



SOUTH WASHINGTON WATERSHED DISTRICT

2023 Annual Report



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Board of Managers

2023

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	05/01/2026	Cottage Grove/Washington
Ms. Emily Stephens 6638 Jareau Court South Cottage Grove, MN 55016 612-297-9938	2 nd Vice President	05/01/2027	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	05/01/2026	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 2023.

2023 Financial Report

The 2023 audit report is in Appendix A. Revenue and program expenditure summaries 2023-2024 are presented below.

Revenue

Revenue Source	2023	2024*
Ad Valorem Levy	\$ 1,372,647	\$ 1,500,000
Stormwater Utility		
SWWD Area	\$ 2,342,600	\$ 2,377,024
E. Mississippi	\$ 382,650	\$ 382,850
Lower St. Croix	\$ 109,250	\$ 109,400
Total Revenue	\$ 4,207,147	\$ 4,369,274

*Anticipated Revenue

Program Expenditures

Program Area	2023 Budget	2023 Actual/Unaudited	2024 Budget
1.0 Planning	\$ 338,940	\$ 264,010	\$ 272,020
2.0 Regulatory	\$ 50,600	\$ 110,326	\$ 47,700
3.0 Implementation & Maintenance	\$ 11,762,060	\$ 8,213,325	\$ 5,361,621
4.0 Education & Information	\$ 144,570	\$ 153,083	\$ 229,830
5.0 Operational	\$ 446,682	\$ 452,389	\$ 497,128
6.0 Debt Service	\$ 250,000	\$ 301,560	\$ 250,000
Total Budget	\$12,992,852	\$9,494,693	\$6,658,299

2023 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. As SWWD transitions into its next 10-year Watershed Management Plan update process, it is expected that the Climate Adaptation and Resiliency Plan will become fully incorporated into the new WMP.
- 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. Construction of an underground TSS BMP at the end of network 4 was completed in 2023. Planning and design was also completed for another underground TSS BMP at the end of Network 3B, a smaller catchment area in Saint Paul Park. This BMP is expected to be installed in 2024. Future years will see design and implementation of additional TSS BMPs in other priority catchments in these two cities.
- 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 continue working to evaluate and operate the interconnected system. In 2023, SWWD and Woodbury completed an effort to further evaluate the Bailey Lift Station, a critical piece of infrastructure for flood protection of southern Woodbury. That effort has identified several improvements to maintain functionality and build resilience. Implementation of identified improvements will begin in 2024.

- **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 continued through 2023 capturing an estimated 298 lbs TP. Efforts will continue indefinitely under an automatically renewing agreement.

Additionally, SWWD has entered into an enhanced sweeping agreement with City of Cottage Grove and assisted the City of St. Paul Park with replacement of their lone mechanical sweeper which was at the end of its useful life.

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. Planning for the future learning center continues. Hard trail construction is expected in 2024. However, any facility construction is delayed indefinitely pending further road and utility extension by the City of Woodbury.
- 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 expanded in 2023 and now include Colby, Ravine, Markgrafs, Wilmes, and La 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 Park stormwater filter was completed and brought online in 2022. The Kargel Park alum treatment facility and Hasenbank Stormwater Park were both advanced to final design and began construction in 2023. In 2023, SWWD engaged with SRF Consulting to complete modeling and vetting of possible locations and project concepts as part of a regional feasibility study around Markgrafs Lake to narrow down the best options to reduce phosphorus loading from the lake’s 370 acre subwatershed. When complete in 2024, this effort will result in a suite of potential future regional BMP concepts that SWWD can pursue to drive improvements in Markgrafs Lake water quality. A similar BMP feasibility study around Colby Lake will be undertaken in late 2024, as well.
- **Armstrong Lake Wetland Monitoring Plan.** Armstrong Lake is a shallow waterbody located within the cities of Lake Elmo and Oakdale, Minnesota, within the South Washington Watershed District (SWWD). The lake has excess nutrient input from the watershed and adjacent land uses. The lake is bordered to the west by a large wetland feature: The Armstrong Lake Wetland. Using cattail harvesting within the wetland to reduce nutrient loading into the lake was identified as a practice of interest in both the Armstrong Lake subwatershed retrofit analysis and the northern SWWD stormwater best management practices (BMPs) feasibility study. Barr Engineering has been retained to conduct inlet/outlet water quality, flow, and groundwater monitoring at the wetland to provide baseline data in advance of a future pilot cattail harvesting effort in 2024.

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 2023.

- 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 2023 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 2023, SWWD reviewed 17 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 2023, SWWD contracted with the Washington Conservation District to help provide inspection services for the Wilmes and Hasenbank projects in Woodbury. These inspection services will be continued in 2024 as these projects progress. 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. 2023 data is now available on the web database and reports will be uploaded to the website when complete.

Maintenance

- In 2023, 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 continued in 2023.
- In 2023, Washington Conservation District maintenance staff were engaged to provide maintenance of 23 raingardens near Colby Lake that were originally constructed in 2012 under a BWSR Clean Water Fund grant. Raingardens were mostly in good condition given their age and the maintenance work completed will allow them to continue to function into the future.
- SWWD staff completed an intense field review of the Wilmes Lake IESF in late 2023 to assess the project for maintenance needs and overall efficacy. Results will be finalized in 2024.

Implementation

- SWWD implements projects to achieve District goals and objectives, sometimes in conjunction with partner agencies. Projects include:
 - Nuevas Fronteras TSS and TP filter system (2021)
 - Seasons Park Stormwater Filter (2021)
 - McQuade Ravine Stabilization (2021)
 - Hasenbank Woods restoration (2022)
 - 16th and Cedar TSS BMP (2023)
 - Kargel Park alum treatment facility (began 2023)
 - Hasenbank Stormwater Park (began 2023)
 - 7th Street TSS BMP (expected 2024)
 - Bluffs Regional Park Ravine Stabilization (expected 2024-2025)
 - County Road 74 and Geneva Avenue Ravine Stabilization (expected 2025)

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 began in 2023 and will wrap up in 2024.

- Wilmes Lake Alum Treatment Facility in Kargel Park. Construction began on this important regional phosphorus reduction BMP in the summer of 2023. Completed components include: mass grading and temporary stabilization, most in-ground utility work, settling pond grading and lining, lift station vaults, building foundation and trail base. Construction will continue again in 2024 with electrical duct bank and related components, trail surface, and completion of the treatment building itself. Despite its high capital cost of \$4.5 million, this project represented the most cost-efficient option to address heavy watershed phosphorus loading to Wilmes Lake. Once operational, SWWD has an agreement to fund operation and maintenance of the facility through the City of Woodbury's Public Works Department.
- Hasenbank Stormwater Park. Construction of the stormwater park was largely complete by the end of 2023. This project will intercept polluted stormwater runoff leaving Fish Lake before it gets to Powers Lake, and divert it to a series of large infiltration basins in Hasenbank Park. It serves as an example of how to incorporate stormwater management and native habitat restoration into an actively used city park. Several public art installations have also been incorporated into the project to interpret the stormwater treatment processes that will occur at the site. Construction is expected to wrap up in 2024. The total construction budget of this project is approximately \$1.2 million.
- 16th & Cedar Underground TSS BMP. In partnership with the City of Newport, a Contech DSBB water quality treatment device was retrofitted into an existing storm sewer trunk line near the intersection of 16th Street and Cedar Lane in Newport. Construction was completed in 2023. This device will provide significant reductions in sediment, debris and other pollutants from the local drainage area to the Mississippi River. Newport's public works staff will maintain the structure on behalf of the SWWD. Extremely shallow bedrock in this area of the watershed makes BMP retrofits challenging to complete and expensive. This project utilized nearly \$164,000 in BWSR FY23 Watershed-Based Implementation Funding in addition to local funds from SWWD and Newport.
- Bluffs Regional Park Ravine Stabilization. SWWD and Washington County spent much of 2023 finalizing plans for a series of project components aimed at stabilizing a large ravine above Lake St. Croix and reducing peak flow rates into the ravine from the surrounding landscape. Due to funding limitations, the project has been split into two phases. The first phase involves stabilizing an old rail grade embankment along the shore of Lake St. Croix at the bottom of the ravine and repairing/stabilizing an old steel culvert under the grade. Phase two will construct four retention basins with rate control outlets above the ravine, stabilize actively eroding areas of the upper ravine head cuts, and clear buckthorn and thin the forest canopy to allow for a thicker native groundcover layer to establish in the forested ravine. SWWD and the County continue to seek funding to implement these important projects. Phase one is expected to be constructed in late 2024 with Phase two to follow in 2025, if external grant funding can be secured.

- 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 2023 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 2023 reimbursement rate was \$5,000.00 per pound of phosphorus retained with reimbursement capped at total project cost. SWWD allocated \$13,000 to 17 projects in 2023. Twelve of the projects were completed in 2023. The remaining projects are pending. Projects with higher funding levels typically treated runoff from several properties.
- In 2023 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 \$675,105 through its Coordinated Capital Improvement Program (CCIP) in 2023. 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 \$178,150.83 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. All projects were 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 2023, 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 2023 to provide education activities and workshops with 6th 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 2024.
- 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 2023, SWWD and the South Washington County School District (ISD833) continued 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 2023, 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 2023, 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 2023,

SWWD continued principal and interest payments on the 2016A General Obligation Refunding Bonds, and will continuing paying on these bonds through March 2031.

2024 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:

2024 Work Plan
South Washington Watershed District

Date Established: 1-Jan-23
 Date Last Updated: 3-Jan-24
 Last Updated by: MAI

SWWD 2023 Budget						
	Management Area / Action Item	SWWD Staff	Professional Services	Capital Outlay	WCD Technical Services	Management Area Total
1.0	(1) Planning					\$272,020.00
1.1	Surface Water (1)					
	Gen Staff time Modeling	\$14,880.00				
	Gen Staff time Resource Mgmt Plan	\$7,440.00				
	Gen Staff time Climate Adaptation	\$17,360.00				
	Gen Staff time Flood Damage Reduction	\$14,880.00	\$0.00			
	SWW Hydrologic Modeling		\$25,000.00			
	SWW Climate Adaptation		\$15,000.00			
	SWW Resource Management Plan		\$0.00			
	SWW Flood Damage Reduction		\$0.00			
	EMW Hydrologic Modeling		\$5,500.00			
	EMW Climate Adaptation		\$10,000.00			
	EMW Flood Damage Reduction		\$15,000.00			
	LSC Resource Management Plan		\$10,000.00			
	LSC Climate Adaptation		\$5,000.00			
	LSC Flood Damage Reduction		\$0.00			
1.2	Groundwater (2)					
	Gen Staff Time	\$2,480.00				
	Gen Modeling		\$15,000.00			
1.3	Natural Resource (3)					
	Gen Greenway Implementation	\$24,800.00				
	Gen Wetland Inventory	\$0.00				
	Gen Ravine Survey	\$11,160.00				
	Gen In Lake Restoration Planning	\$9,920.00	\$25,000.00			
1.4	Watershed Plan (4)					
	Gen Staff time Watershed Plan Update	\$18,600.00	\$25,000.00			
2.0	(2) Regulatory					\$47,700.00
2.1	Development Reviews/Regional Assessments (1)					
	Gen Staff Program Management	\$4,650.00				
	Gen Consultant Development Review		\$10,000.00			
2.2	Wetland Conservation Act (2)					
	Gen	\$3,100.00			\$1,000.00	
2.3	Erosion and Sediment Control (3)					
	Gen	\$1,550.00				
2.4	Rules (4)					
	Gen	\$12,400.00	\$15,000.00			
3.0	(3) Implementation & Maintenance					\$5,361,621.00
3.1	Monitoring (1)					
	Gen Staff time	\$19,840.00				
	WCD Monitoring Program				\$297,000.00	
3.2	Watershed Restoration (2)					
	Gen Targeted Retrofit	\$34,100.00				
	SWW Street Sweeping			\$850,000.00		
	SWW Targeted Retrofit (Colby Lake)			\$250,000.00		
	SWW Targeted Retrofit (Markgrafs Lake)			\$200,000.00		
	SWW Targeted Retrofit (Armstrong)			\$200,000.00		
	SWW Targeted Retrofit (Ravine Lake)			\$250,000.00		
	SWW Targeted Retrofit (Mississippi River)			\$250,000.00		
	SWW Climate Resiliency			\$150,000.00		
	Gen Rural	\$18,600.00				
	Gen Ag BMP Pilots			\$50,000.00		
	Gen Climate Resiliency	\$16,120.00				
	Gen Greenway Habitat-In Lake In Stream	\$23,560.00				
	Gen Campus Greening			\$50,000.00		
	Gen Linear Corridor			\$100,000.00		
	Gen Buffers			\$50,000.00		
	Gen In Lake			\$50,000.00		
	EMW Street Sweeping			\$400,000.00		
	EMW Targeted Retrofit (Mississippi River) La/Ria Lake Outlets			\$400,000.00		
	EMW Climate Resiliency			\$10,000.00		
	LSC Targeted Retrofit (Mississippi River)			\$0.00		
	LSC Targeted Retrofit (St.Croix River)			\$150,000.00		
	LSC Climate Resiliency			\$5,000.00		
3.3	Maintenance (3)					
	Gen	\$21,700.00				
	SWW BMP Maintenance			\$159,000.00		
	EMW BMP Maintenance			\$50,000.00		
	LSC BMP Maintenance			\$15,000.00		
3.4	Capital Improvement Plan (4)					
	Gen Program Management	\$16,988.00				
	SWW Overflow Maintenance			\$150,000.00		
	SWW Learning Center Construction			\$0.00		
	LSC Trout Brook			\$0.00		
3.5	Incentives (5)					
	Gen (Water Quality Cost Share Program)	\$55,800.00		\$70,000.00	\$12,000.00	
	Gen (AG BMP Program)			\$27,273.00		
	Gen (Coordinated CIP)	\$31,000.00				
	Gen (Flood Damage)	\$6,200.00				
	SWW (Flood Damage)			\$100,000.00		
	SWW (Coordinated CIP)			\$650,000.00		
	EMW (Flood Damage)			\$10,000.00		
	EMW (Coordinated CIP)			\$5,000.00		
	LSC (Flood Damage)			\$5,000.00		
	LSC (Coordinated CIP)			\$5,000.00		
3.6	Groundwater Sustainability (6)					
	Gen	\$7,440.00				
	SWW (Irrigation Controllers and Water Softening)			\$140,000.00		
4.0	(4) Education & Information					\$229,830.00
4.1	Education (1)					
	GEN					
	Staff	\$12,400.00				
	Local Education		\$4,800.00			
	CAC		\$1,000.00			
	EMWREP		\$26,530.00			
	Master Watershed Stewards		\$0.00			
	Experiential Programs			\$40,000.00		
	Metro Watershed Partners		\$2,500.00			
4.2	Information (2)					
	GEN					
	Staff	\$18,600.00				
	MN Stormwater Research			\$15,000.00		
	Website/Databases		\$80,000.00			
	Stormwater Utility Administration		\$15,000.00			
	GIS		\$2,000.00			
	Artist-in-Residence		\$12,000.00			
5.0	(5) Administrative/Operational					\$497,128.00
	GEN					
	Salaries/Benefits	\$283,992.00				
	Manager Per Diem/Expenses	\$19,000.00				
	Office Rent	\$38,486.00				
	Employee Expenses	\$12,000.00				
	Employee Training	\$12,000.00				
	Office Equipment	\$20,000.00				
	Office Supplies	\$7,000.00				
	District Vehicle	\$3,000.00				
	Legal Notices	\$500.00				
	Dues	\$15,000.00				
	Insurance/Bond	\$41,000.00				
	Accounting Payroll	\$4,200.00				
	Monthly Accounting	\$2,600.00				
	Audit	\$13,350.00				
	Legal	\$20,000.00				
	HR/Other Consulting	\$5,000.00				
	Equipment	\$0.00				
6.0	(6) Debt Service					\$250,000.00
	EMW			\$250,000.00		
	Total	\$922,696.00	\$319,330.00	\$5,106,273.00	\$310,000.00	\$6,658,299.00

Appendix A 2023 Audit Report on Compliance

The 2023 SWWD Financial Audit will be completed and submitted in May 2024.

Appendix B Education

2023 EDUCATION 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



Members of the Lower St. Croix Watershed Partnership:

Anoka Soil and Water Conservation District • Brown's Creek Watershed •
Carnelian-Marine-St. Croix Watershed • Chisago County • Chisago Soil and Water Conservation District
Comfort Lake-Forest Lake Watershed • Isanti County • Isanti Soil and Water Conservation District
Middle St. Croix Watershed • Pine County • Pine Soil and Water Conservation District
South Washington Watershed • Valley Branch Watershed • Washington County
Washington Soil and Water Conservation District

HIGHLIGHTS FROM 2023

1 Educated and engaged public and private landowners to plant native landscapes & raingardens



Workshops

We hosted online and in-person workshops about pollinators, bee lawns, woodlands, and prairies (507 total participants)

Gravel Bed Tree Nurseries

Volunteers built and cared for four new gravel bed tree nurseries in Marine, Scandia, Stillwater and Lake Elmo and supported numerous planting projects.



Popular Videos

- Raingardens (421k views)
- No Mow May (641k views)
- Dandelions (789k views)
- Bison release into the prairie (260k views)

Lawns to Legumes

There were 376 Lawns to Legumes applications in Chisago, Isanti, Pine and Washington Counties.



Site Visits

There were 448 site visit requests in Washington County.



Urban Transformation

We created a pollinator planting demonstration neighborhood with Landfall, a mobile home park community.



Indigenous Connections

We facilitated a workshop with Belwin Conservancy and Anishinabe Academy to help develop a habitat management plan that supports Indigenous-led education and cultural programming.



2 Advocated for the care and restoration of natural shorelines.

Shoreline Realtor Workshop

We hosted a workshop in February for realtors and appraisers selling shoreline property. (45 participants)

Lakeshore Landowner Workshops

We held workshops on protecting and restoring shorelines & living on shallow lakes. (181 total participants)

Special Events

We hosted a shoreline showcase in Chisago County and attended other special events for lakeshore landowners.

Lakeshore Landowner Research

We conducted a survey and held focus groups with lakeshore landowners in Carnelian-Marine-St. Croix Watershed District.

New Education Materials

We created a shoreline landowner guidebook, welcome packets, and a new flyer, entitled "What to ask your lakeshore landscape contractor." We also created an online resource hub at www.lsc1w1p.org/shorelines.

St. Croix River Workshops on the Water in Taylors Falls and Stillwater

We hosted two workshops attended by more than 140 local community leaders from 54 communities in Minnesota and Wisconsin. Speakers highlighted the risk of vanishing shorelines and shared strategies for de-listing lakes.



3 CREATED NEW TOOLS AND OFFERED TECHNICAL SUPPORT TO COMMUNITIES TO PROMOTE CONSERVATION DEVELOPMENT

New Video

We collaborated with regional partners to create an animated educational video for local leaders, entitled "When Development Comes to Town"

Community Outreach

We are working with Chisago City, Marine, Scandia, North Branch, and Rush City to review existing ordinances and consider adopting minimal impact design standards (MIDS) + enhanced shoreline ordinances.



4 Created educational materials and hosted training events to help reduce stormwater pollution.



Adopt-a-Drain

Volunteers have adopted 1,297 storm drains in Washington County and 86 in Chisago County.

HOA Stormwater Survey

We are conducting a survey and holding focus groups with homeowner associations (HOAs) to help guide development of new educational resources.



New Stormwater Model

We developed a new hands-on, interactive display to use at community events that illustrates changes in runoff volume with different types of landscapes.



MS4 Resources

We delivered monthly emails to partners with MS4 stormwater topics and education resources.

Popular Videos

- Green roofs (42k views)
- Iron-enhanced sand filter (78k views)
- Grassy pave & porous pavers (142k views)
- Is it spilled oil? (5M views)



Chlorides (Salt)

We hosted two workshops for plow drivers (Cottage Grove & North Branch, 145 participants) and one for local decision-makers (28 participants). There are now 240+ certified professionals in our area. We also mailed education packages to 42 private contractors.

5

Engaged farm owners and operators to reduce erosion, promote soil health, reduce water pollution, and restore habitat.



WORKSHOPS & FIELD DAYS

We held online and in-person workshops about soil health, livestock, and farming equipment. Field days and a conservation cookout were also popular events!



NEW ONLINE RESOURCES

We created a new resource page for farmers: www.lsciwip/farmers.



VIDEOS & COMMUNICATIONS

We created dozens of new videos to highlight conservation farming examples. Staff shared monthly ag program updates and events on WCMP 100.9 FM radio.



CULTURAL CONNECTIONS

We led a new initiative to build relationships with BIPOC and immigrant farmers in the region in order to better support sustainable farming practices.



CONSERVATION PRACTICES

We helped farm owners to enroll 12,000 acres in new conservation practices. This results in:

- 38,000 ton reduction in soil loss
- 2200 pounds per year reduction in phosphorus
- 58,000 pounds per year reduction in nitrates

6

Built social capacity for environmental change & strengthened community connections.



Water Testing Clinics

We held well water testing clinics in Cottage Grove and North Branch. (300 tests completed)

Robust Media Presence

We connected with new people through the East Metro Water and KnickPoints blogs, @MnNature_Awesome social media accounts, and articles in the Stillwater Gazette, Forest Lake Times, Country Messenger, and other local newspapers.



Community Events

We gave numerous presentations and participated in 20+ community events.

Volunteer Mentorship

We co-hosted volunteer summits in May and August, and held a staff and volunteer training in October.



We Are Water Exhibit

Stillwater hosted the We Are Water, Minnesota traveling exhibit from October 12 - December 3 and shared many local stories.

Setting Equity Goals

EMWREP staff helped to facilitate a half-day goal-setting workshop for Washington Conservation District and organization partners on February 16.



Professional Conferences

Angie and Barbara gave presentations at the St. Croix Research Rendezvous, BWSR Academy, and Watershed Partners meetings.

AmeriCorps Community Stewardship Facilitators

We are currently hosting two full-time Community Stewardship Facilitators through a new AmeriCorps climate resiliency initiative: Hannah Peterson and Lori Maxfield.



**East Metro Water Resource Education Program (EMWREP)
&
Lower St. Croix Watershed Partnership**

2023 Education Annual Report

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About the Shared Education Programs

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.

EMWREP Partnership Structure:

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

In 2023, EMWREP partners included:

- 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.

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.mnwc.org/emwrep.

Lower St. Croix Watershed Partnership:

The Lower St. Croix Watershed Partnership includes 14 local government partners in Anoka, Chisago, Isanti, Pine and Washington Counties and is part of the statewide "One Watershed, One Plan" effort. Partners work together to implement a 10-year Comprehensive Watershed Management Plan (2020-30) and receive Watershed Based Implementation Funds (WBIF) from the Minnesota Board of Water and Soil Resources (BWSR). Info about the Lower St. Croix Watershed plan and partnership can be found at www.lsc1wlp.org.

Priority activities for the Lower St. Croix Watershed Partnership include education and outreach to agricultural landowners and producers, local decision-makers, shoreline owners, and the general public. The partnership funds a 1 FTE agronomy outreach specialist and 0.5 FTE watershed education specialist. Because there is considerable overlap in membership for the EMWREP and Lower St. Croix Partnerships, the two programs share education staff.

Coordination and Collaboration: The EMWREP and Lower St. Croix Watershed partnerships help to strengthen relationships between member entities and allow for better coordination and less overlap in the management of local water resources. EMWREP staff also 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.

Resources and Education Goals: Our collaborative education and engagement programming supports the following long-term goals:

1. Healthy lakes, rivers, streams and wetlands;
2. Clean, useable, and plentiful groundwater resources;
3. Connected habitat corridors;
4. Environmentally sustainable local food production; and
5. An informed, environmentally conscious, and engaged populace that takes individual and collective action to protect and restore natural resources.

Secondary goals include:

1. Building social capacity for environmental change and strengthening community connections through partnerships, volunteer engagement, and education programs that encourage both individual and systemic change;
2. Building climate resiliency; and
3. Ensuring that all people in our communities benefit equally from the protection and restoration of natural resources and are equally engaged in the projects and programs that we implement.

Guiding philosophies and education approach: The EMWREP and LSC education programs act as connectors and are a catalyst to propel new initiatives, support the work of internal and external partners, and amplify the impact of locally led initiatives. Our education programs are action-oriented, encourage both individual and systemic change, and utilize social science research to guide development of effective outreach and engagement strategies.

Priority objectives for 2024:

1. [Engage public and private landowners to plant native landscapes and raingardens, especially in priority locations.](#)
2. [Maintain and restore natural shorelines.](#)
3. [Promote conservation development.](#)
4. [Minimize stormwater runoff pollution.](#)
5. [Engage farm owners and operators in projects and practices that reduce erosion, promote soil health, reduce surface and groundwater contamination, and restore habitat.](#)
6. [Build social capacity for environmental change and strengthen community connections.](#)



(Clockwise from upper left) Friends pose with native plants at the Belwin Bison Release; 2023 education staff - Angie Hong, Barbara Heitkamp, and Jennifer Hahn; Farmer field day in Pine County; Volunteers learn how to use the “Score Your Shore” tool; Angie talks about current programs; Local leaders at the St. Croix River Workshop on the Water.

Objective 1: Engage public and private landowners to plant native landscapes and raingardens, especially in priority locations.

Components of this work include:

1. Educating and engaging urban, rural, and commercial landowners
2. Collaborating with schools and religious institutions
3. Developing targeted outreach campaigns
4. Identifying and making “big picture” connections
5. Training landscape contractors and professionals
6. Utilizing and supporting regional programs such as Blue Thumb – Planting for Clean Water
7. Utilizing and supporting local, partner-led programs such as cost-share grants and site visits.

2023 Activities:

Workshops and Webinars

More than 500 people participated in workshops and webinars hosted by EMWREP and the Lower St. Croix Watershed Partnership in 2023. An additional 563 people watched recorded webinars that were posted to our YouTube channels.

Date	Topic (webinar recordings linked)	Venue	# attendees	Views on YouTube	Total
March 2	Planting for Pollinators	Zoom	248	191	439
April 3	Bee Lawns and Lawn Alternatives	Zoom	140	372	512
June 6	Managing Woodlands for Resiliency (Belwin Conservancy in Afton)	In Person	39	N/A	39
June 13	Raingardens & Rain Harvesting (Scandia)	In Person	15	N/A	15
May 9 July 11 Sept 26	An Evening in the Prairie Walking Tour Series (Chisago County)	In Person	20, 15, 15	N/A	50



(Left to right) Promo for Bee Lawn webinar; Woodland workshop at Belwin; An Evening in the Prairie – May session).

Community Events

Education staff attended numerous community events and also helped to recruit volunteers for native planting projects.

- Chisago County Master Gardeners Garden Expo (Mar 17: North Branch High School)
- Arbor Day with Chisago County Master Gardeners (Apr 28: Harder Park, North Branch)
- Volunteer planting event at St. Croix Bluffs Regional Park (May 13)
- Volunteer planting event at Hasenbank Woods in Woodbury (May 16)
- Volunteer planting event at Pine Point Regional Park (May 16)
- Washington County Master Gardener plant sale (May 20)
- Belwin Bison Release (May 20: Afton)
- Landscape Revival (June 3: Oakdale)
- Land stewardship & restoration presentation (June 11: People's Park, Bayport)
- Presentation for Sentence to Serve (July 27, Washington County)
- National Night to Unite (Aug 1: Lake St. Croix Beach)
- Lindstrom Family Fun Day (Sept 9)
- Trillium Garden Club climate resiliency presentation (Sept 13: Stillwater)
- Pollinator planting Event at Lake Elmo Park Reserve (October 10)
- Pollinator planting event at Pine Point Regional Park (October 14)

Multimedia content about native landscapes and raingardens

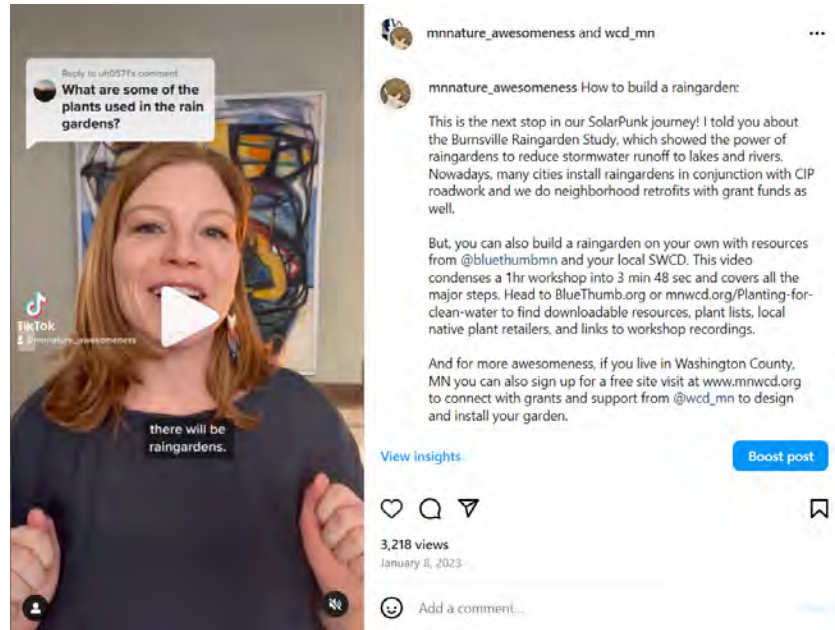
- Relevant blog posts (and newspaper articles) at Angie Hong's eastmetrowater.org
 - [Planning for pollinators on a dreary winter's day](#) (1-12-23) "If your spring dreams happen to feature a lush and lovely pollinator garden, there are numerous resources available to help you in your planning."
 - [Busy buzzing bees and such](#) (2-23-23) "It is said that one out of every three bites of food we eat is created with the help of pollinators. Unfortunately, many species of pollinators are declining due to loss of habitat and the use of insecticides, including neonicotinoids. Happily, regular people like you and I can help to create pockets of biodiversity and protect pollinators, simply by incorporating flowering native plants into our yards to provide blooms throughout the growing season."
 - [Bee Lawns and Slow Mow Summer](#) (3-30-23) "A movement is underway to transform our residential landscapes into something that is a little softer, a little wilder, and much better able to support wildlife and clean water."
 - [The world comes back to life](#) (April 13, 2023) "As you cast an appraising eye toward your yard, here is some advice on which chores to tackle now, and which to delay for later."
 - [Meet the rare plants and animals of Washington County](#) (April 21, 2023) "Minnesota is home to 2000 known native wildlife species, 346 of which are identified as Species in Greatest Conservation Need (SGCN)."
 - [Prairie rising](#) (April 28, 2023) "Cheer for bison returning to the prairie at Belwin Conservancy and Spring Lake Park, volunteer for one of three native planting projects in May, or enjoy an "Evening in the Prairie" to learn more about this special ecosystem."
 - [Anti Being "Anti No Mow May"](#) (May 9, 2023) "Let's not miss a golden opportunity to ride the wave of public enthusiasm and begin breaking the green grass chains that bind."
 - [Native Gardens for Sun and Shade](#) (May 18, 2023) "This week, I'm sharing two of my favorite "recipes" for gardens that are sure to attract butterflies and bees."

- [For love of forests](#) (June 23, 2023): “On this evening in June, our group is gathered at Belwin to learn about managing woodlands for resiliency, and one of the key take-aways is that a love of forests requires landowners to actively engage with and care for their forests and woodlands.”
- [Tending to the grove](#) (July 21, 2023) “At a church in Woodbury, two bur oak trees have stood tall for more than 250 years. They’ve watched the land transition from prairie to farmland to busy suburbia and play so central a role in the story of the congregation that the people decided to call this place The Grove.”
- [When gardening with native plants, be prepared for change](#) (7-28-23) “If you’re willing to embrace the change inherent in a mostly native garden, you’ll be rewarded with a landscape that is constantly evolving, vibrant, and full of life. It’s almost like getting a new set of gardens every month!”
- [Building resiliency, one garden at a time](#) (Sept. 12, 2023) “As community stewardship facilitators, Peterson and Maxfield will be working with homeowners’ associations, community groups, and local schools in Washington County.”
- [A tiny town gets a big dose of flower power](#) (Sept. 28, 2023) “Landfall’s pollinator demonstration project features new native plantings on Tanner’s Lake, as well as at the Tot Lot playground, the community center, and a neighborhood cul de sac, and will also create a demonstration bee lawn behind the community center.”
- [A final push for pollinators before the snow begins to fall](#) (Oct. 19, 2023). “Minnesotans can apply for Lawns to Legumes cost-share funding between now and November 30 at www.Bluethumb.org. The grants are up to \$400 and can be put toward pollinator planting projects such as pocket gardens, bee lawns, and flowering native trees.
- Relevant blog posts at Barbara Heitkamp’s knickpoints.org:
 - [Walking the conservation talk – the importance of leading by example](#) (February 21, 2023) Read how Angie Hong, Paul Swanson and Jennifer Hahn are leading by example in their conservation work.
 - [Five conservation resolutions for your new year](#) – Jan. 16, 2023 “2023 – it’s a new year and with it comes all the good intentions to start a new habit – whether that means to eat healthier, exercise more, read more books, or get outside more.”
 - [From Cropland to Prairie: A Journey of Patience and Management](#) (April 25, 2023) “Mary Jo Youngbauer and her family moved to their property near Rush City back in 2012, and while the majority of the 17 acres were still being used for a corn and soybean rotation, Mary Jo knew she was interested in eventually converting the land into a more perennial landscape.”
 - [Oh compost! My compost!](#) (May 2, 2023) “Four watermelon rinds. Dozens of banana peels, cucumber ends, and sweet pepper innards. A fair share of eggshells and more coffee grounds than I care to admit. Limp lettuces leaves, gnawed corn cobs, that random eggplant I forgot about until it was too late, and a fair share of apple cores.”
 - [Confessions of a timid gardener: If you build it, they DO come!](#) (June 6, 2023): “Last year, after doing some leg work to test my garden soil and finding some good native planting guidance, I took the plunge and bought some native plants.”

- Popular videos on social media

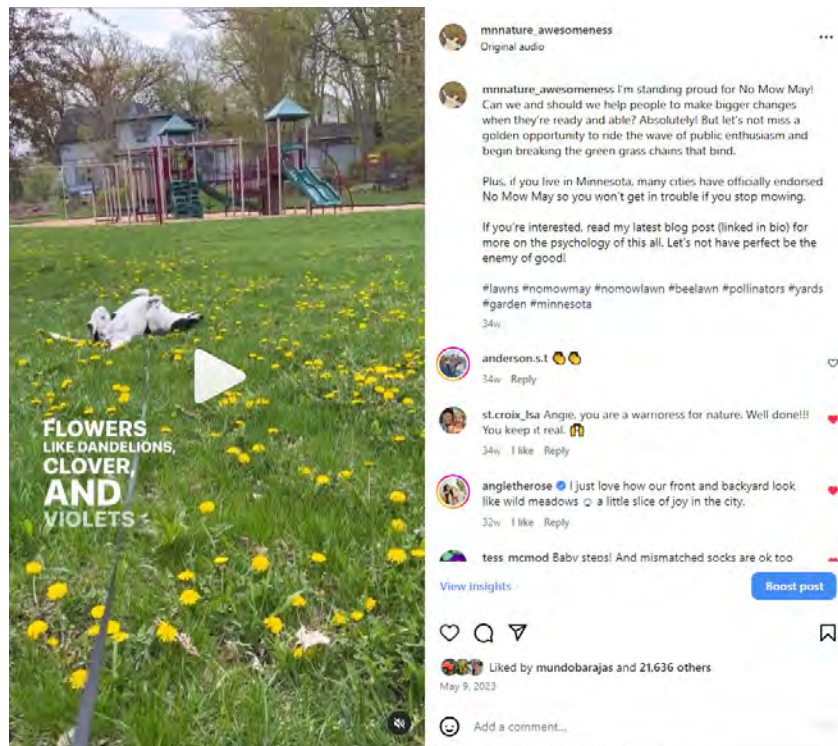
- How to build a raingarden (1-8-23)

- 13.5k views on TikTok + 3k views on IG = 16.5k total views

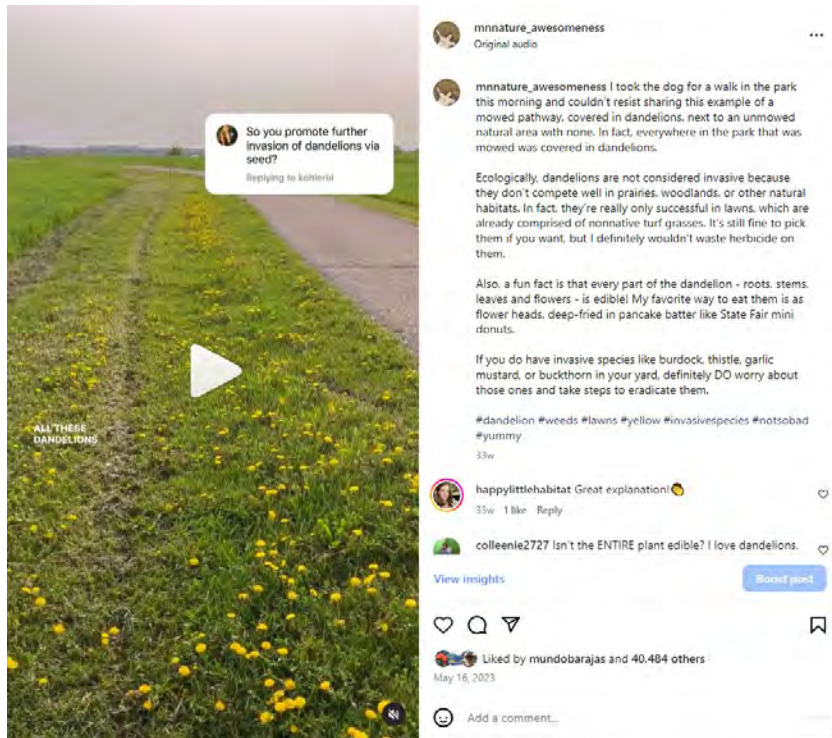


- No Mow May (5-9-23)

- 394k views on TikTok + 248k views on IG = 641k total views



- [Dandelions](#) (5-16-23)
 - 444k views on TikTok + 345k views on IG = 789k total views



- [Bison release](#) (5-20-23)
 - 112k views on TikTok + 148k views on IG = 260k total views



- New and Updated Print Resources
 - Maintained resource database at www.mnwcd.org/planting-for-clean-water
 - New private resource page for Lower St. Croix Partners: www.lsc1w1p.org/for-our-partners
 - New Printed Materials from Wild Ones: Climate Resilient Landscapes, Native Gardens for Pollinators, Native Gardens for Birds

Continued support for the South Washington Campus Greening Program

Education staff continue to provide instructional support for the South Washington Campus Greening Program. The program began as an effort to convert non-active use turf on school campuses to native landscapes. Seven campus greening projects have been completed in the past five years. Continued funding from South Washington Watershed District and Washington County pays for staff from Carpenter Nature Center and Washington Conservation District to meet with sixth grade classes at Cottage Grove, Lake, and Oltman Middle Schools to deliver a series of hands-on watershed lessons that utilize the schools' new outdoor classrooms. Students also participate in a field trip to the nature center and collect macroinvertebrates in the St. Croix River.

Abbey Hauge contributed 160hrs of staff support for this program, and Lori Maxfield (AmeriCorps) provided additional teaching support in fall of 2023. [Learn more about the program.](#)



Scandia volunteers, led by Tom Furey and Tim Foss.



Barb Bickford near Lily Lake, Stillwater.



John Goodfellow works with volunteers in Marine to build a second cell for their gravel bed.

Water Stewards build gravel bed nurseries for tree-planting projects in Marine, Scandia, Lake Elmo and Stillwater

Gravel bed nurseries are a simple technology from the University of Minnesota that can be used to help small trees planted in the spring grow larger root systems over the summer. This increases their survival rate when planted in the fall. Water Steward John Goodfellow (Carnelian-Marine-St. Croix WD) mobilized volunteers in Marine on St. Croix to build a gravel bed tree nursery in 2020 and has inspired other local volunteers to follow suit.

In 2023, Water Stewards Tom Furey (Comfort Lake – Forest Lake WD) and Anna Barker (Ramsey-Washington Metro WD) built gravel bed tree nurseries at the Scandia Fire Station and Washington County Fairground with help from our 2022-23 AmeriCorps community forestry member Tim Foss.

Water Stewards Barb Bickford and Mike McCarthy (Middle St. Croix WMO) also built a gravel bed nursery at their home in Stillwater and are engaging members of the Lily Lake Association to remove and replace invasive buckthorn in the woods surrounding the lake. Meanwhile, the Marine volunteer group added a second cell to their gravel bed nursery in 2023.

These volunteer-led projects are helping to support community forestry and habitat restoration projects across Washington County.

Urban transformation in Landfall

In 2022, Washington Conservation District (WCD) received a \$40,000 Lawns to Legumes grant from the Minnesota Board of Water and Soil Resources to create pollinator demonstration projects in Lake St. Croix Beach, Landfall, and Willernie. The project in Landfall is particularly interesting because the community is densely developed and entirely comprised of manufactured homes.

EMWREP staff helped to facilitate planning conversations between the WCD, Landfall, Ramsey-Washington Metro Watershed District, Washington County, and Izaak Walton League – Green Crew youth leaders. The final project includes new native plantings on Tanner’s Lake, as well as at the Tot Lot playground, the community center, and a neighborhood cul de sac, and will also create a demonstration bee lawn behind the community center.

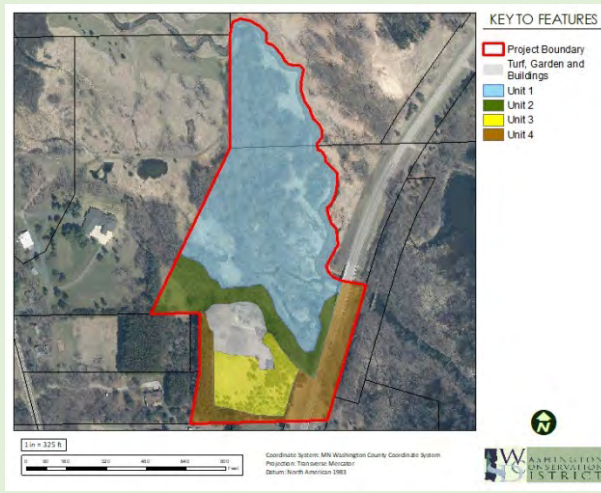
In 2024, we hope to continue building relationships in Landfall, especially with Latino residents, who comprise 60% of the community.



Making Indigenous Connections

In November, Angie Hong (EMWREP) and Tara Kelly (WCD) facilitated a workshop with Belwin Conservancy and Anishinabe Academy to help develop a habitat management plan for the 18-acre property along Valley Creek. The goal is to support Indigenous-led education and cultural programming, as well as restore native plant communities for wildlife and water quality.

Project partners hope to work together on long-term land stewardship and educational programming, following natural cycles in the traditional medicine wheel.



A map shows management units in an 18-acre parcel of land along Valley Creek that will be used by Anishinabe Academy.

Continued participation in the Blue Thumb - Planting for Clean Water Partnership

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. Since 2019, 18,000 Minnesotans have applied for Lawns to Legumes grant support from the Minnesota Board of Water and Soil Resources (BWSR) to create pollinator-friendly plantings such as bee lawns, native gardens, prairies, and flowering native trees. Planting projects that help to create pollinator habitat also help to restore natural landscapes, reduce stormwater runoff pollution, and build climate resiliency for drought and mega-rains.

Last year, 376 people in Chisago, Isanti, Pine and Washington Counties applied for Lawns to Legumes grants, which demonstrates widespread interest in conservation projects among people in our communities. EMWREP and the Lower St. Croix Partnership will continue to promote technical resources and grant support through Lawns to Legumes, along with watershed district cost-share and stewardship grants. In addition, we have reached out to people who applied for but did not receive Lawns to Legumes grants to offer local support.

Utilizing and supporting partner-led programs such as cost-share grants and site visits

In 2023, EMWREP and Lower St. Croix education staff continued to promote partner-led programs such as watershed cost-share grants and site visits. There were 448 site visit requests in Washington County. A goal for future years could be to begin tracking site visit requests in other counties as well.

Objective 2: Maintain and restore natural shorelines.

Components of this work include:

1. Educating and engaging shoreline landowners
2. Collaborating with lake associations
3. Training landscape contractors and professionals
4. Training realtors selling shoreline properties
5. Educating and engaging local leaders from cities, townships and counties to adopt enhanced shoreline ordinances
6. Utilizing and supporting local, partner-led programs such as cost-share grants and site visits.
7. Collaborating with external partners such as Minnesota DNR and MLRA

2023 Programs and Activities:

Lakeshore Landowner Workshops and Webinars

226 people attended workshops and webinars hosted by EMWREP and the Lower St. Croix Watershed Partnership. An additional 218 people watched the recorded seminars on YouTube.

Date	Topic (webinar recordings linked)	Venue	# attendees	Views on YouTube	Total
February 9th	Shoreline Workshop for Realtors	In person	45	N/A	45
April 18th	Protect Your Shore Workshop	Zoom	20	65	85
May 8th	Restore Your Shore Workshop	Zoom	36	159	195
May 20th	Navigate to a Cleaner Lake Open House	In person	40	N/A	40
Aug. 15th	Shoreline Showcase: Creating vibrant and functional shoreline buffers	In Person	20	N/A	20
Nov. 8th	Living Large on a Small Lake: Exploring Natural Environment Lakes	Zoom	65	134	199

Shoreline Realtor Workshop

Realtors continue to be an important audience for our shoreline outreach, as they can play an important role in setting up shoreline owners for success. In February, the Lower St. Croix Watershed Partnership partnered with the St. Paul Area Association of Realtors (SPAAR) to host an accredited professional workshop in Center City. The workshop featured speakers from the Minnesota DNR, BWSR, Isanti SWCD, Chisago County, and the Chisago Lakes Lake Improvement District to provide insight on how realtors can help potential shoreline owners choose their dream lakeshore property and implement practices that protect lake and river health.



Tiffany Determan, Isanti SWCD, talks to realtors selling shoreline properties.

Special Events

- Comfort Lake Lake Association Meeting (May 18)
- Big Carnelian Lake Community Meeting (June. 29)
- Celebration of the Lakes at Lindstrom Lions Park (July 5)
- Shoreline workshop for Lawns to Legumes grant recipients (Aug 29)
- Mill Stream Community Meeting (Nov 13)

New Education Materials

In 2023, we created a shoreline landowner guidebook, welcome packets, and a new flyer, entitled [What to ask your lakeshore landscape contractor](#) ([click for PDF](#)). The flyer provides guidance for lakeshore owners that are hiring contractors for vegetation management, landscaping, and erosion control projects. We also created an online resource hub at www.lsc1w1p.org/shorelines.

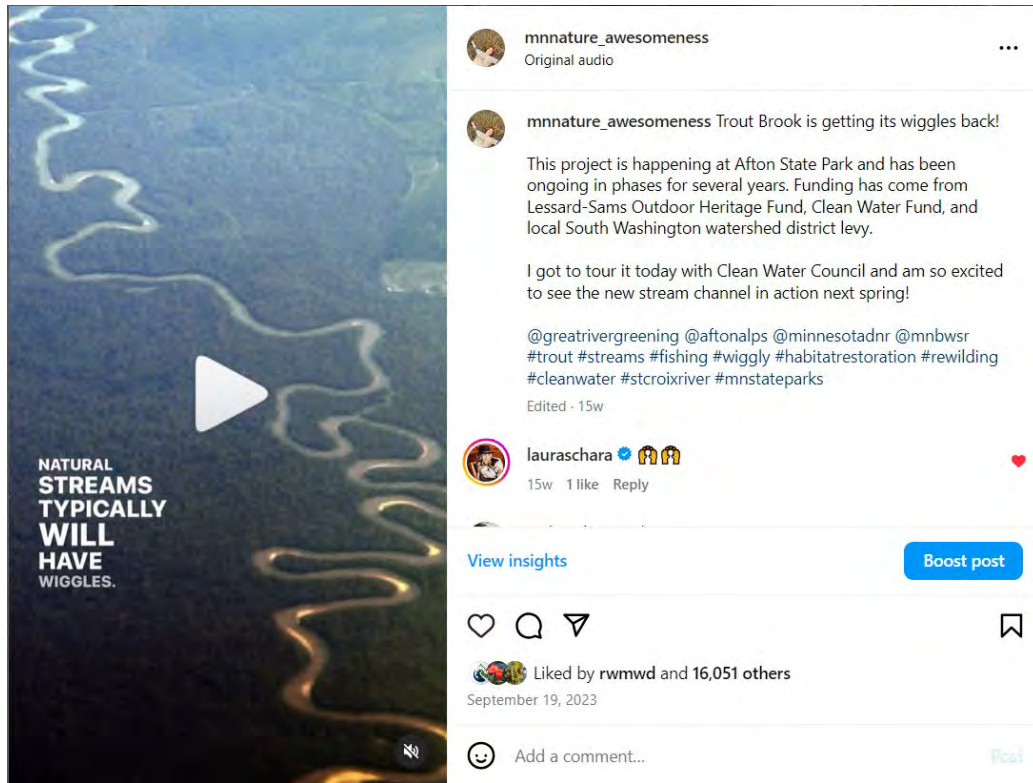
Contact Barbara Heitkamp if you are interested in adapting the shoreline landowner guidebook or welcome packet for your area.

Multimedia Content via print or online

- Relevant blog posts (and newspaper articles) at Angie Hong’s eastmetrowater.org
 - [Trout return to Afton’s Trout Brook](#) (Mar 9, 2023) “The stream restoration project, which is led by the South Washington Watershed District, creates different types of habitat 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.”
 - [A healthy shore is a happy lake](#) (April 6, 2023) “In the Land of 10,000 lakes, more and more lakeshore landowners are turning toward natural solutions that combine bio-engineering with deep-rooted, native plants to stabilize the land along the water’s edge while also maintaining connected corridors of habitat for beneficial insects, fish, birds, frogs, turtles, and other kinds of wildlife.”
 - [Be AIS smart this fishing season](#) (May 12, 2023) “Currently, only 8% of the lakes in Minnesota have invasive species present and we need everyone’s help to keep it that way.”

- [Feeling Loony in Forest Lake](#) (May 15, 2023) “At the Forest Lake Lake Association (FLLA) meeting on Wednesday, May 17, 6:30-8pm, Rob Rabasco, coordinator of Minnesota’s Loon Restoration Project, talked about efforts underway to protect Minnesota’s loons.
- [Forest Lake alum treatment scheduled for September](#) (June 15, 2023): “This fall, the Comfort Lake-Forest Lake Watershed District (CLFLWD) will be conducting an alum treatment on Forest Lake to address phosphorus in the lake bottom sediments that contribute to algae growth. Alum (potassium aluminum sulfate) is a nontoxic compound that is also used for drinking water clarification.”
- [St. Croix River – Wild and Scenic, Close to Home](#) (Aug. 4, 2023) “In theory, a person could hop into a kayak, canoe, or SUP and paddle from Marine to Stillwater in much less than seven hours, but what would be the point? Stopping to lounge in the shallow water and enjoy the beaches and wildlife in the St. Croix River is the best part of the journey.”
- [Is it safe to fish and swim?](#) (Aug. 18, 2023) “How can you determine if your favorite local lake is safe for fishing and swimming? Though water quality data is collected and updated regularly, finding the information online isn’t terribly intuitive.”
- [Living Large on a Small Lake – Exploring Natural Environment Lakes](#) (Oct. 26, 2023). “As much as we like to focus on the biggest and the best, however, roughly 70% of Minnesota’s lakes are actually considered natural environment lakes, a shoreland classification that is generally applied to shallow lakes with limited capacity to absorb the impacts of development and recreational use.”
- [A new future for an old stream?](#) (Nov. 21, 2023) “The Mill Stream powered Minnesota’s first commercial saw mill and gave rise to the community of Marine on St. Croix in 1839 –two full decades before Minnesota became a state. Now, nearly 200 years later, the people of Marine are beginning to dream about a new future for this tiny but beloved stream.”
- [Relevant blog posts at Barbara Heitkamp’s knickpoints.org:](#)
 - [Want lakeshore property? Local realtor workshop ties dreams with reality](#) (Feb. 8th, 2023) “In building an understanding of state and local ordinances that apply to lakeshore property, realtors can better prepare their clients about what’s possible on a piece of property and provide tips to help them protect lake water quality (which in turn preserves their property values).”
 - [Minnesota’s vanishing shorelines – and what we can do about it](#) (Aug. 11, 2023) “While individual shoreline property owners may not think their actions can influence water quality and aquatic life, the cumulative impact of a majority of neighbors developing these shorelines and removing vegetation and/or rocking the shore has an extensive impact.”
- [East Metro Water E-Newsletter:](#)
 - We share informational messages with shoreline landowners and lake association members through our East Metro Water e-newsletter, which has 171 subscribers in Chisago, Ramsey and Washington Counties. [Subscribe here.](#)

- Popular video on social media
 - Trout stream re-meander at Afton State Park (9-18-23)
 - 75k views on TikTok + 333k views on IG = 408k total views



St. Croix River Workshops on the Water in Taylors Falls and Stillwater

We hosted workshops in Taylor’s Falls (June 27) and Stillwater (July 25), attended by more than 140 local community leaders from 54 communities in Minnesota and Wisconsin. Speakers highlighted the risk of vanishing shorelines and shared strategies for de-listing lakes. [See a short video from the Taylors Falls trip.](#)

Planning partners for this year’s workshops included EMWREP and the Lower St. Croix Watershed Partnership, as well as National Park Service, Minnesota DNR, Wisconsin DNR, Wild Rivers Conservancy of the St. Croix and Namekagon, Carnelian-Marine-St. Croix Watershed District, Chisago SWCD, Isanti SWCD, Middle St. Croix WMO, Polk County, St. Croix County, and Washington County.



(Left) Craig Hansen, National Park Service, welcomes participants to the Stillwater workshop. (Right) Staff and board members from the Carnelian-Marine-St. Croix Watershed District enjoyed the workshop in Taylor’s Falls.

Building strategies for more effective outreach to shoreline landowners

In 2022, the Minnesota Pollution Control Agency added Bone Lake (Scandia), Lake Jane (Lake Elmo) and eight lakes in the Chisago Chain of Lakes to the state's impaired waters list due to biodiversity loss, and warned that Big Carnelian (May Twp.) and Big Marine (Scandia) are at high risk as well. Shoreline surveys conducted by the Minnesota Department of Natural Resources (DNR) and Carnelian-Marine-St. Croix Watershed District (CMSCWD) indicate that shoreline development and degradation of the lake ecosystems are the primary stressors impacting aquatic life in these lakes.

Statewide, the Natural Shoreline Partnership notes that Minnesota has lost 40-50% of its natural shorelines to development and continues to lose natural shorelines at a rate of 1 to 2% per decade. Similar trends can be observed on Wisconsin lakes as well. This growing problem affects clean water, fish and wildlife, recreation, and the natural beauty of lakes in our region.

In spring 2023, EMWREP worked with CMSCWD to conduct a mailed survey of 565 lakeshore landowners on Big Carnelian, Big Marine, Fish, Goose, Hay, Little Carnelian, Long, North Twin, Sand, and Square Lakes and facilitated small-group conversations with landowners on Big Carnelian and Big Marine Lakes. We received a total of 144 survey responses and gained a wealth of information from both the survey and our focus group conversations.

Key insights reveal that landowners highly value clean water, healthy ecosystems, and recreational opportunities, while expressing concerns about invasive species, algae, shoreline erosion, and fish population changes. Many are interested in working with the watershed district to enhance their shorelines with native plants, but long-term maintenance of planting projects is a concern. The survey also suggests that many landowners understand the importance of native flowers and grasses in the shoreland zone, but are less aware of the importance of trees, shrubs and aquatic plants.



The photo on the left shows an altered shoreline, while the one on the right shows a natural shoreline.

Understanding lakeshore landowners' knowledge, values, motivations, and concerns is a critical first step to developing effective outreach and engagement strategies. Since completing the survey project, education staff have helped CMSCWD to host an open house and develop a targeted mailing for Big Carnelian landowners. Angie also shared findings from the project at the St. Croix Watershed Research Rendezvous in October.

Looking toward 2024, we hope to expand our audience research and conduct similar surveys in other watersheds.

Objective 3: Promote conservation development.

Components of this work include:

1. Educating and engaging local leaders from cities, townships and counties to adopt MIDS.
2. Supporting local communities in natural resources planning to preserve open space, protect high quality and sensitive natural resources, and create/maintain habitat corridors.
3. Developing strategies for engaging builders and developers.
4. Developing educational materials for new homebuyers, especially those buying property to build or remodel on their own.

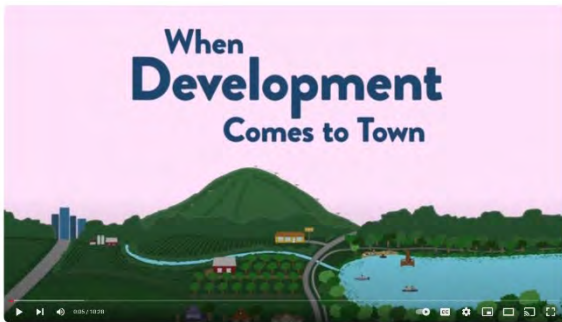
2023 Activities:

Lower St. Croix Watershed Community Ordinance Review Outreach

The Lower St. Croix Watershed Partnership has allocated funds to help communities review and update their stormwater management ordinances, with the goal of having communities adopt Minimal Impact Design Standards (MIDS). MIDS refer to a set of guidelines and practices aimed at minimizing the environmental impact of stormwater runoff in urban areas. These standards emphasize the use of green infrastructure and sustainable design techniques to reduce pollution and protect water quality in the state.

In 2023, Barbara Heitkamp worked with Jay Michels (EOR) and Mike Isensee (Carnelian Marine St. Croix Watershed District) to approach five communities in the Lower St. Croix watershed to gauge interest in the program: Rush City (Chisago County), North Branch (Chisago County), Chisago City (Chisago County), Marine on St. Croix (Washington County), and Scandia (Washington County). Staff spoke with city administrators and public works managers, who requested additional input on the status and impact of MIDS in communities where the standards have already been adopted. Efforts will be ongoing in 2024.

New Animated Video Highlights the Ups and Downs of Growing Communities



[When Development Comes to Town](#) is designed for local decision makers and tackles some of the challenges and opportunities presented by growth in our small communities. Developed by the Lower St. Croix Watershed Partnership and EMWREP, this fast-paced video runs through a gauntlet of topics in about ten minutes, introducing the viewer to concepts ranging from shoreland ordinances to MIDS. The video masterfully weaves together complex insights and downhome practicality with just the right amount of visual interest and is a ‘must watch’ for new, or even experienced, elected officials, staff and planning commission members for local governments.

Minnesota Association of Conservation District Employees (MACDE) provided a \$3600 grant to help fund this video.

Multimedia content delivered via print or online:

- Relevant blog posts (and newspaper articles) at Angie Hong's eastmetrowater.org
 - [Planning ahead for a rainy day](#) (Feb 14, 2023) “Comfort Lake – Forest Lake Watershed District launches wetland enhancement project, wins Climate Adaptation award.”
- Relevant blog posts at Barbara Heitkamp's knickpoints.org:
 - [Water water everywhere, but where do we store it?](#) (Feb. 1, 2023) “Our landscape’s natural engineering is already performing these stormwater management and infiltration services for us – let’s be SMART about how we develop and use the land.”
 - [How do you define your water relationship?](#) (June 30, 2023) “When I looked to the horizon, I couldn’t see where the sky ended and the water began. I heard the distant roar of a boat engine behind us, but the water in front of us was smooth glass interrupted only by small wind ripples.”

Objective 4: Minimize stormwater runoff pollution.

Components of this work include:

1. Creating and disseminating stormwater education materials to the general public
2. Training municipal staff and contractors
3. Supporting partners in meeting MS4 permit requirements
4. Engaging community residents through the Adopt-a-Drain program
5. Utilizing and supporting regional programs such as Watershed Partners

2023 Programs and Activities:

New Stormwater Interactive Model:

In December 2023, we were glad to show-case a new interactive hands-on exhibit created by Tim Foss, our 2022-23 Climate Resiliency AmeriCorps member. The exhibit demonstrates the difference in stormwater runoff volume between rural and developed landscapes, with and without best management practices installed. Participants turn the crank to make it rain and swap out good and bad landscapes to observe differences in infiltration and runoff volume. The display components collapse into a large metal box, which is designed to fit in a car for easy transport.

Check out this [How-to video](#) to see it in action and observe the set-up and take-down process.

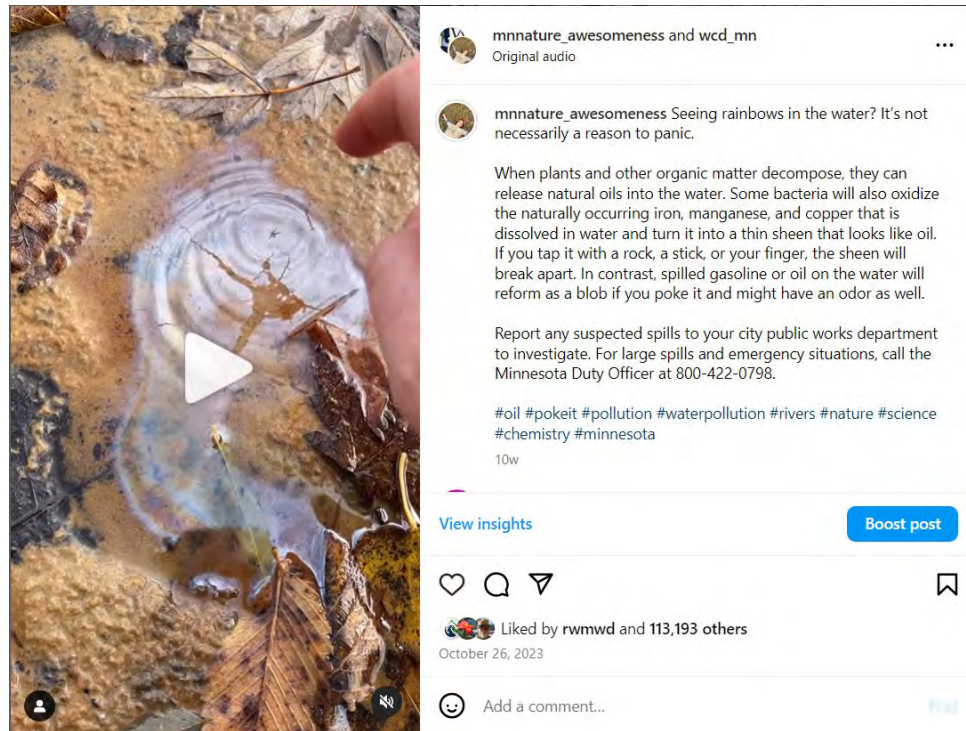


MS4 Stormwater Education

During 2023, EMWREP delivered monthly emails to partners with a variety of education materials including newsletter articles, social media graphics, and videos to be used in public education activities. We also shared these messages in print and social media communications. Education topics included chloride pollution (SMART Salting), illicit discharge detection and elimination (IDDE), nutrient pollution from yard waste, pet waste, stormwater management and green infrastructure practices, and water conservation.

- **Chloride pollution and Smart Salting**
 - In January 2023, we mailed educational packages to 42 private contractors to share information about SMART Salting best practices and upcoming trainings.
 - On Oct. 17, Angie gave a presentation to the Stillwater City Council about chloride pollution
 - Resources for partners: Smart salting social media graphics, [Salt Tip Card](#), MPCA SMART Salting Certification Courses, [Model policies, ordinances and contracts for winter maintenance](#)

- News articles / blog posts:
 - [As cities work to reduce salt use, more action is still needed to protect our water resources](#) (November 27, 2023) - “Communities across the Twin Cities are currently waging a battle against time, as they work to curb the flow of salt into lakes, rivers, streams and groundwater before it’s too late.”
 - [The plight of the ice fighters](#) (Nov 29, 2023) “Who knows, maybe a turn against salt might encourage us to change our hustle bustle winter culture – we can drive more slowly, take the time to shovel, and not freak out if we don’t see parking lots covered in salt crystals.”
- **Illicit discharge detection and elimination (IDDE)**
 - Resources for partners:
 - Dispose of concrete wastewater safely
 - Prevent illicit discharges during pool and hot tub draining
 - Stormwater Systems [Mapping and Inspections](#)
 - [MS4 Permit and Requirements](#)
 - On Nov. 2, Angie led an IDDE training session for Oakdale Public Works staff
 - Popular videos
 - [Is it spilled oil?](#) (10-24-23)
 - 3.4M views on TikTok + 3.5M views on IG = 6.9M total views
 - [Iron-oxide bacteria](#) (10-26-23)
 - 14.7k views on TikTok + 20k views on IG = 34k total views



- **Nutrient pollution from yard waste**

- Resources for partners:
 - Grass clippings – article and social media graphics
 - Fall leaves – article and social media graphics
- News articles / blog posts:
 - [The urban tree, both savior and villain](#) (Oct. 2, 2023). “As leaves start their mesmerizing color change this autumn and fall to the ground, many of them get caught along our curbs and are carried by water into our storm drains.”



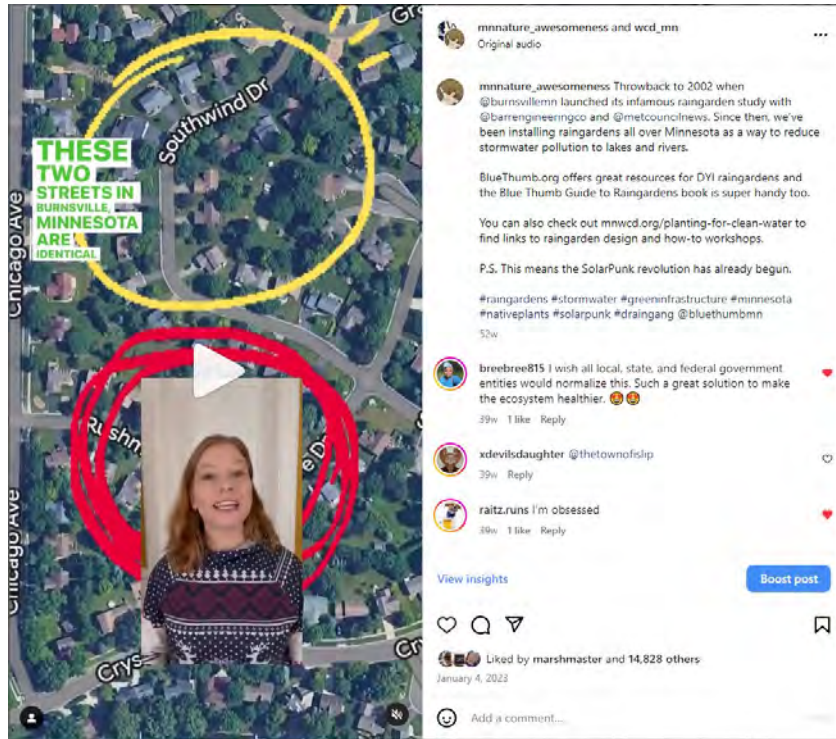
- **Pet waste**

- Resources for partners: Social media graphics, news articles
 - [Dog poop - English, Spanish, Somali](#)
 - [Scooping the poop with style](#)
 - [Reminder to scoop poop](#)
 - [Chat about scat](#)

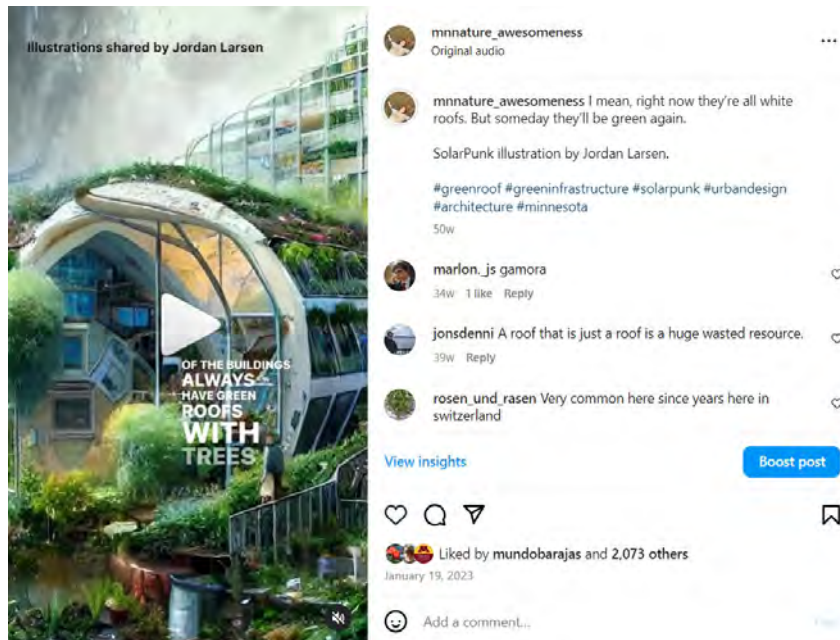
- **Stormwater management & green infrastructure practices**

- Resources for partners:
 - [Water Governance in Minnesota flyer](#)
 - Raingarden maintenance online and print resources
 - [Raingarden maintenance check-list](#)
 - [Maintenance guide book - detailed](#)
 - [Raingarden maintenance brochure](#)
 - [Most common raingarden weeds](#)
 - [MN Extension - Is this plant a weed?](#)
- News articles / blog posts:
 - [Bringing public art into stormwater management](#) (January 27, 2023) - “A growing number of watershed management organizations are recognizing the value of public art to beautify otherwise boring stormwater management projects, illustrate connections between built and natural environments, and explain technical processes in new and creative ways.”
 - [Mimicking Nature with Green Infrastructure](#) (February 9, 2023) “One way to make better use of nature’s readymade bioengineering is through green infrastructure practices such as raingardens, green roofs, and permeable pavement that help to catch water and hold it on the landscape for future use.”
 - [Debunking myths about raingardens](#) (June 6, 2023) “Raingardens are typically situated along roadways or near the bottom of a downspout, and their job is to catch and hold rainwater until it soaks into the ground, is taken up by the plants, or evaporates. Beautiful as they are, people sometimes have misconceptions about how raingardens work and how to care for them.”

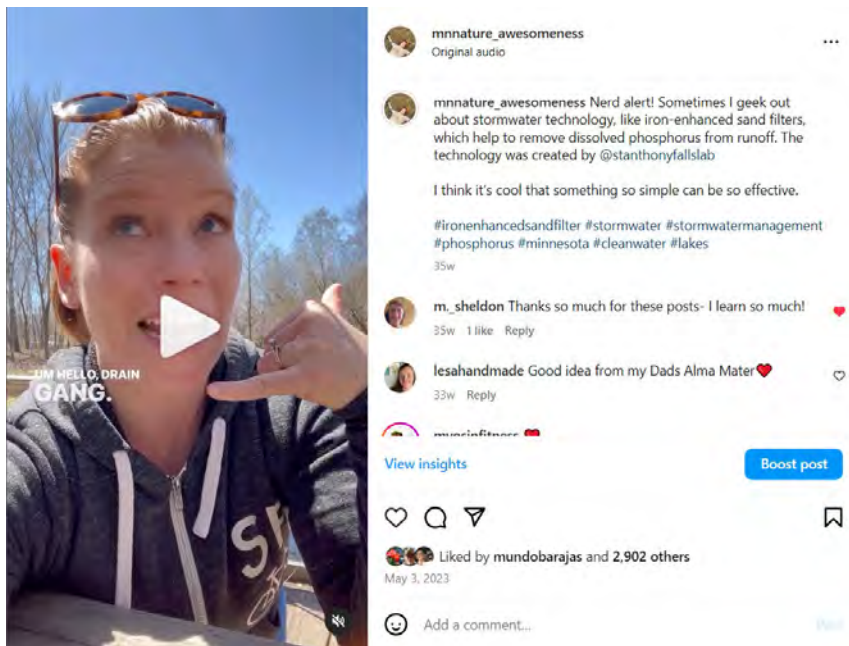
- Popular videos about green infrastructure practices
 - [Raingardens & green infrastructure](#) (1-5-23)
 - 217k views on TikTok + 204k views on IG = 423k total views



- [Green roofs](#) (1-19-23)
 - 16k views on TikTok + 26k views on IG = 42k total views



- [Iron-enhanced sand filter \(5-3-23\)](#)
 - 36k views on TikTok + 42k views on IG = 78k total views



- [Grassy pave & porous pavers \(7-26-23\)](#)
 - 55k views on TikTok + 86k views on IG = 142k total views



- **Water conservation**
 - Resources for partners: article and social media graphics to promote water conservation in watering lawn during the hot months of the year
 - News articles / blog posts:
 - [Even with rain, lawns remain brown](#) (June 30, 2023) “Lawn irrigation creates the largest demand from municipal water supplies during the summer. What can you do to keep your yard looking good, without draining the water supplies we all depend on?”



(Clockwise from upper left): RWMWD WaterFest; MN State Fair; Washington County Fair

Community Events and Presentations

- [Presentation for League of Women Voters](#), Woodbury/Cottage Grove (March 13)
- St. Andrews Lutheran Earth Day event, Mahtomedi (April 16)
- Presentation for Daughters of the American Revolution, Stillwater (April 20)
- RWMWD WaterFest, Lake Phalen (June 3)
 - Shared groundwater and water conservation exhibits
- Washington County Fair (August 2 - 6)
 - Used Ward Floodplain Model to demonstrate impacts of development
- Landfall Community Event (Aug. 15)
- Minnesota State Fair (Aug 24-Sept 4)
 - Helped staff the Blue Thumb and Adopt a Drain booths
 - Angie also participated in Water Day at the MN DNR (Aug. 30)
- Nature Party at Allemansratt Park (Sept 17) - Adopt a Drain booth
- Cottage Grove Public Works Open House (Sept 21)
- Leadership in the Valley event, Bayport (Oct. 12)

SMART Salting Professional Trainings

During 2023, we hosted two workshops for snow plow drivers (Cottage Grove & North Branch, 145 participants) and one for local decision-makers (28 participants). There are now 240+ certified SMART Salt professionals in our area.

Date	Topic (webinar recordings linked)	Venue	# attendees	Views on YouTube	Total
March 9th	Smart Salting Workshop for Local Officials	Zoom	20	N/A	28
Sept 19th	MPCA Smart Salting Roads Certification Training (Cottage Grove)	In Person	100	N/A	100
Nov 28th	MPCA Smart Salting Roads Certification Training (North Branch)	In Person	43	N/A	43

Adopt-a-Drain

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 2023, 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
- Collaborating with volunteer groups such as Sustainable Stillwater and Center Lakes Lake Association

Outcomes:

- Volunteers have adopted 1297 storm drains in Washington County and reported collecting 4,589 pounds of debris that would have otherwise flowed into lakes, rivers, and wetlands. In Chisago County, where the program is new, volunteers have adopted 86 storm drains.
- Notably, many storm drain adopters are also sweeping up leftover salt near their storm drains. Adopters reported collecting 12 pounds of salt from roads in 2023.
- The top three communities with the most storm drains adopted are Stillwater (231), Woodbury (193), and Mahtomedi (166).
- [See map of drains adopted across Washington and Chisago counties](#)

Enhanced Street Sweeping Program

In late 2022, the Lower St. Croix Watershed Partnership allocated \$40,000 in state funding to help 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. Sixteen communities across the watershed are participating, including Afton, Lake Elmo, Bayport, Baytown, Lakeland, Lakeland Shores, Lake St. Croix Beach, Linwood Twp., Marine on St. Croix, North Branch, Oak Park Heights, Rush City, Scandia, St. Mary's Point, West Lakeland, and Wyoming. Forest Lake, Stillwater, and Woodbury are already implementing enhanced street sweeping programs.

Read more about the program in this article:

- [Minnesota moves toward cleaner water, one storm drain at a time](#) (Aug. 24, 2023)
“Communities roll out enhanced street sweeping programs and engage residents through Adopt-a-Drain.org to take a big bite out of urban stormwater pollution.”

Supporting HOAs in stormwater BMP maintenance

There are 7,725 HOAs in Minnesota and nearly 27% of the state's population lives in an HOA. HOA communities often struggle to budget for and properly maintain stormwater and green infrastructure practices such as ponds, raingardens, conservation easements, and native plantings. In fact, even irrigation, lawn care, and snow and ice removal can be challenging to manage collectively.



This year, EMWREP received \$20,000 in grant support from Minnesota SeaGrant and the UMN Water Resources Center to learn more about HOA board members knowledge, behavior, barriers, and motivations related to stormwater and green infrastructure care and maintenance. We are currently working with Wilder Research to conduct a survey and focus groups. We hope that this research will help us to develop new resources, tools, and information delivery strategies to support better maintenance of stormwater and green infrastructure practices at HOAs in our member communities.

Hannah Peterson, AmeriCorps Community Resiliency Facilitator, has helped to lead this project since September. In addition to developing promotional materials for the survey and focus groups, Hannah has also compiled web resources at www.mnwcd.org/hoa-stormwater-tools and worked with Barbara to create a series of informational videos about raingardens and their maintenance.

- [Raingardens \(part 1\): Introduction to common features](#)
- [Raingardens \(part 2\): Pre-treatment types and maintenance](#)
- [Raingardens \(part 3\): Vegetative and structural maintenance](#)
- [Raingardens \(part 4\): Raingardens vs. infiltration basins](#)

Read more about the project in this article:

- [Green infrastructure and its maintenance a mystery for many Homeowners Associations](#) (Nov. 30, 2023)

Objective 5: Engage farm owners and operators in projects and practices that reduce erosion, promote soil health, reduce surface and groundwater contamination, and restore habitat.

Components of this work include:

1. Educating and engaging conventional row crop farmers to adopt practices such as cover crops, reduced tillage, and nutrient management, especially in priority locations.
2. Engaging farm owners to convert annual crops to perennial crops, grazing, or native habitat.
3. Engaging large landowners in high priority locations to establish wetland banks and conservation easements.
4. Developing targeted outreach campaigns
5. Identifying and making “big picture” connections
6. Utilizing and supporting regional and partner-led programs such as cost-share grants, soil health grants, and site visits.
7. Helping small-scale farmers, especially those from BIPOC and immigrant communities, to access resources and programs that support sustainable farming.

2023 Programs and Activities:

Workshops and webinars:

2023 marked a year of transformative outcomes for producers large and small across the Lower St. Croix watershed. LSC Agronomist and UMN Extension Educator Jennifer Hahn helped organize and support a variety of in-person and online events, helping farmers connect with each other while supporting implementation of conservation practices. Approximately 282 people attended workshops and 108 watched online recordings from those events.

Date	Topic (webinar recordings linked)	Venue	# attendees	Views on YouTube	Total
January 25th	Workshop: Improving your Biggest Asset: Soil	In Person	30	45	75
March 2nd	Annual Corn and Soybean Conference: Pine and Isanti Counties	In Person	25	N/A	25
March 7th	Equipment Set Up and Economic Operations	In Person	25	N/A	25
March 13th	Beef Webinar	Zoom	15	85	100
March 14th	Small Livestock Webinar	Zoom	20	42	62
March 23rd	Workshop: Improving your Biggest Asset: Soil	Hybrid	12	28	40

May 6 th	Soil Health Training and Listening Session at Big River Farms	In Person	30	N/A	30
May 15 th	Soil Health in your Vegetable Garden	Zoom	15	80	95
August 17 th	Pine Conservation Cookout	In Person	50	N/A	50
August 25 th	Soil Health Field Day at Maple Grove Farms	In Person	30	N/A	30
September 15 th	Conservation Conversations	In Person	30	N/A	30

Community Events and Presentations

- Chisago County Master Gardeners Garden Expo (Mar 17: North Branch High School) – Jennifer Hahn led a section on soil health
- St. Croix Valley Forage Council Annual Meeting (February)
- Isanti SWCD Lunch and Learn Meeting (March 14)
- Area IV MASWCD meeting (June 13) – Jennifer Hahn and Barbara Heitkamp highlighted the Partnership outreach efforts with farmers, communities, and private landowners
- BWSR Academy (October 24) – Jennifer Hahn co-led a training on how to work on how to best build trust and strong relationships with producers



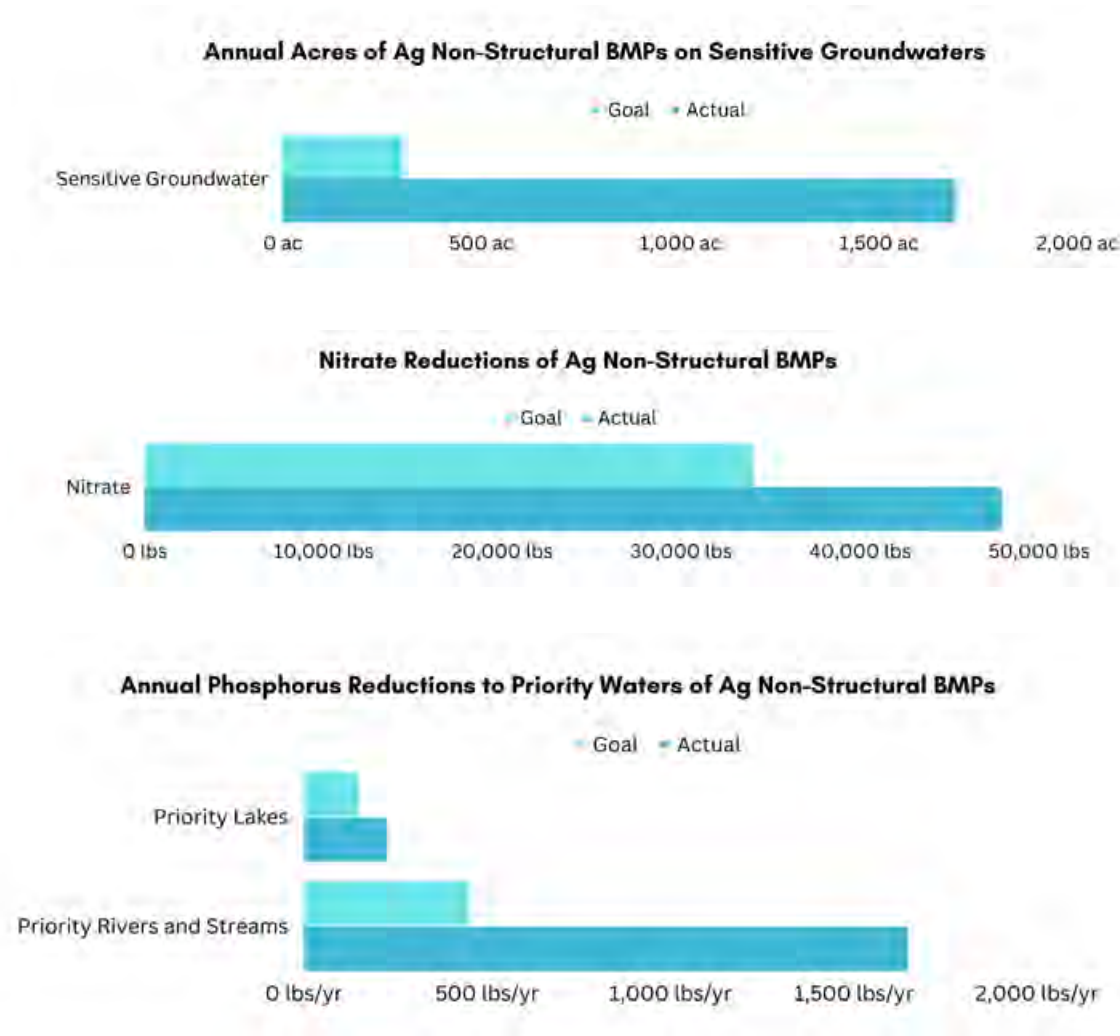
Non-structural program takes off across the basin

The non-structural agricultural BMP and Clean Water Fund Soil Health grant programs were extremely popular with basin producers, with funds being allocated as quickly as possible. Because of the design and outreach of these programs in conjunction with education and building and enhancing of networks, there were cover crops planted, reduced tillage, strip till, no-till, and conversion of cropland to hayland and native species around the basin!

Over the course of the year, meaningful connections with producers allowed us to learn about farmer operations and objectives, take videos of their operation, complete video interviews, and put on field days. This creation of trust and the building of positive working relations has allowed staff to learn how willing producers are to take logical and worthwhile risks and excel. Producers had to learn how to integrate different activities in their management system that includes modifying or utilizing different equipment, analyzing their herbicide program and make changes if needed to implement cover crops, hiring custom planting, and take the huge risk of the unknowns. The unknowns of whether their planter can handle heavy residue and no-till into either

crop residue or cover crops, if the cover crops will emerge, when to terminate the cover crop and how, if the cover crop will have negative effects on their moisture, nutrients, and crop emergence, will the new hayland or native plantings take and be worth taking out of crop production, and what are their backup plans

Throughout all of the planning and implementing, the producers rose to the occasion and successfully implemented the practices they committed to, even in the third year of a drought and looked great doing it. While 2023 numbers are still coming in, more than 12,000 acres have been enrolled in different conservation practices, with a predicted reduction in soil erosion of 38,000 tons and over 22,000 lbs of phosphorus and 58,000 lbs of nitrate won't make it to the basin waterways and groundwater.



Multimedia content delivered via print and/or online:

- Relevant blog posts at Barbara Heitkamp’s knickpoints.org:
 - [A farm, a family, and a lifetime of learning](#) (Jan. 10, 2023) “The move to try vertical till on the Mold family farm was a decade long culmination of new knowledge, evolving technology and programs, and interest from ‘the younger generation’.”

- [Walking the conservation talk – the importance of leading by example](#) (2-21-23) Read how Angie Hong, Paul Swanson and Jennifer Hahn are leading by example in their conservation work.
- [From Cropland to Prairie: A Journey of Patience and Management](#) (April 25, 2023) “Mary Jo Youngbauer and her family moved to their property near Rush City back in 2012, and while the majority of the 17 acres were still being used for a corn and soybean rotation, Mary Jo knew she was interested in eventually converting the land into a more perennial landscape.”
- [Oh compost! My compost!](#) (May 2, 2023) “Four watermelon rinds. Dozens of banana peels, cucumber ends, and sweet pepper innards. A fair share of eggshells and more coffee grounds than I care to admit. Limp lettuce leaves, gnawed corn cobs, that random eggplant I forgot about until it was too late, and a fair share of apple cores.”
- [Yes, you ARE seeing more no-till and cover crops out there.](#) (May 23, 2023) “Since last fall, farmers in the basin have enrolled approximately 12,000 acres in different conservation practices, with a predicted reduction in soil erosion of 38,000 tons. This also means 22,000 lbs of phosphorus won’t travel to our nearby lakes, rivers, and streams, and 58,000 lbs of nitrogen won’t leach to our groundwater.”
- [Wild turkeys: A Minnesota conservation success story](#) (Nov. 22, 2023) “These birds have come a long way in 50 years — from the brink of extinction to frequent sightings in our everyday lives.”

- **Relevant Videos:**

- [Conversations with a Farmer: Vertical Till with Craig and Andre Mold](#): Craig Mold's father established the family farm in 1954 with 120 acres and 35 cows. Almost 70 years later, Craig and his family now have upwards of 1000 farming acres that produce corn and soybeans. In the last decade, the Molds have transitioned to vertical till, a type of reduced tillage. Their farm was also recently certified under the Minnesota Ag Water Quality Certification Program. 107 views.



- [Preventing soil erosion with Water and Sediment Control Basins \(WASCOBS\)](#): Using no-till, reduced till, and cover crops are a great way to prevent soil erosion on your fields, but sometimes you need a physical structure to prevent erosion as well. One of our NRCS partners has been assisting a landowner with the installation of a water and sediment control basin to stop erosion and gullyng on their field in southern Pine County. 39 views.

- [Out Again with Jenn: Comparing field soil temperatures between different types of tillage practices](#): How does leaving residue on your fields impact soil temperature? Can it make a difference? Agronomist Jenn Hahn spent a day this summer measuring soil temperatures between fields managed under different tillage management practices in east-central Minnesota. Come away with a better understanding of why soil temperature matters, particularly as it impacts soil microbial communities and soil moisture, and how residue helps manage soil temperature. 86 views.



- **WCMP 100.9 FM Radio:** Jennifer Hahn provided information about agricultural conservation planning services available, ag program updates, what's happening out in the field, and upcoming events on WCMP 100.9 FM radio the 1st Wednesday of the month. To listen, find it on [WCMP's website](#), [Apple Podcast](#), [Google Podcast](#), or [Spotify](#)
- **New Farmer/Rural Landowner Resources**
 - Lower St. Croix Watershed Partnership: www.lsc1w1p.org
 - [/for-landowners](#) - resources for yard and garden, prairies, and woodland management
 - [/farmers](#) - resources for agricultural producers

Developing new relationships with immigrant, BIPOC, and beginning farmers

In 2022, Washington Conservation District received a \$10,000 planning grant from National Association of Conservation Districts (NACD) to support relationship-building with beginning farmers, especially BIPOC (BIPOC = Black, Indigenous and People of Color) and immigrant farmers that have not historically worked with SWCDs and NRCS.

As part of this project, education staff attended the Emerging Farmers Conference in November 2022, facilitated an Equity Workshop with organizational partners in February 2023, and facilitated a workshop at Big River Farms in May 2023 that included a hands-on soil health demonstration and listening session with 20 farmers. [Read the project report here.](#)



Farmers talk about their long-term plans during a workshop at Big River Farms.

Lessons learned include:

1. **Land access is THE major barrier for beginning farmers.** Most are looking for relatively small acreage (5-10 acres) and close to the Twin Cities to grow produce and small grains. Due to rising land costs, however, they're forced to move far outside the metro to access farmland. This translates into an increased time burden and expense for gas to travel between the farm and urban markets. There are also cultural challenges if people move to rural areas where they aren't sure they will be accepted.
2. **There are significant cultural differences between new and established farmers in the region.** Data from the 2017 Census of Agriculture recorded 612 farms in Washington County, with 93% of farmers identifying as white/European. The average farm size is 124 acres. In contrast, many beginning farmers come from southeast Asian, Latino, and African cultures and seek relatively small plots of land to farm in community with other people. A quote from a workshop attendee highlights this difference, "Five of us are sisters in friendship and we work in community with one another. We want to farm together. African farmers want 10 acres to farm between 20 people. Not 70 acres for one person. We only need ½ acre each to grow food plus some room for the kids to play."
3. **There is a continuum between community gardens and small-scale, commercial farming.** A backyard garden or community garden plot is often an entry point to farming and then people scale-up to larger produce plots and eventually land of their own.
4. **Beginning farmers want more support for soil and water testing, improving soil health, learning basic farming skills, sharing equipment, and understanding/accessing government programs.**

Angie Hong gave presentations about this project at the October 2023 Watershed Partners meeting and co-taught a 90-min workshop on the topic at BWSR Academy.

In November 2023, education staff facilitated a meeting between WCD, Washington County, and Big River Farms to discuss next steps and opportunities for partnership on food equity and conservation farming initiatives.

Objective 6: Build social capacity for environmental change and strengthen community connections.

Components of this work include:

1. Building and nurturing partnerships with state and local government, non-profit organizations, sportsman groups, and community groups.
2. Engaging volunteers through programs such as Minnesota Water Stewards, Master Gardeners, AIS Detectors, Adopt-a-Drain, and Adopt-a-Raingarden.
3. Maintaining a robust community presence that utilizes multiple media platforms and communication strategies, including blog and newspaper articles, paper and e-newsletters, social media, websites, and community events.
4. Conducting audience research to understand knowledge, behaviors, barriers, and opportunities and guide development of effective outreach and engagement programs.

2023 Activities:

Educational 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. In addition, Watershed Partners and SWEEP are two formal watershed education partnerships that EMWREP has actively supported for years.

Watershed Partners

Watershed Partners is a coalition of more than seventy public, private and non-profit organizations in the Twin Cities metro area that has existed since 1996. The mission 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 guest speakers, oversees the Adopt-a-Drain program and www.CleanWaterMN.org website, and manages the Adopt-a-Drain exhibit space at the Minnesota State Fair. In 2023, EMWREP coordinator Angie Hong continued to serve on the Watershed Partners' steering committee and act as convener for large group meetings.

Presentation topics in 2023

- January: Low Salt Solutions
- February: Legislative update
- March: Art as a Tool for Community Engagement
- April: Lakes De-listed: How did they do it?
 - Featured presentations about North & South Center Lakes and Lily Lake
- May: Walking Tour of the Highland Bridge Project
- June: Mississippi River Boat Workshop – Ford and Lower St. Anthony dam disposition
- September: Equitable Community Engagement
- October: Sustainable Agriculture
 - Featured WCD – Big River Farms project
- November: Outreach Success Stories
- December: Winter potluck

St. Croix Watershed Environmental Education Partnership (SWEEP)

SWEEP is a partnership of environmental education professionals within the St. Croix River watershed whose mission is to inspire leadership in environmental education and stewardship through networking, community engagement, and collaboration throughout the St. Croix River watershed. EMWREP coordinator Angie Hong helped to create the group and is a member of its leadership team.

In 2023, SWEEP organized two events for members:

- **Restoring Relationships** (volunteer summit) – Aug. 22 at Belwin Conservancy in Afton. 45 people attended.
- **Inclusive, Accessible Outdoors** (professional networking event) – Nov. 16 at Wild Rivers Conservancy in Osceola. 30 people attended.

Engaging Volunteers:

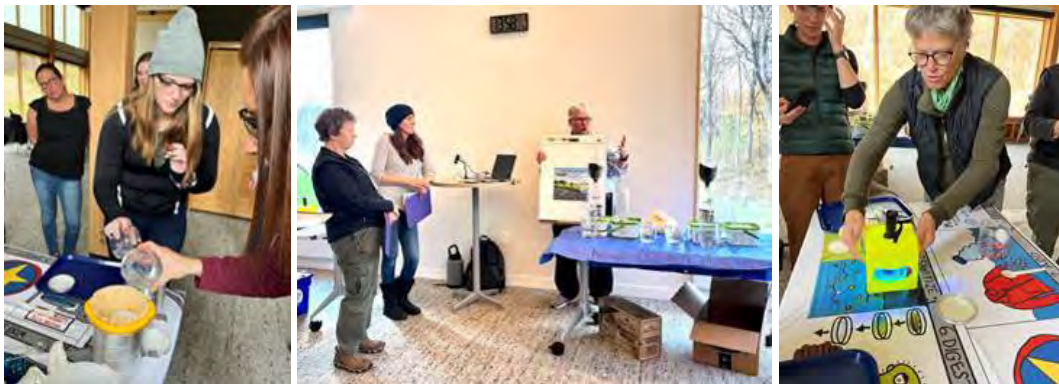
Minnesota Water Stewards

EMWREP has supported the Minnesota Water Stewards program, in partnership with Freshwater, since 2018. Water Stewards complete 50-hours of in-person and on-line training, plus a capstone project, to become certified. Once certified, they volunteer 25-hours per year to support watershed and conservation initiatives in their local communities. In addition, many of our Water Stewards have joined citizen advisory committees or boards at cities, watershed districts, SWCDs, and nonprofit organizations in our area.

We currently have 18 Water Stewards actively volunteering in Washington County and welcomed one new steward in 2023 (Kim Ury of Oakdale, Valley Branch Watershed District).

EMWREP staff communicate with stewards regularly and help to connect them with funding and technical support for their projects. We organized the following education and mentorship events for stewards and other volunteers in 2023:

- Volunteer appreciation event (in partnership with North Woods and Waters of the St. Croix Heritage Area) (April 15 at Franconia Sculpture Park)
- Rainscaping tour in Oakdale, Woodbury and St. Paul (June 5)
- Volunteer summit (in partnership with SWEEP) (Aug. 22 in Afton)
- If you plan it, will they come? Full-day training (Oct. 30 in Cottage Grove)



Staff and volunteers practiced hands-on watershed education lessons at our workshop in Cottage Grove.

Adopt a Raingarden

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 2023, EMWREP continued to collaborate with Sustainable Stillwater MN to support Adopt a Raingarden volunteers and ensure that **31 adopted raingardens** are well-maintained: More info at: www.mnwcd.org/adoptaraingarden.



For the past two years, WCD has hosted AmeriCorps members through a new Climate Resiliency Program. These AmeriCorps volunteers help to support our community engagement and conservation work. On the left, Tim Foss served from Aug. 2022-June 2023 with an emphasis on community forestry. On the right, Hannah Peterson and Lori Maxfield started in Aug. 2023 and will be with us until July 2024. Their emphasis is on community engagement.

AmeriCorps Community Forestry Program

In fall 2022, Tim Foss, a graphic artist with a background and interest in community organizing and engagement, joined the Washington Conservation District to help engage community volunteers around community forestry and climate projects. He conducted tree inventories for several Washington county communities and worked to brainstorm and develop a new framework for what a new community forestry program could look like at the county and community level.

One outcome of his tenure was development of a podcast with KFAI radio to speak to what happens to all of the ash trees cut down due to the emerald ash border. [Milling the Urban Tree](#) explores the City of Minnetonka's newly created wood utilization program. Listen to it on PRX, [SoundCloud](#), [KFAI.org](#), [MinneCulture's Facebook page](#), & [X](#).

AmeriCorps Community Stewardship Facilitators

In September 2023, the WCD welcomed two Community Stewardship Facilitators with the Community Resilience Initiative of Climate Impact Corps (AmeriCorps). Hannah Peterson and Lori Maxfield have supported EMWREP and Lower St. Croix outreach and engagement efforts this fall and will continue to do so through summer 2024. Their work includes conducting a survey and developing stormwater education materials for HOAs, engaging youth and volunteers to plant pollinator gardens in Landfall and other communities, supporting the Campus Greening program in southern Washington County, and developing community asset maps to help us better connect with volunteers and community groups.

We Are Water Exhibit

We Are Water MN is an interactive traveling exhibit showcasing our shared water heritage across Minnesota. It is a collaboration led by the Minnesota Humanities Center, joined by key partners including the Minnesota Pollution Control Agency, Board of Water and Soil Resources, and various state departments. The Minnesota Historical Society and University of Minnesota Extension are also integral contributors to this immersive experience. Funded in part by the Clean Water, Land, & Legacy Fund and the National Endowment for the Humanities, We Are Water MN brings together local partners and organizations interested in weaving together narratives of science, culture, history, and our human connection with water.

The Stillwater Public Library and ArtReach St. Croix co-hosted the We Are Water exhibit in Stillwater from October 12 – December 4, 2023. Angie Hong participated in planning meetings and event promotion, provided photos for the exhibit, and gave a keynote presentation during the opening week boat workshop.

Barbara Heitkamp helped partners in Chisago County to prepare a successful application to host We Are Water in summer 2024.



The We Are Water traveling exhibit was in Stillwater in October – December of 2023. The exhibit shared photos and stories about water in the Lower St. Croix Watershed and featured many of our local conservation partners.

Community Events:

In addition to the numerous community events listed in other sections of this report, EMWREP and Lower St. Croix education staff also helped to plan and facilitate the following programs:

- **Well Water Screening Clinics:**
 - We collaborated with Minnesota Well Owners' Association and Minnesota Groundwater Association to hold free well water screening clinics for private well owners. The clinics were held in North Branch (Sept. 7) and Cottage Grove (Sept. 18). During the clinics, water samples were tested for nitrate and chloride. All participants received a take-home packet with info about abandoned wells, arsenic, bacteria, nitrate, pesticides, PFAS, and well management and had the opportunity to speak with expert volunteers one-on-one during the clinic as well. A total of 300 tests were completed during the clinics.
- **Children's Water Festivals:** These events are organized to educate and engage 4th and 5th grade students about water conservation, environmental stewardship, and the importance of water.
 - Isanti Children's Water Festival (May 19) - Barbara Heitkamp led a water cycle activity.
 - Chisago Children's Water Festival (September 21) - Barbara led a drinking water/groundwater activity
 - Metro Children's Water Festival (September 27th) - Angie Hong taught lessons about groundwater and Lori Maxfield led an activity in the Water Arcade. Barbara Heitkamp recruited teachers from schools in Washington County.
- **Youth and family programs:**
 - February 7 - Barbara Heitkamp led a native plant interactive activity at the local parent night at Andersen Elementary
 - July 5 - Nature Play Camp at Sally Manzara Nature Center in Lake Elmo. Madison Jeseritz, a WCD seasonal staff member, led a water education activity for EMWREP.
 - September 16 – Brown's Creek Watershed District Family Nature Event
 - November 30 - Barbara led a habitat fragmentation activity for 60 fifth graders at Andersen Elementary in Bayport

Multimedia Content

Print Communications

Newspaper articles: Angie Hong has published a weekly column for the Valley Life – Stillwater Gazette since 2006. The articles are posted on-line at www.eastmetrowater.org. Her column is featured monthly in the Forest Lake Times and is also frequently published in the Scandia Country Messenger, Cottage Grove Journal, Forest Lake and St. Croix Lowdowns, White Bear Press, and the St. Croix 360 online news site.

Barbara Heitkamp also writes 1-2 posts per month for the Knickpoints blog at knickpoints.blog, which shares stories of transition and change in the Lower St. Croix watershed. She also adapts her posts to be published in the Chisago County Press and Isanti Chisago County Star on occasion.

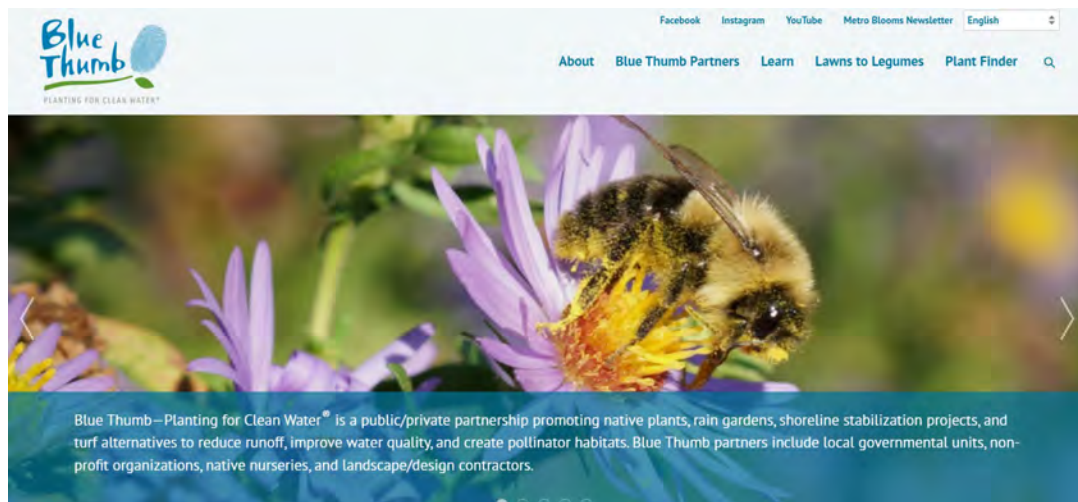
EMWREP also provides content for city, watershed, and WCD newsletters and helped to develop numerous targeted mailings for partners in 2023.

Online Communications

EMWREP and the Lower St. Croix Watershed Partnership 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, plans, and downloadable print materials
 - [/planting-for-clean-water](#) - resources for planting projects
- Lower St. Croix Watershed Partnership: www.lsc1w1p.org
 - [/events](#) - event info and registration
 - [/for-landowners](#) - resources for yard and garden, prairies, and woodland management
 - [/farmers](#) - resources for agricultural producers
 - [/shorelines](#) - resources for shoreline owners
 - [/for-communities](#) - resources for communities
 - [/for-our-partners](#) - private resource page for LSC partners (email bheitkamp@mnwcd.org for access)
- 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.

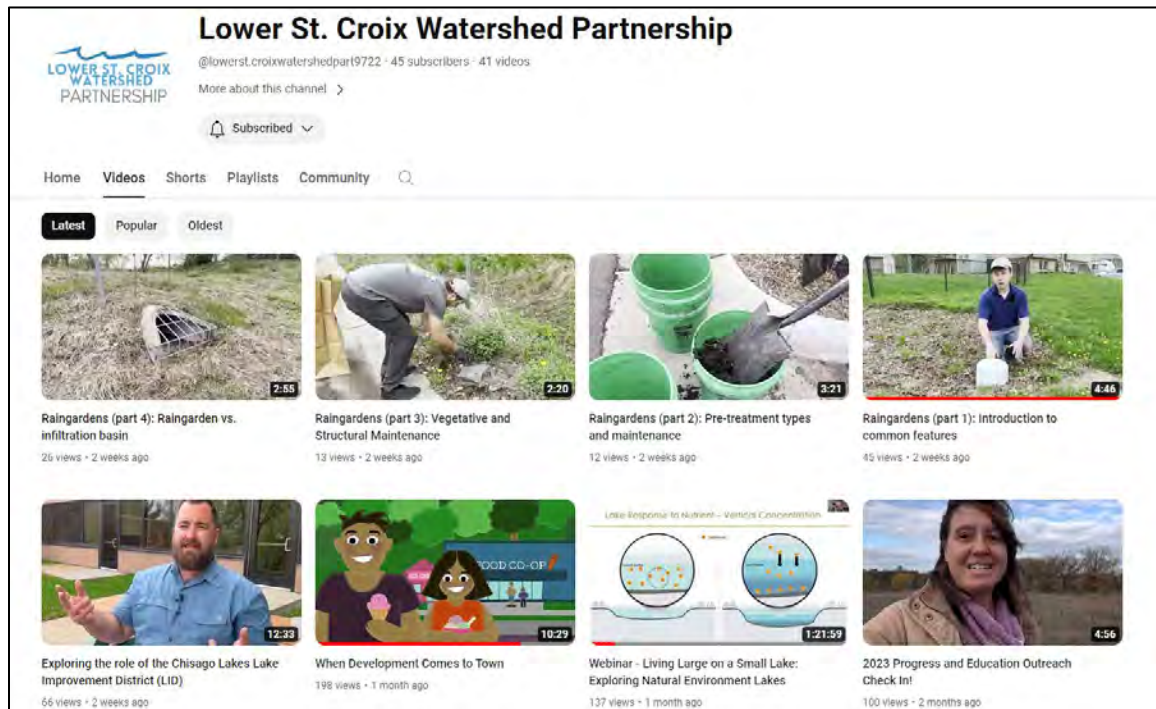


The www.BlueThumb.org website offers a wealth of resources for landowners who are interested in planting native landscapes and raingardens, including a plant finder tool that helps to identify native plants for different yard conditions.

Social Media Accounts:

Content is also shared on EMWREP and Lower St. Croix partner's social media platforms.

- TikTok - [@mnnature_awesome](#) 107,000 followers
- Instagram - [@wcd_mn](#) – 1,000 followers; [@lowerstcroixwater](#) - 214 followers; [@mnnature_awesome](#) 33,700 followers
- Facebook - [@mnwcd](#) - 1,300 followers and [Lower St. Croix Watershed Partnership](#) - 75 followers
- X (formerly Twitter) - [@angiehongwater](#) – 405 followers
- East Metro Water blog – www.eastmetrowater.org – 1563 subscribers
- Knickpoints blog - <https://knickpoints.blog> - 33 subscribers
- YouTube – [Washington Conservation District](#) - 109 subscribers, [Lower St. Croix Watershed Partnership](#) - 44 subscribers



Barbara Heitkamp has created numerous longer-form videos for YouTube that highlight Lower St. Croix Watershed Partnership projects, programs, and conservation stories. Interviews with farmers have been a particularly impactful way to encourage conservation farming best practices.

During 2023, EMWREP and the Lower St. Croix Watershed Partnership produced 70+ short videos for TikTok and Instagram and 12 long-form videos for YouTube. The most popular content shared on various platforms in 2023 included:

- Short video: [Whirlpool near flooded St. Croix River](#) – 15.2M views on TikTok (4-16-23)
- Longer video: [When Development Comes to Town](#) – 197 views on YouTube (12-1-23)
- Blog post: [Trout Return to Afton's Trout Brook](#) – 589 views (3-9-23)
- Facebook post: [Planting for Pollinators event posting](#) – 157.5k views (1-9-23)

NEW Aquatic Invasive Species PSA Series Debuts!

Washington was one of 14 counties to work with Erika Gilsdorf, Producer, LB Video Productions, to professionally produce a series of three PSAs in 0:30 sec and 0:15 sec lengths, to help stop the spread of aquatic invasive species (AIS).

- Video 1 - [Pontoon Dancers](#)
- Video 2 - [Jet Ski Dancer](#)
- Video 3 - [Dancing Fishermen](#)



Additionally, EMWREP garnered these additional media features in 2023:

- **Gretchen Brown interview on MPR News:** (Jan 17, 2023) “Connecting Minnesotans with nature, one TikTok at a time.” [Access article and podcast.](#)
- **Minnesota Bound Podcast:** (Aug. 2023) Listen to the [MN Nature Awesomeness podcast episode](#). Laura Schara interviewed Angie about EMWREP and @mnnature_awesome. They talked about eco-friendly changes people can make in their yards to protect water and wildlife, threats to our water from shoreline development and chloride, and success stories that keep us motivated.
- **[What’s next for Lily Lake? Delisting achieved, partners consider possibilities – St. Croix 360:](#)** (Oct. 5, 2023) The water-quality improvement work didn’t stop once Lily Lake was removed from the state’s impaired waters list — an effort that took 20 years, involved a host of partners including the city of Stillwater, and tapped nearly \$1 million in Clean Water Funds from the Minnesota Board of Water and Soil Resources.
- **[Saving Lily Lake:](#)** (Oct. 18, 2023) on KSTP television.
- **[Neighbors of Lily Lake celebrate decades long cleanup:](#)** (Oct. 20, 2023) in the Star Tribune.

Diversity, Equity, and Inclusion

In fall 2022, Washington Conservation District established five-year equity goals, which include:

- 1) Creating a mentorship program and implementing new strategies to diversify our existing work force;
- 2) Incorporating equity into our prioritization processes (for grant applications, restoration work, etc.); and
- 3) Working with organizational partners to develop an urban agriculture program that engages emerging farmers from diverse economic and cultural backgrounds.

On February 16, 2023, EMWREP education staff worked with consultant Barbara Raye to plan a half-day equity workshop for WCD staff and partner organizations to further develop strategies within each of these goals.

A few points of progress in 2023 include:

- Updating language on WCD job postings and sharing job openings through new platforms and networks
- Compiling a list of mapping tools that can help us to prioritize equity in our conservation work
- Conducting listening sessions with BIPOC farmers in order to establish new relationships and identify support needs

Measuring progress and celebrating success

One of the most important components in community engagement is to report-out on progress toward environmental goals and celebrate success. In late 2023, the Minnesota Pollution Control Agency (MPCA) issued a draft list of impaired waters for 2024. The updated list adds new impairments to 54 lakes, rivers and streams that are no longer meeting water quality standards and removes impairments from 27 water bodies that have been restored to good health.

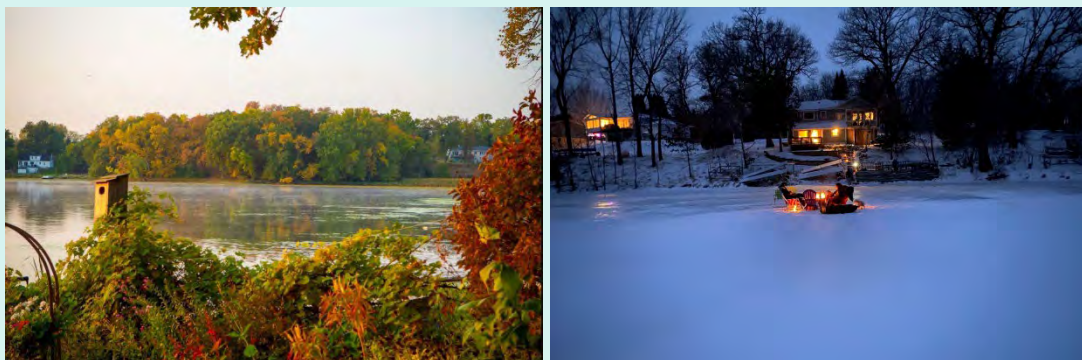
In the Twin Cities east metro, improving lakes that are set to be “de-listed” include Bone Lake – Scandia (Comfort Lake – Forest Lake Watershed District); White Rock Lake – Scandia, Bald Eagle Lake – White Bear Township, and Golden Lake – Circle Pines (Rice Creek Watershed District); La Lake – Woodbury (South Washington Watershed District); and Kohlman Lake – Maplewood (Ramsey-Washington Metro Watershed District).

Throughout the year, education staff gave numerous presentations on the “State of the Water” in the east metro and St. Croix River watershed and also produced numerous media articles and videos to celebrate partner-led clean water projects. A few notable articles include:

- [Planning ahead for a rainy day](#) (2-14-23)
- [State of the Lakes in Washington County](#) (June 18, 2023)
- [Minnesota water – some getting better, some getting worse](#) (Nov. 27, 2023)
- [The Watershed Administrator Who Wouldn’t Wear a Tie](#) (Dec. 21, 2023)

In addition, numerous people and programs in our area received statewide recognition in 2023:

- Project of the Year, Presented by Minnesota Watersheds - **Trout Brook Restoration, South Washington Watershed District**
- Outstanding Administrator of the Year, presented by MAWA – **Matt Moore, South Washington Watershed District**
- Watershed District of the Year, presented by MN DNR – **Carnelian-Marine-St. Croix Watershed District**
- Outstanding Conservationist of the Year, sponsored by MASWCD with support from The Farmer magazine – **Randy Hinze of Pine County**
- Organization of the Year, presented by Minnesota Climate Adaptation Partnership – **Comfort Lake – Forest Lake Watershed District**



Kohlman Lake in Maplewood (left) and Bone Lake in Scandia (right) are two local lakes set to be “de-listed” by the Minnesota Pollution Control Agency (MPCA) in 2024, due to improved water quality.

Budget and Staff

2023 Education Program staff:

- Angie Hong, Water Resource Education Senior Specialist, angie.hong@mnwcd.org
 - EMWREP (95%) – Overall program coordinator, education and outreach
 - Lower St. Croix Partnership (5%) - Policy committee coordinator
- Barbara Heitkamp, Water Resource Education Specialist, bheitkamp@mnwcd.org
 - Lower St. Croix Partnership (50%) – Education and outreach
 - EMWREP (50%) – Education and outreach
- *Jennifer Hahn Agronomy Outreach Specialist – University of Minnesota Extension
 - Lower St. Croix Partnership (100%) – Agronomy outreach (Jan – Sept. 2023)

Additional staff support was provided by Washington Conservation District employees and AmeriCorps members, including:

- Abbey Hauge, WCD staff (160 hrs) – Campus Greening programming at South Washington County Schools
- Tim Foss, AmeriCorps volunteer – Community Forestry initiative (Jan – July 2023)
- Hannah Peterson, AmeriCorps volunteer – HOA Stormwater initiative (Sept – Dec 2023)
- Lori Maxfield, AmeriCorps volunteer – Youth & community education (Sept.– Dec. 2023)

2023 Education program budget:

- EMWREP - \$187,112 (1.5 FTE + materials)
- Lower St. Croix Watershed Partnership
 - Agronomy outreach - \$225,000 (2yrs)(1 FTE)
 - Watershed education - \$270,500 (2yrs) (0.5 FTE + materials; Includes additional contract services for MIDS and shoreline ordinance update initiative)

Additional funding for special initiatives:

Additional funding for special initiatives is provided through grants and partner contracts. These funds help to support contract services such as surveys, graphic design, videography, language interpretation, and youth education. In 2023, grants and special contracts included:

- \$20,000 grant from University of Minnesota Water Resource Center and Minnesota Sea Grant to conduct audience research with homeowner associations (HOAs) related to stormwater and green infrastructure
- \$10,000 grant from National Association of Conservation Districts (NACD) to conduct focus groups and develop relationships with BIPOC and immigrant farmers.
- \$8500 contract with Carnelian-Marine-St. Croix Watershed District to conduct audience research with shoreline landowners and support enhanced watershed communications
- \$7000 contract with Washington County to support enhanced groundwater education
- \$3,625 grant from MN Association of Conservation District Employees (MACDE) to develop a short 10-min animated video entitled “When Development Comes to Town”
- \$200,000 soil health grant from the Clean Water Fund to support farmer outreach and education (2yrs)
- \$4500 in grant funds from the MN Ag Water Quality Certification Program to support farmer field days (2yrs)

In addition, South Washington Watershed District provides \$20,000 in annual funding support to Carpenter Nature Center to conduct classroom education in South Washington County Schools.

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 B: Activity detail for Lower St. Croix Partnership Agronomy Outreach and Shared Education services WBIF grant, 2023-25

Activity 5: Agronomy Outreach Specialist

eLINK Activity Category: Project Development

Grant: \$225,000

Lead Agency: Washington Conservation District, Jay Riggs (partnership with UMN Extension)

Co-lead Agency: Chisago SWCD, Craig Mell

Priority areas: Agronomy outreach specialist will focus on priority areas described in Structural Ag BMP Implementation and Non-Structural Ag/Urban Implementation

CWMP Reference: Page 61 ([see plan](#))

Activity Description: Agronomy outreach specialist. (A) Shared Services: Work with an agricultural conservationist (one individual) for basin wide assistance with agronomy, outreach, and technical assistance to agricultural producers including conservation planning and nutrient management plans. Approximately 80% of this position's time will be directly working with agricultural producers in the LSC Watershed to identify economical farming practices with water quality benefits to make them a routine part of farm operations. See Attachment A – Agronomy Outreach Specialist Details & Milestones for more information.

This would allow for 1 full time agronomy outreach specialist to work basin-wide. Staff will work basin-wide and may have more than one office space. LSC partners will ensure duties assigned to this staff member will be in alignment with WBIF funding intent and requirements.

Costs billed to this item for the embedded Extension Agent will include the following: Staff salary, supervisory time (by University of MN), benefits, travel expenses, training expenses, and office supplies. As with all grant activities, LSC partners will ensure program expenses are eligible before billing to the grant/match. All costs will primarily benefit water quality in a priority resource as identified in the LSC CWMP. In addition to direct landowner outreach and technical assistance, as described above, staff time will also include program and work plan coordination: annual partner coordination meetings, updates to partners, interfacing with the shared services educator, coordinated planning efforts, regular basin-scale coordination meetings with LSC partners and other agencies as appropriate.

Subcommittee: A subcommittee composed of LSC partners will meet on an as-needed basis in order to review projects and assist with project planning. Subcommittees may be grouped by implementation category.

Project Review & Grant Approval Process: Not applicable. Approval for expenditure of grant dollars under this activity is inherent in work plan approval.

Activity 6: Shared Services Education

eLINK Activity Category: Education/Information

Grant: \$270,500 (includes additional contract services for MIDS adoption initiative)

Match: \$2,857.90

Match Source: Parties to the LSC JPC

Lead Agency: Washington Conservation District, Jay Riggs

Co-lead Agency: Chisago SWCD, Craig Mell (Subcontract with WCD to act as host entity)

Priority areas: Basin-wide

CWMP Reference: Page 65 ([see plan](#))

Activity Description: Facilitate shared education and outreach program across basin to provide education; engage residents, businesses, and local officials; and promote and market programs and practices. Education and outreach tasks will serve the goals outlined in the LSC CWMP and may not always pertain to the implementation items described in this WBIF grant work plan, but will always have a primary benefit to water quality in priority resources.

- 90% = develop, distribute and implement outreach programs that result in behavioral changes achieving water quality benefits;
- 10% = solicit willing landowners to install BMPs that are goals within this plan. Promoted practices will be in line with BWSR eligibility requirements and will focus on water quality.

[0.5 FTE to expand EMWREP basin wide]. Outreach will specifically include MIDS promotion to communities. Outreach will also include preliminary work with LGUs to set shoreline "view corridors" to 25% of lot width or maximum 35' width and maximum vegetation clearing standards or adopt innovative shoreland standards to protect buffers, native ecosystems, and habitat corridors. This work will provide water quality benefits through their protection of shoreline and streambank buffers. LSC partners will ensure duties assigned to this staff member will be in alignment with WBIF funding intent and requirements. See Attachment B Education Details & Milestones for more information.

Costs billed to this item will include staff pay, program expenses, and contracted services for MIDS adoption initiative. As with all grant activities, LSC partners will ensure program expenses are eligible before billing to the grant/match. All costs will primarily benefit water quality in a priority resource as identified in the LSC CWMP. In addition to the outreach tasks described above, staff time will also include program and work plan coordination: annual partner coordination meetings, updates to partners, interfacing with the agronomy outreach specialist, coordinated planning efforts.

Subcommittee: A subcommittee composed of LSC partners will meet on an as-needed basis in order to review projects and assist with project planning. Subcommittees may be grouped by implementation category.

Project Review & Grant Approval Process: This activity is composed of three types of education & outreach expenditures.

Shared Services Educator: Approval for expenditure of grant dollars for this task is inherent in work plan approval. 9

Education Materials/Expenses: Approval for expenditure of grant dollars for this task is inherent in work plan approval.

MIDS Adoption Initiative: MIDS Adoption Initiative expenditures will be composed of professional services (technical assistance from a MIDS subject matter expert). See project approval policies and procedures at www.lsc1w1p.org.

Appendix C Local Articles

Trout return to Afton's Trout Brook

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 1600 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," explains Mark Nemeth, a trout habitat specialist with the Minnesota Department of Natural Resources (DNR). "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, says Nemeth, you can find anywhere from 150 to 1100 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 (SWWD), 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 habitat 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.



Trout Brook's natural course meanders through a wide riparian as it nears the St. Croix River.

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," says 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 explains. "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]."



Brook trout photo in Minnesota Conservation Volunteer. Photo by Mike Dvorak.

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. 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," says Matt Moore, administrator for the South Washington Watershed District. "We had a stream that didn't used to support fish and wildlife, and now it does."

Bringing public art into stormwater management

Call for artists to design features at a new park in Woodbury

At first glance, the Bartelmy-Meyer neighborhood in Maplewood looks like a typically suburban enclave. The homes sit in orderly rows, surrounded by gardens, lawns, and trees, with a city park in nearby walking distance. If you stroll through the neighborhood in summer, however, you may notice that the sidewalks are etched with a pattern of concentric circles, much like the ripples that spread from a stone tossed into a lake on the kind of day when the air is soft and the birdsong charming.

The neighborhood is actually the site of a “Living Streets” demonstration project, led by the Ramsey-Washington Metro Watershed District and City of Maplewood in 2012, with grant support from the Minnesota Clean Water Fund. As part of the project, the watershed district and city worked together to complete a series of seemingly small, but significant changes that dramatically reduced stormwater runoff, increased green space, and improved safety for children and pedestrians.

The first step in the Maplewood Living Streets project was to shrink road widths from 30 to 24 feet to reduce the total amount of impervious surface and encourage drivers to slow down. Project partners then retrofitted the road right-of-ways to add 32 raingardens, 200 boulevard trees, and 1.5 miles of sidewalk. The pièce de résistance for this neighborhood transformation were the water drop ripples, etched into the sidewalk to add beauty and illustrate the connection between our urban spaces and the lakes and rivers that we cherish.



One of 32 raingardens installed in Maplewood's Bartemy-Pfeyer neighborhood as part of the 2012 Living Streets project.

A growing number of watershed management organizations are recognizing the value of public art to beautify otherwise boring stormwater management projects, illustrate connections between built and natural environments, and explain technical processes in new and creative ways. Other prominent examples in the Twin Cities area include a stormwater retrofit project at Maplewood Mall, also led by Ramsey-Washington Metro Watershed District; artistic components along the Green Line railway corridor in St. Paul, designed by Capitol Region Watershed District with support from artist Christine Baeumler; and a stormwater capture and reuse system plus habitat restoration completed at the Minneapolis Sculpture Garden, in partnership with the Mississippi Watershed Management Organization.



The Minneapolis Sculpture Garden was retrofitted in 2016-17 to restore natural habitat and incorporate stormwater management features.

Artists are also engaging as community thought leaders in the Minnesota Water Stewards program, which is led by nonprofit Freshwater, in partnership with area watershed organizations. Participants in the Art for Water program attend 50-hours of online and in-person training to learn about the science, policy, and social dimensions of water management in Minnesota. They then receive a small stipend to design and implement public art projects in their communities.

Now, South Washington Watershed District has issued a call for artists to design up to three art installations for a new park in Woodbury. This small, 5.5 acre space, to be called Hasenbank Stormwater Park, will connect local neighborhoods with a loop trail around Powers Lake. The park will also include numerous stormwater treatment features to filter runoff before it reaches the lake. The watershed district is offering artists \$8,000 for their design time, plus up to \$100,000 for fabrication and installation. Barr Engineering will provide additional engineering design for the project if needed. The future art could include educational signs, a visual representation of water moving through the park, or creative features that illustrate the ecology and history of the land.



The future Hasenbank Stormwater Park will connect local neighborhoods to Powers Lake in Woodbury.

To learn more about the Hasenbank Stormwater Park call for artists or submit a proposal, visit www.swwdmn.org/call-for-artists. A Zoom information session will be held on Thursday, February 2 at 7pm and proposals are due on February 24 at 3pm.

The Watershed Administrator Who Wouldn't Wear a Tie

When Matt Moore was hired as the South Washington Watershed District's first administrator in 1999, he came in with a strong vision for the future and equally strong opinions about what a watershed district should and should not do.

"I'd been working at the Minnesota Board of Water and Soil Resources and was ready to leave state government," he begins. "But I also wanted to see if a watershed district could be something different for cities and the county – a partner instead of a regulator."



Matt Moore (back left) with members of the South Washington Watershed District staff and board.

"A lot of things happen differently here, compared with other watershed districts, and that's because of Matt's vision," says Brian Johnson, a Board Manager who has served on the District board for more than 20 years. "We play a minimal role in permitting [for new development] and have always emphasized collaboration with our cities, the county, and the Conservation District. Our job is to help our partners do their work better, not duplicate work that they are already doing."

When South Washington Watershed District was formed in the 1990s, its primary goal was to mitigate flooding in land-locked neighborhoods of Woodbury and Cottage Grove. Moore came in with a 20-year vision for a conservation corridor that would connect Woodbury to the Mississippi River, providing a safe route for floodwaters to dissipate in the event of a 100-year “mega-storm”, while also creating much-needed green space and recreational amenities in a rapidly suburbanizing area.



Above (clockwise from top left): A group of people walking on a paved path; Aster blooming in a field; Children and adults participating in a planting activity in a field.

The first phase of the project was a regional infiltration basin, which is located on the border of Woodbury and Cottage Grove, just south of Bailey Lake. Now known as Glacial Valley Park, the site features 250-acres of restored prairie, which is permanently protected from development and open to the public for hiking and nature study. From there, a series of overland trails, dry creeks, and underground pipes head south through Cottage Grove Ravine Regional Park, and then onward to the Mississippi River. In addition to protecting the region against catastrophic flooding, the infiltration basin and conservation corridor also soak up large amounts of rainwater, which helps to recharge groundwater aquifers that are used for the region’s drinking water supply.

“The overflow project is what I was hired to do, and we achieved it,” Moore says proudly. “It took 20 years and \$20 million and we are totally debt free.”



The new bridge, built by Washington County and South Washington Watershed District, allows Grey Cloud Slough to flow freely through the area for the first time in 50

Moore is also proud of the watershed district’s partnership with Washington County to reconnect a backwater channel of the Mississippi River near Grey Cloud Township in 2017. The Grey Cloud Slough had been stagnant and full of algae since 1965, when debris clogged the culverts under County Road 75 during a historic flood. Fifty years later, South Washington Watershed District spearheaded the effort to replace the road (which essentially acted as a dam) with a bridge that allowed the river to flow free again.

“Greg Cloud was fantastic,” says Moore. “You never get to see water quality improve overnight, but on that project we did.”



Above: Matt Moore talks about Trout Brook in Afton State Park and Project Afton as a Chesapeake Bay Watershed Council stream restoration project. Below: Numerous stretches of

Other notable accomplishments under Moore’s leadership include bringing trout back to Afton’s Trout Brook, transforming the campuses at seven local schools to replace turf with native landscapes, constructing numerous large-scale stormwater treatment systems in Cottage Grove, Newport, and Woodbury, outfitting local cities with state-of-the-art equipment for enhanced street sweeping and SMART salting, and helping cities and private landowners to complete numerous small-scale clean water practices, ranging in size from boulevard raingardens to stabilized ravines.

“Matt is very straight forward and he doesn’t mince words. But, he gets stuff done,” laughs Johnson. “One of Matt’s favorite sayings is, ‘Watershed people don’t wear ties.’” Other colleagues note that if you’re looking for Moore, you’re more likely to find him in a hard hat at a construction site than schmoozing in a board room.



At this year's Minnesota Watersheds annual conference, Matt Moore was recognized with an Outstanding Watershed Administrator award and the Trout Brook Restoration was selected as Minnesota Watershed Project of the Year. South Washington Watershed District also received recognition for 30 years of programming. When receiving the awards, Moore didn't give a flowery speech and he definitely didn't wear a tie.

"This has been my dream job for 25 years," he says. "Now I'm looking forward to relaxing at the lake."

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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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.