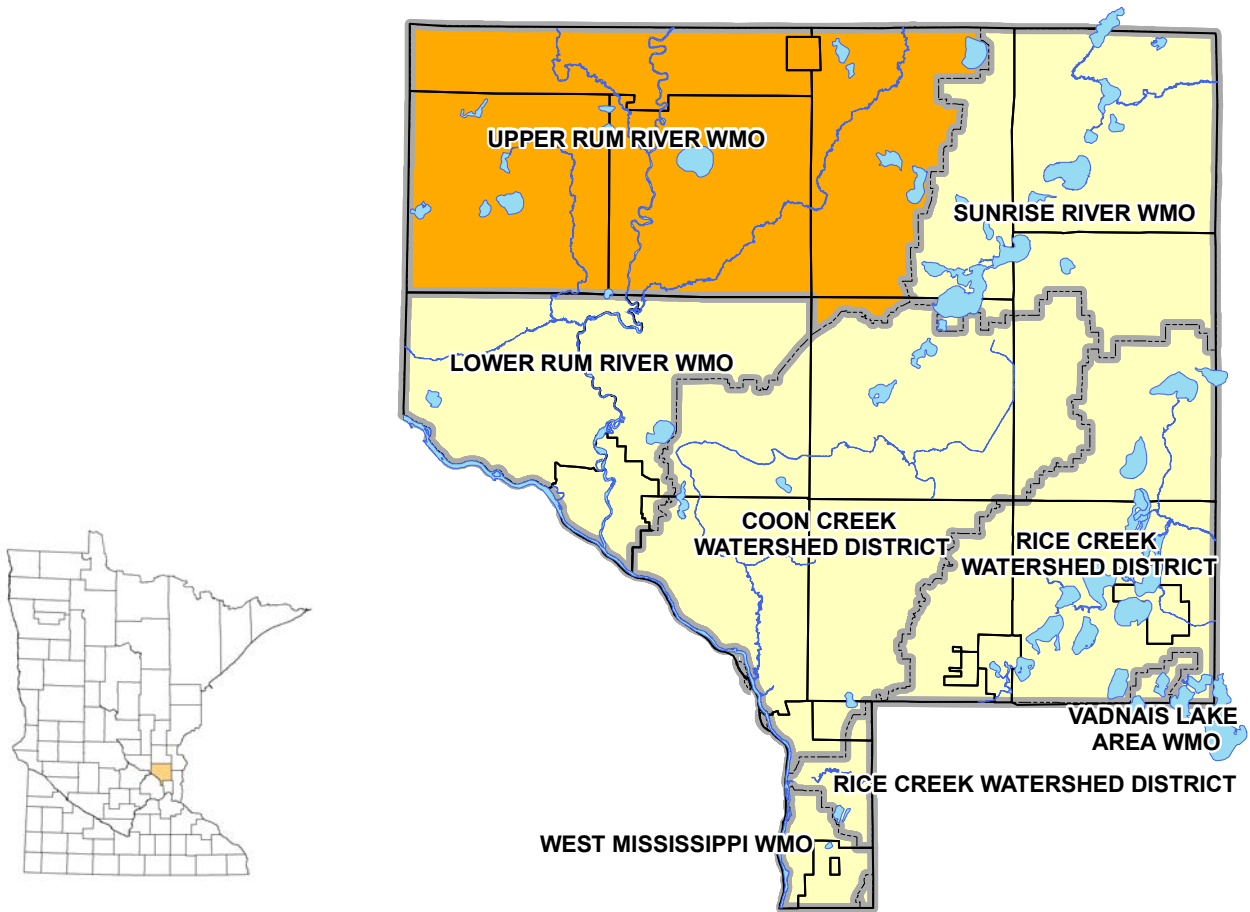


# 2021 Annual Report

## Upper Rum River

### Watershed Management Organization

Bethel - East Bethel – Ham Lake  
Nowthen - Oak Grove – St. Francis



April 29, 2022

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Appendix A – 2021 Financial Report

Appendix B – 2021 Water Monitoring and Management Work Results

Upper Rum River Watershed Management Organization  
9900 Nightingale Street NW  
Oak Grove, MN 55011-9204

## I. Introduction

This report has been prepared to meet the annual watershed management organization reporting requirements of Minnesota Rules 8410.0150. The report is intended to fulfill 2021 reporting requirements.

The Upper Rum River Watershed Management Organization (URRWMO) is a joint powers organization under Minnesota Statutes, Section 471.59. It is comprised of the cities of Bethel, Oak Grove, Nowthen, and St. Francis, and portions of the cities of East Bethel and Ham Lake. Board members are appointed by the member cities. The organization's direction is laid out in its watershed management plan and the member municipalities' local water plans. The URRWMO meets approximately every other month on the first Tuesday at 6:30pm at Oak Grove City Hall, Minnesota.



Rum River at St. Francis

## II. Activity Report

### a. Current Board Members

#### CITY OF BETHEL

Ryan Sequin

rmsequin@gmail.com

Patrick Sullivan (Treasurer)

181 Broadway St

Bethel, MN 55005

612.747.6113

pbsgolfer@yahoo.com

#### CITY OF EAST BETHEL

Tim Harrington

2241 221<sup>st</sup> Ave NE

East Bethel, MN 55011

763.200.2581

tim.harrington@ci.east-bethel.mn.us

Radja Lohse

charlotteandre@usfamily.net

#### CITY OF HAM LAKE

Troy Wolen

17817 Oak Land Dr NE

Ham Lake, MN 55304

763.755.8871

denise@pioneercycle.com

Jeff Entsminger

14916 Central Ave NE

Ham Lake, MN 55304

612.669.4004

jeff@allseasonservices.com

#### CITY OF NOWTHEN

Dan Breyen (Vice Chair)

612.470.2234

dnbreyen@gmail.com

Joel Greenberg

21925 Sugarbush Road

Nowthen, MN 55330

763.245.4864

joelgreenberg67@gmail.com

#### CITY OF OAK GROVE

Dan Denno

20530 Sleepy Hollow Dr NW

Cedar, MN 55011

763.434.4729

Dandenno1@gmail.com

John West (Chair)

612.414.3513

jwest@ci.oak-grove.mn.us

#### CITY OF ST. FRANCIS

Andrew Wood

3419 236<sup>th</sup> Lane NW

St. Francis, MN 55070

217.414.9017

lantornes@gmail.com

Vacant

**b. Day to Day Contact**

The day to day contact persons for the URRWMO who can answer questions about the organization are:

John West, Chair  
 612.414.3513  
 jwest@ci.oak-grove.mn.us

**c. Employees and Consultants**

The URRWMO does not employ staff, but does utilize consulting services and enters into cooperative agreements with other government agencies. A description of contracted services is listed below:

Consultant/Partner	Contact	Work Description
Anoka Conservation District	Jamie Schurbon Watershed Projects Manager 1318 McKay Drive NW, #300 Ham Lake, MN 55304 763-434-2030 ext. 21 jamie.schurbon@anokaswcd.org	<ul style="list-style-type: none"> <li>• Administrative assistance.</li> <li>• Water quality and hydrological monitoring, and special studies.</li> <li>• Website maintenance.</li> <li>• Public outreach/education.</li> <li>• Assistance preparing annual reports to BWSR.</li> <li>• Assistance reviewing local water plans.</li> </ul>
Katie Kalland	Katie Kalland 13737 Underclift St NW Andover, MN 55304 763-218-5208 kkalland@ci.oak-grove.mn.us	<ul style="list-style-type: none"> <li>• Recording secretary for meetings.</li> <li>• Miscellaneous administrative assistance.</li> </ul>

**d. Solicitations for Services**

Minnesota Statutes 103B.227 require watershed management organizations to solicit bids for professional services at least once every two years. In 2021 the URRWMO completed a proposal request for a watershed coordinator, water monitoring, and similar work. Requests for proposals were sent to consulting engineers for member communities and the Anoka Conservation District (ACD). One proposal was received, from ACD. ACD was selected. Previous to this effort, the URRWMO requested similar proposals every two years.

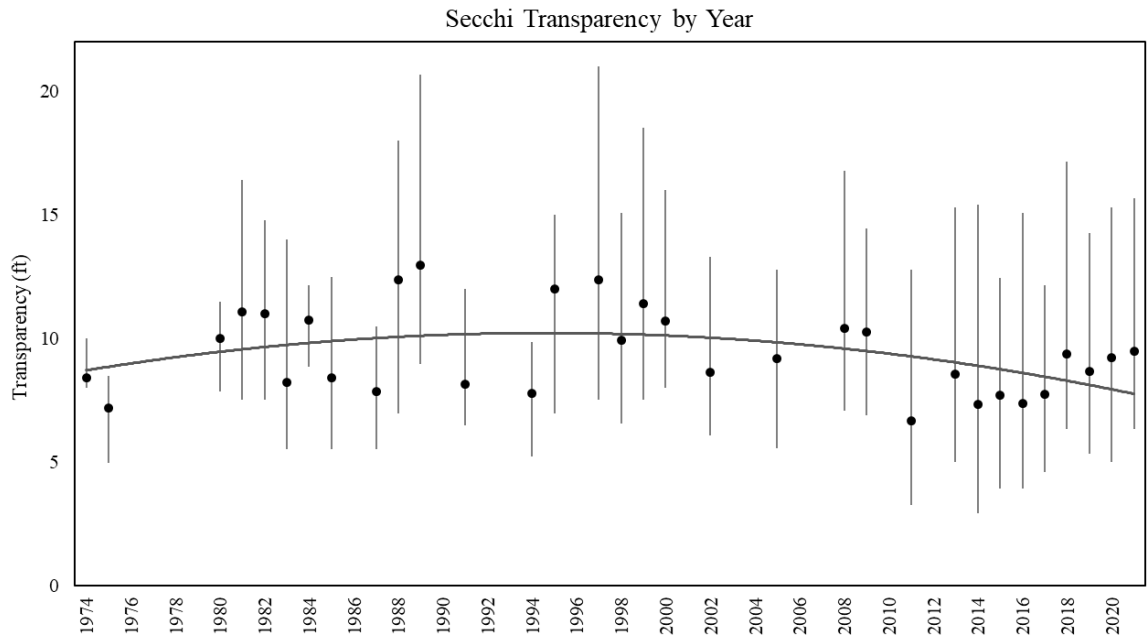
**e. Water Quality Trends**

The URRWMO has a long term water quality monitoring program that includes most larger streams and recreational lakes in the watershed. Many waterbodies are

monitored every 2-3 years. An important part of evaluating implementation of the watershed management plan is looking at water quality trends. Data for each waterbody monitored are provided in **Appendix B**.

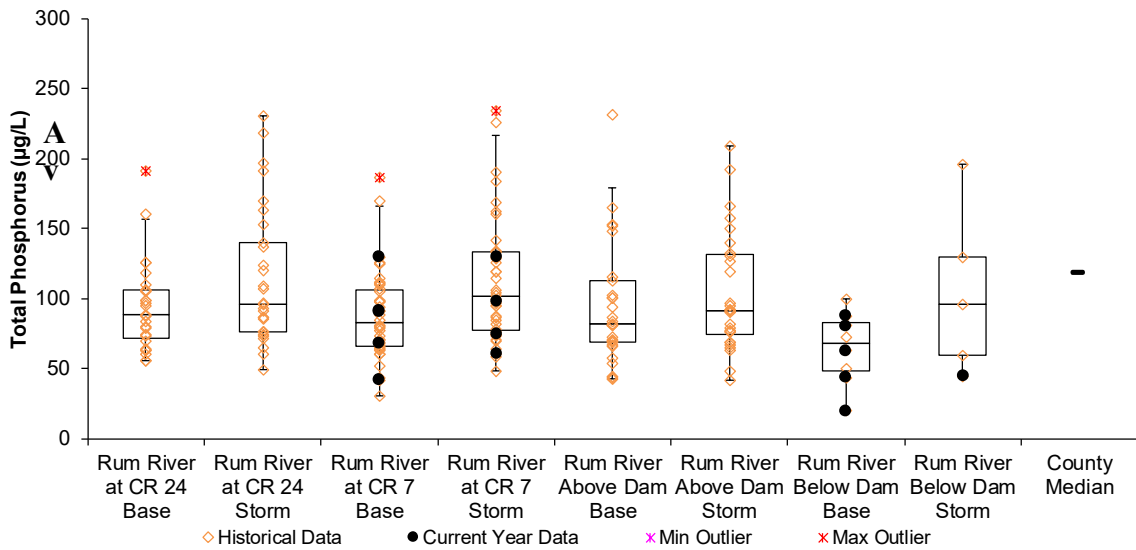
The only waterbody with a statistically significant water quality trend in the watershed is Lake George. Long term (1980-present) the lake has a trend of reduced transparency but no trend for other parameters. If only 2011-2021 are examined, the trend is for improving water quality. Detail of this trend analysis is contained in **Appendix B** and the Rum River Watershed Restoration and Protection Strategies Report (see MPCA website). Research by the Anoka Conservation District has found that consecutive years of high precipitation result in decreased clarity, and those wet years have become more frequent. Lake George was most recently monitored in 2021.

**Lake George Secchi Transparency.** Includes years with partial datasets not covering all open water months. Those years are excluded from ACD’s statistical trend analysis found in the appendix of this graph.

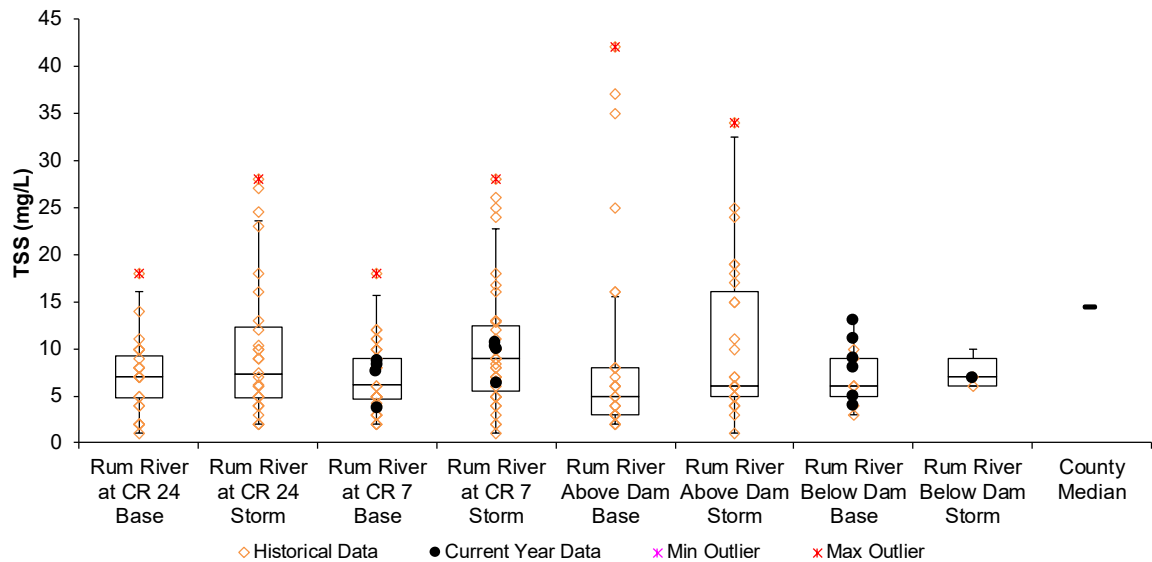


The URRWMO also is interested in how the Rum River’s water quality changes longitudinally, particularly within its jurisdictional boundary. The Rum River is monitored periodically where it enters and exits the URRWMO. The figures below summarize annual average phosphorus and suspended solids including the most recent monitoring in 2018. Overall, water quality of the river changes little in the URRWMO. The Rum River will be monitored in 2022 and 2023.

**Average total phosphorus for the Rum River.** Baseflow and storm conditions are shown for each of three monitoring sites from upstream to downstream. The upstream (left) and middle sites approximate the top and bottom of the URRWMO.



**Average suspended solids for the Rum River.** Baseflow and storm conditions are shown for each of three monitoring sites from upstream to downstream. The upstream (left) and middle sites approximate the top and bottom of the URRWMO.



Additional water quality data is available online. Annual watershed monitoring reports are available on the URRWMO website ([www.URRWMO.org](http://www.URRWMO.org)). All water quality data collected by the URRWMO is on the MN Pollution Control Agency's EQUIS database, which is accessible through their website.

**f. Evaluation of Watershed Management Plan Implementation and 2022 Work Plan**

The current URRWMO Watershed Management Plan was approved by the Minnesota Board of Water and Soil Resources (BWSR) in 2019. The watershed plan contains goals, policies a detailed water monitoring schedule, and a project implementation schedule. The tables on the following page compare planned work to accomplished work for the most recent two years plus list planned work for the upcoming year. There are separate tables for URRWMO work and member community work.



**URRWMO Implementation - URRWMO work planned and accomplished by the URRWMO to fulfill the 3rd Generation URRWMO Watershed Management Plan.**

Task	2019		2020		2021		2022	
	Planned	Accomplished	Planned	Accomplished	Planned	Accomplished	Planned	Underway
<b>Water Condition Monitoring</b>								
Lake Levels - George, East Twin, Coopers, Minard	4	4	4	4	4	4	4	4
Lake Water Quality - George	1	1	0	1	0	1-by lake group		By Met Council
Lake Water Quality - East Twin					1	1		
Stream Water Quality - Rum R at CR 7, Rum R at CR 24, Seelye Br at CR7, Cedar Cr at CR9, Ford Br at CR63. Monitored 4x/yr.							5	5
Reference Wetland Hydrology - 5 sites. % listed is % to be paid by URRWMO.	60%	60%	60%	60%	60%	60%	60%	60%
River Biomonitoring with St Francis High School classes. Dependent upon American Legion.	1		1	1	1	1	1	1
<b>Regulatory and Oversight</b>								
Review and approve 6 city local water plans for consistency with URRWMO Plan	0	6	1	0-done in 2019				
Update URRWMO Stormwater standards			1	Delayed to 2021 when new MS4 permit issued	1	1		
Update URRWMO Wetland standards			1	1	1	1		
Ditch authorities - One URRWMO meeting focused on ditches and reassigning county ditch jurisdiction					1	1		
<b>Education and Outreach</b>								
AWROC - Support Anoka Co Water Outreach Collaborative	1	\$250 groundwater video contribution	1	\$1K for 4th qtr 2020 staffing	1	\$1K	1	\$1,250
Annual newsletter article for city newsletters	1	1	1	1	1	1	1	1
AIS prevention info to URRWMO website			1	1		maintained		maintain
Website overhaul	1	1						
Website operation and maint	1	1	1	1	1	1	1	1
<b>Studies</b>								
Subwatershed Assessments in drainage areas recommended by TAC				requesting WBIF grant	1	WBIF secured for Middle ford Brook study. \$15,375 match provided.		Ford Brook subwatershed study
<b>Projects</b>								
Lake George water quality projects - 20 lb/yr TP reduction. Complete 1 project, start another by 2028.			projects over 10 yrs		projects over 10 yrs	1 constructed - 20 lf. 0.48 lb/yr TP. 7 in design - 573 lf, 14.6 lb/yr TP.	projects over 10 yrs	7 sites - 573 lf, 14.6 lb/yr TP.
Rum Riverbank stabilizations - 180 tons/yr sediment reduction and 250 lbs/yr TP reduction. 2 projects min by 2028.		Committed match for grant pursuit	projects over 10 yrs	Provided grant matching funds. Two grants secured.	projects over 10 yrs	Miller site - 400 lf, 140 T sediment, 119 lb TP Cedar tree revetments - 4 sites, 2,080 lf, 156 T sediment, 132.6 lb TP. In collaboration with ACD.	projects over 10 yrs	Dellwood Park in St. Francis - 750 lf. In collaboration with ACD.
Rum River Stormwater Retrofits - 3 lbs/yr TP reduction and 500 lbs/yr sediment reduction. 2 projects min by 2028.			projects over 10 yrs		projects over 10 yrs		projects over 10 yrs	Planning phase for projects in St. Francis. WBIF being secured.
Funding for the above projects	\$15,000	\$0	\$15,366	\$15,366 grant match provided for \$1.1M in grants by ACD	\$15,375	\$15,375 grant match provided for metro Rum WBIF grant held by ACD	\$15,759	\$15,759 grant match provided for metro Rum WBIF grant held by ACD

**Continued - URRWMO Implementation - Work planned and accomplished by the URRWMO to fulfill the 3rd Generation URRWMO Watershed Management Plan.**

Task	2019		2020		2021		2022	
	Planned	Accomplished	Planned	Underway	Planned	Accomplished	Planned	Underway
<b>Administrative</b>								
Hire watershed coordinator	1	1	1	1	1	1	1	1
Grant applications (5 over 10 yrs)				WBIF for multiple projects. LSOHC, CWF and CPL for riverbank stabilizations. >\$1M total secured.		WBIF for multiple projects		Rum metro and whole watershed WBIF. LSOHC Rum riverbanks request by ACD.
Audit or agreed upon procedures engagement			1	1				
<b>Planning and Plan Updates</b>								
Amend URRWMO Plan with TAC prioritized projects, etc.					1	1		
Review Rum River WRAPS. Revisit/revise water quality goals during 2 URRWMO meetings.							1	1
Prepare 5th Generation URRWMO Plan								
<b>Watershed Coordinator Tasks</b>								
Annual financial report	1	1	1	1	1	1	1	1
Annual report to BWSR	1	1	1	1	1	1	1	1
Mini-report to cities	1	1	1	1	1	1	1	1
Facilitate board mtgs, meeting packets, etc	1	1	1	1	1	1	1	1
Facilitate TAC meetings	1	1	1	1	1	1	1	1
Review local water plans	0	6	6	done in 2019				
Grant applications	1	3 for Rum Riverbank stabilizations	1	WBIF		WBIF		WBIF
Request biomonitoring funding from American Legion	1	1	1	1	1	1	1	1
Update form for city reporting to WMO	1	1						
Remind cities to review and update ordinances. Track progress			1	1		1		
Pontoon tour meeting with Lake George groups	1	1				Attempted		In planning
<b>Technical Advisory Committee Tasks</b>								
Update form for city reporting to WMO			1	1				
URRWMO projects prioritization	1	1						
Update URRWMO wetland standards			1	underway	1	1		
Update stormwater runoff control ordinance			1	Delayed to 2021 when new MS4 permit issued	1	1		
Develop land locked basin standards			1	1				
Develop culvert inventory methods			1	1				Inventories done in Nowthen, HL, EB. Not done in St. F. Underway in OG.
Develop stormwater BMP inspection method/form			1	1				
Project prioritization			1	1				
Prioritize future subwatershed assessment studies			1	1				

**Member City Implementation - URRWMO work planned and accomplished by the member cities to fulfill the 3rd Generation URRWMO Watershed Management Plan.**

Task	2020		2021		2022	
	Planned	Accomplished	Planned	Accomplished	Planned	Underway
<b>Ordinance Reviews</b>						
Construction site erosion control ordinance	6	EB, HL, SF, Nowthen	6	All except Bethel		Bethel
Post-construction stormwater mgmt ordinance	6	Delayed to 2021 when new MS4 permit issued	6	6		
Floodplain ordinance	6	EB, HL, SF, Nowthen	6	All except Bethel		Bethel
Wetland ordinance or mgmt plan	6	EB, HL, SF, Nowthen	6	All except Bethel		Bethel
Shoreland ordinance	6	EB, HL, SF, Nowthen	6	All except Bethel		Bethel
Wellhead protection plan	6	EB, HL, SF, Nowthen	6	All with public water supplies		
Erosion control ordinance	6	EB, HL, SF, Nowthen	6	All except Bethel		Bethel
Landlocked basins discharge standards			6	6		
<b>Inspections and Inventories</b>						
Stormwater BMP assessments/inspections (due 2026)						
Culvert inventory (due end of 2022)	6	EB, HL, SF, Nowthen	6	6		
<b>Reporting</b>						
Annual report to URRWMO	6	All except Bethel	6	All except Bethel & East Bethel	6	6
<b>Other</b>						
Ratify URRWMO budget	6	6	6	6	6	6
Update local water plan for consistency with URRWMO Plan						
Participate in URRWMO Technical Advisory Committee	6	6				

Numbers listed are number of cities.

Note: List includes only tasks with tangible deliverables.

**g. Status of Local Ordinances, Plan Adoption and Implementation**

All URRWMO member cities recently updated their local water plans for consistency with the 3rd Generation URRWMO Watershed Management Plan. As of April 2020 the URRWMO has approved updated local water plans for all communities except Bethel and Ham Lake. The URRWMO receiving updates at every URRWMO meeting to work toward approvable plans.

To track member cities’ progress on local plan implementation, the URRWMO requires a brief annual report from each city and provides a template for this report. In addition to serving as a reporting tool, the template serves as a “to do” list for our cities. These reports are available upon request, and are summarized in the table below.

**Status of city local water plans and some recent accomplishments toward plan implementation.**

<b>City of Bethel</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	No
<b>Local Water Plan Status</b>	Bethel’s local water plan was approved by the URRWMO in 2019.
<b>Ordinances Status</b>	The City was asked to review ordinances in 2020 for compliance with local, state and federal minimum requirements. That task is 90% complete, and final ordinance updates are being prepared by the city’s code writer.
<b>Some Recent Implementation Accomplishments</b>	No reporting to the URRWMO has been submitted since 2015.
<b>City of East Bethel</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	No
<b>Local Water Plan Status</b>	East Bethel’s Local Water Plan was approved by the URRWMO in November 2020.
<b>Ordinances Status</b>	The City has reviewed URRWMO-required ordinances for compliance with local, state and federal minimum requirements. The city has all required ordinances at or above minimums. Ordinances include construction site erosion control, post-construction stormwater management, floodplain, wetlands, shoreland and wellhead. Review date: 2/2020.
<b>Some Recent Implementation Accomplishments</b>	<ul style="list-style-type: none"> <li>• Culvert inventory, a requirement of the 3<sup>rd</sup> Generation URRWMO plan, is complete and stored on the Anoka County online Water Resources Mapping tool.</li> <li>• Annual inspection of all outfalls and skimmers and 1/5<sup>th</sup> of stormwater ponds.</li> <li>• Compliance with MPCA NPDES rules.</li> <li>• Ongoing work to complete BMP’s in the City’s Storm Water Pollution Prevention Plan.</li> <li>• Educational efforts by website and thee newsletter articles reaching 12,000 residents about hazardous waste disposal and habitat.</li> </ul>

<b>City of Ham Lake</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	Yes
<b>Local Water Plan Status</b>	The URRWMO approved the City of Ham Lake Local Water Plan September 14, 2021.
<b>Ordinances Status</b>	The City has reviewed URRWMO-required ordinances for compliance with local, state and federal minimum requirements. The city has all required ordinances at or above minimums, primarily by referencing URRWMO standards. Ordinances include construction site erosion control, post-construction stormwater management, floodplain, wetlands, shoreland and wellhead. Review date: 2019.
<b>Some Recent Implementation Accomplishments</b>	<ul style="list-style-type: none"> <li>• Culvert inventory, a requirement of the 3<sup>rd</sup> Generation URRWMO plan, is complete. However, the inventory is not stored on the Anoka County online Water Resources Mapping tool as recommended by the URRWMO technical advisory committee and required by the URRWMO.</li> <li>• Annual inspection of 20% of all ponds and outfalls and 100% of structural BMPs.</li> <li>• Educational efforts by website, newsletters, and workshops reaching 6,629 households about hazardous waste disposal and water conservation.</li> <li>• Routine inspection of land disturbance activities and requiring erosion and sediment control plans.</li> <li>• Street sweeping.</li> <li>• Ongoing work to complete BMP's in the City's Storm Water Pollution Prevention Plan.</li> </ul>
<b>City of St. Francis</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	Yes
<b>Local Water Plan Status</b>	East Bethel's Local Water Plan was approved by the URRWMO in September 2020.
<b>Ordinances Status</b>	The City has reviewed URRWMO-required ordinances for compliance with local, state and federal minimum requirements. The city has all required ordinances at or above minimums. Ordinances include construction site erosion control, post-construction stormwater management, floodplain, wetlands, shoreland and wellhead. Review date: 2/2020.
<b>Some Recent Implementation Accomplishments</b>	<ul style="list-style-type: none"> <li>• Culvert inventory, a requirement of the 3<sup>rd</sup> Generation URRWMO plan, was completed in 2017 but is now being updated in 2022. The inventory is not stored on the Anoka County online Water Resources Mapping tool as recommended by the URRWMO technical advisory committee and required by the URRWMO.</li> <li>• Annual inspection of all outfalls and skimmers and 1/5<sup>th</sup> of all ponds. No IDDE issues were found; some regular maintenance issues were identified.</li> <li>• Educational efforts by website and newsletters reaching 7,200 residents about shoreline management, AIS, habitat, water quality improvement and the URRWMO.</li> </ul>
<b>City of Nowthen</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	Yes
<b>Local Water Plan</b>	The URRWMO approved Nowthen's local water plan in 2019.

<b>Status</b>	
<b>Ordinances Status</b>	The City has reviewed URRWMO-required ordinances for compliance with local, state and federal minimum requirements. The city has all required ordinances at or above minimums. Ordinances include construction site erosion control, post-construction stormwater management, floodplain, wetlands, shoreland and wellhead. Review date: 2/2020.
<b>Some Recent Implementation Accomplishments</b>	<ul style="list-style-type: none"> <li>• Culvert inventory, a requirement of the 3<sup>rd</sup> Generation URRWMO plan, was completed in 2008. However, the inventory is not stored on the Anoka County online Water Resources Mapping tool as recommended by the URRWMO technical advisory committee and required by the URRWMO.</li> <li>• Annual inspection of all outfalls and skimmers and 1/5<sup>th</sup> of all ponds. No IDDE issues were found; some regular maintenance issues were identified.</li> <li>• Educational efforts by website and newsletters reaching 2,300 residents about hazardous waste disposal and the URRWMO.</li> </ul>
<b>City of Oak Grove</b>	
<b>Submitted 2021 annual report to URRWMO?</b>	No
<b>Local Water Plan Status</b>	The URRWMO approved Oak Grove's local water plan in 2019.
<b>Ordinances Status</b>	The City reported in November 2020 that city ordinances had been reviewed and were consistent with URRWMO minimums.
<b>Some Recent Implementation Accomplishments</b>	<ul style="list-style-type: none"> <li>• Inspections of 23 of their 128 ponds and all 18 stormwater outfalls.</li> <li>• Progress toward a culvert inventory with anticipated completion Sept. 2022.</li> <li>• Educational efforts by website, newsletters, &amp; cable access TV reaching 2,000 households about hazardous waste disposal, shoreline management, water quality improvement, and the URRWMO.</li> <li>• Reviewed erosion and construction ordinances in 2022 for compliance with new MS4 permit.</li> </ul>

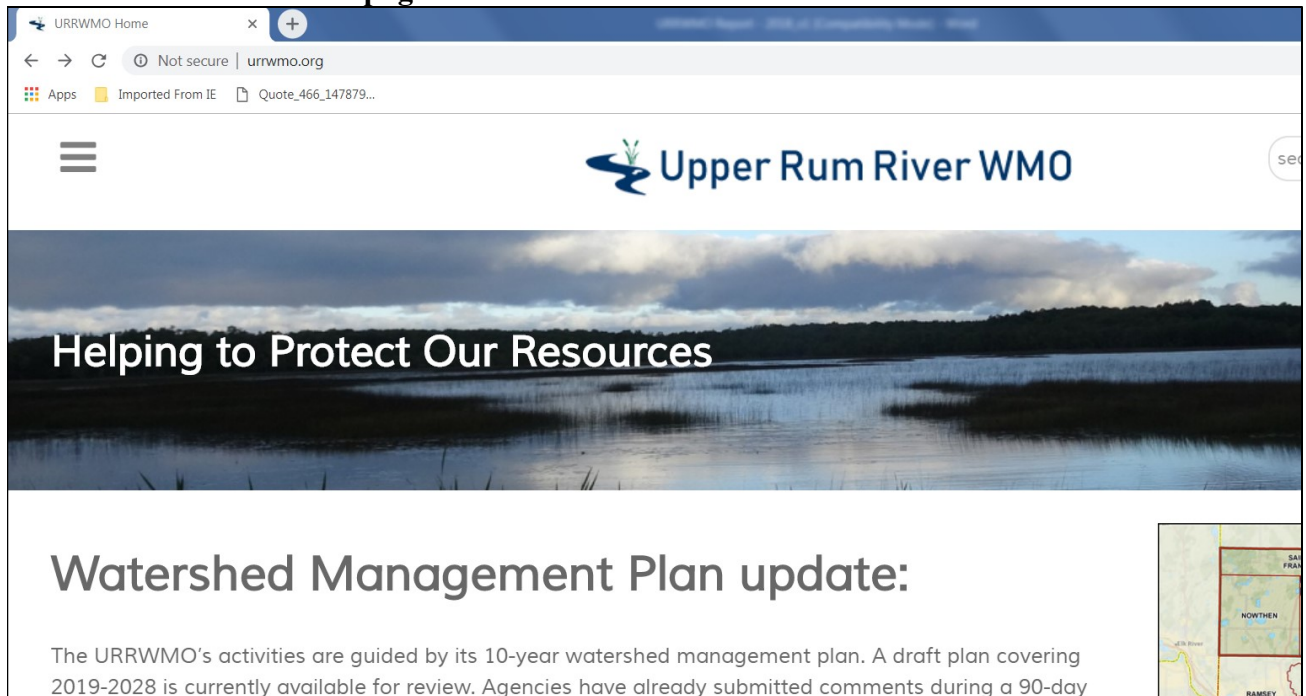
## h. Public Outreach

The URRWMO and its member cities do periodic public outreach and education projects, but the URRWMO’s website serves as the primary, continuous public outreach tool. Website contents include general information about the organization, the watershed management plan, meeting agendas and minutes, water monitoring results, profiles of WMO projects, access to mapping and data access tools, and others.

The URRWMO ensures visibility of its website by asking member cities and townships to post the URRWMO website address in their newsletters. Links to the URRWMO website are also provided through other websites including the Anoka Conservation District and member municipality websites.

The website address is <http://www.urrwmo.org>

### URRWMO Website homepage



In recent years the URRWMO contributed to a partnership that has produced animated videos to educate the public about water resources issues. The videos were produced by the Anoka County Water Resource Outreach Collaborative. The videos are available on the AnokaSWCD YouTube channel include:  
Part One: “Our Groundwater Connection”  
Part Two: “Our Groundwater Connection: Contamination”  
Our Lakeshore Connection  
Rain Gardens 101

Additional public outreach is accomplished through annual newsletter articles. The articles are distributed to member communities for distribution in their newsletters. In 2021 the URRWMO’s newsletter articles included promoting riverbank stabilization and septic system fix-up cost share grants, as well as reminding residents to regularly maintain septic tanks. Articles were printed in city newsletters. Articles are shown below.

**2021 Newsletter Articles**

**Upper Rum River Watershed Management Organization**

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**MEDIA RELEASE**

Contact person: **Jamie Schurbon** 763-434-2030 ext. 21  
 Date: **March 26, 2021**

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**Rum Riverbank and Lake George Shorelines Getting TLC**

Over \$1.5 million dollars will soon be invested to stabilize Rum Riverbanks in Anoka County and \$70,000 for Lake George shoreline stabilization. The work is aimed at improving water quality and adding near-shore habitat. There are also benefits of protecting property. Work will ongoing at as many as 25 locations during 2021-2023.

Projects will range in size. At some locations, minor erosion can be corrected with techniques that “soft armor” the bank with natural materials such as cut (dead) cedar trees. In cases of more significant erosion, work may include re-grading to a stable slope, rock rip rap, and other measures. Most projects include deep rooted native vegetation for stability and habitat.

Many sites where a shoreline stabilization would be beneficial have been pre-identified. Those owners will be directly contacted. Participation is voluntary. Others interested may contact the Anoka Conservation District. For Rum riverbanks the contact is Jared Wagner, at [jared.wagner@anokaswcd.org](mailto:jared.wagner@anokaswcd.org) or (763) 434-2030 x20. For Lake George shorelines contact is Jamie Schurbon, at [jamie.schurbon@anokaswcd.org](mailto:jamie.schurbon@anokaswcd.org) or (763) 434-2030 x21.

Funding is from multiple sources including the Clean Water Land and Legacy Amendment, Anoka Conservation District, Anoka County, the Upper and Lower Rum River Watershed Mangement Organizations, the Nature Conservancy, and landowners.



**BEFORE**

*Example riverbank stabilization.*



**BEFORE**



**MEDIA RELEASE**

Contact person: **Jamie Schurbon** 763-434-2030 ext. 21  
 Date: **March 26, 2021**

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**Septic System Fix-Up Grants Available!**

Septic system fix up grants are available that can pay for 80-90% of the cost of fixing or replacing a septic system. Applicants must meet low income criteria. To apply or learn more, contact Kris Larson at the Anoka Conservation District ([Kris.Larson@anokaswcd.org](mailto:Kris.Larson@anokaswcd.org) or 763-434-2030 ext. 11).

A properly functioning septic system provides effective treatment of wastewater. If a system is neglected, it could cost thousands of dollars to repair and potentially contaminate local and surface water supplies, putting the health of your family and neighbors at risk.



*The Upper Rum River Watershed Management Organization is a joint organization of East Bethel, Ham Lake, Newburg, Oak Grove, and St. Francis. Its purpose is to manage*

**Why Pump Your Tank?**

<p><b>Maintenance prevents costly repairs</b></p> 	<p><b>Increase septic system lifespan</b></p> 
<p><b>Avoid clogs and backups</b></p> 	<p><b>Prevent backups on the lawn</b></p> 
<p><b>Keep groundwater, streams, and lakes clean</b></p> 	<p><b>Ensure smooth drainage</b></p> 

Three years is the longest you should go without pumping your septic tank. Avoid costly repairs. Keep our lakes, rivers, and drinking water clean!

Upper Rum River Watershed Management Organization  
[www.URRWMO.org](http://www.URRWMO.org)



**i. Permits**

The URRWMO does not issue permits, variances, or take enforcement actions. These responsibilities are held by the member municipalities.

### III. Financial and Audit Report

**a. 2021 Financial Summary**

See Appendix A – 2021 Financial Report.

**b. Financial Audit**

The URRWMO is required to have an audit or agreed upon procedures engagement only once every five years in accordance with MN Statutes, section 6.756. The URRWMO last underwent an audit in 2020 for 2019 finances.

**c. 2022 Budget**

In May 2021 the URRWMO Board approved their 2022 budget as presented below.

NON-OPERATING (WORK PLAN) EXPENSES	Cost	Bethel 1.08%	East Bethel 23.45%	Ham Lake 1.62%	North 23.45%
Water Monitoring Fund*	\$0.00	\$0.00	\$0.00	\$0.00	
Lake Level Monitoring - Lake George, East Twin Lake, Coopers Lake, Minard Lake	\$1,200.00	\$12.96	\$281.40	\$19.44	
Stream Water Quality Monitoring - Rum R at CR 24, Rum R at CR 7, Seelye Br at CR 7, Cedar Cr at CR 9, Ford Br at CR 63	\$4,350.00	\$46.98	\$1,020.08	\$70.47	\$
Reference Wetland Hydrology Monitoring - 5 sites	\$1,950.00	\$21.06	\$457.28	\$31.59	
Biomonitoring - Rum River by St. Francis High School. URRWMO to seek 100% of funds from American Legion	\$0.00	\$0.00	\$0.00	\$0.00	
Website - Annual Operations	\$715.00	\$7.72	\$167.67	\$11.58	
Public education and outreach	\$1,077.00	\$11.63	\$252.56	\$17.45	
Anoka Co Water Resource Outreach Collaborative	\$1,000.00	\$10.80	\$234.50	\$16.20	
Projects as detailed in the 10-year Plan	\$15,759.00	\$170.20	\$3,695.49	\$255.30	\$
Watershed Coordinator, component activities/costs listed below					
Facilitate technical advisory committee (TAC) meetings	\$1,723.00	\$18.61	\$404.04	\$27.91	
Grant applications	\$3,877.00	\$41.87	\$909.16	\$62.81	
<b>TOTAL</b>	<b>\$31,651.00</b>	<b>\$341.83</b>	<b>\$7,422.16</b>	<b>\$512.75</b>	<b>\$</b>

OPERATING EXPENSES	Cost	Bethel 16.67%	East Bethel 16.67%	Ham Lake 16.67%	North 16.67%
Copies & Postage	\$0.00	\$0.00	\$0.00	\$0.00	
Recording secretary	\$1,292.00	\$215.33	\$215.33	\$215.33	
Insurance-League of MN Cities Insurance Trust	\$2,477.00	\$412.83	\$412.83	\$412.83	
Administrative fee charged to member communities - for Watershed Coordinator, component activities/costs listed below					
Annual financial report to State Auditor	\$689.00	\$114.83	\$114.83	\$114.83	
Annual activity report to MN Board of Water and Soil Resources	\$1,378.00	\$229.67	\$229.67	\$229.67	
Facilitate regular URRWMO meetings	\$3,446.00	\$574.33	\$574.33	\$574.33	

# Appendix A:

## 2021 Financial Report

# **UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION**

## **FINANCIAL REPORT FOR YEAR ENDED DECEMBER 31, 2021**

### **To the Chairperson, John West, of Upper Rum River Water Management Organization**

The enclosed statement has been prepared after review of the organization's financial records for 2020. I have not audited the organization's records and do not express an opinion. The enclosed information fairly reflects the Upper Rum River WMO's financial position for the stated year.

April 19, 2022

Prepared by:  
Jamie Schurbon, Anoka Conservation District  
1318 McKay Drive NE, suite 300  
Ham Lake, MN 55304  
763-434-2030

**UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION**  
**9900 Nightingale Street NW**  
**Oak Grove, MN 55011-9204**

**STATEMENT OF REVENUES AND EXPENSES**

For: year beginning January 1, 2021 and Ending December 31, 2021

<b>Expenditures</b>	<b>Amount</b>
<b>Administrative</b>	
Insurance – League of MN Cities Insurance Trust	\$2,279.00
Secretarial services	\$875.00
Watershed coordinator operating expenditures including required reporting, mtg facilitation, and other - Anoka Conservation District (ACD)	\$7,060.00
Other	\$0.00
SUBTOTAL	\$10,214.00
<b>Non-Administrative</b>	
Water monitoring - ACD	\$5,050.00
Water quality improvement grant projects - ACD	\$17,912.50
Public education and outreach – ACD	\$1,716.00
Watershed coordinator non-operating expenses	\$5,382.00
Other	
Other	
SUBTOTAL	\$30,060.50
<b>GRAND TOTAL</b>	<b>\$40,274.50</b>
<b>Revenues</b>	<b>Amount</b>
City of Bethel - 2021 contributions	\$2,151.08
City of Nowthen - 2021 contributions	\$9,767.90
City of East Bethel - 2021 contributions	\$9,640.68
City of Ham Lake - 2021 contributions	\$2,329.88
City of Oak Grove - 2021 contributions	\$11,672.96
City of St. Francis - 2021 contributions	\$8,653.00
LMCIT insurance dividends	\$358.00
<b>GRAND TOTAL</b>	<b>\$44,573.50</b>
<b>Retained Cash Reserves</b>	<b>\$4,299.00</b>
<b>Total Cash Reserves</b>	<b>\$11,808.16</b>

**UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION**

BALANCE SHEET

For the year beginning January 1, 2021 and ending December 31, 2021

<b>Assets</b>	
Cash	\$11,808.16
Accounts Receivable	\$0.00
Other	\$0.00
Other	\$0.00
<hr/>	
Total Assets	\$11,808.16

<b>Liabilities</b>	
Accounts Payable	\$0.00
Other	\$0.00
Other	\$0.00
Other	\$0.00
<hr/>	
Total Liabilities	\$0.00

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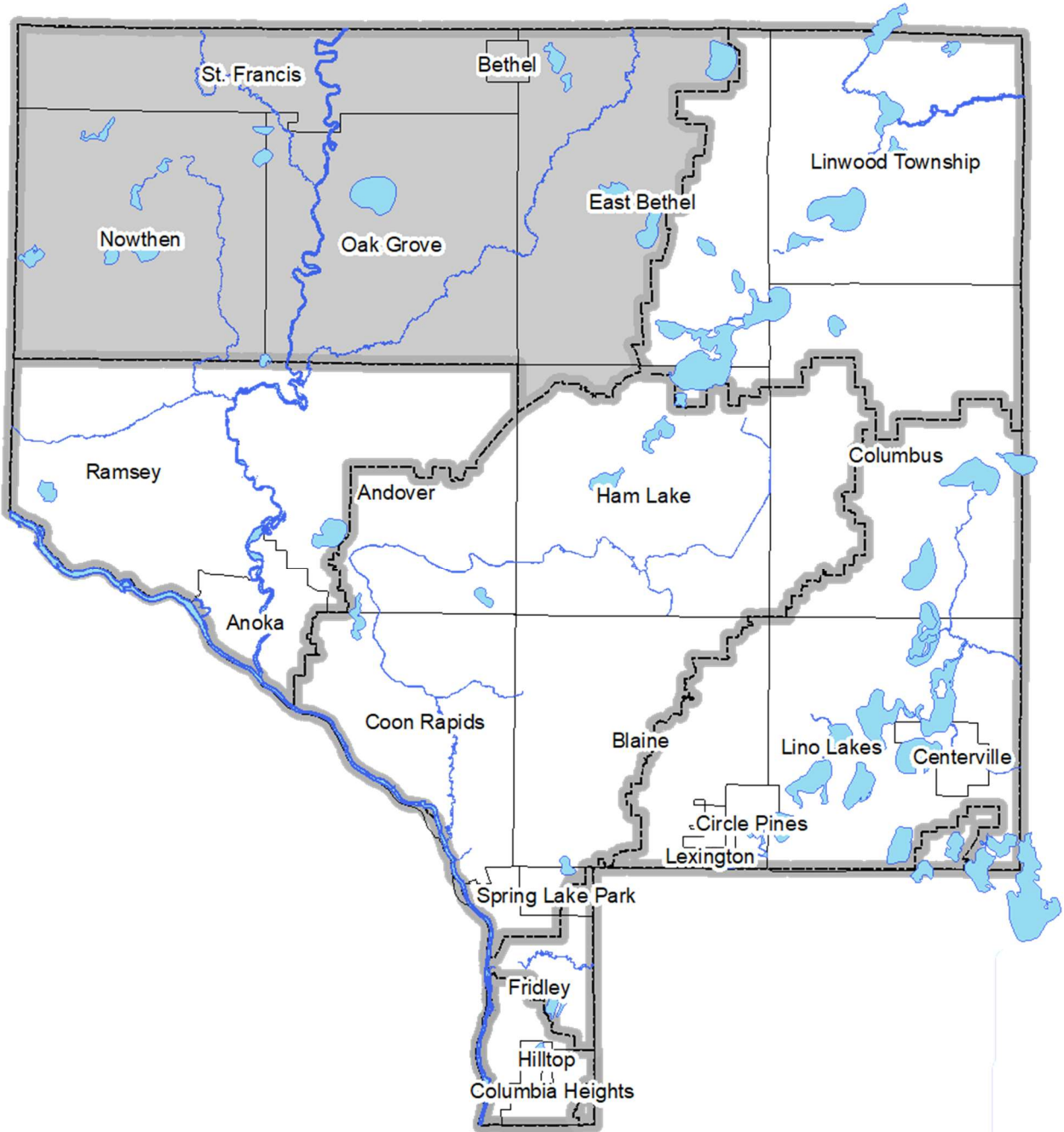
# Appendix B:

## 2021 Water Monitoring and Management Work Results



# Excerpt from the 2021 Water Almanac

## Chapter 3: Upper Rum River Watershed



Prepared by the Anoka Conservation District

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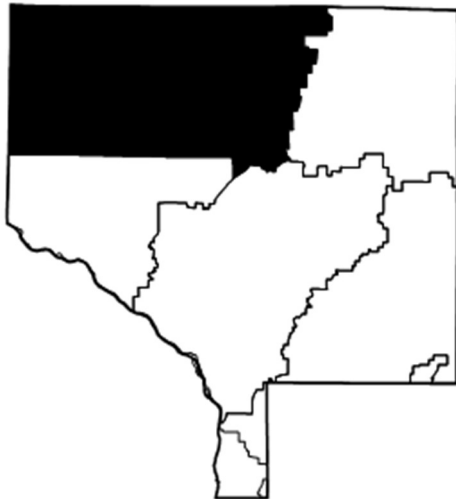
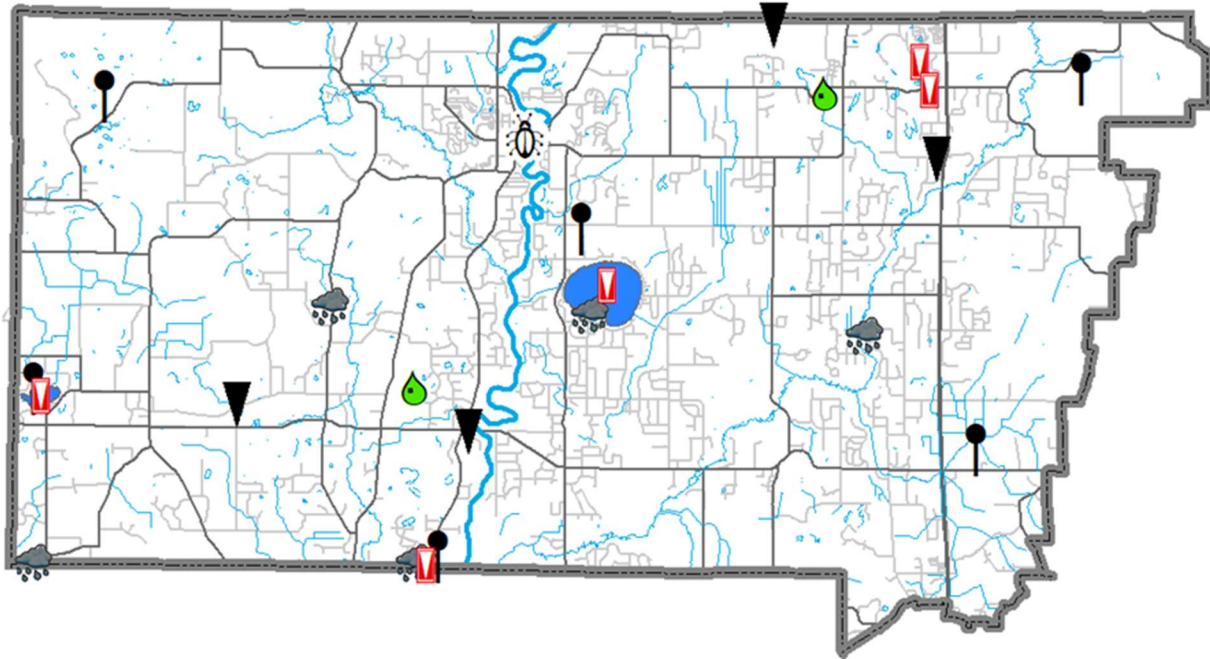
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## **Recommendations**

- **Participate in the Rum River One Watershed One Plan** process, resulting in prioritized management across the entire Rum River watershed.
- **Fund and install projects identified in the URRWMO Watershed Management Plan.** This prioritized list was created by the URRWMO Technical Advisory Committee (TAC):
  1. Rum Riverbank stabilizations\*
  2. Anoka County Water Resources Outreach Collaborative\*
  3. Perform stormwater retrofit analyses for the Rum River and subwatershed assessments\*. Prioritized subwatershed assessment areas are: Pickerel Lake, East Twin Lake, Rum River direct drainage, and City of Bethel periphery.
  4. Lake George shoreline stabilizations\*
  5. Lake George iron-enhanced sand filter feasibility study.
  6. Ditch 19 connector dredging.
- \* Indicates projects that have been initiated using State grant funds and URRWMO matching funds.
- **Bring projects to a construction-ready status** so they are positioned for State Watershed Based Implementation Funds. 10% match is needed for these grants.
- **Monitor Lake George water quality at least every other year.** The lake has had a declining clarity trend in recent years. The Lake Improvement District, URRWMO, and Met Council plan to cover most years.
- **Protect Lake George water quality.** Measures include installing projects ranked in a 2018 study and ensuring robust stormwater retention/treatment for any new development in the subwatershed. Wetter years (which have become more frequent) drive poorer water quality in this lake due to stormwater and flushing of nutrient-rich wetland systems, and increases in runoff from new impervious surfaces will exacerbate the situation.
- **Promote practices that limit road deicing salt applications** while keeping roads safe. Streams throughout the URRWMO have increasing specific conductance. Requiring municipal plow drivers to become certified through MN Pollution Control Agency deicing courses is recommended.
- **Periodically monitor chlorides in streams.** Monitoring every 3 years minimum is recommended.
- **Promote groundwater conservation and protection.** Metropolitan Council models predict 3+ ft. drawdown of surface waters in parts of the URRWMO by 2030, and 5+ ft. by 2050. This indicates conservation actions will be required to ensure the groundwater supply stays sufficient. Infiltration practices should be highly prioritized, and unused wells on private and public lands should be sealed to prevent contamination.
- **In the East Twin and Pickerel Lake subwatersheds, protect undeveloped lands or implement rigorous water quality protection measures during development.** These lakes have good water quality. Because they have small drainage areas, land use in those areas is an especially important determinant of water quality.

# Map: 2021 Water Monitoring Sites

## Upper Rum River WMO Area



**2021 Monitoring Sites**

- Lake Water Quality
- Lake Levels
- Stream Hydrology
- Wetland Hydrology
- Groundwater Hydrology
- Student Biomonitoring
- Volunteer Precipitation
- Anoka County Weather

# Lake Levels Monitoring

**Partners:** URRWMO, ACD, MN DNR, Volunteers

**Description:** Weekly water level monitoring using lake gages placed in each lake. The past five and twenty-five years of data (if available) for each lake are illustrated below, and all historical data are available on the Minnesota DNR website using the “LakeFinder” feature (<https://www.dnr.state.mn.us/lakefind/index.html>).

**Purpose:** To understand lake hydrology, including the impact of climate or other water budget changes. These data are useful for regulatory, building/development, and lake management decisions.

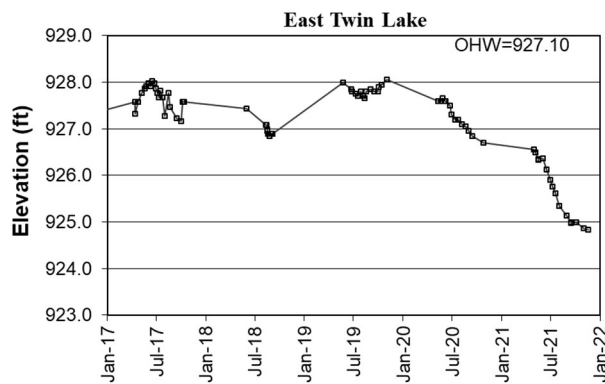
**Location:** East Twin Lake, Lake George, Rogers Lake, Coopers Lake, and Minard Lake

**Results:** Volunteers throughout the 2021 open water season measured lake levels. Lake gages were installed by Anoka Conservation District and surveyed by the MN DNR. In 2021, lake levels started near or below average and declined throughout the season. The rebound often seen in the fall was not observed. 2021 was the 11th driest season on record, and Anoka County was in a state of drought beginning in June, with most of the growing season spent in a severe drought condition.

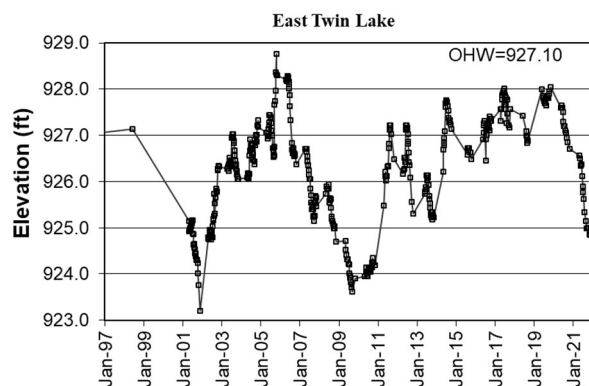
Lower average water levels were recorded on all lakes when compared to 2020. East Twin Lake’s average dropped more than 1.5 feet from 2020. Lake George reached its lowest level since 2012 and Rogers Lake since 2010. Minard and Coopers Lakes had their lowest levels ever recorded; however these two lakes have a shorter record.

All lake level data can be downloaded from the MN DNR website’s Lakefinder feature. Ordinary High Water Level (OHW), the elevation below which a DNR permit is needed to perform work, is listed for each lake on the corresponding graphs below.

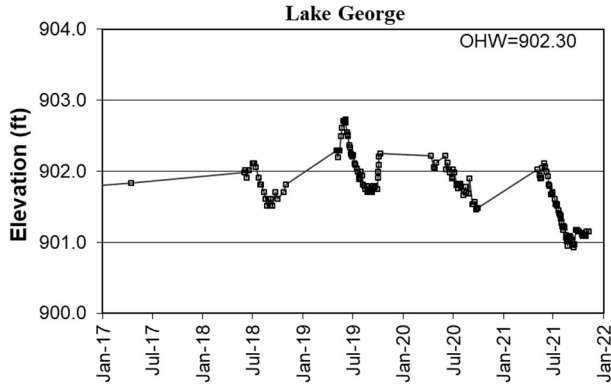
**East Twin Lake Levels – last 5 years**



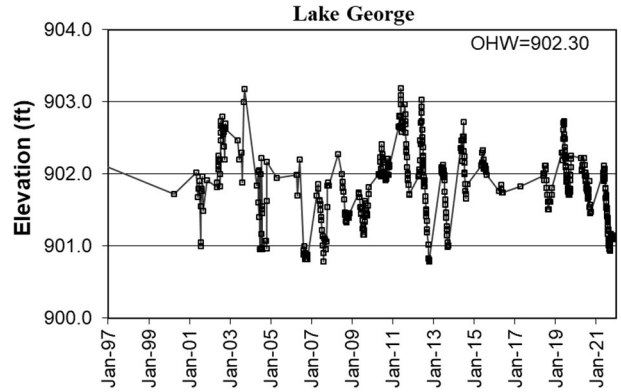
**East Twin Lake Levels – Last 25 years**



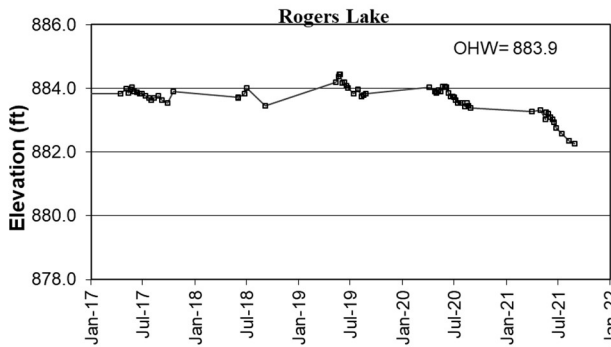
**Lake George Levels – last 5 years**



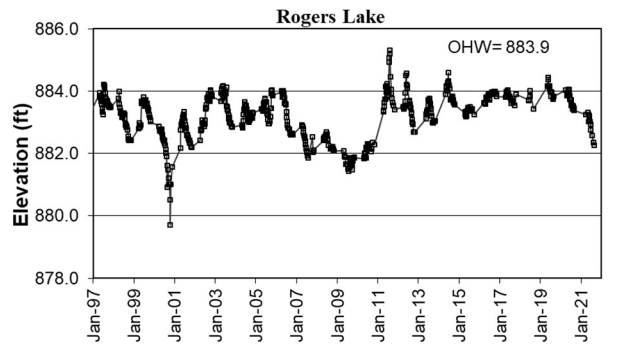
**Lake George Levels – last 25 years**



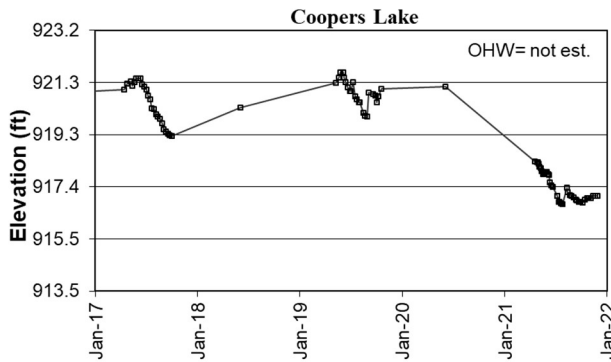
**Rogers Lake Levels – last 5 years**



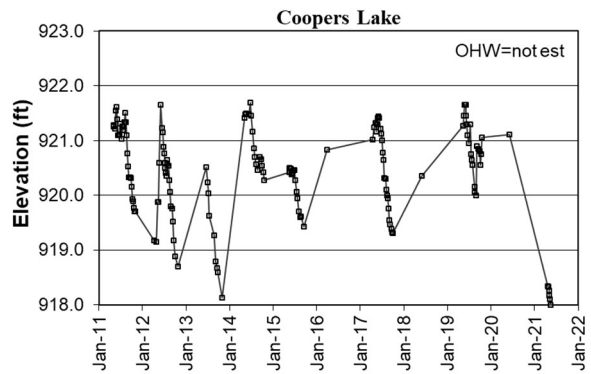
**Rogers Lake Levels – last 25 years**



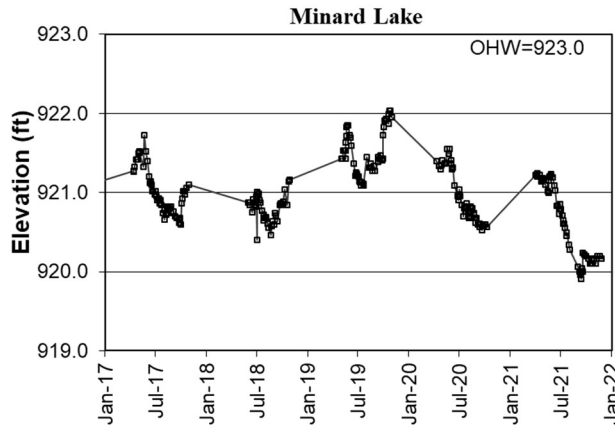
**Coopers Lake Levels – last 5 years**



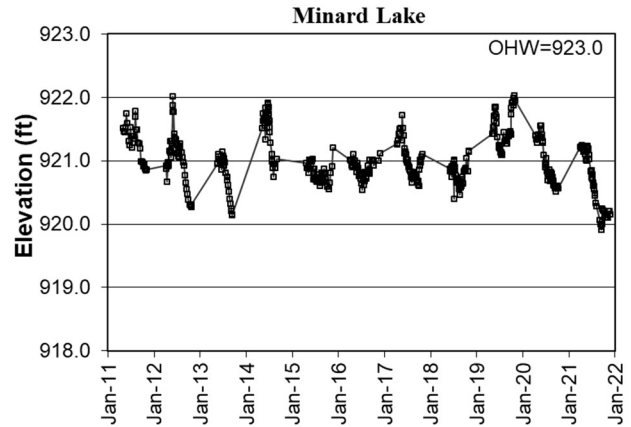
**Coopers Lake Levels – last 10 years**



**Minard Lake Levels – last 5 years**



**Minard Lake Levels – last 10 years**



Lake	Year	Average	Min	Max
East Twin	2017	927.67	927.17	928.02
	2018	927.00	926.84	927.43
	2019	927.83	927.65	928.05
	2020	927.28	926.70	927.65
	2021	925.65	924.84	926.56

Lake	Year	Average	Min	Max
Coopers	2017	920.52	919.30	921.44
	2018	N/A	N/A	N/A
	2019	920.90	920.00	921.65
	2020	N/A	N/A	N/A
	2021	917.40	916.76	918.34

Lake	Year	Average	Min	Max
George	2017	N/A	N/A	N/A
	2018	901.7919	901.51	902.11
	2019	902.12085	901.71	902.73
	2020	901.85844	901.46	902.22
	2021	901.38544	900.93	902.11

Lake	Year	Average	Min	Max
Minard	2017	921.00	920.60	921.72
	2018	920.80	920.40	921.16
	2019	921.50	921.09	922.03
	2020	920.94	920.52	921.55
	2021	920.62	919.91	921.24

Lake	Year	Average	Min	Max
Rogers	2017	883.81	883.54	884.04
	2018	883.74	883.44	884.02
	2019	884.08	883.74	884.44
	2020	883.76	883.39	884.05
	2021	882.88	882.26	883.31

## **Lake Water Quality**

**Partners:** ACD, Lake George LID and Conservation Club, URRWMO

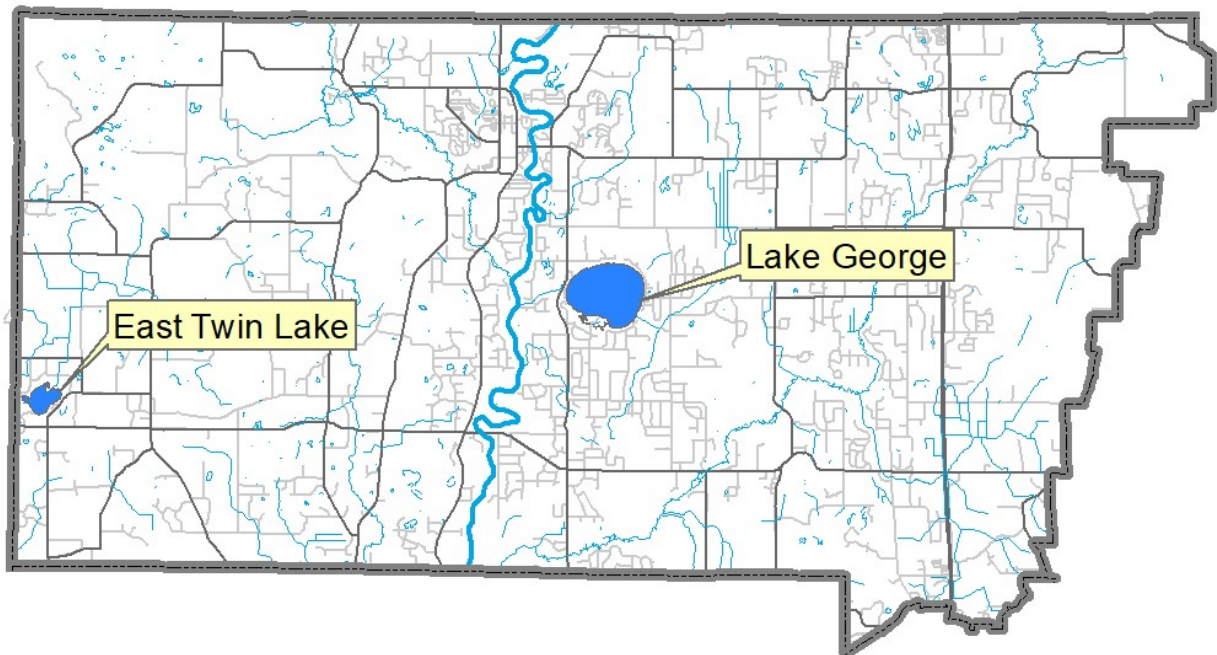
**Description:** Lake water quality monitoring was conducted ten times between May through September, approximately every two weeks. The monitoring parameters include total phosphorus, chlorophyll-a, Secchi transparency, dissolved oxygen, turbidity, temperature, specific conductance, pH, and salinity.

**Purpose:** To detect water quality trends and diagnose the cause of change.

**Locations:** East Twin Lake and Lake George

**Results:** Detailed data for each lake are provided on the following pages, including summaries of historical conditions and trend analysis. Previous years' data are available on the Minnesota Pollution Control Agency (MPCA) electronic data access (EDA) website or from ACD. Refer to Chapter 1 for additional information on lake dynamics and interpreting the data.

### **2021 Upper Rum River Watershed Lake Water Quality Monitoring Sites**





## ***EAST TWIN LAKE***

***CITY OF NOWTHEN, LAKE ID # 02-0133***

### **Background**

East Twin Lake is located near Anoka County's western boarder in the City of Nowthen. The lake has a surface area of 91.99 acres with a maximum depth of 68 feet (20.7 m), making it Anoka County's deepest lake. Public access is from East Twin Lake City Park, where there is both a swimming beach and a boat launch. The lakeshore is only moderately developed, with low density housing encompassing about half of the shoreline. The watershed is more than 75% undeveloped, with low-density residential areas. This lake is one of the clearest in the county. The MN DNR last conducted a standard fisheries survey in this lake in 2016. This survey found a healthy Bass-Bluegill-Northern Pike lake. Yellow Perch were found in low numbers and no Walleye were captured during this survey.



### **2021 Results**

In 2021 East Twin Lake had excellent water quality for this region of the state (NCHF ecoregion), receiving an overall A grade, a mark it has received 15 of the 16 years monitored since 1980 (1983 is the exception, with an overall B grade). The lake is mesotrophic, meaning low nutrients drive a moderate to low amount of production. The lake has excellent Secchi transparency, averaging 14.3 feet in 2021. Some historically high Secchi readings in this lake include 19.1 feet on June 12, 2013; 18.7 feet on May of 2011; 22 feet on May 28, 2008 and 20 feet in spring 2002; these are the deepest at any Anoka County lake since at least 1996. East Twin is locally unique, maintaining greater than 10 feet of transparency late into summer.

The lake's poorest water quality parameter on the grading scale is total phosphorus (TP), receiving more B letter grades than A grades, going back to 1980. The majority of the TP B letter grades occurred during the 1980s and 90s. In 2021, the average TP was 19.7  $\mu\text{g/L}$ , which correlates to an A letter grade. Chlorophyll-a (Cl-a) concentrations averaged 4.1  $\mu\text{g/L}$ , also receiving an A letter grade.

### **Trend Analysis**

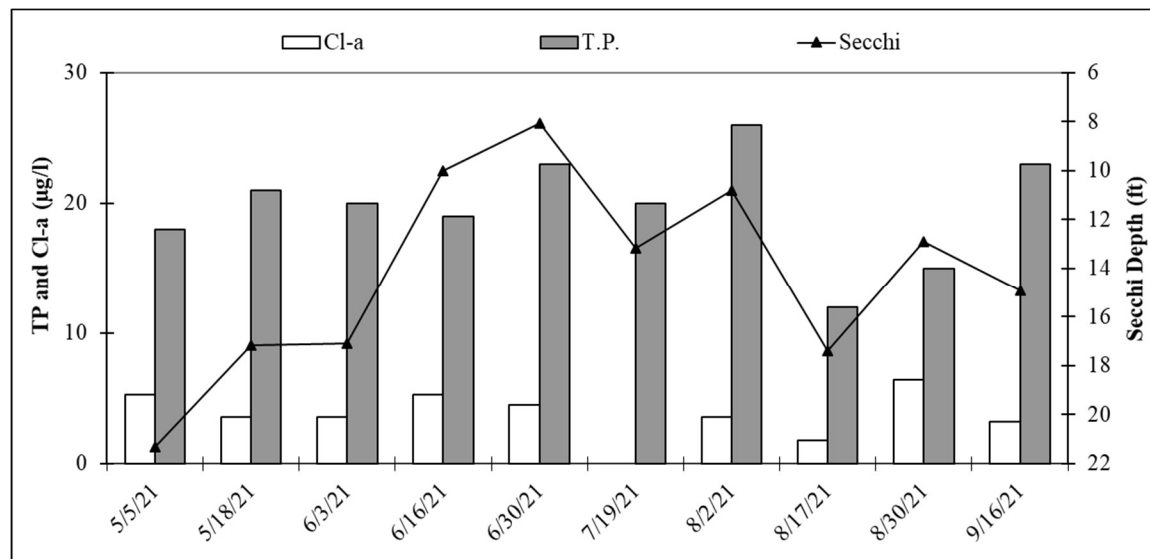
Fifteen years of water quality data have been collected by the Metropolitan Council (1980, '81, '83, '95, and '98), the Minnesota Pollution Control Agency (1989), and the Anoka Conservation District (1997, '99, 2000, 2002, 2005, 2008, 2011, 2013, 2017, and 2021). There has been a statistically significant improvement in overall water quality since 1980 (repeated measures MANOVA with response variables TP, Cl-a, and Secchi depth,  $F_{2,13} = 4.50$ ,  $p < 0.05$ ). Analyzing each parameter individually offers some clues as to the drivers of that water quality improvement. One-way ANOVAs revealed that chlorophyll-a has declined in a significant manner and is the most important factor in the multi-parameter trend. Total phosphorus also leans toward a downward trend, though not statistically significant, and Secchi transparency shows a weak trend towards improvement.

**Discussion**

East Twin Lake has had good water quality as long as it has been monitored back to 1980, never receiving lower than a B letter grade for any parameter. Statistical analysis shows that the water quality is improving. The ecology of this lake is different from that of other Anoka County lakes because it is deep. Sediment and dead algae can sink to the bottom and are essentially lost from the system because resuspension by wind, rough fish, and other forces is minimal. In shallower lakes, these nutrients circulate within the lake much more readily, and the lake sediments can be a source of nutrients and turbidity that affect water quality. Additionally, East Twin Lake's watershed is small and undeveloped, so there is a limited area from which polluted runoff might enter the lake. Aquatic vegetation is also healthy, but not so prolific as to be a nuisance, further contributing to high water quality.

**EAST TWIN LAKE**  
**CITY OF NOWTHEN, LAKE ID # 02-0133**

**2021 Results**



pH		8.29
Specific Conductance	mS/cm	0.22
Turbidity	FNRU	7.35
D.O.	mg/l	9.02
D.O.	%	106.75
Temp.	°F	74.82
Salinity	%	0.10
Cl-a	ug/L	3.60
T.P.	ug/l	20.00
Secchi	ft	14.05

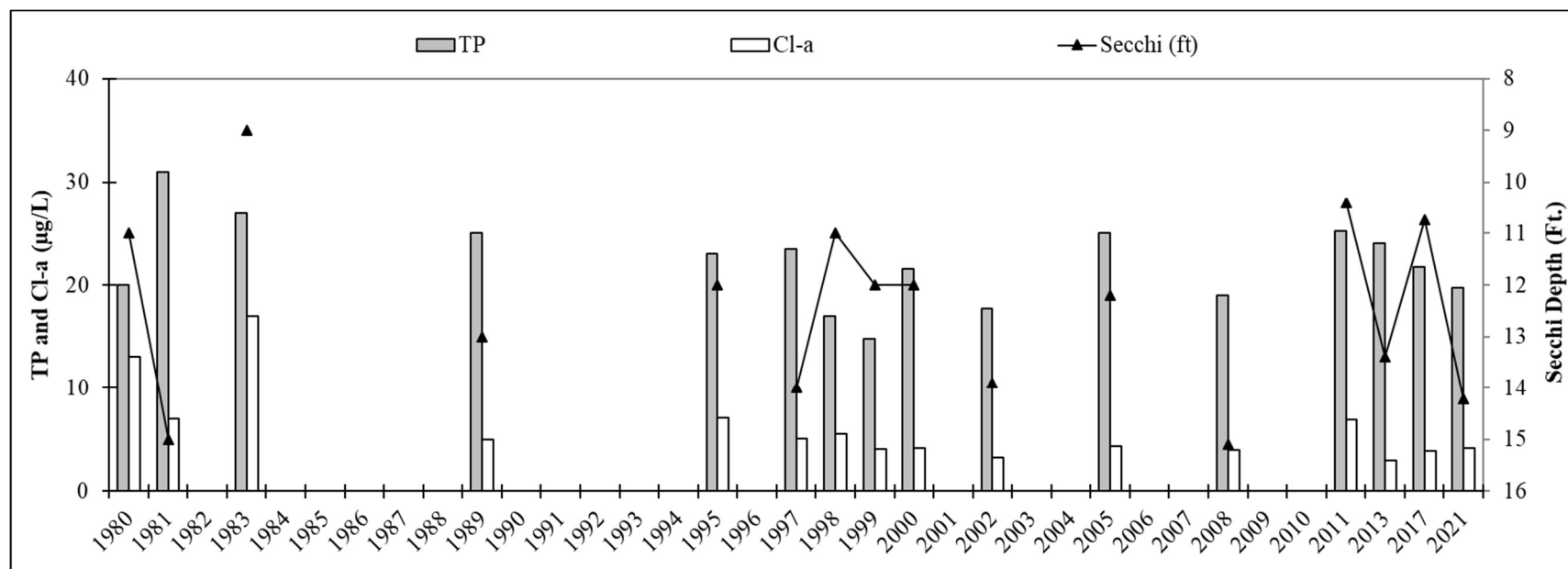
**East Twin**

**2021 Water Quality Data**

	Units	R.L.*	Date:	5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021	Average	Min	Max
			Time:	13:13	12:20	12:06	12:35	11:31	12:22	11:31	12:06	12:24	11:44			
			Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results			
pH		0.1	8.25	8.40	8.33	8.60	8.44	8.07	7.58	8.32	8.21	8.18	8.24	7.58	8.60	
Specific Conductance	mS/cm	0.01	0.213	0.217	0.215	0.215	0.214	0.222	0.229	0.230	0.231	0.211	0.220	0.211	0.231	
Turbidity	FNRU	1	2.50	9.30	0.50	9.40	7.40	14.00	0.20	7.30	1.40	8.60	6	0	9	
D.O.	mg/l	0.01	11.63	11.61	11.14	10.12	9.16	8.21	8.42	7.85	8.15	8.88	9.52	7.85	11.63	
D.O.	%	1	110.1	125.3	123.7	124.6	113.8	103.4	103.4	97.2	94.2	101.8	109.8	94.2	125.3	
Temp.	°C	0.1	13.38	19.82	22.04	26.12	25.26	26.36	24.46	24.12	23.46	20.53	22.6	13.4	26.4	
Temp.	°F	0.1	56.1	67.7	71.7	79.0	77.5	79.4	76.0	75.4	74.2	69.0	72.6	56.1	79.4	
Salinity	%	0.01	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.10	0.10	0.10	0.11	
Cl-a	ug/L	0.5	5.3	3.6	3.6	5.3	4.5	<1	3.6	1.8	6.4	3.2	4.1	1.8	6.4	
T.P.	mg/l	0.010	0.018	0.021	0.020	0.019	0.023	0.020	0.026	0.012	0.015	0.023	0.020	0.012	0.026	
T.P.	ug/l	10	18	21	20	19	23	20	26	12	15	23	19.7	12	26	
Secchi	ft	0.1	21.33	17.17	17.08	10.00	8.08	13.17	10.8	17.4	12.9	14.9	14.3	8.1	21.3	
Secchi	m	0.1	6.5	5.2	5.2	3.0	2.5	4.0	3.3	5.3	3.9	4.5	4.4	2.5	6.5	
Physical			1	1.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.7	1.0	2.0	
Recreational			1	1.0	2.0	1.0	2.0	2.0	2.0	1.0	3.0	2.0	1.6	1.0	3.0	

\*reporting limit

## Historical Annual Averages



## Historical Report Card

Year	TP	Cl-a	Secchi	Overall
1980	A	B	A	<b>A</b>
1981	B	A	A	<b>A</b>
1983	B	B	B	<b>B</b>
1989	B	A	A	<b>A</b>
1995	B	A	A	<b>A</b>
1997	B	A	A	<b>A</b>
1998	B	A	A	<b>A</b>
1999	A	A	A	<b>A</b>
State Standards	40 ug/L	14 ug/L	>4.6 ft	

Year	TP	Cl-a	Secchi	Overall
2000	A	A	A	<b>A</b>
2002	A	A	A	<b>A</b>
2005	B	A	A	<b>A</b>
2008	A	A	A	<b>A</b>
2011	B	A	A	<b>A</b>
2013	B	A	A	<b>A</b>
2017	A	A	A	<b>A</b>
2021	A	A	A	<b>A</b>
State Standards	40 ug/L	14 ug/L	>4.6 ft	

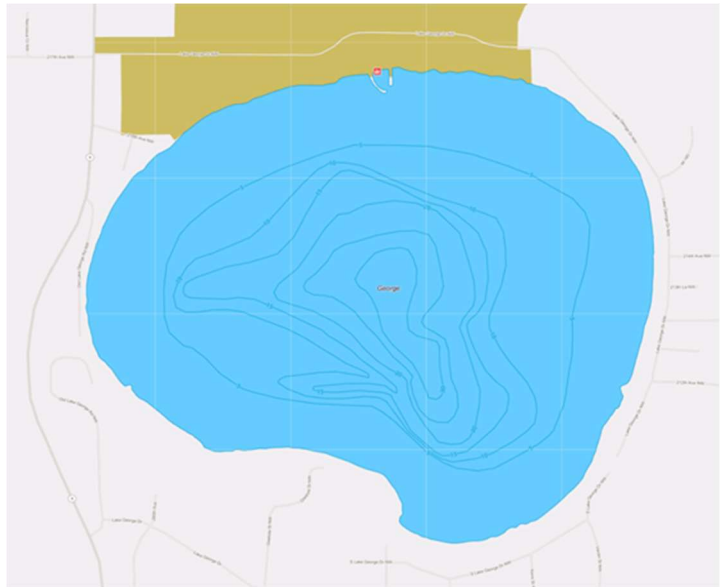
# ***LAKE GEORGE***

***CITY OF OAK GROVE, LAKE ID # 02-0091***

## **Background**

Lake George is located in north-central Anoka County. The lake has a surface area of 535 acres with a maximum depth of 32 feet (9.75 m). Public access is from Lake George County Park on the lake's north side, where there is both a swimming beach and a boat launch. About 70% of the lake is surrounded by homes; the remainder is county parkland. The watershed is mostly undeveloped or vacant, with some residential areas, particularly on the lakeshore and in the southern half of the watershed.

The MN DNR conducted a standard fisheries survey of this lake in 2014. The lake contains a typical Largemouth Bass-Bluegill-Northern Pike fish community. Fish management efforts have attempted to establish a Walleye population through stocking but this assessment indicates poor recruitment of stocked fingerlings, likely due to the high Northern Pike population. Walleye stocking has not occurred in Lake George since 2014.



## **2021 Results**

In 2021, Lake George had excellent water quality for this region of the state (NCHF Ecoregion), receiving an overall A letter grade for the fourth year in a row. These results are similar to what was recorded before 2009, when the majority of monitoring years scored an A. Between 2009 and 2017 the majority of monitoring years scored a B letter grade, largely due to declining Secchi transparency during that period.

Results for individual water quality parameters varied. Total phosphorus in 2021 averaged 21.40 µg/L, the second lowest since 2005. Secchi transparency, in general, was better in the beginning of the season then gradually became poorer into September. Average Secchi transparency was 9.5 ft (2.9m), which was a 0.25-foot improvement from 2020. Chlorophyll-a (Cl-a) averaged 7.27 µg/L, which was similar to the levels of previous years. Cl-a, TP, and transparency were all poorest in August and September. Throughout the season, all three parameters were better than the State water quality standards for deep lakes in the region.

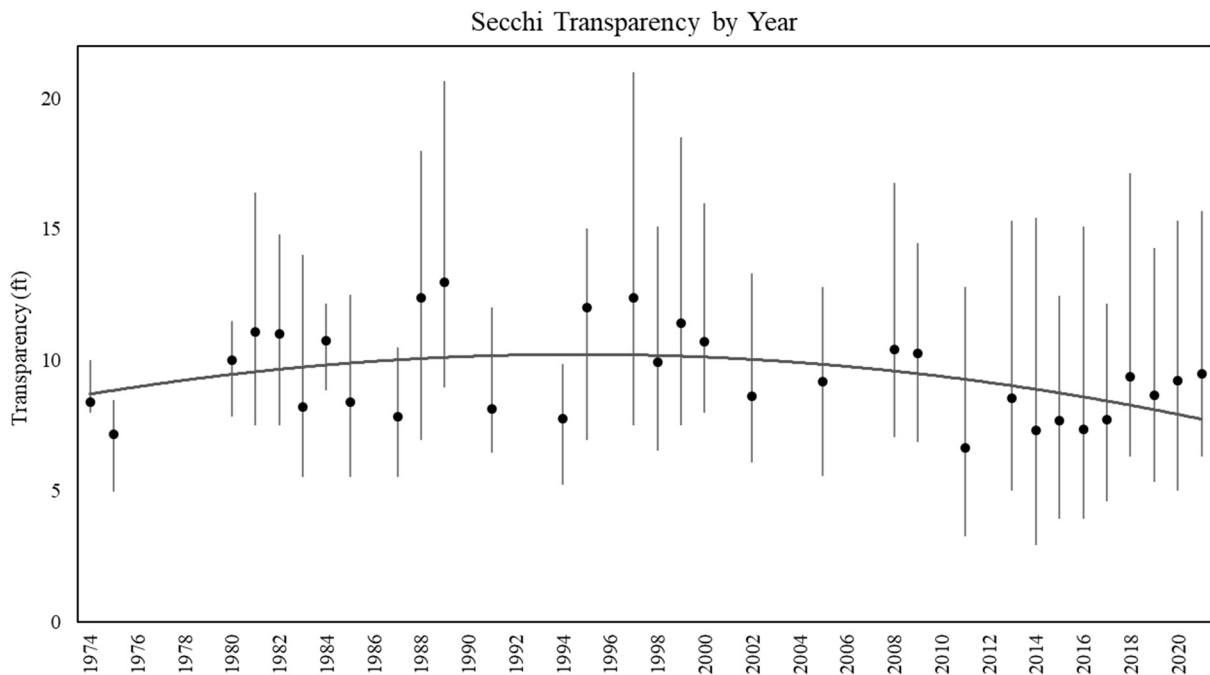
Although Lake George water quality remains better than State standards and is ranked good for a metro-county lake, simply adhering to these standards is not the goal for such an important water body. Decline of Lake George's Secchi transparency has been a cause for concern in recent years with a now twenty-year trend of decline in our statistical analyses. The last four years have shown improving clarity, but these results are most likely linked to the below average precipitation occurring in 2018, 2020, and 2021. 2019 had the highest annual rainfall on record for the state, but Secchi averages remained improved due to higher readings at the beginning of the season.

## Trend Analysis

The Metropolitan Council (between 1980 and 2009) and the Anoka Conservation District (1997, 1999, 2000, 2002, 2005, 2008, 2011, and 2013-2021) have collected over thirty years of water quality data. A broad analysis of overall water quality that simultaneously considers TP, Cl-a, and Secchi transparency did not find a statistically significant trend looking at all years of data (repeated measures MANOVA with response variables TP, Cl-a, and Secchi transparency,  $p=0.57$ ). When parameters are isolated for individual analysis, there is no significant change in Cl-a or TP. However, during this same period there is a statistically significant trend of declining Secchi transparency ( $p<0.01$ ).

When the years 2011-2021 were isolated, a statistically significant trend of improving water quality for all parameters was present (repeated measures MANOVA with response variables TP, Cl-a, and Secchi transparency,  $F_{2, 7}=11.49$ ,  $p<0.05$ ). When parameters are isolated for individual analysis both TP and Secchi transparency have improved on a statistically significant basis ( $p<0.05$ ) over the past decade.

**Lake George Secchi Transparency Trend:** Includes years with partial datasets not covering all open water months. Those years are excluded from ACD's statistical analysis and graphs later in this document.



## Discussion

Lake George remains one of the clearest of the Anoka County lakes, but a trend of declining Secchi transparency from the mid-1990s through around 2016 caused concern. Lake George is a highly valued lake due to its recreational opportunities and ecological quality. The lake has a large park, many lakeshore homes, and a notably diverse plant community (most metro area lakes have 10-12 different aquatic plant species; Lake George is home to 24).

In 2018, an intensive study of the lake and its watershed titled “Lake George Water Quality Improvement Assessment” was completed. Work for the 2016-2018 study included monitoring of tributaries, modeling, and evaluation of projects to correct the transparency decline. The work focused on the watershed, and a “phase 2” study of in-lake processes may occur in the future. The Lake George Improvement District, Lake George Conservation Club, Anoka Conservation District, and a State Clean Water Fund grant funded the study.



The aforementioned study provides some insight into the causes of transparency decline. While a number of factors may play a role, an increase in the average amount of precipitation is the most significant driver identified. Water years (Oct. 1 – Sept. 30) that are wetter than the 100-year 90th percentile result in increased volumes of runoff and nutrients into the lake from surrounding tributaries, and the lake has the poorer clarity in those years, or in immediately subsequent years.

These “wet” years were more frequent during the period when lake transparency declined. Six out of sixteen years from 2001 to 2017 were “wet” with water year precipitation above the historical 90th percentile, with 1999 reaching just under the 90th percentile mark. Additionally, four of these six wet years occurred during the sustained low Secchi transparency period of 2010 through 2017.

Water year precipitation returned to normal levels in 2017 and 2018, causing a temporary rebound in average Secchi transparency during the most recently monitored years. The 2019 calendar year was the wettest on record. Secchi results in 2019 were only slightly poorer than the improved 2018 results, but that average was likely skewed by much higher readings earlier in the season when ambient conditions were drier, with poorer readings later. The correlation between precipitation and Secchi clarity was again observed in 2020 and 2021. Total annual precipitation in 2020 and 2021 were both well below average, with Anoka County being in a state of drought beginning in June 2021, with most of the growing season spent in a severe drought condition. These conditions resulted in improved Secchi clarity throughout both years.

There is concern that climate change and increased runoff from development in the watershed will drive poorer water quality in Lake George into the future. Among the recommendations of the 2018 study was replacing the deteriorating Ditch 19 weir just east of Lake George which is an important hydrological control for the lake. The weir was replaced in early 2020, and this project may have offered some additional clarity benefit right away. The replaced outlet structure should result in reduced nutrient delivery to the lake during wet years, and the broader benefits of restoring lake hydrology and enhancing game fish spawning opportunities. Other actions identified in the watershed study include agricultural best practices, an iron-enhanced sand filter in the County Park, public education, lakeshore restorations, enhanced stormwater standards for new developments in the lakeshed and others. While certain tributary subwatersheds do generate more nutrients than others, and therefore deserve special consideration for projects, it is also noted that some of these subwatersheds drain through large wetlands with some

apparent pollutant removal ability. Projects nearest the lake are favored because they treat a larger upstream area and do not duplicate treatment that might already be provided by certain wetlands.

The MN DNR notes an additional concern for Lake George in the 2017 Rum River Watershed Fish-Based Lake IBI Stressor Identification Report. That report found Lake George's fish community was not impaired, but was one of special concern and deemed vulnerable. Lack of aquatic habitat and near-shore development disturbances were indicated as stressors. To help address this concern The Anoka Conservation District received a grant to implement lakeshore restoration projects on the lake in 2021-2022. These types of practices promote native lakeshore habitat while also reducing phosphorus loading into the lake.

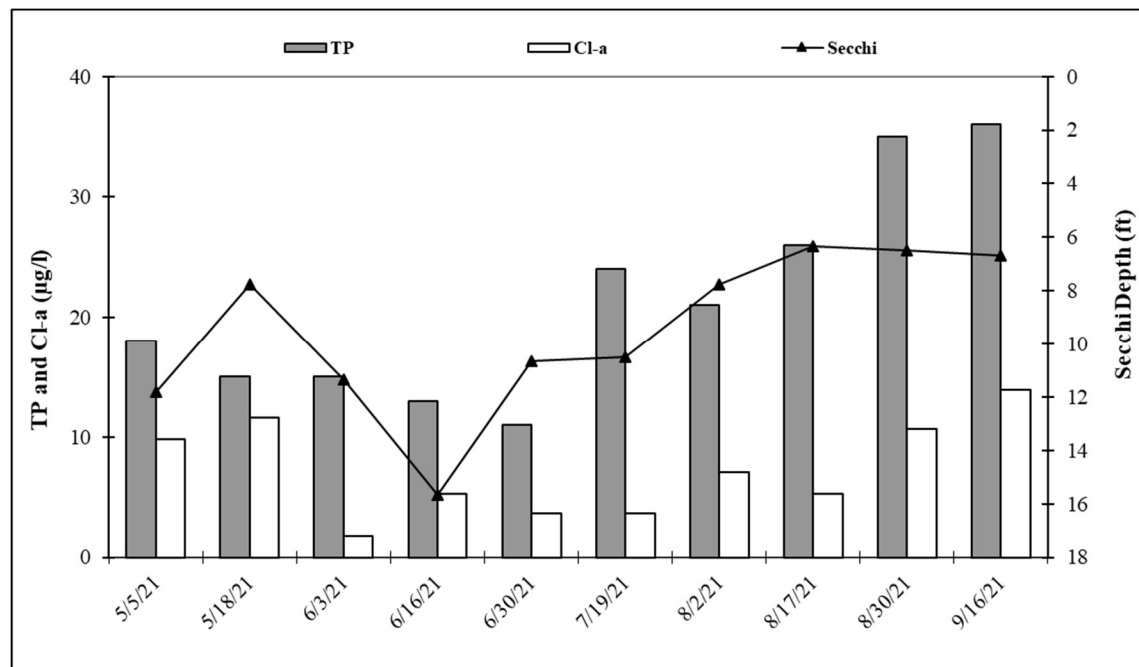
Two exotic invasive plants are present in Lake George, curly-leaf pondweed and Eurasian water milfoil. The Lake George Improvement District and Lake George Conservation Club work to control these plants, and multiple years of localized treatments have occurred. In coordination with the MN DNR, the lake groups continually work to achieve control of these invasive plants without harming native plants or water quality. Water quality has been monitored immediately before and after herbicide treatments, and no obvious causal relationship between weed treatment and water quality was found.



**LAKE GEORGE**

**CITY OF OAK GROVE, LAKE ID # 02-0091**

**2021 Results**



**2021 Median Results**

pH		8.50
Specific Conductance	mS/cm	0.21
Turbidity	NTU	4.70
D.O.	mg/l	9.26
D.O.	%	116.15
Temp.	°F	74.96
Salinity	%	0.10
Cl-a	µg/L	6.20
T.P.	µg/l	19.50
Secchi	ft	9.13

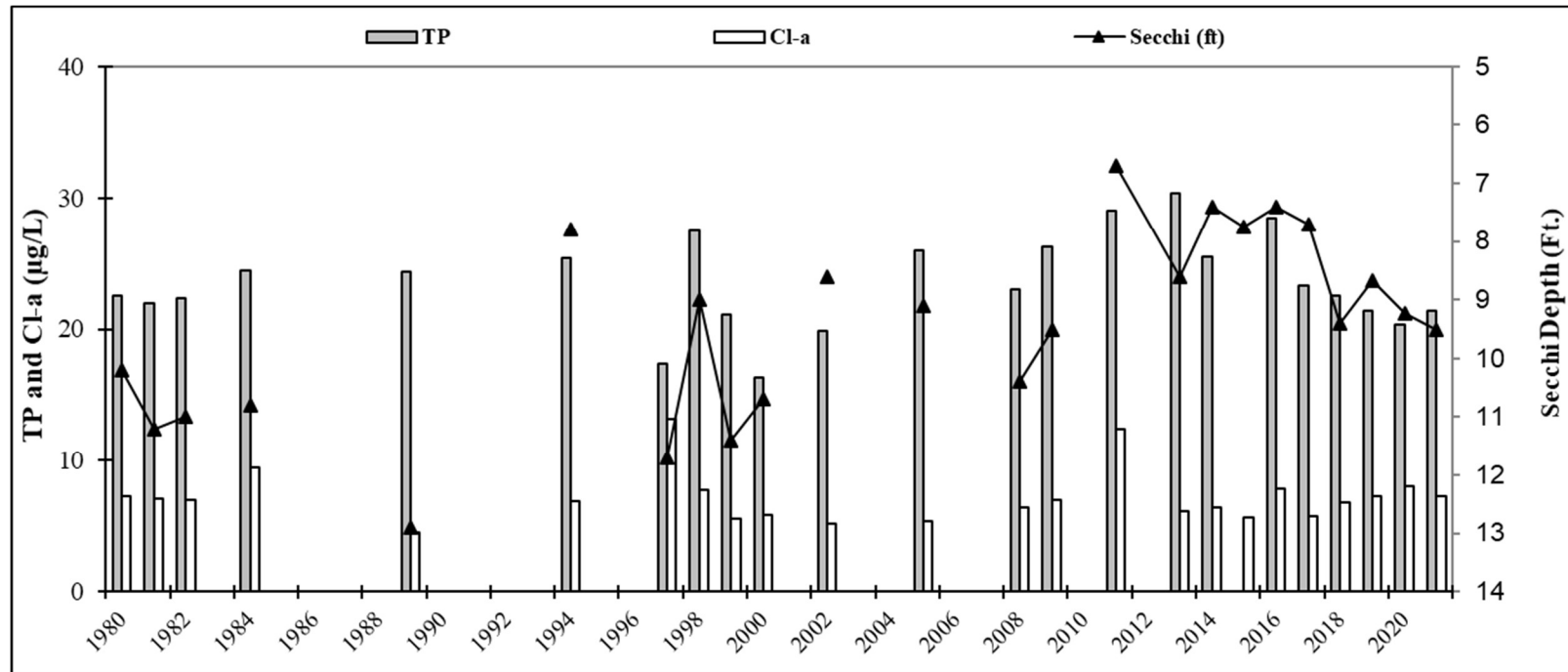
Lake George

**2021 Water Quality Data**

Parameter	Units	R.L.*	Date										Average	Min	Max
			5/5/2021	5/18/2021	6/3/2021	6/16/2021	6/30/2021	7/19/2021	8/2/2021	8/17/2021	8/30/2021	9/16/2021			
pH		0.1	8.48	8.71	8.52	8.48	8.58	8.48	8.56	8.67	8.39	8.46	8.53	8.39	8.71
Specific Conductance	mS/cm	0.01	0.221	0.219	0.214	0.210	0.211	0.212	0.215	0.215	0.217	0.206	0.214	0.206	0.221
Turbidity	NTU	1	4.20	5.20	0.00	15.70	7.10	0.700	10.00	3.30	3.00	5.90	5.79	0	16
D.O.	mg/l	0.01	12.55	12.91	10.43	8.66	9.29	9.22	10.45	8.85	8.26	8.51	9.91	8.26	12.91
D.O.	%	1	116.9	133.1	117.2	106.4	115.4	118.6	126.1	108.5	98.3	98.6	113.9	98.3	133.1
Temp.	°C	0.1	13.00	18.22	20.44	25.40	25.27	27.03	24.89	24.24	23.49	20.43	22.2	13.0	27.0
Temp.	°F	0.1	55.4	64.8	68.8	77.7	77.5	80.7	76.8	75.6	74.3	68.8	72.0	55.4	80.7
Salinity	%	0.01	0.14	0.10	0.10	0.10	0.10	0.10	0.11	0.10	0.11	0.10	0.11	0.10	0.14
Cl-a	µg/L	1	9.80	11.6	1.8	5.3	3.6	3.6	7.1	5.3	10.7	13.9000	7.27	1.8	13.9
T.P.	mg/l	0.005	0.018	0.015	0.015	0.013	0.011	0.024	0.021	0.026	0.035	0.036	0.021	0.011	0.036
T.P.	µg/l	5	18	15	15	13	11	24	21	26	35	36	21.40	11	36
Secchi	ft		11.83	7.75	11.33	15.67	10.67	10.50	7.75	6.33	6.50	6.67	9.50	6.3	15.7
Secchi	m		3.61	2.36	3.45	4.78	3.25	3.20	2.36	1.93	1.98	2.03	2.9	1.9	4.8
Physical			2.0	2.0	2.0	2.0	2.0	2.0	3	2.0	2	1.0	2.0	1.0	3.0
Recreational			2.0	1.0	1.0	2.0	2.0	1.0	2	1.0	2	1.0	1.5	1.0	2.0

\*reporting limit

## Historical Annual Averages



## Historical Report Card

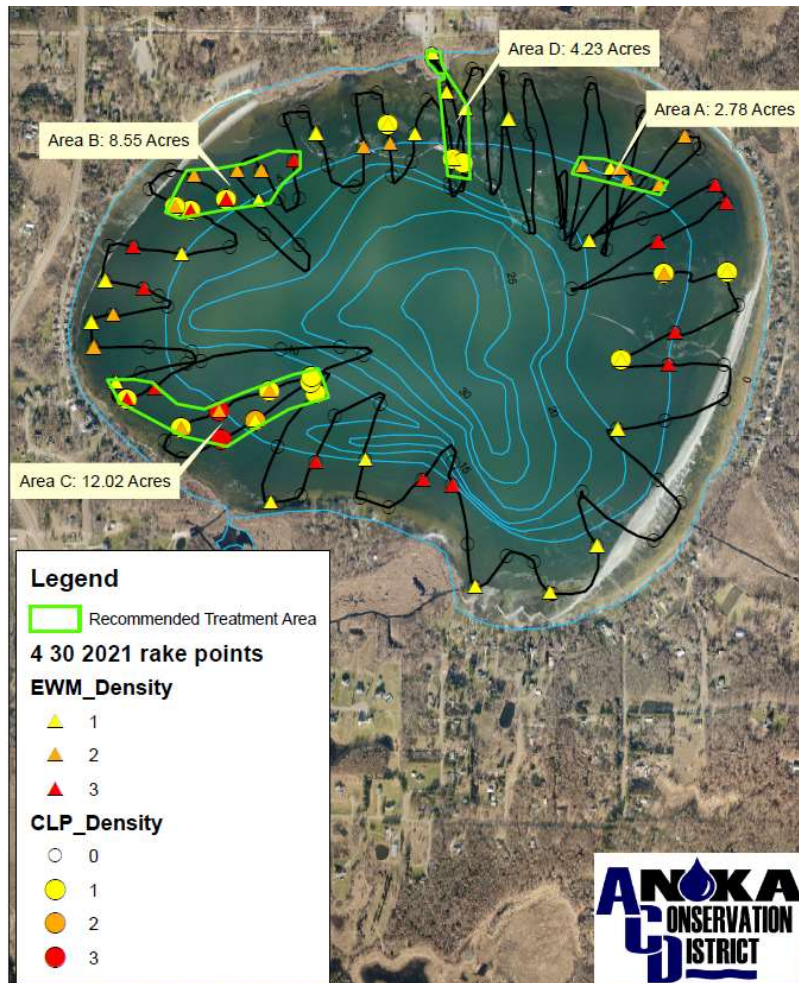
Year	TP	Cl-a	Secchi	Overall
1980	A	A	A	<b>A</b>
1981	A	A	A	<b>A</b>
1982	A	A	A	<b>A</b>
1984	B	A	A	<b>A</b>
1989	B	A	A	<b>A</b>
1994	B	A	B	<b>B</b>
1997	A	B	A	<b>A</b>
1998	B	A	B	<b>B</b>
1999	A	A	A	<b>A</b>
2000	A	A	B	<b>A</b>
2002	A	A	B	<b>A</b>
2005	B	A	B	<b>B</b>
State Standards	40 ug/L	14 ug/L	>4.6 ft	

Year	TP	Cl-a	Secchi	Overall
2008	B+	A	A	<b>A</b>
2009	B	A	B	<b>B</b>
2011	B	B	C	<b>B</b>
2013	B	A	B	<b>B</b>
2014	B	A	B	<b>B</b>
2015	A	A	B	<b>A</b>
2016	B	A	B	<b>B</b>
2017	B	A	B	<b>B</b>
2018	A	A	B	<b>A</b>
2019	A	A	B	<b>A</b>
2020	A	A	B	<b>A</b>
2021	A	A	B	<b>A</b>
State Standards	40 ug/L	14 ug/L	>4.6 ft	

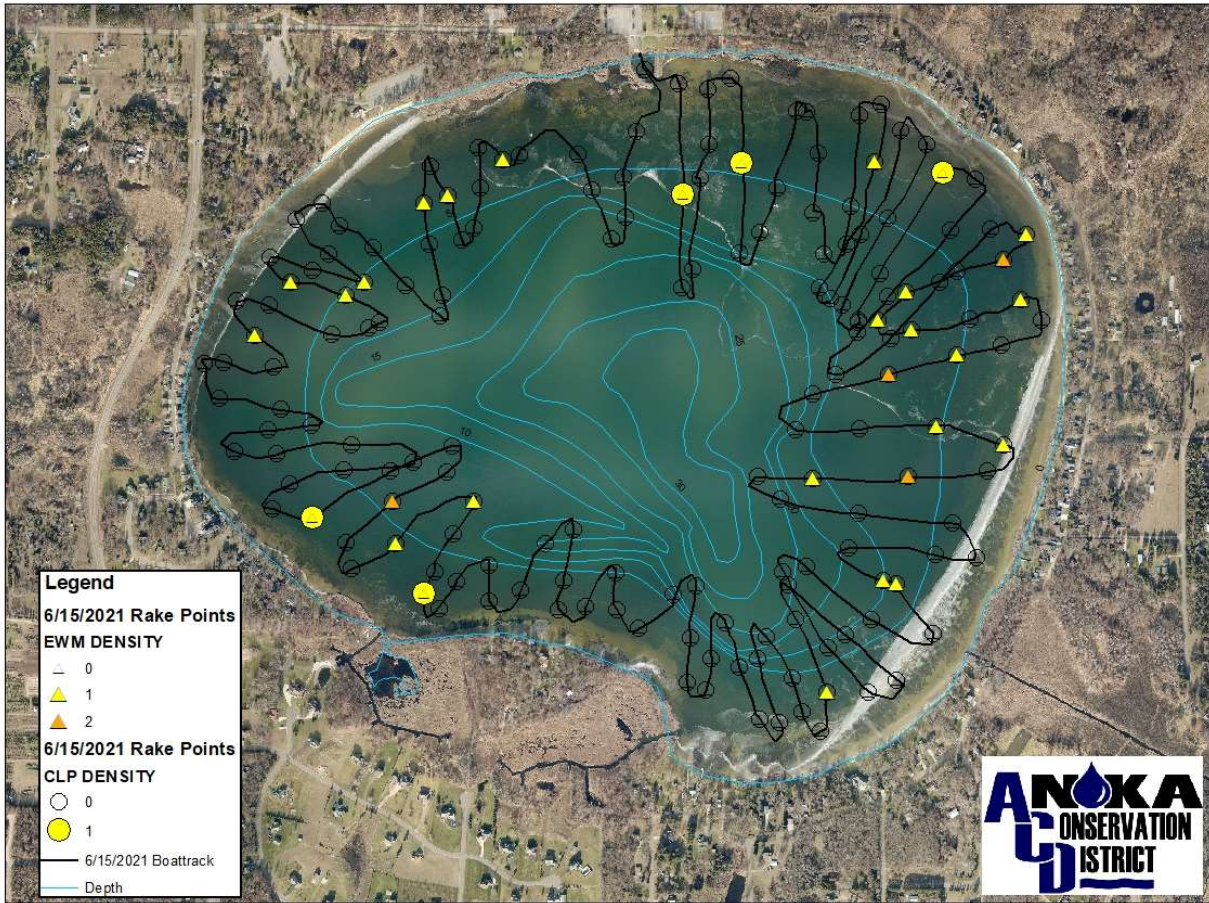
# 2021 Aquatic Invasive Vegetation Mapping

- Partners:** Lake George LID, Lake George Conservation Club, MNDNR, ACD
- Description:** The Anoka Conservation District (ACD) was contracted by the Lake George Lake Improvement District (GLID) to conduct an aquatic invasive vegetation delineation.
- Purpose:** To map out the presence of Curly Leaf Pondweed (CPL) and Eurasian Water Milfoil (EWM) as required for MN DNR herbicide treatment permits. The goal was to map these invasive species early in the growing season to allow for herbicide treatment as early as possible for reduced impacts on native plants and lessened possible impacts on water quality.
- Locations:** Lake George, City of Oak Grove, Lake ID # 02-0091
- Results:** Maps presented below were delivered to the MN DNR and Lake George Improvement District within 48 hours of the field surveys. These survey points were reviewed by the MN DNR and helped direct herbicide treatment efforts.

## **April 30, 2021 Lake George Curly Leaf Pondweed (CLP) and Eurasian Water Milfoil (EWM) Survey. DNR-selected areas for herbicide treatment are also shown.**



**June 15, 2021 Lake George Curly Leaf Pondweed (CLP) and Eurasian Water Milfoil (EWM) Survey**



## Stream Water Quality – Biological Monitoring

**Partners:** St. Francis American Legion Post #622, St. Francis High School, ACD

**Description:** This program combines environmental education and stream monitoring. Under the supervision of ACD staff, high school science classes collect aquatic macroinvertebrates from a stream, identify their catch to the family level, and use the resulting numbers to gauge water and habitat quality. These methods are based upon the knowledge that different families of macroinvertebrates have different water and habitat quality requirements. The families collectively known as EPT (Ephemeroptera, or mayflies; Plecoptera, or stoneflies; and Trichoptera, or caddisflies) are generally pollution intolerant. Other families can thrive in low quality water. Therefore, a census of stream macroinvertebrates yields information about stream health.

**Purpose:** To assess stream quality through biological monitoring while providing an environmental service to the community.

**Location:** Rum River at Rum River North County Park, St. Francis

**Results:** Results are detailed in the following sections.

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### **Data Interpretation**

Consider all biological indices of water quality together rather than look at each alone, because each gives only a partial picture of stream condition. Compare the numbers to county-wide averages. This gives some sense of what might be expected for streams in a similar landscape, but does not necessarily reflect what might be expected of a minimally impacted stream. Some key numbers to look for include:

# Families Number of Invertebrate families. Higher values indicate better quality.

EPT Number of families of the generally pollution-intolerant orders. Ephemeroptera, Plecopter, Trichoptera. Higher numbers indicate better stream quality.

Family Biotic Index (FBI) An Index that utilizes known pollution tolerances for each family. Lower numbers indicate better stream quality.

FBI	Stream Quality Evaluation
0.00-3.75	Excellent
3.76-4.25	Very Good
4.26-5.00	Good
5.01-5.75	Fair
5.76-6.50	Fairly Poor
6.51-7.25	Poor
7.26-10.00	Very Poor

Population Attributes Metrics **% EPT** compares the number of organisms in the EPT orders (Ephemeroptera, Plecoptera, Trichoptera) to the total number of organisms in the sample. A high percent of EPT is good.

**% Dominant Family** measures the percentage of individuals in the sample that are in the sample's most abundant family. A high percentage is usually bad because it indicates low evenness (one of a few families dominate, and all others are rare).

## **RUM RIVER BIOMONITORING**

### RUM RIVER NORTH COUNTY PARK, ST. FRANCIS

#### **Last Monitored:**

By St. Francis High School in 2021

#### **Monitored Since:**

2000

#### **Student Involvement:**

150 students in 2021, approximately 1,650 since 2000

#### **Background**

The Rum River originates from Lake Mille Lacs, and flows south through western Anoka County where it joins the Mississippi River in the City of Anoka. Other than the Mississippi, the Rum River is the largest river in the county. In Anoka County, the river has both rocky riffles as well as pools and runs with sandy bottoms. The river's condition is generally regarded as excellent.

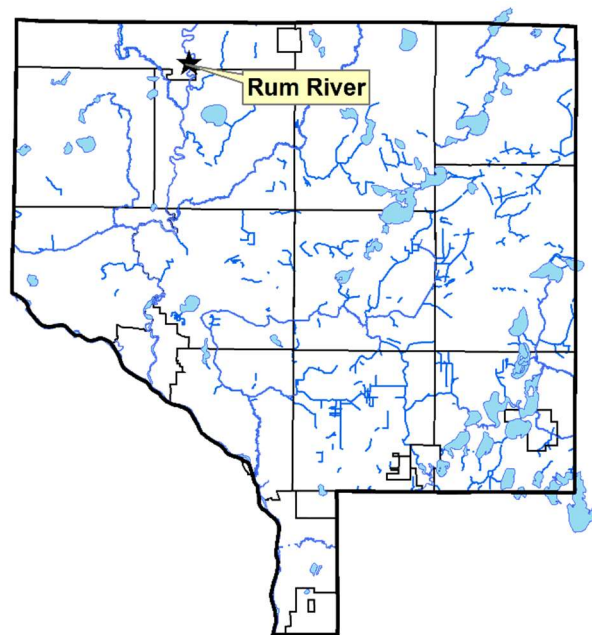
Portions of the Rum in Anoka County have a State "scenic and recreational river" designation.

The sampling site is in Rum River North County Park, in St. Francis. This site is typical of the Rum in Northern Anoka County, having a rocky bottom with numerous pool and riffle areas.

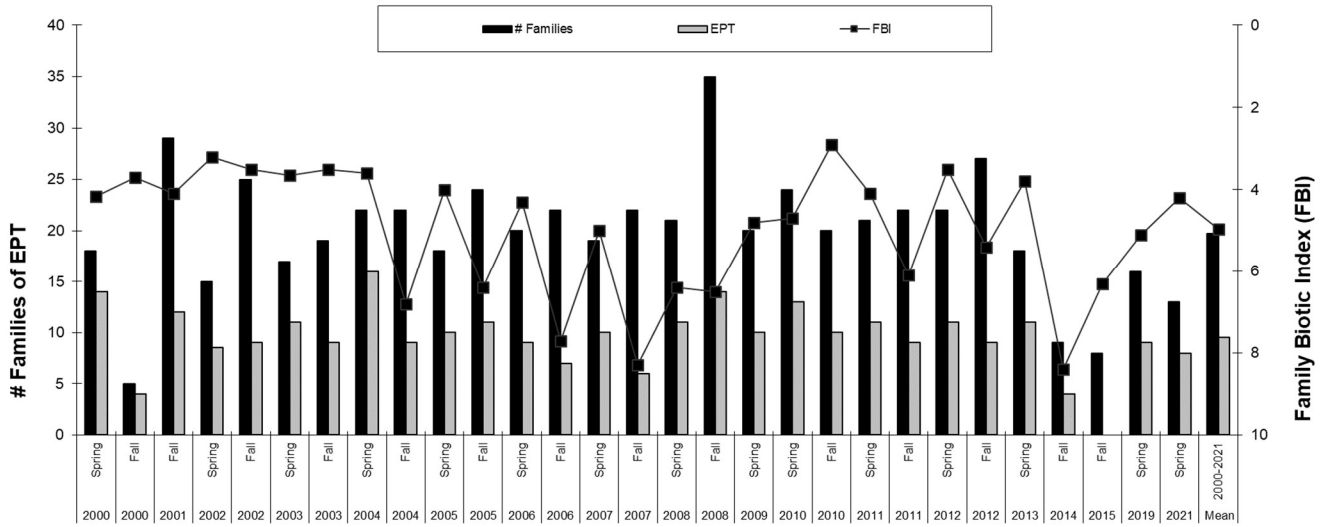
#### **Results**

St. Francis High School classes monitored the Rum River in the spring of 2021, with ACD oversight and funding from the St. Francis American Legion. During 2021 fieldwork, general biology classes performed a rapid bio-assessment of the river, where they looked at types of organisms captured and determined a score based on general pollution sensitivity. The college biology class collected macroinvertebrate samples to identify in the lab. Many of the student groups captured numerous EPT taxa, which are indicators of good water quality.

In 2021, monitoring conditions were ideal for high school students, with lower, slower flows and good weather. Multiple years should cumulatively be considered when interpreting biomonitoring data. Water levels, weather, site conditions and differences in class sizes and student capabilities can all contribute to different results in any one year. Based on the multi-year dataset it appears that Rum River ecological health at this site is good.



**Summarized Biomonitoring Results for Rum River North County Park, St. Francis**  
(samplings by St. Francis High School and Crossroads Schools in 2002-2003 are averaged)



**Biomonitoring Data for Rum River at Rum River North County Park, St. Francis**

Data presented are from the most recent five years. Complete data from 2021 is not available, as the number of individuals of each species collected were not recorded. The categories that rely on this information are left blank for 2021.

Table of most recent five years						
Year	2013	2014	2015	2019	2021	Mean
Season	Spring	Fall	Fall	Spring	Spring	2000-2021
FBI	3.8	8.4	6.3	5.1	4.2	5.0
# Families	18	9	8	16	13	19.8
EPT	11	4	0	9	8	9.5
Date	20-May	24-Oct	22-Jul	19-May	26-May	
Sampled By	SFHS	SFHS	4-H	SFHS	SFHS	
Sampling Method	MH	MH	MH	MH	MH	
Mean # Individuals/Rep.	247.5	219	23	139		
# Replicates	2	1	1	1		
Dominant Family	Baetiscida	Corixidae	Cambaridae	Siphonuridae		
% Dominant Family	34.7	86.3	34.8	32.4		
% Ephemeroptera	54.1	3.7	0	46		
% Trichoptera	6.3	0.5	0.0	0		
% Plecoptera	30.3	2.3	0	18		

**Discussion**

Historically, both chemical and biological monitoring indicate the good water quality of this river. Poorer results in 2014 and 2015 may reflect varying site and sampling conditions rather than a shift in the biological community. Habitat is ideal for a variety of stream life, and includes a variety of substrates, plenty of woody snags, riffles, and pools. Taxa that are extremely sensitive to pollution are still being found. Water chemistry monitoring done at various locations on the Rum River throughout Anoka County indicates that water quality is also good. Continued biological monitoring is recommended both as an education program and for long-term ecological condition monitoring.

## Wetland Hydrology

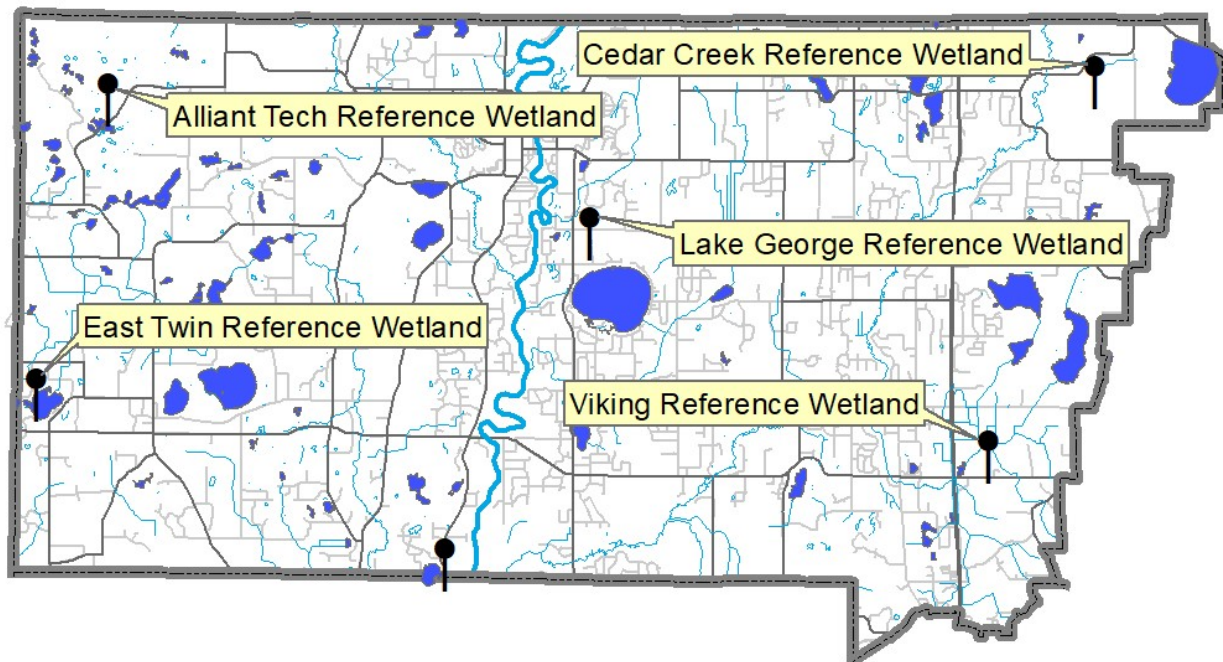
**Partners:** URRWMO, ACD

**Description:** Continuous groundwater level monitoring at a wetland boundary to a depth of 40 inches. Countywide, ACD maintains a network of 23 wetland hydrology monitoring stations.

**Purpose:** To provide understanding of wetland hydrology, including the impacts of climate and land use change. These data aid in delineation of nearby wetlands by documenting hydrologic trends including the timing, frequency, and duration of saturation.

**Results:** See the following pages.

### 2021 Upper Rum River Watershed Wetland Hydrology Monitoring Site





## ALLIANT TECH REFERENCE WETLAND

Alliant Tech Systems Property, St. Francis

### Site Information

**Monitored Since:** 2001

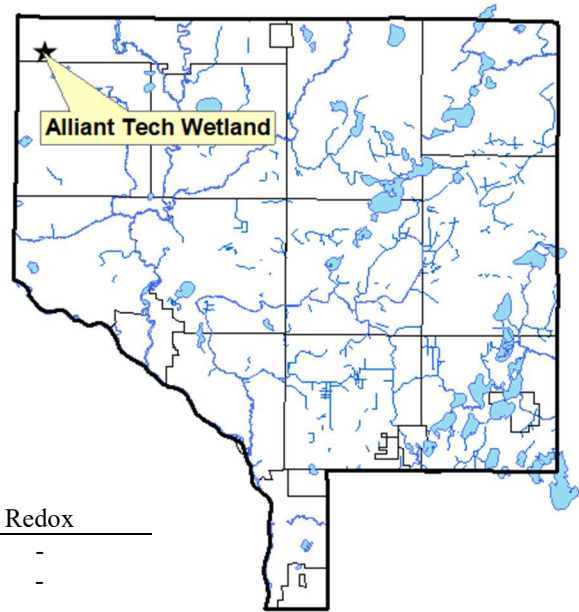
**Wetland Type:** 5

**Wetland Size:** ~12 acres

**Isolated Basin:** Yes

**Connected to a Ditch:** No

**Surrounding Soils:** Emmert



### Soils at Well Location:

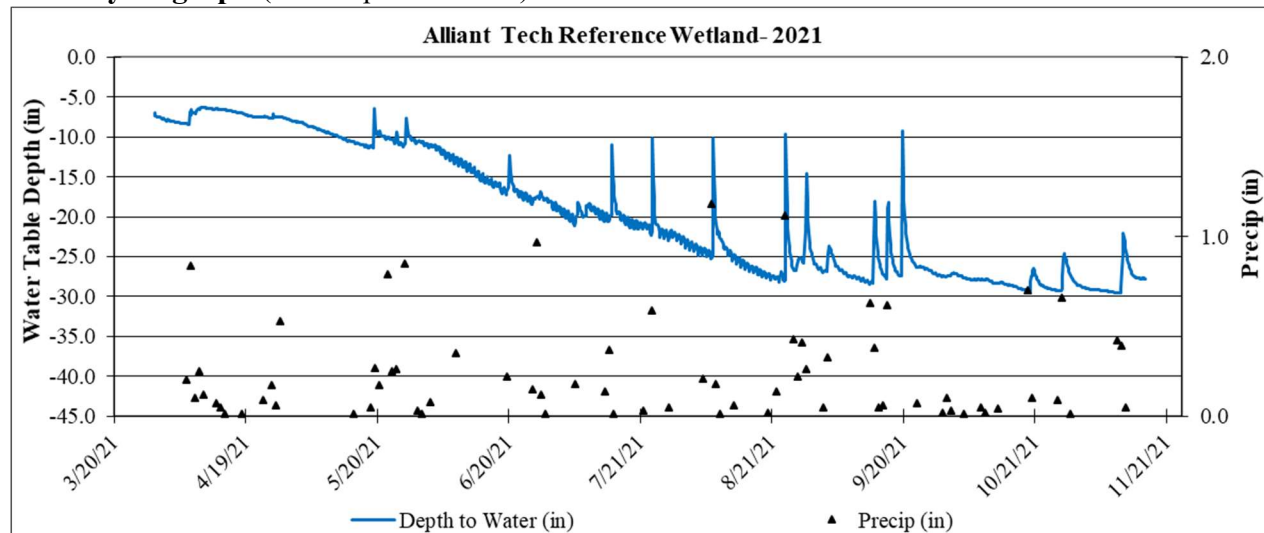
Horizon	Depth	Color	Texture	Redox
A	0-8	N2/0	Murky loam	-
Bg	8-35	5y5/1	Sandy Loam	-

### Vegetation at Well Location:

Scientific	Common	% Coverage
Carex Spp	Sedge undiff.	90
Lycopus americanus	American Bumbleweed	20
Phalaris arundinacea	Reed Canary Grass	5

**Other Notes:** This wetland lies next to the highway in a low area surrounded by hilly terrain. It holds water throughout the year, and has a beaver den.

### 2021 Hydrograph (Well depth 40 inches)

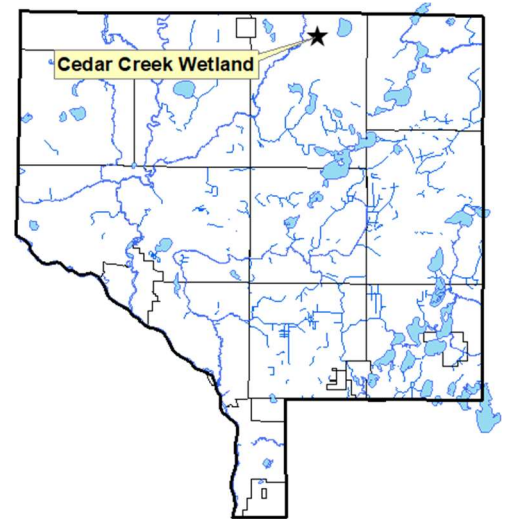


# CEDAR CREEK REFERENCE WETLAND

University of Minnesota Cedar Creek Ecosystem Science Reserve, East Bethel

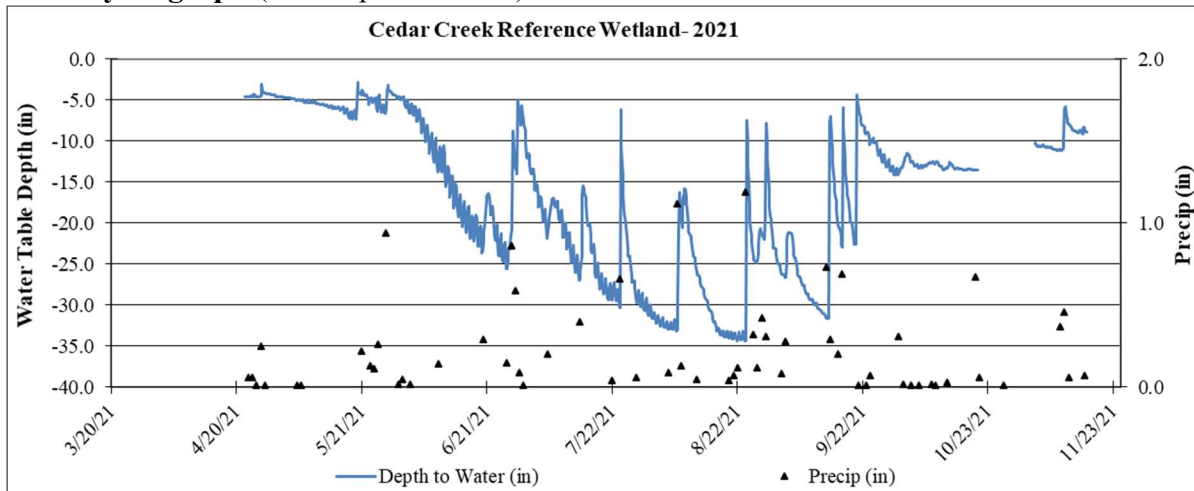
## Site Information

**Monitored Since:** 1996  
**Wetland Type:** 6  
**Wetland Size:** >150 acres  
**Isolated Basin:** No  
**Connected to a ditch:** No  
**Surrounding Soils:** Zimmerman  
**Soils at Well Location:** Not yet available  
**Vegetation at Well Location:** Not yet available



**Other Notes:** The Cedar Creek Ecosystem Science Reserve, where this wetland is located, is a University of Minnesota research area. Much of this area, including the area surrounding the monitoring site, is in a natural state. This wetland probably has some hydrologic connection to the floodplain of Cedar Creek, which is 0.7 miles from the monitoring site. A 2021 issue with the monitoring equipment led to a brief lapse in data collection.

## 2021 Hydrograph (Well depth 40 inches)



## EAST TWIN REFERENCE WETLAND

Twin Lake City Park, Nowthen

### Site Information

**Monitored Since:** 2001  
**Wetland Type:** 5  
**Wetland Size:** ~5.9 acres  
**Isolated Basin:** Yes  
**Connected to a Ditch:** No  
**Surrounding Soils:** Lake Beach, Growton and Heyder fine sandy loam



### Soils at Well Location:

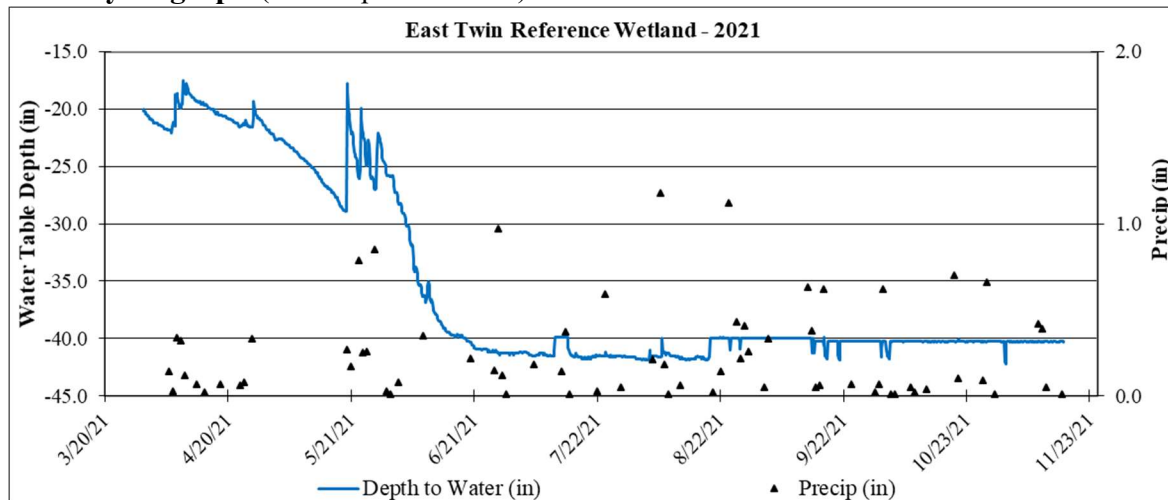
Horizon	Depth	Color	Texture	Redox
A	0-8	10yr 2/1	Mucky Loam	-
Oa	Aug-40	N2/0	Organic	-

### Vegetation at Well Location:

Scientific	Common	% Coverage
<i>Phalaris arundinacea</i>	Reed Canary Grass	100
<i>Cornus amomum</i>	Silky Dogwood	30
<i>Fraxinus pennsylvanica</i>	Green Ash	30

**Other Notes:** This wetland is located within Twin Lakes City Park, and is only 180 feet from East Twin Lake. The lake levels influence water levels in the wetland, and since Anoka County was in a state of drought beginning in June 2021, with most of the growing season spent in a severe drought condition, the well was dry for most of the year. Dry wells can cause slight miscalculations in equipment readings.

### 2021 Hydrograph (Well depth 41 inches)



## LAKE GEORGE REFERENCE WETLAND

Lake George County Park, Oak Grove

### Site Information

**Monitored Since:** 1997

**Wetland Type:** 3/4

**Wetland Size:** ~9 acres

**Isolated Basin:** Yes, but only separated from wetland complexes by road

**Connected to a Ditch:** No

**Surrounding Soils:** Lino loamy fine sand and Zimmerman fine sand



### Soils at Well Location:

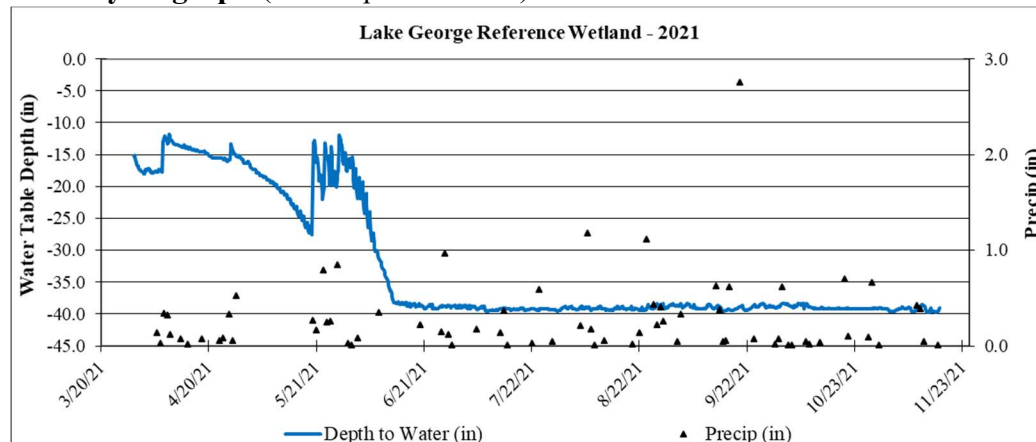
Horizon	Depth	Color	Texture	Redox
A	0-8	10yr2/1	Sandy Loam	-
Bg	8-24	2.5y5/2	Sandy Loam	20% 10yr5/6
2Bg	24-35	10gy 6/1	Silty Clay Loam	10% 10yr 5/6

### Vegetation at Well Location:

Scientific	Common	% Coverage
<i>Cornus stolonifera</i>	Red-osier Dogwood	90
<i>Populus tremuloides</i>	Quaking Aspen	40
<i>Quercus rubra</i>	Red Oak	30
<i>Onoclea sensibilis</i>	Sensitive Fern	20
<i>Phalaris arundinacea</i>	Reed Canary Grass	10

**Other Notes:** This wetland is located within Lake George County Park, and is only about 600 feet from the lake itself. Much of the vegetation within the wetland is cattails. Anoka County was in a state of drought beginning in June 2021, with most of the growing season spent in a severe drought condition. This well was dry for most of the year.

### 2021 Hydrograph (Well depth 40 inches)



## VIKING MEADOWS REFERENCE WETLAND

Viking Meadows Gold Course, East Bethel

### Site Information

**Monitored Since:** 1999

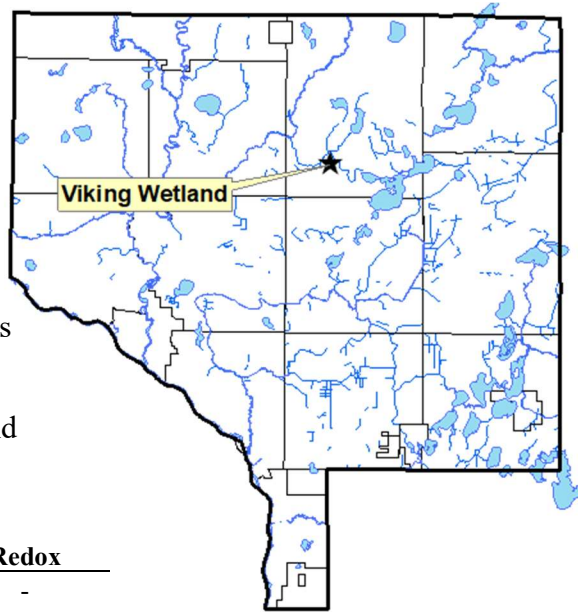
**Wetland Type:** 2

**Wetland Size:** ~0.7 acres

**Isolated Basin:** No

**Connected to a Ditch:** Yes, highway ditch is adjacent to wetland

**Surrounding Soils:** Zimmerman fine sand



### Soils at Well Location:

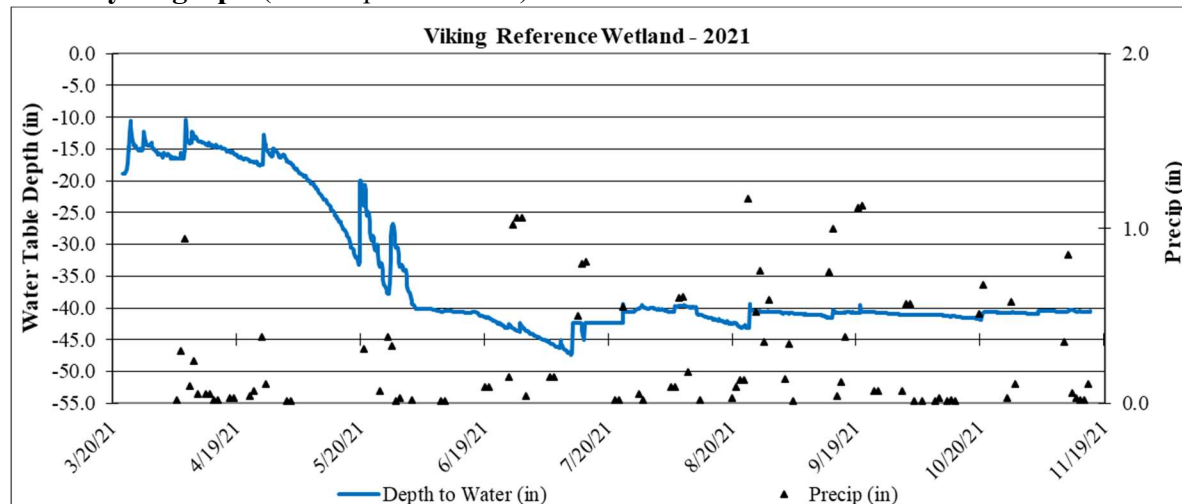
Horizon	Depth	Color	Texture	Redox
A	0-12	10yr2/1	Sandy Loam	-
Ab	12-16	N2/0	Sandy Loam	-
Bg1	16-25	10yr4/1	Sandy Loam	-
Bg2	25-40	10yr4/2	Sandy Loam	5% 10yr5/6

### Vegetation at Well Locations:

Scientific	Common	% Coverage
<i>Phalaris arundinacea</i>	Reed Canary Grass	100
<i>Acer rubrum</i> (T)	Red Maple	75
<i>Acer negundo</i> (T)	Boxelder	20

**Other Notes:** This wetland is located at the entrance to Viking Meadows Golf Course, and is adjacent to Viking Boulevard (Hwy 22).

### 2021 Hydrograph (Well depth 48 inches)



# URRWMO Annual Report to BWSR and State Auditor

**Partners:** URRWMO, ACD

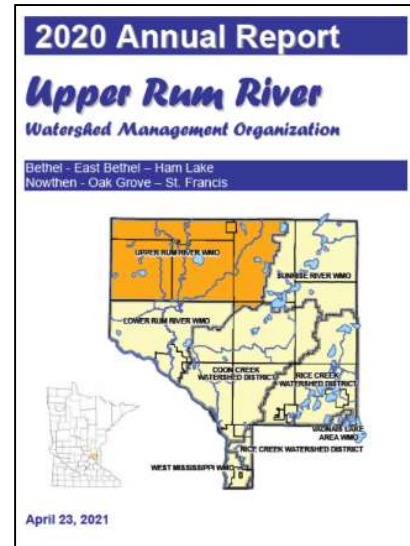
**Description:** The Upper Rum River Watershed Management Organization (URRWMO) is required by law to submit an annual report to the Minnesota Board of Water and Soil Resources (BWSR), the state agency with oversight authority. This report consists of an up-to-date listing of URRWMO Board members, activities related to implementing the URRWMO Watershed Management Plan, the status of municipal water plans, financial summaries, and other work results. The report is due annually, 120 days after the end of the URRWMO's fiscal year (April 30th).

The URRWMO must also submit an annual financial report to the State Auditor. This includes submitting a financial report and filling out a multi-worksheet form.

**Purpose:** To document progress toward implementing the URRWMO Watershed Management Plan and to provide transparency of government operations.

**Location:** Watershed-wide

**Results:** Anoka Conservation District prepared the URRWMO annual report to BWSR and reporting to the State Auditor. They are available on the URRWMO website.



## **Administrative Services**

**Partners:** URRWMO, ACD

**Description:** The Anoka Conservation District serves as the URRWMO Watershed Coordinator. This includes providing a variety of administrative services. Tasks are limited to those defined in the contractual agreement.

**Purpose:** To ensure day-to-day operations of the URRWMO and attended to between regular meetings.

**Results:** In 2021, administrative assistance provided to the URRWMO by the Anoka Conservation District included:

- Prepared meeting packets for and facilitated six URRWMO meetings.
- Developed annual budgets.
- Prepared URRWMO activity summary report for board members to use when meeting with their city councils.
- Requested & received biomonitoring funding for the American Legion.
- Represented URRWMO interested during Rum River One Watershed One Plan (1W1P) staff level meetings. Guided URRWMO in considering joining the Rum 1W1P implementation, including associated resolutions and legal agreements.
- Discussed with the board and county about reassessing jurisdiction over county ditches.
- Advised cities regarding completion of a culvert inventory by the end of 2022.
- Worked with the City of Ham Lake to get their draft local water plan into compliance with the URRWMO Plan. Presented it to the URRWMO board for approval.
- Prepared and presented housekeeping amendments to the URRWMO joint powers agreement (JPA).
- Fielded questions from developers, the county highway department, and others regarding URRWMO stormwater and wetland standards.
- Facilitated the URRWMO technical advisory committee.
- Amended the URRWMO Watershed Management Plan with updated wetland and stormwater standards, landlocked basin standards, culvert inventory protocols, and project prioritization. Steps are in MN Rules 8410 and MN statute 103B.231.
- Grant applications were part of the contracted work. While funding for URRWMO priorities was incorporated into the Rum 1W1P, no specific applications for funding were prepared. Some funding for this task will be returned to the URRWMO. In previous years, grants secured for URRWMO priorities included:
  - Rum Riverbank stabilizations \$1.6M (\$15K URRWMO match)
  - Lake George shoreline stabilizations \$61,000
  - Middle Ford Brook subwatershed assessment study \$63,000
  - \$15,375 URRWMO match for Ford Brook & Lake George combined

# Public Outreach

## *WEBSITE*

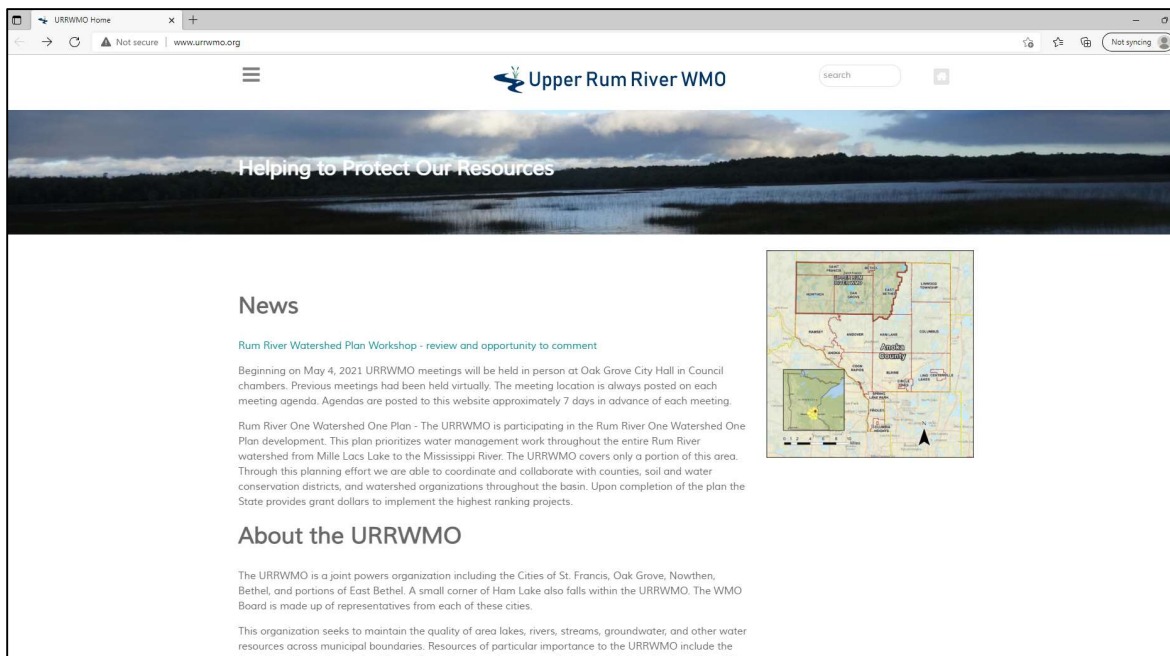
**Partners:** URRWMO, ACD

**Description:** The Upper Rum River Watershed Management Organization contracted the Anoka Conservation District to maintain the URRWMO website.

**Purpose:** To increase awareness of the URRWMO and its programs. The website also provides tools and information that helps users better understand water resource issues in the watershed.

**Locations:** [www.URRWMO.org](http://www.URRWMO.org)

**Results:** In 2021, ACD maintained the existing URRWMO website, paid the domain registration and hosting fees, and posted meeting minutes and agendas.





## URRWMO NEWSLETTER

**Partners:** ACD, URRWMO

**Description:** ACD prepared public education and outreach material based on the URRWMO Watershed Management Plan

**Purpose:** To increase public awareness of the URRWMO and its programs, and receive input.

**Location:** Watershed wide

**Results:** 2021 accomplishments included:

- Presented updated Lake George water quality and level data along with lakeshore projects to the Lake George Conservation Club in October.
- Two URRWMO newsletter articles distributed to member communities for publication in city newsletters. One article focused on shoreline stabilization and the other on septic system fix up grants.
- Direct promotion of septic system fix up grants & loans to the few homes on Lake George still using these systems.



### Why Pump Your Tank?

<b>Maintenance prevents costly repairs</b> 	<b>Increase septic system lifespan</b> 
<b>Avoid clogs and backups</b> 	<b>Prevent backups on the lawn</b> 
<b>Keep groundwater, streams, and lakes clean!</b> 	<b>Ensure smooth drainage</b> 

Three years is the longest you should go without pumping your septic tank. Avoid costly repairs. Keep our lakes, rivers, and drinking water clean!

Upper Rum River Watershed Management Organization  
[www.URRWMO.org](http://www.URRWMO.org)

## ***ANOKA COUNTY WATER RESOURCE OUTREACH COLLABORATIVE***

**Partners:** ACD, Anoka County, WMO’s, watershed districts, cities and townships

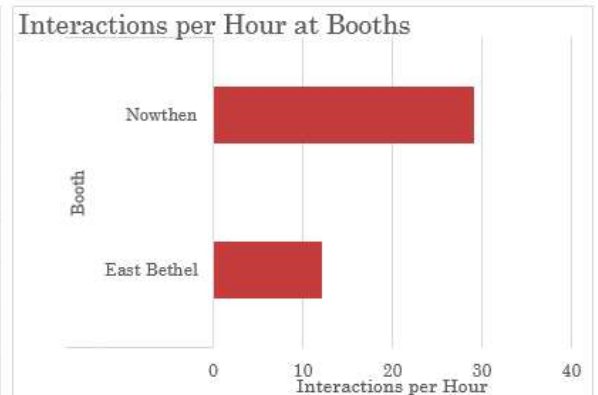
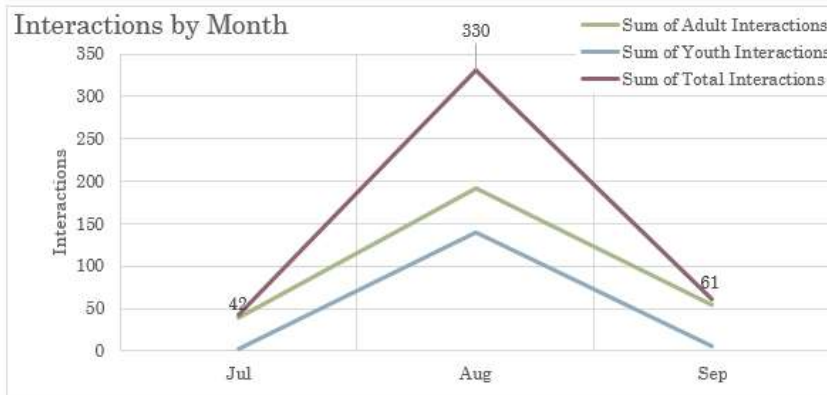
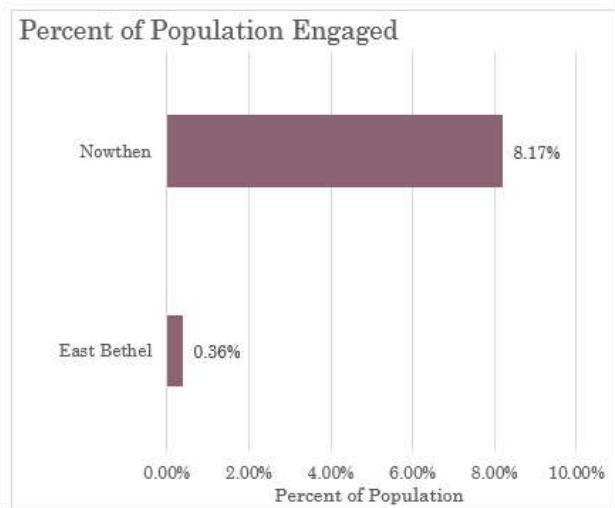
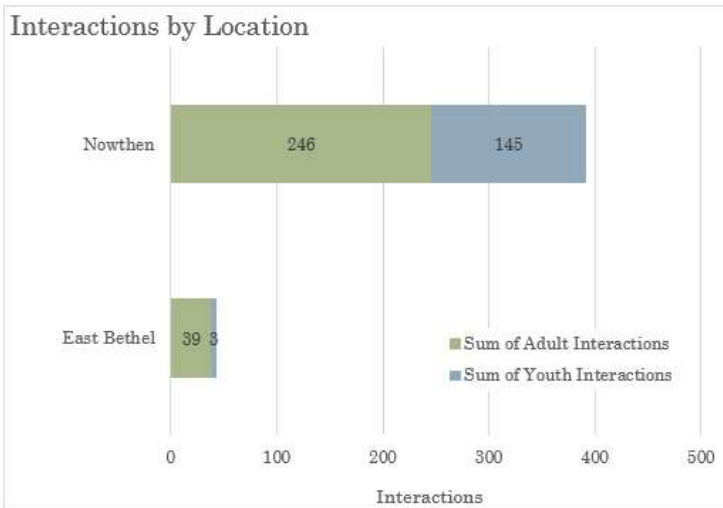
**Description:** The Anoka County Water Resources Outreach Collaborative (AWROC) is a partnership formed in 2018 to implement a comprehensive water outreach and engagement program. Its purpose is to reduce duplication while improving the cost effectiveness of public outreach about water resources.

**Purpose:** To inform community residents, businesses, staff, and decision-makers about issues affecting local waterbodies and groundwater resources. To achieve behavioral changes that improve water quality and recruit people to install water quality projects.

**Location:** County Wide

**Results:** Thirty-four events were attended or facilitated by the Anoka Conservation District’s outreach specialist throughout the county in 2021. These events included staffing a booth at community events and facilitating workshops.

### **2021 Anoka County Water Resources Outreach Collaborative Results for URRWMO**



## **Projects As Detailed in the URRWMO 10-Year Plan**

**Description:** The URRWMO pledges match of approximately \$15,375 annually toward priority projects in its Watershed Management Plan. These funds are often match for grants. Priority projects include Rum River and Lake George shoreline stabilizations, a middle Ford Brook subwatershed assessment study, and stormwater retrofits ranked in subwatershed studies.

**Purpose:** To improve water quality in lakes, streams, and rivers.

**Location:** Watershed Wide

**Results:** Ongoing projects include:

### ***RUM RIVERBANK STABILIZATIONS***

ACD has identified eroding Rum riverbanks throughout Anoka County, ranked them by priority, and reached out to the priority landowners. Project installations began in 2020-21 using over \$1.6M in State grant funds, county funds, landowner contributions, and \$15K from the URRWMO. Accomplishments so far include:

- 3,845 linear feet of cedar tree revetments installed at minor erosion sites. An additional 1,282 are planned for 2022.



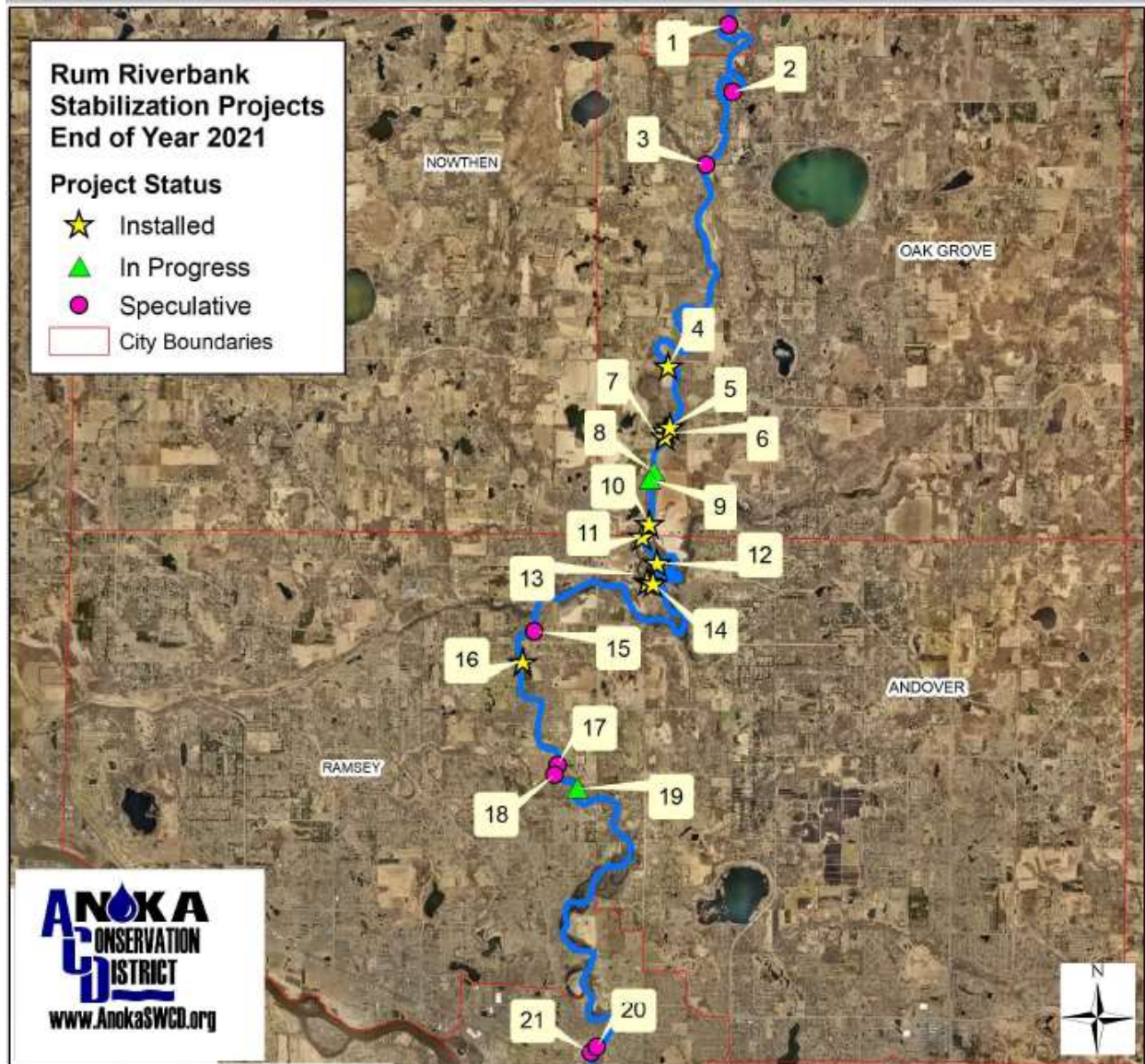
- 400 linear feet of regrading and rock rip rap at a site just south of the Viking Blvd Bridge.



- Planning, surveying, and preliminary design work for other sites including 400 linear feet at two private residences in Oak Grove, 500+ linear feet in the Cedar Creek Conservation Area, 175 linear feet in Andover, 200 linear feet at the Boy Scout camp in Ramsey, and others.



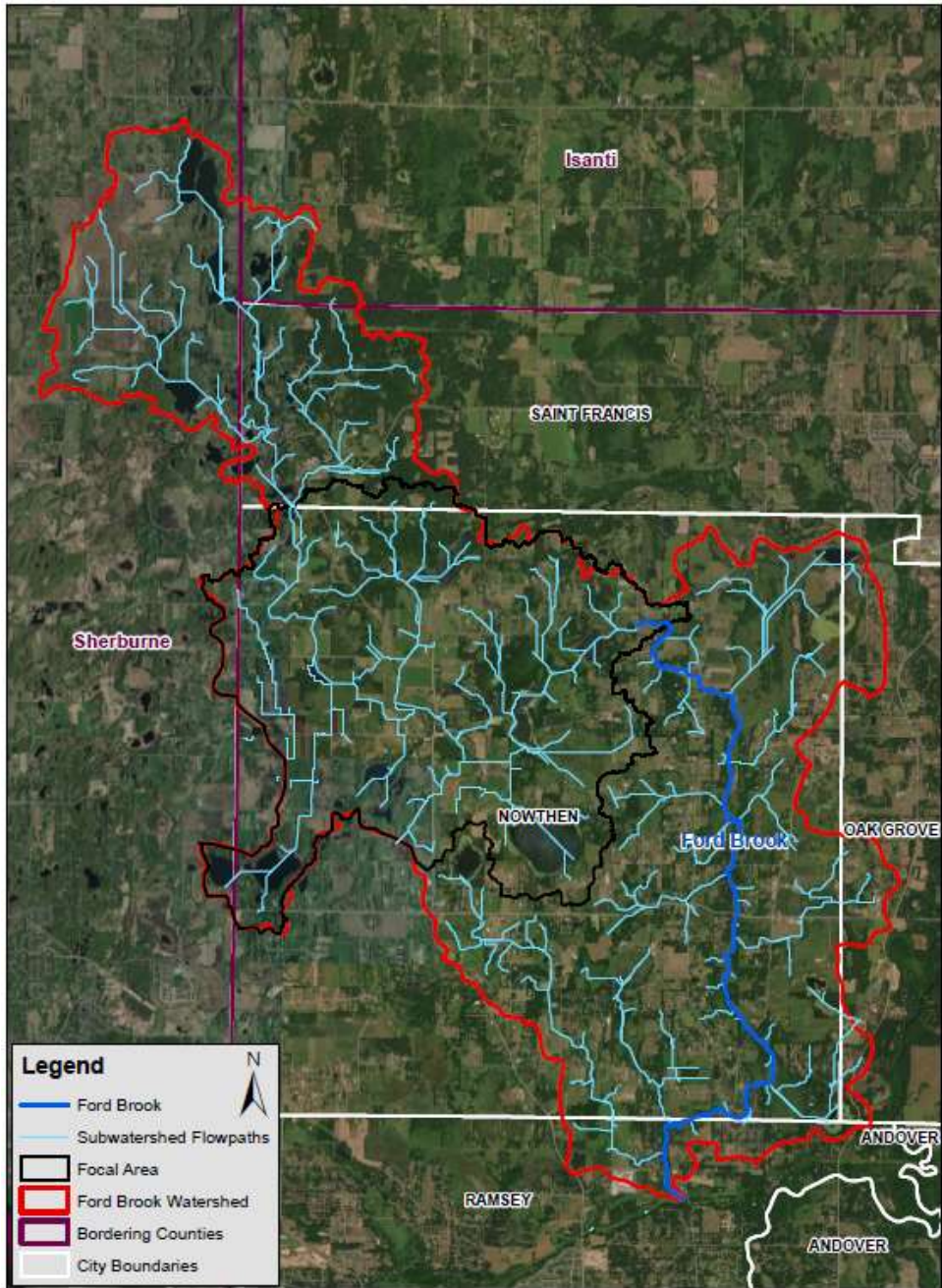
## Map of identified Rum Riverbank sites



Number	Grant	Project Type	Status	Length ft.	Description
1	LSOHC	Bioengineering	Speculative	700	Working with St. Francis on bioengineering project.
2	CWF	Hard Armoring	Speculative	500	Working with two landowners on highest priority project on our inventory.
3	CPL	Cedar Tree Revetment	Speculative	600	Working with landowner on potential project.
4	LSOHC	Bioengineering	Installed 2021	400	Bioengineering project installed on private property.
5	CPL	Cedar Tree Revetment	Installed 2021	500	Revetment installed on private property.
6	CPL	Cedar Tree Revetment	Installed 2021	150	Revetment installed on private property.
7	CPL	Cedar Tree Revetment	Installed 2021	320	Revetment installed on private property.
8	LSOHC	Bioengineering	In Progress	525	Bioengineering project at Cedar Creek Cons. Area. Survey complete.
9	CPL	Cedar Tree Revetment	Planned for 2022	200	Revetment planned at Cedar Creek Cons. Area 2022
10	CPL	Cedar Tree Revetment	Installed 2021	1130	Revetment installed at Cedar Creek Cons. Area.
11	CPL	Cedar Tree Revetment	Installed 2021	220	Revetment installed in Rum Central Regional Park
12	CPL	Cedar Tree Revetment	Installed 2021	275	Revetment installed in Rum Central Regional Park
13	CPL	Cedar Tree Revetment	Installed 2020	650	Revetment installed in Rum Central Regional Park
14	CPL	Cedar Tree Revetment	Installed 2021	200	Revetment installed at Rum Central Regional Park.
15	CPL	Revetment	Speculative	200	Possible revetment site on private property. Landowner interested for 2022.
16	CPL	Cedar Tree Revetment	Installed 2021	400	Revetment installed at Timber Rivers Park, Andover.
17	CPL	Revetment	Speculative	100	Possible revetment site on private property. Landowner interested for 2022.
18	LSOHC	Bioengineering	Speculative	125	Bioengineering project at Boyscout Camp. Landowner interested for 2022.
19	LSOHC	Bioengineering	In Progress	500	Bioengineering project on private property. Initial stages.
20	CPL	Cedar Tree Revetment	Speculative	120	Possible revetment site at Rum River South.
21	CPL	Cedar Tree Revetment	Speculative	200	Possible revetment site at Rum River South.

**MIDDLE FORD BROOK SUBWATERSHED ASSESSMENT STUDY**

ACD began a study to identify and rank water quality improvement projects to benefit Ford Brook and the Rum River downstream. Study components will include water monitoring to identify priority areas, modeling, project identification, cost and pollutant removal estimation for each project, and project ranking. The study is paid for by a State Watershed Based Implementation Fund grant and URRWMO matching funds. Completion is expected in 2022.



## ***LAKE GEORGE SHORELINE STABILIZATION***

This project aims to stabilize 500 linear feet of Lake George shoreline in order to improve water quality and enhance near-shore habitat. Candidate sites were identified by ACD from a photo inventory completed by boat. Projects will only be done where the owner is willing and ACD has determined it is a top-scoring project for benefits to the lake. Sites will be prioritized based on erosion rates and the willingness of the owners to both stabilize the shore and include a native plant buffer. At least 6-8 projects are planned. The primary funding is \$70,000 in State grant funds. The project is coordinated by the Anoka Conservation District (ACD).



In 2021, the Anoka Conservation District completed the following:

- Sent 40 letters to landowners with moderate erosion in March.
- Visited the Lake George community to door knock at properties that received a letter, unless the owner already responded.
- Facilitated a virtual neighborhood meeting with interested landowners in April to describe the program and answer questions.
- 8 sites were selected. Sites were prioritized based on erosion rates and the willingness of the owners to both stabilize the shore and include a native plant buffer.
- 1 shoreline stabilization project was installed – a small 20-foot biolog.
- 7 sites were surveyed.

In 2022, designs and installations of seven sites will be completed.

### **Project sites**

