



Elm Creek Watershed Management Commission

2022 Annual Activity Report

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This report was prepared
for the Elm Creek Watershed Management Commission
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We gratefully acknowledge the assistance of:
Eric Megow, Stantec Consulting Services,
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*About the cover photograph:
Northwest Greenway, Plymouth
Photo courtesy of Ben Scharenbroich*

The Northwest Greenway is a 350-acre wooded nature preserve with winding bike and pedestrian trails, stretching approximately two linear miles from Lake Camelot on the east side of Plymouth to the Northwest Greenway Pavilion and Challenge Course on the west. The Greenway connects to the Medicine Lake Regional Trail, which links French and Elm Creek regional parks.

Serving two main purposes, the Northwest Greenway preserves natural resources to provide a wildlife corridor in an area of Plymouth that is rich with high quality wetlands and trees. The Greenway also provides close to 7.5 miles of paved trails for walking and biking with scenic overlooks, an open-air pavilion for hosting gatherings and events, a Challenge Course and more.

This annual activity report, prepared by the Elm Creek Watershed Management Commission in accordance with the annual reporting requirements of Minnesota Rules Chapter 8410.0150 Subp. 2-3, summarizes the activities undertaken by the Commission during calendar year 2022.

≡ THE COMMISSION

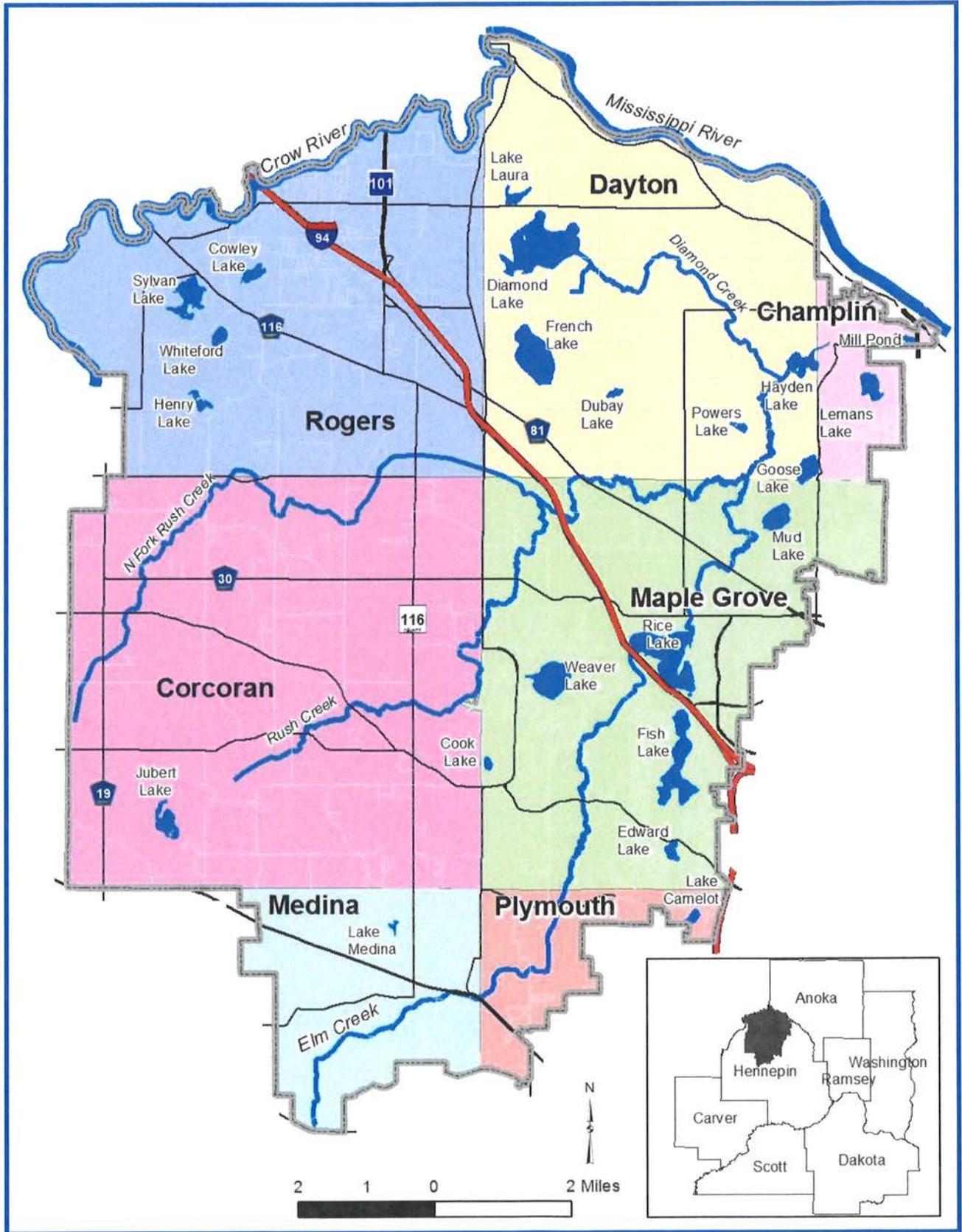
The Elm Creek Watershed Management Commission was established to protect and manage the natural resources of the Elm Creek watershed. A Board of Commissioners comprised of representatives appointed by the member communities was established as the governing body of the Commission. Its members are the cities of Champlin, Corcoran, Dayton, Maple Grove, Medina, Plymouth, and Rogers.

MEETINGS The Commission meets monthly on the second Wednesday at 11:30 a.m. Due to the COVID-19 pandemic, beginning in April 2020 and until April 2022, the Commission met virtually via zoom.us. All other meeting criteria remained the same. The May, June and July 2022 meetings took place in Maple Grove City Hall, 12800 Arbor Lakes Parkway, Maple Gove, Minnesota. The August and subsequent meetings took place in the Plymouth Community Center, 14800 34th Avenue North, Plymouth, Minnesota. The meetings are open to the public and visitors are welcome. Meeting notices and agenda items are posted on the Commission's website. www.elmcreekwatershed.org.

COMMISSIONERS | TECHNICAL ADVISORY COMMITTEE | STAFF *Appendix A* includes the names of the Commissioners and their Alternates appointed to serve in 2022. Also listed there are the members of the Commission's Technical Advisory Committee (TAC) along with the individuals/firms serving as the Commission's administrative, legal, and technical support staff. The Commission has no employees.

≡ THE WATERSHED

The Elm Creek watershed covers approximately 130.61 square miles and lies wholly within the north central part of Hennepin County, Minnesota. The Crow and Mississippi Rivers demarcate the northern boundary. Although some areas in the north drain to the Crow and Mississippi Rivers, they are within the legal boundaries of the Elm Creek watershed. Table 1



shows the area share of the member communities in the watershed. A map of the watershed may be viewed on the previous page.

Table 1 - Area of Members within the Elm Creek Watershed

Local Government Unit	Area (Square Miles)	%age of Watershed
Champlin	3.08	2.36%
Corcoran	36.06	27.61%
Dayton	25.17	19.27%
Maple Grove	26.32	20.15%
Medina	9.34	7.15%
Plymouth	4.44	3.40%
Rogers	26.20	20.06%
Total	130.61	100.0%

≡ THE WATERSHED PLAN

The Elm Creek Watershed Management Commission adopted its Third Generation Watershed Management Plan on October 14, 2015. The Third Generation Plan describes how the Commission will manage activities in the Elm Creek watershed in the ten-year period 2015-2024.

The Plan includes information required by Minnesota Administrative Rules Chapter 8410, Local Water Management: 1) an updated land and water resource inventory; 2) goals and policies; 3) an assessment of problems and identification of corrective actions; 4) an implementation program; and 5) a process for amending the Plan. The Plan also incorporates information and actions identified in the Elm Creek Watershed-wide Total Maximum Daily Load study (TMDL) and Watershed Restoration and Protection Strategy Study (WRAPS), completed between 2009 and 2016.

The Commission, along with the Citizen and Technical Advisory Committees (CAC and TAC), identified the following issues during development of the plan:

- **Water quality**—numerous lake and stream impairments, impact of land use changes, stream stability.
- **Agricultural impacts on water quality**—increase agricultural BMPs, develop effective mechanisms to encourage voluntary adoption, more effective outreach.
- **Funding**—maintaining a sustainable funding level; funding capital projects.
- **Other issues**—lack of information and knowledge of water quality issues and actions by multiple stakeholders; need to be realistic and prioritize actions; increase member city involvement; foster collaboration with other agencies.

Through identification of these issues, the Commission developed the following priorities to guide water resources planning and management functions:

- **Implement priority projects**, provide cost-share to member cities to undertake projects to help achieve WRAPS lake and stream goals.
- **Use results of WRAPS study to establish priority areas**, complete subwatershed assessments to identify specific BMPs that feasibly and cost-effectively reduce nutrient and sediment loading to impaired water resources.
- **Develop model manure management ordinance** to regulate placement of new, small non-food animal operations; require member cities to adopt that or other ordinances and practices to accomplish its objectives.
- **Partner with other organizations to complete pilot project** for targeted fertilizer application, increase and focus outreach to agricultural operators.
- **Continue participating in joint education and outreach activities** with the West Metro Water Alliance (WMWA) and other partners.

The Commission's goals and policies are detailed in *Appendix B*.

LOCAL PLANS

Member cities are required to adopt their own local water management plans during the life of the Commission's Watershed Management Plan. These plans must be consistent with the Commission's Plan and comply with MN Statutes, Section 103B.235, and MN Rules 8410 regarding local plan content.

≡ 2022 WORK PLAN IN REVIEW

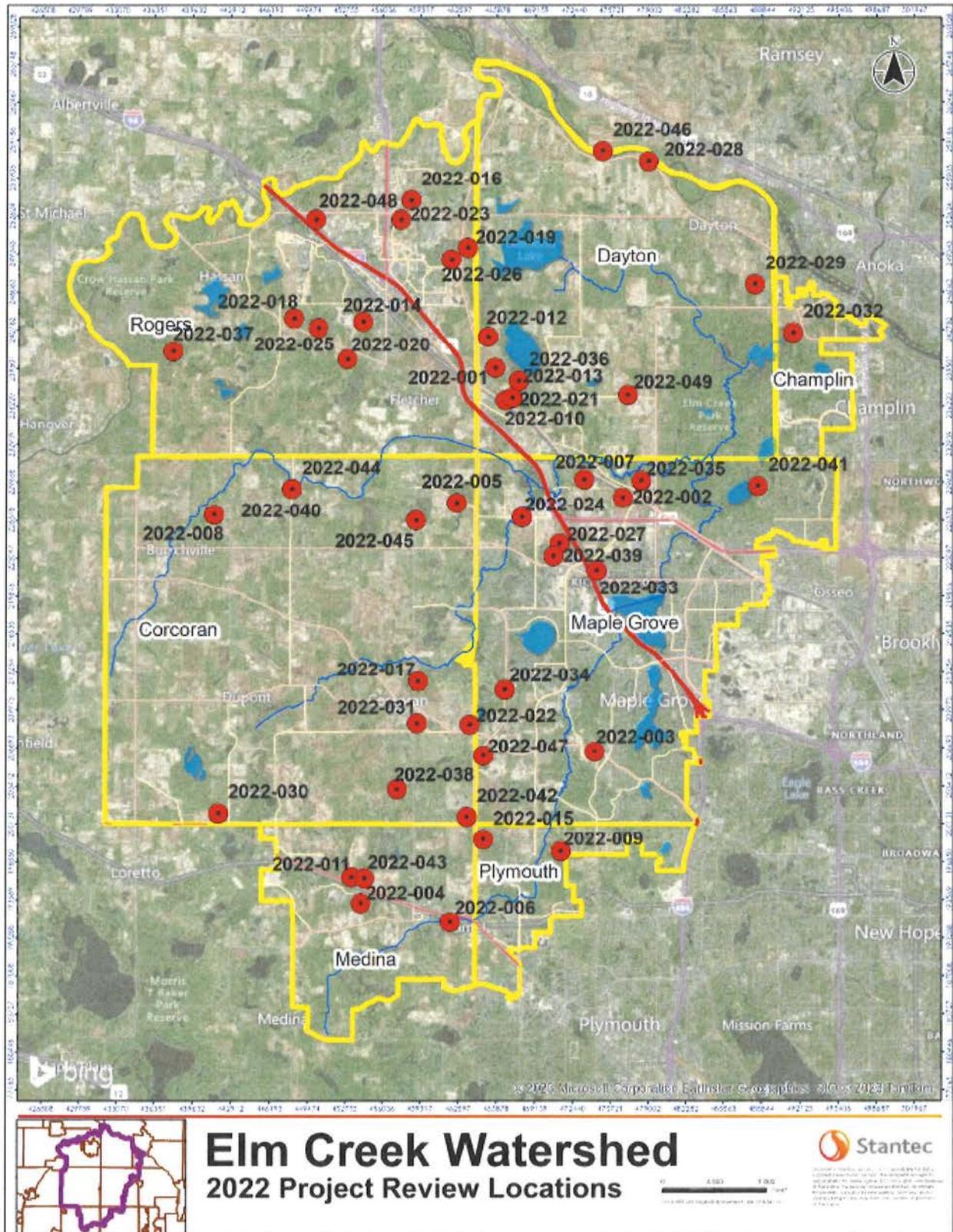
The Elm Creek Commission identified a number of activities to be undertaken in 2022. The activities are categorized as Technical, Monitoring, Education and Public Outreach, Projects and Capital Improvements, and Administrative, and are described below. The progress the Commission made toward completing these activities in 2022 is shown in *italics*. The 2022 Work Plan in Review was approved on February 8, 2023.

TECHNICAL

§ Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Watershed Management Plan. *Evaluate the 2021 project review policy, application form, and fee schedule to determine how well they are meeting the Commission's goal of funding the costs of reviewing the projects. Revise the language for approval of O&M agreements. The Commission reviewed 49 projects in 2022. Now that the project review policy has been effect for two years, administrative and technical staff will meet early in 2023 to evaluate the policy and may recommend some adjustments. Appendix C lists these projects; a map showing their locations follows on page 6.*

§ Complete Special Flood Hazard Areas on the Federal Emergency Management Agency (FEMA) Floodplain maps located within the watershed into current modeling packages. The total budget for this project in Elm Creek was \$92,772.45 and did not require a local match. At December 25, 2020, eight percent of the original budget remained, not including \$14,800 of additional work authorized by the DNR in December 2020 and an additional \$1,200 for the revision of 12 subwatersheds and update of the HEC-HMS model inputs for those subwatersheds. Work was completed by the end of the term of the contract, March 31, 2021.

As the member cities reviewed the model they noted significant differences between the flood elevations in their communities' hydrologic and hydraulic (XPSMWM) models and those included in the HUC-8 study. The Minnesota DNR had proposed to complete extensive surveys of all hydraulic structures (bridges, culverts, and weirs) within the effective (FEMA mapped) floodplain; however, they were unable to complete those surveys within limited budgets. Consequently, many hydraulic structures were modeled based on assumptions made from review of aerial imagery.



On May 12, 2021, , the Commission authorized Stantec to undertake a Third Party Review of the study results. Stantec's findings were summarized and presented to the Commission' Technical Advisory Committee (TAC) in December 2021. The TAC directed Stantec to forward their summary and recommendations to the DNR.

Representatives from the DNR, Stantec, and the Commission's TAC met virtually to discuss Stantec's findings and recommendations. Based on the outcome of those discussions, proposals from Stantec and Barr Engineering were considered to rectify the work already completed in order to bring the project into satisfactory completion.

Stantec's proposal was chosen. Their updates to the model were sent to the DNR for review. The DNR responded via QA/QC review on November 8, 2022. Those comments were addressed and updates were sent to the DNR on January 5, 2023.

The next major step will be to hold the Flood Risk Review (FRR) meeting. The DNR is currently working with FEMA to determine the schedule and budget for remaining tasks for all of the Twin City HUC8 Models, including the Elm Creek model. The DNR will provide additional updates in early 2023, as they work through a grant amendment with FEMA.

MONITORING

- § Continue to partner with the Three Rivers Park District (TRPD) to share in the costs of conducting lake and stream monitoring in the watershed. *In 2022 TRPD undertook stream monitoring and lake monitoring, including aquatic vegetation surveys on Diamond, Fish and Mud lakes. The DO longitudinal survey was not conducted in 2022 due to lack of water in the channel. Lake report cards are found in Appendix D. TRPD stream monitoring results are found in Appendix E.*
- § In addition, under the five year-cooperative agreement, the Commission and the Park District provided financial support to assist the monitoring efforts of the United States Geological Survey (USGS) stream gauging station on Elm Creek within the Elm Creek Park Reserve. *Twelve monthly manual samples were collected to represent the variations in hydrologic conditions and physical and laboratory analyses of chemicals were also taken. A refrigerated automatic sample was used to collect eight composited samples of runoff events. They were discharge-weighted and collected during increasing or peak streamflow and analyzed for the same constituents as the manual samples. Analysis was completed for Total Phosphorus, Dissolved Phosphorus, Total Ammonia plus Organic Nitrogen, Dissolved*

Ammonia Nitrogen, Dissolved Nitrite plus Nitrate Nitrogen, Total Suspended Solids, Volatile Suspended Solids, Chemical Oxygen Demand, and Dissolved Chloride. Physical measurements included Water Temperature, Specific Conductance, and pH. Real time data from the monitoring station may be viewed on the Internet at http://waterdata.usgs.gov/mn/nwis/uv/?site_no=05287890&PARAMeter_cd=00065,00060.

- § Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS). *The cooperative agreement was renewed for WY2022-23. The Commission's portion of the agreement is \$44,900; the USGS' share is \$39,800. A description of the USGS monitoring program, including 2022 results, are shown in Appendix F.*
- § Fund the monitoring of one lake through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). *No lakes were monitored by Commission volunteers during the 2022 CAMP program. When available, CAMP monitoring results are available on the Met Council's website, <https://metrocouncil.org/Wastewater-Water/Services/Water-Quality-Management/Lake-Monitoring-Analysis/Citizen-Assisted-Monitoring-Program.aspx>. Appendix G describes the CAMP program.*
- § Participate in the Minnesota Wetland Health Evaluation Program (WHEP) with four wetlands in 2022. *WHEP did not occur in 2022. Leadership in the Hennepin County Department of Environment and Energy have decided to discontinue WHEP, as it does not meet their department goals.*

EDUCATION AND PUBLIC OUTREACH

- § Continue as a member of the West Metro Water Alliance (WMWA). *Due to the pandemic, Watershed PREP (Protection, Restoration, Education, and Prevention) classes were cancelled or conducted virtually. A video of the Watershed PREP class is available for home school or classroom viewing at <http://www.westmetrowateralliance.org/>.*

In 2022 WMWA and its member WMOs partnered with Hennepin County and the Richfield-Bloomington WMO to develop a shared education and outreach coordinator position funded by Watershed-Based Implementation Funding (WBIF) and the WMWA special projects budget. This two-year limited duration position will focus on engaging with various stakeholder groups in the five watersheds on clean water and chloride management issues. WMWA also drafted a long-term vision for the organization to help transition from a part-time to a full-time coordinator.

- § Continue as a member of Blue Thumb and WaterShed Partners. *Administrative staff attended these meetings, offering expertise and otherwise participating to support our shared goals, and providing updates to the Commission at their monthly meetings.*
- § Promote “Lawns to Legumes,” a program for residents to seed their lawns with a bee lawn mix, targeting habitat for endangered species. A collaboration between Blue Thumb and the Minnesota Board of Water and Soil Resources (BWSR), provides cost-share funding and other resources to help Minnesota residents establish pollinator habitat in their yards. *The Commission continues to support and promote this program. Funding is provided by the Environment and Natural Resources Trust Fund (ENRTF) and is targeted in priority areas to benefit the Rusty patched bumblebee and other at-risk species.*
- § Sponsor Resilient Yard Workshops as part of the Commission’s Education and Public Outreach Program. The workshops are presented by Metro Blooms. *Since the beginning of the pandemic, all workshops have been held virtually. Virtual workshops were conducted in Plymouth on April 14, 2022, with 40 participants and on April 26 in Champlin with 15 registrants.*
- Since the pandemic precluded holding in-person workshops, a new Blue Thumb training program was implemented to teach participants skills in inspecting and caring for raingardens and other green infrastructure, all within a framework of eco-friendly landscaping practices. Individuals who take part in the three-session program receive a Sustainable Landcare Certificate. Participants in the program first receive Stormwater Basics, learning about watersheds and how water travels in our urban environment. They also learn how raingardens are built, how they work, and how to inspect them to ensure that they function properly. An important part of the program is identifying weeds, a major culprit of dysfunctional raingardens, and then choosing a way to manage them (without chemicals, if possible).*
- § Work with the Hennepin County Department of Environment and Energy (HCEE). Assist landowners in identifying BMPs for implementation throughout the watershed. Work with member cities to identify projects that will result in TMDL load reductions. *HCEE Staff provided monthly staff reports at the Commission’s regular meetings. Included in those reports were project and program updates as well as announcements of grant programs and clinics offered by the County. In 2022 the County fully installed a manure bunker, two automatic waterers (to keep cattle out of North Fork of Rush Creek), two livestock*

exclusion fence projects, and gutters on several barns to reduce runoff traveling over areas cattle regularly cross. The County also substantially installed five grassed waterways in the Jubert Lake Subwatershed before construction was halted for the winter. Collectively, these projects will reduce loading to the North Fork of Rush Creek by 47.2 tons of sediment and 110.9 lbs. of phosphorus annually. Each of these projects was funded through the Commission's CIP, state grant funds, and County and landowner contributions. The County also developed design elements for several projects which will be installed in 2023.

As further described below, the Rush Creek and Diamond Creek subwatershed assessments received funding for additional implementation 2023-2024 through a Board of Water and Soil Resources (BWSR)-sponsored Watershed Based Implementation Funding (WBIF) grant. Applications for a Hennepin County Good Steward grant and a Commission cost-share grant were also submitted for a channel stabilization project in Dayton.

- § *Promote river stewardship through Hennepin County's RiverWatch program with three sites in 2022. Volunteer monitoring did not occur in 2022 but will resume in 2023.*
- § *Continue to populate and maintain the Commission's website www.elmcreekwatershed.org to provide news to residents, students, developers and other individuals interested in the water resources of the watershed. This is an ongoing activity. In 2022 the website had 2,741 total users. Of these, 2,693 were new users. A total of 4,282 sessions occurred among all users, averaging 1.56 pages per session.*

PROJECTS AND CAPITAL IMPROVEMENTS

- § *Send call out to member cities, requesting them to provide updates to the projects already included on the Commission's Capital Improvement Program (CIP) as well as inform the Commission of new projects that they would like to have considered for inclusion on the CIP. Hold public meeting, adopt an amendment to the Third Generation Watershed Management Plan to add or modify projects, conduct public hearing, and certify levy to Hennepin County. The Technical Advisory Committee (TAC) convened April 13, 2022, to update the 2021 CIP. At that meeting the members received revisions, additions, and deletions to the 2021 CIP spreadsheet from the member cities. A total of nine new projects were added to the CIP.*

A public meeting was held on May 11, 2022, for the purpose of adding three projects to the CIP in 2022 and revising Appendix C of the Plan, the Rules and Standards, to (1) make the Commission's Rules consistent with the most recent Minnesota General Stormwater Permit, and (2) clarify the Commission's Standards regarding the required freeboard between the high-water elevation of a constructed or natural water and the low floor or opening of a proposed adjacent structure. The Commission adopted Resolution 2022-01 Adopting a Minor Plan Amendment and setting the 2022 maximum levy at \$589,903. The County Board approved the Minor Plan Amendment and adopted a 2022 maximum levy of \$589,903 for the Elm Creek Commission on July 19, 2022.

A public hearing was held on September 14, 2022, where the Commission certified a levy totaling \$589,903 for three projects to move forward in 2022 – the South Fork Rush Creek Stream restoration project in Maple Grove (\$430,828); the 2022 City Cost Share project (\$106,050); and the 2022 Partnership Cost Share project (\$53,025).

- § *Support the City of Corcoran and its partners as they undertake a subwatershed assessment for the South Fork of Rush Creek. A small portion of the South Fork also flows through the cities of Maple Grove and Medina. The Corcoran City Council has directed its staff to continue reviewing implementation options related to the Stormwater Area Charge Study with results to be presented to the Council in early 2023.*
- § *Support the City of Dayton and its partners to continue efforts for completion of the Diamond Lake subwatershed assessment. The Diamond Lake Subwatershed Assessment Report was finalized and submitted to the City of Dayton in March 2022.*
- § *The Board of Water and Soil Resources BWSR held several Listening Sessions to take feedback and help decide how to allocate FY22 Watershed Based Implementation Funds (WBIF). On October 27, 2021, the BWSR Board approved a process that would allocate funds to Metro watersheds with “a \$75,000 minimum per watershed planning area inside of the Metro, and a distribution of funds based on a weighting of 90% private land and 10% on public waters to all eligible areas.” In 2022, \$267,774 in 2023 WBIF funds were available from BWSR for allocation within the Elm Creek watershed. The Convene Committee allocated \$175,000 to continued implementation of projects in the Rush Creek Headwaters SWA as well as projects in the newly completed Diamond Lake SWA. \$30,000 was allocated to the education and outreach coordinator described on page 8 of this report, and the balance of \$92,274 was allocated to high-priority area*

assessments. No specific assessments were selected but the proposed South Fork Rush Creek SWA, feasibility assessments for the Diamond Lake outlet channel project, and the Rush Creek meandering near Stieg Woods were identified as potential projects to be considered for funding in 2023. Projects must be completed by December 31, 2025.

- § Make application for funding from the newly-created Minnesota Pollution Control Agency (MPCA) resiliency grant program. This program provides grants to communities statewide for climate resiliency planning. The grants can pay for the climate risk assessment, planning, and pre-design needed to inform the development of bonding proposals to upgrade stormwater infrastructure. Grants will be available on a competitive basis to counties, cities, townships and Tribal Nations in Minnesota. *At their November meeting, Staff proposed an application comprised of the following scope of work: (1) Model and map midcentury precipitation scenarios to create projected flood inundation areas for the 1%+ 24-hour rainfall event and the 1%+ 10 day event. (2) Identify potential future flooding risks in the watershed by reviewing known flooding areas, infrastructure, structures, and emergency vehicle routes in or in close proximity to predicted future hazardous flood conditions. (3) Develop policy recommendations for using the scenario data. The TAC decided not to move forward with an application at this time.*

ADMINISTRATION

- § Adopt a 2023 operating budget. *At its June 8, 2022, regular meeting, the Elm Creek Watershed Management Commission approved a 2023 operating budget totaling \$1,014,165. To fund the 2023 budget the Commission approved member assessments of \$250,000, a 5.4% increase in city assessments, the first increase since 2020.*
- § Prepare a 2021 Audit Report. *The 2021 Audit Report was prepared by Johnson and Company, Ltd. and transmitted to the State Auditor and to the Board of Water and Soil Resources on June 30, 2022, per MN Rule 8410.*
- § Conduct the biennial solicitation of interest proposals for administrative, legal, technical and wetland consultants, pursuant to Minnesota Statutes Annotated 103B.227.subd. 5. *The solicitation was published in the November 28, 2022, edition of the State Register. Responses will be reviewed at the Commission's January 11, 2023, meeting.*
- § Publish an annual activity report summarizing the Commission's yearly activities and financial reporting. *The 2021 Annual Activity Report was transmitted to the Board of*

Water and Soil Resources on April 29, 2022, and uploaded to the Commission's website on that date.

§ Participate with the Board of Water and Soil Resources in a Performance Review and Assistance Program (PRAP) Level II Review. *A PRAP Level II review is conducted by BWSR once every ten years for every local government unit. The review focuses on the degree to which an organization is accomplishing the goals of its water management plan. The Commission underwent a PRAP review in 2021. A committee comprised of Plymouth Commissioner Catherine Cesnik, Commission Chairman Doug Baines, Stantec consultant Diane Spector, and Administrator Judie Anderson were charged with responding to the recommendations brought forward by BWSR. Their first meeting, via Zoom, was held February 16, 2022. The group met, discussed the findings, and agreed by consensus to take BWSR's comments under advisement during development of the Fourth Generation Plan.*

≡ FINANCIAL REPORTING

The following pages show the Elm Creek Watershed Management Commission's approved budget and member assessments for the years 2021 and 2022. The Commission's Joint Powers Agreement provides that each member community contributes toward the annual operating budget based on its share of the total market value of all property within the watershed.

Of the \$931,405 operating budget for 2022 approved by the Commission on June 9, 2021, revenue of \$149,375 was projected as proceeds from application fees, \$6,000 from partnership revenue, \$125,000 from grant proceeds, and \$5,250 from interest income and dividends, resulting in assessments to members totaling \$237,300. \$10,792 was projected as coming from reserves.

In 2021, the Commission designated \$291,638 as its share of the cost of three CIP projects. A Hennepin County ad valorem levy payable in 2022 was used to fund the Commission's share of the three projects.

\$200,000 was projected as project review-related expense; \$50,917 for water monitoring; and \$17,000 for education. \$137,800 was budgeted for administration, planning, and general operating expenses. \$5825,688 resides in an assigned fund for special projects, studies and subwatershed assessments.

The Commission maintains a checking account at US Bank for current expenses and rolls

Elm Creek Watershed Management Commission 2021-2022 Operating Budget

Row			2021 Budget	2022 Budget
EXPENSES				
GENERAL OPERATING EXPENSES				
7	Administrative		95,000	95,000
8	Watershed-wide TMDL Admin		0	0
9	Grant Writing		650	500
10	Website		2,000	3,000
11	Legal Services		2,000	2,000
12	Audit		5,000	6,000
13	Insurance		3,800	3,800
14	Technical support - HCEE - conservation promotion, landowner outreach, and project implementation.		12,000	12,000
15	Contingency		1,000	1,000
16	Subtotal General Operating Expenses lines 6-15		121,450	123,300
EDUCATION				
19	Education			
20	Education - City/Citizen Programs		2,500	2,500
21	West Metro Water Alliance			
22	WMWA General Admin		5,000	5,000
23	WMWA Implementation Activities incl Watershed PREP		6,500	4,500
24	RG Workshop/Intensive BMPs/Special Projects		3,000	2,000
25	Education Grants		1,000	0
26	Macroinvertebrate Monitoring-River Watch		3,000	3,000
27	Ag Specialist		0	0
28	Subtotal Education lines 18-27		21,000	17,000
WATERSHED MANAGEMENT PLAN				
31	Plan Amendments		2,000	2,000
32	Local Plan Review			
33	Contribution to 4th Generation Plan		10,000	12,500
34	Subtotal Watershed Management Plan lines 30-33		12,000	14,500

Elm Creek Watershed Management Commission 2021-2022 Operating Budget

Row		2021 Budget	2022 Budget
EXPENSES			
WATER MONITORING PROGRAMS			
	Expenses		
38	Stream Monitoring		
39	Stream Monitoring - USGS	24,000	24,000
40	Stream Monitoring - TRPD	7,200	9,345
41	Extensive Stream Monitoring		
42	DO Longitudinal Survey	1,000	1,200
43	Gauging Station - Elec Bill	400	420
44	Subtotal Stream Monitoring lines 37-43	32,600	34,965
46	Lake Monitoring		
47	Lake Monitoring - CAMP	760	840
48	Lake Monitoring - TRPD		
49	Sentinel Lakes	8,100	8,460
50	Additional lake	2,500	1,352
51	Aquatic Vegetation Surveys	1,100	1,300
52	Subtotal Lake Monitoring lines 46-51	12,460	11,952
Other Water Monitoring			
55	Rain Gauge Network	0	0
56	Source Assessment	0	0
57	Watershed-wide TMDL-Follow-up-TRPD	0	0
58	Wetland Monitoring - WHEP	4,000	4,000
59	Subtotal Other Monitoring lines 54-58	4,000	4,000
60	Total Monitoring Expense lines 44,52,59	49,060	50,917
FLOODPLAIN MONITORING			
63	Barr - Floodplain modeling	0	0
64	TOTAL GENERAL OPERATING EXP-lines 63,60,34,28,16	203,510	205,717

Elm Creek Watershed Management Commission 2021-2022 Operating Budget

Row			2021 Budget	2022 Budget
EXPENSES				
PROJECT REVIEWS and WETLAND CONSERVATION ACT (WCA)				
66		Technical - Barr Engineering/SWS - project reviews	185,000	185,000
69		Administrative Support	12,000	15,000
70		WCA Expense	3,000	0
71		WCA Expense - Legal	500	0
72		WCA Expense - Admin	1,000	0
73		<i>Subtotal Project Review / WCA Expenses lines 66-72</i>	197,000	200,000
CIPS, GRANTS, SPECIAL PROJECTS, STUDIES, SWAs				
76		CIPs	175,000	294,638
77		Grants	125,000	125,000
78		Special Projects, Studies, SWAs	0	106,050
79		<i>Subtotal CIPs, Grants, Spec Projects, etc. lines 75-78</i>	300,000	525,688
80		TOTAL EXPENSES - lines 64,73,79	700,510	931,405
REVENUE				
GENERAL OPERATING REVENUE				
84		Membership Dues	237,300	237,300
85		Interest Income	15,000	5,000
85		Dividend Income	250	250
87		TRPD Cooperative Agreement	5,500	6,000
88		DNR Contract - Floodplain Modeling	0	0
90		<i>Subtotal General Operating Revenue lines 83-88</i>	258,050	248,550
PROJECT REVIEW and WCA REVENUE				
93		Project Review Fees	100,000	149,375
94		WCA Fees and Escrows Earned	0	0
95		Forfeited/Reimbursed Sureties		
96		<i>Subtotal Project Review / WCA Revenue line 93-95</i>	100,000	149,375
CIPS, GRANTS, SPECIAL PROJECTS, STUDIES, SWAs REVENUE				
99		CIPs	185,588	291,638
100		Grants	100,000	125,000
101		Special Projects, Studies, SWAs		106,050
102		<i>Subtotal CIPs, Grants, Spec Projects, etc. lines 99-101</i>	285,588	522,688
104		TOTAL REVENUE - lines 90,96,102	643,638	920,613
		Surplus/Deficit - lines 80,104	56,872	10,792

**Elm Creek Watershed Management Commission
2021-2022 Member Assessments**

2021	2020 Taxable Market Value	2020 Budget Share		Increase over Previous Year	
		%age	Dollars	%age	Dollars
Champlin	586,080,150	4.13%	9,801.07	3.34%	33
Corcoran	945,017,350	6.66%	15,803.61	4.12%	171
Dayton	859,590,989	6.06%	14,375.02	9.32%	832
Maple Grove	7,002,119,108	49.35%	117,097.09	90.00%	-2,432
Medina	1,117,455,738	7.87%	18,687.32	1.38%	-298
Plymouth	1,634,614,359	11.52%	27,335.81	9.85%	1,706
Rogers	2,045,081,387	14.41%	34,200.09	2.96%	-12
Totals	14,189,959,081	100.00%	237,300.00	0.00%	0
2022	2021 Taxable Market Value	2021 Budget Share		Increase over Previous Year	
		%age	Dollars	%age	Dollars
Champlin	603,102,432	3.940	9,349.36	-0.05	-452
Corcoran	1,053,101,089	6.880	16,325.28	0.03	522
Dayton	1,000,693,347	6.537	15,512.85	0.08	1,138
Maple Grove	7,344,495,742	47.979	113,855.14	-0.03	-3,242
Medina	1,187,298,004	7.756	18,405.62	-0.02	-282
Plymouth	1,887,099,770	12.328	29,254.02	0.07	1,918
Rogers	2,231,809,062	14.580	34,597.74	0.01	398
Totals	15,307,599,446	100.000	237,300.00	0.00%	0.00

uncommitted monies to its account in the 4M Fund, the Minnesota Municipal Money Market Fund.

The 2021 Audit Report, which was prepared by Johnson & Company, Ltd., Certified Public Accountants, was accepted by the Commission at its June 8, 2022, meeting and submitted to the State Auditor online per compliance guidelines. It is available for viewing on the Commission’s website, http://www.elmcreekwatershed.org/uploads/5/8/3/0/58303031/ec_financial_statements_12-31-2021_final.

The Commission follows Rule 54 of the Government Accounting Standard Board (GASB) to report Fund Balances. The fund balance classifications include:

Nonspendable – amounts that are not in a spendable form. The Commission does not have any items that fit this category.

Restricted – amounts constrained to specific purposes by their providers. One example would be ad valorem levy funds received from the County for capital improvement projects. The unused portion of these funds must be set aside in a restricted account for similar projects. Another example would be BWSR Legacy Grant proceeds where the funds are received prior to the onset of a project and where any unused portion must be returned to the grantor.

Committed – amounts constrained to specific purposes by the Commission itself. An example would be residual funds carried over from one year to the next for Studies, Project Identification and Subwatershed Assessments.

Assigned – amounts the Commission intends to use for specific purposes. Most line items in the Commission’s Operating Budget fall under this category.

Unassigned – amounts available for any purpose. These amounts are reported only in the general fund.

Amounts paid by the Commission per the 2021 Audit are as follows:

General engineering	\$224,492
General administration	140,890
Education	6,304
Programs	47,154
Projects	29,385
Capital projects	<u>130,851</u>
Total	\$579,076

General engineering work includes review of local plans, review of development/ redevelopment projects, attendance at meetings and other technical services. General administration includes support to technical staff, attendance at meetings, insurance premiums, annual audit, legal counsel, tracking grant opportunities, watershed planning, and other non-engineering services.

≡ PROJECTED 2023 WORK PLAN

What follows below is the projected work plan for the year 2023. It was approved at the Commission’s February 8, 2023, meeting.

- § Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission’s Third Generation Watershed Management Plan. *Evaluate the project review policy, application form, and fee schedule developed in 2021 to determine how well they are meeting the Commission’s goal of funding the costs of reviewing the projects.*
- § Continue to partner with the Three Rivers Park District (TRPD) to share in the costs of conducting lake and stream monitoring in the watershed. *In 2023, TRPD will monitor Elm Creek at 77th Avenue (ECF77); Rush Creek at Territorial Road (RT); and Diamond Creek (DC) for continuous flow and water quality. A dissolved oxygen longitudinal survey will also be conducted if adequate flow is available. TRPD will also monitor four sentinel lakes (Fish, Weaver, Diamond, and Rice) and two additional non-sentinel lakes in 2023. Under the cooperative agreement, the Commission and the Park District will also provide financial support to assist the monitoring at the USGS monitoring station in Champlin.*
- § Fund the monitoring of one lake through Metropolitan Council’s Citizen Assisted Monitoring Program (CAMP). *One lake will be monitored through CAMP in 2023.*
- § Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS). *The current cooperative agreement with the USGS extends through September 30, 2023.*
- § Promote river stewardship through Hennepin County’s RiverWatch program with three sites in 2023. *Hennepin County has resumed this volunteer macroinvertebrate monitoring program, but participation is in ongoing discussion.*
- § Continue as a member of the West Metro Water Alliance (WMWA). *The contract Educator will continue to schedule classroom visits in 2023. The four member WMOs: Bassett Creek, Elm Creek, Shingle Creek, and West Mississippi, along with the Richfield-Bloomington WMO, will partner with Hennepin County to provide a one-half time education and outreach coordinator to provide engagement and programming in the five watersheds.*
- § Promote “Lawns to Legumes,” a program for residents to seed their lawns with a bee lawn mix, targeting habitat for the Rusty-patched bumblebee, an endangered species. *A collaboration between Blue Thumb and the Minnesota Board of Water and Soil Resources (BWSR), provides cost-share funding and other resources to help*

Minnesota residents establish pollinator habitat in their yards. The Commission supports this program on its website and with membership in Blue Thumb.

- § Sponsor Resilient Yard Workshops as part of the Commission's Education and Public Outreach Program. The workshops are presented by Metro Blooms. *One of the engagement focus areas of the new half-time coordinator will be helping to market and coordinate workshops, whether sponsored by cities in the watershed, online, or elsewhere in the Metro.*
- § Continue as a member of Blue Thumb and WaterShed Partners. *Staff will continue to virtually attend WaterShed Partner meetings and Blue thumb meetings to share resources, bringing back programs and ideas for promotion by the Commission. Administrative staff attend these meetings, offering expertise and otherwise participating to support our shared goals, and providing updates to the Commission at their monthly meetings.*
- § Develop and implement a Chloride Education and Outreach Plan. *The Commission and TAC will identify target stakeholders and messages and develop options for delivering programming. This work will be coordinated with WMWA and the Hennepin County Chloride Initiative.*
- § Continue to work in partnership with the University of Minnesota's agriculture specialist to help build relationships with the agricultural community in the watershed to achieve TMDL load reductions. *The Commission will continue to work with the agricultural specialist as available to supplement efforts of the Rural Conservation Specialists.*
- § Work with the Hennepin County Rural Conservation Specialist. Assist landowners in identifying BMPs for implementation throughout the watershed. Work with member cities to identify projects that will result in TMDL load reductions. *Hennepin County Environment and Energy Staff will collaborate with landowners to identify BMP projects as well as larger, more strategic projects for inclusion on the Commission's Capital Improvement Program (CIP). County Staff will provide updates to the Commissioners through their monthly Staff Reports.*
- § Send call out to member cities, requesting them to provide updates to the projects already included on the Commission's Capital Improvement Program (CIP) as well as inform the Commission of new projects that they would like to have considered for

inclusion on the CIP. *Hold public meeting and adopt an amendment to the Third Generation Watershed Management Plan; conduct a public hearing for any projects to be ordered; and certify levy to Hennepin County.*

- § Undertake high priority projects identified in the Rush Creek Headwaters and Diamond Lake Subwatershed Assessments. *This activity will continue and be expanded in 2023. The Commission has dedicated an additional \$175,000 in Watershed-Based Implementation Funding to these implementation efforts, centered on the Rush Creek Headwaters and Diamond Lake subwatersheds.*
- § Adopt a 2024 operating budget. *A Budget Committee will draft a 2024 operating budget for consideration by the Commission in May 2023.*
- § Adopt an Adequate Fund Reserve Policy. *A subcommittee has worked with the Commission's auditor to draft this policy, and to modify the financial reporting formats to ease the Commissioners' ability to understand the Commission's financial position throughout the year.*
- § Prepare a 2022 Audit Report. *This report will be prepared by Johnson and Company, LTD and forwarded to BWSR per MN Rule 8410.*
- § Continue to populate and maintain the Commission's website www.elmcreekwatershed.org to provide news to residents, students, developers, and other individuals interested in the water resources of the watershed. *This activity will continue in 2023.*
- § Publish an annual activity report summarizing the Commission's yearly activities and financial reporting. *The 2022 Annual Activity Report will be published in April 2023 and made available to the member cities and the public on the Commission website, <http://www.elmcreekwatershed.org/annual-reports.html>.*
- § Complete the update of the Special Flood Hazard Areas. *The Commission's and cities' work is complete. The DNR is currently exploring options internally to complete the final reviews and mapping for HUC-8 updates across the Metro area.*
- § Using WBIF funding, undertake a subwatershed assessment of the South Fork Rush Creek subwatershed, and conduct feasibility assessments for re-meandering North Fork Rush Creek between CR 116/Fletcher Lane and Brockton Road, and the outlet channel from Diamond Lake to Diamond Creek. *Corcoran's City Council will submit a formal*

request for the SWA, including a commitment to provide its cost share, and will assist in seeking any necessary additional funding, and provide any appropriate local assistance. The drainage area also includes small areas of Medina and Maple Grove.



Elm Creek Stream Restoration between Highway 55 and Peony Lane, Plymouth

Have a question about this report? Need more information?
Want to know how to get involved?
<http://www.elmcreekwatershed.org/contact-us.html>

APPENDICES

Commissioners

Commissioners and Alternate Commissioners are appointed by the communities they represent and serve at will. Officers are elected annually at the March regular meeting and assume office on April 1.

REPRESENTING	NAME/POSITION	ADDRESS	TELEPHONE/EMAIL
Champlin	Bill Walraven Secretary	216 Lowell Road Champlin, MN 55316	763.421.3206 traderstec@aol.com
	Gerry Butcher Alternate	11467 Preserve Lane N Champlin, MN 55316	763.557.1451 gerrybutcher671@yahoo.com
Corcoran	Ken Guenther Treasurer	6315 Butterworth Lane Corcoran, MN 55430	612.710.0734 kenguentner@gmail.com
	Tom Anderson Alternate	22385 Rush Creek Drive Rogers, MN 55374	651.216.8125 tompand@yahoo.com
Dayton	Doug Baines Chair	13000 Overlook Road Dayton, MN 55327	763.323.9506 dougbaimes@aol.com
	Travis Henderson Alternate	12260 S Diamond Lake Road Dayton, MN 55327	612-743-4506 thenderson@ cityofdaytonmn.com
Maple Grove	Joe Trainor Commissioner	16075 Territorial Road Maple Grove, MN 55369	763.420.4645 joe.trainor@meritain.com
	Dan Riggs Alternate	12822 86th Place North Maple Grove, MN 55369	612.916.4406 driggs@carlsonmccain.com
Medina	Terry Sharp Commissioner	4274 Fairway Drive Medina, MN 55340	612.849.6230 tsharp2972@aol.com
	Steven Lee Alternate	1522 Medina Road Long Lake, MN 55356	952.412.7573 leesteven2001@yahoo.com
Plymouth	Catherine Cesnik Vice Chair		cesnik@gmail.com
	Jake Gateman Alternate	14205 56th Ave N Plymouth, MN 55446	651.726.4759 jake.gateman@gmail.com
Rogers	David Katzner Commissioner	14440 Edgewood Road Rogers, MN 55374	320.309.7804 dkatzner@carlsonmccain.com
	Kevin Jullie Alternate	13315 Oakwood Drive Rogers, MN 55374	763.428.9160 kjullie@srfconsulting.com

Technical Advisory Committee

Members of the Technical Advisory Committee (TAC) are appointed by the member communities they represent. The TAC reviews guidelines, standards and polices used to evaluate plats, plans and proposals of the members and makes recommendations to the Commission. The TAC meets at the direction of the Commission.

REPRESENTING	NAME	ADDRESS	TELEPHONE/EMAIL
Champlin	Heather Nelson	City of Champlin 11955 Champlin Drive Champlin, MN 55316	763.923.7120 hnelson@ci.champlin.mn.us
Corcoran	Kevin Mattson	City of Corcoran 8200 County Road 116 Corcoran, MN 55340	763.400-7028 kmattson@ci.corcoran.mn.us
Dayton	Nico Cantarero	Wenck Associates/Stantec 7500 Highway 55 Ste 300 Golden Valley, MN 55427	763.252.6904 nicolas.cantarero@stantec.com
Maple Grove	Derek Asche	City of Maple Grove 12800 Arbor Lakes Parkway Maple Grove, MN 55313	763.494.6354 dasche@maplegrovern.gov
Medina	Matt Danzl	Hakanson-Anderson 3601 Thurston Avenue Anoka, MN 55303	763.852.0496 MattD@HAA-inc.com
Plymouth	Ben Scharenbroich	City of Plymouth 3400 Plymouth Boulevard Plymouth, MN 55447	763.509.5527 bscharenbroich@plymouthmn.gov 763.509.5531 ariegel@plymouthmn.gov
	Amy Riegel		
Rogers	Andrew Simmons	City of Rogers 22350 S Diamond Lake Road Rogers, MN 55374	763.428.0907 asimmons@ci.rogers.mn.us
Stantec Consulting Services	Erik Megow	7500 Olson Memorial Highway Suite 300 Golden Valley, MN 55427	763.252.6857 Erik.megow@stantec.com 763.252.6880 diane.spector@stantec.com 952.334.4606 ross.mullen@stantec.com
	Diane Spector		
	Ross Mullen		
Surface Water Solutions, LLC	James Kujawa	6533 Nedderson Circle Brooklyn Park, MN 55445-3206	952.456.3206 surfacewatersolutions@outlook.com
Resilience Resources, LLC	Rebecca Carlson	3235 Fernbrook Lane Plymouth, MN 55447	612.408.7515 rebecca@resilience-resources.com
Hennepin County Dept. of Environment and Energy	Kris Guentzel	701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.596.1171 kristopher.guentzel@hennepin.us 612.543.3373 Kevin.ellis@hennepin.us 612.543.9409 Paul.Stewart@hennepin.us
	Kevin Ellis		
	Paul Stewart		
Three Rivers Park District	Brian Vlach	12615 County Road 9 Plymouth, MN 55441	763.694.7846 Brian.Vlach@ThreeRiversParks.org

Staff and Consultants

The required biennial solicitation for interest proposals for administrative, legal, and technical consulting services was published in the December 14, 2020 edition of the *State Register*. The next solicitation will occur in January 2023. The Commission has no employees.

NAME/POSITION		ADDRESS	TELEPHONE/EMAIL
Technical Services			
Stantec Consulting Services	Erik Megow	7500 Olson Memorial Highway Suite 300	763.252.6857 erik.megow@stantec.com
	Diane Spector	Minneapolis, MN 55427	763.252.6880 diane.spector@stantec.com
	Ross Mullen		952.334.4606 ross.mullen@stantec.com
Surface Water Solutions, LLC	James Kujawa	6533 Nedderson Circle Brooklyn Park, MN 55445-3206	952.456.3206 surfacewatersolutions@outlook.com
Resilience Resources LLC	Rebecca Carlson	3235 Fernbrook Lane Plymouth, MN 55447	612.408.7515 rebecca@resilience-resources.com
Hennepin County Dept. of Environment and Energy	Kris Guentzel	701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.596.1171 kristopher.guentzel@hennepin.us
	Kevin Ellis		612.543.3373 kevin.ellis@hennepin.us
	Paul Stewart		612.543.9409 Paul.Stewart@hennepin.us
Legal Services	Joel Jamnik	Campbell Knutson Grand Oak Office Center I 860 Blue Gentian Road #290 Eagan, MN 55121	651.234.6219 jjamnik@ck-law.com
Administrative Services	Judie Anderson	JASS 3235 Fernbrook Lane	763.553.1144 judie@jass.biz
	Amy Juntunen	Plymouth, MN 55447	amy@jass.biz
	Beverly Love		beverly@jass.biz

Third Generation Watershed Management Plan

The Elm Creek Watershed Management Commission's Third Generation Watershed Management Plan ("the Plan") was approved by the Board of Water and Soil Resources (BWSR) on September 23, 2015, and adopted by the Commission on October 14, 2015.

The Plan includes information required in the Minnesota Administrative Rules Chapter 8410, Local Water Management: 1) an updated land and water resource inventory; 2) goals and policies; 3) an assessment of problems and identification of corrective actions; 4) an implementation program; and 5) a process for amending the Plan. This Plan also incorporates information and actions identified in the Elm Creek Watershed-wide Total Maximum Daily Load study (TMDL) and Watershed Restoration and Protection Strategy study (WRAPS), completed between 2009 and 2016.

The Commission, along with the Citizen and Technical Advisory Committees (CAC and TAC), identified a number of issues during the planning process. As these issues were identified, the Commission developed a list of priorities to guide water resources planning and management functions. The issues and subsequent priorities are enumerated on pages 3-4 of the Annual Report.

The goals and policies created as a result of this process include the following:

Goals

Water Quantity

- Maintain post-development 2-year, 10-year, and 100-year peak rate of runoff at pre-development level for the critical duration precipitation event.
- Maintain post-development annual run-off volume at pre-development volume.
- Prevent loss of floodplain storage below the established 100-year elevation.
- Reduce peak flow rates in Elm, Diamond, and Rush Creeks and tributary streams to the Crow and Mississippi and preserve conveyance capacity.

Water Quality

- Improve Total Phosphorus concentration in the impaired lakes by 10% over the 2004-2013 average by 2024.
- Maintain or improve water quality in the lakes and streams with no identified impairments.
- Conduct a TMDL/WRAPS progress review every five years following approval of the TMDLs and WRAPS studies.
- Use information in the WRAPS to identify high priority areas where the Commission will partner with cities and other agencies to provide technical and financial assistance.

Groundwater

- Promote groundwater recharge by requiring abstraction/infiltration of runoff from new development/redevelopment.
- Protect groundwater quality by incorporating wellhead protection study results into development and redevelopment Rules and Standards.

Wetlands

- Preserve the existing functions and values of wetlands within the watershed.
- Promote the enhancement or restoration of wetlands in the watershed.

Drainage Systems

- Continue current Hennepin County jurisdiction over county ditches in the watershed.

Operations and Programming

- Identify and operate within a sustainable funding level that is reasonable to member cities.
- Foster implementation of priority TMDL and other implementation projects by sharing in their cost and proactively seeking grant funds.
- Operate a public education and outreach program to supplement NPDES Phase II education requirements for member cities.
- Operate a monitoring program sufficient to characterize water quantity, water quality, and biotic integrity in the watersheds and to evaluate progress toward meeting goals.
- Maintain rules and standards for development and redevelopment consistent with local and regional TMDLs, federal guidelines, source water and wellhead protection requirements, non-degradation, and ecosystem management goals.
- Serve as a technical resource for member cities.

Implementation

The Third Generation Watershed Management Plan continues a number of activities that have been successful in the past and introduces some new activities, including modified development rules and standards and an enhanced monitoring program.

Rules and Standards

The Commission updated policies from their Second Generation Plan and developed new standards based on the 2013 Minnesota NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4s), the 2013 Minnesota NPDES Construction Stormwater General Permit, and the MPCA's Minimal Impact Design Standards and State Stormwater Manual. These were compiled and codified into a Rules and Standards document and adopted in advance of the Third Generation Plan, effective January 1, 2015.

In general, the new Rules and Standards apply to all development and redevelopment that are

- one acre or more in size;
- require at a minimum no increase in pollutant loading or stormwater volume;
- require no increase in the peak rate of runoff from the property;
- require the abstraction/ infiltration of 1.1 inches of runoff from impervious surfaces; and
- clarify the wetland buffer requirements.

The Plan also provides a method by which member cities can take on review responsibilities for smaller projects, reducing the regulatory burden for small developers.

Monitoring Program

The monitoring program continues the partnership with Three Rivers Park District (TRPD) and the United States Geological Survey (USGS) for routine flow and water quality monitoring on Elm Creek, with periodic monitoring on additional Elm Creek sites, and on Rush, North Fork Rush, and Diamond Creeks on a rotating or as-needed basis. Four lakes – Weaver, Fish, Rice, and Diamond Lakes – have been classified as “Sentinel Lakes,” and are monitored every year. Other lakes will be monitored on a rotating basis.

Education and Outreach

The Citizens Advisory Committee (CAC) developed a recommended Education and Outreach program that identifies stakeholder groups and key education messages. This Plan expands education and outreach activities to key stakeholders and continues collaborative partnerships with organizations such as the West Metro Water Alliance (WMWA), NEMO (Nonpoint Education for Municipal Officials), and WaterShed Partners.

Other Activities

The Implementation Plan includes funding for BMP assessments and special studies such as feasibility studies and special monitoring that will identify the most cost-effective practices and projects.

WRAPS Implementation

The Plan includes key findings and actions identified in the Elm Creek Watershed Restoration and Protection Strategies (WRAPS) study, which includes Total Maximum Daily Loads (TMDLs) for the impaired waters and improvement and protection strategies and activities for all waters.

Projects Reviewed in 2022

Project Number	Project Name	City	Reviewed for Rules*					
			D	E	F	G	H	I
2022-01	Dayton Field 2nd Addition	Dayton	•	•		•	•	•
2022-02	Summerwell	Maple Grove	•	•		•		•
2022-03	Fox Briar Ridge East	Maple Grove	•	•				
2022-04	Loram-Scannell Medina Industrial EAW	Medina						
2022-05	Bellwether 7th Addition	Corcoran		•				
2022-06	Hamel Townhomes	Medina	•	•				
2022-07	Weston Commons 2nd Addition	Maple Grove	•	•				•
2022-08	Bechtold Farms	Corcoran	•	•	•	•		•
2022-09	Dunkirk Lane Development	Plymouth	•	•				
2022-10	Unity Tool Building Addition	Dayton	•	•	•	•		•
2022-11	Arrowhead Drive Turn Lane Expansion	Medina	•	•	•	•		
2022-12	Graco Building 2	Dayton	•	•	•	•		•
2022-13	Dayton 94 Industrial Site	Dayton	•	•		•		•
2022-14	Aster Mill	Rogers	•	•				•
2022-15	County Road 47 Reconstruction Phase 1	Plymouth	•	•		•	•	
2022-16	Rogers Activity Center	Rogers	•	•				•
2022-17	City Center Drive	Corcoran	•	•	•	•		•
2022-18	Big Woods	Rogers	•	•		•	•	•
2022-19	Grass Lake Preserve	Rogers	•	•		•		•
2022-20	Skye Meadows Extension	Rogers	•	•		•		•
2022-21	Dayton 94 EAW	Dayton						
2022-22	Cook Lake Highlands	Corcoran	•	•		•		•
2022-23	Asguard	Rogers	•	•				•
2022-24	Bridge 27J70 – 101st Ave	Maple Grove		•	•		•	
2022-25	Harvest View		•	•		•		•

*Rule D – Stormwater
Rule E – Erosion Control

Rule F – Floodplain
Rule G – Wetlands

Rule H – Bridge, Culvert Crossing
Rule I - Buffers

Project Number	Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net Change			Comments/notes
	2-yr pre post	10-yr pre post	100-yr pre post	TP load #/yr re-reduction	TSS load #/yr reduction	Runoff volume (AF/yr)	Abstraction (CF)	Filtration/biofiltration (CF)	
2022-01	85.7/55.9	160.4/117.4	334.2/270.6	5.5	4260	+38.7	+74,190		
2022-02	30.8/18.0	58.3/41.2	120.7/85.3	14.8	9682	N/A		+52,543	
2022-03	Rate control provided by regional pond			0.01	209	+3.2		+6,884	
2022-04									EAW
2022-05									*See 2018-03
2022-06	5.3/2.5	10.1/9.8	21.3/21.1	0.0	189	+1.1		+7,343	
2022-07	23.0/8.7	43.2/23.3	103.1/52.5	1.5	1159	+8.5	+412		
2022-08	78.0/74.9	166.7/157.6	354.7/315.7	30.0	9281	-0.3	+1.0		
2022-09	10.6/5.8	21.4/13.7	46.6/33.4	5.1	1172	+3.5		+11,389	
2022-10	8.9/4.3	15.0/10.6	28.2/21.0	0.6	161	+0.3	+8.0		
2022-11	10.4/8.5	18.9/18.6	39.0/32.3	2.2	849	-22.6			
2022-12	114.9/79.9	252.6/203.7	559.4/456.4	1.5	3522	+82.0	+36,231		
2022-13									Project withdraw
2022-14	116.7/29.8	228.9/67.8	453.9/123.1	6.4	4,362	+41.0		+100,036	
2022-15	74.6/40.7	132.1/76.5	248.8/152.6	11.9	4648	-2.2	+48,352		
2022-16	3.5/2.9	37.6/25.1	227.2/205.4	0.3	15	+0.2	+222,156		
2022-17	46.1/15.9	103.8/42.8	185.1/101.6	3.1	1883	+16.7	+2366		
2022-18	41.4/27.9	84.1/69.4	159.5/152.7	5.8	2495	+25.6		+105,638	
2022-19	57.0/25.9	94.9/42.6	176.6/76.1	2.1	1802	+5.55	+3482		
2022-20	65.4/21.2	147.8/39.9	275.3/137.9	13.2	7110	+13.8		+263,538	
2022-21									EAW
2022-22	22.5/15.8	65.9/52.1	150.2/114.9	130.0	69231	N/A		+95192	
2022-23	12.6/5.8	21.6/13.5	43.7/38.8	0.3	148	+6.9		+27,742	
2022-24									Bridge and Culvert
2022-25	59.6/30.1	122.6/65.0	258.6/137.9	2.4	1683	+224.1		+37,243	

Projects Reviewed in 2022

Project Number	Project Name	City	Reviewed for Rules*					
			D	E	F	G	H	I
2022-26	Rogers Archway Building	Rogers	•	•				
2022-27	Edison of Maple Grove Apartments	Maple Grove	•	•				
2022-28	Elsie Stephens Park	Dayton	•	•	•		•	•
2022-29	Hayden Hills Park	Dayton		•				
2022-30	Garages Too	Corcoran	•	•		•		•
2022-31	Corcoran II Substation	Corcoran	•	•		•		•
2022-32	Elm Creek Stream Restoration Phase 5	Champlin		•	•		•	•
2022-33	Pet Suites	Maple Grove	•	•				
2022-34	CSAH 101	Maple Grove	•	•				
2022-35	Rush Hollow	Maple Grove	•	•				•
2022-36	West French Lake Road Improvements	Dayton	•	•	•	•	•	•
2022-37	2022 Drainage CSAH 13/CR203	Rogers		•				
2022-38	Tavera North Side	Corcoran	•	•	•	•		•
2022-39	Garland Commons	Maple Grove	•	•				•
2022-40	Kariniemi Meadows	Corcoran	•	•	•	•		•
2022-41	Elm Creek Swim Pond Culvert Replacement	Maple Grove	•	•	•	•		
2022-42	Walcott Glen	Corcoran	•	•		•		•
2022-43	Meander Park and Boardwalk	Medina	•	•	•			•
2022-44	Trail Haven Road Bridge	Corcoran		•	•		•	
2022-45	Corcoran Water Treatment Plant	Corcoran	•	•				
2022-46	CSAH 12 Culvert Guardrail Replacement	Dayton		•	•	•		
2022-47	Suite Living	Maple Grove		•				
2022-48	Hassan Elementary Pavement Replacement	Rogers	•	•				
2022-49	Connexus Energy South Dayton Substation	Dayton	•	•				

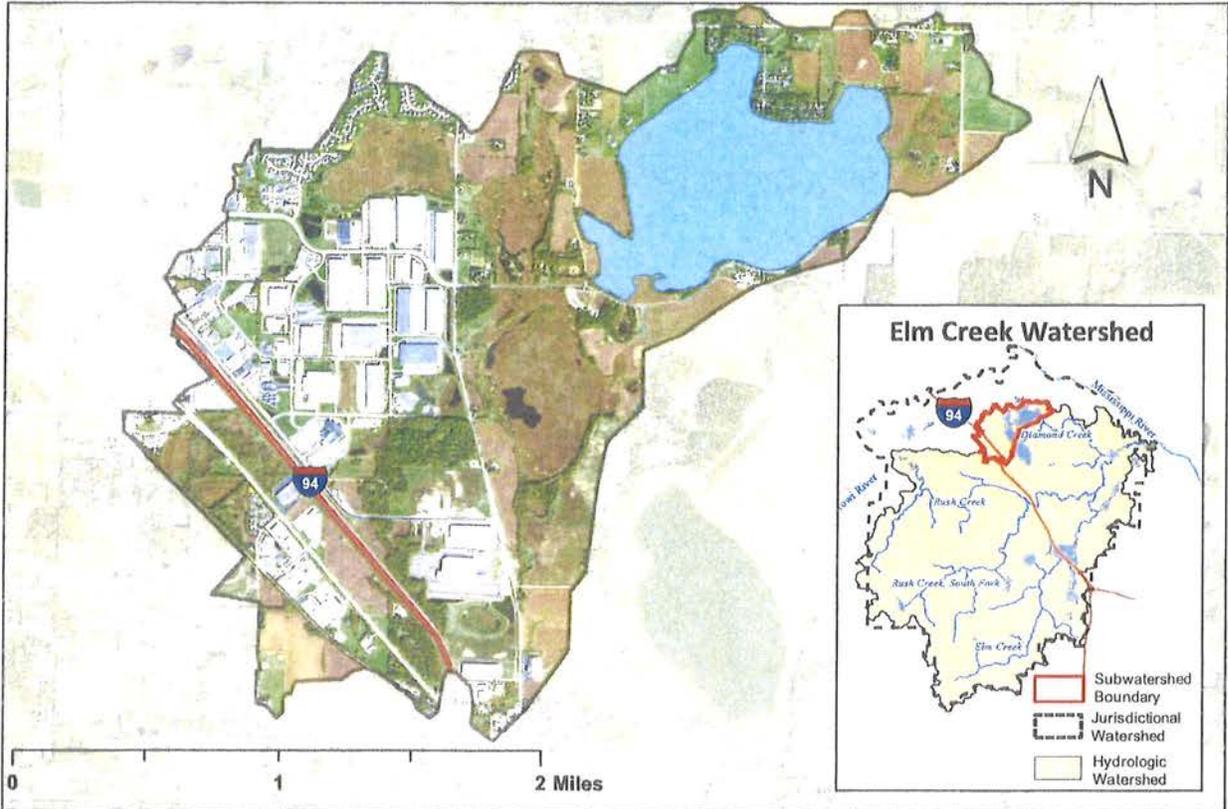
*Rule D – Stormwater
Rule E – Erosion Control

Rule F – Floodplain
Rule G – Wetlands

Rule H – Bridge, Culvert Crossing
Rule I - Buffers

Project Number	Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net Change			Comments/ notes
	2-yr pre post	10-yr pre post	100-yr pre post	TP load #/yr re-reduction	TSS load #/yr reduction	Runoff volume (AF/yr)	Abstraction (CF)	Filtration/biofiltration (CF)	
2022-26									Project Cancelled
2022-27	62.9/61.2	91.6/90.2	135.4/133.6	0.4	455	+2.1		+26,234	
2022-28	2.6/2.7	14.0/11.2	50.8/45.7	0	0	0	9824		All infiltration
2022-29	*								*See 2018-008
2022-30	63.4/61.2	129.3/114.5	292.1/253.3	0	238	+4.0	+4431		
2022-31	4.1/2.6	8.6/6.0	19.4/12.3	0	133	+1.9	+55		
2022-32									Stream Restoration
2022-33	1.8/1.1	3.5/2.1	7.5/7.0	0	35	-1.8	+5,809		
2022-34	21.4/18.6	39.4/32.1	94.3/81.4	0	402	+40.3		+12,498	
2022-35	111.6/54.9	219.4/136.2	480.2/295.3	1.2	5,368	+95.0		+206,772	
2022-36	39.1/28.7	70.4/52.3	142.1/119.5	0.1	963	+3.9	+10233		
2022-37									Culvert Replacement
2022-38	9.6/7.8	26.6/24.9	151.5/115.9	27.6	9744	N/A	+40,729		
2022-39	7.9/5.2	25.8/11.0	55.3/40.9	0.8	2831	+35.0		+22,633	
2022-40	52.1/38.9	94.6/80.7	180.8/171.7	0	702	+11.4	+3409		
2022-41									No Stormwater
2022-42									
2022-43	8.74/7.11	19.5/14.1	47.3/45.2	0.5	464	+6.2		+7533	
2022-44	*								*Rules E & F only
2022-45	6.5/6.2	18.4/15.8	41.4/28.3	0.7	555	+1.6	+203		
2022-46	*								*Rules E, F and G only
2022-47									Erosion Control Only
2022-48	26.8/23.4	58.5/52.6	132.4/124.5	2.3	377	-2.7	+9,624		
2022-49	12.3/11.3	28.8/28.3	69.1/69.1	1.7	535	N/A		+3,185	

Diamond Lake Watershed Map



Diamond Lake Bathymetry



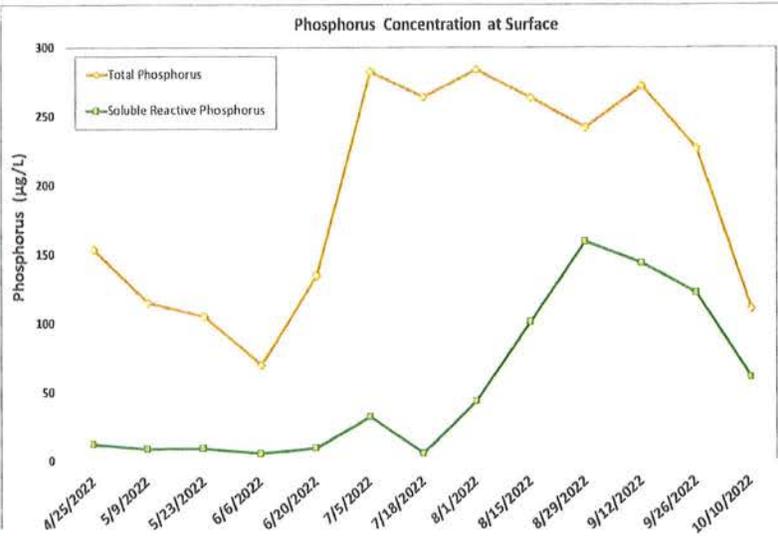
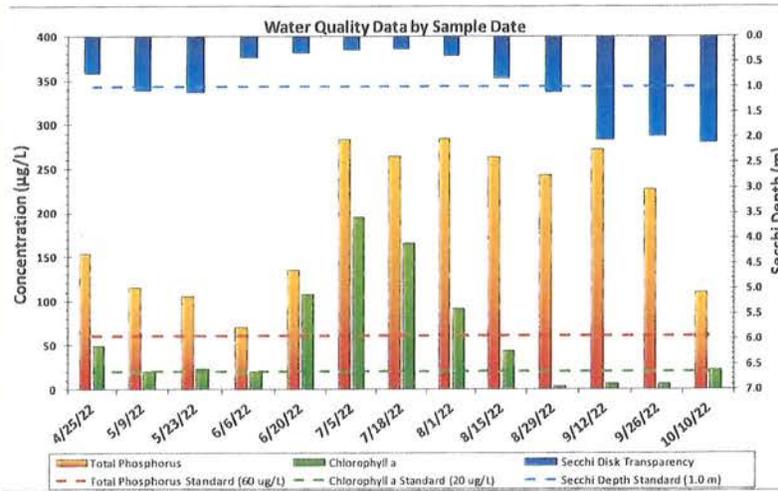
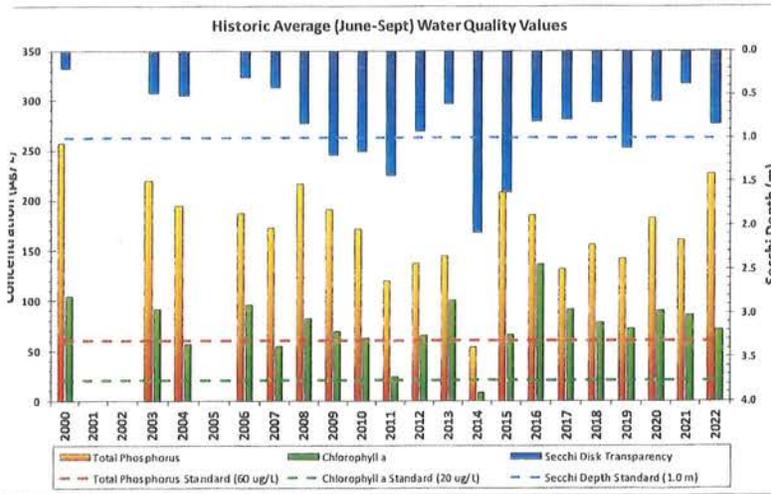
Lake and Watershed Characteristics

DNR #	27012500
Watershed Area	2,367 Acres
Lake Area	382 Acres
Percent Littoral Area	100%
Average Depth	3.97 ft.
Maximum Depth	7.37 ft.
Watershed:Lake Ratio	6.2:1
Impairment Classification	Excess Nutrients in 2006 Shallow Lake

Water Resource Department
 Map Created: 11/24/2017
 Revised Date: 12/4/2017

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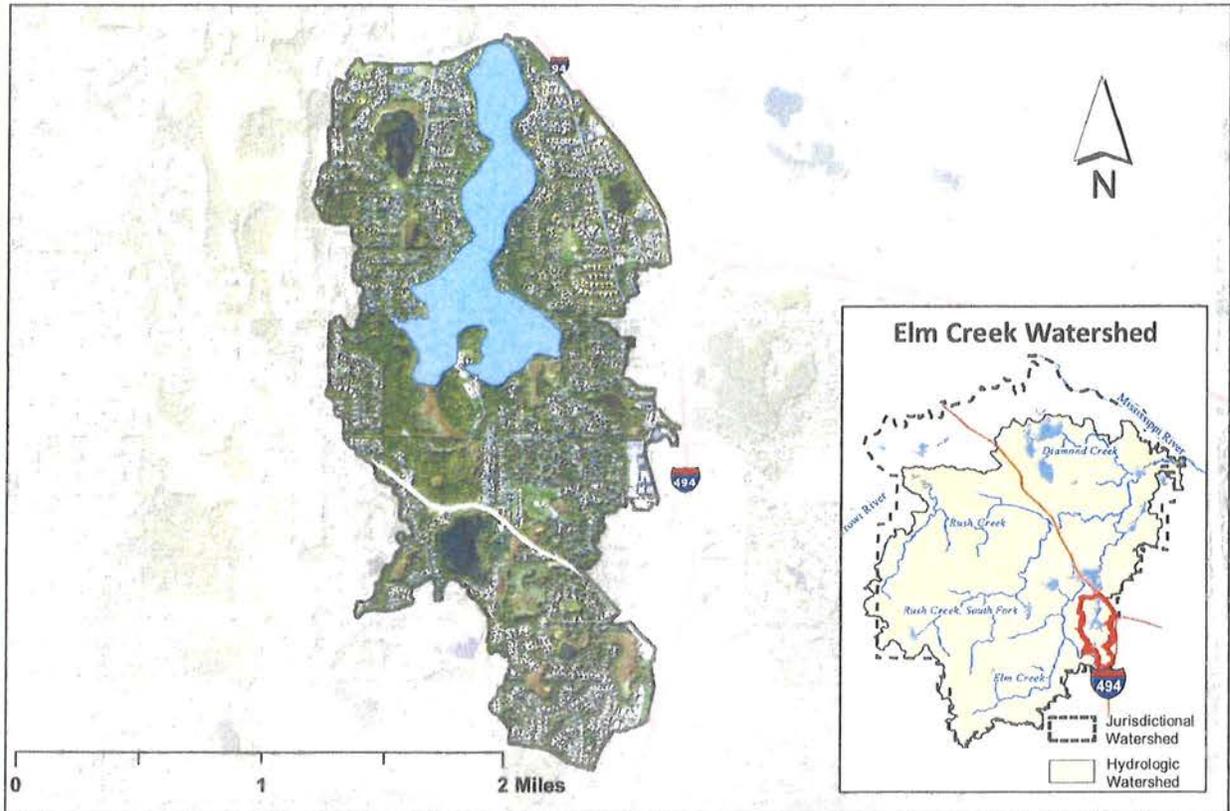


Diamond Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grad
1998	D	D	F	D-
1999				
2000	F	F	F	F
2001				
2002				
2003	F	F	F	F
2004	F	D	F	F
2005				
2006	F	F	F	F
2007	F	D	F	F
2008	F	F	D	F
2009	F	D	C	D
2010	F	D	D	D-
2011	D	C	C	C-
2012	D	D	D	D
2013	D	F	F	F
2014	C	A	C	B-
2015	F	D	C	D
2016	F	F	D	F
2017	D	F	D	D-
2018	F	F	F	F
2019	D	D	D	D
2020	F	F	F	F
2021	F	F	F	F
2022	F	D	D	D-
MPCA Standard	C	C	D	C-

Met Council Grading System for Lake Water Quality



Fish Lake Watershed Map



Fish Lake Bathymetry



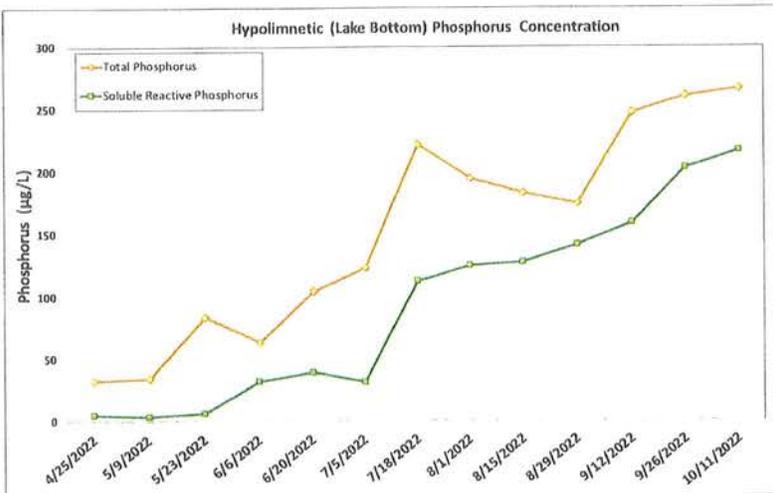
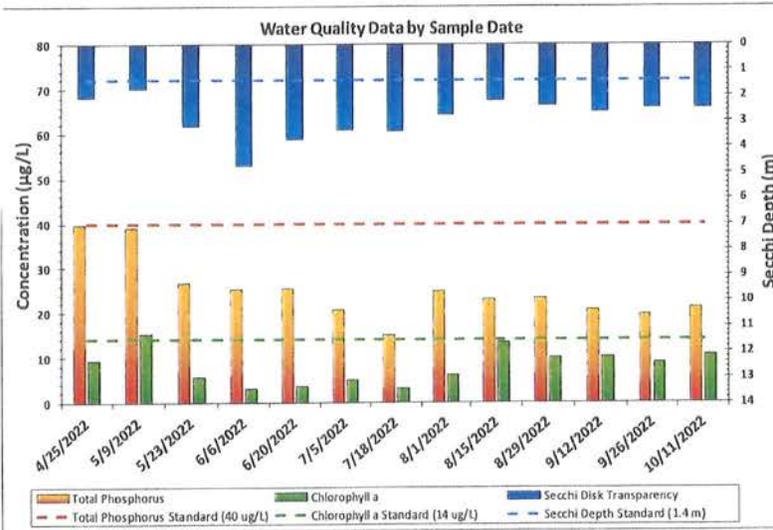
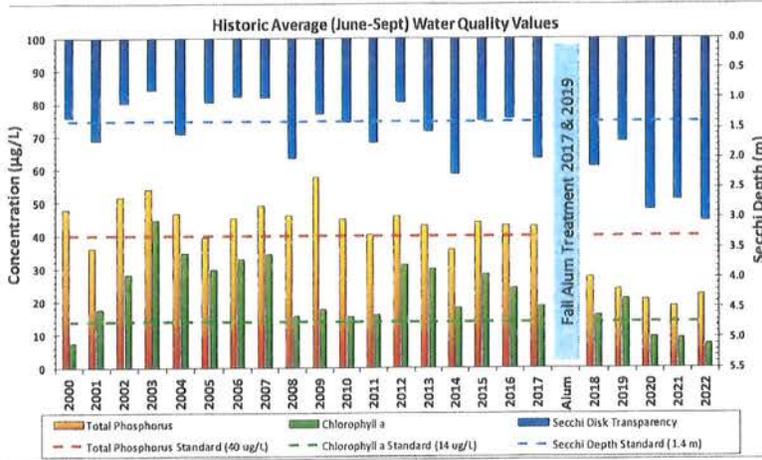
Lake and Watershed Characteristics

DNR #	27011800
Watershed Area	1,611 Acres
Lake Area	232 Acres
Percent Littoral Area	32%
Average Depth	20.5 ft.
Maximum Depth	49 ft.
Watershed: Lake Ratio	6.9:1
Impairment	Excess Nutrients in 2008
	Approved Removal in 2024
Classification	Deep Lake

Water Resource Department
 Map Created: 11/24/2017
 Revised Date: 2/3/2022

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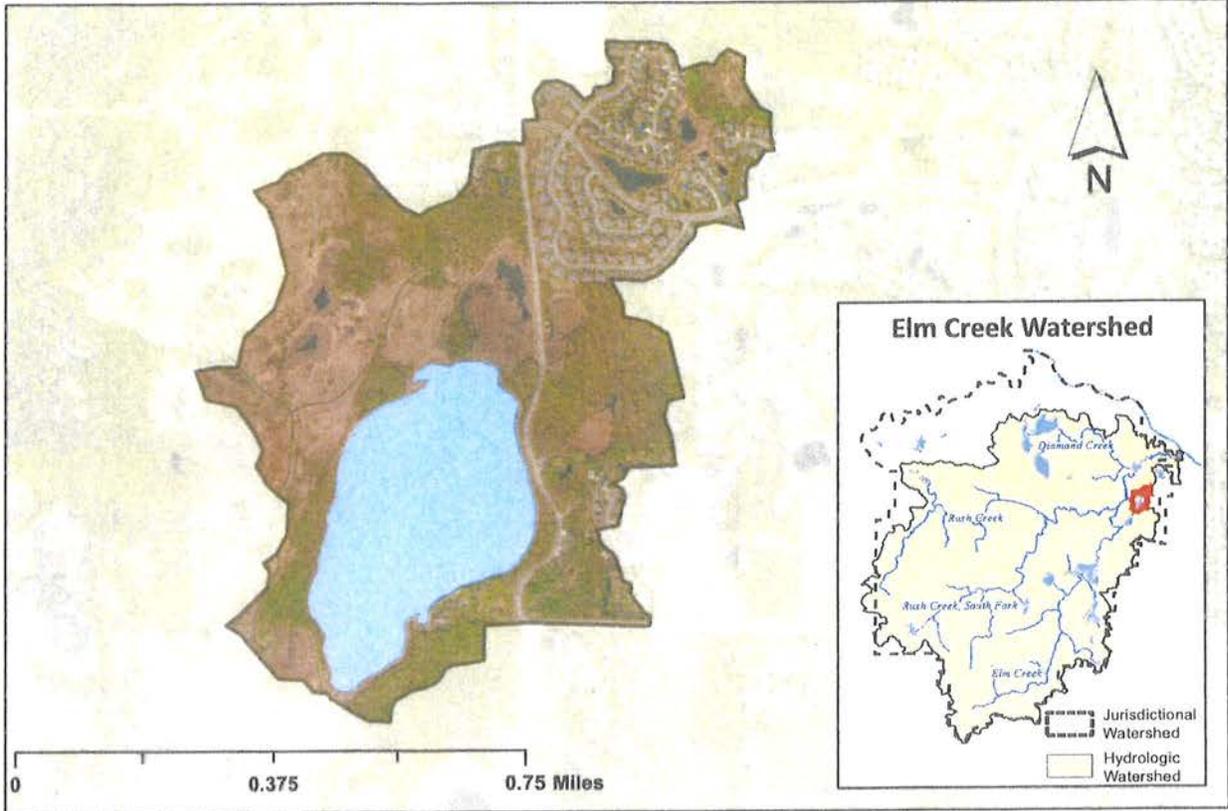
Fish Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1995			C	C
1996			B	B
1997	C	C	C	C
1998	C	B	C	C+
1999	C	B	C	C+
2000	C	A	C	B-
2001	C	B	C	C+
2002	C	C	D	C-
2003	C	C	D	C-
2004	C	C	C	C
2005	C	C	D	C-
2006	C	C	D	C-
2007	C	C	D	C-
2008	C	B	C	C+
2009	C	B	C	C+
2010	C	B	C	C+
2011	C	B	C	C+
2012	C	C	D	C-
2013	C	C	C	C
2014	C	B	B	B-
2015	C	C	C	C
2016	C	C	C	C
2017	C	B	C	C+
2018	B	B	C	B-
2019	B	C	C	C+
2020	A	A	B	A-
2021	A	A	B	A-
2022	A	A	A	A
MPCA Standard	C	B	C	C+

Met Council Grading System for Lake Water Quality



Division of Water Resources
December 2022

Goose Lake Watershed Map



Goose Lake



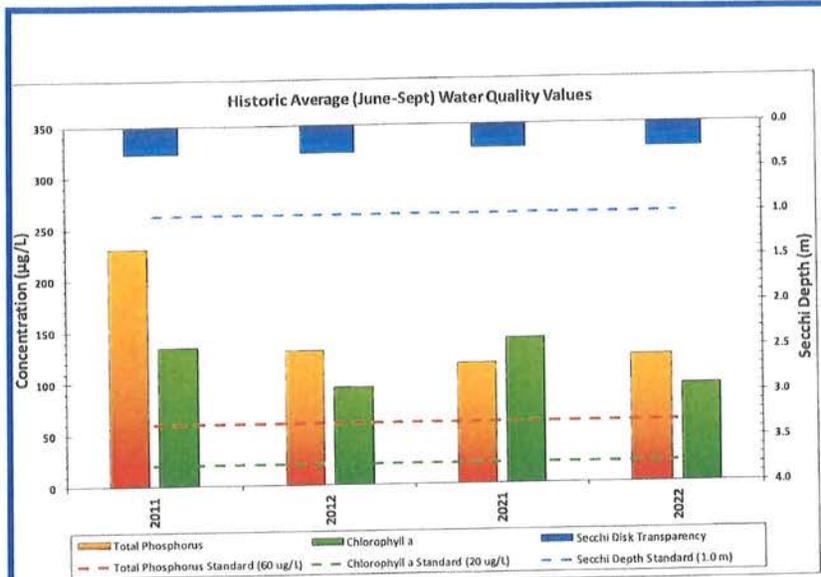
Lake and Watershed Characteristics

DNR #	27012200
Watershed Area	305 Acres
Lake Area	59 Acres
Percent Littoral Area	100%
Average Depth	4.5 ft.
Maximum Depth	5.9 ft.
Watershed:Lake Area	19.4:1
Impairment	Excess Nutrients 2017
Classification	Shallow Lake

Water Resource Department
 Map Created: 1/31/2022
 Revised Date: 2/1/2022

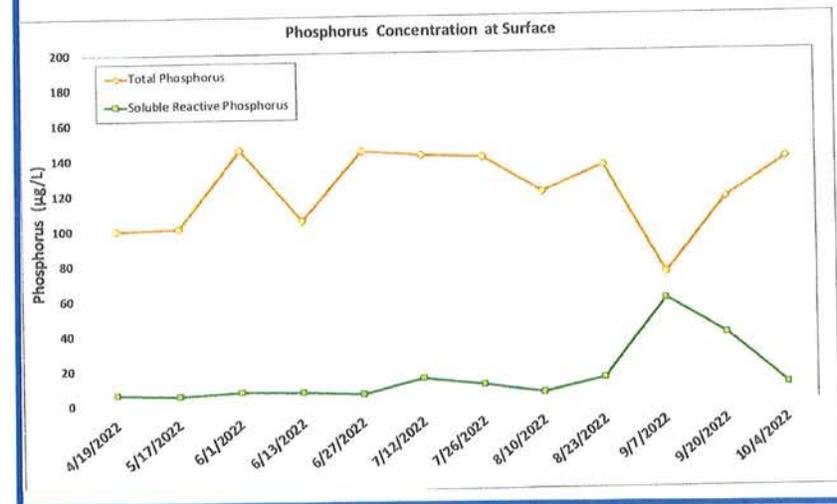
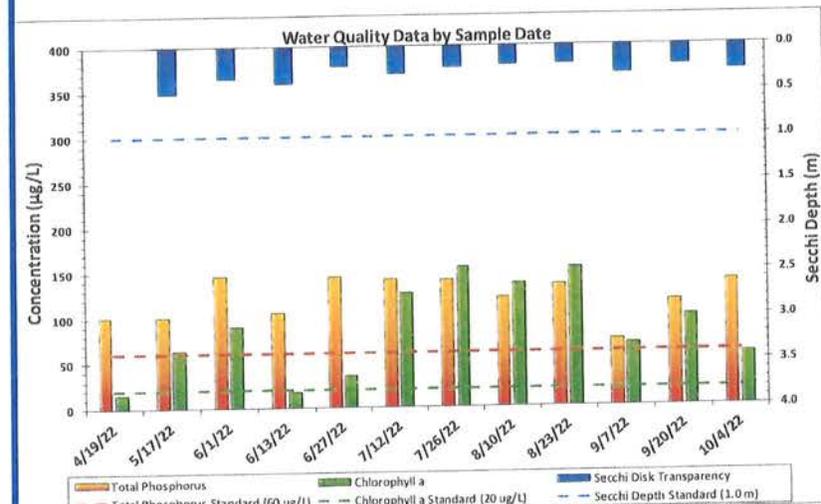
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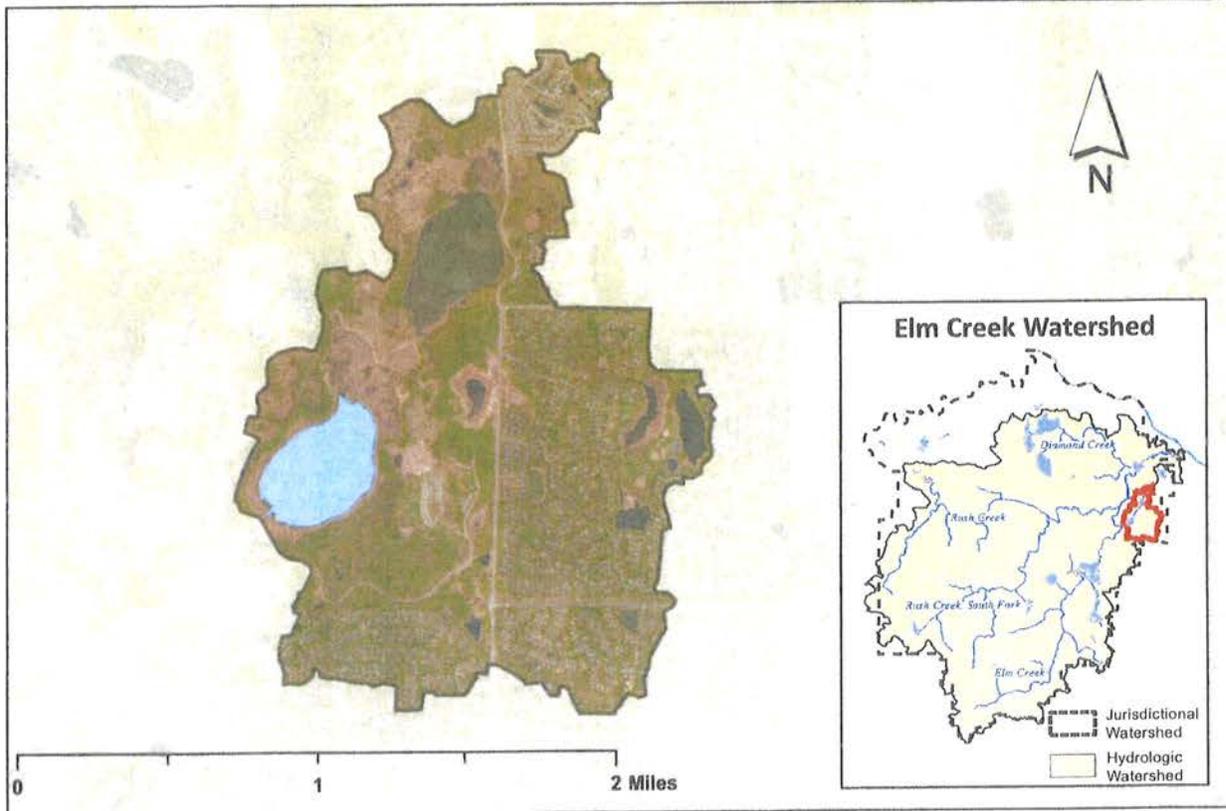


Goose Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
2011	F	F	F	F
2012	D	F	F	F
2021	D	F	F	F
2022	D	F	F	F
MPCA Standard	C	C	D	C-

Met Council Grading System for Lake Water Quality



Mud Lake Watershed Map



Mud Lake



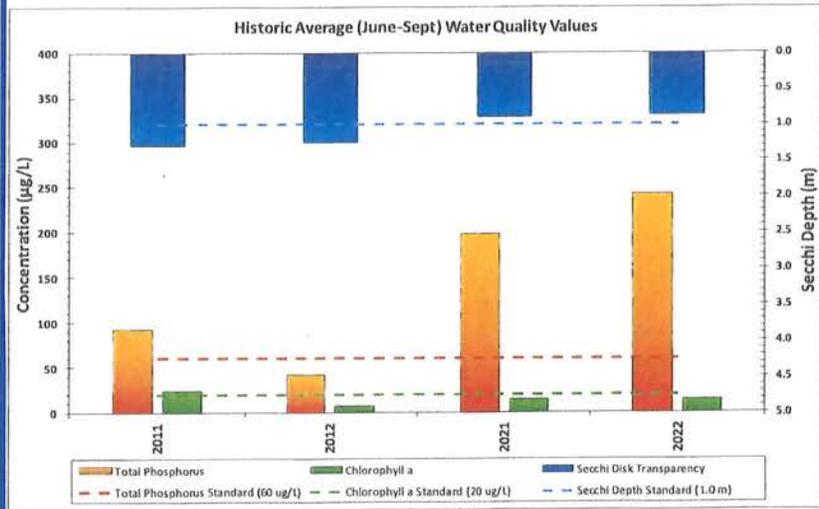
Lake and Watershed Characteristics

DNR #	27011200
Watershed Area	1,396 Acres
Lake Area	72 Acres
Percent Littoral Area	100%
Average Depth	4.5 ft.
Maximum Depth	7 ft.
Watershed:Lake Area	5.2:1
Impairment	None
Classification	Shallow Lake

Water Resource Department
 Map Created: 1/31/2022
 Revised Date: 2/1/2022

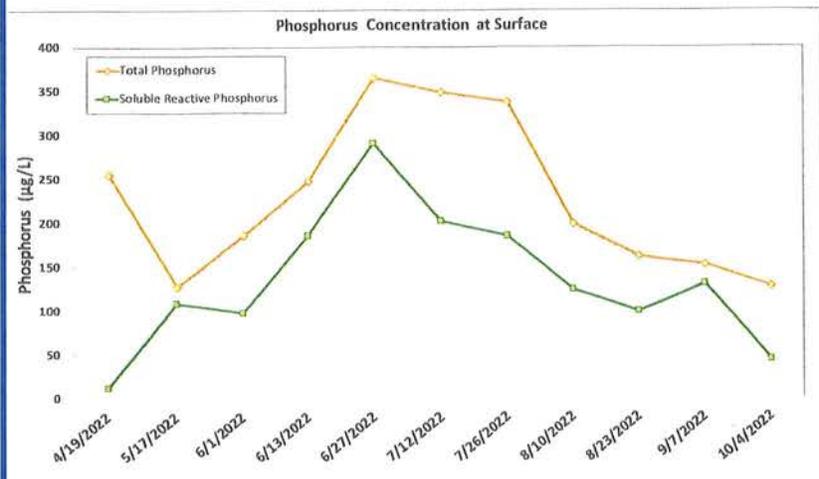
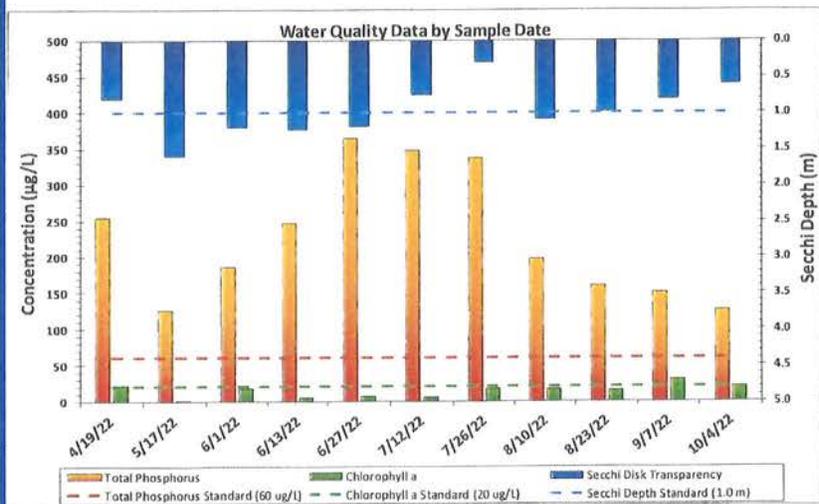
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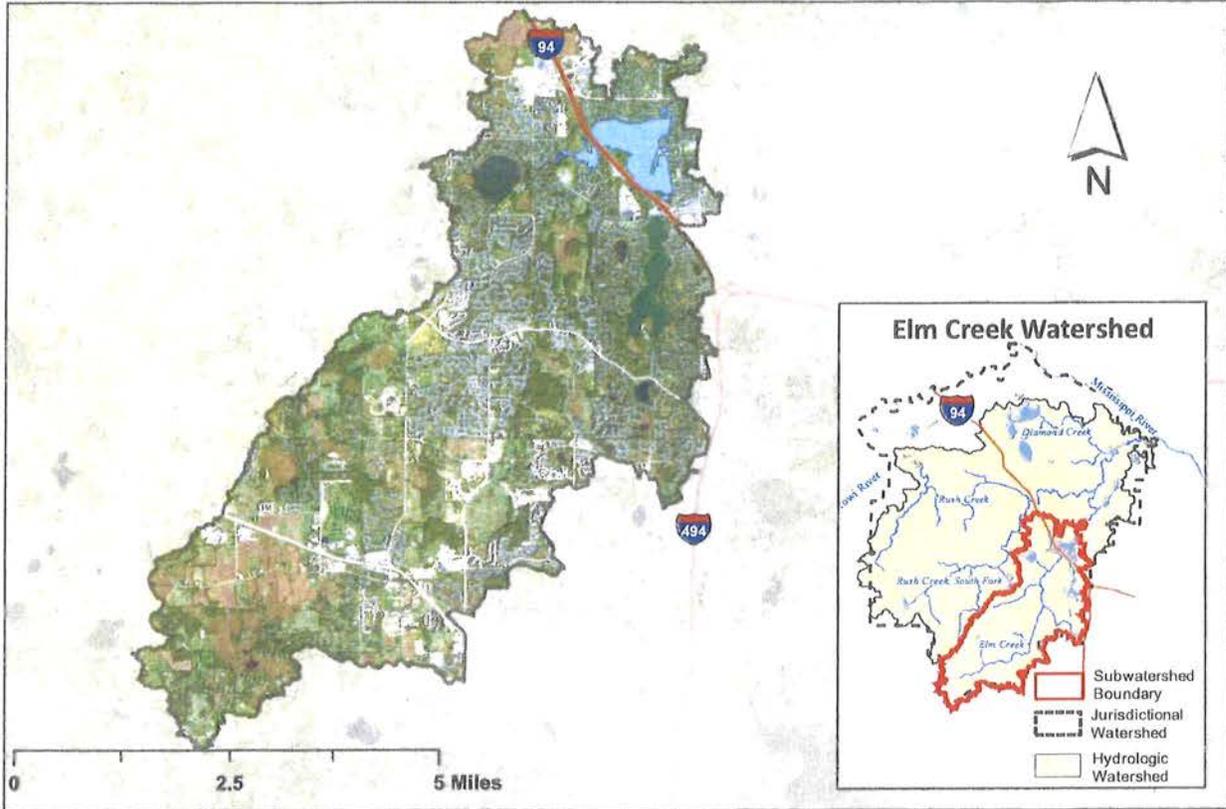


Mud Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
2011	D	C	C	C-
2012	C	A	C	B-
2021	F	B	D	D+
2022	F	B	D	D+
MPCA Standard	C	C	D	C-

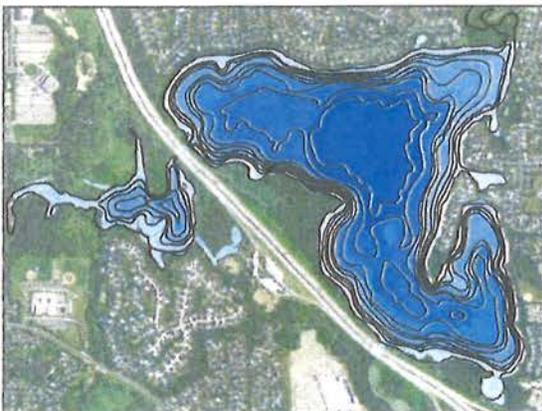
Met Council Grading System for Lake Water Quality



Rice Lake Watershed Map



Rice Lake Bathymetry



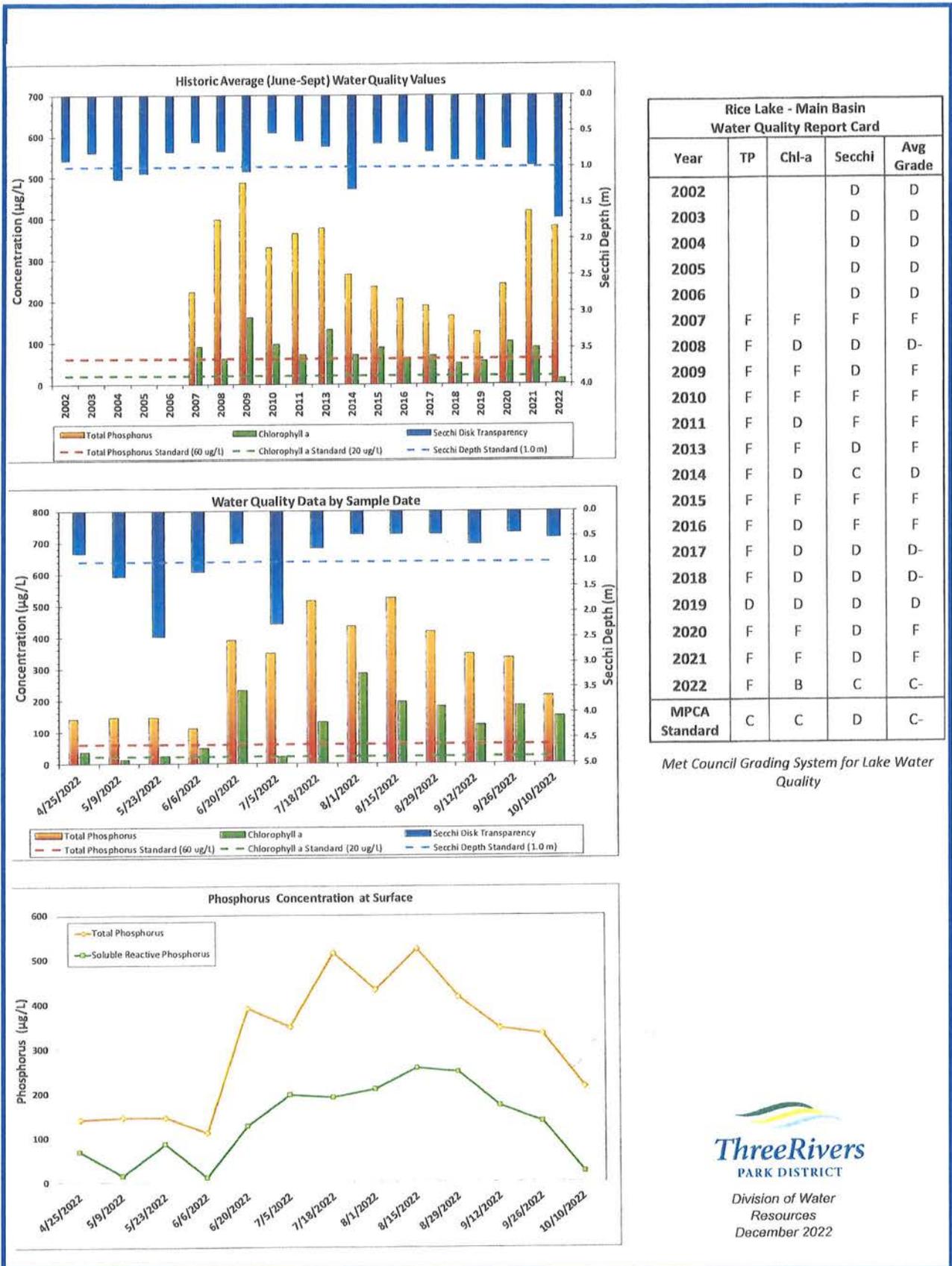
Lake and Watershed Characteristics

DNR #	27011601
Watershed Area	16,092 Acres
Lake Area	307 Acres
Percent Littoral Area	100%
Average Depth	7.02 ft.
Maximum Depth	10.14 ft.
Watershed:Lake Ratio	52.4:1
Impairment Classification	Excess Nutrients in 2010 Shallow Lake

Water Resource Department
 Map Created: 11/24/2017
 Revised Date: 12/4/2017

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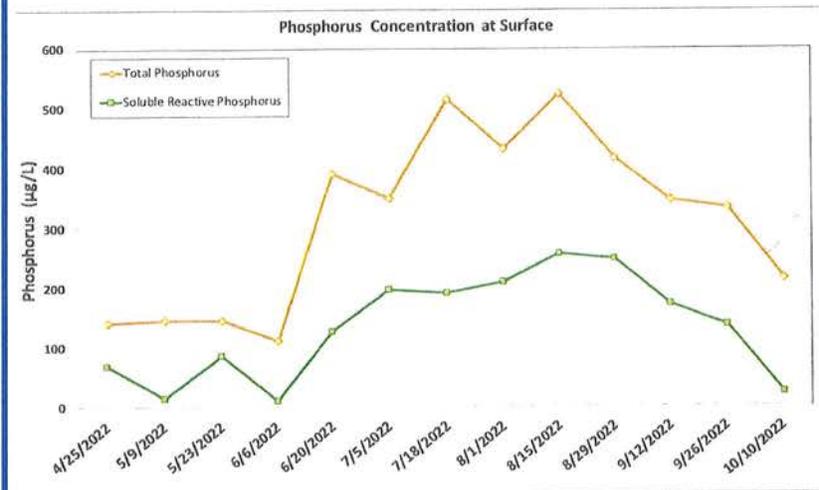
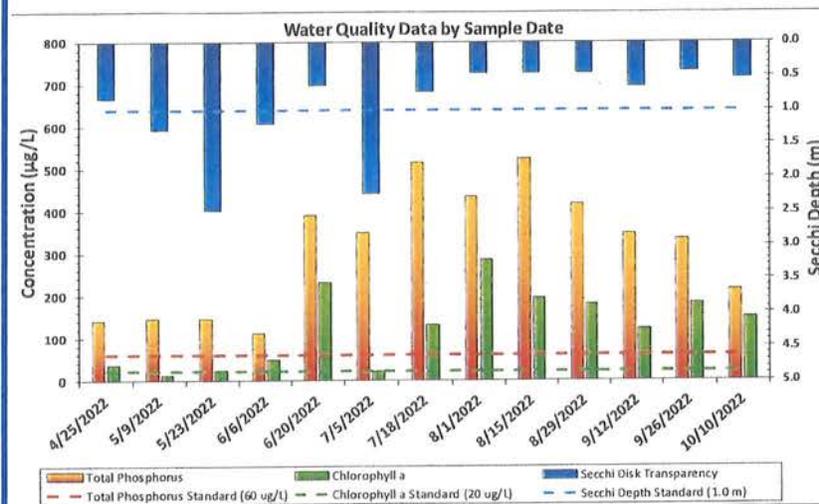




Rice Lake - Main Basin Water Quality Report Card

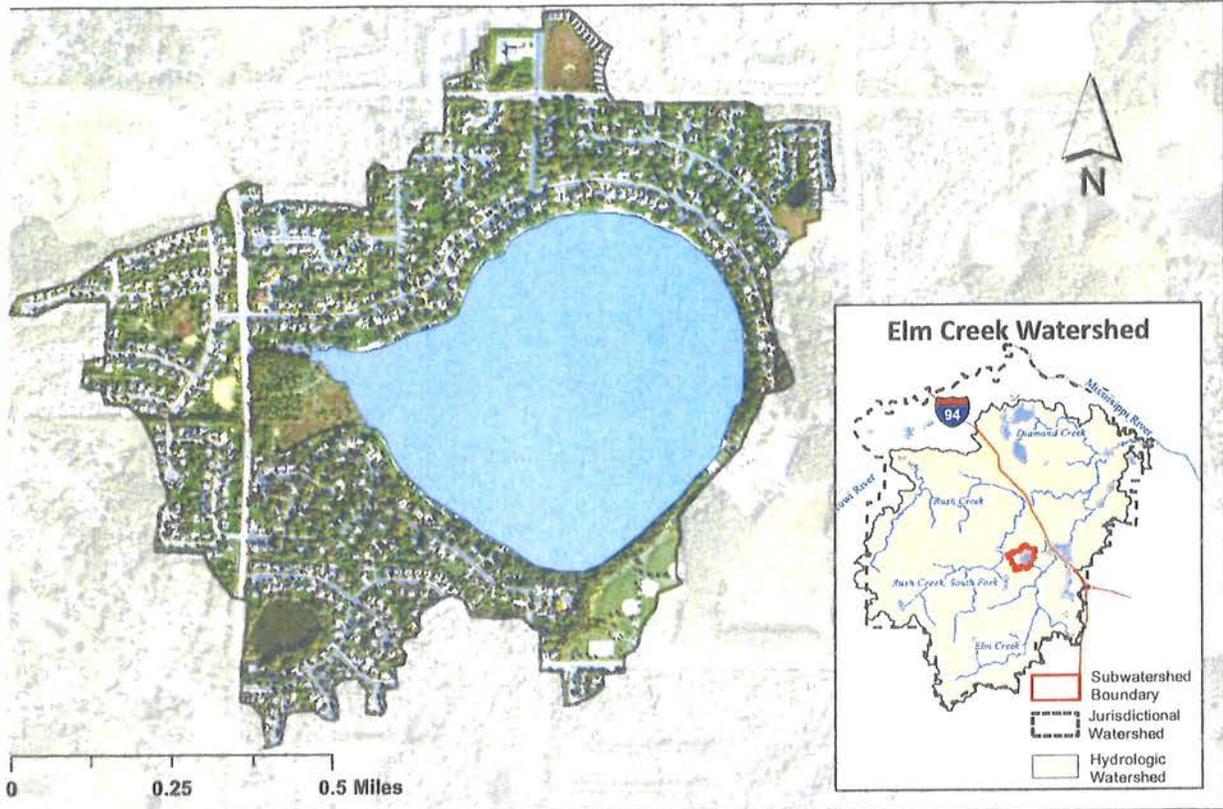
Year	TP	Chl-a	Secchi	Avg Grade
2002			D	D
2003			D	D
2004			D	D
2005			D	D
2006			D	D
2007	F	F	F	F
2008	F	D	D	D-
2009	F	F	D	F
2010	F	F	F	F
2011	F	D	F	F
2013	F	F	D	F
2014	F	D	C	D
2015	F	F	F	F
2016	F	D	F	F
2017	F	D	D	D-
2018	F	D	D	D-
2019	D	D	D	D
2020	F	F	D	F
2021	F	F	D	F
2022	F	B	C	C-
MPCA Standard	C	C	D	C-

Met Council Grading System for Lake Water Quality



Division of Water Resources
December 2022

Weaver Lake Watershed Map



Weaver Lake Bathymetry



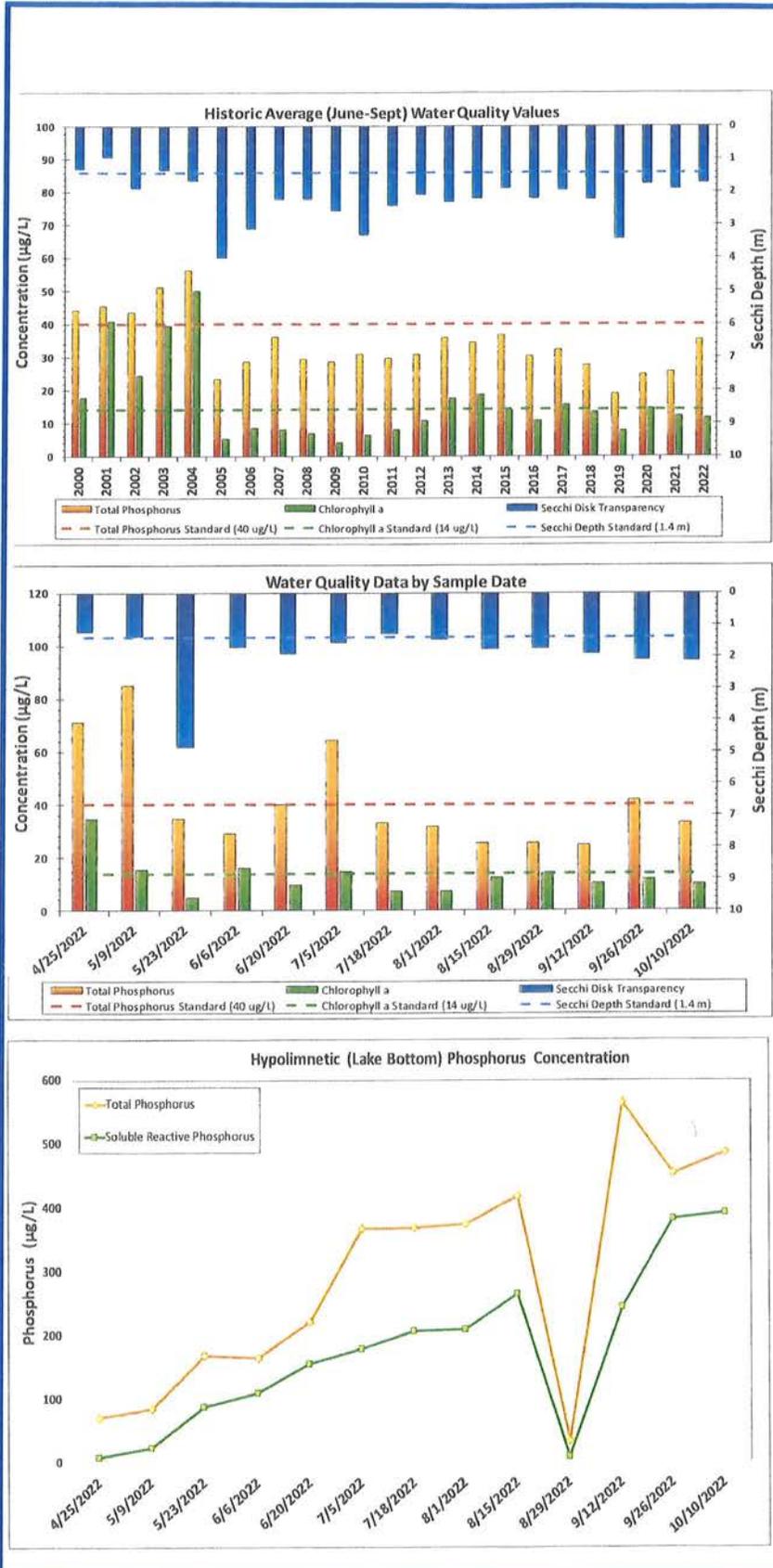
Lake and Watershed Characteristics

DNR #	27011700
Watershed Area	187 Acres
Lake Area	150 Acres
Percent Littoral Area	47%
Average Depth	21.1 ft.
Maximum Depth	52 ft.
Watershed:Lake Ratio	1.3:1
Impairment	None
Classification	Deep Lake

Water Resource Department
 Map Created: 11/24/2017
 Revised Date: 12/4/2017

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Year	TP	Chl-a	Secchi	AVI Grad
1997	B	A	C	B
1998	C	B	C	C+
1999	C	C	C	C
2000	C	B	C	C+
2001	C	C	D	C-
2002	C	C	C	C
2003	C	C	C	C
2004	C	D	C	C-
2005	B	A	A	A-
2006	B	A	A	A-
2007	C	A	B	B
2008	B	A	B	B+
2009	B	A	B	B+
2010	B	A	A	A-
2011	B	A	B	B+
2012	B	B	C	B-
2013	C	B	B	B-
2014	C	B	B	B-
2015	C	B	C	C+
2016	B	B	C	B-
2017	C	B	C	C+
2018	B	B	B	B
2019	A	A	A	A
2020	B	B	C	B-
2021	B	B	C	B-
2022	C	B	C	C-
MPCA Standard	C	B	C	C-

Met Council Grading System for Lake Water Quality

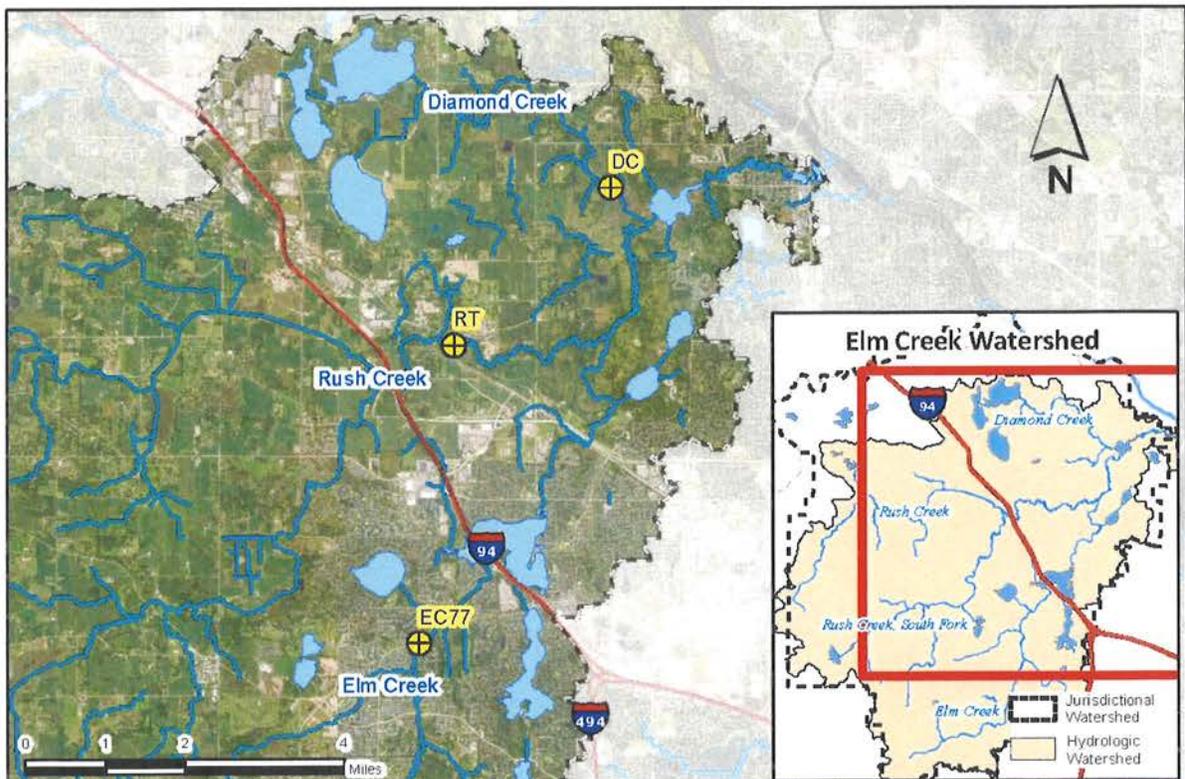


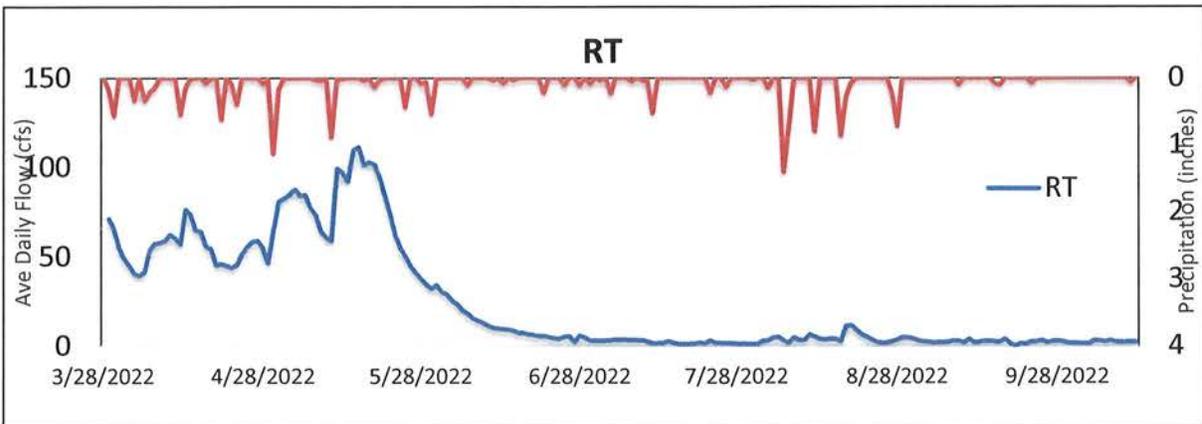
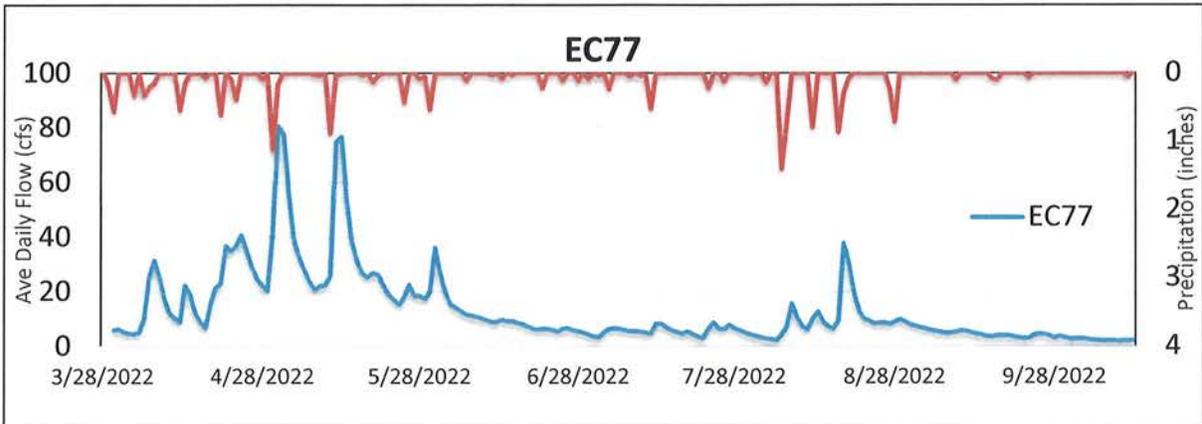
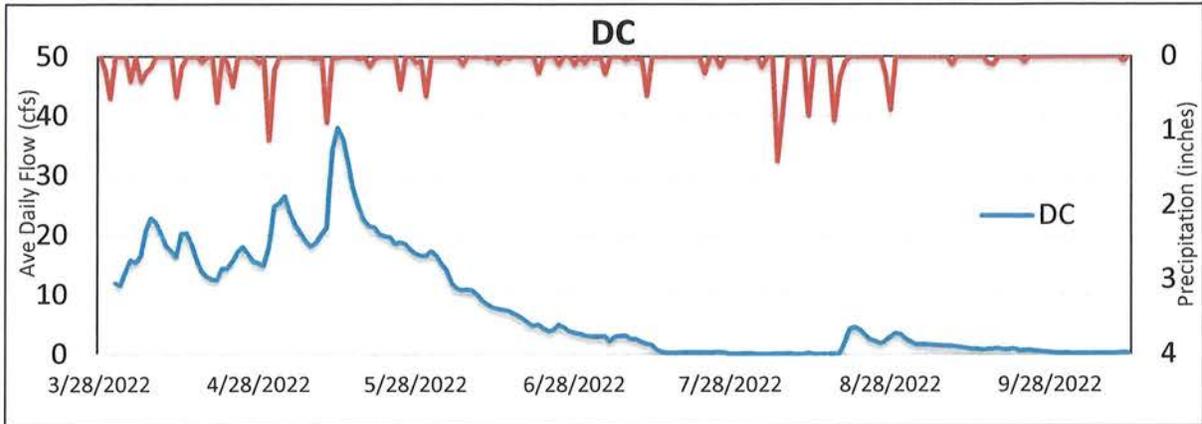


Elm Creek Stream Monitoring

2022 Monitoring occurred from March 29, 2022, to October 28, 2022. During the monitoring period, there were 15.4 inches of rain. It was another year of below average precipitation, with 23.4 inches for the year. Three sites were monitored.

- DC Diamond Creek within Elm Creek Park Reserve (had continual beaver influence in 2022)
Average flow: 7 cfs Minimum flow: 0 cfs Maximum flow: 38 cfs
- EC77 Elm Creek at Medicine Lake Regional Trail
Average flow: 12.3 cfs Minimum flow: 1.8 cfs Maximum flow: 81 cfs
- RT Rush Creek at Territorial Road
Average flow: 22.3 cfs Minimum flow: 0 cfs Maximum flow: 112 cfs





Methods:

Monitoring

- Bi-weekly water grab samples were collected to characterize base flow conditions
- Sites equipped with ISCO auto-samplers measured water flow using ISCO flow meters and collected water samples during storm events
- Rating curve required for open stream sites to better estimate amount of water flow
- Parameters: TP: Total Phosphorus; SRP: Soluble reactive phosphorus; TN: Total Nitrogen; TSS: Total Suspended Sediments

To estimate annual loads:

- Used U.S. Army Corps of Engineer’s FLUX model version 5.0 (Soballe, 2020)
- Concentrations and flow during sample period were input to FLUX to determine the sample period nutrient load
- Sample period nutrient load was extrapolated to yearly load based on precipitation
- Concentrations are flow weighted

Concentration data:

- DC: 17 Samples collected; 3 from auto sampler
- EC77: 14 samples collected; all grab samples
- RT: 15 samples; 2 from auto sampler

Site	Ave TP (min-max) (µg/L)	Ave SRP (min-max) (µg/L)	Ave TN (min-max) (mg/L)	Ave TSS (min - max) mg/l
DC	294 (126 - 512)	113 (34 - 216)	1.8 (1.3 - 2.5)	13.0 (0.8 - 48.7)
EC77	249 (104 - 384)	126 (33 - 196)	1.3 (1.0 - 2.0)	20.6 (1.4 - 197.0)
RT	373 (144 - 686)	240 (103 - 396)	1.5 (0.4 - 3.1)	7.7 (1.2 - 51.3)

Flux results:

Site	Year	Nutrient Loading				Nutrient Concentration				Flow Volume (x 10 ⁶ m ³)	Annual Precipitation (inches)
		TP (lbs/yr)	SRP (lbs/yr)	TN (lbs/yr)	TSS (lbs/yr)	TP (µg/L)	SRP (µg/L)	TN (mg/L)	TSS (mg/L)		
DC	2022	3125.2	1199.1	24,907	193,522	238.2	91.4	1.90	14.75	5.95	23.43
EC77	2022	5433.0	2627.0	27,248	432,477	252.4	122.0	1.27	20.09	9.77	23.43
RT	2022	13103.8	8328.3	77,114	331,189	339.1	215.5	2.00	8.57	17.53	23.43



2022 Stream Monitoring

United States Geological Survey

There are three hydrologic watersheds within the administrative boundaries of the Elm Creek Watershed Management Commission – Elm Creek, Crow River and Mississippi River. The Elm Creek watershed contains several large depressions and drainageways. Stormwater within Elm Creek watershed is generally directed from the south and west to northeast via four main drainage ways – Rush Creek, North Fork Rush Creek, Diamond Creek, and Elm Creek. These drainage ways converge in the Elm Creek Park Reserve and enter Hayden Lake. Water is eventually discharged to the Mississippi River near the Mill Pond in Champlin.

Northwest areas of Rogers drain to Crow River. Within this area, Fox Creek is the main drainage way that collects stormwater along the I-94 corridor and the area between I-94, Territorial Road and Fletcher Lane. Areas north of I-94 and along the Highway 101 corridor drain north to the Crow River, mostly along the corridor. The northern quarter of Dayton flows north into the Mississippi River with a small area on the northwest side of Dayton draining to the Crow River. There are no major drainageways in these areas.

Elm Creek has been monitored since 1976 by a station located in Champlin. The monitoring station for Elm Creek is located at Elm Creek Road crossing in the Elm Creek Park Reserve and is operated in cooperation with the United States Geological Survey (USGS). The exact location is: latitude 45°09'48", longitude 93°26'11" referenced to North American Datum of 1927, in NE ¼ NW ¼ Sec.35, T.120 N., R.22 W., Hennepin County, MN, Hydrologic Unit 07010206, on left bank, 33 feet downstream from bridge on Elm Creek Road, 2.5 mi southwest of Champlin. Datum of the gage is 850.70 ft above sea level (NGVD of 1929). The Commission shares the costs of operating the station, which collects continuous flow data and periodic event and base water quality data. The watershed area above the gauging station is 86 square miles, or 81% of the hydrologic watershed.

Both grab samples and storm runoff samples are collected and analyzed for various parameters. Analyses of the streamflow and water quality monitoring data for Elm Creek and its tributaries are summarized below. Real time data from the monitoring station in Champlin may be viewed at http://waterdata.usgs.gov/mn/nwis/uv/?site_no=05287890&PARAMeter_cd=00065,00060.

Flow Monitoring

Storm event samples are collected using an automatic sampler. Routine manual sampling occurs approximately monthly. The average mean discharge for the 2022 WY (October 1, 2021 through September 30, 2022) was 23.75.

The average daily discharge for the 2021 water year (October 1, 2020, to September 30, 2021) was 27.9 cubic feet per second.

Data shows an annual mean discharge of 27.9 cfs during the 2021 water year. The water year for 2021 (October 1, 2020, to September 30, 2021) was a below average for the Elm Creek Discharge as compared to the 2020 water year that was still somewhat historically high at 57.7 cfs for the mean

average discharge. As an extreme comparison, the 2019 water year was higher and discharged more water downstream of the station than any time during the 42 years the station has been in place. During the 2021 water year the minimum and maximum observed average daily discharge values were 1.06 cfs on August 24, 2021 and 177 cfs on March 14,2021. The long-term average daily discharge at the station is 43.9 cfs or 6.93 inches (years 1979-2020).

Elm Creek Annual Instantaneous Peak Discharge Rates							
Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)
4/4/79	307	6/1/91	371	6/28/03	695	7/19/15	127
3/25/80	199	3/8/92	380	6/03/04	350	9/24/16	1,220**
6/15/81	44	6/22/93	315	10/30/04	118	5/23/17	482
4/3/82	471*	4/30/94	669*	10/09/05	295	4/25/18	405
3/9/83	408	3/17/95	237	3/17/07	223	3/24/19	836
2/25/84	341	3/19/96	407	5/4/08	205	4/2/20	229
3/18/85	579*	4/1/97	511*	3/27/09	119	3/14/21	177
3/27/86	812*	4/5/98	306	3/17/10	369	5/16/22	183***
8/1/87	185	5/15/99	538*	3/24/11	803		
3/27/88	39	7/13/00	112	5/29/12	568		
3/31/89	159	4/25/01	875	6/26/13	389		
8/1/90	225	5/11/02	554	5/1/14	803		

*These values have been revised based on the 2001 rating curve.

**All-time instantaneous peak discharge. The estimated 100-year flood discharge at this site is 2,290 cfs.

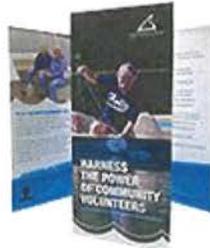
*** Provisional.

CITIZEN-ASSISTED MONITORING PROGRAM (CAMP)

Engaging residents to address lake water quality issues



The Metropolitan Council's Citizen-Assisted Monitoring Program (CAMP) is a partnership to collect and analyze scientifically valid water-quality data from lakes in the seven-county Twin Cities area. Organizations and residents use the data to make better decisions about lake management.



[Citizen-Assisted Monitoring Program Brochure \(pdf\)](#)

Under CAMP, sponsor organizations recruit volunteers to track water quality in local lakes. Sponsor organizations include counties, cities, watershed districts and other local governments.

Each volunteer monitors a specific site on a lake on a regular basis from mid-April through mid-October (every two weeks is most common). Volunteers collect a surface water sample, measure water temperature and clarity, and report weather and lake conditions.

With help from their sponsors, volunteers provide the data and samples to Metropolitan Council Environmental Services (MCES). MCES analyzes the samples, reviews and analyzes data, assesses and reports on current lake conditions, and manages the CAMP program. CAMP is part of Met Council's [Lake Monitoring & Assessment Program](#).

