



Elm Creek Watershed Management Commission

2021 Annual Activity Report

This report was prepared
for the Elm Creek Watershed Management Commission
by JASS, Inc.
For more information about this report, contact Judie@jass.biz

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Eric Megow, Stantec Consulting Services,
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Brian Vlach and Amy Timm, Three Rivers Park District

About the cover photograph:
Park District Staff monitoring water quality
on Fish Lake in Maple Grove
Photo courtesy of
Brian Vlach, Senior Water Resources Manager
Three Rivers Park District Staff

Elm Creek Watershed Management Commission

2021 Annual Activity Report

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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 2021.

≡ 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 normally meets monthly on the second Wednesday at 11:30 a.m. at Maple Grove City Hall, 12800 Arbor Lakes Parkway. The meetings are open to the public and visitors are welcome. Meeting notices, agendas and approved minutes are posted on the Commission's website. www.elmcreekwatershed.org. However, due to the COVID-19 pandemic, beginning in April 2020 the Commission has met virtually via zoom.us. All other meeting criteria remained the same.

COMMISSIONERS | TECHNICAL ADVISORY COMMITTEE | STAFF *Appendix A* includes the names of the Commissioners and their Alternates appointed to serve in 2021. 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 following page.

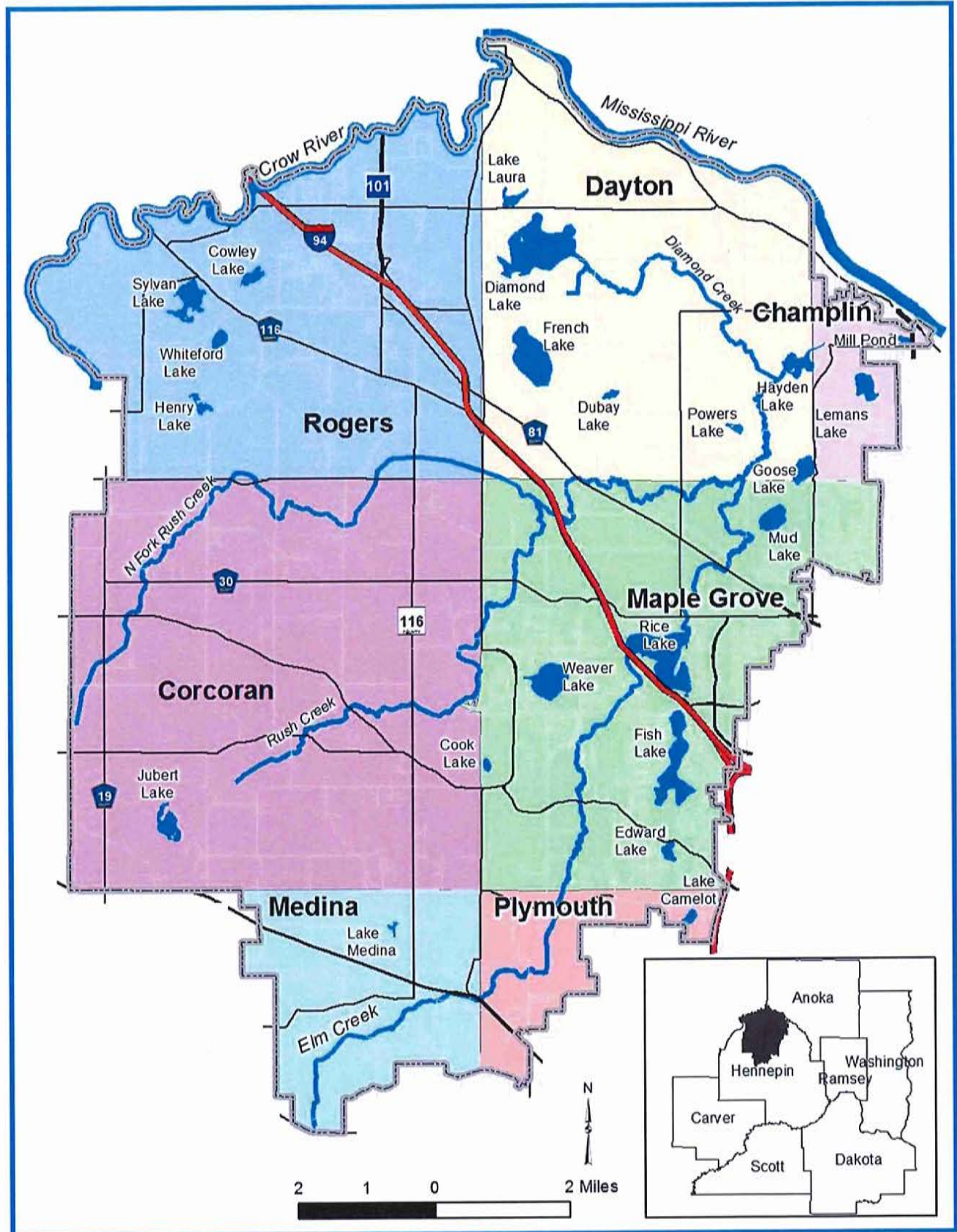


Table 1 - Area of Members within the Elm Creek Watershed

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. 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 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 enumerated in *Appendix B*.

LOCAL PLANS

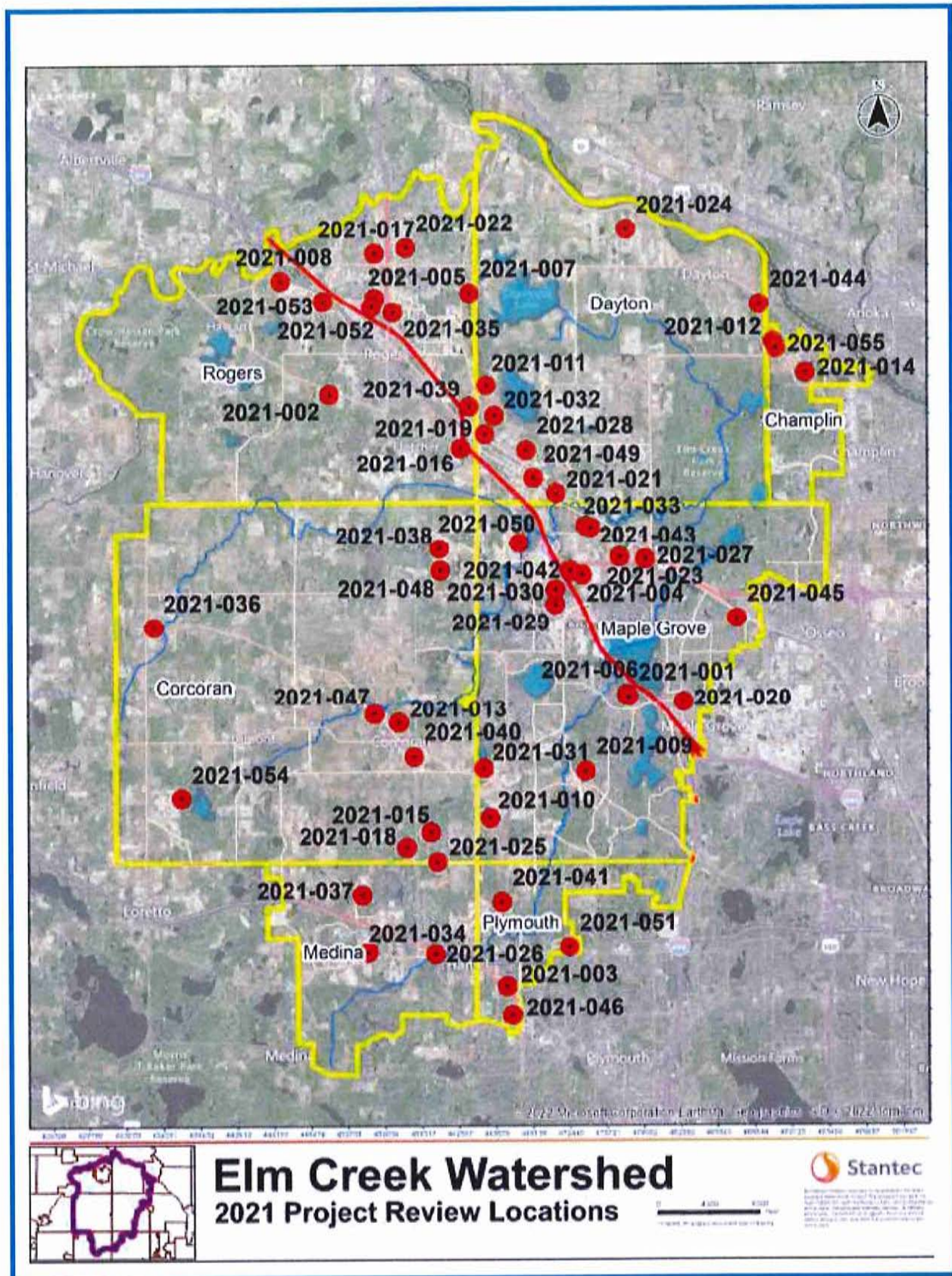
Member cities are required to adopt their own local water management plans. These plans must be consistent with the Commission's Watershed Management Plan and comply with MN Statutes, Section 103B.235, and MN Rules 8410 regarding local plan content.

≡ 2021 WORK PLAN IN REVIEW

The Elm Creek Commission identified a number of activities to be undertaken in 2021. The activities are categorized as Technical, Monitoring, Education, Projects and Capital Improvements, and Administrative, and are described below. The progress the Commission made toward completing these activities is shown in *italics*. The 2021 Work Plan was approved on January 12, 2022

TECHNICAL

- § Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Watershed Management Plan. Implement 2021 project review policy, application form, and fee schedule. *At December 31, 2021, the Commission's technical advisors had reviewed fifty-five projects. A variance from the Commission's Rules was granted for one project. The escrow fee schedule will be evaluated at year-end to determine how well it is meeting the Commission's goal of funding the costs of reviewing the projects. Appendix C lists these projects; a map showing their locations follows on page 6.*
- § Complete Special Flood Hazard Areas on the FEMA Floodplain maps located within the watershed into current modeling packages. The total budget for this project in Elm Creek is \$92,772.45. The DNR provided funding for this project through a FEMA grant that 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. The term of the contract ended March 31, 2021. Barr Engineering submitted final deliverables for the project on that date. *At the Commission's May 12, 2021, meeting some member cities reported significant differences between the flood elevations in their community hydrologic and hydraulic models and those included in the Elm Creek Floodplain Modeling and Mapping HUC-8 study. The Commission voted to complete a third-party review to ensure the study was based on the best information available to ensure a floodplain that accurately reflects the base flood in the watershed. Stantec Consulting Services was hired to perform the third-party review. Stantec's review was presented to the Commission's Technical Advisory Committee on January 12, 2022.*
- § Convene a meeting of the Technical Advisory Committee to review any discrepancies between the Commission and member city Rules and Standards. *On August 26, 2021, the TAC began its review with discussion regarding the challenges related to low elevations/low openings adjacent to flashing waterbodies such as ponds, an issue that became relevant when reviewing a project for which a variance was approved. They worked from a flow chart created by Staff that summarized the review path taken by the Commission's Technical Staff when reviewing projects. They will continue their discussions at future TAC meetings.*



§ *As a result of recommendations from the Technical Advisory Committee (TAC) the Commission: on August 11, 2021, adopted the (1) a Policy on Funding Internal Load Reduction Projects, (2) Cost Share Guidelines on Municipal Property, and (3) Cost Share Guidelines on Private Property; on September 8, 2021, adopted a Policy on Cost Share for Equipment and Non-Structural Practices; and on December 8, 2021, approved a revision to the Commission’s Cost Share Policy, removing the requirement that “subwatershed assessment projects be identified in areas outside of the Municipal Urban Service Area (MUSA).”*

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 2021 TRPD monitored Elm Creek at 77th Avenue (ECF77); Rush Creek at Territorial Road (RT); and Diamond Creek within the Elm Creek Park Reserve (DC). Continuous flow was collected in open channel morphology that required the development of a stage-discharge rating curve at each sampling site. TRPD took manual flow and depth measurements at stream cross-section intervals for the development of a stage-discharge rating curve to estimate flow at each sampling site. Each sampling site also had automated equipment to collect water samples for nutrient analysis during storm events. Water samples were also manually collected bi-weekly for nutrient analysis during base-flow conditions. All water quality samples collected were analyzed for total phosphorus, soluble reactive phosphorus, total nitrogen, and total suspended solids. (Appendix D.)*

§ *TRPD will also monitor four of fifteen lakes in the Elm Creek watershed (Diamond, Fish, Rice main body, and Weaver) in 2021. Three Rivers Park District monitored the water quality of seven lakes within the Elm Creek watershed. Water quality samples were collected bi-weekly for the four Sentinel Lakes (Fish, Rice, Diamond, and Weaver) as well as three other lakes (Mill Pond, Goose, and Mud) that haven’t been monitored since the watershed-wide TMDL was completed. All the lakes had temperature/dissolved oxygen profiles collected at 1-m intervals from the surface to the bottom; and water quality samples were collected at the surface for analysis of total phosphorus, soluble reactive phosphorus, total nitrogen, and chlorophyll-a. Since two of these lakes (Fish and Weaver) frequently stratify during the summer, water quality samples were also collected at the top of the hypolimnion and 1-m from the bottom for analysis of total*

phosphorus and soluble reactive phosphorus. Point-intercept aquatic vegetation surveys were also conducted in the spring and fall to assess the plant community in four of the lakes (Fish, Mill Pond, Goose, and Mud). Lake report cards 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. Learn more about the monitoring station in Appendix F.*

§ Fund the monitoring of one lake through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). *It was the intent to monitor French Lake in 2021; however, due to the inaccessibility of open water likely due to drought conditions, the volunteer could not perform the monitoring. 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>. For more information about CAMP, refer to Appendix G.*

§ Participate in the Minnesota Wetland Health Evaluation Program (WHEP) with four wetlands in 2021. *Due to the COVID 19 pandemic, volunteers did not participate in WHEP in 2021.*

EDUCATION AND PUBLIC OUTREACH

§ Promote river stewardship through Hennepin County's RiverWatch program with three sites in 2021. *Due to the COVID 19 pandemic, volunteer invertebrate monitoring did not occur in 2021.*

§ 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. Only classes at one school were taught in-person. A new Educator was hired in late 2021 and will begin reaching out to schedule classroom visits in 2022. A video of the Watershed PREP class is available on the WMWA website for home school or classroom viewing. <http://www.westmetrowateralliance.org/>*

Responding to the new MS4 Permit Requirements, in 2021 members focused on developing three flyers with educational content regarding pet waste, chlorides/salt, and illicit discharge. They may be viewed in (Appendix H).

The Commission approved the revisions to WMWA's Education and Outreach Plan on August 11, 2021. The revisions are also enumerated in Appendix H.

§ 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. The Board of Water and Soil Resources (BWSR) partnered with Metro Blooms and Blue Thumb to administer the program which received funding from the Environment and Natural Resources Trust Fund. *During the 2021 pilot phase, over 175,000 people viewed the Lawns to Legumes pages on BWSR's and Blue Thumb's websites. More than 7,500 people statewide applied for the Individual Support grants through the Blue Thumb website. Over 3000 residents have been supported by the program (between 1200 receiving funding and over 2000 attending workshops) and likely over 10,000 people when people doing DIY projects using Blue Thumb resources are included.*

At the end of October 2021 more than 1000 trees and shrubs had been planted, more than 800,000 square feet of pollinator habitat had been created, and many thousands of hours had been spent on planting projects to protect pollinators.

(It was announced in March 2022 that, in this latest round of funding, more than 700 Minnesota residents received Individual Support grants and 20 local governments and nonprofit organizations received Demonstration Neighborhood grants.)

§ Sponsor workshops as part of the Commission's Education and Public Outreach Program. The workshops are presented by Metro Blooms. *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. People 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).

- § Continue as a member of Blue Thumb and WaterShed Partners. *Administrative staff attended these virtual meetings, providing updates to the Commissioners at their monthly meetings.*
- § 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. *Hennepin County sent out mailers to agricultural producers in the Summer to advertise potential BMP projects that could be implemented in order to achieve load reductions outlined in the Rush Creek Subwatershed Assessment, while improving land management. Mailers were tailored towards the needs of either crop farmers or those who manage livestock to describe BMPs that would be most applicable for each situation. Eight landowners responded and are currently working with Hennepin County to design BMP projects on track to be implemented in spring/summer of 2022.*
- § Work with the Hennepin County Rural Conservation Specialists. 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). Through a variety of outreach efforts, Hennepin County specialists are collaborating with landowners to identify which BMPs would be the most effective. In addition, Hennepin County staff is also working more closely with the City of Corcoran to ensure that their office is aware of ongoing projects, while looking for other opportunities to leverage resources to implement additional BMP projects. The County will look to expand this coordination as able.*
- § 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. *In 2021 the website had 2,843*

total users. Of these, 2,791 were new users in 2021. A total of 4,279 sessions occurred among all users, averaging 1.98 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, conduct public hearing, and certify levy to Hennepin County. *The Technical Advisory Committee (TAC) convened May 5, 2021, to update the 2020 CIP. At that meeting the members received revisions, additions, and deletions to the 2020 CIP spreadsheet from the member cities. Four projects were removed at the request of the city (Maple Grove), two projects were added, one each in Dayton and Medina; and three projects were updated, either for cost or for year of construction. These revisions were approved by the TAC and recommended to the Commission.*

On June 9, 2021, the Commission conducted a Public Meeting at which time it approved Resolution 2021-03 Adopting a Minor Plan Amendment pursuant to the recommendation of the TAC and set the 2021 maximum levy at \$291,638. The Hennepin County Board approved the Minor Plan Amendment and set a 2021 maximum levy of \$291,638 for the Elm Creek Commission on August 3, 2021.

At their August 11, 2021, meeting, the Commission called for a public hearing to be held on September 8, 2021, to consider two projects for levy in 2021, pay 2022. They are:

Project 2021-01: Elm Road Area/Everest Lane Stream Restoration, Maple Grove. Stream restoration along 800 LF of intermittent stream to reduce sediment and nutrient release to Elm Creek, reducing Ph and TSS loading by 15 lbs./year and 15 tons/year, respectively, and improving DO and habitat for fish and invertebrates. Proposed Levy: \$132,563.

Project 2021-02: Elm Creek Stream Restoration Phase V Hayden Lake Outfall, Champlin. 3,800 LF of stream bank restoration located upgradient of the Mill Ponds. Proposed construction will improve impaired water with low DO, restoring the stream banks and providing habitat structure. Proposed Levy: \$159,075.

At the September public hearing, with no written or verbal comments having been received from the cities, reviewing agencies, or the public, the Commission adopted Resolution 2021-04 Ordering [the] 2021 Improvement Projects, Designating Members Responsible for Construction and Making Findings and Designating Commission Cost-Share Funding. On September 13, 2021, the Commission informed the County Board of the Commission's final levy request for 2021 (payable 2022) of \$291,638.

- § Undertake high priority projects identified in the Rush Creek Headwaters Subwatershed Assessment. *Best management practices that will reduce nutrient, sediment, and bacterial contamination in the Rush Creek Watershed have been completed over the past year or are currently nearing implementation. Projects that were completed in 2021 included a waterway and Water And Sediment Control Basin (WASCOB) as a part of the Jubert Lake Agricultural BMPs Project. More high priority projects related to curbing manure runoff, such as manure bunkers and filter strips, have been identified and are in the initial stages of planning. Larger projects such as the Jubert Lake Agricultural BMPs, are entering second phases that will include more intensive practices such as wetland restorations and grassed waterways.*

The 2021 Services Agreement between Hennepin County and the Commission was amended so that the Commission's Technical Advisor, Stantec Consulting Services, could develop a manure bunker AutoCAD design for the County. This work was completed in 2021.

- § For the 2020-2021 biennium of the Watershed-Based Funding program (WBIF), the Board of Water and Soil Resources (BWSR) allocated funding based on major watershed divides. Elm Creek is in the Mississippi West Major Watershed (MWW) which was allocated \$874,153. A partnership was created consisting of at least one representative from each watershed district, watershed management organization, soil and water conservation district, county and at least two municipalities within the MWW. *The Commission submitted two projects, Rush Creek Restoration and Elm Creek Restoration with requests of \$200,000 and \$300,000, respectively. After criteria ranking, Elm Creek was awarded \$281,996.20 to be put toward one or both projects at the discretion of the Commission. A 10% local match is required. Funds from other grant programs will be pursued to complete these stream restorations. Funds from these grants expire December 31, 2023.*
- Elm Creek is also in the North Fork Crow (NFC) major watershed which was allocated \$91,105.00; however, no projects were identified within that major watershed area to use the funding, so it was relinquished to other participants.*

- § Support the City of Dayton and its partners to continue efforts for completion of the Diamond Lake subwatershed assessment. *The final report is substantially complete. The report and results will be presented to the City in early 2022.*
- § Support the City of Maple Grove and its partners as they undertake a subwatershed assessment for Weaver Lake. *The engineering firm, WSB Engineering, was engaged by the City to undertake the assessment. In their final report WSB recommends pursuing the installation and construction of multiple BMPs in a variety of locations within the Weaver Lake subwatershed to maximize pollutant load treatment. Many of these BMPs are underground treatment structures which will improve storm water quality and allow for easier routine maintenance. WSB also recommends inspecting the outfalls consistent with the City's MS4 permit to determine if a sediment removal project should be completed at the outfalls. They also recommended that water quality and sediment sampling should continue through annual monitoring activities and vegetative management and maintenance should continue according to the 2018 Weaver Lake Management Planning and Guidance document.*
- § 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 City of Corcoran applied and was approved for funding in February 2020 by the Commission for an assessment of the subwatershed draining to the South Fork of Rush Creek, to be completed by Wenck Associates (now Stantec) at a total cost of \$58,800. The Commission will pay 14% (\$8,820), with the proceeds from a Clean Water Fund Grant (or similar) and the cities of Corcoran, Medina, and Maple Grove paying the remainder. City Staff recognize a need to generate local funds and have discussed a stormwater utility as development expands into the MUSA area as well as considerations for rural Corcoran. The City Council approved a Stormwater Area Charge Study to evaluate options with results anticipated to be presented to the Council in second quarter 2022.*

ADMINISTRATIVE

- § Conduct the biennial solicitation of interest proposals for administrative, legal, and technical consultants. *Solicitations were published in the December 14, 2020, edition of the State Register. Five engineering firms, one legal firm, and one administrative service provider responded. Campbell Knutson, P.A., and Judie Anderson's Secretarial Services,*

Inc. were selected to perform legal and administrative services, respectively, at the Commission's January 13, 2021, meeting. Wenck/Stantec was chosen as the Commission's technical advisor at the February 11, 2021, meeting.

- § *Adopt a 2022 operating budget. At its June 9, 2021, regular meeting, the Elm Creek Commission approved a 2022 operating budget totaling \$931,405. To fund this budget the Commission approved member assessments of \$237,300, a zero increase over the past two years' assessments. (Appendix I.)*
- § *Publish an annual activity report summarizing the Commission's yearly activities and financial reporting. The 2020 Annual Activity Report was accepted by the Commission at its April 14, 2021, meeting and made available to the member cities and the public on the Commission website, <http://www.elmcreekwatershed.org/annual-reports.html>.*
- § *Participate with the Board of Water and Soil Resources (BWSR) in a Performance Review and Assistance Program (PRAP) Level II Review. At the Commission's September 8, 2021, meeting Brett Arne described BWSR's Performance Review and Assistance Program and presented the results of the review of the Elm Creek Commission. This was a Level II review, conducted by BWSR once every ten years for every local government unit. Its focus is on the degree to which an organization is accomplishing its water management plan. A Level II review includes determination of compliance with BWSR's Level I and II statewide performance standards, a tabulation of progress on planned goals and objectives, a survey of staff and board members of the factors affecting plan implementation, a survey of the Commission's partners about their impressions of working with the Commission, and a BWSR staff report to the organization with findings, conclusions, and recommendations.*

The following recommendations were brought forward by BWSR:

- (1) Existing planning goals are too broad. They need to be more targeted, prioritized, and measurable.*
- (2) Conduct internal analysis of the CIP. Work with city officials, informing them of the benefits of the program. Identify barriers that preclude this from happening.*
- (3) Review regulatory timelines.*
- (4) Coordinate communication efforts between Commission and landowners. Focus on specific land areas that contribute to low water quality. Partner with Hennepin County*

In these efforts. The County is a valuable resource for marketing programs and oftentimes also has grant resources available.

(5) Update the Commissioner Handbook, conduct training session for Commissioners. Look to the League of Minnesota Cities and the BWSR website for resources/assistance. (This item was added during the discussion when the recommendations were presented.)

The preliminary PRAP report was accepted at the September meeting. Plymouth Commissioner Catherine Cesnik volunteered to work with Chairman Doug Baines, Stantec consultant Diane Spector, and Administrator Judie Anderson on these recommendations. TAC members Ben Scharenbroich, Plymouth, and Derek Asche, Maple Grove, also volunteered to be members of the committee.

One of the specific recommendations, a draft Data Practices Policy, was presented and approved at the Commission's October meeting.

The final report was expected from BWSR by year-end.

≡ FINANCIAL REPORTING

The following pages show the Elm Creek Watershed Management Commission's approved budget and member assessments for 2021. 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 \$700,510 operating budget for 2021 approved by the Commission on June 10, 2020, revenue of \$100,000 was projected as proceeds from application fees, \$5,500 from partnership revenue, \$100,000 from grant proceeds, and \$15,250 from interest income and dividends, resulting in assessments to members totaling \$237,300. \$56,872 was projected as coming from reserves.

The Commission also designated \$185,588 as its share of three CIP Projects. (The cost of one project was later recalculated.) A Hennepin County ad valorem levy (\$137,562 payable in 2021) was used to fund the Commission's share of the three projects.

\$197,000 as projected as project review-related expense; \$49,060 for water monitoring; and \$21,000 for education. \$133,450 was budgeted for administration, planning, and general operating expenses. \$300,000 resides in an assigned fund for special projects, studies and subwatershed assessments.

Elm Creek Watershed Management Commission 2020-2021 Operating Budget

Row			2020 Budget	2021 Budget
EXPENSES				
GENERAL OPERATING EXPENSES				
7	Administrative		90,000	95,000
8		Watershed-wide TMDL Admin	300	0
9	Grant Writing		1,000	650
10	Website		3,000	2,000
11	Legal Services		2,000	2,000
12	Audit		5,000	5,000
13	Insurance		3,900	3,800
14	Technical support - HCEE - conservation promotion, landowner outreach, and project implementation.		15,000	12,000
15	Contingency		1,000	1,000
16		<i>Subtotal General Operating Expenses lines 6-15</i>	121,200	121,450
EDUCATION				
19	Education			
20		Education - City/Citizen Programs	3,000	2,500
21	West Metro Water Alliance			
22		WMWA General Admin	5,000	5,000
23		WMWA Implementation Activities incl Watershed PREP	6,500	6,500
24		RG Workshop/Intensive BMPs/Special Projects	3,000	3,000
25		Education Grants	1,000	1,000
26		Macroinvertebrate Monitoring-River Watch	3,000	3,000
27		Ag Specialist		
28		<i>Subtotal Education lines 18-27</i>	21,500	21,000
WATERSHED MANAGEMENT PLAN				
31		Plan Amendments	2,000	2,000
32		Local Plan Review		
33		Contribution to 4th Generation Plan		10,000
34		<i>Subtotal Watershed Management Plan lines 30-33</i>	2,000	12,000

Elm Creek Watershed Management Commission 2020-2021 Operating Budget

Row		2020 Budget	2021 Budget
EXPENSES			
WATER MONITORING PROGRAMS			
	Expenses		
38	Stream Monitoring		
39	Stream Monitoring - USGS	24,000	24,000
40	Stream Monitoring - TRPD	7,200	7,200
41	Extensive Stream Monitoring		
42	DO Longitudinal Survey	1,000	1,000
43	Gauging Station - Elec Bill	250	400
44	<i>Subtotal Stream Monitoring lines 37-43</i>	32,450	32,600
46	Lake Monitoring		
47	Lake Monitoring - CAMP	760	760
48	Lake Monitoring - TRPD		
49	Sentinel Lakes	8,100	8,100
50	Additional lake	2,500	2,500
51	Aquatic Vegetation Surveys	1,100	1,100
52	<i>Subtotal Lake Monitoring lines 46-51</i>	12,460	12,460
	Other Water Monitoring		
55	Rain Gauge Network	100	0
56	Source Assessment		
57	Watershed-wide TMDL-Follow-up-TRPD	1,000	
58	Wetland Monitoring - WHEP	4,000	4,000
59	<i>Subtotal Other Monitoring lines 54-58</i>	5,100	4,000
60	Total Monitoring Expense lines 44,52,59	50,010	49,060
FLOODPLAIN MONITORING			
63	Barr - Floodplain modeling	39,360	0.0
64	TOTAL GENERAL OPERATING EXP-lines 63,60,34,28,16	234,070	203,510!

**Elm Creek Watershed Management Commission
2020-2021 Operating Budget**

Row			2020 Budget	2021 Budget
EXPENSES				
PROJECT REVIEWS and WETLAND CONSERVATION ACT (WCA)				
66		Technical - Barr Engineering/SWS - project reviews	185,000	185,000
69		Administrative Support	15,000	12,000
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>	204,500	197,000
CIPS, GRANTS, SPECIAL PROJECTS, STUDIES, SWAs				
76		CIPs	448,935	175,000
77		Grants	125,000	125,000
78		Special Projects, Studies, SWAs	0	0
79		<i>Subtotal CIPs, Grants, Spec Projects, etc. lines 75-78</i>	573,935	300,000
80		TOTAL EXPENSES - lines 64,73,79	1,012,505	700,510
REVENUE				
GENERAL OPERATING REVENUE				
84		Membership Dues	237,300	237,300
85		Interest Income	8,000	15,000
85		Dividend Income	250	250
87		TRPD Cooperative Agreement	5,500	5,500
88		DNR Contract - Floodplain Modeling	39,360	
90		<i>Subtotal General Operating Revenue lines 83-88</i>	290,410	258,050
PROJECT REVIEW and WCA REVENUE				
93		Project Review Fees	80,000	100,000
94		WCA Fees and Escrows Earned	0	0
95		Forfeited/Reimbursed Sureties		
96		<i>Subtotal Project Review / WCA Revenue line 93-95</i>	80,000	100,000
CIPS, GRANTS, SPECIAL PROJECTS, STUDIES, SWAs REVENUE				
99		CIPs	448,935	185,588
100		Grants	100,000	100,000
101		Special Projects, Studies, SWAs		
102		<i>Subtotal CIPs, Grants, Spec Projects, etc. lines 99-101</i>	548,935	285,588
104		TOTAL REVENUE - lines 90,96,102	919,345	643,638
		Surplus/Deficit - lines 80,104	93,160	56,872

**Elm Creek Watershed Management Commission
2020-2021 Member Assessments**

2020	2019 Taxable Market Value	2019 Budget Share		Increase over Previous Year	
		%age	Dollars	%age	Dollars
Champlin	540,590,344	4.12%	9,768.39	6.97%	284
Corcoran	865,123,487	6.59%	15,632.66	2.56%	455
Dayton	749,481,401	5.71%	13,543.02	8.87%	394
Maple Grove	6,614,821,616	50.37%	119,528.89	1.93%	3,476
Medina	1,050,664,076	8.00%	18,985.35	-1.42%	552
Plymouth	1,418,363,351	10.80%	25,629.62	11.11%	745
Rogers	1,893,322,435	14.42%	34,212.07	65.00%	995
Totals	13,132,366,710	100.00%	237,300.00	2.99%	6,900
2021	2020 Taxable Market Value	2019 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

The Commission maintains a checking account at US Bank for current expenses and rolls uncommitted monies to its account in the 4M Fund, the Minnesota Municipal Money Market Fund.

The 2020 Audit Report, which was prepared by Johnson & Company, Ltd., Certified Public Accountants, was accepted by the Commission at its June 9, 2021, 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_12-31-2020_final.pdf

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 2020 Audit are as follows:

General engineering	134,306
General administration	123,501
Education	8,535
Programs	53,462
Projects	85,043
Capital projects	<u>319,021</u>
Total	\$723,868

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 2022 WORK PLAN

What follows below is a projected work plan for the year 2022. It was approved at the Commission's March 9, 2022, meeting.

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.*
- § Complete revisions to the Preliminary HUC-8 model based on the Third-Party Review, which identified four reasons the Preliminary HUC-8 base flood elevations were so much larger than the 2016 FIS. At their March 9, 2022, meeting, the Commission selected Stantec Consulting Services to complete the revisions identified in their Scope of Work dated March 2, 2022, excepting the work identified in Task 2, Subtask 7. Cost of this work is \$45,750. *Tasks 1,2 and 4 will be completed by April 22, 2022. Task 3, a Stakeholder meeting, will occur during the May 11, 2022, Technical Advisory Committee meeting. DNR requires that the work products be completed by mid-2022, and is anticipating that the project will be completed by September 2022.*
- § Convene a meeting of the Technical Advisory Committee to review any inconsistencies between the Commission and member city Rules and Standards. *On August 26, 2021, the TAC began its review with discussion regarding the challenges related to low elevations/low openings adjacent to flashing waterbodies such as ponds, an issue that became relevant when reviewing a project for which a variance was approved. Members worked from a flow chart created by Staff that summarized the review path taken by the Technical Staff when reviewing projects. They will continue their discussions at future TAC meetings.*

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 as described in the five-year cooperative agreement approved in 2018. *In 2022, 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 on Rush Creek in 2022. TRPD will also monitor four sentinel lakes (Fish, Weaver, Diamond, and Rice) and two additional non-sentinel lakes in the Elm Creek Watershed in 2022. An aquatic vegetation point-intercept survey will be completed on one of these lakes. Under the cooperative agreement, the Commission and the Park District will also provide financial support to assist the monitoring efforts of the USGS stream gauging station.*
- § Continue to operate the monitoring station on Elm Creek within the Elm Creek Park Reserve in Champlin in cooperation with the United States Geological Survey (USGS). *The cooperative agreement with the USGS will be renewed for WY2022-2023*
- § Fund the monitoring of one lake through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). *One lake will be monitored through CAMP in 2022.*
- § Participate in the Minnesota Wetland Health Evaluation Program (WHEP) with four wetlands in 2022, *dependent on the status of the pandemic. Again, because of this uncertainty, the Commission will not be charged for this service in 2022.*

EDUCATION AND PUBLIC OUTREACH

- § Promote river stewardship through Hennepin County's RiverWatch program with three sites in 2022, *depending on the status of the pandemic. Because of this uncertainty, the Commission will not be charged for this service in 2022.*
- § Continue as a member of the West Metro Water Alliance (WMWA). *A new Educator was hired in December 2021 and will begin reaching out to schedule classroom visits in 2022. Depending on the status of the pandemic, Watershed PREP classes may be conducted virtually. A video of the Watershed PREP class is available on the WMWA website for home school or classroom viewing at <http://www.westmetrowateralliance.org/>. The four member watershed organizations, Bassett Creek, Elm Creek, Shingle Creek, and*

West Mississippi, will continue to develop materials in response to the new MS4 permit requirements, concentrating on educational content regarding pet waste, chlorides/salt, and illicit discharge.

- § 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 with membership in Blue Thumb and links to its website.*
- § 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.*
- § Sponsor Resilient Yard Workshops as part of the Commission’s Education and Public Outreach Program. The workshops are presented by Metro Blooms. *Since the start of the pandemic, all workshops have been held virtually and will continue virtually through 2022. Registration for the 2022 workshop season opened February 1, 2022, when partner organizations received communication materials to help announce the opportunity to attend workshops in their area. In 2022, workshops in our area will be sponsored by the cities of Champlin, Crystal, Plymouth, and Minneapolis.*

A new Blue Thumb training program has been implemented to teach participants skills in inspecting and caring for raingardens and other green infrastructure, all within a framework of eco-friendly landscaping practices. People who take part in the full session will 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 they function properly. An important part of the program is weedy plant identification and vegetation management (a major culprit of dysfunctional raingardens) to avoid the need for chemical use, when possible.
- § Continue to work in partnership with the University of Minnesota’s agriculture specialist to help build relationships with the agricultural community in the watershed in order to

achieve TMDL load reductions. *The status of the pandemic will determine what amount of interaction with landowners can occur in 2022. Communication between landowners and Hennepin County will continue through targeted mailers and other means. Identified projects from 2021 outreach will advance into implementation phases in spring/summer of 2022.*

- § Work with the Hennepin County Rural Conservation Specialists. 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). Through a variety of outreach efforts, Hennepin County specialists are working with landowners to identify which BMPs would be the most effective in retaining pollutants while remaining manageable. In addition, Hennepin County staff is now working more closely with the City of Corcoran to ensure that their office is aware of ongoing projects, while looking for other opportunities to leverage resources to implement more BMP projects. The County will look to expand this coordination throughout 2022. County Staff will provide updates to the Commissioners through their monthly Staff Reports.*
- § Continue to populate and maintain the Commission's website www.elmcreekwatershed.org to provide news to residents, students, developers, and other interested individuals. *This is an ongoing endeavor.*

PROJECTS AND CAPITAL IMPROVEMENTS

- § Send out call 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, conduct public hearing, and certify levy to Hennepin County. *Hennepin County will continue communicating CIP updates to member cities in 2022. Further, staff will work to provide cities with updates on projects currently underway as well as prospective projects as they are identified.*
- § Continue to support City-sponsored projects using the ad valorem funding mechanism. Conduct public hearing for identified projects and certify levy to Hennepin County. *This process will also be repeated in 2022.*

§ Undertake high priority projects identified in the Rush Creek Headwaters Subwatershed Assessment. *This activity will continue in 2022. Best management practices that will reduce nutrient, sediment, and bacterial contamination in the Rush Creek Watershed have been completed over the past year or are currently nearing implementation. A grassed waterway and detention basin were installed on farm fields adjacent to Jubert Lake that will retain 15 tons of sediment and 15 pounds of Phosphorus per year. More high priority projects related to curbing manure and nutrient runoff, such as manure bunkers and filter strips, have been identified and are in the initial stages of planning. Larger projects such as the Jubert Lake Agricultural BMPs, are entering second phases that will include grassed waterways, culvert stabilization, and wetland restoration.*

§ Having had two different allocation processes in as many biennia, 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 announced 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.” *Requirements will include a minimum 10% match, project(s) must be load reduction practices, and could be structural or non-structural. The Elm Creek planning area has been awarded \$297,774. The Commission has tasked the Technical Advisory Committee to be the lead in identifying the project or projects that would be submitted for funding. These grant funds expire December 31, 2025.*

For the 2020-2021 biennium of the WBIF program, Elm Creek submitted two projects, the Rush Creek Restoration for \$200,000 and the Elm Creek Restoration at the outlet of Hayden Lake for \$300,000. After criteria ranking, Elm Creek was awarded \$281,996.20 which the Commission put toward the Elm Creek Restoration project. A 10% local match is required. Other grant funds are being pursued to complete these stream restorations. Grants from these funds expire December 31, 2023.

§ 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 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.

- § Support the City of Maple Grove and its partners as they undertake a subwatershed assessment for Weaver Lake. *The City has begun its work on the subwatershed assessment and is awaiting comments from the lake association before finalizing the report.*
- § 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. *Corcoran's City Council has approved a Stormwater Area Charge Study to evaluate options with results anticipated to be presented to the Council in early 2022.*
- § Support the City of Dayton and its partners to continue efforts for completion of the Diamond Lake subwatershed assessment. *The final report is substantially complete. The report and results will be presented to the City in early 2022.*

ADMINISTRATION

- § Conduct the biennial solicitation of interest proposals for administrative, legal, and technical consultants. *This process will be undertaken in January 2023. Solicitations will be published in a December 2022 edition of the State Register.*
- § Adopt a 2023 operating budget. *A Budget Committee will draft a 2023 operating budget for consideration by the Commission in May 2022.*
- § Prepare a 2021 Audit Report. *This report will be prepared by Johnson and Company, LTD and forwarded to BWSR per MN Rule 8410.*
- § 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 Board of Water and Soil Resources Performance Review and Assistance Program (PRAP) Level II Review. *In their preliminary report, BWSR brought forward four recommendations (see pages 14-15 of this report). The Commission received the final report on December 30, 2021. The PRAP subcommittee scheduled its first meeting to respond to BWSR's recommendations for February 16, 2022.*

Have a question about this report?

Need more information?

Want to know how to get involved?

Contact us: drop us an email

<http://www.elmcreekwatershed.org/contact-us.html>

We're happy to help:

APPENDIX

Commissioners

Commissioners and Alternate Commissioners are appointed by the communities they represent and serve at will. Officers are elected annually at the first regular meeting during the month of March 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 Guenthner Treasurer	6315 Butterworth Lane Corcoran, MN 55430	612.710.0734 kenguenthner@gmail.com
	vacant Alternate		
Dayton	Doug Baines Chair	13000 Overlook Road Dayton, MN 55327	763.323.9506 dougabaines@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	Elizabeth Weir Vice Chair	1262 Hunter Drive Wayzata, MN 55391	763.473.3226 lizvweir@gmail.com
	Terry Sharp Alternate	4274 Fairway Drive Medina, MN 55340	612.849.6230 tsharp2972@aol.com
Plymouth	Catherine Cesnik Commissioner		cesnik@gmail.com
	Jake Gateman Alternate	14205 56th Ave N Plymouth, MN 55446	651.726.4759 jake.gateman@gmail.com
Rogers	Kevin Jullie Commissioner	13315 Oakwood Drive Rogers, MN 55374	763.428.9160 kjullie@srfconsulting.com
	Vacant Alternate		

Technical Advisory Committee

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

REPRESENTING	NAME	ADDRESS	TELEPHONE/EMAIL
Champlin	Todd Tuominen	City of Champlin 11955 Champlin Drive	763.923.7120 ttuominen@ci.champlin.mn.us
	Heather Nelson	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@maplegrovmn.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
	Amy Riegel		763.509.5531 ariegel@plymouthmn.gov
Rogers	Andrew Simmons	City of Rogers 22350 S Diamond Lake Road Rogers, MN 55374	763.428.0907 asimmons@ci.rogers.mn.us
Wenck & Associates/ Stantec Consulting Services	Ed Matthiesen	7500 Olson Memorial Highway Suite 300	763.252.6851 edward.matthiesen@stantec.com
	Diane Spector	Golden Valley, 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 Neddersen Circle Brooklyn Park, MN 55445-3206	952.456.3206 surfacewatersolutions@outlook.com
Hennepin County Dept. of Energy and Environment	Kris Guentzel	701 Fourth Avenue S. Suite 700	612.596.1171 kristopher.guentzel@hennepin.us
	Kevin Ellis	Minneapolis, MN 55415-1600	612.543.3373 Kevin.ellis@hennepin.us
	Paul Stewart		612.543.9409 Paul.Stewart@hennepin.us
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		
Wenck Associates/	Ed Matthiesen	7500 Olson Memorial Highway Suite 300
	Diane Spector	Minneapolis, MN 55427
	Ross Mullen	
		763.252.6851 edward.matthiesen@stantec.com 763.252.6880 diane.spectorstantec.com 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
Hennepin County Dept. of Energy and Environment	Kris Guentzel	701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600
	Kevin Ellis	
	Paul Stewart	
		612.596.1171 kristopher.guentzel@hennepin.us 612.543.3373 kevin.ellis@hennepin.us 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
	Amy Juntunen	Plymouth, MN 55447
	Beverly Love	
		763.553.1144 judie@jass.biz amy@jass.biz 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 page 3 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, nondegradation, 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 2021

Project Number	Project Name	City	Reviewed for Rules*						
			D	E	F	G	H	I	
2021-01	Boston Scientific Access Dr	Maple Grove	•	•					
2021-02	Skye Meadows Variance	Rogers	•						
2021-03	Cranberry Ridge	Plymouth	•	•					
2021-04	Roers MG Apartments	Maple Grove	•	•		•		•	
2021-05	WJD Two Third Addition	Rogers	•	•		•		•	
2021-06	Boston Scientific West Building	Maple Grove	•	•					
2021-07	Birchwood 2nd Addition	Rogers	•	•					•
2021-08	Edgewater 3rd Addition	Rogers	•	•					
2021-09	Palisades at Nottingham 3rd Addition	Maple Grove	•	•		•			
2021-10	Gleason Fields	Maple Grove	•	•					
2021-11	Graco Building 1	Dayton	•	•					
2021-12	The Oaks at Bauer Farm	Champlin	•	•					•
2021-13	Rush Creek Reserve Phase 1	Corcoran	•	•	•	•			•
2021-14	Elm Creek Stream Restoration Phase 4	Champlin	•	•	•	•			
2021-15	66th Ave-Gleason Pkwy Corridor Improvements	Corcoran	•	•	•	•			
2021-16	Territorial Lofts	Rogers	•	•		•			•
2021-17	Park Group Building	Rogers	•	•					
2021-18	Tavera	Corcoran	•	•	•	•			•
2021-19	Kwik Trip	Dayton	•	•					
2021-20	Crew Carwash	Maple Grove	•	•					
2021-21	Territorial Triangle	Dayton	•	•	•				•
2021-22	ISD 728 Rogers HS Trail and Batting Cage	Rogers	•	•					
2021-23	Maple Grove MOB	Maple Grove	•	•					
2021-24	Riverwalk	Dayton	•	•		•			•
2021-25	Hackamore Road Reconstruction	Corcoran/Medina	•	•		•	•	•	
2021-26	Prairie Creek Subdivision	Medina	•	•	•				•
2021-27	Xcel Energy Substation, MG	Maple Grove	•	•					
2021-28	The Cubes at French Lake	Dayton	•	•		•			•
2021-29	Tri-Care Grocery	Maple Grove	•	•					
2021-30	Tri-Care Grading	Maple Grove	•	•	•	•	•	•	

*Rule D – Stormwater
Rule E – Erosion Control

Rule F – Floodplain
Rule G – Wetlands

Rule H – Bridge, Culvert Crossing
Rule I - Buffers

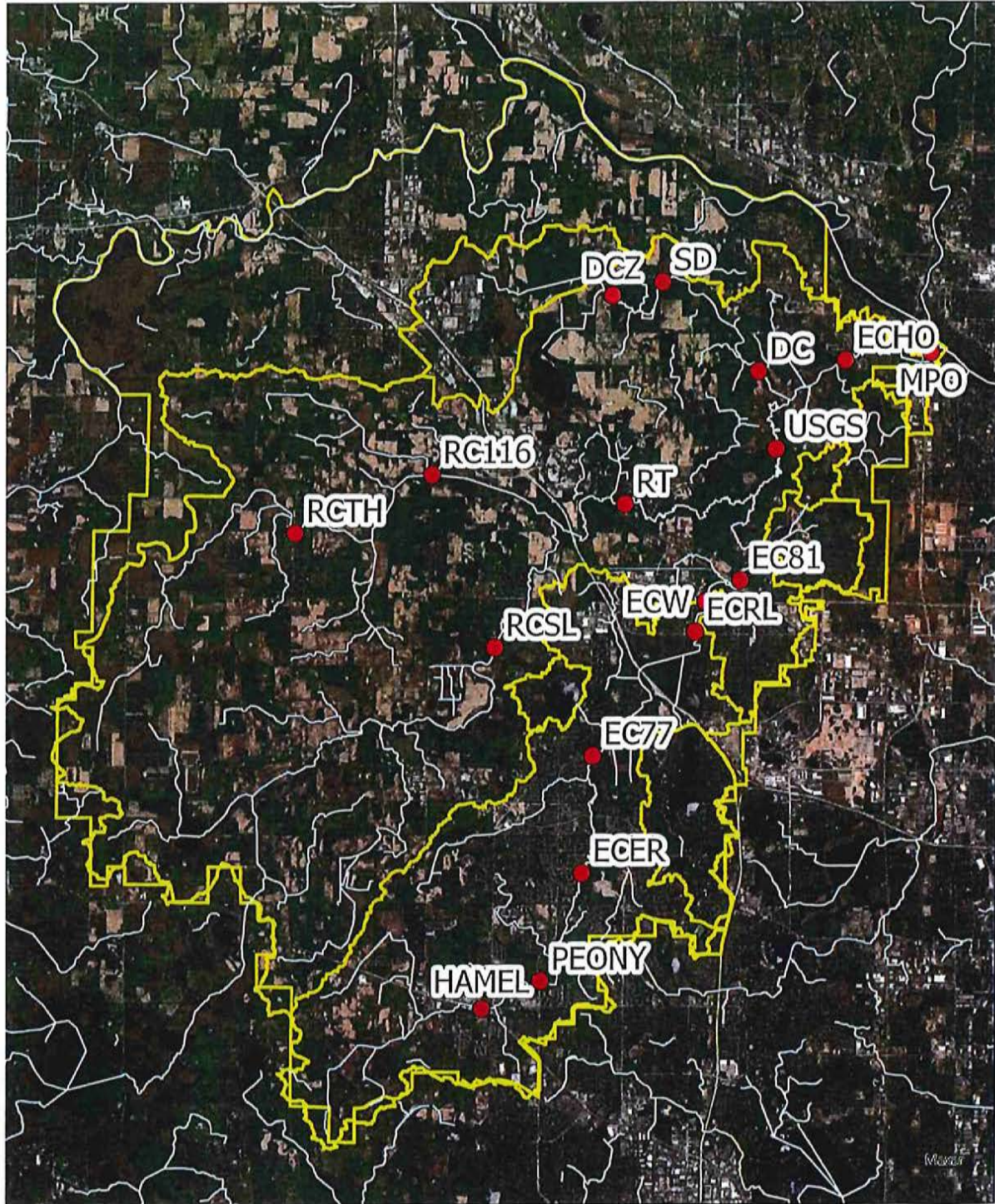
Project Number	Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net Change			
	2-yr pre post	10-yr pre post	100-yr pre post	TP load #/yr re-reduction	TSS load #/yr reduction	Runoff volume (AF/yr)	Abstraction (CF)	Filtration/biofiltration (CF)	Comments/notes
2021-01	19.8/10.2	38.7/24	83.0/66.0	-4.1	-34	6.4		28,000	
2021-02									Stormwater approval was covered under 2021-01
2021-03	72.7/14.0	137.7/52.7	382.6/122.9	-12.0	-3,304	84.3		317,100	
2021-04	3.5/3.0	7.8/7.7	18.1/16.8	-0.5	-163	5.04		7,035	
2021-05	76.1/67.7	166.7/158.3	370.1/338.7	-3.8	-2,307	31.7		84,424	
2021-06									EAW
2021-07	1.4/1.4	2.1/2.0	4.2/4.0	See comments		0	35,800	TP/TSS met by abstraction	
2021-08	38.6/37.7	76.3/71.2	153.5/139.1	-0.4	-572	4.03		24,000	
2021-09	2.9/2.9	11.2/9.5	32.7/31.5	-0.6	-1,288	7.71	242,629		
2021-10	9.4/6.9	21.2/20.4	50.6/50.6	0	-44	N/A			2408 Abstraction thru excess buffer
2021-11	23.3/15.0	41.4/35.6	146.2/62.1	-0.5	-3,155	12.8		36,063	
2021-12	0.07/0.06	1.56/0.75	13.21/9.44	86.7%	97.2%	N/A	48569		Regional facilities from 2018-032
2021-13							2,960 (irrigation)		Regional facilities from 2015-013
2021-14	22.8/14.5	45.3/36.3	96.4/74.8	0	-764	-11.0		19,963	
2021-15	9.5/3.4	21.6/10.0	47.2/19.4	-2.4	-458	8.44		24,830	
2021-16	9.5/7.5	18.3/15.4	37.6/30.2	-0.4	-241	1.17	11739		Water reuse project (denied)
2021-17	196.9/95.3	334.2/188.7	614.9/376.4	-20.9	-3,543	50.8		177,942	
2021-18	39.7/10.9	79.4/30.7	144.9/65.3	-13.5	-3,171	-0.49	81,239		irrigation
2021-19									WCA
2021-20									Rule E only
2021-21									Rules E&F only
2021-22	4.2/3.4	14.5/11.3	150.6/133.8	-3.8	-1,243	-1.45	29,795		
2021-23	29.3/28.5	41.2/40.3	61.1/58.9	-2.9	-39	4.78		20,240	
2021-24	9.1/6.2	16.8/15.7	30.4/21.2	-1.2	-17	2.09		10,431	
2021-25									Rules E&F only
2021-26	14.8/14.2	34.1/33.5	67.5/62.4	80%	N/A	N/A	N/A		
2021-27	17.3/4.8	31.4/9.2	62.1/24.7	-0.59	-273.9	+2.88	+16,760		
2021-28	59/39.3	133.9/83.7	358.1/221.1	-0.5	-4,256	N/A	239,365		DRAFT
2021-29	4.9/2.5	9.8/7.8	22/20.6	-1.7	-371	+4.03	18,681		6,662 excess
2021-30	66.5/58	140.3/119.6	288.5/255.1	-2.6	-674.5	+4.79	16,753		1600 excess

Projects Reviewed in 2021

Project Number	Project Name	City	Reviewed for Rules*					
			D	E	F	G	H	I
2021-31	Cook Lake Edgewater	Maple Grove	•	•	•	•	•	•
2021-32	Dayton Park Industrial Center EAW	Dayton						
2021-33	Weston Commons	Maple Grove	•	•		•		•
2021-34	BAPS Hindu Temple	Medina	•	•		•		•
2021-35	Mister Car Wash	Rogers	•	•				
2021-36	D&D Service	Corcoran	•	•		•		•
2021-37	Marsh Pointe Preserve	Medina	•	•	•	•		•
2021-38	Bellwether 6th/Amberly	Corcoran	•	•	•			•
2021-39	I-94 Logistics Center	Rogers	•	•		•		•
2021-40	NAPA Auto	Corcoran	•	•				
2021-41	Carlson Ridge	Plymouth	•	•		•		
2021-42	Risor Senior Living	Maple Grove		•				
2021-43	Northwood Community Church	Maple Grove	•	•		•		•
2021-44	Balsam II Apartments	Dayton	•	•				
2021-45	REO Plastics Phase 2 Addition	Medina	•	•				
2021-46	Len Busch Roses	Plymouth	•	•				
2021-47	CR10 Box Culvert Replacement	Corcoran	•	•	•	•	•	
2021-48	Bellwether - Newman West	Corcoran		•				
2021-49	Dayton Interchange Business Center	Dayton	•	•		•		•
2021-50	Evanswood	Maple Grove	•	•	•	•		•
2021-51	Fields of Nanterre Drainage Improvements	Plymouth		•		•		
2021-52	Norbella Senior Living of Rogers	Rogers	•	•		•		
2021-53	Towns at Fox Creek	Rogers	•	•				
2021-54	Stotts Family Farms Grassed Waterway	Corcoran		•				
2021-55	Morningside Estates 6th Addition	Champlin	•	•		•		

Project Number	Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-development)		Net Change			
	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)	Comments/notes
2021-31									Withdrawn
2021-32	17.5/7.0	54.3/37.3	150.3/112.9	-0.13	-23	-0.15			Regional pond reductions
2021-33	26.7/26.4	52.0/46.4	111.4/91.0	-1.5	-415	2.01		6.0	alt. credit
2021-34	41.9/32.8	83.9/71.6	182.9/149.1	-0.2	-308	9.21	25,795	36,416	
2021-35	5.2/2.8	8/7.2	13.9/13.2	N/A	N/A	N/A	N/A		incomplete
2021-36	10.2/4.4	29.4/12.6	48.1/29.3	-0.3	-553	8.2		28,428	
2021-37	27/25.1	52.2/46.9	110.2/86.8	-0.8	-234	10.97	29,994		Irrigation reuse
2021-38	104.3/53.4	191.0/88.6	376.0/164.6	-3.1	-7,568	N/A			Irrigation Reuse
2021-39	16.9/10.0	34.2/28.1	74.8/62.6	-2.47	-1,123	+16.9	N/A	54,236	
2021-40	4.6/3.4	7.7/5.7	14.6/10.7	-0.4	-86	N/A	87		Rule E only
2021-41	5.9/4.0	10.2/7.5	19.3/15.2	-0.75	-191	0.4	882		Abst. Alt credits
2021-42	0/0	0.2/0.1	11.5/11.1	0	-17	0	34,300	N/A	
2021-43	13.5/3.2	25.7/6.9	54.1/14.1	-2.2	-474	N/A		7,325	
2021-44									Rule E only
2021-45	13.7/13.4	25.1/24.5	49.0/46.5	-0.4	-561	N/A			
2021-46	20.5/16.6	33.6/31.0	62.0/30.1	-1.6	-294	-2.0	105,204		Irrigation
2021-47									Rule E only
2021-48	25.3/24.8	60.1/59.3	138.7/137.1/	0	0	0			Regional pond
2021-49									N/A
2021-50	174.7/112	344.4/118.1	726.7/264.3	-0.1	-3,510	102.2	188,571		
2021-51									Rule E and G only
2021-52	6.5/2.7	12.9/5.1	27.6/12.4	-0.1	-146	4.4	7754		
2021-53	11.5/12	23.5/21.6	45.7/41.1	-0.7	-710	17.8	29,708		
2021-54									N/A
2021-55	0/0.6	0.3/3	3.5/6.1	N/A	N/A	N/A	N/A		Uses Oaks at Bauer Stormwater systems

Three Rivers Park District Sampling Sites in Elm Creek

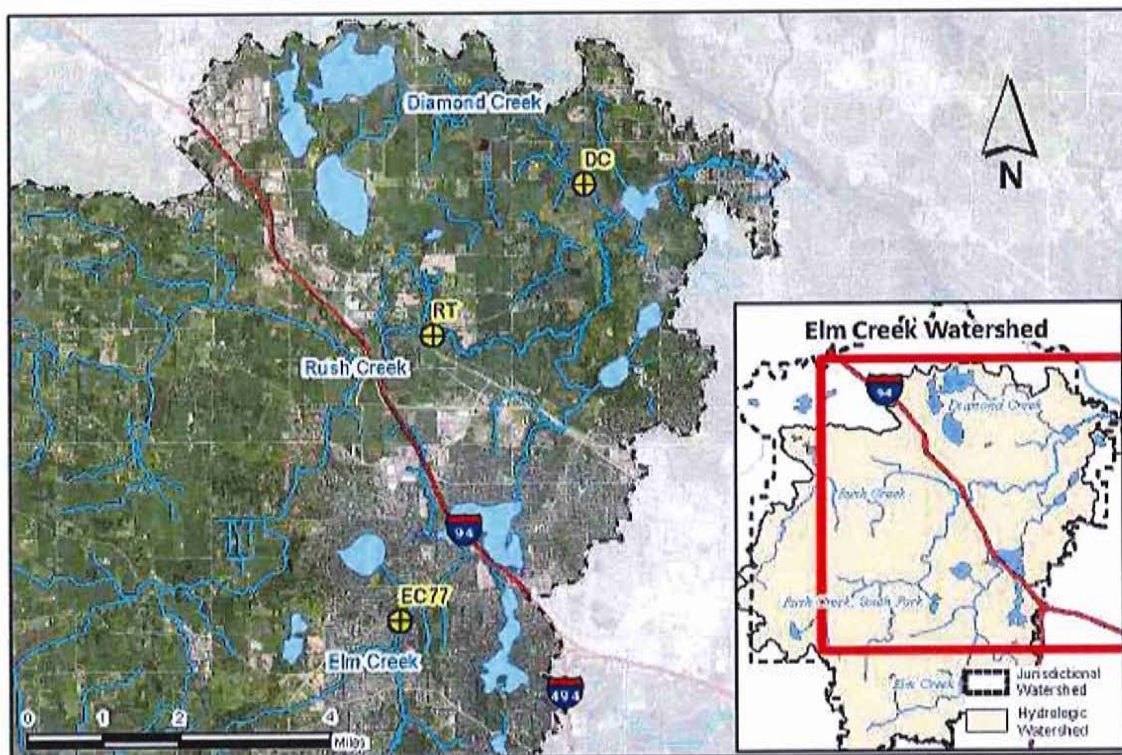


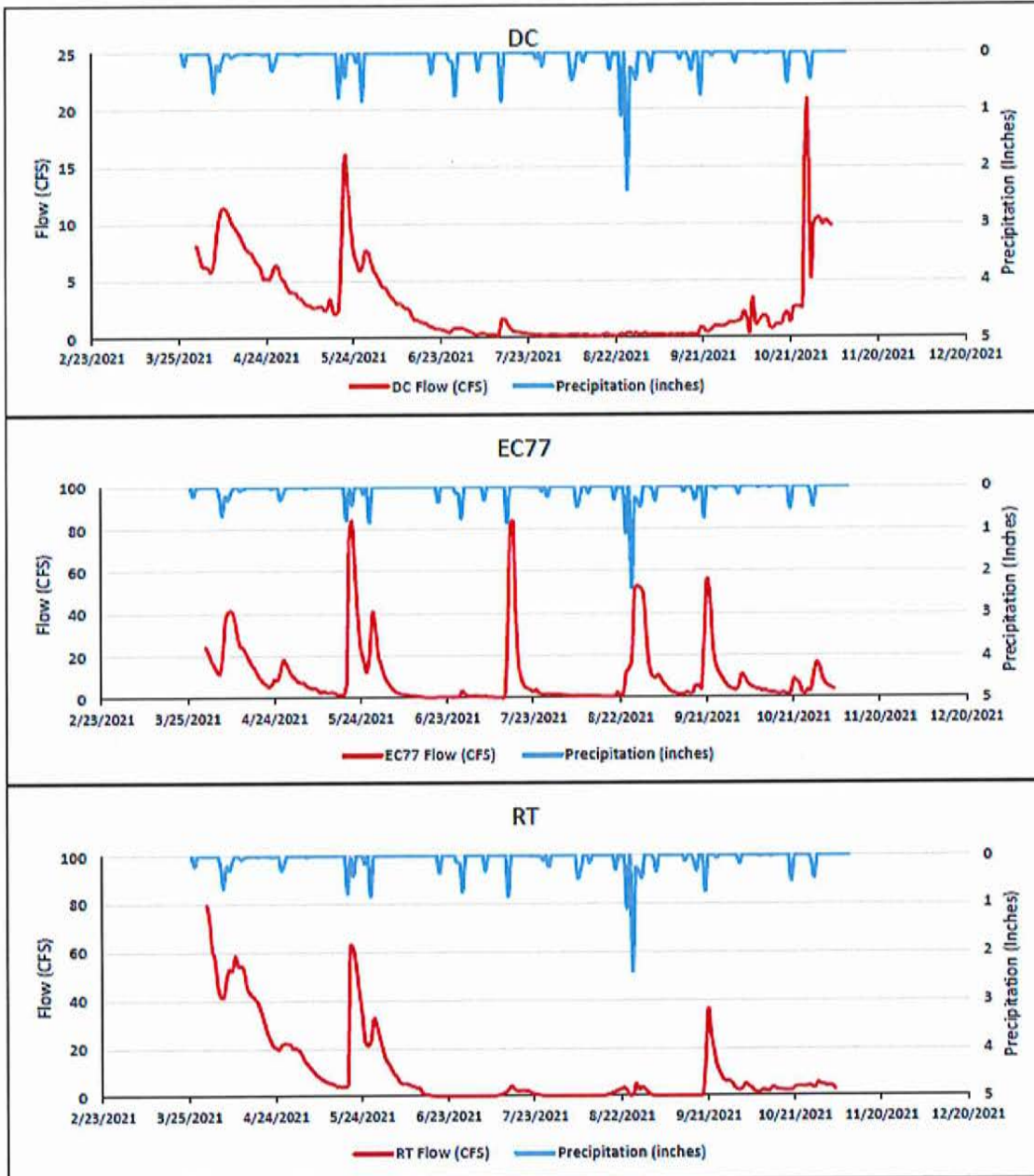


Elm Creek Stream Monitoring – 2021

Monitoring occurred from March 31, 2021, to November 4, 2021. During the monitoring period, there were 16.4 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 beaver influence all year
 - Average flow: 2.9 cfs
 - Minimum flow: 0.14 cfs
 - Maximum flow: 20.62 cfs
- RT – Rush Creek at Territorial Road
 - Average flow: 10.5 cfs
 - Minimum flow: 0 cfs
 - Maximum flow: 80 cfs
- EC77 – Elm Creek at Medicine Lake Regional Trail
 - Average flow: 10.2 cfs
 - Minimum flow: 0.2 cfs
 - Maximum flow: 84 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: 13 Samples collected; 1 from auto sampler
- EC77: 20 samples collected; 8 from auto sampler
 - An anomaly on 6/14 was confirmed with a field duplicate; another sample was taken 2 days later, and concentration was down to typical values
 - Cause of spike is unknown
- RT: 12 samples; 6 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	148 (64 - 321)	64 (36 - 104)	1.1 (0.3 - 2.1)	10.1 (2.0 - 44.8)
EC77	377 (75 - 2972)	109 (38 - 176)	1.7 (0.9 - 4.4)	57.1 (2.4 - 467.5)
RT	320 (73 - 608)	184 (45 - 398)	1.8 (1.0 - 3.3)	17.9 (2.0 - 88.0)

Flux results:

- Similar flows at RT and EC77, but loading is higher at EC77 for TP, TN and TSS

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	2021	743	289	6,042	40,542	151	59	1.23	8	2.24	23.43
EC77	2021	5,807	1,464	40,844	2,391,600	341	86	2.40	141	7.72	23.43
RT	2021	3,814	2,471	28,902	391,605	218	141	1.65	22	7.93	23.43

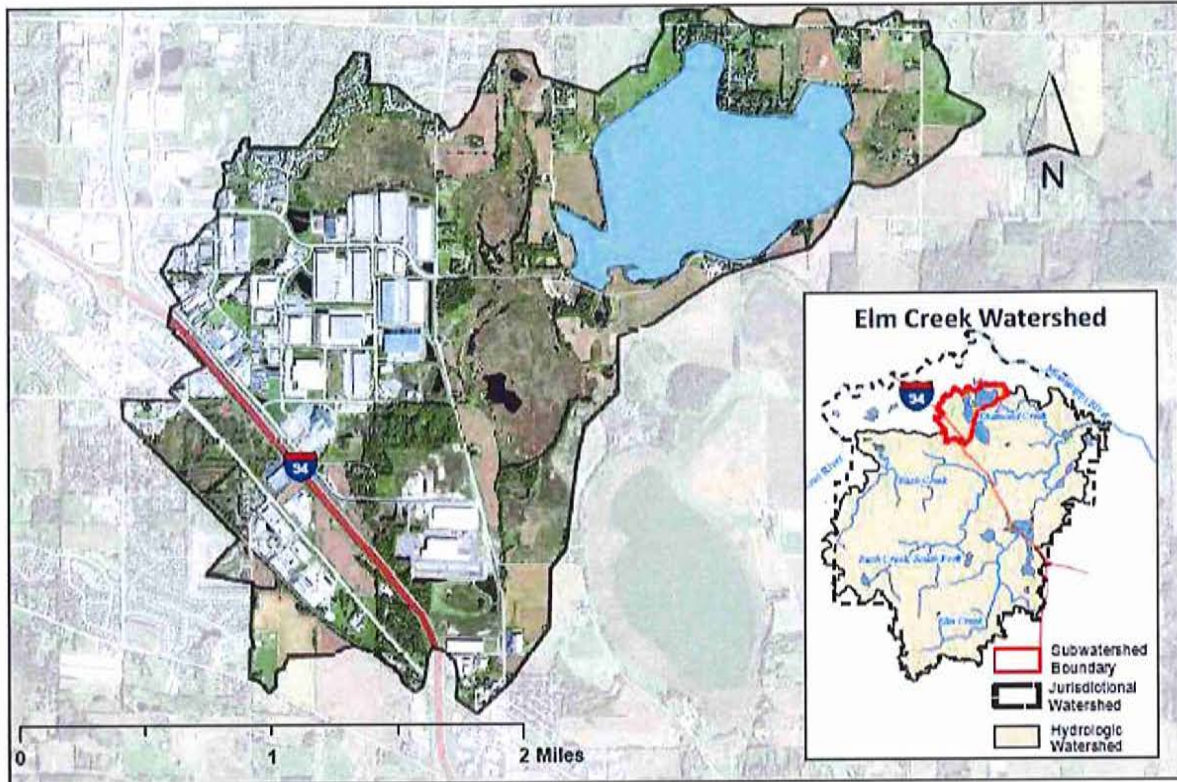
Lake Monitoring History

	Cook	Cowley	Diamond	Dubay	Fish	French	Goose	Henry	Jubert	Laura	Medina	Mill Pond	Mud	Rice	Sylvan	Teal	Weaver
2021			T		T		T					T	T	T			T
2020			T		T									T		C	T
2019			T		T									T			T
2018			T		T				C					T			T
2017			T		T				C					T			T
2016		C	T		T				C					T			T
2015			T		T				C	C				T			T
2014			T	C	T					C		T		T	C		T
2013			T	C		T				C		T		T	C		T
2012			T	C	T	T					C	T			C		T
2011			T	C	T	T		C				T		C			T
2010		C	T		T	T		C				T	T	C/T			T
2009		C	T		T	T		C				T		C			T
2008			T		T			C						C	C		T
2007		C	T		T			C						C			T
2006		C			T	T		C									T
2005					T	T		C									T
2004			T		T	T											T
2003																	
2002					T	C						T					T
2001	T				T	C											T
2000					T				C								T
1999					T							T					T
1998			T		T												T
1997					T										T		T
1996					T												T
1995					T			C									T
1994			C		T												T
1993					T												T
1992	T		T		T												T
1991					T				T			T					T
1990	T				T	T											T
1989			T	T	T				T								T
1988	T				T							T					T
1987					T				T								T
1986	T		T	T	T								T				T

T = monitored by Three Rivers Park District

C = monitored through CAMP program

Diamond Lake Watershed Map



Diamond Lake Bathymetry



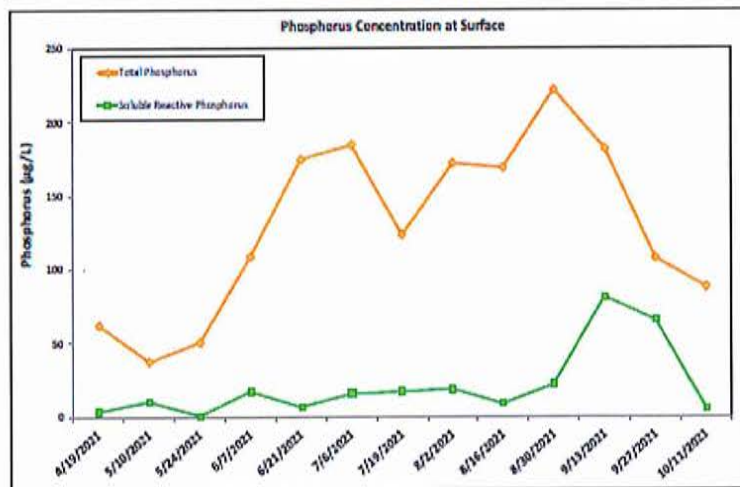
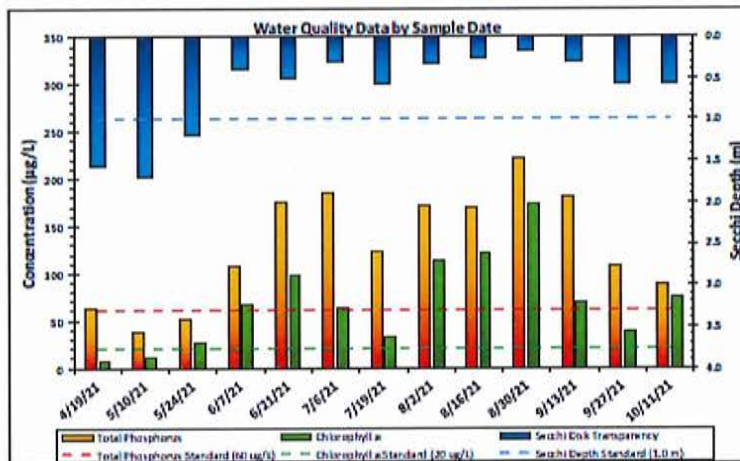
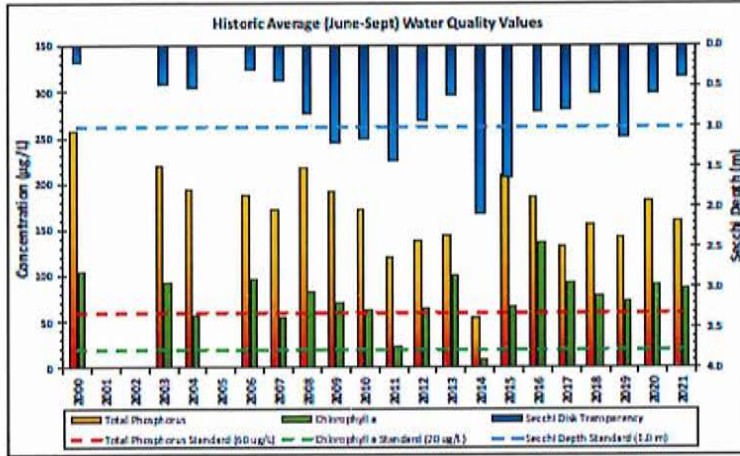
Lake and Watershed Characteristics

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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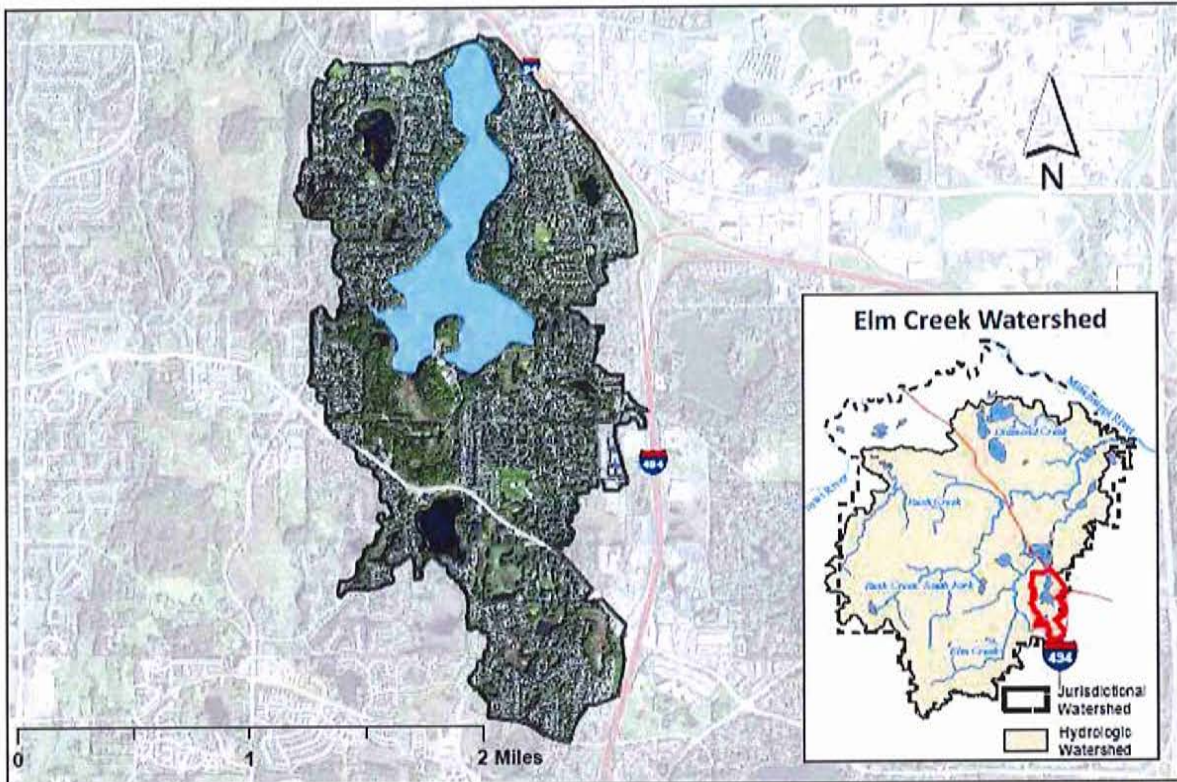


Year	TP	Chl-a	Secchi	Avg Grade
1998	D	D	F	D-
1999				
2000	F	F	F	F
2001				
2002				
2003	F	F	F	F
2004	F	D	F	F
2005				
2006	F	F	F	F
2007	F	D	F	F
2008	F	F	D	F
2009	F	D	C	D
2010	F	D	D	D-
2011	D	C	C	C-
2012	D	D	D	D
2013	D	F	F	F
2014	C	A	C	B-
2015	F	D	C	D
2016	F	F	D	F
2017	D	F	D	D-
2018	F	F	F	F
2019	D	D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

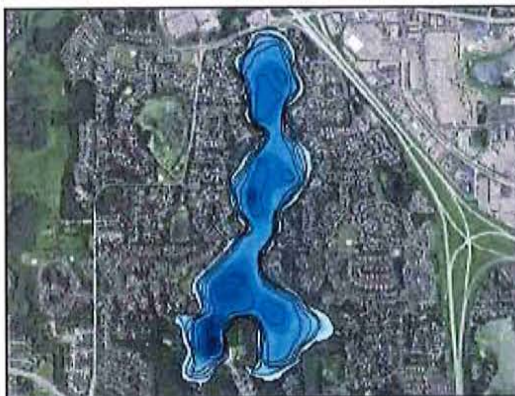
Met Council Grading System for Lake Water Quality



Fish Lake Watershed Map



Fish Lake Bathymetry

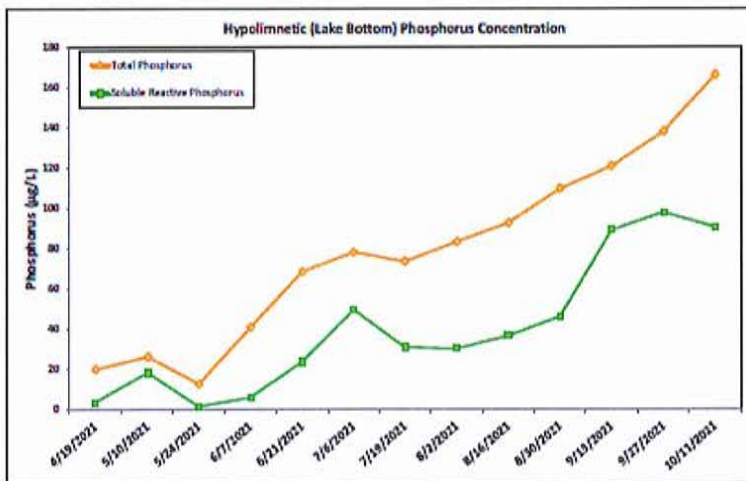
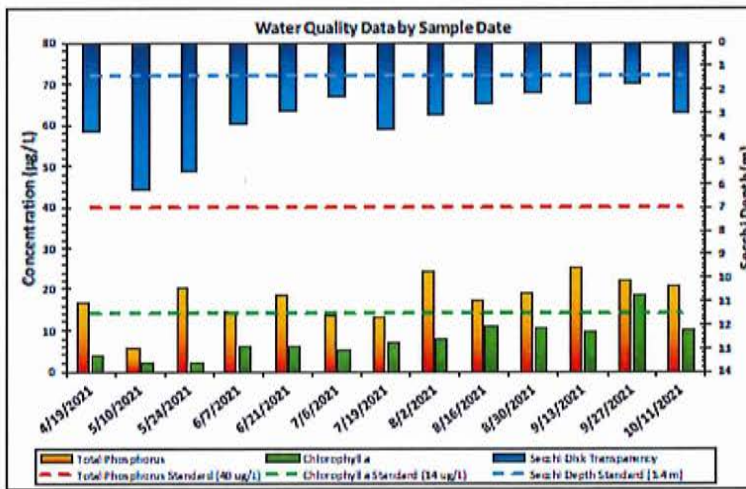
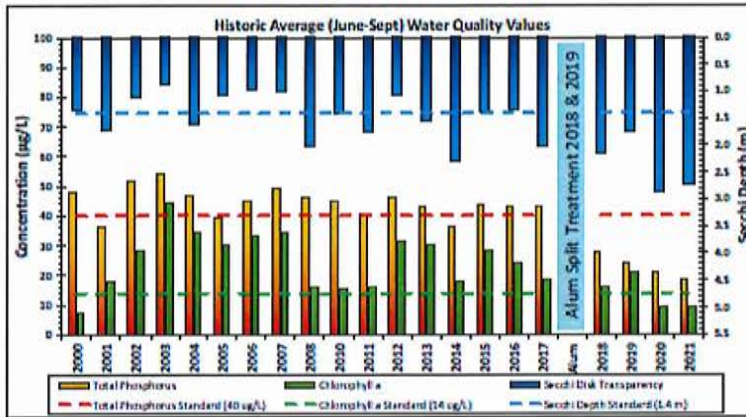


Lake and Watershed Characteristics	
DNR #	27011800
Watershed Area	1,611 Acres
Lake Area	232 Acres
Percent Littoral Area	32%
Average Depth	20.5 ft.
Maximum Depth	49 ft.
Watershed:Lake Ratio	6.9:1
Impairment	Excess Nutrients in 2008
Classification	Deep Lake

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

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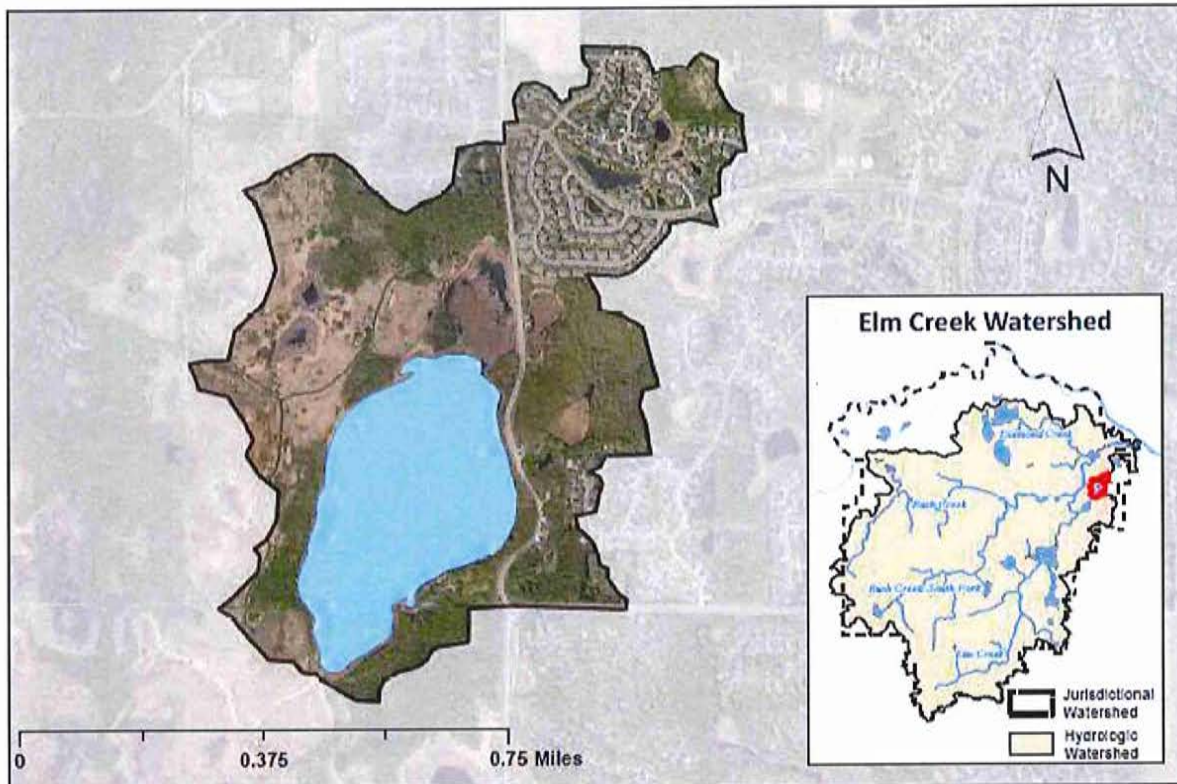


Fish Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1995			C	C
1996			B	B
1997	C	C	C	C
1998	C	B	C	C+
1999	C	B	C	C+
2000	C	A	C	B-
2001	C	B	C	C+
2002	C	C	D	C-
2003	C	C	D	C-
2004	C	C	C	C
2005	C	C	D	C-
2006	C	C	D	C-
2007	C	C	D	C-
2008	C	B	C	C+
2009	C	B	C	C+
2010	C	B	C	C+
2011	C	B	C	C+
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-
MPCA Standard	C	B	C	C+

Met Council Grading System for Lake Water Quality



Goose Lake Watershed Map



Goose Lake

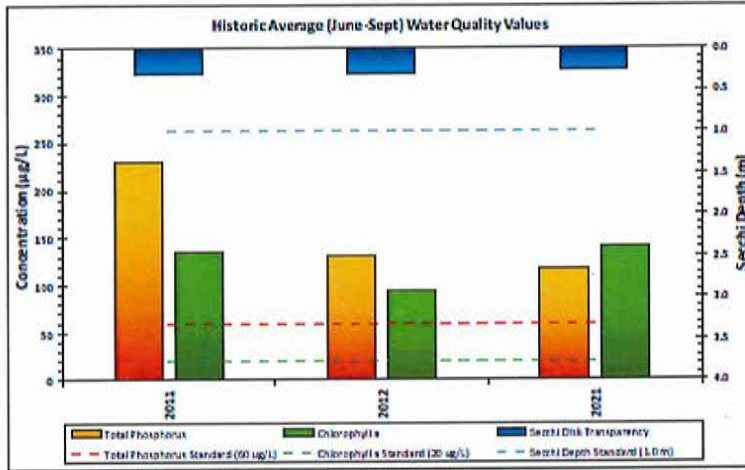


Lake and Watershed Characteristics	
DNR #	27012200
Watershed Area	305 Acres
Lake Area	59 Acres
Percent Littoral Area	100%
Average Depth	4.5 ft.
Maximum Depth	5.9 ft.
Watershed:Lake Area	19.4:1
Impairment	Excess Nutrients 2017
Classification	Shallow Lake

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

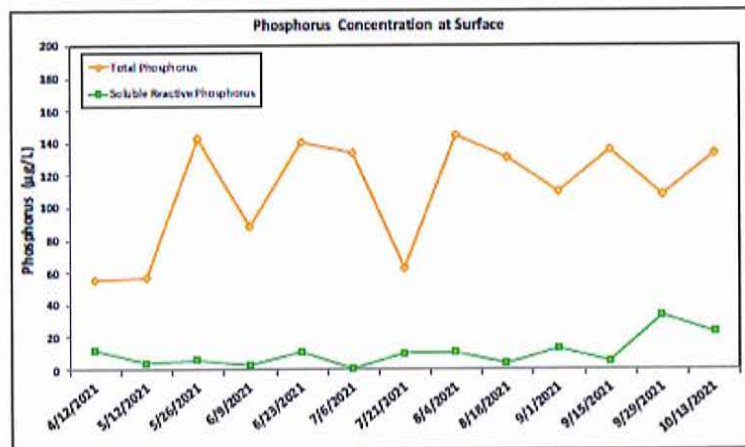
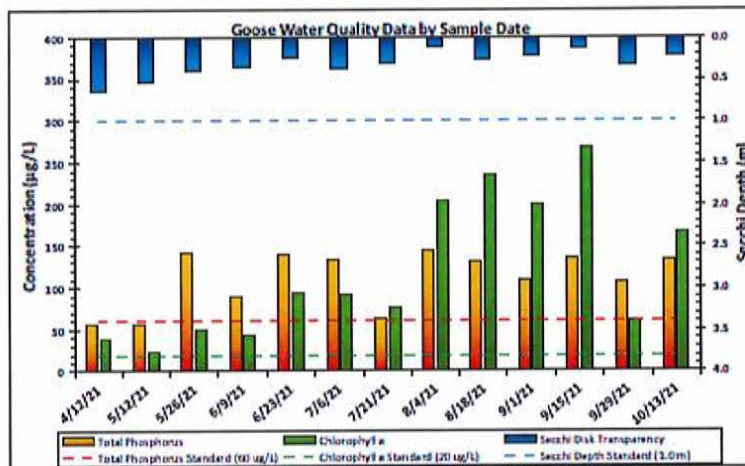
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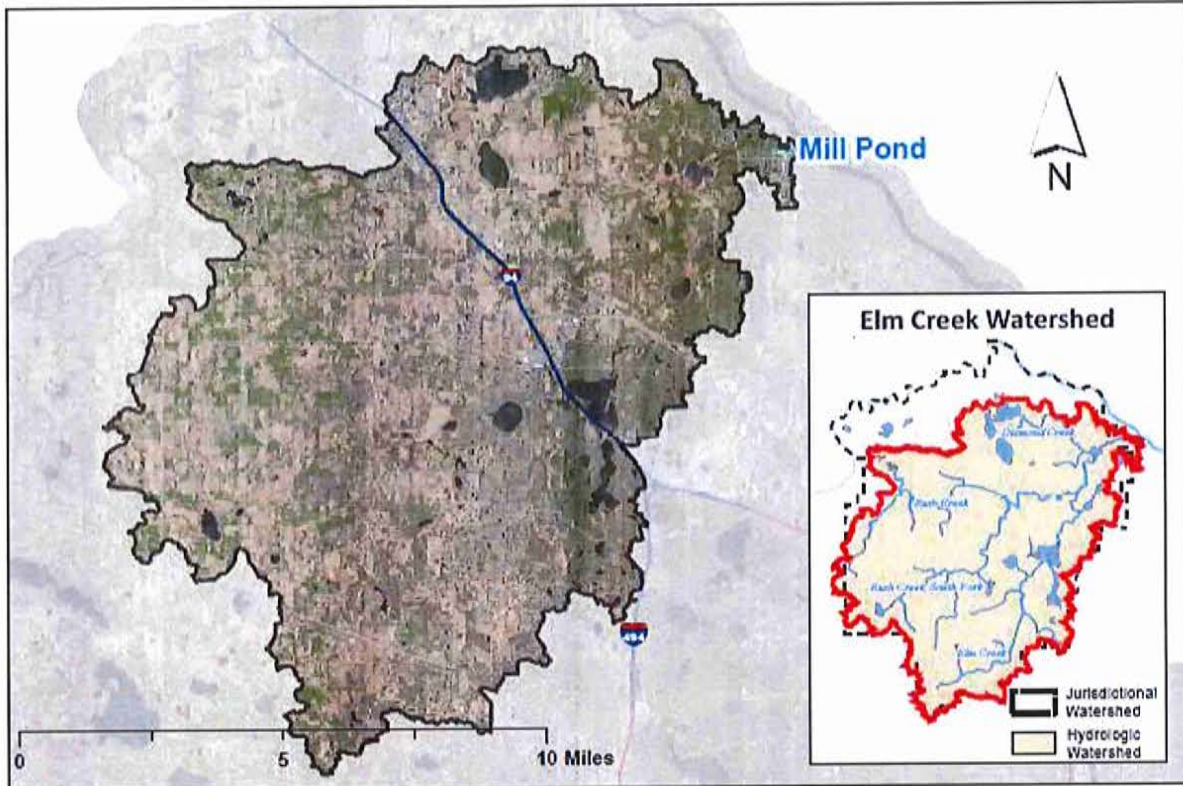


Goose Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
2011	F	F	F	F
2012	D	F	F	F
2021	D	F	F	F
MPCA Standard	C	C	D	C-

Met Council Grading System for Lake Water Quality



Mill Pond Watershed Map



Mill Pond

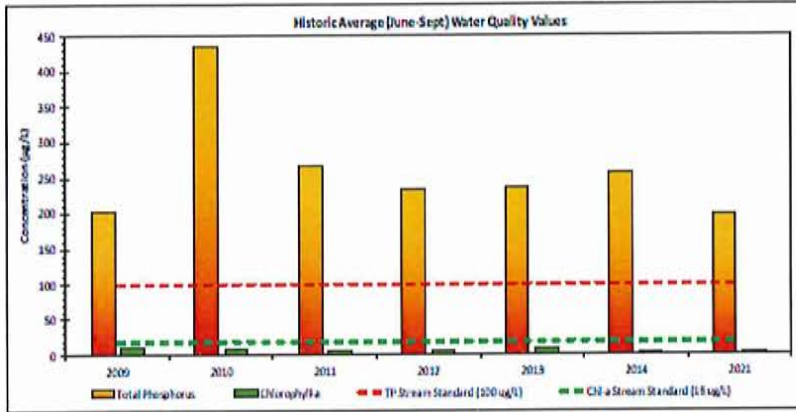


Lake and Watershed Characteristics	
DNR #	27006100
Watershed Area	66,382 Acres
Lake Area	37 Acres
Percent Littoral Area	98%
Average Depth	4 ft.
Maximum Depth	11 ft.
Watershed:Lake Area	1784:1
Impairment	None
Classification	Stream

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

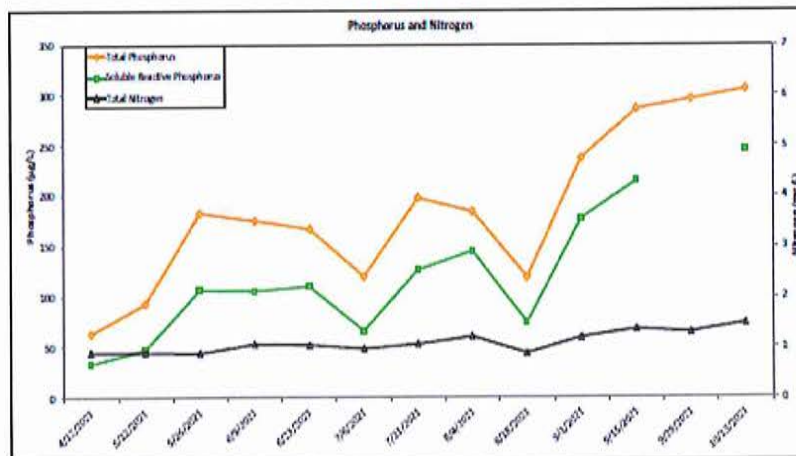
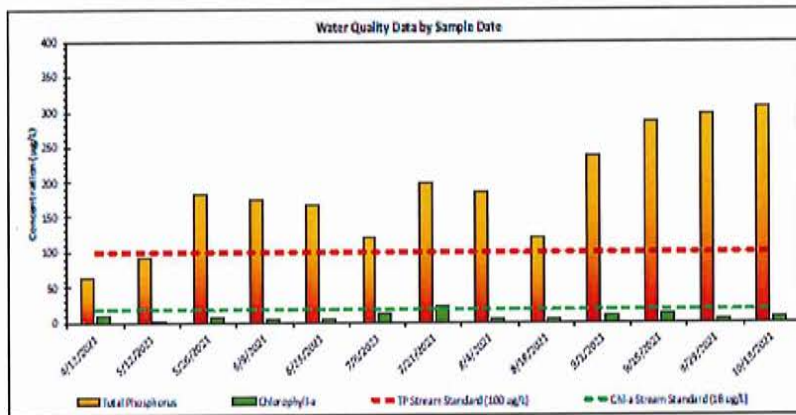
This map is a compilation of data from various sources and is provided "as is" without warranty of any representation of accuracy, timeliness, or completeness. The user acknowledges and accepts the limitations of the Data, including the fact that the Data is dynamic and in a constant state of maintenance, correction, and update.



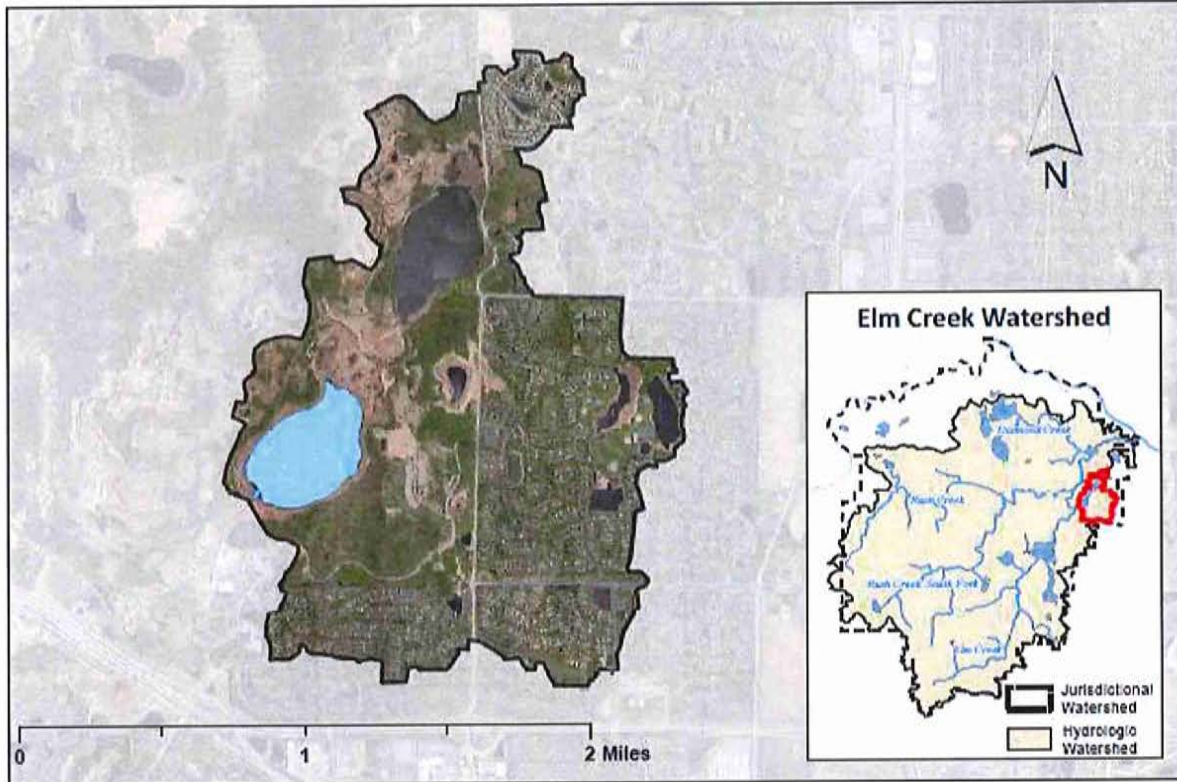


Mill Pond is classified as a stream due to residence time, therefore, there are different standards than on lakes.

The water has good clarity in this location and the low chlorophyll-a concentrations support that.



Mud Lake Watershed Map



Mud Lake

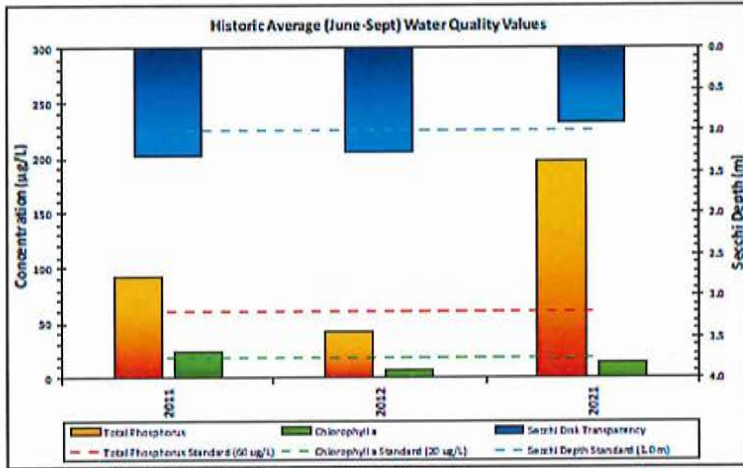


Lake and Watershed Characteristics	
DNR #	27011200
Watershed Area	1,396 Acres
Lake Area	72 Acres
Percent Littoral Area	100%
Average Depth	4.5 ft.
Maximum Depth	7 ft.
Watershed:Lake Area	5.2:1
Impairment	None
Classification	Shallow Lake

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

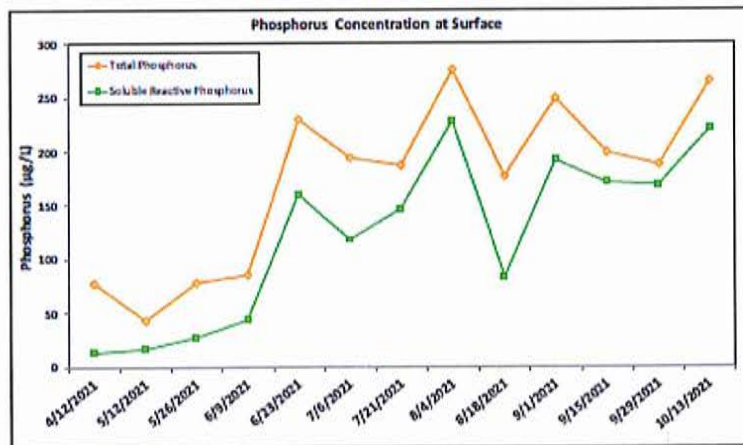
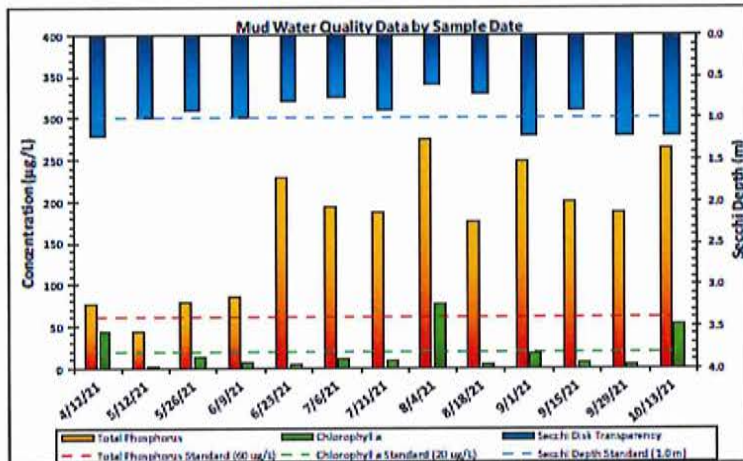
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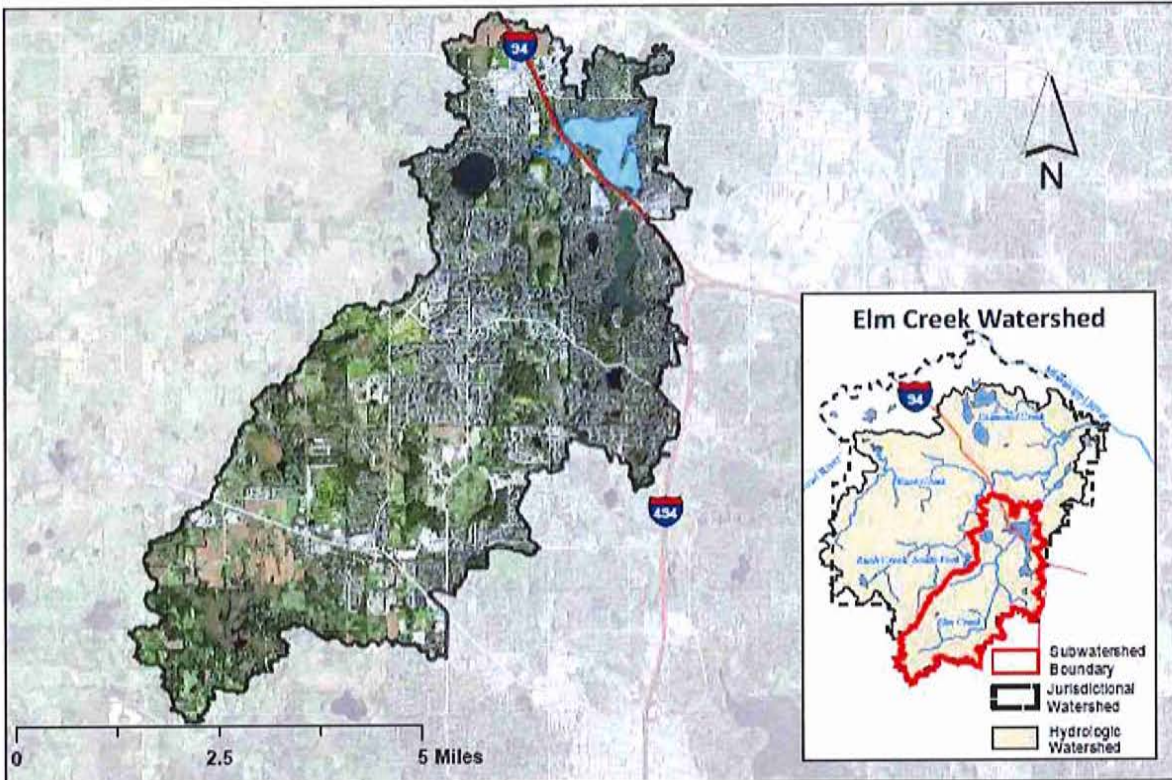


Mud Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
2011	D	C	C	C-
2012	C	A	C	B-
2021	F	B	D	D+
MPCA Standard	C	C	D	C-

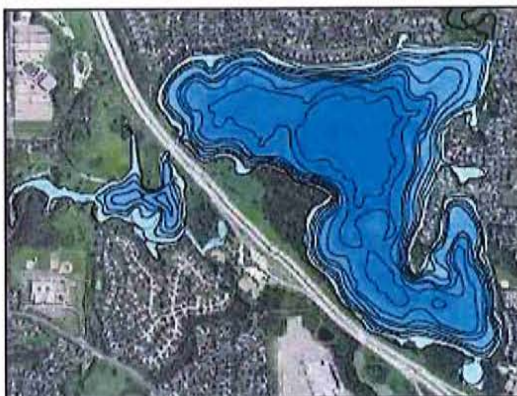
Met Council Grading System for Lake Water Quality



Rice Lake Watershed Map



Rice Lake Bathymetry



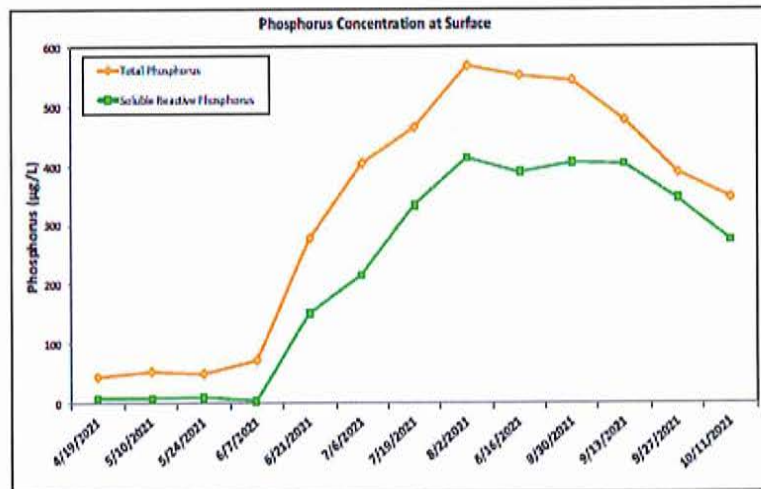
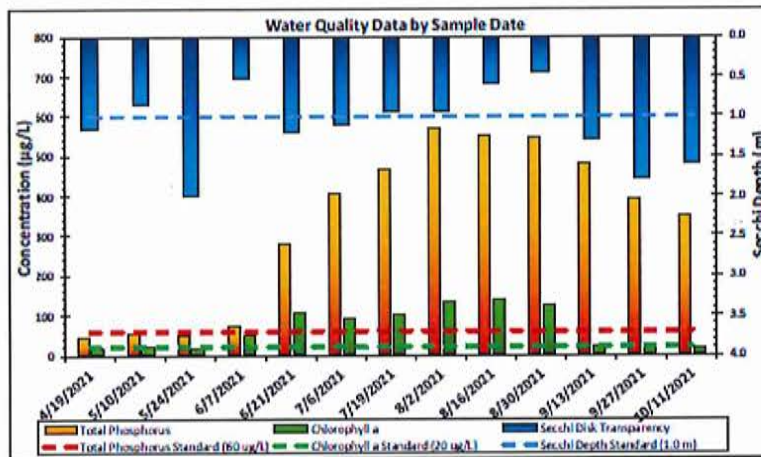
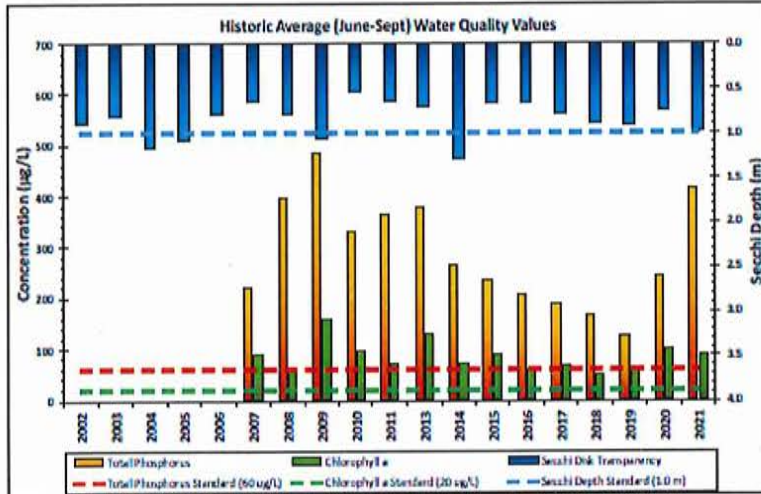
Lake and Watershed Characteristics

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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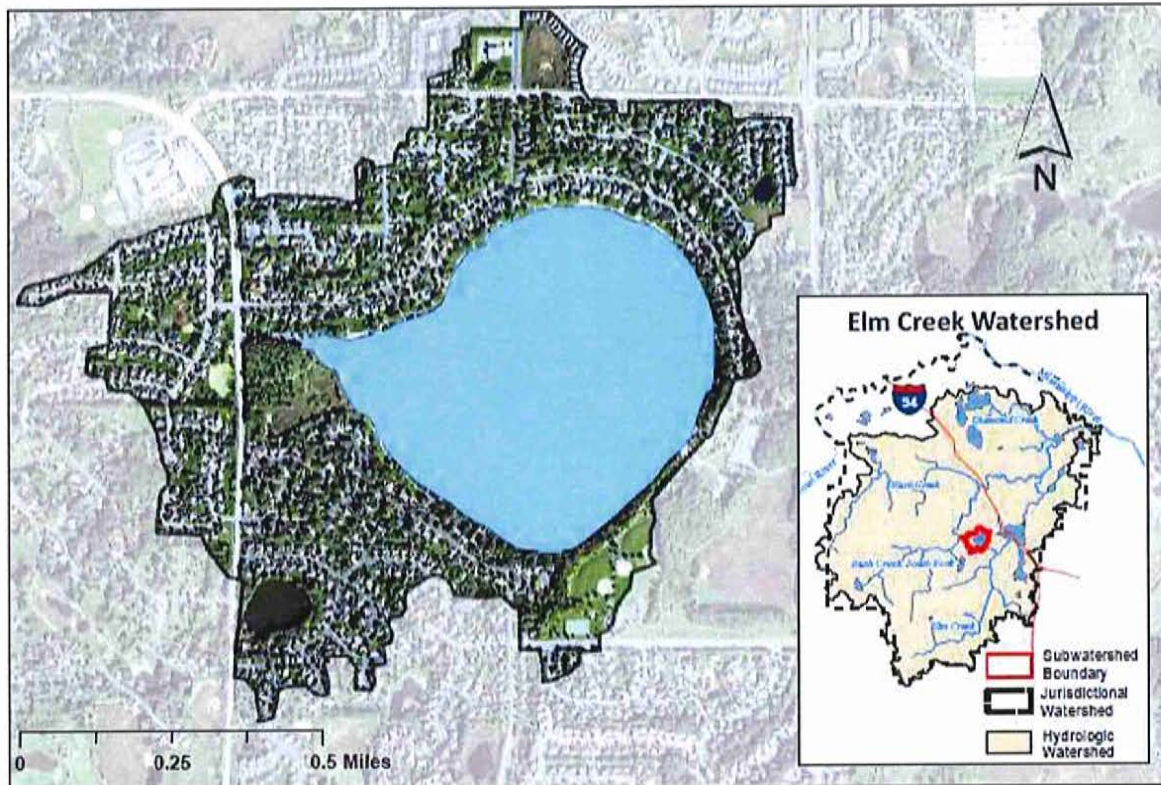
Rice Lake - Main Basin Water Quality Report Card

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
MPCA Standard	C	C	D	C-

Met Council Grading System for Lake Water Quality



Weaver Lake Watershed Map



Weaver Lake Bathymetry



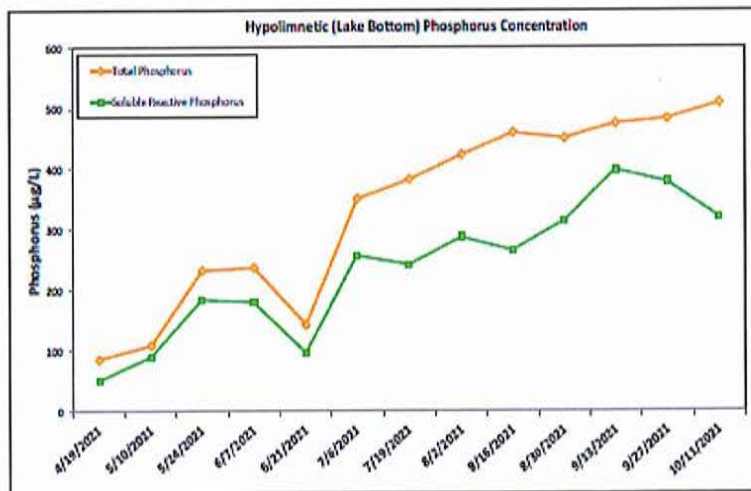
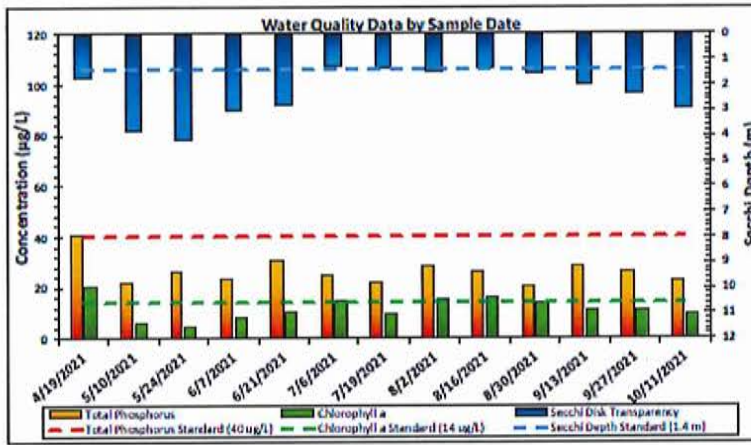
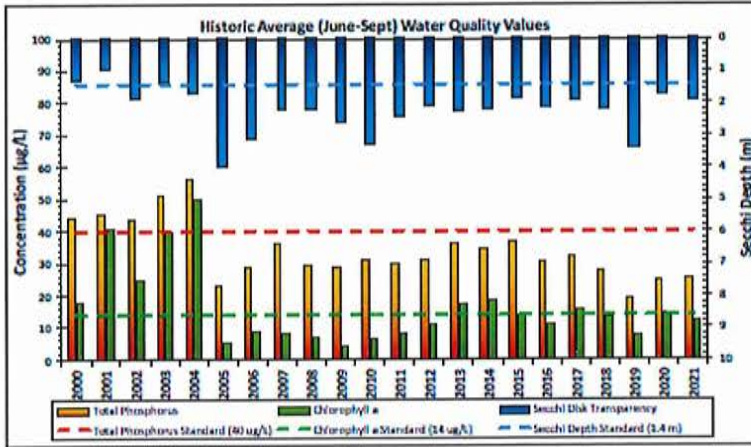
Lake and Watershed Characteristics

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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Weaver Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
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-
MPCA Standard	C	B	C	C+

Met Council Grading System for Lake Water Quality



2021 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 2021 WY (October 1, 2020 through September 30, 2021) was 23.75.

The average daily discharge for the 2020 water year (October 1, 2019, to September 30, 2020) was 57.7 cubic feet per second.

Final data shows an annual mean discharge of 57.7 cfs during the 2020 water year. The water year for 2020 (October 1, 2019, to September 30, 2020) was a more typical year for the Elm Creek Discharge as compared to the 2019 water year that that were higher and discharged more water downstream of the station than any time during the 40 years the station has been in place. During the 2020 water year the minimum and maximum observed average daily discharge values were 6.12 cfs on August 5, 2020 and 384 cfs on October 6, 2019. 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		
3/27/86	812*	4/5/98	306	3/17/10	369		
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.

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](#).

2021 Education and Public Outreach

Due to the pandemic, in 2021 the West Metro Water Alliance (WMWA), focused on the new requirements of the National Pollutant Discharge Elimination System (NPDES) permit program. Together, the members developed three flyers with educational content regarding pet waste, chlorides/salt, and illicit discharge. They appear on the following pages and can be downloaded from WMWA's website, <http://www.westmetrowateralliance.org/>.

WMWA is a consortium of four WMOs including the Elm Creek Watershed Management Commission and the Bassett Creek, Shingle Creek, and West Mississippi WMOs.

In 2021 the WMWA Work Plan was updated to reflect current practices. The updated Work Plan includes the following major revisions:

1. Added an equity statement affirming the group's commitment to environmental justice for all and outreach to historically underrepresented groups.
2. Revised the general educational goals for non-single family property owners and managers to focus solely on providing information and guidance on appropriate BMPs.
3. Removed educational goals for developers as cities were seen as being the most appropriate points of contact with these stakeholders.
4. Removed educational goals for training city staff, as those are the responsibility of the cities.
5. Removed educational goals for agricultural property owners and operators as Hennepin County staff have taken on that role acting as the county Soil and Water Conservation District.
6. Added a key educational goal for all the stakeholders to "understand the relationship between climate and water quality and water quantity."
7. Revised the plan to replace references to the Hennepin County website with the WMWA website.
8. Eliminated Measuring and Monitoring Public Awareness as a major task. One of WMWA's first activities was sponsoring a professional opinion poll in the four watersheds regarding knowledge and behaviors. WMWA does not expect to repeat that poll due to cost but will build measuring and evaluating into individual activities.
9. Strengthened the Communication and Information Sharing activity to incorporate the website and social media.
10. Eliminated the Develop and Coordinate Regional or Countywide Activities task. Early on, WMWA had sponsored a series of workshops for broader participation but found it to be an inefficient use of time and resources. The group will focus on spreading information about existing activities sponsored by other groups.



WATER SOFTENERS & THE ENVIRONMENT

FOR MORE INFORMATION
 West Metro Water Alliance
westmetrowateralliance.org/water-softeners
 Minnesota Department of Health
healthstate.mn.us
 Minnesota Pollution Control Agency
pca.state.mn.us/water/chloride-salts

Water softeners add salt to the water. All the salt we use goes into our lakes and streams. It takes only one teaspoon of salt to permanently pollute five gallons of water, making it too salty for many freshwater organisms.

Do I Really Need a Water Softener?

It depends!

Most of the groundwater in the Twin Cities is hard, meaning it has a high mineral content. Some cities pre-soften drinking water, while other cities leave water softening up to individual property owners.

If you live in a community that softens the drinking water, the water is already optimally softened so you do not need a water softener.

Cities in Hennepin County that soften drinking water:

- Minneapolis
- Golden Valley
- Bloomington
- New Hope
- Crystal
- Robbinsdale*
- Eden Prairie
- Tonka Bay
- Richfield
- Excelsior
- Saint Paul**

*Starting fall 2022
 **Not in Hennepin County

If you live in Hennepin County and don't see your city on the list, chances are your water is not pre-softened. There is no requirement to soften your water, but you may wish to use a water softener to reduce your water's hardness. Contact your city to get information about the specific hardness of your water.

Have a private well? Use a test kit to test your water's hardness.

FACTS ABOUT WATER SOFTENERS

- ▶ Water softeners are used to reduce the hardness of water. This helps prevent mineral deposits on pipes, appliances, and glassware.
- ▶ Most softeners are ion-exchange systems. Hardness ions (calcium and magnesium) are exchanged for salt (sodium or potassium chlorides).

What Can I Do?

Determine if you really need one. If your water's hardness is less than **7 grains per gallon** (120 mg/L), you probably don't need a water softener. Contact your city for hardness information or use a test kit.

Reduce the salt. Only soften water that needs it. Don't soften water to outside spigots or cold water taps. Only soften to 5 grains per gallon — over-softening wastes salt and can corrode pipes. Check your unit's settings and adjust if they're too high.

Adjust the timer. If you have a timer-based softener, hire a professional to have it optimized or consider upgrading to a more efficient system.

Upgrade to a high-efficiency softener. If you're buying or upgrading a softener, look for one that has high salt-efficiency and is demand-initiated. You may pay a little more upfront, but you'll save on salt.

Filter out the iron. If you have a problem with iron, consider using an iron filter.

Conserve water. Reducing your overall water use has environmental and economic benefits.



WEST METRO WATER ALLIANCE

SNOW AND ICE CARE

Help Keep Our Water Clean!

Salt use has been on the rise since the 1950s, leading to waters becoming increasingly salty. Chloride levels have become so high, many creeks and lakes are now considered unhealthly.

Chlorides harm plants and animals, contaminate drinking water, damage buildings, corrode vehicles, roads and bridges. Too much salt can lead to costly damages and environmental consequences!



Help keep our waters clean with these simple steps:

1. Clear walkways of snow to minimize ice build-up.
2. Temperature matters. If the temperature is below 15 degrees, salt doesn't work effectively. Consider using sand for traction.
3. Scatter salt where it's critical. Leave about 3 inches between grains of salt. A 12-ounce coffee cup of salt is enough to cover 10 sidewalk squares or a 20-foot driveway.
4. Sweep up leftover salt, sand and deicer to reuse as needed

Created in collaboration with MN Water Let's Keep it Clean, the West Metro Water Alliance and the Nine Mile Creek Watershed District.



PET WASTE & WATER POLLUTION



Dog waste left on the ground washes into storm drains, lakes and streams, exposing people, pets and wildlife to harmful bacteria.

Good Neighbors Care About Clean Water

There are an estimated **310,000 dogs** in Hennepin County, and they create over **40,000 tons of waste** per year — that's a lot of poop!

This poop causes bacteria, excessive algae growth, and other water quality issues in our communities, so city ordinances require owners to clean up dog waste. This is also the neighborly thing to do to make sure we can all enjoy our local wetlands, lakes, and streams.

How does pet waste in my yard pollute water?

Dog waste contains harmful bacteria and parasites. When waste is left on lawns or not picked up, it is washed by the next rainstorm into the nearest lake or stream. Wading, swimming, or playing in bacteria-laden waters can be harmful to humans and pets alike. Pet waste also contains nutrients that promote weed and algae growth in lakes and rivers. Picking up pet waste keeps recreation areas clean, safe, and enjoyable.



What about all the other animals?

It is true that squirrels, birds and other wildlife can also contribute to water pollution. However, these animals tend to spread out waste across the landscape, whereas dog waste is concentrated in yards and along sidewalks or paths.

How can I be a good neighbor?

Pick up dog waste from your yard and throw it in the garbage — it is not a fertilizer. Carry disposable bags while walking your dog. Do the same at the dog park — don't make it somebody else's problem.

NEED MORE INFORMATION?

For more information regarding the information in this flier, visit: westmetrowateralliance.org/pet-waste

WMWA
WEST METRO WATER ALLIANCE

Elm Creek Watershed Management Commission 2022 Operating Budget

		2021 Budget	2022 Budget
EXPENSES			
GENERAL OPERATING EXPENSES			
Administrative		95,000	95,000
Watershed-wide TMDL Admin		0	
Grant Writing		650	500
Website		2,000	3,000
Legal Services		2,000	2,000
Audit		5,000	6,000
Insurance		3,800	3,800
Tech support - HCEE - conservation promo, landowner outreach, project implementation. Fish Lake SWA in 2020		12,000	12,000
Contingency		1,000	1,000
Subtotal General Operating Expenses		121,450	123,300
EDUCATION			
Education			
Education - City/Citizen Programs		2,500	2,500
West Metro Water Alliance			
WMWA General Admin		5,000	5,000
WMWA Implementation Activities incl Watershed PREP		6,500	4,500
RG Workshop/Intensive BMPs/Special Projects		3,000	2,000
Education Grants		1,000	0
Macroinvertebrate Monitoring-River Watch		3,000	3,000
Ag Specialist		0	0
Subtotal Education		21,000	17,000
WATERSHED MANAGEMENT PLAN			
Plan Amendments		2,000	2,000
Local Plan Review			
Contribution to 4th Generation Plan		10,000	12,500
Subtotal Watershed Management Plan		12,000	14,500
WATER MONITORING PROGRAMS			
Expenses			
Stream Monitoring			
Stream Monitoring - USGS		24,000	24,000
Stream Monitoring - TRPD		7,200	9,345
Extensive Stream Monitoring			
DO Longitudinal Survey		1,000	1,200
Gauging Station - Elec Bill		400	420
Subtotal Stream Monitoring		32,600	34,965

Elm Creek Watershed Management Commission 2022 Operating Budget

				2021 Budget	2022 Budget
EXPENSES					
			Lake Monitoring		
			Lake Monitoring - CAMP	760	840
			Lake Monitoring - TRPD		
			Sentinel Lakes	8,100	8,460
			Additional lake	2,500	1,352
			Aquatic Vegetation Surveys	1,100	1,300
			<i>Subtotal Lake Monitoring</i>	12,460	11,952
			Other Water Monitoring		
			Rain Gauge Network	0	0
			Source Assessment		
			Watershed-wide TMDL-Followup-TRPD		0
			Wetland Monitoring - WHEP	4,000	4,000
			<i>Subtotal Other Monitoring</i>	4,000	4,000
			<i>Subtotal Monitoring Expense</i>	49,060	50,917
PROJECT REVIEWS and WETLAND CONSERVATION ACT (WCA)					
			Technical - Barr Engineering/SWS - project reviews	185,000	107,500
			Technical Support - Other		77,500
			Administrative Support	12,000	15,000
			WCA Expense /Surety	0	0
			WCA Expense - Legal	0	0
			WCA Expense - Admin	0	0
			<i>Subtotal Project Review / WCA Expenses</i>	197,000	200,000
SPECIAL PROJECTS, STUDIES, SWAs					
			Special Projects, Studies, SWAs -		0
			TOTAL GEN OPERATING EXP	400,510	405,717
CIPS, GRANTS					
			CIPs	175,000	291,638
			CIPs - General		3,000
			Grants	125,000	125,000
			Barr - Floodplain modeling	0	0
			Rush Creek SWA Implementation	0	106,050
			<i>Subtotal CIPs, Grants, Special Projects</i>	300,000	525,688
			TOTAL EXPENSES	700,510	931,405

**Elm Creek Watershed Management Commission
2022 Operating Budget**

REVENUE				
GENERAL OPERATING REVENUE				
	Membership Dues		237,300	237,300
	Interest Income		15,000	5,000
	Dividend Income		250	250
	TRPD Cooperative Agreement		5,500	6,000
	Miscellaneous Income			
	Subtotal General Operating Revenue		258,050	248,550
PROJECT REVIEW and WCA REVENUE				
	Project Review Fees		100,000	107,500
	Contingency			10,750
	Nonrefundable Admin			15,000
	Nonrefundable Tech			16,125
	WCA Fees and Escrows Earned		0	
	Forfeited/Reimbursed Sureties			
	Subtotal Project Review / WCA Revenue		100,000	149,375
SPECIAL PROJECTS, STUDIES, SWAs REVENUE				
	Special Projects, Studies, SWAs			0
TOTAL GEN OPERATING REVENUE			358,050	397,925
OPERATING SURPLUS OR DEFICIT			42,460	7,792
CIPS, GRANTS REVENUE				
	CIPs		185,588	291,638
	Grants		100,000	125,000
	TRPD Fish Lake Alum Cooperative Agmt			
	Rush Creek SWA Implementation			79,537
	from Assigned Fund Balance			26,513
	Subtotal CIPs, Grants		285,588	522,688
PROJECT SURPLUS OR DEFICIT			14,412	3,000
TOTAL REVENUES			643,638	920,613
	(To) From Unrestricted Cash Reserves		56,872	10,792
TOTAL SURPLUS OR DEFICIT			0	0

**Elm Creek Watershed Management Commission
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	0.33%	33
Corcoran	945,017,350	6.66%	15,803.61	1.09%	171
Dayton	859,590,989	6.06%	14,375.02	6.14%	832
Maple Grove	7,002,119,108	49.35%	117,097.09	-2.03%	-2,432
Medina	1,117,455,738	7.87%	18,687.32	-1.57%	-298
Plymouth	1,634,614,359	11.52%	27,335.81	6.66%	1,706
Rogers	2,045,081,387	14.41%	34,200.09	-0.04%	-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

