

Background

A joint powers agreement was executed on October 25, 1985, which established and empowered the Lower Mississippi River Watershed Management Organization (LMRWMO). The LMRWMO is located in the southeast part of the Twin Cities metropolitan area, in northern Dakota County and southern Ramsey County. The LMRWMO abuts the south and west sides of the Mississippi River, from the Mississippi River's confluence with the Minnesota River down to Rosemount.

The LMRWMO covers 55.8 square miles (35,493 acres) and is composed of seven cities partially or wholly within the WMO boundaries. The LMRWMO member cities are: Inver Grove Heights, Lilydale, Mendota Heights, Saint Paul, South St. Paul, Sunfish Lake, and West St. Paul. Surface water in the LMRWMO ultimately discharges to the Mississippi River. The Board of Managers, which consists of appointed representatives from the member Cities as of 12-31-20, is listed below:

Representative

Sharon Lencowski (Chair) Tom Sutton Lyle Hanzal Mary Jeanne Schneeman (Secretary/Treasurer) Jill Smith Karen Reid (Vice-Chair) Patti O'Leary Sheila Vanney

Member City

Inver Grove Heights Manager Lilydale Manager Lilydale Alternate Manager Mendota Heights Manager Mendota Heights Alternate Manager Saint Paul Manager Sunfish Lake Manager West St. Paul Manager

A complete contact list including addresses and phone numbers of the Board of Managers, as of 12-31-20, is attached to this document.

The Dakota County Soil and Water Conservation District (SWCD) serves as the Administrator for the LMRWMO, with Joe Barten as the Administration contact.

2020 Completed Activities

The LMRWMO's 2011 Watershed Management Plan (Plan) includes an implementation program. Tables 1, 2, and 3 below contain lists of implementation activities identified in the Plan and the status of the activities listed. Additional details on LMRWMO activities in 2020 include:

General:

- Contracted with the Dakota County Soil and Water Conservation District (SWCD) to provide administrative, education, technical assistance, project management, and grant administration services, and to act as the public liaison for the LMRWMO.
- Continued monthly grant tracking program with sources of funding for all state and local stormwater related grant program to assist the LMRWMO and member cities in identifying additional funding sources for project implementation.
- Participated in Dakota County groundwater plan update stakeholder process.
- Participated in the Minnesota River 1 Watershed 1 Plan process and opted to not be a participating entity in the plan creation.
- Initiated Watershed Management Plan update process and selected consultant to assist in plan update.
- Participate in the Metro Watershed Based Funding stakeholder meetings and identify projects for implementation.
- Finalize reporting for the FY-2016 Sunfish Lake and Lake Augusta aluminum sulfate treatment grant.
- Monitored lakes within the LMRWMO for water quality parameters in coordination with the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) and numerous citizen volunteers.
- Coordinated with local and state agencies on all matters related to the LMRWMO duties.

Education:

- Participated in the Freshwater Society's MN Water Stewards (MWS) program. Two community members were sponsored to participate in the program to become Lower Mississippi River WMO MN Water Stewards. Provided a MWS LMRWMO project tour.
- Participated in and provided funding to the Metro Watershed Partners Clean Water MN program, a coalition of public, private and non-profit organizations in the Twin Cities metro area that promotes public understanding through collaborative educational outreach that inspires people to act to protect and improve their local water resources.
- Participated in the Adopt-A-Drain program through the Metro Watershed partnership, which had 216 total participants in the Adopt-A-Drain program with 330 drains adopted. Based on data submittals of participants, it is estimated that this produced a total of 4,458 lbs of leaf litter, sediment, trash, and debris collected.

- Distributed stormwater educational articles from Clean Water MN to Member cities for use in social media, newsletter, website, and print public education and outreach materials.
- Maintained an up to date LMRMWO website to communicate water resource related information and additional educational information to the public regarding the current activities of the LMRWMO, available programs, as well as relevant information on the Mississippi River and other organizations.

Projects:

- Finalized the FY-2018 Clean Water Fund grant for the Cherokee Heights Stormwater Improvement and Ravine Stabilization project in coordination with the Cities of Saint Paul, Mendota Heights, and West St. Paul. Installation of two hydrodynamic separators was completed in June of 2018. Construction of the ravine/channel stabilization portion was substantially completed in 2019 with some punch list, repair, and maintenance work in 2020.
- Finalized the FY-2016 Clean Water Fund grant for aluminum sulfate treatments on Sunfish Lake and Lake Augusta in coordination with numerous citizen, City, and Dakota County project partners.
- Finalized the FY-2016 Clean Water Fund grant for Thompson Lake stormwater improvements in coordination with Dakota County and City of West St. Paul. Project punch list items were addressed in 2020 and the grant was finalized.
- Participated in the Landscaping for Clean Water (LCW) workshop series and funded three classes in
 partnership with the Dakota SWCD. Through this program 100 people attended an introduction class to
 learn about the benefits of raingardens, native gardens, and native shoreline plantings. Along with the
 other LCW classes, this effort resulted in 35 residents of the LMRWMO attending the LCW design
 workshops to create project 35 project designs. The LMRWMO then provided \$250 grants for 15
 residential conservation projects (raingardens and native gardens) installed by those participants. The
 LMRWMO also provided funding for technical assistance to be provided by the Dakota SWCD for those
 watershed residents. See https://dakotaswcd.org/conservation-projects/ for locations and descriptions
 of completed projects. 2020 LCW Program fact sheet attached.
- Provided analysis and allowable flow cost allocation amounts for the Seidls Lake lift station project with the Cities of South St. Paul, Inver Grove Heights, and West St. Paul.

2021 Work Plan

The LMRWMO plans to conduct the following activities in 2021:

- Continue the process to update the LMRWMO Watershed Management Plan.
- Update the LMRWMO website to a more comprehensive and user-friendly format.
- Continue implementation of items identified in the FY2019 Metro Watershed Based Implementation Funding grant and the FY2021 Metro Watershed Based Implementation Funding grant.
- Finalize an agreement for maintenance of the Cherokee Heights Ravine Stabilization and BMP Implementation project.

- Sponsor four participants in the MN Water Steward program, lead the check in meetings, provide a watershed tour, and assist them in implementing their capstone projects.
- Continue to collaborate with member cities to identify opportunities to partner and cost share to complete water quality and quantity improvement projects.
- Implement items identified in the LMRWMO Education and Outreach Plan.
- Continue to prioritize implementation projects and programs, apply for grants, and assist member cities in obtaining grants through use of grant tracking program.
- Continue to maintain and update the LMRWMO website with information relevant to the public.
- Continue to provide educational workshops to LMRWMO residents through participation in the Landscaping for Clean Water education program.
- Continue cost sharing grant funding for the installation of residential raingardens and other stormwater management projects in partnership with the Dakota County SWCD's Landscaping for Clean Water program.
- Continue to monitor lakes and streams through the Met Council Citizen Assisted Monitoring Program (CAMP), including Pickerel Lake, Lake Augusta, Sunfish Lake, Thompson Lake, Schmitt Lake, Dickman Lake, Seidls Lake, Interstate Valley Creek, and Ivy Falls Creek.
- Assist in determining cost allocation for LMRWMO member City shared projects, should they arise.

In addition to the planned activities listed above, member Cities will continue to perform water resources management, water quality, and educational activities through City programs and services.

Watershed Management Plan Implementation Item Review

Key for Implementation Tables 1, 2, and 3.

Implementation item is complete, partially complete, or in progress.	Implementation item requires action by the LMRWMO.	Implementation item is no longer necessary or no action is planned by the LMRWMO at this time.
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Table 1. Implementation Status of Project List from 2011 Watershed Management Plan

Planned Actions or Activities	Proposed Timeframe	Actual Timeframe	Accomplishments to Date	Next Steps
Local government to construct BMPs to reduce negative impacts of development upstream of Hornbean Lake.	2014	None	To be constructed in coordination with new development.	Current development standards to drive water quality projects with future development.

Local government to construct improvements to reduce flooding/erosion at Marie Ave/Dodd Rd (feasibility study has been completed).	2012	2013	A rate control pond was constructed at NE corner of Dodd and Marie to control flow downstream, reducing erosion and allowing sediment to settle out of suspension and be removed.	Project complete.
Local government to construct improvements to provide rate control and stream bank stabilization north of Marie Ave in Interstate Valley Creek Watershed	2017	2011 to 2020	Some streambank stabilization projects have been constructed on the unnamed reaches of the Interstate Valley Creek headwaters. These have been constructed on an individual basis. LMRWMO's Landscaping for Clean Water program can help provide funding for landowner projects in coordination with the Dakota SWCD.	A feasibility study for streambank stabilization and rate control options will be completed as part of the FY-2019 Watershed Based Funding work plan.
Local government to construct improvements to stabilize erosion-prone areas along the Mississippi River.	2020	2018 to 2020	In progress. Inver Grove Heights completed a feasibility study for Stormwater Facilities in Areas Tributary to the Mississippi River in 2016 which identified 11 prioritized projects. The city/WMO is currently pursuing State and Met Council grant opportunities for implementation of these water quality and erosion stabilization projects. City of IGH was awarded a PSIG grant for the 78 th and Concord project. City completed a feasibility study in 2018 for Dickman Trail outfall. Feasibility study completed in 2015 for the Cherokee Heights ravine and FY2018 grant awarded for ravine stabilization Lilydale Park area. Watershed-wide study not yet initiated.	Continue to seek funding to implement those projects identified in the study.
Local government to construct Lexington Avenue-Trunk Highway 13 Drainage and Erosion Improvements.	2015	2015 to 2016	Feasibility study completed in 2010 and identified cost share amounts for participating cities. Project implemented in 2015 with substantial completion in 2016. Received funding through 2016 Met Council stormwater program for sediment reduction improvements.	Project complete.

Local government to construct Seidls Pond/Lake lift station.	2016	2020 to 2021	Feasibility study was completed in 2004. Applied and turned down for Clean Water Fund grant in 2014. Applied for a 2017 grant and received a, ENRTF grant for water quality project at Seidl's Lake.	Lift station design is complete and project is out to bid for planned construction in 2021 or 2022.
Local government to construct Dawn Way Storm Sewer Improvement Project	2019	2019 to 2021	Allowable flow cost apportionment was completed in 2008. Funds have been allocated in budgets by the participating cities.	Finalize proposed approach for project implementation.
Stormwater BMPs or education to improve stormwater management upstream of Rogers Lake	2020	2011 to 2012	WRAPS Study completed in 2014. Stormwater BMPs planned to be implemented in conjunction with development / redevelopment. Raingardens and sump manholes installed with reconstruction of Robert Trail. Door knocking education campaign completed by St. Thomas Academy students. Educational material mailing campaign to watershed residents. LMRWMO's Landscaping for Clean Water program can help provide funding for projects and stormwater education within watershed going forward.	Current development standards to drive water quality projects with future development. Continue LMRWMO's Landscaping for Clean Water program.
Ravine/bluff stabilization in Ivy Creek, Lilydale Park, and/or near Pickerel Lake	2019	2014 to 2020	In progress. Pickerel Lake was part of the 2014 WRAPS Study. Feasibility study initiated in 2014 and completed in 2015 in the Cherokee Heights portion of Lilydale Park near Pickerel Lake. Have received BWSR flood relief funds for repair of severely eroded "North Knob" area and Clean Water funds for	Continue to seek funding and coordinate with City of St. Paul, Ramsey County, and BWSR on implementing improvements to Lilydale Park area. Much progress already made on stream sections.
Phosphorus treatment in Sunfish Lake	2017	2017 to 2019	Part of the 2014 WRAPS Study. Awarded FY2016 CWF grant dollars for implementation.	Project complete, finalized grant.

Thompson Lake Stormwater/Sediment Improvement Project	2016	2017 to 2020	Separate Thompson Lake PAH contamination feasibility study completed in 2014. Part of the 2014 WRAPS Study. Awarded FY2016 CWF grant dollars for implementation.	Project complete, finalizing grant closeout.
Phosphorus treatment in Augusta Lake	2016	2017 to 2019	Part of the 2014 WRAPS Study. Awarded FY2016 CWF grant dollars for implementation.	Project complete, finalize grant. Will continue with lake study to identify further lake improvement activities.
Cherokee Heights culvert analysis and erosion control improvement project	2016	2018 to 2020	Feasibility study completed in 2015 for the upper Cherokee Heights ravine portion of Lilydale Park. Applied for but did not receive FY2016 and FY2017 CWF grant dollars for implementation. Received FY2018 CWF grant dollars for ravine stabilization and stormwater improvements.	Project complete, finalizing grant closeout.

Table 2.	Implementation Status of	f <u>Programs</u> List from	2011 LMRWMO	Watershed Manageme	ent Plan
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Planned Actions or Activities	Proposed Timeframe	Actual Timeframe	Accomplishments to Date	Next Steps
Address BWSR performance standards	Every year	Every year	On-going implementation. PRAP Level II Review Completed in 2016.	Continue to address on an annual basis.
Transition to an all citizen Board	TBD	TBD	All LMRWMO Board members are citizens.	Completed.
Revise JPA to reflect 3rd Generation Plan	2011	2011	JPA revised and approved by communities in 2012 - 3rd revision to change WMO boundary approved in 2014.	Completed.
Revise JPA to broaden membership of formal Technical Advisory Committee	2011	2011	JPA revised and approved by communities in 2012.	Completed.

Revise JPA to include a water quality cost allocation formula	2011	2011	Cost share allocation formula was developed and approved in 2012; JPA revised and approved by communities in 2012.	Completed.
Implement permanent Citizen Advisory Committee (CAC)	Every year	Every year	Involved citizens are kept informed of LMRWMO activities via an email list, informed about pertinent LMRWMO programs and projects via email, and invited to LMRWMO events as necessary.	None planned at this time.
Maintain LMRWMO website to communicate water resource related information	Every year	Every year	On-going implementation; all meeting agendas, materials, and minutes are posted regularly. Created water monitoring web page in 2016.	Continue to update website with relevant information.
WMO administration	Every year	Every year	On-going.	Continue as planned.
WMO annual insurance premiums	Every year	Every year	On-going.	Continue as planned.
WMO attorney and audit expenses	Every year	Every year	On-going.	Continue as planned.
Publish annual WMO newsletter for public distribution	Every year	Every year	Published on an annual basis and distributed to member Cities for public posting and distribution.	Continue as planned.
Review annual evaluation reports from member cities	Every year	Every year	Cities may report activities at monthly LMRWMO meetings.	Continue as planned.
Review member City local plan updates for consistency with WMO Plan	2012 & 2013	2012 to 2018	3 of 7 cities have approved plans. Provided guidance to cities in 2016 on timeline for approval with revised State statutes.	Continue to review City local plans as updated.
Develop water resource educational content	Every year	Every year	Education opportunities annually available to residents through Landscaping for Clean Water classes and Metro Watershed Partners. Watershed education provided through FY16 CWF grant efforts in 2016-2018 as well as MWS program and continued implementation of the LMRWMO Education and Outreach Plan.	Continue as planned.

Coordinate/conduct non- certification training for member city staff to address items in MS4 permit	2012 & 2017	-	Member City representatives and topic experts regularly present to the LMRWMO Board on activities related to the MS4 permit.	Continue informal presentations by member City staff on MS4 activities and requirements.
Participate in the Dakota County SWCD's Landscaping for Clean Water Program (formerly Blue Thumb)	Every year	Every year	Provide yearly introduction and design courses to LMRWMO residents and have provided grants for 103 projects since 2011.	Continue to participate/provide program to residents of the LMRWMO.
Assist member cities in addressing the South Metro Mississippi TMDL and other TMDLs as they are completed	2012 to 2020	2012 to 2020	LMRWMO member Cities and staff have been engaged with agency staff on both the South Metro Mississippi TMDL and the Upper Mississippi River Bacteria TMDL. LMRWMO Engineers have assisted in data transmittals, as requested.	None planned at this time. Will continue involvement as requested.
Develop annual water quality monitoring program for water bodies and outfalls to the Mississippi River	2011	2012	Annual evaluation of water monitoring is performed by the Board.	Continue as planned.
Implement water quality monitoring program to assess water bodies and outfalls to the Mississippi River	2012 to 2020	2012 to 2020	The LMRWMO has conducted or financially supported monitoring numerous lakes within the watershed since 2012, often through the CAMP. Outfall of Interstate Valley Creek monitored in 2019, 2020, and in 2021. Ivy Falls Creek to be monitored in 2021.	Continue as planned.
Develop outreach program to assist member cities with MS4 permit renewal	2012	-	No activity to report. There has not been a need for this program.	None planned at this time.
Pursue locations to conduct wetland restoration for a wetland bank program	2014	-	No activity to report. There has not been a need for this program.	None planned at this time.

Conduct or facilitate joint certification training for member city staff on designing and inspecting erosion control plans and inspecting erosion control measures	2013 and 2018	-	There is no longer a need for this task. All cities in the WMO have staff that assures proper certifications through the MnDOT certification program.	None planned at this time.
Develop a pond and BMP maintenance program	2012	-	No activity to report. New MS4 permit requirements will drive this program.	None planned at this time. Cities will continue responsibility.
Assist member cities in pursuing grants available to watersheds	Every year	Every year	On-going. Documents that track grant opportunities are presented to Board members at monthly meetings. The LMRWMO has assisted member cities in preparing and submitting grant applications in since 2012.	Continue monthly tracking and assist member cities in pursuing grant opportunities.
Monitoring of Pickerel Lake and/or inflows to Pickerel Lake	2015 to 2020	2015 to 2020	Monitoring done through CAMP program. Monitoring on Ivy Falls Creek in 2019	Continue monitoring through CAMP program.

Table 3. Implementation Status of <u>Studies</u> List from 2011 LMRWMO Watershed Management Plan

Planned Actions or Activities	Proposed Timeframe	Actual Timeframe	Accomplishments to Date	Next Steps
Utilize MIDS, once complete, to determine effectiveness of existing BMPs throughout the WMO	2013	-	No activity to report.	None planned at this time. Individual Cities will maintain standards that meet LMRWMO minimum requirements.
Complete feasibility study to address PAHs in Thompson Lake	2012	2013 to 2014	Project initiated in 2013 and was completed in 2014.	Completed.
Complete feasibility study to investigate debris and floatables in Simley Lake	2012	-	This study is no longer considered necessary.	None planned at this time.

Evaluate landlocked basins with flood concerns or future flood potential or on an as needed basis	2014	2014 to 2020	This activity has and will continue to be pursued by individual Cities as needed.	None planned at this time.
Complete feasibility study to provide rate control and streambank stabilization north of Marie Ave. in Interstate Valley Creek Watershed	2013	2019 to 2021	Some stabilization improvements have been completed.	Included in Metro WBF work plan, feasibility study planned for 2021.
Investigate opportunities to implement access points to improve access to water resources (e.g. fishing pier, observation platform)	2015	2015 to 2020	Opportunities have been investigated at Rogers Lake.	None planned at this time. Will investigate as opportunities arise.
Evaluate DNR protected water bodies with known or potential problems and pursue shoreland restoration where needed	2014 to 2020	2014 to 2020	Grants for shoreline restoration are available from the LMRWMO through the Landscaping for Clean Water Program.	Continue providing shoreline restoration grants through Landscaping for Clean Water program.
Work with ACOE to identify location/extent of erosion issues on Mississippi River	2013	2021 to 2022	Will implement further study as part of FY2021 WBIF grant study of direct drainages.	Implement FY2021 WBIF grant work plan.
Monitor shoreland erosion around Golf Course pond and determine if remedial action is necessary	2012	2011 to 2012	City of Inver Grove Heights worked with golf course staff to remediate shoreland erosion in 2009. No additional erosion problems have occurred at that site. Additionally, 2011 and 2012 improvements were completed where the pond outlets near Babcock Trail to correct drainage and erosion issues.	Completed.
Verify the existing electronic and GIS boundary of the WMO matches the legal description from the JPA	2011	-	No longer necessary in original form as there is no legal description of boundary in JPA. BWSR now allows GIS boundary to serve as legal boundary. However, discoveries in 2020 may indicate discrepancies in GIS boundary.	None planned at this time. May require further study to identify GIS discrepancies, ie. Mendota.

Establish stormwater volume reduction requirements	2013	-	No activity to report. New MS4 permit requirements will drive this program and will be implemented by member cities.	None planned at this time.
Set aside funding for 4th Generation Watershed Management Plan	Every year	Every year	On-going. Currently \$5,000 per year is set aside for this purpose.	Continue as planned.
Cherokee Heights culvert analysis and erosion control feasibility study	2014	2015	Study completed in 2015.	Completed.
Feasibility Studies to evaluate ravine/bluff stabilization in Ivy Creek, Lilydale Park, and/or near Pickerel Lake	2018	2015 and 2021	Studies performed by the City of St. Paul for Lilydale park erosion issues. Will implement further study as part of FY2021 WBIF grant study of direct drainages.	Implement FY2021 WBIF grant work plan.

2020 Lake Monitoring Data

The LMRWMO has conducted or supported monitoring numerous lakes within the watershed. The LMRMWO Board prioritizes monitoring annually and typically selects those to track progress where water quality projects have been implemented. Eight lakes within the LMRMWO were monitored through the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) in 2020. Monitoring data, once available from the Metropolitan Council, will be posted on the LMRWMO water monitoring web page. 2020 Monitoring reports for select lakes are attached and a summary table is below.

Lake	City	Number of sampling events	Secchi Depth (m) average	Chlorophyll- <i>a</i> (µg/l) average	Total Phosphorus (μg/l) average
Water Quality Standard – Deep Lake			1	14	40
Lake Augusta	Mendota Heights	10	0.22	149.8	126.3
Sunfish Lake	Sunfish Lake	6	3.85	3.25	21.33
Water Quality Standard – Shallow Lake			1	20	60
Dickman Lake	Inver Grove Heights	12	0.5	56.68	68.33
Hornbeam Lake	Sunfish Lake/ Inver Grove Heights	5	2.68	5.46	29.20

Table 4. Results of 2020 CAMP Monitoring in LMRWMO

Horseshoe Lake	Sunfish Lake/ Inver Grove Heights	5	3.16	5.3	31
Lemay Lake	Mendota Heights	6	1.78	3.42	26.33
Rogers Lake	Mendota Heights	9	1.76	7.59	37.67
Schmitt Lake	Inver Grove Heights	9	11.7	10.9	45.33
Seidl Lake	South St. Paul/Inver Grove Heights	6	1.42	10.3	46.17
Thompson Lake	West St. Paul	7	1.19	12.53	50.29

2020 Wetland Monitoring Data

Some cities in the LMRWMO have been involved with Dakota County's Wetland Health Evaluation Program (WHEP). WHEP uses citizen teams, led by a trained team leader, to collect plant and invertebrate samples from local wetlands to evaluate the health of the wetland. Over the years, participation by member cities has fluctuated due to the availability of funding and volunteers. In 2020, seven wetlands in the LMRWMO were monitored. A complete 2020 WHEP report is available at http://www.mnwhep.org under 'WHEP Reports and Data'.

Status of Local Plan Adoption and Implementation

All of the member cities have prepared local water management plans that conform to the 2011 LMRWMO Plan and have been formally approved by the LMRWMO. Table 6 shows the compliance dates of the local plans. Updated requirements to MN Statutes 8410.0105, subdivision 9 and 8410.0160, subdivision 6 for the adoption of Local Water Management Plans will be followed by LMRWMO member Cities.

Member City	LMRWMO Approval Date for Conformance with 2011 Watershed Plan	LMRWMO Approval Date for conformance with 2001 Watershed Plan
Inver Grove Heights	December 2018	June 2008
Lilydale	October 2018	March 2008
Mendota Heights	July 2018	February 2006
South St. Paul	December 2018	January 2005
St. Paul	June 2018	September 2006
Sunfish Lake	November 2018	February 2009
West St. Paul	December 2018	September 2006

Table 6. Local Water Management Plan Status

Permits and Variances

The LMRWMO does not have a permitting program. The individual member cities provide permitting of projects for land use, construction stormwater management, post-construction stormwater management, floodplain management, and Wetland Conservation Act enforcement.

Consultant Services Selection

As required, every two years solicitations are made to retain legal services, auditor services, and engineering consulting services. On June 12th, 2019, the LMRWMO Board retained services from the following consultants:

Engineer:	Barr Engineering Co.
Attorney:	Campbell Knutson, PA
Auditor:	Peterson Company Ltd.

Financial Statement and Audit

The LMRWMO maintains two checking accounts and a savings account. A financial audit was performed covering the 2020 finances. The 2020 LMRWMO financial audit was being finalized by the consultant and was not ready at the time the document was created.

Wetland Banking

The LMRWMO does not have a wetland banking program.

Attachments

- 2020 Board of Managers Contact List
- 2020 Landscaping for Clean Water Summary
- 2020 Water Monitoring Factsheets
- 2021 Adopted Budget
- 2021 Newsletter

2020 LANDSCAPING FOR CLEAN WATER PROGRAM SUMMARY



SOIL & WATER CONSERVATION DISTRICT

ENGAGING LANDOWNERS TO PROVIDE THEM THE SKILLS AND RESOURCES NEEDED TO **IMPROVE WATER QUALITY** IN THEIR COMMUNITIES.



"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it is the only thing that ever has."

-Margaret Mead







2020 BY THE NUMBERS

- 3 **GRANT ROUNDS**
- 4 IN-PERSON INTRODUCTION AND MAINTENANCE CLASSES
- INDIVIDUALS PARTICIPATED IN INTRODUCTION CLASSES 613 (IN-PERSON AND VIRTUAL)
- INDIVIDUALS PARTICIPATED IN MAINTENANCE WORKSHOPS 105 (IN-PERSON AND VIRTUAL)
- **147** PROJECTS DESIGNED AS PART OF VIRTUAL DESIGN WORKSHOPS
- **50** RAINGARDENS & NATIVE GARDENS & SHORELINES INSTALLED



Due to the COVID-19 pandemic, in-person classes were cancelled in mid-March and the Landscaping for Clean Water program transitioned to an online only format.

All three programs —Introduction Class, Design Workshop, and Maintenance Workshop – were available to participants beginning in mid-April. Design Workshop participants were encouraged to request a virtual garden consultation as part of the new office hours program!

Participant feedback was overwhelmingly positively regarding the online format and many recommended including an online offering in future years.







Watershed Management Organization







Watershed Management Organization



2020 LANDSCAPING FOR CLEAN WATER PROGRAM SUMMARY

DAKOTA COUNTY

The Landscaping for Clean Water program—educational classes, design workshops, cost share grants, and on-site technical assistance— moved online in the spring of 2020 in response to the Covid-19 pandemic. With the ability to do site visits following social distance and mask guidelines, participants were able to learn about,

design, and install raingardens, native gardens and shoreline plantings. Their efforts have positive impacts on local water quality and provide pollinator habitat!

Below is a summary of the 2020 participants by City.

Apple Valley

Introduction class registrants Projects designed Installed raingardens Installed native gardens	69 21 4 3
Burnsville Introduction class registrants Projects designed Installed raingardens Installed native gardens Installed shoreline planting	111 33 6 3 1
Eagan Introduction class registrants Projects designed Installed raingardens Installed native gardens	75 22 5 2
Hastings Introduction class registrants Projects designed Installed native gardens	9 4 1
Inver Grove Heights Introduction class registrants Projects designed Installed raingardens Installed native gardens	25 8 1 3
Lakeville Introduction class registrants Projects designed Installed raingardens Installed native gardens	71 13 4 1
Mendota Heights Introduction class registrants Projects designed Installed raingardens Installed native gardens	46 10 2 2

2	020 participants by City.	
	Northfield Introduction class registrants Projects designed Installed raingardens	3 2 1
	Rosemount Introduction class registrants Projects designed Installed raingardens Installed native gardens	41 15 1 3
	South Saint Paul Introduction class registrants Projects designed Installed raingardens Installed native gardens	10 8 1 1
	West Saint Paul Introduction class registrants Projects designed Installed raingardens Installed native gardens Installed shoreline planting	18 8 2 1 1
	Also installed in Dakota County Raingardens—Greenvale TWP	1
	Installed in partnership with Ra County Raingardens—St. Paul	imsey 1
	Non-Dakota County Introduction Participant Cities Bloomington, Maplewood, Minneapolis, St. Paul, Virginia, Welch. Woodbury	on



2020 PARTNERS

Cities

- Apple Valley
- Burnsville
- Eagan
- Inver Grove Heights
- Lakeville
- Mendota Heights
- Rosemount
- South St. Paul

Dakota County

Minnesota Zoo

Ramsey County

Special Thank You

- Master Gardeners of Dakota County
- Master Water Stewards



FOURTEEN YEARS OF CLEAN WATER ACCOMPLISHMENTS

Workshop Participants 2007-2020 4,765

Projects Completed 2007-2020 625

Lake Augusta

Citizen Assisted Monitoring Program (CAMP) 2020 Water Monitoring Report



Lake Summary

Lake Augusta is located in the City of Mendota Heights, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily institutional (cemetery), commercial, and residential (low and high density). Lake Augusta was placed on Minnesota's 303(d) List of Impaired Waters in 2010 for aquatic recreation due to excess nutrients (phosphorus).

Lake Details

Max Depth: 33 feet Watershed Size (shown): 420 acres Major Watershed: Minnesota River MPCA Lake Classification: Deep Met Council 2020 Lake Grade: F



Water Quality Monitoring Need

Lake Augusta is monitored on an annual basis as part of the LMRWMO's participation in the Met. Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The lake continues to not meet the deep lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA).Further study of the lake is needed to understand the poor water quality causes. The LMRWMO will undertake an intensive study in 2021-2023 to identify long term action items to improve lake water quality.

2020 Monitoring Summary

Following an aluminum sulfate (alum) treatment in 2017, there were improvements for all three eutrophication (aging process by which lakes are fertilized with nutrients) parameters compared to data collected in 2016 (pre-treatment). Monitoring data from 2020 showed little to no change across the three parameters in comparison to data collected in previous years. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	48	220	149.80
Total Phosphorus (ug/L)	40	80	180	126.3
Secchi Depth (m)	1.4	0.2	0.3	0.22

Water Quality Data 2007-2020



Chlorophyll-a*

Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorphophyll-a levels indicate good water quality. State standard is 14 ug/L (dashed line).

Watershed Projects

Recent studies conducted by the LMRWMO identified internal phosphorus from the lake bottom as the primary source of phosphorus in Lake Augusta.

In 2017, the LMRWMO implemented an in-lake aluminum sulfate (alum) treatment to improve water quality. Upon application, the alum binds with phosphorus as aluminum phosphate and settles to the lake bottom. It is believed that long term high water levels impacted the effectiveness of the alum treatment.



How can you get involved?



*micrograms per liter (ug/L) = 1,000 mg/L (milligrams per liter)

Phosphorus*

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning water green. Low phosphorus levels indicate good water quality. State standard is 40 ug/L (dashed line).



Secchi Depth

A black and white secchi disc is lowered into the water until no longer visible and measures water clarity. High secchi disc depths indicate good water quality. State standard is 1.4 m (dashed line).

You don't have to live on a lake to help protect water quality, **anyone can be part of the solution!** Landscaping with native plants or installing a raingarden **increases water infiltration**, decreases lawn maintenance, and reduces pollution runoff that can negatively impact local water quality. The LMRWMO has partnered with the Dakota County Soil and Water Conservation District to offer grants to residents who install a native planting, raingarden, or shoreline planting or stabilization as part of their **Landscaping for Clean Water** program.

Additional Information:



Seidls Lake

Citizen Assisted Monitoring Program (CAMP) **2020 Water Monitoring Report**



Lake Summary

Seidls Lake is located in the Cities of Inver Grove Heights and South Saint Paul, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily residential with a portion of the west watershed in institutional land use (golf course) and a portion of Highway 52. The lake is not currently listed on Minnesota's 303(d) List of Impaired Waters.

Lake Details

Max Depth: 17 feet Watershed Size (shown): 420 acres Major Watershed: Mississippi River MPCA Lake Classification: Shallow Met Council 2020 Lake Grade: C



Water Quality Monitoring Need

Seidls Lake is monitored as part of the LMRWMO's participation in the Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The lake is surrounded by City parkland and is identified as a priority waterbody by the Cities and LMRWMO. High lake water levels compared to historic levels have been observed in the last 15 years; likely due in part to the lack of a natural lake outlet. A water quality improvement project to intercept and infiltrate stormwater prior to entering the lake was implemented in 2018.

2020 Monitoring Summary

Following the 2018 water quality project, there are marked improvements for all three eutrophication parameters (aging process by which lakes are fertilized with nutrients) when comparing 2020 data to 2010-2014 data. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	20	4.7	19	10.3
Total Phosphorus (ug/L)	60	33	84	46.17
Secchi Depth (m)	1	1	1.8	1.42

Water Quality Data 1995-2020



Chlorophyll-a*

Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorphophyll-a levels indicate good water quality. State standard is 20 ug/L (dashed line).

Watershed Projects

The LMRWMO partnered with the City of South St. Paul to install large underground pipe chambers to infiltrate stormwater before it enters Seidls Lake. The project was implemented with a street reconstruction project.

The lake will continue to be monitored to track further water quality improvements. A feasibility study is in progress to determine whether constructing a lake outlet can maintain a stable lake level and reduce erosion.



*micrograms per liter (ug/L) = 1,000 mg/L (milligrams per liter)



Phosphorus*

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning water green. Low phosphorus levels indicate good water quality. State standard is 60 ug/L (dashed line).



Secchi Depth

A black and white secchi disc is lowered into the water until no longer visible and measures water clarity. High secchi disc depths indicate good water quality. State standard is 1 m (dashed line).

How can you get involved?

You don't have to live on a lake to help protect water quality, **anyone can be part of the solution!** Landscaping with native plants or installing a raingarden **increases water infiltration**, decreases lawn maintenance, and reduces pollution runoff that can negatively impact local water quality. The LMRWMO has partnered with the Dakota County Soil and Water Conservation District to offer grants to residents who install a native planting, raingarden, or shoreline planting or stabilization as part of their **Landscaping for Clean Water** program.

Additional Information:



Sunfish Lake

Citizen Assisted Monitoring Program (CAMP) **2020 Water Monitoring Report**



Lake Summary

Sunfish Lake is located in the City of Sunfish Lake, within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily low density residential. Sunfish Lake was placed on Minnesota's 303(d) List of Impaired Waters in 2010 for aquatic recreation due to excess nutrients (phosphorus).

Lake Details

Max Depth: 32 feet Watershed Size (shown): 235 acres Major Watershed: Mississippi River MPCA Lake Classification: Deep Met Council 2020 Lake Grade: A



Water Quality Monitoring Need

Sunfish Lake is monitored on an annual basis as part of the City of Sunfish Lake's participation in the Met. Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The lake has been meeting the deep lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA) since 2017, following an aluminum sulfate treatment by the LMRWMO.

2020 Monitoring Summary

Following the 2017 alum treatment, there were improvements for all three eutrophication parameters when compared to data collected in 2016 (pre-treatment). When comparing 2019 monitoring data with 2020, there is increased variability in both the total phosphorus and secchi readings whereas chlorophyll-a remained low. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	14	1.1	83	3.25
Total Phosphorus (ug/L)	40	10	38	21.33
Secchi Depth (m)	1.4	2.6	5.6	3.82

Water Quality Data 2006-2020





Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorphophyll-a levels indicate good water quality. State standard is 14 ug/L (dashed line).

Watershed Projects

Recent studies conducted by the LMRWMO identified internal phosphorus from the lake bottom as the primary source of phosphorus in Sunfish Lake.

In 2017, the LMRWMO implemented an in-lake aluminum sulfate (alum) treatment to improve water quality. Upon application, the alum binds with phosphorus as aluminum phosphate and settles to the lake bottom.





Phosphorus*

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning water green. Low phosphorus levels indicate good water quality. State standard is 40 ug/L (dashed line).



Secchi Depth

A black and white secchi disc is lowered into the water until no longer visible and measures water clarity. High secchi disc depths indicate good water quality. State standard is 1.4 m (dashed line).

How can you get involved?

You don't have to live on a lake to help protect water quality, **anyone can be part of the solution!** Landscaping with native plants or installing a raingarden **increases water infiltration**, decreases lawn maintenance, and reduces pollution runoff that can negatively impact local water quality. The LMRWMO has partnered with the Dakota County Soil and Water Conservation District to offer grants to residents who install a native planting, raingarden, or shoreline planting or stabilization as part of their **Landscaping for Clean Water** program.

Additional Information:



Thompson Lake

Citizen Assisted Monitoring Program (CAMP) 2020 Water Monitoring Report



Lake Summary

Thompson Lake is located in the City of West Saint Paul within the Lower Mississippi River Watershed Management Organization (LMRWMO). Land use within the watershed is primarily commercial, institutional, low density residential, and parkland. Thompson Lake was placed on Minnesota's 303(d) List of Impaired Waters in 2014 for aquatic recreation due to excess nutrients (phosphorus).

Lake Details

Max Depth: 8 feet Watershed Size (shown): 180 acres Major Watershed: Mississippi River MPCA Lake Classification: Shallow Met Council 2020 Lake Grade: C



Water Quality Monitoring Need

Thompson Lake is monitored on an annual basis as part of the LMRWMO's participation in the Met. Council's Citizen Assisted Monitoring Program (CAMP) volunteer lake water monitoring program. The Lake is the center of the highly used and valued Dakota County Thompson Lake Regional Park. Currently, the lake does not meet the shallow lake water quality criteria set forth by the Minnesota Pollution Control Agency (MPCA).

2020 Monitoring Summary

In 2018 and 2019, the LMRWMO led the installation of a comprehensive "treatment train" stormwater improvement project. This included installation of two underground sediment capture chambers, a stormwater settling treatment pond, a stormwater treatment wetland, and raingarden. Post project installation, slight improvements in chlorophyll and phosphorous levels have been observed in 2019 and 2020 with a degredation in the secchi depth reading in 2020. The below table shows the 2020 data.

Eutrophication Parameters	MPCA Standard	Minimum	Maximum	Average
Chlorophyll-a (ug/L)	20	1	28	12.53
Total Phosphorus (ug/L)	60	40	63	50.29
Secchi Depth (m)	1	0.9	1.6	1.19

Water Quality Data 2011-2020



Chlorophyll-a*

Chlorophyll-a is the pigment that gives plants their green color. High levels indicate excessive algae from high nutrient levels in the lake. Low chlorphophyll-a levels indicate good water quality. State standard is 20 ug/L (dashed line).

Watershed Projects

The LMRWMO partnered with Dakota County and the City of West St. Paul on the 2018-2019 installation of stormwater projects at Thompson Lake (shown below). These projects are expected to provide long term, incremental water quality improvements which will be tracked with continued water monitoring.

Additional opportunities for stormwater treatment and infiltration of stormwater in the watershed of Thompson Lake should be sought out and implemented.





Phosphorus*

25

Phosphorus is a nutrient required for plant growth. High phosphorus levels can lead to algae blooms, turning water green. Low phosphorus levels indicate good water quality. State standard is 60 ug/L (dashed line).

VEAR



Secchi Depth

A black and white secchi disc is lowered into the water until no longer visible and measures water clarity. High secchi disc depths indicate good water quality. State standard is 1 m (dashed line).

How can you get involved?

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Additional Information:



LMRWMO 2021 Budget

ESTIMATED REVENUES AND ASSETS		2021 Budget
Use of Fund Balance		\$28,896
Dues from Members		\$110,224
Interest		\$600
Other/Grant Match		\$0
LMCIT Rebate		\$200
	TOTAL	\$139,920

ESTIMATED EXPENSES AND LIABILITIES		2021 Budget
Engineering/Technical Assistance		* = =00
l echnical Assistance		\$5,500 \$6,000
Meetings Blop Boviewa		ან,000 ლი
Matershed Plan Amendment		ወር በበበ በሉቃ
Watershed Flan Amendment	Subtotal	\$51 500
Project Implementation	oubtotal	ψ01,000
General Plan Implementation		\$0
Landscaping for Clean Water Projects		\$15.000
Water Monitoring		\$6,500
Ŭ	Subtotal	\$21,500
Education		
Landscaping for Clean Water Classes		\$6,400
Master Water Stewards		\$7,500
Storm Drain Stenciling Program		\$0
Stormwater Signage Program		\$2,500
WMO Tabling at Events		\$600
Host Neighborhood or Lake Assn. Mtgs.		\$1,200
General Education Requests		\$1,000
Reard Tour / Reat Tour		\$1,000 ¢4,000
Website Maint		<u></u>
CAC Coordination		\$1,700
Board Education		\$1,500
	Subtotal	\$28.520
Administration		+;
General Administration		\$30,000
Accounting Services		\$1,400
Insurance		\$2,500
Attorney and Audit		\$4,500
	Subtotal	\$38,400
Oct Acids for the Concretion Manual Dian		¢5 000
Set Aside for 4th Generation Mgmt Plan		\$5,000 \$5,000
Cumulative Set Aside for 4th Gen Flan		ψ0,000
	TOTAL	\$139,920
40% Goal of Unencumbered Fund Balance		\$55,968
Year End Fund Balance		\$80.606
Unencumbered Year End Fund Balance		\$75,606

LMR WMO LOWER MISSISSIPPI RIVER WATERSHED MANAGEMENT ORGANIZATION

2021 NEWSLETTER

LMRWMO MISSION: Water resources and related ecosystems are managed to sustain their long-term health and integrity through member city collaboration and partnerships with other water management organizations with member city citizen support and participation.

WATERSHED MANAGEMENT PLAN UPDATE TEN YEAR PLAN TO SET DIRECTION OF LMRWMO

The LMRWMO has begun the process to update its ten-year Comprehensive Watershed Management Plan. This means that throughout 2021 and 2022, the LMRWMO Board will lead the process to gather public input on what water resource

issues exist that need to be addressed through LMRWMO studies, projects, programs. or These can range from largescale lake and watershed studies, stormwater capital

projects, to backyard raingarden conservation and education programs. Priorities are identified through input from various sources. Public input is sought via a public meeting and online survey, as well as a Citizen Advisory Committee who meets regularly to discuss the plan and make recommendations to the LMRMWO Board on various plan elements.

A Technical Advisory Committee is also formed with local professionals, such as engineers and planners, as well as State and Regional government agency professionals to consult on the more technical aspects of the plan. Ultimately, the LMRWMO Board

> will decide on the final plan content through review at their regular LMRWMO Board meetings.

> Water resource issues that are typically included in the LMRWMO plan include

management, large scale erosion issues, wetland management, stream erosion and general surface water (lakes, river, stream) pollution concerns.

If interested in serving on the LMRWMO Citizen Advisory Committee through the plan update process, please contact the LMRWMO Administrator: joe.barten@co.dakota.mn.us.

WATERSHED MANAGEMENT ORGANIZATION FACTS:

 WMOs are funded by the cities within their jurisdiction. WMOs are governed by a citizen board appointed by the member cities. The WMO was formed in 1985 after the Metro Surface Water Mgmt. Act was passed.

BECOME A CITIZEN WATER QUALITY MONITOR!

Help us gather the vital data to inform our lake and stream management decisions and ensure the lasting health of the LMRWMO lakes and streams.

Monitoring typically involves Secchi disk measurements to track the water transparency as well as measurements of phosphorus and chlorophyll in a lake. These indicate how excess nutrients in the lake are causing algae growth and making lakes unusable.

If you would like to learn how to become a water monitor, contact the LMRWMO Administrator below:

> (651) 480-7777 joe.barten@co.dakota.mn.us



Using a Secchi disk to measure water clarity



LANDSCAPING FOR CLEAN WATER GOES DIGITAL ONLINE DESIGN COURSES & \$250 GRANTS AVAILABLE

The Landscaping for Clean Water program makes it easy for residents of the LMRWMO to turn their yards into an attractive force for clean water. Each of us has the opportunity to create a landscape on our property which will benefit our lakes, streams, and wetlands by soaking water into the ground, providing pollinator habitat, and stabilizing eroded slopes and shorelines. The introduction and design classes are now being offered online, to give you the tools and knowledge to transform your yard for the better. Register today to get access to the online materials as well as online one-on-one office hours for personal, professional design assistance for your native gardens, raingardens, or native shoreline planting project.



The program provides an overview of water quality challenges and provides beautiful and practical ways to transform your yard into a beneficial landscape. You will also learn about \$250 grants available to participants. After the introductory video, you can sign up for a \$25 online design workshop. Workshops are being offered online now! Register online or call for more information: (651) 480-7777 or visit: *www.dakotaswcd.org*

NEW WEBSITE

The LMRWMO is updating it's website! Stay tuned for the exciting new look. The new website will include additional information on LMRWMO projects, studies, and water monitoring information.

ABOUT THE WMO

The Lower Mississippi River Watershed Management Organization, located in northern Dakota County and southern Ramsey County, covers 55.8 square miles and includes Inver Grove Heights, St. Paul, South St. Paul, West St. Paul, Lilydale, Mendota Heights, and Sunfish Lake. The LMRWMO was established by a Joint Powers Agreement to meet the requirements of the Metropolitan Surface Water Management Act of 1982.

The premise of the Surface Water Management Act is that rain and storm-water runoff are not contained within municipal boundaries. Rain that falls in one community may run through another causing flooding, erosion, or the degra-dation of water quality downstream. The LMRWMO addresses intercommunity stormwater issues works to protect surface waters. Visit the LMRWMO website (below) for more information.

www.dakotacountyswcd.org/watersheds/lowermisswmo/index.html

DID YOU KNOW?

The LMRWMO Board of Managers is made up of citizen appointees who set the budget and direction of the organization. Contact us if you'd like to fill a Board vacancy for one of the bolded Cities below.

- Inver Grove Heights
- Lilydale
- Mendota Heights
- Sunfish Lake
- South St. Paul
- St. Paul
- West St. Paul

2021 BUDGET

The LMRWMO is funded by member City dues based on land area and property value. Grant assistance is also provided through partnership entities to fulfill the mission of the LMRWMO. See below for more information.





The LMRWMO Board of Managers is comprised of up to two appointed representatives from each member city, listed below

Sharon Lencowski (Chair) - Inver Grove Heights Tenzin Dolkar (Member) - Inver Grove Heights Karen Reid (Vice Chair) - Saint Paul Mary Jeanne Schneeman (Sec/Tres) - Mendota Heights Jill Smith (Alternate) - Mendota Heights Michael Randle (Member) - South St. Paul Tom Sutton (Member) - Lilydale Lyle Hanzal (Alternate) - Lilydale Sheila Vanney (Member) - West St. Paul Julie Eastman (Member) - West St. Paul