



2022

# ANNUAL REPORT



LOWER MINNESOTA RIVER  
WATERSHED DISTRICT






# GREETINGS

If you live or recreate in the Lower Minnesota River Watershed District (LMRWD), you already know you've experienced something unique. One where rare plants grow. One where you can stand on the heights of the bluffs and peer endlessly down the Minnesota River. One where you can experience a day fishing away from the hustle and bustle of the city, without driving for hours. Our watershed district is home to many special resources.



## 2022 HIGHLIGHTS

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-  The One Watershed, One Plan (1WIP) process is the next evolution in watershed planning, using a major watershed scale approach to drive collaboration between upstream and downstream neighbors. The LMRWD is participating in two 1WIP projects: Lower Minnesota River East 1WIP and Lower Minnesota River West 1WIP.
-  2022 brought changes in leadership as two Board members ended their service. While 2023 will bring new faces to govern the LMRWD, we will successfully manage this transition. We thank our exiting Board members for their service over the years.
-  Capital Improvement Projects are the backbone of water resources protection. We continued to make progress on several projects. To learn more, see page 4.

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As we continue our work, we understand that the LMRWD is a long way from achieving goals with the Minnesota River. The District will implement management plans to protect this resource with the ongoing support of our partners. Whether you get involved to enjoy the waterways or to learn more about the environment, we are so happy to have you here.

**IN PARTNERSHIP,  
LINDA LOOMIS, ADMINISTRATOR**

## A. BOARD OF MANAGERS

**Lauren Salvato**  
Secretary  
Carver County  
Term Expires: 2/28/2023

**Patricia Mraz**  
Vice President (Jan-Nov)  
Dakota County  
Term Voluntary Ended: 2022

**Theresa Kuplic**  
Vice President (Nov-Dec)  
Dakota County  
Term Expires: 2/28/2024

**Laura Amundson**  
Treasurer  
Hennepin County  
Term Expires: 2/28/2024

**David Raby**  
Assistant Treasurer  
Hennepin County  
Term Voluntary Ended: 2022

**Jesse Hartmann**  
President  
Scott County  
Term Expires: 2/28/2023

The Board of Managers meets on the third Wednesday of every month in Chaska City Hall. The Board oversees the direction of watershed management, bringing representation from each county. The Citizen Advisory Committee is a voluntary advisory group appointed by the Board to engage citizens in community actions.

## CITIZEN ADVISORY COMMITTEE (CAC)



1. Judy Berglund
2. Craig Diederichs, Chair
3. Greg Genz, Secretary
4. Jenny Karkowski
5. Theresa Kuplic, Vice-Chair

## TECHNICAL ADVISORY COMMITTEE (TAC)

Partner Organization	
<b>SWCDs</b>	
Carver Soil and Water Conservation District	<a href="#">View Website</a>
Dakota Soil and Water Conservation District	<a href="#">View Website</a>
Scott Soil and Water Conservation District	<a href="#">View Website</a>
<b>Counties</b>	
Carver County	<a href="#">View Website</a>
Dakota County	<a href="#">View Website</a>
Hennepin County	<a href="#">View Website</a>
Scott County	<a href="#">View Website</a>
<b>Cities</b>	
City of Bloomington	<a href="#">View Website</a>
City of Burnsville	<a href="#">View Website</a>
City of Carver	<a href="#">View Website</a>
City of Chanhassen	<a href="#">View Website</a>
City of Chaska	<a href="#">View Website</a>
City of Eagan	<a href="#">View Website</a>
City of Eden Prairie	<a href="#">View Website</a>
City of Lilydale	<a href="#">View Website</a>
City of Mendota	<a href="#">View Website</a>
City of Mendota Heights	<a href="#">View Website</a>
City of Savage	<a href="#">View Website</a>
City of Shakopee	<a href="#">View Website</a>

Partner Organization	
<b>Park District</b>	
Three Rivers Park District	<a href="#">View Website</a>
<b>Tribal Government</b>	
Shakopee Mdewankanton Sioux Community	<a href="#">View Website</a>
<b>State Agencies</b>	
Metropolitan Airports Commission (MAC)	<a href="#">View Website</a>
Minnesota Board of Water and Soil Resources (BWSR)	<a href="#">View Website</a>
Metropolitan Council Environmental Services	<a href="#">View Website</a>
Minnesota Department of Natural Resources (DNR)	<a href="#">View Website</a>
Minnesota Department of Transportation (MnDOT)	<a href="#">View Website</a>
Minnesota Pollution Control Agency (MPCA)	<a href="#">View Website</a>
<b>Federal Agencies</b>	
US Fish & Wildlife Services	<a href="#">View Website</a>
<b>Consultants</b>	
Bolton & Menk	<a href="#">View Website</a>

The Technical Advisory Committee (TAC) supports the LMRWD in specific areas of expertise across jurisdictional boundaries. Engineers and water resource coordinators from each organization are typically appointed to participate in the LMRWD TAC during their tenure.



## STAFF AND CONSULTANTS



### ACCOUNTING

Christopher Knopik  
Clifton Larsen Allen, LLP  
220 South Sixth Street, Suite 300  
Minneapolis, MN 55402  
612.397.3266  
christopher.knopik@claconnect.com



**Global  
PORTFOLIO  
Consulting, LLC**

### AUDITOR

Charles Avemo  
Global Portfolio Consulting, LLC  
7625 Metro Boulevard, Suite 120  
Edina, MN 55439  
612.964.0938  
camevo02@gmail.com



**Young Environmental  
Consulting Group, LLC**

### ENGINEER/TECHNICAL

Della Schall Young, PMP, CPESC  
Young Environmental Consulting  
Group, LLC  
6040 Earle Brown Drive, Suite 306  
Brooklyn Center, MN 55430  
651.249.6974  
della@youngecg.com



### DREDGE SITE OPERATIONS

Taylor Luke  
LS Marine  
300 Centerville Road, Suite D  
St. Paul, MN 55117  
651.653.6307



**RINKE NOONAN**  
*attorneys at law*

### LEGAL

John C. Kolb  
Rinke Noonan  
1015 St. Germain Street, Suite 300  
St. Cloud, MN 56303  
320.251.6700  
jkolb@rinkenoonan.com



**FRENETTE LEGISLATIVE ADVISORS**

### LEGISLATIVE

Lisa Frenette  
Frenette Legislative Advisors  
1734 Blair Avenue  
St. Paul, MN 55104  
651.785.5202  
frenettela@gmail.com

## B. CONTACT PERSON



**Linda Loomis, Administrator  
Naiad Consulting, LLC  
112 5th Street East, Suite 102  
Chaska, MN 55318  
763.569.9522  
naiadconsulting@gmail.com**



# C. PREVIOUS YEAR WORK PLAN SUMMARY

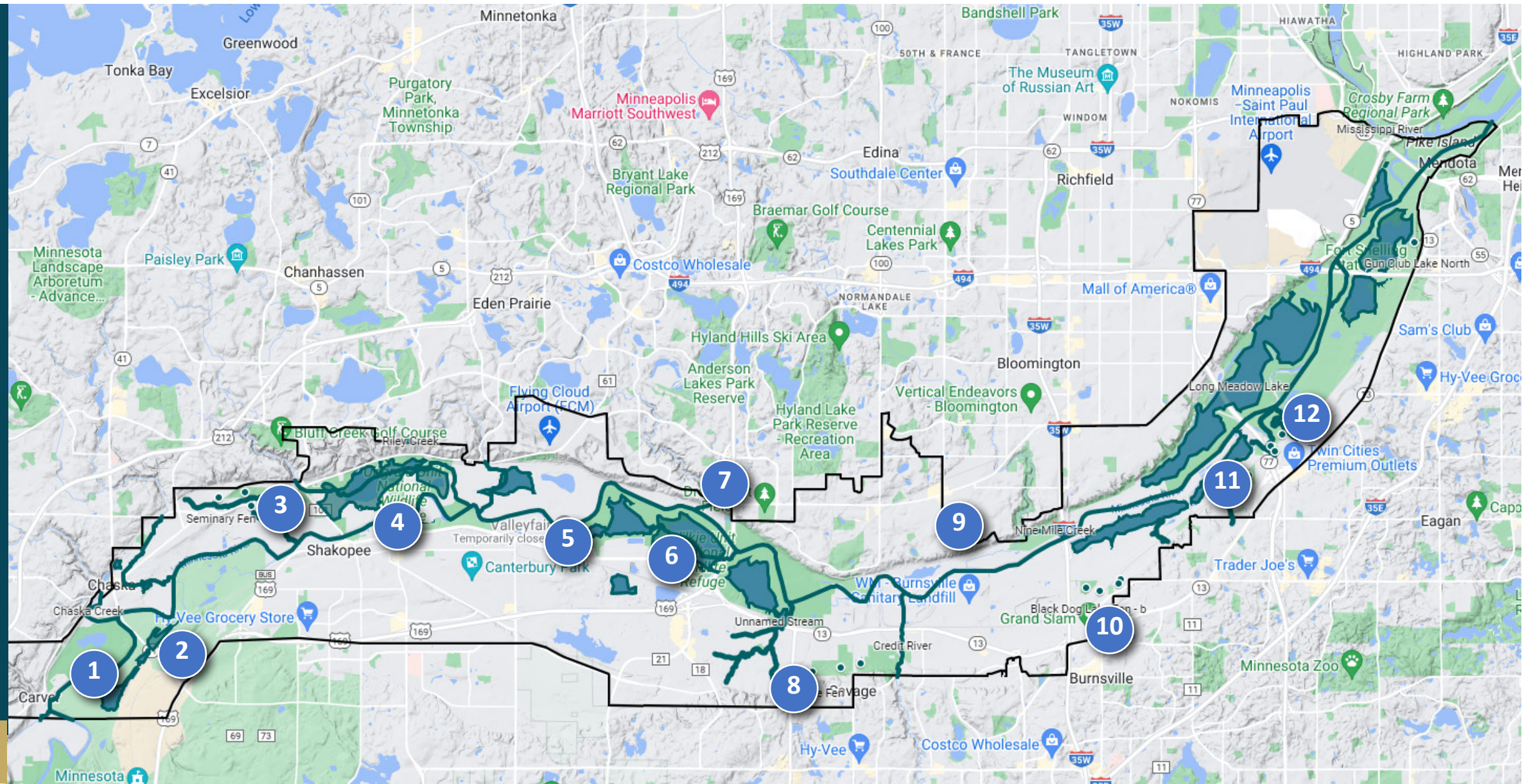
## LMRWD AND PARTNER PROJECTS

### LOWER MINNESOTA RIVER WATERSHED DISTRICT

In 2022, the LMRWD continued to lead projects throughout the watershed area, partnering with cities to create a bigger impact with goals. The projects below are highlighted in the following section.

In addition to projects, a variety of work was done to better understand resources throughout the watershed as a whole. The LMRWD oversaw a minor watershed plan amendment and revisions to the rules to better serve long-term goals. The District also led several studies to better understand gullies, trout streams, and trout lakes. As part of a large-scale effort, the LMRWD updated the Lower Minnesota River Floodplain Model, which will provide more current information for all ongoing decision-making.

2022 was an active year and the LMRWD made great strides in protecting, restoring, and understanding natural resources throughout the watershed.



## PROJECTS



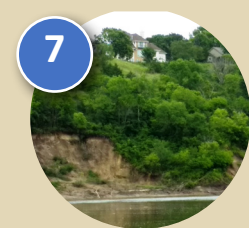
**1** City of Carver Levee Improvements (see page 5)



**3** Seminary Fen Stewardship Plan (see page 6)



**5** Eagle Creek Bank Stabilization (see page 6)



**7** City of Eden Prairie Area 3 Bank Stabilization (see page 7)



**9** Hennepin County Chloride Project (see page 7)



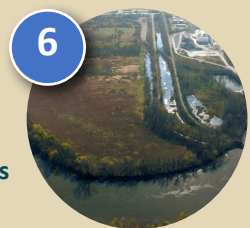
**11** Nine-Foot Channel Maintenance (see page 8)



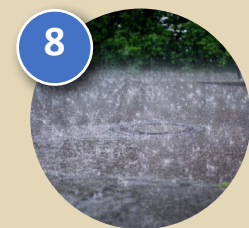
**2** City of Carver Spring Creek Erosion Control (see page 5)



**4** City of Shakopee Downtown Stormwater Best Management Practices (BMP) (see page 6)



**6** Cargill East River Dredge Site Access and Culvert Assessment (see page 6)



**8** Prior Lake Outlet Channel Realignment and Wetland Restoration (see page 7)



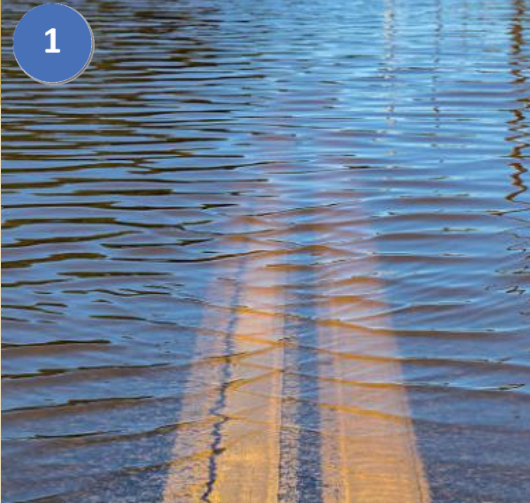
**10** City of Burnsville Willow Creek Ravine Stabilization (see page 8)



**12** Minnesota River Corridor Management (see page 8)



1



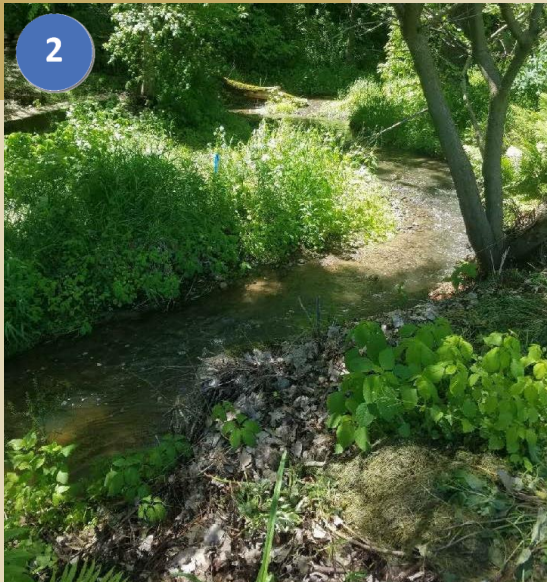
### **City of Carver Levee Improvements**

The City of Carver's levee is no longer certified by the United States Army Corps of Engineers (USACE) or Federal Emergency Management Agency (FEMA) due to its condition, meaning it does not guarantee the City protection from potential flood waters. The LMRWD and the City's stormwater fund matched a \$150,000 grant received from the Minnesota Department of Natural Resources (DNR) to fund the preliminary design. It is anticipated that it will cost approximately \$12 million to rebuild the levee and reinstate the levee's certification. The project is currently in the design phase.

Because of the costs, the project will likely be completed in phases, unless full funding is received.

**The LMRWD partners with neighboring cities to ensure flood protection while protecting downstream waters within the watershed.**

2



### **City of Carver Spring Creek Erosion Control**

The LMRWD has been investigating erosion along Spring Creek in the City of Carver after residents reached out to the District because of impacts to private property.

A more in-depth study of the Spring Creek subwatershed was authorized and after review, the Board of Managers approved additional landowner outreach, monitoring and surveys, and coordination with the City on this issue. The LMRWD held a resident meeting in July 2022 and continued to work with the affected property owners, the City of Carver, and Carver County Soil and Water Conservation District on possible solutions.

3



### Seminary Fen Stewardship Plan

Calcareous fens are wetlands fed by groundwater that are home to rare calcium-rich plants. They are a unique resource within LMRWD. This project is a partnership between the LMRWD, the Minnesota DNR, and the Metropolitan Council to develop a management plan to protect, preserve, and possibly restore calcareous fens within the LMRWD.

4



### City of Shakopee Downtown Stormwater BMPs

The LMRWD participated in a feasibility study in the downtown area of Shakopee to analyze the current stormwater system and identify opportunities for stormwater BMPs before runoff is discharged to the Minnesota River. The project has a total estimated cost of \$2 million. The city requested \$127,000 of grant funding and the LMRWD included \$50,000 in its 2022 budget.

*\*This project received Watershed-based Implementation Funding from BWSR*

5



### Eagle Creek Bank Stabilization

Eagle Creek is a 2-mile designated cold-water trout stream in Scott County within the cities of Savage and Shakopee, MN. The Eagle Creek Bank Stabilization project will provide protection for the currently unimpaired waters that are close to the water quality standard so that they do not exceed drinking water or other water quality standards. It has an estimated cost of \$106,000.

*\*This project received Watershed-based Implementation Funding from BWSR*

6

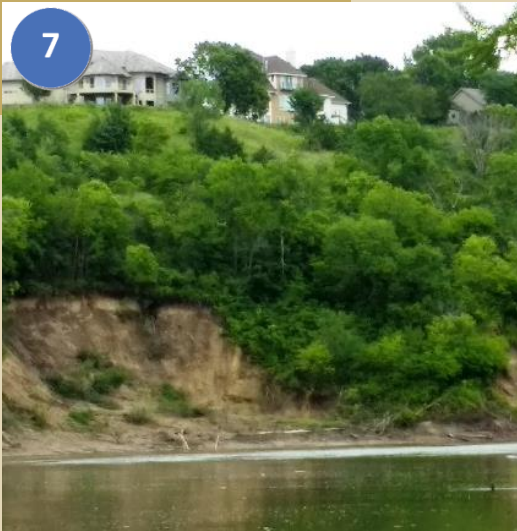


### Cargill East River Dredge Site Access and Culvert Assessment

The LMRWD owns the dredge material site on the Minnesota River in Savage, MN. Part of the operation and maintenance of the site include maintenance of Vernon Avenue and regular culvert cleaning. Field assessment completed showed Vernon Avenue is in disrepair and the upstream end of the culvert was completely blocked by sediment and tree debris. Access road repair and culvert replace is planned for 2023.



7



### City of Eden Prairie Area 3 Bank Stabilization Project

Area 3 in the City of Eden Prairie is located at a sharp bend in the Minnesota River, in an area of very steep slopes. Sections of the slope are estimated to experience a rate of erosion at 3 feet per year, contributing to the excessive erosion and sediment concerns of the Minnesota River. In 2021, after 10 years of collecting monitoring data, the LMRWD, and partners, moved forward with a design to stabilize the riverbank and prevent future erosion of the bluff toe and further sediment and nutrient loading to the river. During project development, the team discovered the City stormwater pond had direct impacts to the stability of Area 3. The current work plan will bring the design to 90% at which point the LMRWD and City will use funding to remove the pond, stabilize the riverbank, and construct a new and stable outfall from the City's stormwater system. A late fall neighborhood meeting was coordinated to discuss the project, which has a rough estimate around \$4.6 million.

Working in a watershed with continued development, the LMRWD regularly reassesses stormwater infrastructure to meet the needs of a growing community.

8



### Prior Lake Outlet Channel Realignment and Wetland Restoration

This project will place additional capacity and control structures in the Prior Lake outlet channel to handle increased stormwater runoff draining to the channel, caused by new development in the area. Estimated load reductions show a reduction of 30-50 pounds of phosphorus loading per year and 75,000-100,000 pounds of total suspended solids annually. This project began in 2019 and was completed in 2022.

*\*This project received Watershed-based Implementation Funding from BWSR*

9

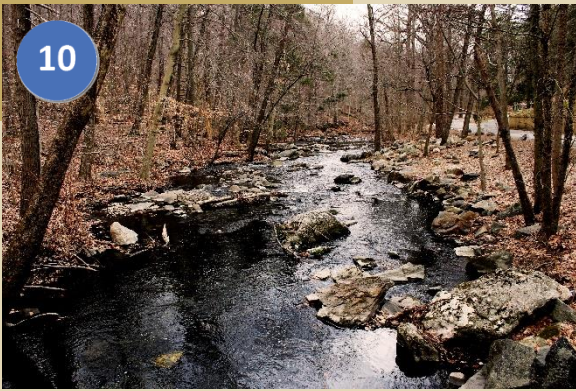


### Hennepin County Chloride Project

Together with partners from the Hennepin County Chloride Initiative, the Low Salt, No Salt Minnesota program was developed and launched. This program builds community capacity that maintains winter safety while reducing salt use by building relationships with property owners. Using less salt to manage snow and ice during winter months helps protect nearby waterways from receiving excess chloride, which can lead to water quality issues.

*\*This project received Watershed-based Implementation Funding from BWSR*

10



### City of Burnsville Willow Creek Ravine Stabilization

Willow Creek is a public drainageway located outside of the LMRWD boundary that drains to the Minnesota River. By stabilizing the ravine, total phosphorus can be reduced by approximately 25,000 pounds per year and sediment can be reduced by approximately 45,000 pounds per year. The LMRWD contributed \$75,000 toward the project.

11



### Nine-Foot Channel Maintenance

The LMRWD continues to work with the USACE on maintenance of the navigation channel by following the USACE Dredged Material Management Plan for reaches of the Minnesota River upstream of the I-35W Bridge. The LMRWD also works with local industry to temporarily store material dredged from private barge slips. The dredge site is an important component of successfully maintaining the channel.

12



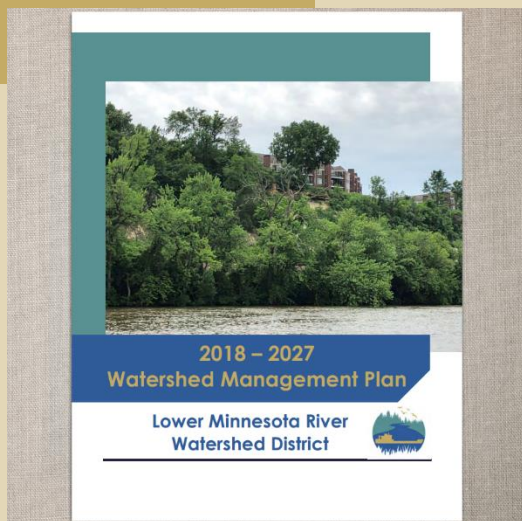
### Minnesota River Corridor Management

The Minnesota River is a complex natural system facing many issues. The LMRWD developed a multipurpose corridor plan as a guiding document for all the political jurisdictions and agencies who work with the river. The shared vision will maximize public benefit while improving water quality and creating sustainable economic development. In the fall of 2022, the LMRWD hosted an open house to collect final input and lead a river paddle. Input was incorporated into the final document.

The LMRWD continues to find new ways to engage the public in its work, from canoe boat tours to educational programs about winter salting practices.







## Comprehensive Watershed Management Plan Minor Plan Amendment

In 2018, the Implementation Program within the Watershed Management Plan was updated with an emphasis on the activities associated with the first five years of the 10-year plan. At that time, it was acknowledged that the remaining years would require an update in 2022 to effectively plan the second half of implementation based on progress in the first half.

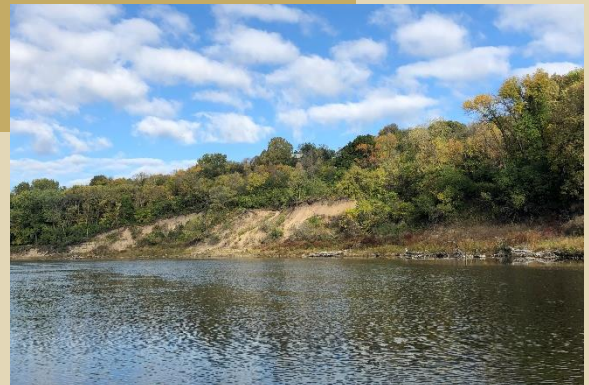
The draft plan amendment followed the appropriate review process and went through a public hearing to adopt the proposed changes. In October 2022, it was adopted by the LMRWD Board of Managers.

The Watershed Management Plan governs LMRWD decision-making, but it is also a living document. Regular reviews help ensure efforts are on track.



### Gully Inventory and Condition Assessment Volume 2

The LMRWD developed standards and rules focused on protecting steep-sloped areas prone to erosion and gully formation. The 2021 Gully Inventory and Condition Assessment Project identified new gullies in areas not surveyed in 2008 or 2020 that may be contributing sediment to the Minnesota River using desktop assessment, field work, and data evaluation in Dakota and Scott counties.



### Revisions to LMRWD Rules

In 2022, the Board authorized staff to begin the rules revision process. The rule changes removed potential confusion and streamlined the LMRWD's permitting process for applicants, the Board of Managers, and staff. The draft rules were submitted in writing to managers, BWSR, and all public transportation authorities for review and comment on August 11, 2022, allowing a minimum of 45 days for review. The final rules were adopted at the October 19 Board meeting.



## Lower Minnesota River Floodplain Model Feasibility Study

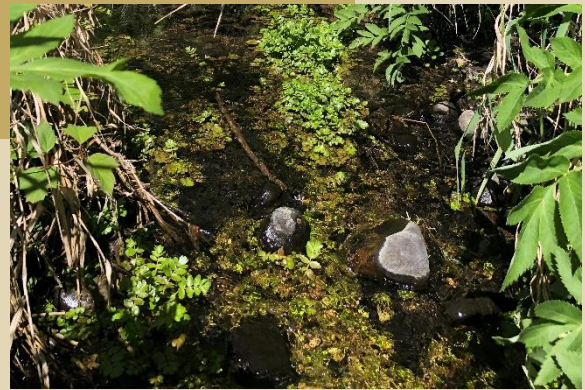
In 2002, the Minnesota River floodplain model was developed by the USACE, the Minnesota DNR, and the LMRWD. Since the model was developed 20 years ago, a lot of development has occurred in the area, raising concerns that flood elevations had increased. The LMRWD evaluated the effectiveness of its floodplain and drainage alteration rule (Rule C), which prevents floodplain encroachment from development activities to adversely affect flood elevations on the Minnesota River. We determined that Rule C is fulfilling its purpose of reducing flood elevation increases caused by floodplain development. The study also determined that the model needs to be updated.

The LMRWD leads studies to ensure its unique features are managed effectively.



## Sustainable Lakes Management Plan (Trout Lakes)

This project studied the trout lakes within the LMRWD to develop a management plan for the lakes. The plan is currently under development and LMRWD is working with partner cities to gain input and collaboration needed to finalize the plan. This project will ensure that trout lakes, a valuable resource requiring very specific conditions, will be sustainable as development of surrounding areas continues.



## Trout Streams Gaps Analysis and Management Plan

The LMRWD is home to five state-designated trout streams, two trout lakes, and several additional undesignted streams that are thought to have sustained past trout populations. In 2019, the LMRWD completed a geomorphic assessment of all trout waters to assess their health. The Trout Streams Gaps Analysis and Management Plan focuses on managing three trout species—brook trout, brown trout, and rainbow trout. All three species require cold water habitat, but each has slightly different needs that affect their distribution and survival. The trout streams in this study were evaluated based on a range of parameters suitable for both brook and brown trout and a high-level summary was created for each of the streams reviewed.



# D. WORK PLAN AND BUDGET

The LMRWD will continue working on Capital Improvement Projects as defined in the Watershed Management Plan. The work plan and budget include the projects and programs introduced below.

<b>Program Name and Description</b>
<p><b>Cost-Share Incentives and Water Quality Restoration Program</b> LMRWD will have funding available for community members to implement water resources projects and guide educational activities.</p>
<p><b>Education and Outreach Program</b> The LMRWD will continue to lead activities that engage and inform the community in watershed management.</p>
<p><b>Fen Stewardship Program</b> The LMRWD is developing specific management strategies for continued protection and preservation of these valued resources.</p>
<p><b>Monitoring Program</b> The monitoring program will continue to track progress toward water quality goals.</p>
<p><b>Permit Program</b> The permit program will continue to ensure new development complies with the watershed management plan and District rules.</p>
<p><b>Capitol Improvement Projects:</b></p>
<p><b>Minnesota River Floodplain Modeling</b> The Lower Minnesota River Floodplain Model Feasibility Study determined that the hydrologic and hydraulic modeling commonly used to regulate development in the floodplain and evaluate Rule C permits is out of date. The initial capital investment of updating the model will be followed by annual updates to incorporate the most recent data from municipalities and LMRWD permits.</p>
<p><b>Spring Creek Erosion Control</b> The creek will be prone to further erosion without the added protection of adequate vegetation. Vegetation management (e.g., removal of invasives, native plantings, etc.), particularly in the floodplain and channel banks, will be explored with the property owners.</p>
<p><b>Dredge Management Site</b> The US Army Corps of Engineers is required to maintain a nine-foot channel within the Minnesota River for navigation. The LMRWD is responsible for providing placement sites for the dredge material. The site, located in Savage, MN, requires site improvements to successfully continue its operations. Improvements for the access road and upstream culvert will be completed in 2023.</p>
<p><b>Minnesota River Study Area 3 – Bluff Stabilization Project</b> To address riverbank erosion, we will analyze the design and construction of the Minnesota River at Study Area 3 project in Eden Prairie. A study was completed in October 2008 for the City of Eden Prairie in cooperation with the District. Our project will expand the 2008 study by collecting and analyzing additional data that will extend to the final design, permitting, and construction.</p>
<p><b>Gully Inventory and Assessment</b> The LMRWD will continue ongoing work to inventory and assess gullies, which are steep slopes that can contribute to erosion issues. This work will help target gullies that may be contributing sediment to the Minnesota River</p>
<p><b>Lower Minnesota River Corridor Management Plan</b> After completing the corridor plan in 2022, the District will guide implementation steps. Improving water quality is a challenging long-term effort that requires combined efforts from all partners.</p>

## E. PROGRESS ON GOALS

Goal	Strategies	Short-Term Metric	Long-Term Metric	2022 Progress to Goal
<b>Goal 1: Organizational Management</b>	<ul style="list-style-type: none"> <li>• Cooperate with local, state, and federal government; other agencies; and non-government organizations on issues affecting the District's resources.</li> <li>• Provide public information services.</li> <li>• Perform periodic assessments and program reviews.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Completion of scheduled activities</li> <li>✓ Annual local government units (LGU) audits</li> <li>✓ Amount of dollars from other agencies and property owners</li> </ul>	<ul style="list-style-type: none"> <li>✓ Formation of a Minnesota River Basin Commission</li> <li>✓ Legislative funding support</li> </ul>	<ul style="list-style-type: none"> <li>✓ Continued collaboration with partners on water and natural resources projects</li> <li>✓ Hosted municipal/ LGU coordination meetings</li> <li>✓ Managed Legislative funds encumbered for dredge material management</li> <li>✓ Explored the formation of a Minnesota River Basin Commission, which was abandoned due to lack of support</li> </ul>
<b>Goal 2: Surface Water Management</b>	<ul style="list-style-type: none"> <li>• Provide strategic resource evaluation and management.</li> <li>• Develop a High Value Resources Area overlay district.</li> <li>• Create watershed management standards.</li> <li>• Promote disconnected stormwater management and low-impact development.</li> <li>• Develop a cost-share incentive program.</li> <li>• Lead water quality restoration programs.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Number and types of projects completed as part of the cost-share incentive program and water quality restoration programs</li> </ul>	<ul style="list-style-type: none"> <li>✓ Positive trends in water quality parameters identified for monitoring efforts</li> </ul>	<ul style="list-style-type: none"> <li>✓ Continued surface water management programs</li> <li>✓ Continued monitoring program</li> <li>✓ Continued cost-share incentive program</li> </ul>



Goal	Strategies	Short-Term Metric	Long-Term Metric	2022 Progress to Goal
	<ul style="list-style-type: none"> <li>• Modify and continue the monitoring program.</li> <li>• Complete detailed data assessments.</li> <li>• Coordinate with other agencies and water quality programs.</li> <li>• Develop steep slopes standard.</li> <li>• Develop a vegetation management standard/plan.</li> </ul>	✓ Number of targeted studies and projects completed		
<b>Goal 3: Groundwater Management</b>	<ul style="list-style-type: none"> <li>• Provide strategic resource evaluation and management.</li> <li>• Modify and continue the monitoring program.</li> <li>• Support wellhead protection efforts.</li> <li>• Develop infiltration standard.</li> <li>• Promote conservation and wise use of groundwater.</li> <li>• Monitor groundwater.</li> <li>• Perform regional modeling.</li> </ul>	✓ Number of targeted studies and projects completed	✓ Positive trends in water quality parameters identified for monitoring efforts	✓ Continued monitoring lakes, streams, and fens
<b>Goal 4: Unique Natural Resources Management</b>	<ul style="list-style-type: none"> <li>• Provide strategic resource evaluation and management.</li> <li>• Modify and continue the monitoring program.</li> <li>• Acquire and manage data.</li> <li>• Provide technical assistance.</li> <li>• Provide educational opportunities.</li> <li>• Develop a mechanism for identifying and acquiring high value conservation easements.</li> <li>• Encourage wildlife connectivity projects that achieve multiple goals, such as water quality improvements and fen and steep slopes protection.</li> <li>• Develop a vegetation management standard/plan.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Number of targeted studies and projects completed</li> <li>✓ Development and completion of the Fen Stewardship Plan</li> <li>✓ Development of groundwater model for fen management</li> </ul>	<ul style="list-style-type: none"> <li>✓ Number and acreage of unique natural resources protected, restored, or enhanced</li> <li>✓ Acquisition of high valued easements</li> <li>✓ Sustained protection of the fens and trout waters</li> </ul>	✓ Drafted the <i>Seminary Fen Stewardship Plan</i>
<b>Goal 5: Wetland Management</b>	<ul style="list-style-type: none"> <li>• Provide strategic resource evaluation/management.</li> <li>• Develop a mechanism for identifying and acquiring high value conservation easements.</li> </ul>	✓ Completion of scheduled activities	✓ Number and acreage of wetlands protected,	✓ Continued support to LGU partners regarding WCA

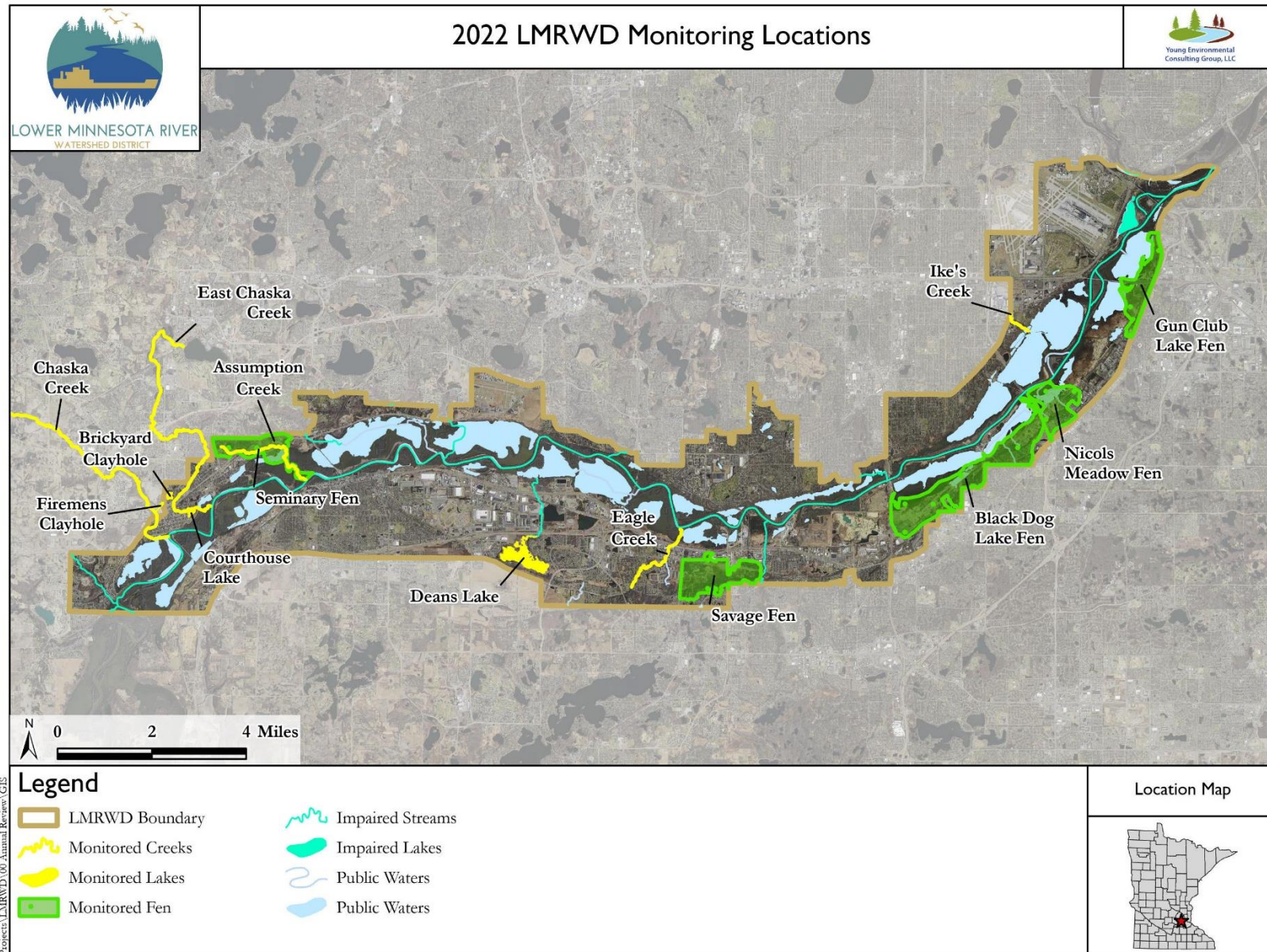
Goal	Strategies	Short-Term Metric	Long-Term Metric	2022 Progress to Goal
	<ul style="list-style-type: none"> <li>• Delegate Wetland Conservation Act (WCA) to LGUs.</li> <li>• Require LGUs to conduct wetland inventories and complete wetland management plans.</li> <li>• Review WCA notices as received.</li> <li>• Develop a wetland standard.</li> <li>• Develop a vegetation management standard/plan.</li> </ul>		restored, or enhanced	
<b>Goal 6: Floodplain and Flood Management</b>	<ul style="list-style-type: none"> <li>• Develop floodplain and drainage alteration standard.</li> <li>• Develop infiltration and peak flow standards.</li> <li>• Manage localized flooding.</li> <li>• Adopt infiltration and peak flow standards.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Completion of scheduled activities</li> </ul>	<ul style="list-style-type: none"> <li>✓ Number of structures damaged and value of flood damages</li> <li>✓ Preservation of floodplain resources</li> </ul>	<ul style="list-style-type: none"> <li>✓ Completed the <i>Lower Minnesota River Floodplain Model Feasibility Study</i></li> </ul>
<b>Goal 7: Erosion and Sediment Control</b>	<ul style="list-style-type: none"> <li>• Develop watershed management standards.</li> <li>• Develop steep slopes standard.</li> <li>• Support the National Pollutant Discharge Elimination System (NPDES) general permit.</li> <li>• Develop erosion and sediment control standard.</li> <li>• Develop a vegetation management standard/plan.</li> <li>• Provide streambank and mainstem erosion assessment.</li> <li>• Continue gully erosion repair.</li> <li>• Promote and encourage shoreland protection.</li> <li>• Develop a shoreline and streambank standard.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Completion of scheduled activities</li> <li>✓ Reduction in streambank and ravine bank and slope failures</li> </ul>	<ul style="list-style-type: none"> <li>✓ Positive trends in water quality</li> <li>✓ Protection and preservation of Minnesota River Bluff</li> </ul>	<ul style="list-style-type: none"> <li>✓ Continued to manage steep slopes</li> <li>✓ Finalized second gully inventory and condition assessment</li> </ul>
<b>Goal 8: Commercial and Recreational Navigation</b>	<ul style="list-style-type: none"> <li>• Promote safety education.</li> <li>• Manage existing Cargill East River (MN – 14.2 RMP) dredge material site.</li> <li>• Create a beneficial use plan for dredge materials.</li> <li>• Develop a funding structure to ensure proper maintenance and improvement along the river.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Completion of scheduled activities</li> <li>✓ Number of targeted studies and projects completed</li> </ul>	<ul style="list-style-type: none"> <li>✓ Secure regular congressional and state Legislative funding for the Nine-Foot channel</li> </ul>	<ul style="list-style-type: none"> <li>✓ Continued to manage dredged material at the Cargill East River site to maintain a Nine-Foot navigation channel</li> </ul>



Goal	Strategies	Short-Term Metric	Long-Term Metric	2022 Progress to Goal
<b>Goal 9: Public Education and Outreach</b>	<ul style="list-style-type: none"> <li>• Provide public information services.</li> <li>• Provide educational opportunities.</li> <li>• Promote safety education.</li> <li>• Maintain Citizen Advisory Committee (CAC).</li> <li>• Develop an outreach program.</li> <li>• Engage volunteers.</li> <li>• Provide opportunity for public input.</li> <li>• Produce scientific studies and work products.</li> <li>• Promote a variety of education programs.</li> <li>• Use multiple outlets to distribute information.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Number and types of sponsored events</li> <li>✓ Number of participants at events</li> <li>✓ Number of articles, press releases, and pamphlets developed and printed</li> <li>✓ Number of volunteers</li> </ul>	<ul style="list-style-type: none"> <li>✓ Same as short-term metrics</li> </ul>	<ul style="list-style-type: none"> <li>✓ Attended three local engagement events</li> <li>✓ Developed educator grant program</li> <li>✓ Continued to maintain CAC</li> <li>✓ Maintained website and social media accounts</li> </ul>

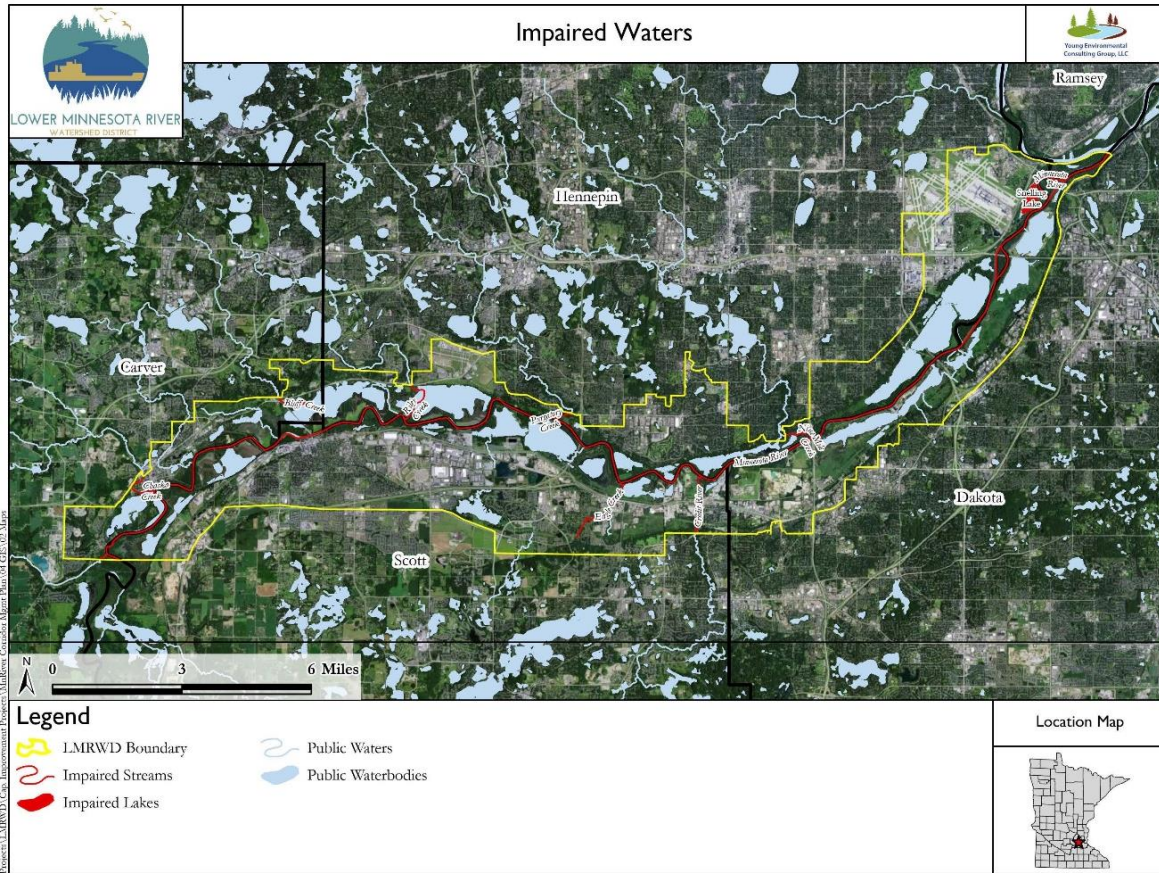
# F. SUMMARY OF SIGNIFICANT TRENDS IN MONITORING DATA

The LMRWD continues to monitor data at locations across the watershed. Data is collected on creeks, lakes, and fens.





# IMPAIRED WATERS



Several streams, parts of streams, and lakes are listed in the Minnesota Pollution Control Agency’s 2022 list of impaired waters. The impairments are being addressed with total maximum daily load (TMDL) plans that are designed to reduce or eliminate the impairments.

Waterbody	Affected Use	Pollutant or Stressor
<b>Rivers</b>		
<b>Minnesota River</b>	<ul style="list-style-type: none"> <li>• Aquatic Recreation, Aquatic Life, Fish Consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Fecal Coliform, Dissolved Oxygen, Mercury in Fish Tissue, Mercury in the Water Column, Nutrients, PCB in Fish Tissue, Turbidity</li> </ul>
<b>Lakes</b>		
<b>Snelling Lake</b>	<ul style="list-style-type: none"> <li>• Fish Consumption</li> </ul>	<ul style="list-style-type: none"> <li>• Mercury in Fish Tissue</li> </ul>
<b>Creeks</b>		
<b>Assumption Creek</b>	<ul style="list-style-type: none"> <li>• Aquatic Life</li> </ul>	<ul style="list-style-type: none"> <li>• Fish Bioassessments</li> </ul>
<b>Bluff Creek</b>	<ul style="list-style-type: none"> <li>• Aquatic Life</li> </ul>	<ul style="list-style-type: none"> <li>• Fish and Biological Assessments, Turbidity</li> </ul>
<b>Carver Creek</b>	<ul style="list-style-type: none"> <li>• Aquatic Life, Aquatic Recreation</li> </ul>	<ul style="list-style-type: none"> <li>• Turbidity, Fish and Biological Assessments, Nutrients, Benthic Macroinvertebrates</li> </ul>

Waterbody	Affected Use	Pollutant or Stressor
		Bioassessments, Fecal Coliform
<b>Chaska Creek</b>	• Aquatic Recreation	• Fecal Coliform
<b>Credit River</b>	• Aquatic Life, Aquatic Recreation	• Chloride, E.Coli, Fish and Biological Assessments
<b>Eagle Creek</b>	• Aquatic Recreation	• E.Coli
<b>East Creek</b>	• Aquatic Life, Aquatic Recreation	• Turbidity, Fecal Coliform, Chloride, Fish and Biological Assessments
<b>Nine Mile Creek</b>	• Aquatic Life, Aquatic Recreation	• Chloride, Fish and Biological Assessments, E.Coli
<b>Purgatory Creek</b>	• Aquatic Life, Aquatic Recreation	• E.Coli, Fish and Biological Assessments
<b>Prior Lake Outlet Channel</b>	• Aquatic Life	• Fish Bioassessments, Benthic Macroinvertebrates Bioassessments
<b>Riley Creek</b>	• Aquatic Life, Aquatic Recreation	• Turbidity, E.Coli, Fish and Biological Assessments
<b>Sand Creek</b>	• Aquatic Life	• Turbidity, Fish and Biological Assessments, Nutrients
<b>Spring Creek</b>	• Aquatic Recreation	• Fecal Coliform

## TRENDS AND IMPROVEMENTS

**Trend analysis** is a technique applied to data collected over a defined time period to assess whether the quality or health of the resource assessed is getting better or worse. Different organizations collect and report samples on behalf of the District, and each may use different methods and different data records to assess trends. Therefore, the trends identified by each organization and reported here may not be comparable. The District is working toward making this information uniform and accessible.

While most lakes did not experience a change in water quality status during the previous year, two lakes are showing improvement. (1) Brickyard Clayhole showed signs of reduced phosphorus concentrations and (2) Courthouse Lake, a high-quality trout lake, continues to improve with increasing transparency and decreased phosphorous concentrations.

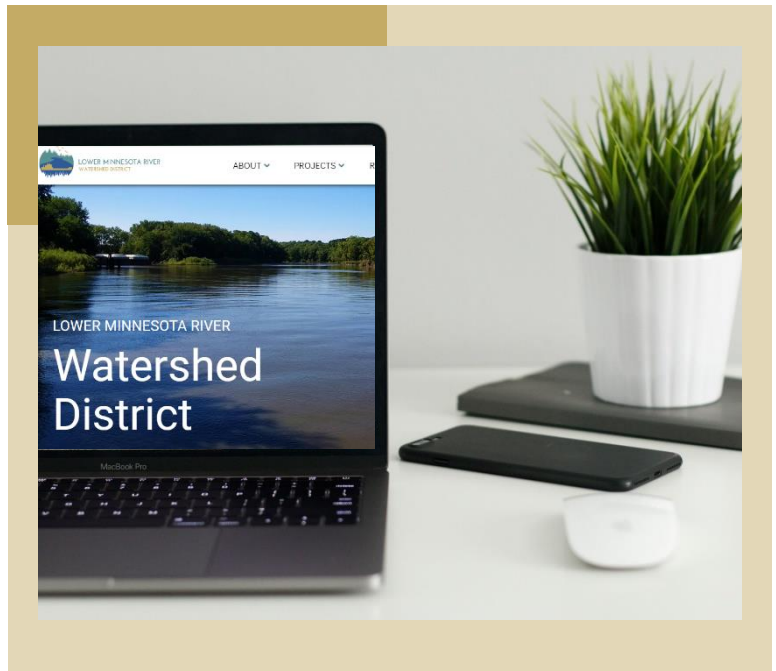
Most rivers and streams did not trend dramatically in any direction, though two creeks showed water quality changes. (1) Eagle Creek is facing challenges with the increase in chloride concentrations, though the quality remains good and stable. (2) Ike's Creek is trending toward improvements with trout populations increasing to their optimal level. We will continue to gain water quality data necessary to evaluate long-term trends.

The District's fens show no marked trends in water quality, though the LMRWD still works to restore and protect these wetland resources.



## G. ANNUAL COMMUNICATION

In addition to ongoing communication from the LMRWD to constituents through website updates and public meetings, the annual report serves as a formal communication tool. The annual report provides a snapshot of ongoing projects, goal progress, and day-to-day activities.



<https://lowermnrivewd.org>



## LMRWD AT A GLANCE

### PEOPLE

The District is managed by the Board of Managers with input from the Citizen Advisory Committee, Technical Advisory Committee, staff, and consultants. Learn more on pages 1-3.

### WATER QUALITY

The LMRWD carefully monitors water quality data to understand trends and mitigate impaired waters. Learn more on page 16.

### PROJECTS

The LMRWD completed a number of projects in 2022 to control erosion, manage stormwater, protect river corridors, and much more. Learn more on page 4.

### EDUCATION/ OUTREACH

The District oversees a robust education and outreach program to engage the public in unique resources and promote a community approach to water management. See page 21.

### WORK PLAN

A comprehensive work plan guides the District's day-to-day work. The work plan is based on the watershed management plan and large-scale goals. See the 2022 work plan on page 11.

### REGULATORY

The LMRWD collaborates with neighboring cities on local water plans while overseeing a comprehensive regulatory program. Learn more about these efforts beginning on page 28.

### GOALS

The LMRWD goals focus on protecting unique natural resources in an area of the Twin Cities metro that continues to develop. Learn more about District goals and progress on page 12.

### FINANCIAL

The LMRWD is funded by contributing counties and other governmental resources and grants. To better understand the watershed budget and revenue, see the appendix.



## EDUCATION AND OUTREACH

The LMRWD leads a dynamic education and outreach program to work with the community. Here are a few of the tools used to reach out to stakeholders throughout the year.



### Citizen Advisory Committee

The LMRWD CAC held ten meetings in 2022. The group's activity ranged from on-sitework at Ike's Creek trout stream in Bloomington to virtual learning at the 2022 Salt Symposium. The group developed a tri-fold poster board to bring to local events, describing the LMRWD cost-share program along with information on raingardens, native plants, rain barrels, and winter salt use. They also reviewed the first-ever educator mini-grant applications to help fund education activities.



### Social Media

The LMRWD continued to maintain its presence on social media with frequent postings to Facebook, Instagram, and Twitter.

To increase its followers and reach on these platforms, posts are focused on stormwater best management practices, water conservation, LMRWD programs and projects, and national water quality days.



### Website

An [education page](#) was developed for the [LMRWD website](#) in 2022. This page highlighted the new educator mini-grant program while also showcasing newly created stormwater and natural resource handouts. A page dedicated to [residents](#) was also created. This page is a one-stop-shop for residents looking to learn more about the LMRWD and how to participate in watershed programs. The website also shares recent news, events, and project information.

Follow along to join the conversation:



[/lowerminn](#)



[/lowerminn](#)



[LowerMinn](#)





### Interpretive Signage

Two interpretive signs were designed and installed in 2022:

1. The [East Chaska Creek sign](#) details the project with the City of Chaska to stabilize the banks of the creek to minimize the amount of eroded soil entering the Minnesota River.
2. The [Eagle Creek/Savage Fen sign](#) highlights the unique resources that can be found in the LMRWD.



### Schools and Community Engagement

The LMRWD continued outreach to local schools. In 2022, some of our highlights included:

- Coordinating with our partners, the City of Burnsville and Dakota County Soil and Water Conservation, on curriculum and field lessons for Burnsville High School science classes.
- Supporting Nine Mile Creek Watershed District in three 30-minute classroom presentations for Normandale Hills. The presentations and activities centered around the water cycle and watersheds.
- Launching the new educator mini-grant program, designed to assist local educators and to further the LMRWD's mission and goals of water quality restoration, groundwater conservation, and wildlife connectivity. The grant program helps increase public awareness of the Minnesota River and its unique natural resources with mini-grants up to \$500. The program, with a budget of \$5,000, was considered and approved in September 2022 by the Board of Managers. More than 100 schools and other educators and organizations providing education were contacted about this program. Two local educators applied for and were awarded the grant in November.
- Members of the CAC attended local events this year including the Dakota County Fair, Carver County Fair, and Scott County Outdoor Education Days to increase awareness of LMRWD programs and projects.



### Monthly Meeting Packet

Each month in 2022, the LMRWD emailed interested parties a link to the meeting agendas, minutes, and packet materials for each meeting.







### Publications

In 2022, the LMRWD published all public hearing notices in the *Minneapolis Star Tribune*.



### Technical Assistance Cost-Share

As part of the annual contract, the LMRWD and both Dakota County Soil and Water Conservation District (SWCD) and the Scott SWCD provide a technical assistance cost-share program to residents within the LMRWD.



### Metro Children’s Water Festival

The Metro Children’s Water Festival teaches students about water resources to manage and protect them. The LMRWD has been a sponsor for many years and last contributed to the event in 2020, when the event was virtual.

The festival returned in-person in 2022 and the LMRWD provided funds for transportation for local students from the watershed to attend the festival.



### Minnesota River Congress

The Minnesota River Congress is a citizen-led group that was formed after the Minnesota River Board disbanded in 2014. It is comprised of non-governmental organizations, local government officials, state agency representatives, and citizens that are focused on the natural resource and economic health of the Minnesota River Basin.

The LMRWD has supported the group since the beginning by providing matching grants for its work influencing public policy. In 2022, the LMRWD provided a \$100 sponsorship from the education budget for this event.



## Cost-Share Incentive and Water Quality Restoration Grant Program

The LMRWD provides a program for residents, businesses, neighborhoods, and communities to apply for matching funds for projects intended to improve water quality and provide public education. This program requires a 50% match.

All projects approved under this program were completed by November 1. In 2022, LMRWD included \$50,000 in its budget for this program. The LMRWD received applications for a total of \$19,060. All applications were approved.

The 2022 projects are listed below:

- 4624 Overlook Drive, Bloomington, MN:  
Rain Garden=\$2,500
- 11533 Palmer Circle, Bloomington, MN:  
Regrading and Raingarden=\$2,500
- 1033 Sunny Ridge Drive, Carver, MN:  
Raingarden=\$1,641
- Sutton Place Two Condo Association, Bloomington, MN:  
Remove impervious and raingarden=\$7,500
- 4562 McColl Drive, Savage, MN:  
Stormwater management=\$2,500



## Hennepin County Chloride Initiative

The LMRWD and partners used 2019 Watershed-Based Implementation Funding to assist local governments and winter maintenance professional in purchasing equipment to reduce the amount of salt they use. Four applications were received and approved. Applications were from the City of Chaska, to retrofit City snowplows with segmented bladed; Eden Prairie Schools, to upgrade equipment with the purchase of two granular salt spreaders; City of Edina, to purchase new equipment to remove snow at Braemar Ice Arena; and Edina Public Schools. Also provided a grant to the City of Chanhassen for the purchase of equipment to reduce use of chloride de-icing material. Two [videos](#) have also been developed that can be used by watershed districts to help educate the public about the use of salt for winter ice control and a website is available with smart salting educational tools.





## H. SOLICITATION FOR CONSULTANT PROPOSALS

In accordance with MN Statute 103B.227 Subd. 5. “a watershed management organization shall at least every two years solicit interest proposals for legal, professional, or technical consultant services before retaining the services of an attorney or consultant or extending an annual services agreement”.

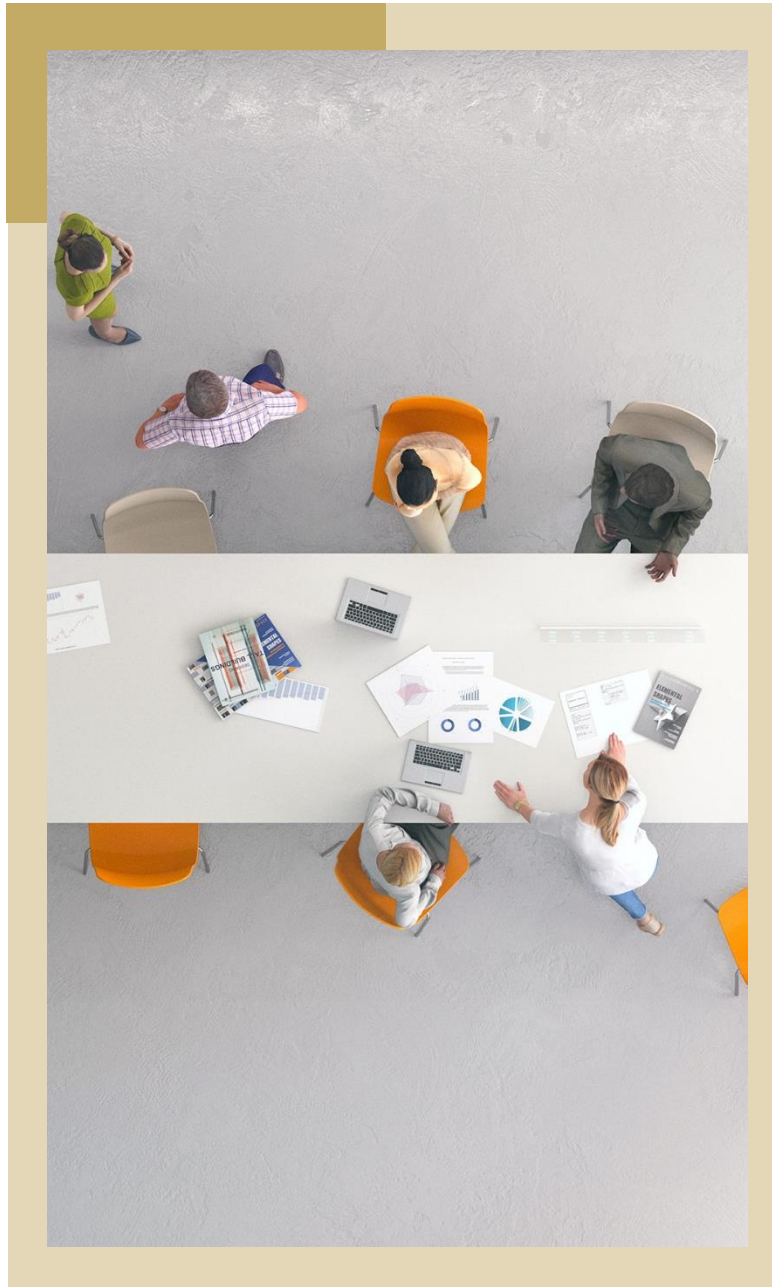
The LMRWD published notice that it was accepting proposals for legal and technical services in the State Register on **February 14 and 22, 2022**. It was also posted on the LMRWD website. The deadline to submit proposals was **March 16, 2022**. The LMRWD received one proposal to provide Technical Services from Young Environmental Consulting Group, LLC. No proposals were received to provide legal services. Since no proposals were received, the LMRWD extended its agreement with Rinke Noonan. Both Young Environmental Consulting Group, LLC and Rinke Noonan have accepted offers to continue their roles to provide technical and legal services to the LMRWD for the next two years.

### Consultant Pool

At the February 16, 2022, meeting the Board of Managers authorized advertising for Statements of Qualification from engineering firms interested in being included in a consultant pool. Notice of the request was published in the **February 28, 2022**, and **March 7, 2022**, State Register. It was also posted to the LMRWD website. Nine statements of qualification were received from Barr Engineering Company, Bolton & Menk, Inc, EOR Inc., ISG Inc., Windsor Engineers, WSB, Ultieg Engineers, HR Green, and IMO Consulting Group. All firms were approved to form the consulting pool.

### Audit & Financial Services

No proposals were received for audit or financial services.



<https://lowermnriverwd.org/news/requests-proposals>

# I. LOCAL WATER PLAN ADOPTION

**2010**

## **MENDOTA**

In April 2010, water management is contained in Mendota's Comprehensive Plan.

**2011**

## **SAVAGE**

In June 2011, the City began updating its Local Surface Water Management Plan.

**2013**

## **LILYDALE**

Lilydale's Dec. 2013 plan adopted a resolution in 2018, conditionally approving the Local Surface Water Management Plan.

**2015**

## **MSP & FLYING CLOUD AIRPORTS**

In May 2015, both airports revised their stormwater pollution prevention plans (SWPPPs).

**2017**

## **BURNSVILLE**

In November 2017, Burnsville adopted its Local Surface Water Management Plan.

**2018**

## **CHANHASSEN**

In January 2018, Chanhassen adopted its Local Surface Water Management Plan.

## **BLOOMINGTON**

- ▶ In June 2018, Bloomington adopted its Local Surface Water Management Plan.

## **MENDOTA HEIGHTS**

- ▶ In July 2018, Mendota Heights adopted its Local Surface Water Management Plan.

## **CHASKA**

- ▶ In November 2018, Chaska adopted its Local Surface Water Management Plan.

## **CARVER**

- ▶ In December 2018, Carver adopted its Local Surface Water Management Plan.

**2019**

## **EAGAN**

In January 2019, Eagan adopted its Local Surface Water Management Plan.

## **SHAKOPEE**

- ▶ In November 2019, Shakopee adopted its Local Surface Water Management Plan.

**2020**

## **EDEN PRAIRIE**

In December 2020, Eden Prairie adopted its Local Surface Water Management Plan.

The LMRWD did not adopt any new local water plans in 2022. The timeline to the left shows local water plan adoption over the last decade of water management and collaboration.





## J. STATUS OF LOCALLY ADOPTED ORDINANCES

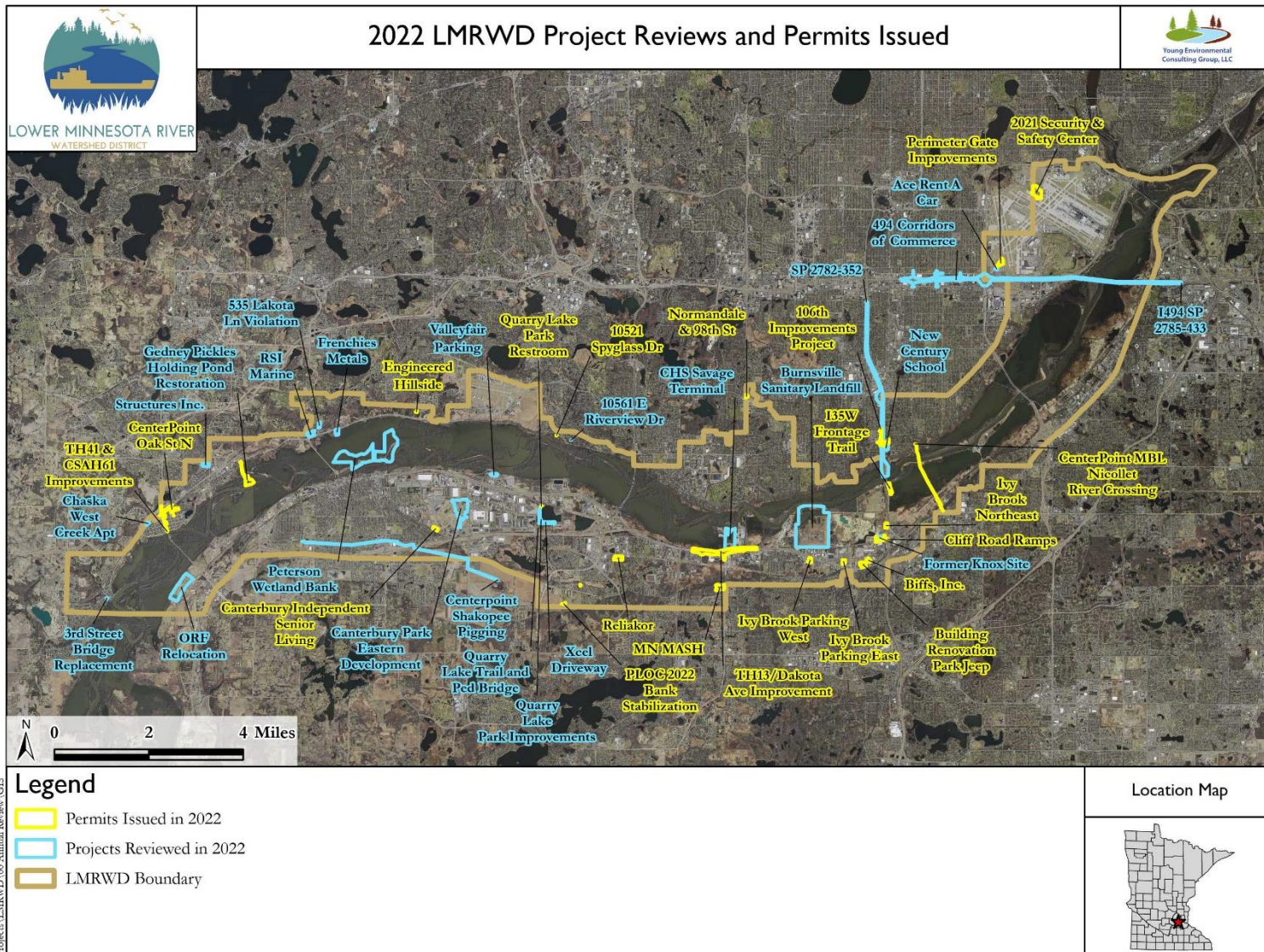
The LMRWD first adopted rules in 2020, which were amended in October 2022. Local governments that wish to obtain a municipal permit must highlight how they intend to implement and enforce rules through official controls (i.e. ordinances). Municipal permits have been approved for six local government units (LGU) within the District with one conditional approval. 2022 marked the first year that the District completed inspections to confirm compliance with District rules during and after the construction of permitted projects.

Municipal permit holders are shown below, with ongoing coordination planned for 2023 with communities not listed. We appreciate our collaboration with our local partners to strengthen our watershed’s protection of natural resources.

Date	City	Ordinance	Status
2020	City of Eagan	Municipal LGU Permit	Approved
2020	City of Mendota Heights	Municipal LGU Permit	Approved
2020	City of Bloomington	Municipal LGU Permit	Approved, does not include permitting authority for Rule C – Floodplain and Drainage Alteration
2021	City of Carver	Municipal LGU Permit	Approved, does not include permitting authority for Rule C – Floodplain and Drainage Alteration
2021	City of Shakopee	Municipal LGU Permit	Approved, does not include permitting authority for Rule C – Floodplain and Drainage Alteration
2022	City of Burnsville	Municipal LGU Permit	Conditionally Approved

# K. SUMMARY OF PERMITS/VARIANCES

The LMRWD continues to oversee a permitting program to ensure that new development in the community complies with watershed district rules. In 2022, the District reviewed and approved 22 permits and led an inspection program to oversee projects as needed.

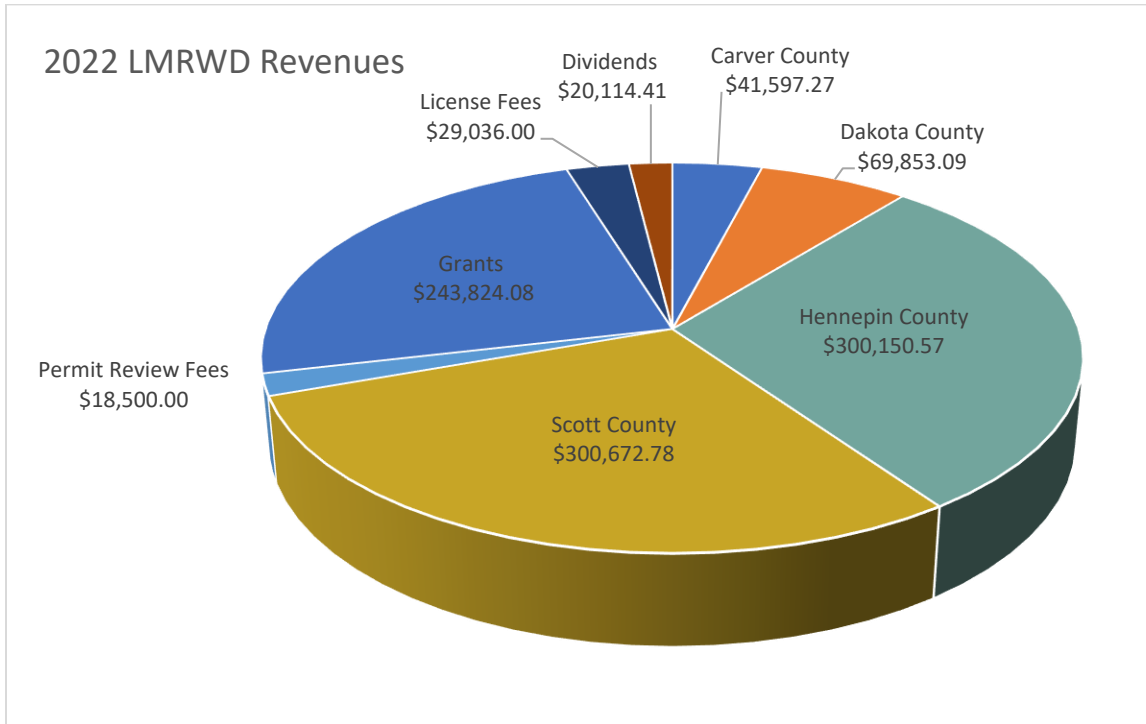


Project: LMRWD\_00 Annual Review\_GIS



# APPENDIX: FINANCIAL INFORMATION

The LMRWD is funded by a variety of revenue sources, with carefully managed work to improve water and natural resources:





LOWER MINNESOTA RIVER  
WATERSHED DISTRICT



[lowermnriverwd.org](http://lowermnriverwd.org)