damage Reduction and Mitigation Plan;	TBD	\$ 101,423	\$ -	Multiple planning efforts have been completed. SWWD has funds budgeted to assist Cities with identified improvements.	As planned.	-	\$ -
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	\$ 3,622	SWWD to participate in LSC 1W1P ag outreach and improvements efforts. Also engaging potential partners in complimentary effort.	As planned.	-	\$73,000
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	\$ 15,200	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	\$ 168,677	SWWD currently contracts with WCD to complete maintenance needs identified as part of annual inspection program.	As Planned	-	\$215,000



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	\$ 11,633,947	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 Phase 2 was completed in 2019. Phase 3 to be constructed in 2023.	As Planned	-	\$2,377,500



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	\$ 3,616,057	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	-	\$ 836,000
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, pilots launching in 2023 with WCD and IWI	-	\$ -
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	\$ 688,626	Ongoing. Includes support for EMWREP, Master Water Stewards, Watershed Partners, and SWWD's experiential education programming	As Planned	-	\$86,050
2 Increase use of Website and Web Tools (staff time); Research; Databases; GIS	Ongoing.	\$ 261,376	\$ 358,684	Continue to maintain up to date website.	As Planned	-	\$35,000
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 2022	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. Viewer update to be completed in 2023.	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	\$ 2,162,991	Ongoing.	As Planned	-	\$458,141
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 2022 Audit Report on Compliance

The 2022 SWWD Financial Audit will be completed and submitted in May 2023.

Appendix B Education



2022 Annual Report



Members of the East Metro Water Resource Education Program:

Bayport • Brown's Creek Watershed • Carnelian-Marine-St. Croix Watershed • Chisago County
Chisago Lake Improvement District • Chisago Soil and Water Conservation District
Comfort Lake-Forest Lake Watershed • Cottage Grove • Dellwood • Forest Lake • Grant • Hugo
Isanti County • Isanti Conservation District • 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
Washington Conservation District • Washington County • Willernie • West Lakeland • Woodbury

**East Metro Water Resource Education Program
2022 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 17 years, the EMWREP program has grown from seven local government partners to 30. In 2022, five new members joined the partnership: Chisago County, Chisago Lake Improvement District, Chisago Soil and Water Conservation District, Isanti County, and Isanti Conservation District.

EMWREP Partnership Structure:

**Indicates members that are also in the Lower St. Croix Watershed Partnership*

In 2023, EMWREP partners include:

- 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
- Counties: *Chisago, *Isanti, *Washington
- Soil and Water Conservation Districts: *Chisago, *Isanti, *Washington (host)
- Watershed Management Organizations: *Brown's Creek, *Carnelian-Marine-St. Croix, *Chisago Lake Improvement District, *Comfort-Lake Forest Lake, Rice Creek, Ramsey-Washington Metro, *South Washington, and *Valley Branch Watershed Districts, and the *Middle St. Croix Watershed Management Organization

EMWREP 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. The program funds 1.5 FTE, plus materials and other expenses.

Because there is considerable overlap in membership for the EMWREP and Lower St. Croix Watershed Partnerships (www.lsc1w1p.org), education staff is shared between the two programs.

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. 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 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.

Education Program staff:

- Angie Hong, Water Resource Education Senior Specialist, angie.hong@mnwcd.org
 - EMWREP (95%) – Overall program coordination, education and outreach
 - Lower St. Croix Partnership (5%) - Policy committee coordination
- Barbara Heitkamp, Water Resource Education Specialist, bheitkamp@mnwcd.org
 - EMWREP (50%) – Education and outreach
 - Lower St. Croix Partnership (50%) – Education and outreach

Additional staff support for education programming is provided by seasonal employees and contractors, as needed.

Funding for special programs:

Additional funding for special programs is provided through grants and partner contracts. Grant funds help to support contract services such as graphic design, videography, language interpretation, and youth education. In 2022, grants and special contracts included:

- \$10,000 grant from National Association of Conservation Districts (NACD) to conduct focus groups and develop programming with emerging farmers.
- \$13,477 contract with Carnelian-Marine-St. Croix Watershed District to support shoreline landowner survey and enhanced educational programming
- \$9380 from Washington County to support groundwater education
- Contract between South Washington Watershed District and Carpenter Nature Center to support youth watershed education (~\$25,000)
- Contract between Washington County and Washington Conservation District for aquatic invasive species (AIS) education (~\$3000 for education)

2022 EMWREP stats

- 739 Workshop Attendees**
 - + 525 additional views on YouTube
 - Tamarack Nature Preserve, with Wild Ones and Dr. Mohlenbrock (Feb. 15)
 - Sustainable lawns and gardens, a workshop for area churches (Feb. 22)
 - Spring Gardening for a Healthy Yard and Watershed, Wild Rivers Conservancy (March 16)
 - Glacial Valley Park - info webinar (April 26)
 - Glacial Valley Park - walking tour (May 24)
 - Buckthorn and Goats Workshop (May 3)
- Onward & Upward**

We've added five new partners, hired a second full-time educator, and are now working across the Lower St. Croix Watershed
- 300 New Site Visits**

Washington Conservation District staff meet with people to plan clean water and habitat projects
- 60+ volunteers**

Water Stewards
Master Gardeners
AIS Detectors
Raingarden Adopters
- Many new resources!**

mnwcd.org/emwrep-resources

 - Displays for events
 - Animated videos
 - Fact sheets & booklets
 - Spanish, Somali, and Hmong language resources
- 1020 Storm Drains Adopted in Chisago & Washington Counties**
- Media & Communications**

People reached to date through social accounts in 2022:

 - TikTok - 3.3 million
 - Instagram - 896k
 - East Metro Water blog - 32k
 - Facebook - 27k
 - YouTube - 16K

Weekly articles published in Stillwater Gazette - Valley Life

Monthly articles in Forest Lake Times + occasional articles in Country Messenger, Hugo Citizen, and LowDown newspapers

East-Metro Water Resource Education Program

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

The MS4 General Permit 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 permit also requires at least one opportunity for public input on the stormwater program each year and one public participation activity.

To support partners in meeting these requirements; EMWREP will continue to conduct educational programs and activities throughout the year and will also deliver monthly emails with print materials, videos, and social media graphics, and other content for partners to use in their communications.

In addition, EMWREP staff have created and uploaded educational materials to the [MPCA Stormwater Wiki – MS4 Toolkit](#) and [EMWREP Resources page](#) for partners to access at any time.

At the end of each calendar year, EMWREP will prepare an annual report that summarizes education activities throughout the year and also evaluates the effectiveness of outreach efforts.

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.

2022 Calendar of Public Education messaging

During 2022, 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 shared these messages in print and social media communications.

- **January – Salt pollution**
 - Partner resource to share: [SMART salting video](#)
 - News articles:
 - [Salt continues to pollute Minnesota lakes and streams](#) – Jan. 20
“Once concentrations are high enough, the chloride becomes toxic to fish and invertebrates and can prevent lakes from turning over in spring and fall.”
 - TikTok videos:
 - [Impervious surfaces](#) (1/3/22) – 148.7k views, 257 shares
 - [5 ways to green cities](#) (1/4/22) – 29k views, 128 shares
 - [Road salt](#) (1/14/22) – 174k views, 997 shares

- **February – Salt pollution**
 - Partner resources to share: SMART salting flyer and printable stickers
 - Info about SMART Salting certification workshops on Feb. 9, 16, and 23
 - News articles:
 - [The Salty Doldrums of Minnesota Winter](#) – Feb. 15
“February starts to tease at spring, but also showcases the extent to which we’ve relied on salt to get us through the winter.”

- **March - Pet waste and stormwater reuse**
 - Partner resources to share: Pet waste articles and social media graphics
 - News articles:
 - [Using rain barrels to save water and money](#) - March 3
“Rain barrels are a simple and inexpensive way to capture rainwater from your rooftop that would otherwise go to waste.”
 - [Turning Stormwater into a Resource at Applewood Hills](#) – March 24
“Washington County worked with the Brown’s Creek Watershed District and Applewood Hills Golf Course to design a stormwater reuse system that will collect runoff from Hwy 36 and Manning Ave. and use it for golf course irrigation. The project will reduce groundwater pumping by 7 million gallons per year and provide 30% of the irrigation needs for Applewood Hills.”
 - TikTok videos:
 - [RWMWD Maplewood Mall stormwater project](#) (3/1/22) 10k views, 38 shares
 - [CLFLWD Golf course stormwater reuse](#) (3-2-22) 6k views, 5 shares
 - [Adopt a Drain](#) (3/16/22) 60k views, 128 shares
 - [De-listing lakes](#) (3/17/22) 20k views, 16 shares

- **April – Adopt a Drain**
 - Partner resources to share: [Adopt a Drain](#)
 - TikTok videos:
 - [Lily Lake de-listing](#) (4/14/22) 7k views, 14 shares
 - [No Mow May](#) (4/20/22) 30k views, 409 shares
 - Direct emails to Adopt-a-Drain volunteers, Adopt-a-Raingarden volunteers, and BMP project owners

- **May – Adopt a Drain**
 - Partner resources to share: 5 Easy ways to protect water in less than one hour (social media graphics)
 - News articles:
 - [10,000 Storm Drain Adopters in the Land of 10,000 Lakes](#) - May 3
“To date, nearly 10,000 Minnesotans have adopted 17,762 storm drains, and those volunteers have reported collecting 474,096 pounds of debris that would have otherwise ended up in our water.”
 - TikTok videos:
 - [No Mow May](#) (5/13/22) 15k views, 46 shares

- **June - SMART Irrigation controllers & Lawn care best practices**
 - Partner resources to share: social media graphics, municipal programs for SMART irrigation controllers
 - News articles:
 - [Who maintains raingardens after they are planted?](#): June 2
“As raingardens surged in popularity, local communities quickly realized how challenging it could be to keep these new gardens looking good and functioning properly.”

- **July – Small-scale construction & Lawn care best practices**
 - Partner resources to share: [Small-scale construction best practices](#)
 - News articles:
 - [Creating Water & Wildlife-Friendly Gardens with Native Plants](#) – July 7
“In our developed areas, however, yards and gardens can help to form critical habitat connections for birds, bees, fox, and even mustachioed rabbits.”
 - [They say the grass is always greener...but should it be?](#) – July 26, 2022
“I hear friends complain about the cost or the time it takes to care for and maintain their lawns, and I just want to be like “Then WHY have so much lawn?””
 - TikTok videos:
 - [Why is my lake green?](#) (7/19/22) 74k views, 175 shares
 - [Commercial landscaping](#) (7/12/22) 19k views, 37 shares

- **August – Pollutants and stressors**
 - Partner resources to share: [Pollutants and stressors](#)
 - News articles:
 - [Local lakes at risk of too much love](#) – Aug. 25
“As shorelines become increasingly more developed, we start to see shoreline erosion, fewer fish and wildlife, more algae in the water, and diminished water clarity.”

- **September – Preventing stormwater pollution**
 - Partner resources to share:
 - SMART Salting for Roads certification training – Sept. 13
 - Proper draining of swimming pools and hot tubs - graphic
 - TikTok/Instagram videos:
 - [Adopt a Drain](#) (9/12/22) 5600 views, 8 shares
 - [Why do leaves cause algae blooms?](#) (9-15-22) 8600 views, 22 shares
 - [Rain barrels](#) (9-20-22) 8500 views, 20 shares
 - [Lily Lake de-listing](#) (9-27-22) 407k views, 4600 shares

- **October – Fall leaves**
 - Partner resources to share: Social media graphics
 - News articles:
 - [La, la, la, leaves!](#) Sept. 29
“The science behind changing colors, where to go leaf-peeping, and what to do when leaves fall in your street and yard.”
 - TikTok/Instagram videos:
 - [Raingardens](#) (10-3-22), 4600 views, 9 shares
 - [Leaf raking](#) (10-5-22), 248k views, 2700 shares
 - [Where does phosphorus come from?](#) (10-25-22) 25k views, 49 shares

- **November - Illicit Discharge Detection and Elimination (IDDE)**
 - Partner resources to share:
 - Help stop illegal dumping to keep chemicals out of our water - short video for the general public in multiple languages
 - English: <https://youtu.be/AlhvFzNb2tA>
 - Spanish: <https://youtu.be/vp3PNWmPSbk>
 - Somali: <https://youtu.be/o9HyWlctQoo>
 - Hmong: <https://youtu.be/Vd9rU6Uqfpc>
 - MS4 Training Videos – for parks and public works staff
 - [Illicit Discharge Detection and Elimination](#)
 - [Cleaning of Maintenance Equipment and Dumpsters](#)
 - [Waste Disposal](#)
 - [Use and Storage of Significant Materials](#)
 - Sample articles
 - [When Watershed Educators go Rogue](#) (5-20-21) Five common waste products and what you should do with them.
 - [Stormwater Detective](#) (2-23-15) History of stormwater regulatory programs and explanation of illicit discharge.
 - Fact Sheet: [Keep your junk out of the water](#)
 - Graphics for social media
 - [Map of adopted storm drains in Chisago and Washington Counties](#)
 - News articles:
 - [Chisago City residents sweep the streets for cleaner water](#) – Nov. 1
 - TikTok/Instagram videos:
 - [Raingardens at Colby Lake](#) (11-2-22) 8400 views, 64 shares
 - [SMART Salting](#) (11-29-22) 4600 views, 12 shares

- **December – SMART Salting**
 - Partner resources to share:
 - [Hold the salt](#) (video)
 - [Watershed – The Hypoxic Punks](#) (video)
 - Graphics for social media
 - News articles:
 - [Sweeping streets and clearing drains for a cleaner St. Croix River](#) Dec. 1
 - [A very hygge holiday?](#) Dec. 9

“Most often, you experience hygge with a small group of friends or family, possibly in front of a fireplace with warm wooly socks and a steaming drink in hand, but definitely not behind the wheel of a car, careening through rush hour traffic in the middle of an ice storm.”
 - [Envisioning a less salty future](#) Dec. 13

“Have you ever seen the intricate dance of a convoy of snow plows clearing a highway after a winter storm?”

Public Participation and Involvement

During 2022, EMWREP helped partners to engage the public through the following programs:

- Adopt a Drain www.Adopt-a-Drain.org - 961 storm drains adopted in Washington County, 59 adopted in Chisago County
- Workshops about residential landscaping – 739 residents participated in workshops and webinars and an additional 525 people watched the pre-recorded workshops on YouTube

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

- Earth Day weekend (Sat., April 23)
 - Attended Earth Day clean-up event at Sally Manzara Nature Center in Lake Elmo
 - Sent education materials to display at St. Andrews Lutheran in Mahtomedi
- Grant Community Clean-up (Sat., April 30)
- Volunteer Planting Events (Sat., May 21) Marine on St. Croix and Lake Elmo Park Reserve
- Belwin Bison Release (Sat., May 21) – Afton
- RWMWD WaterFest (Sat., June 4) – Lake Phalen
- Twins Game – Adopt a Drain meet-up (Sun, May 15)
- Washington County Master Gardener Plant Sale (Sunday, May 22) Baytown Twp.
- Landscape Revival (Saturday, June 4) Oakdale
- Chisago Lakes Appreciation Night (Wed., July 6th) at Lion's Park in Lindstrom
- Washington County Master Gardener “Learn and Grow Garden Tour” (July 16) – Oakdale and Woodbury
- Forest Lake Arts in the Park - (Tue, Aug. 2) – Forest Lake
- Washington County Fair (Aug. 3-7) – Baytown Twp.
- Newport Pioneer Day (Aug. 14, 4-5pm) – Newport
- Minnesota State Fair (Aug. 25 – Sept. 5)
- River Rally, Stillwater – (Sat. Sept. 10) Barbara Heitkamp led a group of community volunteers in storm drain clean-up and promoting Adopt a Drain.
- Brown’s Creek Watershed District Community Event, Stillwater (Sat. Sept. 10)
- Nature Party at Allemansratt Park in Lindstrom (Sun, Sept 18th)
- CLFLWD State of the Watershed event (Tue., Sept 27)
- Lily Lake Clean Water Celebration, Stillwater (Fri, Sept 30)

2. Volunteer engagement:

Minnesota Water Stewards

23 Stewards certified in Washington County

EMWREP has participated in the [Minnesota Water Stewards](#) program since 2018, through a partnership with [Freshwater](#). Water stewards participate in 50-hours of in-person and on-line training and complete a capstone project to become certified. Once certified, they 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 grant projects: In 2022, we collaborated with North Woods and Waters of the St. Croix Heritage Area (NWW) and the St. Croix Watershed Stewards (SMWS) to secure grant funds from a Grinnell College Wall Award to support projects led by volunteer Water Stewards in our region.

- Anna Barker (RWMWD) is working with Master Gardeners to build a gravel bed tree nursery at the Washington County Fairground
- Cole Williams (SWWD) engaged volunteers to remove buckthorn and restore prairie at Wag Dog Park in Cottage Grove
- Tom Furey (CLFLWD) working with City of Scandia and Bone Lake Association to build a gravel bed tree nursery in Scandia
- Wally Wadd (SWWD) engaged church volunteers to restore oak savanna at The Grove, a church in Woodbury



Adopt a Drain

961 drains adopted in Washington County – **59 drains** adopted in Chisago County
19,315 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.

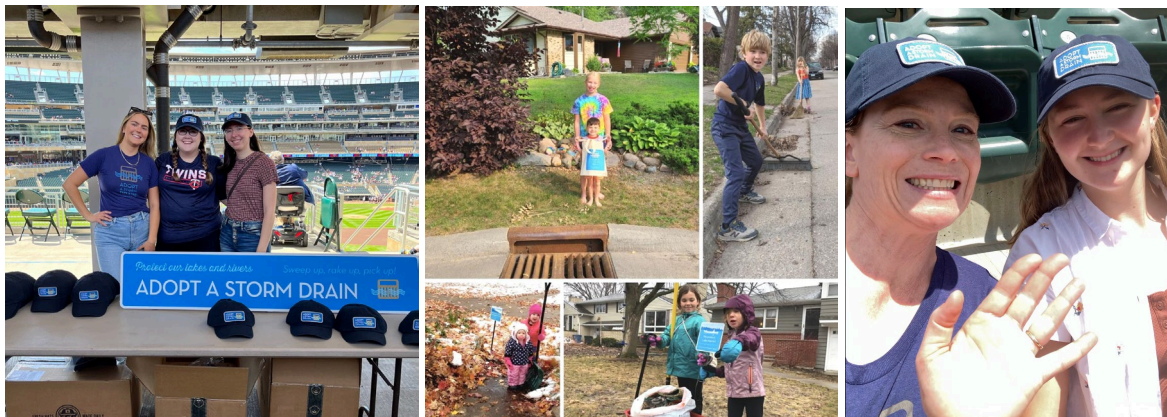
The Adopt-a-Drain program was created by Hamline University's Center for Global Environmental Education on behalf of Watershed Partners, a metro area collaborative with 60+ partners.

In 2022, EMWREP continued to promote the program through a variety of means, including:

- Participating in Watershed Partners and financially supporting the Adopt-a-Drain
- Publishing articles in local newspapers and city newsletters
- Volunteer promotion in Stillwater with Sustainable Stillwater
- Volunteer promotion in Chisago County with Center Lakes Association
- Social media promotions in April and May + volunteer meet-up event at Twins Game
- Emailing current storm drain adopters to provide info on grants and other resources

[Map of adopted storm drains in Chisago and Washington Counties](#)

In May, we celebrated the 10,000th storm drain adopter with a special Minnesota Twins event.



Adopt-a-Drain media communications: The articles and videos listed below were developed by EMWREP to promote Adopt-a-Drain in our area.

- News articles:
 - [10,000 Storm Drain Adopters in the Land of 10,000 Lakes](#) - May 3
“To date, nearly 10,000 Minnesotans have adopted 17,762 storm drains, and those volunteers have reported collecting 474,096 pounds of debris that would have otherwise ended up in our water.”
 - [Saving our water one storm drain at a time](#): May 10
“If you live in an area with storm drains and have been wondering if there’s a way to fit a small but measurable feat of conservation into your busy life, Adopt-a-Drain is great way to go.”
 - [Chisago City residents sweep the streets for cleaner water](#) – Nov. 1
“Meet the self-proclaimed “Walky-Talkys,” who aside from meeting six days a week to walk and chat with their neighbors, have also adopted 17 storm drains through the statewide Adopt-a-Drain program.”
 - [Sweeping streets and clearing drains for a cleaner St. Croix River](#) Dec. 1
“This winter, the Lower St. Croix Watershed Partnership will allocate \$40,000 in state funding to help 16 local communities develop targeted, enhanced street sweeping programs in order to reduce stormwater runoff pollution to the St. Croix River and its tributary lakes and streams.”
- Videos
 - [Adopt a Drain](#) (3/16/22) 60k views, 128 shares
 - [Adopt a Drain](#) (9/12/22) 5600 views, 8 shares

Adopt a Raingarden
31 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 2022, EMWREP continued to collaborate with Sustainable Stillwater MN to engage Adopt a Raingarden volunteers and ensure that gardens are well-maintained:

- April 4 – resource packet emailed to garden owners and volunteers
- May 12 – raingarden maintenance workshop in Stillwater

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
- Wild Rivers Conservancy of the St. Croix and Namekagon
- Pollinator Friendly Alliance
- Wild Ones
- Sustainable Stillwater MN

Additional volunteer engagement activities in 2022 included:

- Feb. 14 - Attended BCWD citizen advisory committee meetings to share “Booth in a Box”
- April 20 – Attended the Forest Lake Lake Association Meeting and shared info about AIS and native shoreline plantings
- May 1 – Attended the Green Lake Association meeting in Chisago City
- May 21 - Helped to promote volunteer planting events in Marine and Lake Elmo
- May 31 – Organized a half-day education retreat for EMWREP volunteers and staff at William O’Brien State Park
- Helped to recruit volunteers for the Lily Lake basin planting
- Sept. 10 – Led volunteers in storm drain stenciling and Adopt-a-Drain promotion for the St. Croix River Rally
- Secured a Climate Impact Corps member to support community forestry volunteer projects in 2022-23.
- Hosting a 3-week internship for Elizabeth Trevathan, a high school senior at St. Paul Academy

Lily Lake De-listed! A highlight of 2022 was the de-listing of Lily Lake in Stillwater, after more than 20 years of community organizing, watershed planning, and project implementation. EMWREP’s education and outreach from 2006 onward was critical to the success of this effort.

On Friday, Sept. 30, we worked with Friends of Lily Lake to throw a “De-Listing Party” with food, music, and an official commendation of Lily Lake’s removal from the impaired water’s list.



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 and is host to the Adopt a Drain program.

Clean Water MN: Watershed Partners produces blog style stories highlighting local water stewardship on the www.cleanwatermn.org website. Photos and articles created for this site are also provided to members to use in their own communications. EMWREP makes frequent use of the professional photography for our print and online communications.

In 2022, EMWREP coordinator Angie Hong continued to serve on the Watershed Partners' steering committee and act as convener for large group meetings.

Presentation topics in 2022:

- February – [video recording](#)
 - Adopt-a-Drain admin tutorial - Jenni Abere, Hamline University
 - Legislative update - Trevor Russell, Friends of the Mississippi River
- March
 - Salt legislation - Aaron Klemz, MN Center for Environmental Advocacy
 - Adopt-a-Drain Challenge - Laruen Letsche, City of Columbia Heights
- April – [video recording](#)
 - Seattle's Community Liaisons program - Francesca Ty Abellera, City of Seattle
- May
 - Hennepin County Plastic-free challenge - Amy Maas, Hennepin County
- June
 - Field trip to St Anthony Falls Laboratory and Water Works Park
- September – [video recording](#)

- Smart Salting new initiatives - Kris Bennett, Hamline University, Stephanie Hatzenbihler, City of Rochester
- October – [video recording](#)
 - Art of Influential Communication - Greg Wukasch, San Antonio Water System
- November – [video recording](#)
 - Engaging Diverse Communities - Danny Lee, Hennepin County, Regine Kennedy, 106 Group
- December - Year-End Potluck
 - Watershed Partners and communication survey - Tracy Fredin and Ann Zawistoski, Hamline
 - Outdoor Media Summit - Angie Hong, EMWREP
 - Musical Collaboration - Nick Voss, VLAWMO

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.

EMWREP coordinator Angie Hong continues to serve as a member of the SWEEP leadership team and helped to plan a half day workshop for SWEEP members that focused on how to work with interns - March 30.

4. Youth education

Though K-12 students are not a primary audience for our education programming, EMWREP provides support for partner-led youth education initiatives and teaches occasional watershed programs, on request.

In 2022, these included:

- **South Washington Watershed District (SWWD) Campus Greening projects:** In southern Washington County, South Washington Watershed District (SWWD) initiated a campus greening program with SoWashCo Schools in 2017. Through this program, the school district and watershed district work together to re-wild school campuses by replacing non-active use turf with prairies, woodlands, and outdoor classroom spaces. To date, campus greening projects are completed or underway at Cottage Grove Middle, Crestview, Lake, Grey Cloud, Middleton, Nuevas Fronteras, and Valley Crossing in Cottage Grove, Woodbury, and St. Paul Park. Students at these schools help to plant trees, spread seeds, and tend to bucktorn-eating goats.

In addition, the watershed district contracts with Carpenter Nature Center to provide environmental education programming through on-site programming and field trips to the nature center. This year’s programming took place at Grey Cloud Elementary and Cottage Grove Middle School.

The Campus Greening program was developed as a creative way for schools to meet the requirements of South Washington Watershed District’s stormwater permit program during re-development projects. Instead of merely installing a stormwater pond, these greening efforts create habitat, reduce irrigation needs, and engage students in hands-on learning. EMWREP staff have helped to develop the partnership with Carpenter Nature Center, and have brought in support from Washington County’s groundwater education program to allow for additional programming as well. Abbey Kuntz provided EMWREP staffing support for this programs in 2022.

Learn more about the Campus Greening program in this [story map](#), created by South Washington Watershed District.

- **Support for implementation of the Washington County Groundwater Plan:** In 2022, this included promoting the Children’s Water Festival and leading an activity using the groundwater model; supporting school education in South Washington School District; conducting public education programming with Washington County Libraries in Oakdale and Mahtomedi.
 - June 14 - Mitch Morris led a water quality demonstration at Oakdale Library
 - July 27 - Water Education at Wildwood Library, Mahtomedi. Mitch Morris led hands-on water programming for kids.



- **Leading interactive programs at community events and schools, including:**
 - April 5 – Angie Hong taught groundwater lessons to kids at River Grove Elementary (May Twp.)
 - April 22 and 29 – Angie Hong led water education programming for students at Nuevas Fronteras (St. Paul Park) and Grey Cloud Elementary (Cottage Grove) during a field trip to Carpenter Nature Center
 - Angie created a video and judged student park planning projects at Cottage Grove Middle School in May
 - June 7 - Lake Critters at Big Marine Park Reserve (May Twp). Barbara Heitkamp led a hands-on learning event, including macroinvertebrate identification, in partnership with Hardwood Creek Library.
 - July 20 - Sally Manzara Nature Center: Water Play Summer Day Camp (Lake Elmo). Angie Hong led a hands-on learning activity
 - July 25 - Water Explorations at Ojibway Park (Woodbury). Amanda Herbrand led a hands-on learning activity
 - Aug. 2 - Forest Lake Arts in the Park. Barbara Heitkamp led a hands-on activity.

- Aug. 14 - Newport Pioneer Day. Mitch Moris led a hands-on presentation called “Love that dirty water: Protecting the Mississippi River.”
- Sept. 22 - Chisago County Children’s Water Festival – Barbara Heitkamp taught groundwater education lessons
- Sept. 28- Metro Children’s Water Festival – Angie Hong taught a station about groundwater.
- Sept. 10 - Crestview Elementary Tree and Shrub Planting (Cottage Grove) – EMWREP helped to recruit volunteers
- Oct. 4 – Angie Hong spoke to students at Nic Jalinski’s Environmental Studies course at University of Minnesota
- Oct. 14 – River Grove Elementary 5th grade (May Twp) - Angie Hong led a lesson about water conservation and prairie roots
- Nov. 9 – Woodbury High School Environmental Club – Angie Hong, Sage Passi, and volunteer Anna Barker met with the club to provide support on a pollinator garden project
- Nov. 11 – River Grove Elementary School 3rd grade (May Twp) – Angie Hong facilitated the K-12 Watershed Game and talked about local government roles in water protection

5. Groundwater education

Washington Conservation District staff provide support for implementation of the Washington County Groundwater Plan through a separate annual contract with Washington County.

Education support provided in 2022 included:

- Promoted the Children’s Water Festival and facilitated the groundwater model at the event
- Supported school education in South Washington School District (Abbey Kuntz)
- Conducted public education programming with Washington County Libraries in Oakdale and Mahtomedi (Mitch Morris)
- Developed narratives for case studies in the Washington County irrigation reuse [StoryMap](#) and shared the story map with EMWREP partners and Washington County cities
- Developed a series of short videos about stormwater capture and reuse
 - [Rain barrels](#)
 - [Maplewood Mall cistern](#)
 - [Forest Hills stormwater reuse](#)
 - [St. Paul Saints Stadium](#)
 - [Grey water reuse](#)
- Gave a presentation about groundwater issues and programs to the Afton Planning Commission on May 2
- Reached out to city staff and developers in Oakdale and Cottage Grove to discuss possible strategies for improving water-friendly landscaping. Unfortunately, we were unable to engage developers on this topic.

In addition, EMWREP conducted the following groundwater education activities in 2022:

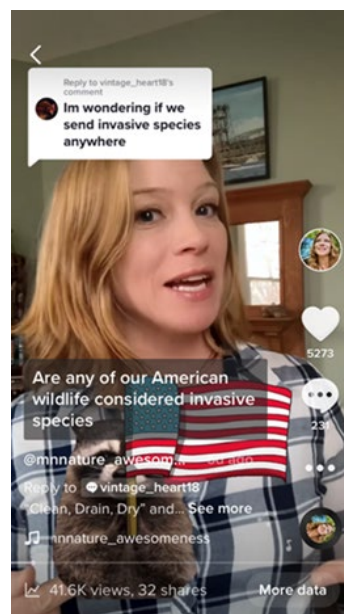
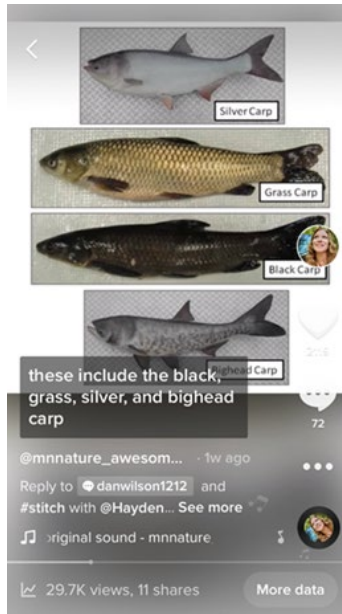
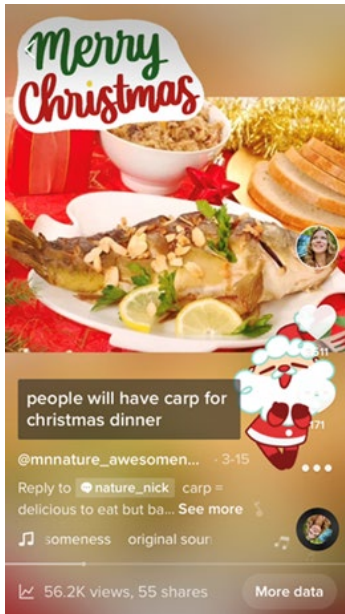
- Created an info flyer about reducing water softener salt
- Wrote articles to promote rain barrels in Washington County and highlighted Applewood Hills reuse project
- Distributed info about SMART irrigation controllers to EMWREP partners in June
- Helped to plan a Well Water Testing Clinic in Scandia on Aug. 18-19 and gave two presentations at the event.
- Nov.8 – Angie Hong presented at the Dakota County Groundwater-Source Water Collaborative to share info about the Washington County Water Consortium and EMWREP
- News articles:
 - Jan. 6 - [Adulting 101: Checking for water leaks in your home](#) – “According to the U.S. EPA, the average American household wastes 10,000 gallons of water per year, purely due to leaking toilets, sinks, and sprinkler systems.”
 - March 3 - [Using rain barrels to save water and money](#) “Rain barrels are a simple and inexpensive way to capture rainwater from your rooftop that would otherwise go to waste.”
 - March 8 - [Our ‘hidden’ and undervalued resource: groundwater](#) “For our area, groundwater is THE water source – not just A water source. Yet, for being so incredibly interwoven in our lives, groundwater is still an abstract concept for many.”
 - March 15 - [Drip, drip drip...the steady beat of the water leak](#) “While it’s not the most entertaining topic to cover, addressing water leaks in the home is one of the easiest things an individual can do to help with water conservation.”
 - March 24 - [Turning Stormwater into a Resource at Applewood Hills](#) “Washington County is working with the Brown’s Creek Watershed District and Applewood Hills Golf Course to design a stormwater reuse system that will collect runoff from Hwy 36 and Manning Ave. and use it for golf course irrigation. The project will reduce groundwater pumping by 7 million gallons per year and provide 30% of the irrigation needs for Applewood Hills.”
 - July 28 - [What’s in the water you drink?](#) “Free well water testing clinic at Scandia Community Center on Aug. 18-19.”
 - Nov. 12 - [New technology coming from Australia to fight PFAS “forever foam”](#)

6. Aquatic Invasive Species (AIS)

Washington Conservation District also provides support for AIS education through a separate contract with Washington County. EMWREP media and communications help to support this work.

2022 AIS education support included:

- **East Metro Lakes e-newsletter:** delivered semi-monthly to 165 lake association liaisons, representing 35+ lakes in Chisago, Isanti, Anoka, Ramsey and Washington Counties.
- **Videos:** Developed a series of 4 videos about aquatic invasive species, focusing on carp
 - [Christmas carp](#) – 63.5K views, 64 shares
 - [Carp harvesting](#) – 17.6k views, 16 shares
 - [Invasive \(Asian\) carp](#) – 33.7k views, 13 shares
 - [American species, invasive in other places](#) – 49.3k views, 33 shares
- April 20 – Mitch Moris and Amanda Herbrand attended the Forest Lake Lake Association Meeting and shared info about AIS and native shoreline plantings
- July 14 article - [Volunteer to protect Minnesota lakes from aquatic invasive species](#)
- November - Met with staff from Wild Rivers Conservancy to discuss a new volunteer program to propagate beetles for purple loosestrife control



Media and Communications

In 2022, EMWREP continues to use a variety of 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 17 years. The articles are posted on-line at www.eastmetrowater.org and frequently appear in other local newspapers as well.

New in 2022, Barbara Heitkamp created the Knickpoints blog <https://knickpoints.blog/>, which shares stories of transition and change in the Lower St. Croix watershed.

EMWREP also provides content for city, watershed and WCD newsletters and developed a number of targeted mailings for partners in 2022. Local newspapers include:

- **Cottage Grove Journal**
- **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)
- **Stillwater Gazette** (Circulation - 17,479) – *Hong column featured weekly*
- **White Bear Press** (Circulation – 19,331)

A full list of published articles from Angie and Barbara is listed at the end of this section.

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 blogs.

Websites: EMWREP uses the following websites to share education and information and also creates content, including photos, events, articles, and videos, for partners to share on their own websites and social media platforms.

- 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>
 - Tips and tales on keeping water clean

- Knickpoints blog: <https://knickpoints.blog/>
 - Stories of transition and change in the Lower St. Croix watershed
- 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.

Social media accounts: Content is also shared on partner’s social media platforms.

- TikTok - [@mnnature_awesome](#) 82.1k followers – 3.1 million total views
- Facebook - [@mnwcd](#) – 1.2k followers – 26k total impressions
- Instagram - [@wcd_mn](#) – 677 followers; [@mnnature_awesome](#) 16.1k followers – 764k total impressions
- Twitter - [@angiehongwater](#) – 411 followers
- East Metro Water blog – www.eastmetrowater.org - 1,868 subscribers - 31k total readers
- Knickpoints blog - <https://knickpoints.blog>
- YouTube – [Washington Conservation District](#), [Lower St. Croix Watershed Partnership](#) – 16k total impressions

Social media content created for partners can be accessed [here](#). Password: CleanH2Oforall!

Over the past three years, EMWREP has dramatically increased its social media outreach in response to changes in the media landscape. We recognize that different platforms reach different audiences and demographics and have also observed that fewer people are getting their news from traditional sources, such as the Star Tribune / Pioneer Press and broadcast television news programs.

We use social media as part of a comprehensive education and communications strategy that also includes community partnerships, articles in local newspapers and partner newsletters, email outreach, volunteer engagement, online and in-person workshops, community events, and more. Social media posts help us to reach a larger audience that is younger and more diverse and also help us to build longer term relationships with community members that support our work.

In particular, we have found TikTok to be a highly interactive platform for engaging the public. Our videos receive thousands of comments and questions from viewers, who in turn share our messages in their own social circles. These interactions also help us to gauge public understanding of local water resource issues and support for various programs and practices.

The popularity of our videos has also led to new opportunities for collaboration and speaking requests, as well as earned media with KARE 11 television, KSTP radio, MPR radio, and other media outlets.

More recently, within the past 4-5 months, Instagram has changed its algorithm to feature reels more prominently in users’ feeds. As a result, we’ve been able to double the total audience for many of our most recent videos.

During 2022, EMWREP reached 3.1 million people via TikTok and 764,000 via Instagram. The top ten best performing videos in 2021-22 are listed below. Note that Instagram (IG) views

greatly increased the audience for the videos on Indigenous land management, Lily Lake de-listing, and leaf raking.

	Topic	Views	Likes	Shares
1.	Poison Ivy	4.6M	726.3k	23.8k
2.	Drought	648.2k	129.4k	3.5k
3.	Indigenous land management	177.4k + 415k IG	41.2K + 45K	391 + 6658
4.	How to use a compass	486.4k	69.2k	121
5.	Wild parsnip	474.9k	57.1k	1.9k
6.	Lily Lake de-listed	201.4k + 198k IG	51.3k + 31k	582 + 3935
7.	PFOS in St. Croix River	391.5K	53.8k	7.9k
8.	Lawn to native conversion in HOA	322.5k	40.1k	593
9.	Skip raking this fall	216.7k + 29k IG	44.5k + 2k	1877 + 788
10.	Chloride pollution	174.4k	35.5k	997

Special Media Features in 2022



KARE-11 [News story](#) on de-listing Lily Lake – Sept. 26
 KARE-11 reporters interviewed Angie and members of Friends of Lily Lake for this 3:49min feature story about the work that went into de-listing Lily Lake.

[WCCO Radio – Why you need to bury underwear in your garden](#) - Sept. 27
 Learn about the “Soil your undies” soil health demonstration project in this fun interview with Angie, conducted by Vineeta Sawkar.

Grow with Jay and Donna: Hear Angie talk about how to get started gardening with native plants in this 25-min podcast - <https://anchor.fm/jayanddonna>

Outdoor Media Summit: In October, Angie Hong attended the [Outdoor Media Summit](#) in Lake Tahoe as a VIP guest, along with 180 representatives from outdoor brands, state and local tourism bureaus, and outdoor media writers, producers and content creators. Presentations highlighted strategies for engaging the public and building a following on social media and offered numerous opportunities for cross-sector collaboration.

Articles published in 2022

[Adulting 101: Checking for water leaks in your home](#) – Jan. 6, 2022

“According to the U.S. EPA, the average American household wastes 10,000 gallons of water per year, purely due to leaking toilets, sinks, and sprinkler systems.”

[After 100 years underground, Phalen Creek will finally see the light](#) – Jan. 13, 2022

“Lower Phalen Creek Project, a Native-Led, East Side environmental organization, has secured \$2.8 million in funding from the Lessard-Sams Outdoor Heritage Council to begin daylighting Phalen Creek.”

[Salt continues to pollute Minnesota lakes and streams](#) – Jan. 20, 2022

“Once concentrations are high enough, the chloride becomes toxic to fish and invertebrates and can even prevent lakes from turning over the in spring and fall.”

[When the flowers bloom again](#) – Jan. 28, 2022

“The Minnesota Board of Water and Soil Resources (BWSR) is currently accepting applications for its Lawns to Legumes program. Apply online by February 15 for the opportunity to receive \$300 in grant support to install native pocket plantings, native trees and shrubs, pollinator lawns, and pollinator meadows in order to restore and enhance habitat for birds and pollinators.”



[A World Without Us or Solarpunk?](#) Feb. 3, 2022

“Is there a different pathway to the future in which we humans get to stay on earth but find new and better ways to live in harmony with nature?”

[Is it safe to eat the fish?](#) Feb. 10, 2022

“The short answer is, it depends.”

[Wandering out of winter into spring](#) Feb. 18, 2022

“Beginning next week, local conservation partners are offering a variety of online and in-person workshops to help you transition from winter into spring, and, hopefully, create a more environmentally sustainable landscape in the process.”

[Waiting for the birds](#) Feb. 24, 2022

“While a back-yard bird feeder is a great way to attract and enjoy watching birds in your yard, you can actually do far more for the birds by planting native flowers, shrubs, and trees.”

[Using rain barrels to save water and money](#) March 3, 2022

“Rain barrels are a simple and inexpensive way to capture rainwater from your rooftop that would otherwise go to waste.”

CLFLWD citizen water monitoring - March 3, 2022

[New expert support and funds available for farmers in the Lower St. Croix Watershed](#) – March 26, 2022

“The Lower St. Croix Watershed Partnership has hired a Minnesota Extension agronomy outreach specialist – Jennifer Hahn – and has earmarked more than \$200,000 to support soil health practices and conservation plans for farmers in the local region.”

[Turning Stormwater into a Resource at Applewood Hills](#) – March 24, 2022

“Washington County is working with the Brown’s Creek Watershed District and Applewood Hills Golf Course to design a stormwater reuse system that will collect runoff from Hwy 36 and Manning Ave. and use it for golf course irrigation. The project will reduce groundwater pumping by 7 million gallons per year and provide 30% of the irrigation needs for Applewood Hills.”

[Tracking the health of Forest Lake area lakes and streams](#) – March 21, 2022

“Who tracks water quality in the Forest Lake area, and how do we nurse impaired lakes and streams back to good health?”



[10,000 Storm Drain Adopters in the Land of 10,000 Lakes](#)

- May 3, 2022

“To date, nearly 10,000 Minnesotans have adopted 17,762 storm drains, and those volunteers have reported collecting 474,096 pounds of debris that would have otherwise ended up in our water.”

[Using goats to control buckthorn and other invasive species](#) – April 21, 2022

“To learn more about managing invasive species with goats, join the East Metro Water Resource Education Program, Washington County Parks, and The Munch Bunch for an outdoor workshop on Tuesday, May 3, 6-7pm at Big Marine Park Reserve.”

[Help save monarch butterflies](#) – April 14, 2022

“USFWS estimates that there is a 96-100% probability that western monarch populations will collapse within 50 years and an 80% probability that eastern monarchs will as well. But, people can prevent that from happening by planting more milkweed.”

[Help create the new Glacial Valley Park in Woodbury-Cottage Grove](#) – April 8, 2022

“South Washington Watershed District’s conservation corridor is the result of two decades of work to create habitat connections and protect land-locked portions of Woodbury and Cottage Grove from flooding.”

[Saving our water one storm drain at a time](#): May 10, 2022

“If you live in an area with storm drains and have been wondering if there’s a way to fit a small but measurable feat of conservation into your busy life, Adopt-a-Drain is great way to go.”

Lily Lake alum treatment scheduled: May 12, 2022

“The alum will draw phosphorus out of the water column and also seal sediment on the lake bottom so that the nutrient can no longer feed algae.”



It takes a village: The journey of getting Martin Lake de-listed: May 17, 2022

“Fifteen years ago, I would go to the end of my dock and not be able to see more than 12 inches into the water,” says John Mattila, current president of the Martin Lakers. “Now, I can see at least 3 feet down – sometimes much more depending on the time of year. It’s night and day to how it used to be.”

Plant-a-palooza coming up!: May 19, 2022

“The next few weeks will offer numerous opportunities to enjoy all things plant-related, including two volunteer planting events, a bison release, two native plant sales, and two family nature events.”



The lure and reality of conservation tillage: May 25, 2022

“Changing tillage practices is no small decision, but there are a growing number of resources that are meant to help encourage farmers to take a second look at conservation tillage”

Community Forestry initiative will help Minnesota cities adapt to changing climate conditions: May 27, 2022

“AmeriCorps members will help help communities around the state increase their urban tree canopies and build resiliency within existing forests for changing climate conditions.”

Who maintains raingardens after they are planted?: June 2, 2022

“As raingardens surged in popularity, local communities quickly realized how challenging it could be to keep these new gardens looking good and functioning properly.”

Mississippi River – Take a drink, then pass it on – June 9, 2022

“It is no exaggeration to say that wastewater treatment is a feat of human ingenuity and one of our most important 20th Century success stories.”

Confessions of a timid gardener, part 3: Time to get real and PLANT. – June 14, 2022

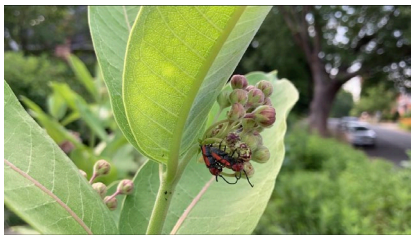
“One thing that I wish people would realize when they start conservation projects is that it doesn’t need to be perfect – it just needs to be a start.”

[**A window into the work of your local soil and water conservation districts.**](#) – June 21, 2022
Take the quiz to find out how much YOU know about the services, work, and expertise you can find at your soil and water conservation districts.

[**Lower St. Croix Watershed Partnership ramps up support for local farmers**](#) – June 22, 2022
“In addition to hiring Jennifer Hahn as a Minnesota Extension agronomist to serve the region, the partnership is hosting workshops for large and small-scale farmers; offering incentive payments for cover crops, nutrient management, prescribed grazing and tillage management; and conducting listening sessions with beginning farmers at Big River Farms in May Twp.”

[**It’s a day for a field day!**](#) – June 28, 2022
Field days are an incredibly important outreach tool in the ag ecosystem. This past Friday, I had the opportunity to help support and participate in a field day in southern Washington county.

[**3 Moms + 3 Boys + 1,000,000 Mosquitoes: A Boundary Waters Adventure**](#) – June 30, 2022
“The Boundary Waters Canoe Area Wilderness (BWCA) encompasses more than one million acres of forest, 1175 lakes, and 1200 miles of canoe routes in northeastern Minnesota.”



[**Creating Water and Wildlife-Friendly Gardens with Native Plants**](#) – July 7, 2022
“In our developed areas, however, yards and gardens can help to form critical habitat connections for birds, bees, fox, and even mustachioed rabbits.”

[**This summer, find your moment of water zen**](#) – July 12th, 2022
Sometimes you just recognize that in that moment, everything feels right and you feel humbled and energized by the experience.

[**Volunteer to protect Minnesota lakes from aquatic invasive species**](#) - July 14, 2022
“During Starry Trek, scheduled this year for Aug. 20, volunteers gather at training sites to learn how to identify starry stonewort and then head out to local water accesses to search for signs of the invasive species.”

[**Exploring land-based living: Habitat restoration, hobby farms, and more**](#) – July 22, 2022
“On August 1, Brittany Wiitala and Matt Hardy will share their farming stories during a special workshop hosted by the Lower St. Croix Watershed Partnership: You’ve got Land: Exploring farming and land management options for 10-40 acres.”

[**They say the grass is always greener...but should it be?**](#) – July 26, 2022
I hear friends complain about the cost or the time it takes to care for and maintain their lawns, and I just want to be like “Then WHY have so much lawn?”

[What's in the water you drink?](#) – July 28, 2022

“Free well water testing clinic at Scandia Community Center.”

[Mysterious creatures of the St. Croix River](#) – Aug. 4, 2022

“Bryozoans are just one of the many strange and unique animals that call the St. Croix River home.”



Forest Lake's enhanced street sweeping model inspires nearby communities to follow suit – Aug. 4, 2022

[Bring on the bees](#) – Aug. 11, 2022

“It is hard to say whether bee lawns are a hot new trend or a throw-back to the early 1900s.”

[Landowners are abuzz with helping pollinators](#) – August 16th, 2022

“It's so satisfying watching people go through this process and seeing them fall in love with their gardens. Plus, they recognize that they get so many more benefits out of their gardens than just helping pollinators.”

[A secret world beneath the surface of the soil](#) – Aug. 19, 2022

“When working with farmers to improve soil health, soil scientists will sometimes begin by digging a soil pit. It is somewhat like an archaeological dig, except the focus is on finding geological clues to the past, as opposed to pottery or dinosaur bones.”

[Local lakes at risk of too much love](#) – Aug. 25, 2022

“As shorelines become increasingly more developed, we start to see shoreline erosion, fewer fish and wildlife, more algae in the water, and diminished water clarity.”

[Conservation Potpourri: August Edition](#) – August 26, 2022

From caterpillar poop, to snail shell openings, and soiling my undies, here's a collection of fun education tidbits for the month.

[Going native? Fall is a great time to plant](#) – Sept. 1, 2022

“You can plant native plants from small packs or pots between September and mid-October or spread seed for bee-lawn and native plantings in early November to mid-December.”

[Opportunities for nature enjoyment and stewardship](#) – Sept. 8, 2022

“This Saturday, Sept. 10 serves up a wide array of activities for nature enthusiasts, including planting trees, stenciling storm drains, chowing down on tacos and ice cream, and enjoying bluegrass in the prairie.”

[Friends of Lily Lake invites community to celebrate lake's "de-listing"](#) – Sept. 19, 2022

“On Friday, September 30, 5-7:30pm, Friends of Lily Lake will celebrate this return to clean water with a family-friendly community event at Lily Lake Park.”

[La, la, la, leaves!](#) Sept. 29, 2022

“The science behind changing colors, where to go leaf-peeping, and what to do when leaves fall in your street and yard.”

[Undies in the Garden](#) – Sept. 30, 2022

“I feel embarrassed to admit how excited and nervous I was to dig up the underwear in my yard and see how much they had decomposed.”



[The Changing Landscape of Nature-Based Education in Minnesota](#)

Oct. 5, 2022

From nature centers, to campus greening projects, and even public charter schools - these Minnesota programs are working to connect kids with nature

[New Initiatives to Grow and Tend the Forests in Washington County](#) – Oct. 13, 2022

“This fall, the WCD is launching a new initiative to develop a countywide community forestry program, in partnership with cities, volunteers, and the AmeriCorps Climate Impact Program.”

CLFLWD Watershed Champion Awards Announced – Oct. 13, 2022

[‘You’ve been educated!’ Lessons learned from a summer of environmental education](#) – Oct. 19, 2022

“Stenciling and cleaning storm drains, interacting with public officials, organizing workshops, burying underwear in my garden, walking crop fields, wading out into lakes on macroinvertebrate hunts, filming butterflies and bees on lakeshores, talking groundwater with 4th graders, learning about and planting native plants, and meeting people – oh so many people – this was my summer 2022.”

[Mercury levels going down in Minnesota lakes](#) – Oct. 24, 2022

“In 2020, the MPCA removed Forest Lake, Tanners Lake (Oakdale), Owasso (Roseville/Shoreview), Johanna (Arden Hills) and eight lakes in northern Minnesota from the state’s impaired waters list. This was the first time in Minnesota history that any lake or river recovered from a mercury impairment.”

[For there was the tree](#) Oct. 25, 2022

“Oak savannas – with their open grassland understory and tall towering oaks that can be hundreds of years old – used to cover up to 10% of Minnesota, with the majority of that area just south of the Twin Cities extending down to Iowa.”

[Kristina Smitten and Jackson Meadow recognized as 2022 Community Conservationist](#) – Oct. 27, 2022

“Over the past decade, Smitten has acted as a connector and motivator within her community and has led stewardship efforts not only on the protected natural areas within Jackson Meadows, but also on adjacent properties that are owned by the City of Marine.”

[Chisago City residents sweep the streets for cleaner water](#) – Nov. 1, 2022

“Meet the self-proclaimed “Walky-Talkys,” who aside from meeting six days a week to walk and chat with their neighbors, have also adopted 17 storm drains through the statewide Adopt-a-Drain program.”



[**New study finds that plastic pollution is pervasive in National Parks across the US**](#) – Nov. 4, 2022

“Plastic makes up 81% of all trash collected in National Parks and federal lands.”

[**New technology coming from Australia to fight PFAS “forever foam”**](#) - Nov. 12, 2022

“Funds from the \$850 million settlement between 3M and the State of Minnesota will be used to purchase, import, and operate the two systems.”

[**What happens when landscapes go dormant?**](#) - Nov. 22, 2022

“After a successful planting of some native plants in my garden earlier this summer, I decided to take another plunge this fall.”

[**Strange facts about two of Minnesota’s favorite comeback animals**](#) Nov. 24, 2022

“Deer and turkeys are two of the most common charismatic megafauna that we see in the east metro and lower St. Croix Valley, but that wasn’t always the case.”

[**Sweeping streets and clearing drains for a cleaner St. Croix River**](#) Dec. 1, 2022

“This winter, the Lower St. Croix Watershed Partnership will allocate \$40,000 in state funding to help 16 local communities develop targeted, enhanced street sweeping programs in order to reduce stormwater runoff pollution to the St. Croix River and its tributary lakes and streams.”

[**Indigenous Perspectives on Land Management**](#) Dec. 6, 2022

“Oak savanna is one example of an ecosystem that has co-evolved with humans in several different locations in North America. In this transitional zone between forest and prairie, people used fire to maintain open areas as a way to attract large game animals such as bison and elk.”

[**A very hygge holiday?**](#) – Dec. 9, 2022

“Most often, you experience hygge with a small group of friends or family, possibly in front of a fireplace with warm wooly socks and a steaming drink in hand, but definitely not behind the wheel of a car, careening through rush hour traffic in the middle of an ice storm.”

[**Envisioning a less salty future**](#) – Dec. 13, 2022

“Have you ever seen the intricate dance of a convoy of snow plows?”

[**Jim Pechacek and Caroline Mecklin - 2022 Outstanding Conservationists**](#) Dec. 14, 2022

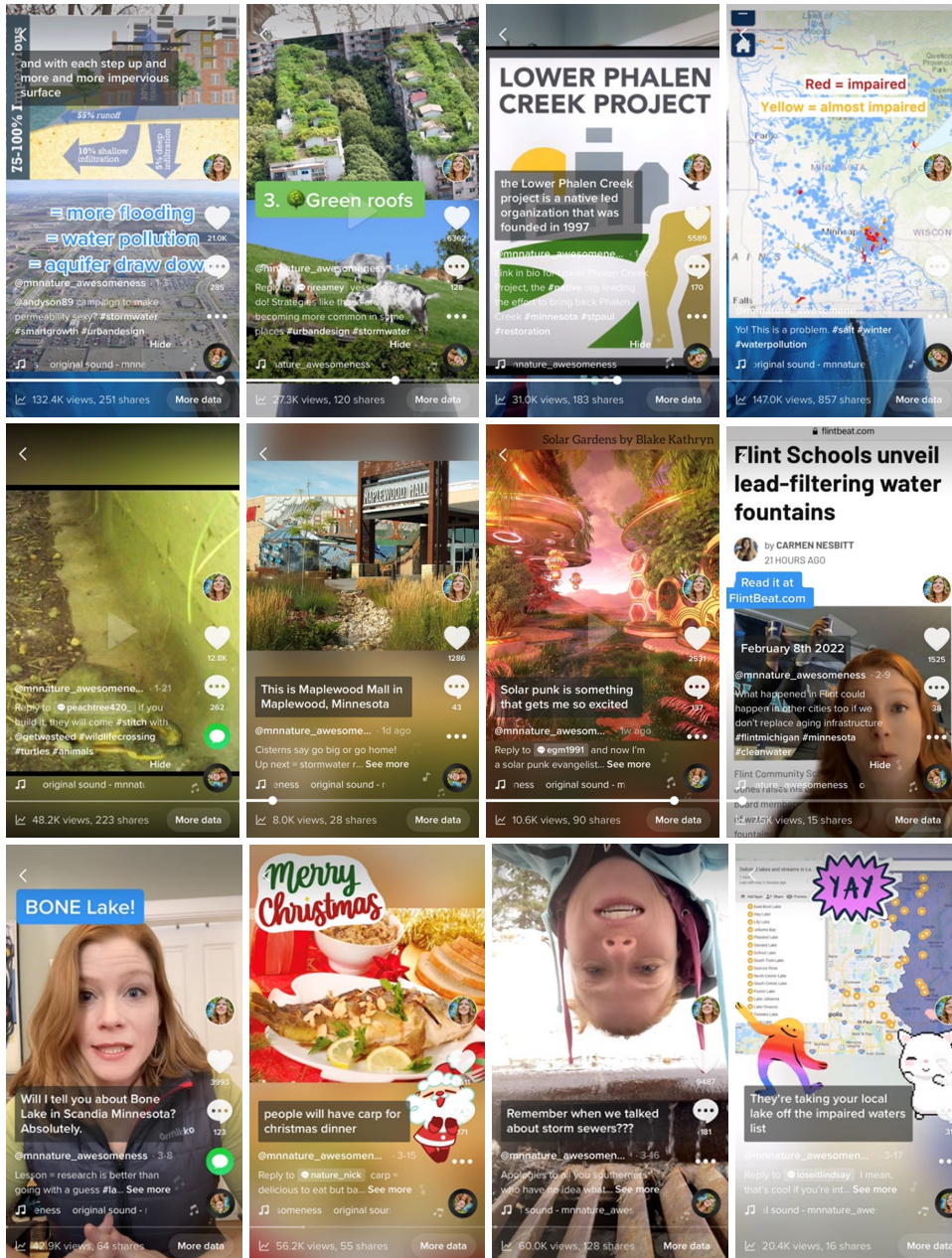
“Jim and Caroline are stewarding farmland in the St. Croix Valley that has been in the family for more than 140 years.”

[**Numbers for the New Year**](#) Dec. 29, 2022

“Since 2009, Washington County landowners have completed 5325 conservation projects ranging in scale from tiny front-yard pollinator gardens to large-scale conversions of cropland to native prairie.”

Videos in 2022

The EMWREP program created 179 videos for the @mnnature_awesome TikTok and Instagram channels in 2022. An abbreviated list of high performing videos is included below. (Click the photos to link to videos on TikTok)



these include the black, grass, silver, and bighead carp

@mnnature_awesome... · 1w ago
Reply to @damwilson212 and #stitch with @Hayden · See more

29.7K views, 11 shares

im wondering if we send invasive species anywhere

Are any of our American wildlife considered invasive species

@mnnature_awesome... · 1w ago
Reply to @vintage_hearts / @mnnature_awesome... · See more

41.6K views, 32 shares

to provide habitat for monarch butterflies

17.0K views, 46 shares

The first is called joe-pye weed.

@mnnature_awesome... · 1w ago
Reply to @SSASAS / @mnnature_awesome... · See more

15.9K views, 81 shares

BRAVO BRAVO

it is getting taken off of the impaired waters list!

@mnnature_awesome... · 4-14
How a small town rallied to save a lake #minnesota #lake · See more

7.1K views, 14 shares

No Mow May
Help to preserve and protect pollinators during this crucial spring period.

The idea is that numerous cities in Minnesota and Wisconsin have passed resolutions

@mnnature_awesome... · 4-20
I am firmly in favor of making my life and yours easier thi... See more

30.5K views, 405 shares

greenwashing, it's not sustainable.

I volunteered one night with this organization called Food Not Bombs

@mnnature_awesome... · 4-24
Reply to @biologyology | find that small steps get pe... See more

14.6K views, 6 shares

Wow!

native plants, veggies, herbs, fruit at extremely affordable prices.

@mnnature_awesome... · 5-18
Reply to @mishigay · info about all of these events can be found at... See more

11.0K views, 239 shares

and then when you look really closely

@mnnature_awesome... · 5-17
Where to buy native plants? Try BlueThumb.org for locations! · See more

36.3K views, 131 shares

a good reason to not mow for a whole month?? done!

My 85 year old neighbor Barbara has let the violets grow up in her yard

@mnnature_awesome... · 5-13
Reply to @kissmeasachachoo / @mnnature_awesome... · See more

14.2K views, 45 shares

So, if you are in Saint Cloud, MN

@mnnature_awesome... · 5-13
Reply to @mishigay | find that small steps get pe... See more

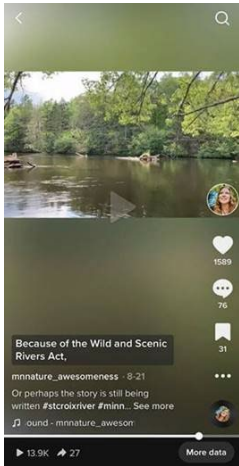
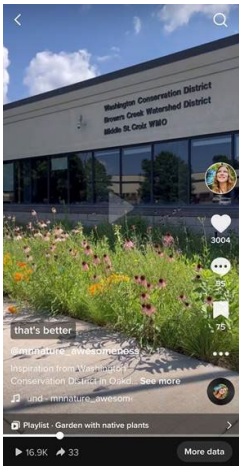
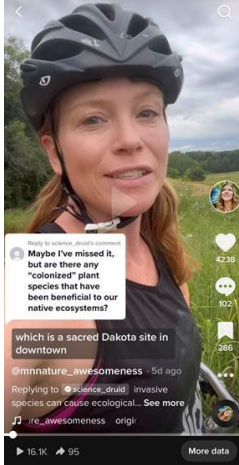
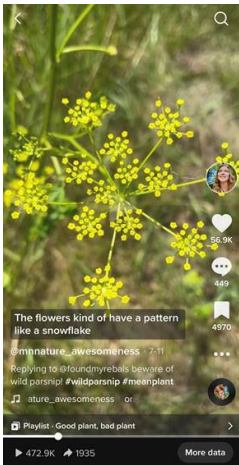
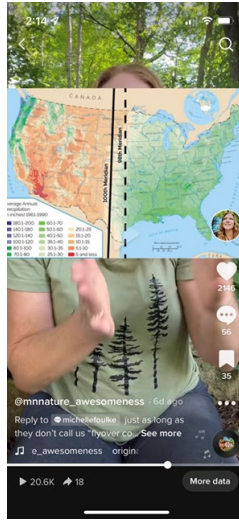
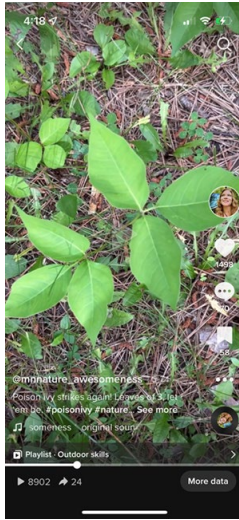
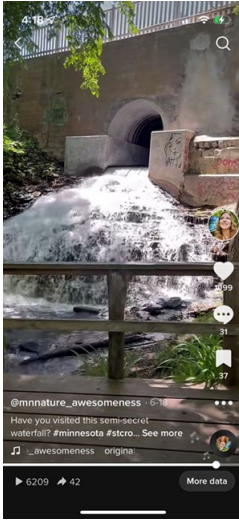
47.3K views, 63 shares

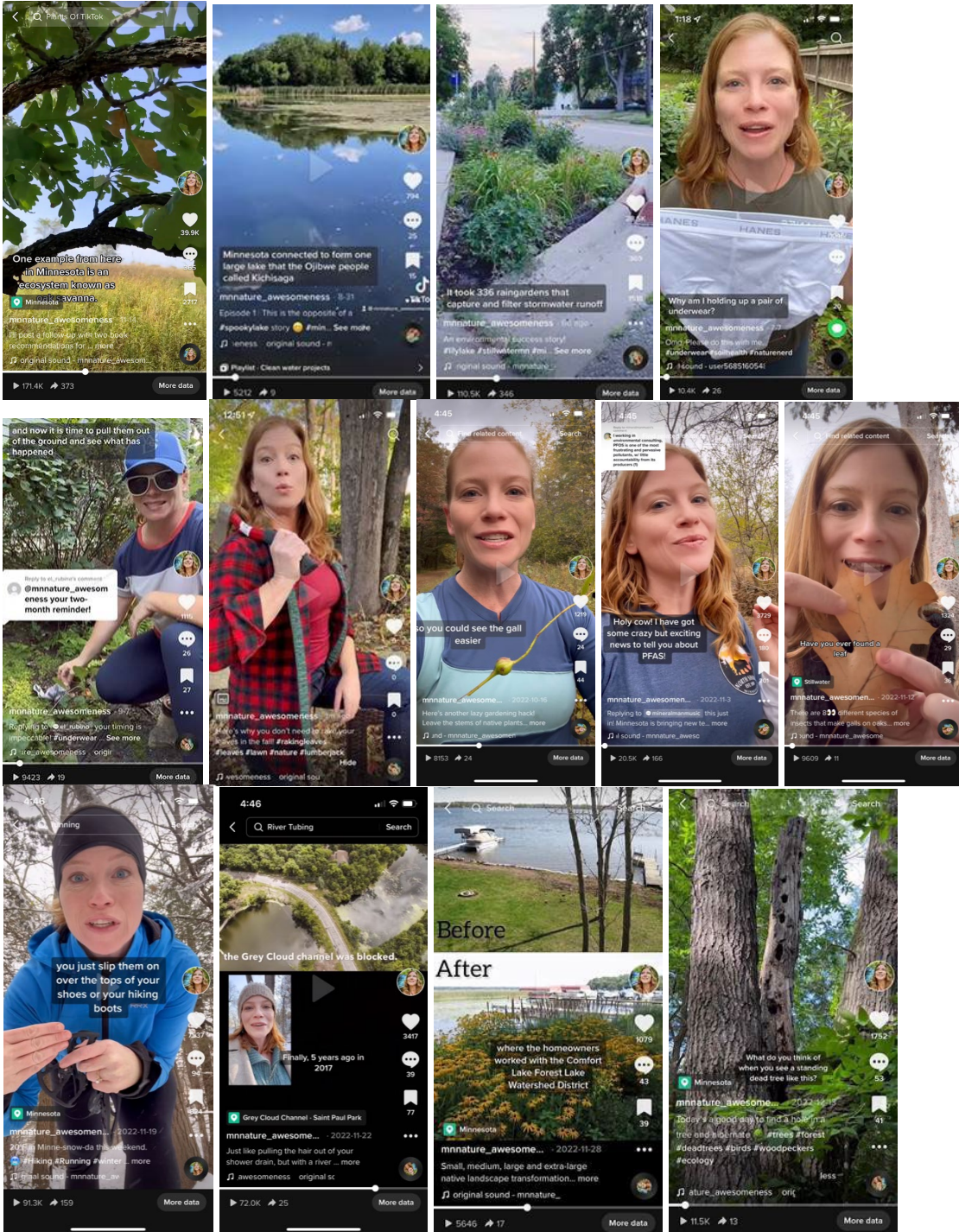
5 🦋 + 🌿

What to plant if you want butterflies #LearnOnTikTok #NativePlants · See more

@mnnature_awesome... · 6-2
original sound · mnnature_awesome

6214 views, 18 shares





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 to promote and 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 2022, EMWREP held workshops via webinar on the following topics (# attendees):

		Zoom In-person	YouTube	Total
Feb. 15	Tamarack Nature Preserve, with Wild Ones and Dr. Mohlenbrock	406	405	811
Feb. 22	Sustainable lawns and gardens, a workshop for area churches	78	64	142
March 16	Spring Gardening for a Healthy Yard and Watershed, with Wild Rivers Conservancy	100	56	156
April 26	Glacial Valley Park – info webinar	45	-	45
May 3	Buckthorn and Goats Workshop – in person at Big Marine Regional Park	75	N/A	75
May 24	Glacial Valley Park – walking tour	35	N/A	35
		739	525	1264

Shoreline Education: In 2022, EMWREP staff spent a fair amount of time coordinating with Minnesota Lakes and Rivers Advocates and Blue Thumb on outreach to shoreline owners. We shared our Shoreline Buffer and Shoreline Restoration workshop materials with Blue Thumb to create a statewide workshop module.

We also adapted a Shoreline Landowners’ Guide, originally from Itasca County, to be used in other parts of the state. This guide is now being offered online for purchase by MN Lakes and Rivers Advocates. Toward the end of the year, EMWREP staff helped CMSCWD to create a new 4-pg mailer for lakeshore owners, which can be adapted and used by other watershed districts as well.

BMP PROJECT MAINTENANCE

EMWREP has 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.

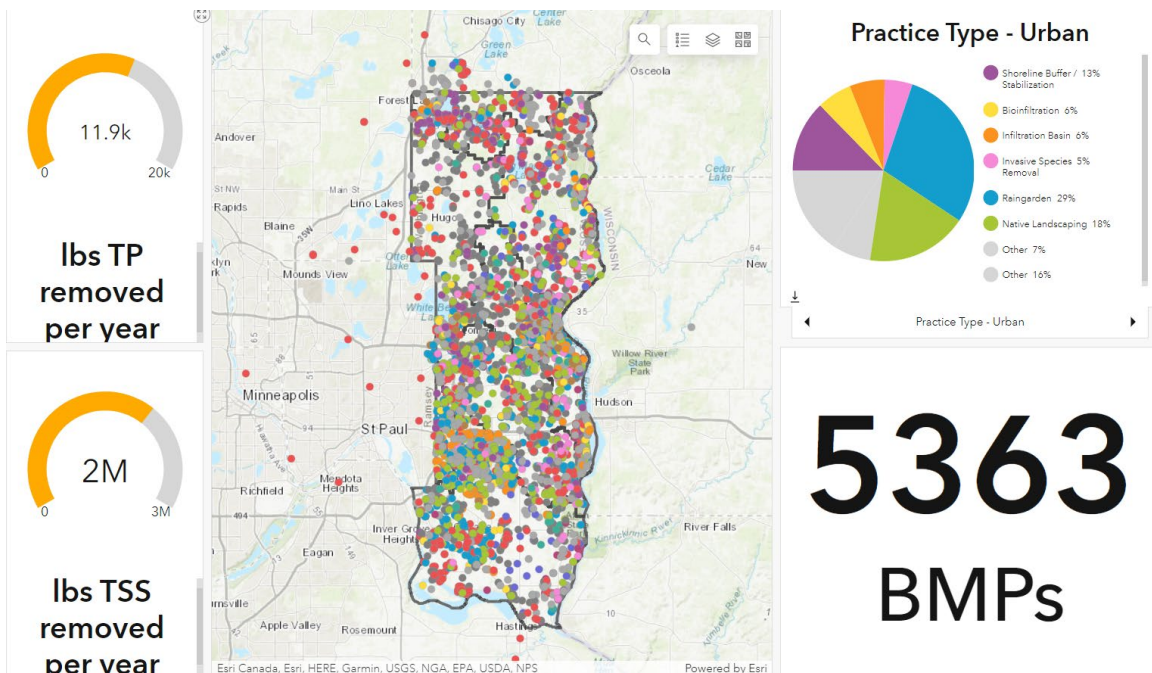


Additional resources for raingarden maintenance are also available at www.mnwcd.org/adoptaraingarden.

2) Promotion of BMP and cost-share incentive programs

EMWREP workshops and media drive people toward partner BMP and cost-share programs. In Chisago, Isanti, Ramsey, and Washington Counties, each of the respective SWCDs conduct site visits and provide technical support. Watershed Districts and WMOs also provide cost-share and plant grants to landowners.

During 2022, EMWREP outreach and education led to **300** site visit requests for Washington Conservation District staff. Site visits were not tracking on other counties. 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. Long-term, there are hopes to eventually expand the project tracking map to include other counties in the Lower St. Croix Watershed as well.



3) Homeowners Associations

Construction of stormwater BMPs, including stormwater ponds, infiltration basins, stormwater reuse systems, and vegetated buffers has been standard practice in Minnesota for more than 20 years. Long-term maintenance of these practices to ensure that they continue functioning properly, however, can be a challenge, especially for practices that are privately owned and located within homeowners' associations and commercial properties. Additionally, HOAs and commercial properties can negatively impact water resources and reduce the longevity and effectiveness of stormwater BMPs through their irrigation, lawn care, and winter maintenance practices.

Previous work with HOAs:

In 2014, the Washington Conservation District was awarded a \$50,000 Clean Water Fund Grant from the Minnesota Board of Water and Soil Resources to conduct audience research and develop clean water projects with Homeowners' Associations (HOAs) in Washington County. As part of this project, the WCD conducted three focus group sessions with HOA board members, property managers, and lawn care companies to identify opportunities for and barriers to implementing clean water projects.

Barriers identified by focus group participants included: lack of interest; member turnover and generational tension; limited funding; unwillingness to deviate from conventional landscape aesthetics; and concerns about maintenance and liability.

In 2018, Washington Conservation District conducted a survey of 62 stormwater professionals in Minnesota to gather input for development of new MS4 education materials.

In this survey, 76% of respondents indicated that HOAs are a priority audience that they are currently working with or would like to work with in the future. Forty-eight percent of respondents listed large and small businesses as a priority audience. In addition, several survey respondents listed HOAs and commercial properties as audiences that they struggle to reach. "Each [HOA] is different and most are not well-organized, they have their set way of doing things, limited contact information." "[Commercial properties are] on a completely different wavelength, it is difficult to find the right people to speak with that make decisions on lawn maintenance and snow removal."

As part of the MS4 Toolkit project, WCD staff also gathered input from approximately 30 stormwater professionals during a facilitated Watershed Partners meeting on 10/10/18. At this meeting, participants identified stormwater ponds and their maintenance as a priority topic for education, and also listed renters and residents in multi-family housing as audiences they would like to better reach.

New work in 2022:

In January, EMWREP developed a grant request to support new social research and develop educational materials for HOAs and commercial property owners. Though we were unsuccessful in obtaining this grant, we are continuing conversations with partners including UMN and metro area watershed districts to develop outreach strategies and materials for HOAs.

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) Stormwater U Training for Municipal Staff and Businesses

EMWREP collaborates with partners including UMN and MPCA to provide professional training for municipal staff, contractors, and businesses. Training in 2022 included:

SMART Salting Certification: Minnesota Pollution Control Agency offers SMART Salting certification for plow drivers, contractors, and property managers.

- Sept. 13 – helped to organize a SMART Salting training, co-hosted by Dakota and Washington Counties. 70 attendees
- Promoted SMART Salting training opportunities in monthly email updates to partners
- Created a list of the 760+ public and private employees that are SMART Salt Certified in the EMWREP region.

Barbara Heitkamp also provided IDDE training for Oakdale Public Works staff in November.

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.

2) Education for local decision-makers

EMWREP provides education support to help community leaders implement policies, programs, and practices that minimize stormwater runoff pollution and preserve habitat corridors for pollinators, birds and wildlife.



ST. CROIX RIVER WORKSHOP ON THE WATER 2022

A workshop for local decision-makers

JULY 20, 2022 | 5:00 PM - 8:00 PM
ABOARD THE GRAND DUCHESS
HUDSON, WI

Hosted by Wild Rivers Conservancy of the St. Croix and Namekagon,
National Park Service, Minnesota DNR, Wisconsin DNR,
East Metro Water Resource Education Program,
Washington County, Polk County, St. Croix County

Workshops on the Water – July 20: EMWREP collaborated with Wild Rivers Conservancy, Minnesota and Wisconsin DNR, National Park Service, and Wisconsin counties to host a St. Croix River Workshop on the Water. 100 people attended.

Speakers and activities included:

- Celebrating the 50th Anniversary of the Lower St. Croix National Scenic Riverway – Craig Hansen, NPS Superintendent for the St. Croix National Scenic Riverway
- Living on the shoreline & protecting your waterfront investment - Lynn Markham, Wisconsin Extension, Land Use Specialist
- Building climate resiliency and meeting riverway regulations - Kenny Blumenfeld & Dan Scollan – Minnesota DNR
- Connecting land use to water quality (The Watershed Game)

Workshop at the Winery – Aug. 24: EMWREP staff also provided support for a Workshop at the Winery in Chisago County, organized by the Lower St. Croix Watershed Partnership. 40 people attended.

Planning for new development: In the late fall, EMWREP staff developed the outline for a short animated video that can be shared with community leaders to introduce concepts related to conservation development. In 2023, we'll work with videographer Jill Zimmerman to produce the video.

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

In addition to recruiting speakers for Watershed Partners and the Washington County Water Consortium, education staff are frequently invited to share their expertise at local, state and national conferences. In 2022, these included:

- **EMWREP education retreat – May 31:** Conducted a day-long retreat for education staff from EMWREP partner organizations on May 31 at William O'Brien State Park. Participants practiced education activities, including collecting and identifying macroinvertebrates, facilitating the Watershed Game, and using the groundwater model.

- **Soil Health Nexus – Aug. 9-10:** Angie and Barbara taught practitioners how to create short-form education videos for YouTube, TikTok, and Instagram.
- **North American Lake Management Society Conference – Nov. 16:** Barbara Heitkamp attended and presented on EMWREP and Lower St. Croix equity efforts.
- **BWSR Academy – Oct. 27:** Angie Hong co-led a workshop on media and communications that focused on outreach and communication strategies used to engage the community in de-listing Lily Lake.

Educational opportunities offered by other organizations were also shared with partners via email on a monthly basis.

EQUITY AND ACCESSIBILITY

EMWREP partners recognize the importance of fully engaging communities in order to protect and restore water resources. Equity is one of the ten guiding principles in the Washington Conservation District [2022-27 Comprehensive Plan](#) and education staff has taken a multi-pronged approach to improving equity and accessibility for our programs.

Over the past ten years, EMWREP staff have participated in and helped to plan diversity and equity workshops, in conjunction with Watershed Partners, and also conducted a series of internal, staff-led trainings and conversations about racial and gender equity in 2020-22. Staff also participate in Watershed Partners' CARE (Culturally Aware and Relevant Education) subcommittee, which meets monthly.

In 2022, WCD secured grant funding for projects in Landfall and Big River Farms that will engage low-income and culturally diverse residents in Washington County.

EMWREP also worked with language interpreters in 2019 to create stormwater education videos and print materials in Spanish, Somali, and Hmong.

In 2022, Washington Conservation District began working with equity consultant Barbara Raye to develop 5-year equity goals. These include:

1. Developing an internal/external equity-focused mentorship program
 - Implementing more inclusive hiring processes to reach new applicants – both seasonal and full-time positions
 - Asking for and prioritizing bilingual applicants
 - Developing a mentorship program for interns, seasonals, and new staff.
 - Considering a mentorship program for high school students
2. Incorporating equity into prioritization processes for water quality and natural resources restoration work
3. Developing an urban agriculture program that engages emerging farmers from diverse economic and cultural backgrounds

This work will continue in 2023, beginning with an equity workshop on Feb. 16 for WCD staff, board and organizational partners that will focus on developing strategies for achieving the equity goals.

Activities related to equity in 2022 included:

- **Big River Farms:** Securing \$10,000 in grant funds from National Association of Conservation Districts (NACD) to support relationship-building with Big River Farms, an organization in Washington County that offers land access and education in organic agriculture for immigrants, refugees, people of color, and others who have historically faced discrimination in accessing farmland, markets, education and other farming support.

As part of this project, Angie attended the Emerging Farmers Conference in St. Paul in November and participated in several small-group conversations with farmers to learn about their goals and barriers.

- **Landfall:** Securing grant funds to support community engagement and creation of pollinator habitat in Landfall, a manufactured home park community near Tanner’s Lake in Ramsey-Washington Metro Watershed District (Total grant = \$40,000). Landfall is one of three pilot communities the WCD will be working with.

As part of this project, community forestry member Tim Foss has been meeting with staff, volunteers, and residents at Landfall to discuss opportunities for collaboration related to ash removal and tree replanting. Angie also participated in a Washington County HOPE project meeting in the spring to learn more about working with Latinx residents in the mobile home park.
- **Gender equity:** Worked with BWSR staff to conduct a gender equity training for WCD board and staff. Identified a Gender and Power Dynamics training opportunity for leadership to attend. Participated in semi-monthly equity committee meetings at WCD.
- **Learning from others:** Angie conducted interviews with the following people to learn more about their equity initiatives and identify collaboration opportunities.
 - Great Lakes Indian Fish and Wildlife Commission - James Rasmussen
 - Belwin Conservancy – Katie Bloome and Susan Haugh
 - Sharon Day - Nibi Water Walks
 - Welcome Water Protectors – multiple people
 - RWMWD – Sage Passi
 - Washington County – Rebecca Leighton and Maria Bonilla

Appendix A: EMWREP Program Budget 2022-24

Each PARTNER is suggested to contribute annually in accordance with the following funding structure.

- County or SWCD (Population > 100,000): \$13,583.48/year
- County or SWCD (Population < 100,000): \$6,685.62/year
- County or SWCD partially within the Lower St. Croix watershed: \$1337.12/year
- Small Watershed Districts (Taxable Market Value < \$1 Billion): \$13,477.35/year
- Medium Watershed Districts (TMV \$1-5 Billion): \$20,481.33/year
- Large Watershed Districts (TMV >\$5 Billion): \$26,530.23/year
- Watershed Management Organizations and Lake Improvement Districts: \$6685.62/year
- Large MS4 Cities (Population > 5,000): \$2,865.26/year
- Small MS4 Cities (Population > 5,000): \$742.85/year

In-kind matches from existing educational staff from within partner organizations are also encouraged. The WCD shall provide \$13,477.35 of in-kind match to the program per year. As shown in Exhibit B, PARTNER contributions will be reviewed and adjusted on an annual basis, as needed.

Staff Support and Overhead Expenses	Materials	Total
\$174,112.37	\$13,000	\$187,112.37
MEMBERSHIP STRUCTURE AND FUNDING CONTRIBUTIONS		
South Washington Watershed District	\$26,530.23	
Valley Branch Watershed District	\$20,481.33	
Browns Creek Watershed District	\$20,481.33	
Comfort Lake – Forest Lake Watershed District	\$20,481.33	
Carnelian-Marine-St. Croix Watershed District	\$13,477.35	
Ramsey-Washington Metro Watershed District	\$13,477.35	
Rice Creek Watershed District	\$3,183.63	
Washington County	\$13,583.48	
Middle St. Croix Watershed Management	\$6,685.62	
Chisago Soil and Water Conservation District	\$6,685.62	
Chisago Lakes Improvement District	\$6,685.62	
Chisago County	\$6,685.62	
City of Cottage Grove	\$2,865.26	
City of Forest Lake	\$2,865.26	
City of Lake Elmo	\$2,865.26	
City of Hugo	\$2,865.26	
City of Oakdale	\$2,865.26	
City of Stillwater	\$2,865.26	
City of Woodbury	\$2,865.26	
Isanti County	\$1,337.12	
Isanti Soil and Water Conservation District	\$1,337.12	
City of Bayport	\$742.85	
City of Dellwood	\$742.85	
City of Grant	\$742.85	
City of Newport	\$742.85	
City of Oak Park Heights	\$742.85	
City of St. Paul Park	\$742.85	
West Lakeland Township	\$742.85	
City of Willernie	\$742.85	
TOTAL	\$187,112.37	

Appendix C Local Articles



Bridge with sign over Trout Brook at Afton Alps.

Angie Hong

Afton State Park is well known as one of the best places in the Twin Cities for serious hiking and trail-running. The park contains 1,600 acres of prairie and woods and is crisscrossed by steep ravines that plunge 300 feet from the bluff-top down to the St. Croix River below. It is home to deer, fox and badgers, as well as eagles, hawks, and migratory birds. Today, you can also find healthy populations of brown trout and native fish in the park, but that wasn't always the case.

“When the DNR first conducted a fish survey on Trout Brook in the early 1990s, they only found a few trout,” explained Mark Nemeth, a trout habitat specialist with the Minnesota Department of Natural Resources. “There hadn't been any stocking in the stream, and the water temps were fairly warm, so fisheries' staff guessed the trout had probably come over from the Kinnickinnic, on the other side of the St. Croix River.” By 2018, trout populations had grown significantly and the fish were beginning to reproduce in the stream. Now, said Nemeth, you can find anywhere from 150 to 1,100 fish per mile in Trout Brook, depending on where you sample.

One major reason for Trout Brook's revival is a series of restoration projects completed by South Washington Watershed District in partnership with the DNR, Vail Properties (Afton Alps), and Great River Greening.

Most recently, in 2019, the watershed district re-routed a segment of Trout Brook that flowed straight through Afton Alps ski area back to its natural meandering course and added several features to improve habitat and reduce erosion. The wiggles in the stream create different types of habitats that fish need, including deep pools with slow-moving water; shallow riffles with fast, turbulent water running over rocks; and runs with deep, fast water and little to no turbulence. Project partners also re-created the natural floodplain so that sediment settles out along the banks of the stream instead of in the center. As a result, fertile soil carried by floodwater can nourish plants along the water's edge instead of burying fish-spawning areas. Funding from the Minnesota Clean Water Fund and the Lessard-Sams Outdoor Heritage Council helped to support the work.

This spring, SWWD plans to begin a similar re-meander project further downstream along Trout Brook within Afton State Park. "We just awarded a contract to Minnesota Native Landscapes, and they'll begin work in April or May, as soon as the ski season is done," said John Loomis, who is deputy administrator for the watershed district. The plan is to construct a new meandering channel parallel to the existing, artificially-straightened stream, and then re-direct the water into the new course once the vegetation is fully established next year. "This project won't just restore cold-water aquatic habitat within the stream," Loomis explained. "It will also reduce the amount of phosphorus and sediment flowing downstream to the St. Croix River [by 177 pounds per year and 154 tons per year, respectively]."

Now that things are looking up for Trout Brook, the DNR is considering introducing a small population of Minnesota Driftless brook trout to the stream. The fish, sometimes referred to as heritage trout, are Minnesota's only native stream trout and are genetically distinct from brook trout that are bred in east coast fisheries. Thanks

to similar stream restoration efforts in other parts of the state, these native brook trout can now be found in almost 70 percent of the streams in southeastern Minnesota, which is up from 50 percent in the 1990s and from just a handful of streams in the 1970s.

This year's Trout Brook restoration project is one of several to receive funding from the newly formed Lower St. Croix Watershed Partnership (www.LSC1W1P.org). The partnership includes 15 local government partners in Anoka, Chisago, Isanti, Pine and Washington counties and focuses on high-value projects and programs to improve water quality in the region. "This project fits the mission of the partnership perfectly," said Matt Moore, administrator for the SWWD. "We had a stream that didn't used to support fish and wildlife, and now it does."

Angie Hong coordinates the East Metro Water Education Program, a local government partnership with 30 members in Chisago, Isanti and Washington Counties - www.mnwcd.org/emwrep. Contact her at 651-796-2210 or angie.hong@mnwcd.org or follow her on TikTok or Instagram @mnnature_awesome.

(Photo provided by Angie Hong)

Appendix D Biennial Solicitation for Professional Services



SOUTH WASHINGTON WATERSHED DISTRICT

South Washington Watershed District 2302 Tower Drive Woodbury MN, 55125 Request for Professional Services

The South Washington Watershed District uses outside consultants to provide professional services in the following areas:

- 1) Engineering
- 2) Legal
- 3) Financial Accounting

The South Washington Watershed District (SWWD) Board is requesting any firm interested in providing services to the SWWD submit a letter of interest, a list of related work/projects/clients, a list of key personal and their qualifications, and a current fee schedule. Information should be limited to four (4) pages total. The SWWD is required to request proposals for professional services every two years. Those firms selected will be placed in a pool of professional service consultants for calendar years 2022-2023.

Information must be submitted no later than 3:00 p.m. Wednesday November 17, 2021.
Email submittal is preferred.

South Washington Watershed District
Attn: Matt Moore, Administrator
2302 Tower Drive
Woodbury, MN 55125
Ph: 651.714.3729
matt.moore@woodburymn.gov

Dated this 21st day of October, 2021.
South Washington Watershed District

Matt Moore, Administrator

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SOUTH WASHINGTON WATERSHED DISTRICT

December 16, 2021

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

RE: South Washington Watershed District 2022-2023 Professional Services.

Dear Mr. Dierking:

The South Washington Watershed District (SWWD) Board established the 2022-2023 Consulting Engineer Pool at their regular meeting on December 14, 2021. The SWWD received a total of twelve responses for engineering services. All twelve responding firms were placed in the 2022-2023 consulting pool and will be considered for engineering services on a project by project basis. If the annual work plan includes projects best suited for your firm, the SWWD staff will contact you. Thank you for your time to respond to the request.

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 Managers



Memo

To: SWWD Board of Managers
From: Matt Moore. SWWD Administrator
CC:
Date: December 6, 2021
Re: 2022-2023 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 12 responses for engineering services, 1 legal response and 2 financial responses. There are 11 firms in the engineering pool that are returning responses.

Engineering:

- 1) Barr Engineering
- 2) Burns & McDonnell
- 3) Emmons & Olivier Resources, Inc.
- 4) HDR Engineering Inc.
- 5) HR Green, Inc.
- 6) Houston Engineering Inc.
- 7) Inter-Fluve
- 8) ISG
- 9) Kimley-Horn and Associates, Inc.
- 10) SRF Consulting Group
- 11) Stantec Consulting Services
- 12) Young Environmental

Other:

- 1) Sunde Land Surveying

Legal

- 1) Johnson Turner Legal-Jack Clinton, P.A.

Financial

- 1) Abdo
- 2) Redpath and Company

The Board could choose one of the following processes to establish engineering services for the 2022-2023 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 \$233/hour for Principals, \$190/hour for Professional Engineers, \$176/hour for Scientists and \$123/hour for Technicians.

Requested Board Action

- The Board Sub-Committee recommendations:
 - Approval of 2022-2023 engineering services pool to include all respondents, providing a wide range of capabilities to address upcoming SWWD projects.
 - Approval of 2022-2023 legal services with Mr. Jack Clinton, Johnson Turner Legal.
 - Approval of 2022-2023 financial services with Redpath and Company.
 - Approval of the 2022 and 2023 financial audits with Abdo.