



Elm Creek
Watershed Management Commission

2017 Annual Activity Report

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This report was prepared
for the Elm Creek Watershed Management Commission
by JASS, Inc.

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Cover photograph:
Plymouth Elm Creek Restoration Project
Ben Scharenbroich, City of Plymouth

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 2017.

THE COMMISSION

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

MEETINGS The Commission meets monthly on the second Wednesday at 11:30 a.m. 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.

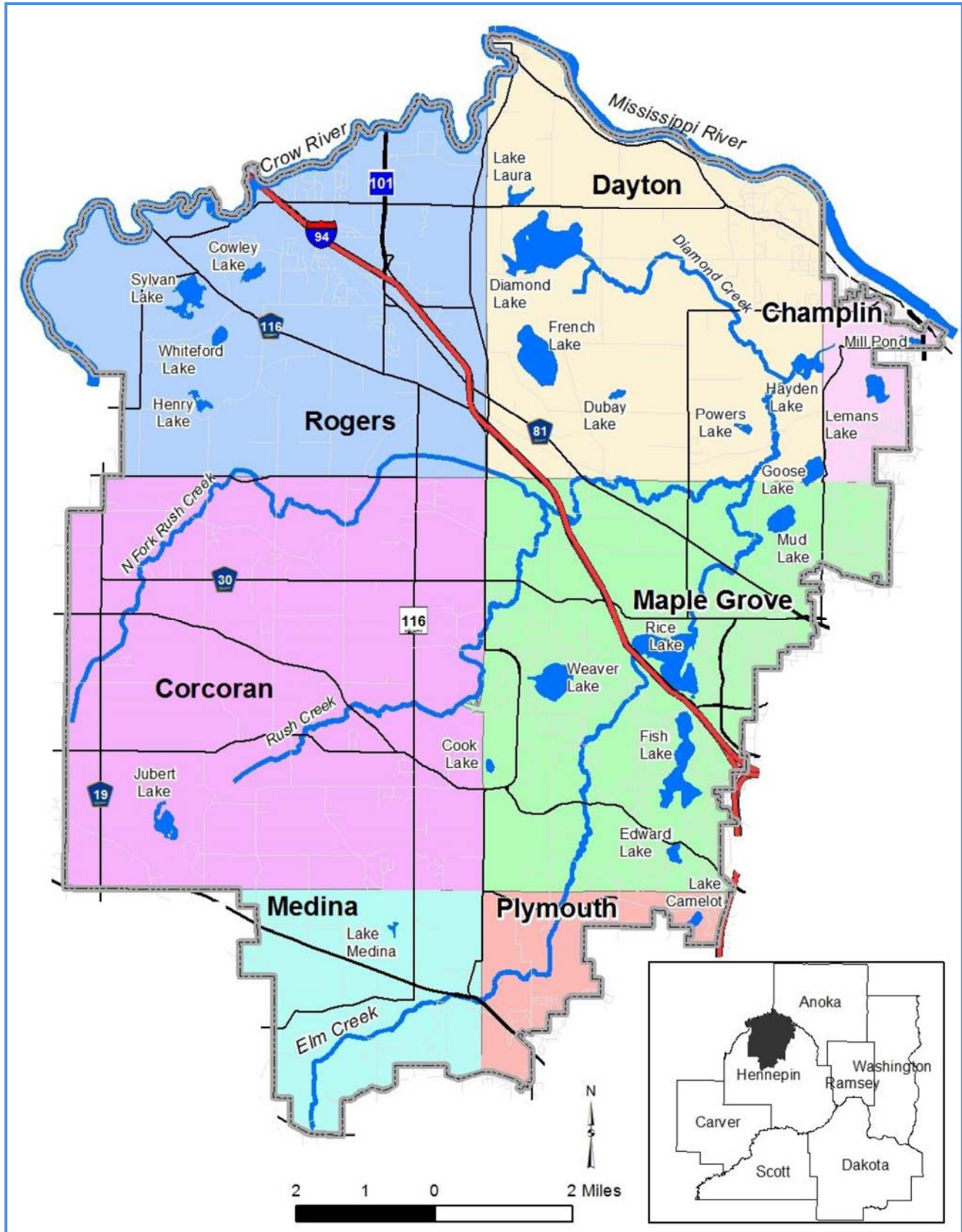
COMMISSIONERS | TECHNICAL ADVISORY COMMITTEE | STAFF *Appendix 1* includes the names of the Commissioners and their Alternates appointed to serve in 2017. Also listed there are the members of the Commission's Technical Advisory Committee (TAC) along with the individuals/firms serving as the Commission's administrative, legal and technical support staff. The Commission has no employees.

THE WATERSHED

The Elm Creek watershed covers approximately 130.61 square miles and lies wholly within the north central part of Hennepin County, Minnesota. The Crow and Mississippi Rivers demarcate the northern boundary. Although some areas in the north drain to the Crow and Mississippi Rivers, they are within the legal boundaries of the Elm Creek watershed. Table 1 shows the area share of the member communities in the watershed. A map of the watershed may be viewed on the previous page.

Table 1 - Area of Members within the Elm Creek Watershed

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



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 Total Maximum Daily Load study (TMDL) and Watershed Restoration and Protection Strategy study (WRAPS), completed between 2009 and 2016.

A summary of the Plan's issues, priorities, goals, implementation strategies, and Rules and Standards are outlined in *Appendix 2*.

LOCAL PLANS Local water management plans adopted by member cities pursuant to Minnesota Statutes, Section 103B.235 shall be consistent with the Commission's Third Generation Watershed Management Plan. Local plans must comply with MN Statutes, Section 103B.235 and MN Rules 8410 regarding local plan content. At a minimum, local water management plans are required to do the following:

- Update the existing and proposed physical environment and land use. Information from previous plans that has not changed may be referenced and summarized but does not have to be repeated. Local plans may adopt sections of the Commission's Plan's Inventory and Condition Assessment by reference unless the city has more recent information, such as revised figures and data.
- Explain how the goals and policies, and rules and standards in the Commission's Plan will be implemented at the local level, including any necessary modifications of local ordinances, policies, and practices and specifically addressing adoption and enforcement of a manure management ordinance.
- Show how the member city will take action to achieve the load reductions and other actions identified in and agreed to in TMDL Implementation Plans and the WRAPS study, including identifying known upcoming projects including street or highway reconstruction projects that will provide opportunities to include load and volume reduction BMPs.
- Show how the member city will, through an executed and recorded maintenance and inspection agreement, inspect or cause to be inspected and documented at least every five years privately owned permanent BMPs installed to meet the goals and policies and rules and standards of the Commission's Plan, and the actions the member city will take to assure that the BMPs are maintained and operated as designed.
- Update existing or potential water resource related problems and identify nonstructural, programmatic, and structural solutions, including those program elements detailed in MN Rules 8410.0100, Subp. 1-6.
- Summarize the estimated cost of implementation and analyze the member city's ability to finance the recommended actions.

- Set forth an implementation program including a description of adoption or amendment of official controls and local policies necessary to implement the Rules and Standards; programs; policies; and a capital improvement plan.

Appendix 2 also details revisions to MN Rules 8410 adopted in 2015 which include significant changes in the timing of local water plan revisions.

2017 WORK PLAN IN REVIEW

The Elm Creek Commission identified the following activities to be undertaken in 2017. Progress toward completing those activities is *italicized*.

TECHNICAL

- Continued to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Management Plan. Review the current project review fee schedule for fiscal conformity. *Fifty-three projects were reviewed by the Commission in 2017. A list of the projects, the criteria for which they were reviewed, and comparisons of the pre- and post-conditions relating to rate control and volume loads can be found in Appendix 3, along with a map showing the location of the projects. The fee schedule was not revised in 2017. The Commission does not have a permit program.*
- The Commission continued to serve as the LGU for the Minnesota Wetland Conservation Act (WCA) for the cities of Champlin and Corcoran. *In 2017 Technical staff assisted approximately 50 landowners/agency/developer contacts with wetland-related questions. On behalf of the Commission they reviewed the following types of wetland applications: 25 wetland boundary/type, eight no-loss, two exemptions, three sequencing, and two wetland replacement plans. Wetland impacts totaled 14,765 SF; wetland replacement totaled 28,775 SF. Five WCA violations were investigated and resolved. Two others were determined to not be WCA/Commission violations. The Commission was involved in 12 Technical Evaluation Panels (TEPs) throughout the watershed. The Elm Creek Commission does not have a wetland banking program.*

At year-end, the City of Champlin agreed to take over full LGU responsibility for WCA in its jurisdiction on January 1, 2018. Further, the Commission voted to invoice back to the affected city(ies) all costs related to its role as the LGU for WCA, effective January 1, 2019.

- Assisted member communities in preparing and adopting their local water management plans. *The City of Medina submitted, and the Commission approved, Chapter 11 of its 2040 Comprehensive Plan. Medina's Surface Water Management Plan was revised, updated and included in their Comprehensive Plan as Chapter 11. It is anticipated the remaining communities will submit their local plans for approval by the statutory deadline of December 31, 2018.*
- Completed informal and formal reviews of the Elm Creek TMDL and WRAPS reports. Obtain US EPA approval of the TMDL document and MPCA approval of the WRAPS report. *The WRAPS report was approved by the Minnesota Pollution Control Agency on December 16, 2016, and the TMDL was approved by the US Environmental Protection Agency on June 26, 2017. Both documents have been uploaded to the MPCA and Commission websites. <https://www.pca.state.mn.us/water/tmdl/elm-creek-watershed-management-organization->*

[watershed-wide-tmdl-and-protection-and](#) and <http://www.elmcreekwatershed.org/tmdls.html>

- Used results of WRAPS study to establish priority areas and complete subwatershed assessments to identify specific BMPs that feasibly and cost-effectively reduce nutrient and sediment loading to impaired water resources. *The Commission was awarded a \$50,280 Clean Water Fund (CWF) Accelerated Implementation Program grant to complete a subwatershed assessment in four key subwatersheds in the headwaters of Rush Creek and North Fork Rush Creek.*
- Developed 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. *This task is being undertaken by the Technical Advisory Committee and will be a priority in 2018.*
- Sought grant funding to assist with the costs associated with projects identified on the Commission's CIP. *Four CIP projects – 1) Phase 3 of the Fox Creek Streambank Stabilization Project in Rogers, 2) Phase 2 of the Rush Creek Main Stem Restoration project in Maple Grove, 3) the Mill Pond Fishery and Habitat Restoration project in Champlin, and 4) the Rain Garden at Independence Avenue Construction project in Champlin - were certified through the ad valorem taxing process for funding by Hennepin County. Grant-related funding through the Commission was not sought for these four projects.*

In conjunction with this effort, the Commission adopted two resolutions in 2017. Resolution 2017-01 adopted a Minor Amendment to the Third Generation Watershed Management Plan to add two projects to the Commission's CIP, remove one project from the Commission's CIP, and shift the timing of funding of four projects currently listed on the Commission's CIP. Resolution 2017-02 ordered the four projects certified above, designated the members responsible for construction, and designated the Commission cost-share funding.

- Continued to support City-sponsored projects as they were identified. *The Commission continues to identify projects on its CIP for funding either through the Commission's CIP budget or grant funding. In 2016 the Commission applied for, and received, a BWSR Competitive Grant (Projects and Practices) in the amount of \$200,000 for the Internal Phosphorus Loading Control Project on Fish Lake and a BWSR Competitive Grant (Accelerated Implementation Grant) in the amount of \$50,280 for the Rush Creek Headwaters Subwatershed Assessment Project.*

The alum treatment of Fish Lake took place on September 18-21, 2017. A total of 95,349 gallons of alum was applied to 120 acres of the lake at depths greater than 20 feet. The next steps include collecting sediment cores to determine the alum dosage calculations in 2018 and continuing to monitor the lake to determine the effectiveness of the first treatment. (Appendix 4)

On December 7, 2017, Wenck Associates, Commission staff, and City of Corcoran staff attended an Open House at Corcoran City Hall to which all the property owners living in the Corcoran and Rogers portion of the Rush Creek Subwatershed study area were invited. After reviewing runoff predictions with local landowners, the end result will be a series of detailed maps showing recommended best management practices, and a set of actions, costs, and expected pollutant reductions. (Appendix 5)

MONITORING

- Conducted lake and stream monitoring programs to track water quality and quantity conditions. *The Commission monitored Diamond, Fish, and Weaver Lakes, and Rice Lake Main Basin in cooperation with Three Rivers Park District. (Appendix 6) Abbreviated monitoring occurred on Lake Jubert through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP) in 2017. 2017 results will be available mid-2018 at <https://metro council.org/Wastewater-Water/Services/Water-Quality-Management/Lake-Monitoring-Analysis.aspx>. The Commission's lake monitoring history is also included in Appendix 6.*
- Continued to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS). *Stream monitoring continued at the Champlin monitoring station where both grab samples and storm runoff samples were collected and analyzed for various parameters. In cooperation with Three Rivers Park District, the Commission conducted a dissolved oxygen longitudinal survey for Diamond Creek and a nutrient and dissolved oxygen longitudinal survey in upper Rush Creek at five locations in 2017. (Appendix 7)*
- Participated in the Minnesota Wetland Health Evaluation Program (WHEP). *Five wetlands located in the Crow Hassan Park Reserve and the Elm Creek Park Reserve were monitored in 2017. (Appendix 8)*

EDUCATION AND PUBLIC OUTREACH

- Continue to populate and maintain the Commission's website to provide news to residents of the watershed. *Last year the Commission transferred its website, www.elmcreekwatershed.org, to a new mobile-ready platform. The website is regularly updated with meeting and project information, and articles and information about projects and studies undertaken by the Commission.*
In 2017, there were 2,001 new visitors and 44 repeat visitors that resulted in 3,290 individual sessions and 7,448 page views. The average number of pages viewed per session is 2.26. 1,188 visitors came to the site through search engines like Google, Yahoo, and Bing. 535 visitors directly entered the website. 354 visitors came through "referrals" from other websites like Hennepin County, member cities, WMWA, and other local watersheds. Eighteen visitors came to the site through Facebook.
- Continued as a member of the West Metro Water Alliance (WMWA). *The Commission continued to support the WMWA Educator Program and contribute articles to its e-newsletter Water Links. The Commission promoted the Watershed PREP (Protection, Restoration, Education, and Prevention) program to reach every 4th grade science class in the watershed. 846 students in 30 classes in the Elm Creek watershed participated in Lesson 1: What is a Watershed and Why do we Care? and 442 students in 15 classes participated in Lesson 2: The Incredible Journey. The Watershed PREP educators also presented at the Basswood Science Night, the Plymouth Home Expo and the Plymouth Kids Fest.*
- *In 2017 the Commission also collaborated on the Pledge to Plant for Pollinators and Clean Water project and further development of the new WMWA website. More details regarding these programs and activities are found in the 2017 WMWA Annual Report. (Appendix 9)*

- Participated as an exhibitor at Plymouth's Home Expo. *The Commission participated in the Expo on April 7-8, 2017.*
- Continued as a member of Blue Thumb and WaterShed Partners and a partner in the NEMO (Nonpoint Education for Municipal Officials) program. *The Commission continues to support these organizations/ programs with their financial and in-kind contributions.*
- Co-sponsored Rain Garden Workshops in conjunction with the Commission's Education and Public Outreach Program. *Raingarden workshops were conducted in the cities of Champlin and Plymouth on April 6 and April 11, respectively. (Appendix 9)*
- Promoted river stewardship through the River Watch program. *Four sites on Elm and Rush Creeks were monitored by local high school students in 2017. (Appendix 10)*
- Worked in partnership with Hennepin County to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation. *Karl Hakanson, U of M Extension Educator, Kirsten Barta, Rural Conservationist, and James Kujawa, Surface Water Resource Specialist, presided over a field day in August to inform horse/stable managers about how one of their neighbors, along with County resources, redesigned a stable and pasture system for improved horse health, ease of management, and water quality. (Appendix 11)*
- Worked with local landowners to assist them in becoming compliant with the 2015 Minnesota Buffer Law. *Prior to the November 1, 2017 deadline, when buffers are required to be in place on all public waters, the following was determined:*

<u>Parcel Status</u>	<u>No. of parcels</u>
Compliant	46
Pending site visit	3
Plan in place/pending installation	14
Non-Compliant/No Response	<u>30</u>
TOTAL	93

Landowners who have not responded or gotten their property into compliance will be referred to the Board of Water and Soil Resources (BWSR) for enforcement.

ADMINISTRATION

- Adopted a 2018 operating budget. *At its May 10, 2017 regular meeting, the Commission approved a 2018 operating budget totaling \$910,445, with assessments to the member cities totaling \$225,000. (Appendix 12)*
- Published an annual activities report summarizing the Commission's yearly activities and financial reporting. *The 2016 Annual Activity Report was accepted by the Commission at its April 12, 2017 meeting and circulated as prescribed in MN Rules Chapter 8410.0150.*

CONSULTANT SERVICES SELECTION

A solicitation of interest proposals for technical, legal and administrative services was published in the January 17, 2017 issue of the *State Register*. Eight responses were received - two technical,

four wetland, one legal, and one administrative consultant responded to the solicitation. At their February 8, 2017 meeting the Commission voted to retain the current technical, wetland, legal and administrative consultants. (*Appendix 1*) This process will be repeated in 2019.

FINANCIAL REPORTING

Appendix 12 includes the Commission's approved budget for 2017. 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. The 2017 assessments to the members are also found in *Appendix 12*.

Of the \$421,614 operating budget for 2017 approved by the Elm Creek Watershed Management Commission on June 8, 2016, revenue of \$108,000 was projected as proceeds from application fees, \$6,000 from partnership revenue, and \$100 from interest income, resulting in assessments to members totaling \$219,700. \$87,314 was projected as coming from reserves.

\$138,500 was projected as project review-related expense; \$53,314 for water monitoring; \$24,000 for education; and \$85,000 for special projects, studies and subwatershed assessments. \$120,800 was budgeted for administration, planning, and general operating expenses. The Commission also designated \$492,812 as its share of five CIP Projects. A Hennepin County ad valorem levy will be used to fund the Commission's share of these projects having a cumulative cost of \$9,572,470.

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 2017 Audit Report prepared by Johnson & Company, Ltd., Certified Public Accountants, is also found in *Appendix 12*. 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 that are available for any purpose. These amounts are reported only in the general fund.

Amounts paid by the Commission per the 2017 Audit are as follows:

General engineering	111,571
General administration	110,493
Education	21,336
Programs	39,303
Projects	215,096
Capital projects	<u>6,244</u>
Total	\$504,043

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.

2018 WORK PLAN

Following is the projected work plan for 2018:

- Technical ♦ Water Monitoring ● Education and Public Outreach ▢ Administrative
- Continue to review local development/redevelopment plans for conformance with the standards outlined in the Commission's Third Generation Management Plan. Review the current project review fee schedule for fiscal conformity.
- Serve as the local government unit (LGU) for administering the Wetland Conservation Act (WCA) for the city of Corcoran.
- ♦ Enter into a new five-year cooperative agreement with Three Rivers Park District to share in the costs of conducting lake and stream monitoring in the watershed.
- ♦ Conduct lake and stream monitoring programs to track water quality and quantity conditions. The Commission will undertake both flow and water quality stream monitoring, at sites DC on Diamond Creek, RT on Rush Creek main stem, and EC77 on Elm Creek above Rice Lake. In addition, four sentinel lakes (Fish, Weaver, Diamond, and Rice Lake-main basin) will be monitored on a bi-weekly basis. Finally, longitudinal surveys will be continued, dependent on the results of the 2017 DO monitoring on Diamond Creek and at locations within the Upper Rush Creek subwatershed. All monitoring outlined in this section will be conducted in cooperation with Three Rivers Park District.
- ♦ Fund the monitoring of two lakes through Metropolitan Council's Citizen Assisted Monitoring Program (CAMP). Lakes Henry and Jubert will be monitored in 2018.
- ♦ Continue to operate the monitoring station in Champlin in cooperation with the United States Geological Survey (USGS).
- Promote river stewardship through the River Watch program with three sites in 2018.
- ♦ Participate in the Minnesota Wetland Health Evaluation Program (WHEP) with four wetlands in 2018.

- Assist member communities in preparing and adopting their local water management plans. Advise the member cities of the revised requirements under Rule 8410.0160, subp. 6, regarding local water plans and local comprehensive plans.
- Conduct the biennial solicitation of interest proposals for administrative, legal, technical and wetland consultants as required under Minnesota Statutes, section 103B.227, subdivision 5. Not required in 2018, the next solicitation will occur in 2019.
- Continue as a member of the West Metro Water Alliance (WMWA). Continue to support the WMWA Educator Program and contribute to its e-newsletter *Water Links*. Promote the Watershed PREP program to reach every 4th grade science class in the watershed. Participate in the *Pledge to Plant for Pollinators and Clean Water* project. Conduct native plant sales at various city events around the watershed.
- Continue as a member of WaterShed Partners and Blue Thumb and a partner in the NEMO (Nonpoint Education for Municipal Officials) program.
- Co-sponsor Rain Garden Workshops in conjunction with WMWA as part of the Commission's Education and Public Outreach Program. Metro Blooms will host two different workshops in 2018, *Resilient Yards* and *Turf Alternatives*. The WMWA watersheds will host four *Resilient Yard* workshops, one in each watershed, as well as one *Turf Alternatives* workshop. Workshops will be held in the following cities: Plymouth (Shingle Creek), Crystal/New Hope/Golden Valley (Bassett Creek), Brooklyn Center/Brooklyn Park (West Mississippi), and Champlin (Elm Creek).
- Continue to award Water Quality Education Grants. Grant funds are to be used to increase awareness and knowledge of water resources issues within the Elm Creek watershed.
- Partner with Hennepin County's Agriculture Specialist to help build relationships with the agricultural community in the watershed in order to encourage TMDL implementation. The Hennepin County Rural Conservation Specialist will assist landowners with implementation of the MN Buffer Law. Assist landowners as they identify BMPs for implementation as part of the Rush Creek Subwatershed Assessment.
- 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. The Technical Advisory Committee is continuing to work on developing this ordinance.
- Seek grant funding to assist with the costs associated with projects identified on the Commission's CIP. A call for CIPs went out to the cities in January 2018. Proposed CIPs and CIP updates will be reviewed for inclusion on the Commission's CIP by the Technical Advisory Committee (TAC) at their March meeting. The TAC's recommendations will be forwarded to the Commission. This activity will most likely require a Minor Plan Amendment.
- Continue to support City-sponsored projects using the ad valorem funding mechanism. CIPs included on the Commission's CIP schedule will be considered for ad valorem funding recommendation by the Technical Advisory Committee.
- Undertake the Internal Phosphorus Loading Control Project on Fish Lake. This project spans the years 2017-2019. An initial alum treatment occurred in September 2017. The next steps include

collecting sediment cores to determine the alum dosage calculations and continuing to monitor the lake to determine the effectiveness of the first treatment. The second treatment will occur in spring 2019.

- Undertake the Rush Creek Headwaters Subwatershed Assessment Project. This project also spans the years 2017-2019. In December 2017 an Open House was held for property owners living in the Corcoran portion of the Study Area. The folks who attended the Open House shared information about known problems and issues, and observations about conditions in their area. Wenck Associates and the Core Team will review this information as they move forward with the assessment. The following tasks will be undertaken in 2018: 1) Desktop prioritization and feasibility analysis of the structural BMPs sited using Agricultural Conservation Planning Framework (ACPF) GIS model/tool. Produce final list of proposed structural BMPs, evaluate their cost-benefit; 2) Identify non-structural (cultural) BMPs to include in final report; 3) Produce final report describing study area, water quality issues/concerns, and proposed list of structural and cultural BMPs to improve water quality, 4) Work with willing landowners and begin identifying BMPs for grant funding opportunities
 - Adopt a 2019 operating budget.
 - The Commission will continue to meet with representatives from the Board of Water and Soil Resources, other water management organizations, counties, and cities regarding a possible move from a competitive funding model towards a more systematic Clean Water Funding model for local water management authorities on a watershed basis. If all watershed organizations in Hennepin County choose to create a collaborative group for the watershed-based funding, that share of funds is available for Hennepin County projects. If the WMOs choose to remain with competitive-based grant funding, that money will be pooled with counties who also choose to remain competitive-based. This decision must be made by June 30, 2018.
 - 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. Using the tool Weebly, continue to update and enhance the website, adding links to other websites as well as to other useful information.
 - Publish an annual activities report summarizing the Commission's yearly activities and financial reporting. The *2017 Annual Activity Report* will be available at the Commission's April 11, 2018 meeting.
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APPENDIX

2017 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	Sharon Meister Commissioner	8540 Cain Road Corcoran, MN 55430	612.280.4036 sharonmeister1@gmail.com
	Cindy Patnode Alternate	22802 County Road 50 Corcoran, MN 55340	612.483.8569 dcpatnode@aol.com
Dayton	Doug Baines Chair	13000 Overlook Road Dayton, MN 55327	763.323.9506 doughbaines@aol.com
	Tim McNeil Alternate	12260 S. Diamond Lake Road Dayton, MN 55327	612.730.9312 tim@timmcneil.com
Maple Grove	Joe Trainor Commissioner	16075 Territorial Road Maple Grove, MN 55369-	763.420.4645 joe.trainor@meritain.com
	Vacant Alternate.		
Medina	Elizabeth Weir Vice Chair	1262 Hunter Drive Wayzata, MN 55391	763.473.3226 lizvweir@gmail.com
	Victoria Reid Alternate	4405 Shorewood Trail Medina, MN 55340	763.843.5774 v Reid7@gmail.com
Plymouth	Fred Moore Treasurer	1820 Ives Lane Plymouth, MN 55441	612.269.2088 fred@emailmoore.net
	Catherine Cesnik Alternate		cesnik@gmail.com
Rogers	Kevin Jullie Commissioner	13315 Oakwood Drive Rogers, MN 55374	763.428.9160 kjullie@srfconsulting.com
	Vacant Alternate		

2017 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 policies used to evaluate plans, 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 Champlin, MN 55316	763.923.7120 ttuominen@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	Jason Quisberg	Wenck Associates 7500 Highway 55 Ste 300 Golden Valley, MN 55427	763.252.6873 jquisberg@wenck.com
Maple Grove	Rick Lestina	City of Maple Grove 12800 Arbor Lakes Parkway Maple Grove, MN 55313	763.494.6354 rlestina@ci.maple-grove.mn.us
Medina	Kaci Fisher	Hakanson-Anderson 3601 Thurston Avenue Anoka, MN 55303	763.852.0496 KaciF@HAA-inc.com
Plymouth	Ben Scharenbroich	City of Plymouth 3400 Plymouth Boulevard Plymouth, MN 55447	763.509.5527 bscharenbroich@plymouthmn.gov
Rogers	Jennifer Edison	WSB Associates 701 Xenia Avenue S. Suite 300 Minneapolis, MN 55416	763.287.7182 jedison@wsbeng.com
Hennepin County Dept. of Energy and Environment	James Kujawa	701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415-1600	612.348.7338 James.Kujawa@hennepin.us
	Jason Swenson		612.596.1171 jason.swenson@hennepin.us
Three Rivers Park District	Brian Vlach	12615 County Road 9 Plymouth, MN 55441	763.694.7846 BVlach@threeriversparkdistrict.org

2017 Staff and Consultants

The required biennial solicitation for interest proposals for administrative, legal, technical and wetland consulting services was published in the January 17, 2017 edition of the State Register. At their February 8, 2017 meeting the Commission voted to retain the following consultants for 2017-2018. The Commission has no employees.

	NAME/POSITION	ADDRESS	TELEPHONE/EMAIL
Technical Services	James Kujawa	Hennepin County Energy and Environment 701 Fourth Avenue S. Suite 700 Minneapolis, MN 55415	612.348.7338 James.Kujawa@hennepin.us
	Jason Swenson		612.596.1171 jason.swenson@hennepin.us
	Jeff Weiss	Barr Engineering 4700 West 77th Street Minneapolis, MN 55435	952.832.2706 jweiss@barr.com
Legal Services	Joel Jamnik	Campbell Knutson Grand Oak Office Center I 860 Blue Gentian Road #290 Eagan, MN 55121	651.645.5000 jjamnik@ck-law.com
Administrative Services	Judie Anderson	JASS 3235 Fernbrook Lane Plymouth, MN 55447	763.553.1144 judie@jass.biz
	Amy Juntunen		763.553.1144 amy@jass.biz

Third Generation Watershed Management Plan

The Elm Creek Watershed Management Commission's Third Generation Watershed Management Plan includes information required in the Minnesota Administrative Rules Chapter 8410, Local Water Management: an 1) 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.

Issues

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

- **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

Priorities

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

- **Implement priority projects**, providing 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 WMWA and other partners

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 were 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 the 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 will be 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 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.

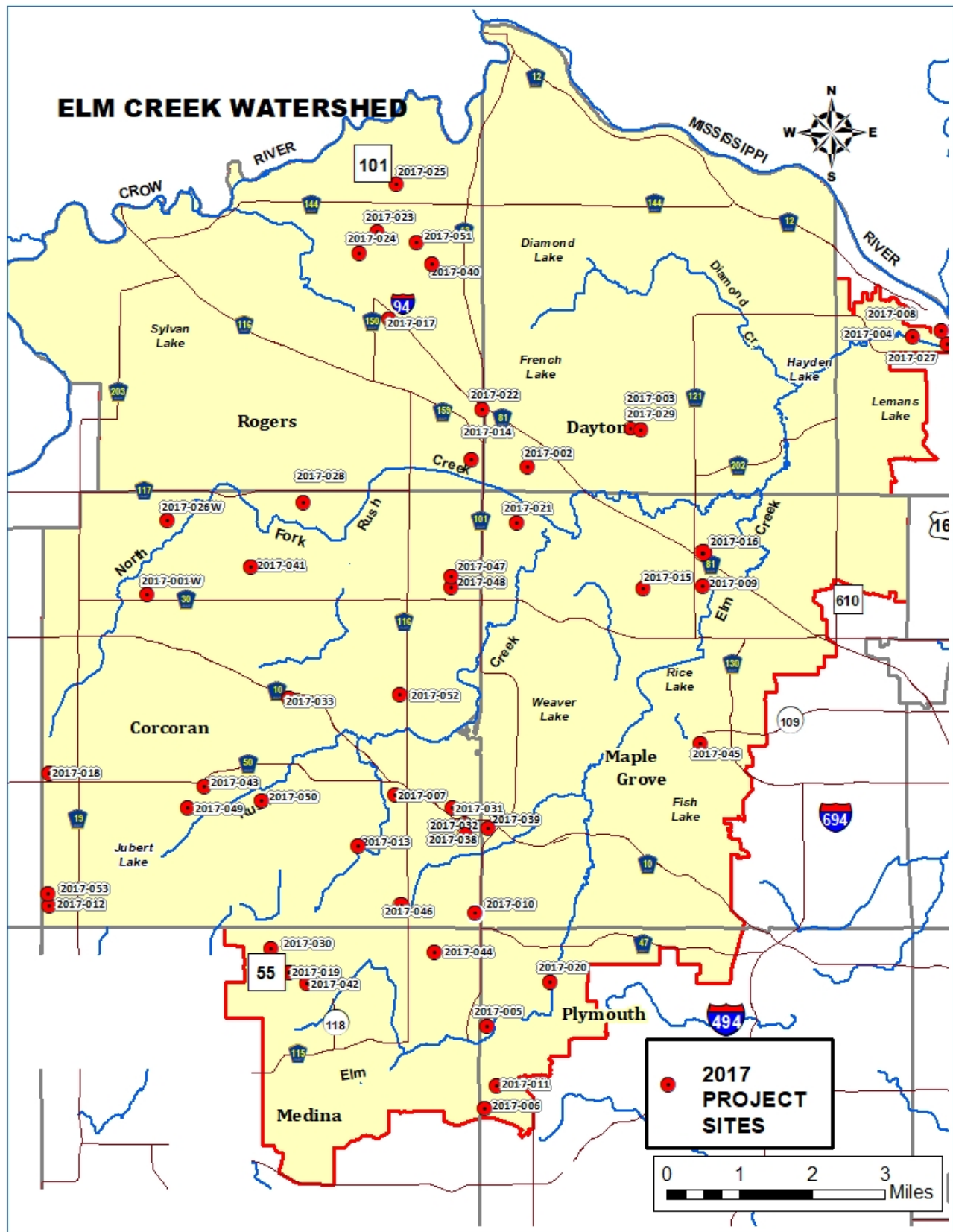
Revisions to Minnesota Rules 8410 adopted in 2015

Regarding

Timing of Local Plan Revisions

(8410.0105, subp. 9 and 8410.0160, subp. 6)

1. There is a significant change in the timing of local water plan revisions.
2. Local water plans must be prepared by metropolitan cities and towns (municipalities) and a local water plan must become part of the local comprehensive plan for a municipality.
3. Under the amended rule, local water plans must be revised essentially once every ten years in alignment with the local comprehensive plan schedule.
4. A municipality has two years before their local comprehensive plan is due to adopt their local water plan.
5. Prior to adoption, a municipality must prepare their local water plan, distribute it for comment, and have it approved by the organization with jurisdiction in the municipality.
6. The next local comprehensive plans are due December 31, 2018, thus **all cities and towns in the seven-county metropolitan area must complete and adopt their local water plan between January 1, 2017 and December 31, 2018**. Thereafter add ten years to each of the previous dates.
7. Local water plans may be updated more frequently by a municipality at its discretion.



2017 Project Reviews

			Reviewed for					Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-dev)					
Project No.	Project Name	City	Erosion Control	Stormwater	Floodplain	Wetlands	Buffers	2-yr Pre | Post	10-yr Pre | Post	100-yr Pre | Post	TP load #/yr Pre- w/o BMPs | Post- w/ BMPs	TSS load #/yr Pre- w/o BMPs | Post- w/ BMPs	Abstraction (cf)	Filtration (cf)	Runoff Volume (af / yr)	Biofiltration (cfs)
2017-001W	9715 Sundance Road Pond Excavation	Cor				X										
2017-002	RDO Dayton Site Plan	Day	X	X				18.29 | 3.18	33.40 | 6.41	66.09 | 26.17	-1.46	---	0.67 ac- ft	---		
2017-003	Brayburn Trails EAW	Day		X	X	X										
2017-004W	Cartway Trail	Ch				X										
2017-005	Creeside Hills	Ply	X	X	X		X	38.4 | 20.4	91.9 | 50.6	216.4 | 135.4	-5.9	-1,850	66,683	72,691	75.3	
2017-006	Summers Edge II	Ply	X	X			X	16.7 | 6.8	36.8 | 19.2	77.3 | 44.0	-4.5	-1,850	28,430	30,624	14.6	
2017-007W	Downtown Corcoran Ditch Maint. & Cimarron Cir Drainage Maint.	Cor				X										
2017-008	TH 169 Reconstruction	Ch			X			Stormwater plans reviewed by West Mississippi WMO								
2017-009	Maple Grove Sr High 2017 Tennis Court Rehabilitation	MG	X	X				No increase in impervious area, runoff rates and volumes will remain the same after construction.								
2017-010W	Nichols Property Wetland Delineation	Cor				X										
2017-011	Crooked Creek Park	Ply	X	X		X	X	0.71 | 0.79	2.62 | 2.68	8.58 | 9.27	Changes in nutrient levels are minimal and likely below margin of modeling errors.					
2017-012	Minnesota Solar CSG 19	Cor	X	X		X	X	103.2 | 73.2	176.2 | 137.7	335.4 | 300.9	-8.3	-1-1,614	25,943	26,380	-9.0	
2017-013W	20417 Larkin Road, Wetland Violations	Cor	X			X										
2017-014	Laurel Creek drainage to North	Rogers				X	X	0.44 | 0.22	0.98 | 0.53	2.09 | 1.20	-109.5	-26,241	4,855	2,698		
2017-014	Laurel Creek drainage to Northwest							35.82 | 8.66	69.4 | 18.04	134.14 | 40.20						
2017-014	Laurel Creek drainage to Northeast							24.25 | 12.64	37.92 | 21.72	50.91 | 36.10						
2017-014	Laurel Creek drainage to Rush Cteek							124.13 42.09	220.42 78.08	482.23 179.34						

2017 Project Reviews

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2017-014	Laurel Creek drainage to East							23.23 9.66	33.95 19.03	85.25 25.64						
2017-015	Raising Cane's Restaurant	MG	X	X				Reviewed under Second Generation Plan Rules and Standards								
2017-016	Territorial Woods	MG	X	X			X	13.4 | 8.2	30.3 | 22.4	67.2 | 59.6	-2.0	-816	30,350	31,581	12.1	
2017-017	Mary Queen of Peace Catholic Church	Rogers	X	X				21.3 | 17.8	35.4 | 29.7	65.7 | 57.3	-1.2	-344				
2017-018W	CR50 Solar Gardens	Cor		X		X										
2017-019	Medina Senior Living Community	Med	X	X		X	X	2.61 | 0.73	5.10 | 1.46	10.97 | 3.30	-4.4	-857	67,393	4,722		
2017-020	Northwest Greenway Trail Phase III	Ply	X		X	X		Linear trail, exempt from Stormwater Management requirements								
2017-021	Hindu Society of MN Staff Housing	MG	X	X	X	X	X	2.4 | 1.39	4.70 | 4.65	9.78 | 9.75	-.43	-158				
2017-022	CSAH 81 and CSAH 101&13 Intersection Improvements	Rog	X			X		32.9 | 35.2	61.2 | 58.8	197.4 | 192.9	-6.1	-3,717			N/A	
2017-023	Midwest Steel Supply	Rog	X	X				0 | 0	N/A	N/A	0	0	240.016	N/A		
2017-024	Lil Explorers Daycare	Rog	X	X				Reviewed for compliance with Commission SWMP from 2001 and 2003.								
2017-025	Rogers Ground Storage Grading Phase I	Rog	X	X				Grading plan only. SWMP to be determined when site is developed into a park.								
2017-026W	Gmach Property Wetland Delineation	Cor				X										
2017-027W	Mill Pond Shoreland/Aquatic Habitat Restoration (Wetland Delineation)	Ch	X	X	X	X										
2017-028W	Fehn Meadows 2nd Addition	Cor				X										
2017-029	Brayburn Trails drain to North	Cor	X	X	X	X	X	7.34 | 1.01	10.35 | 2.45	13.39 | 7.15	-68.8	-14,430	4,268	1,337		
2017-029	Brayburn Trails drain to Northeast							40.04 | 7.81	72.05 | 25.49	145.85 | 69.39						
2017-029	Brayburn Trails drain to Southwest							57.18 28.45	109.12 62.16	220.39 144.6						

2017 Project Reviews

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2017-029	Brayburn Trails drain to Southeast							41.54 6.26	77.08 13.96	140.59 38.73						
2017-030	Brindle Path	Med														
2017-031	Bass Lake Crossing North - Rush Creek	Cor	X	X		X	X	39.2 | 17.7	72.7 | 38.3	130.1 | 78.8	-12.6	N/A	0.0	1.0		
2017-031	Bass Lake Crossing East - Cook Lake							22.9 | 10.1	45.1 | 13.0	90.4 | 15.0						
2017-032W	Rachel Development Wetland Delineation	Cor				X										
2017-033W	Jeff Schalo Ditch Maintenance	Cor				X										
2017-034	Plymouth Memory Care	Ply						5.08 | 1.61	11.33 | 7.16	26.73 | 10.03	-0.4	-65	0.0	0.189		
2017-035	Weston Woods of Medina PUD	Med		X	X	X	X									
2017-036	Enclave at Elm Creek drainage to South	Ply						17.7 | 14.1	41.6 | 30.9	98.0 | 95.4	-0.3	-2,777	-10,593	-36,598		
2017-036	Enclave at Elm Creek drainage to North							35.3 | 21.5	84.3 | 50.5	196.0 | 155.1						
2017-037	L-80 Lift Station	Cor	X		X	X	X									
2017-038	Bass Lake Estates	Cor	X	X	X	X	X	11.45 | 1.83	26.77 | 6.51	65.66 | 35.42	-0.96	770	0	1.15		
2017-039	Rush Creek Apartments	MG	X	X			X	11.9 | 8.6	23.5 | 18.3	43.0 | 39.4	-4.7		19,206	38,606		
2017-040	Capitol Beverage	Rog	X	X				Site plans grandfathered in. Reviewed for compliance with Commission SWMP from 2004								
2017-041W	Maghrak Residence Wetland	Cor				X										
2017-042	Cavanaugh Concept Plan	Med														
2017-043W	Kissner Drainage Repair	Cor				X										
2017-044	Reserve of Medina Second Addn	Med	X	X												
2017-045	Fish Lake Estates	MG	X	X			X									
2017-046W	Wessel Property Wetland Delineation	Cor				X										

2017 Project Reviews

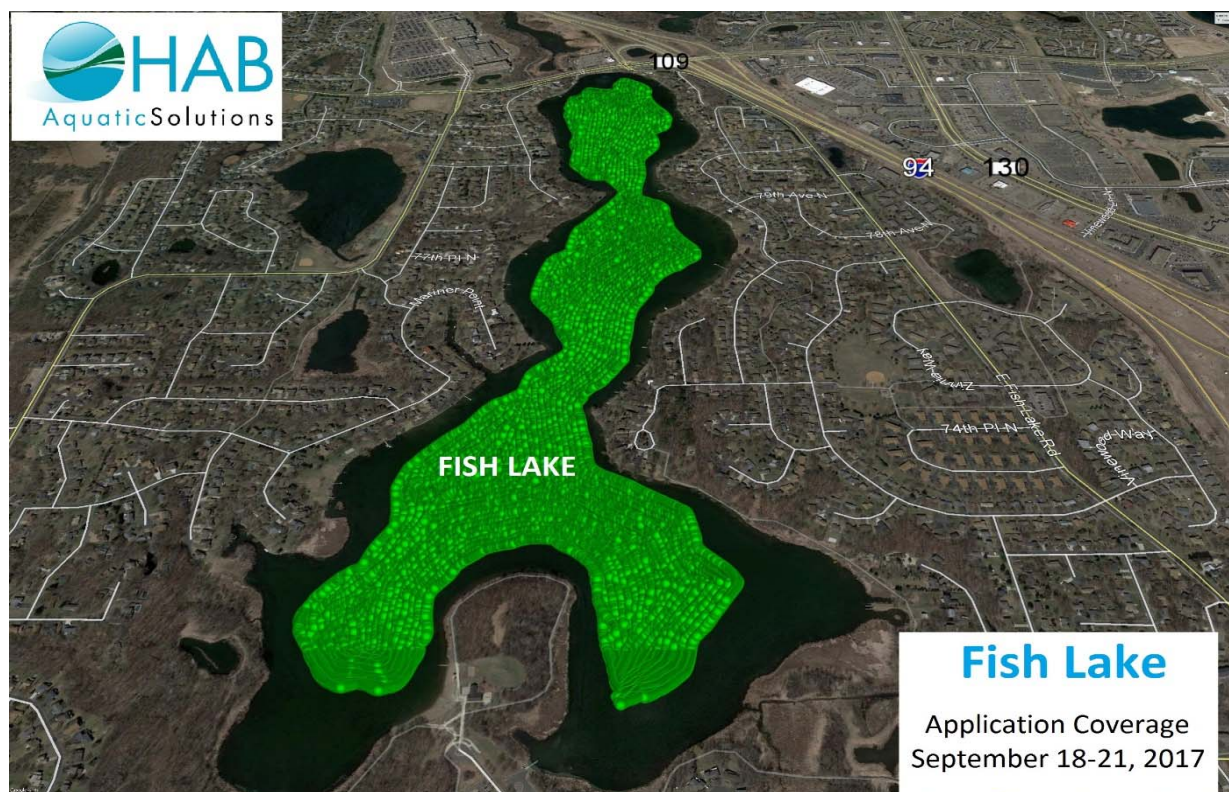
			Reviewed for					Rate Control (cfs) (pre- and post-development)			Net Change Nutrient Control (lbs./yr) (pre- and post-dev)					
Project No.	Project Name	City	Erosion Control	Stormwater	Floodplain	Wetlands	Buffers	2-yr Pre | Post	10-yr Pre | Post	100-yr Pre | Post	TP load #/yr Pre- w/o BMPs | Post- w/ BMPs	TSS load #/yr Pre- w/o BMPs | Post- w/ BMPs	Abstraction (cf)	Filtration (cf)	Runoff Volume (af / yr)	Biofiltration (cfs)
2017-047W	Newman Property Wetland Delineation	Cor				X										
2017-048W	Ebert Property Wetland Delineation	Cor				X										
2017-049W	Rolling Hills Road Wetland Delineation	Cor				X										
2017-050W	Ernie Mayers Access Drive Wetland Violation	Cor				X										
2017-051	Mallard South 2nd Addition	Rog						Rate controls meet 2001 Commission SWMP. New volume controls = 350 CF required, 1,750 CF filtration provided.								
2017-052W	John Meister Ditch Cleaning - formerly 2015-031W	Cor				X										
2017-053	Corcoran Community Solar	Cor						46.5 | 21.3	171.2 | 86.1	632.0 | 394.4	-10.1	41,814		51,961		

FISH LAKE INTERNAL LOAD PROJECT.

1. Mobilization for the Alum treatment began the morning of September 18, 2017. Two 7000-gallon capacity temporary chemical storage tanks were placed on-site to store liquid aluminum sulfate. The alum was delivered to the site in 5,000 gallon tanker trucks to transfer alum to the temporary lakeshore chemical storage tanks. The storage tanks allowed for the continuous transfer of alum to the treatment barge at a rate that exceeds the delivered supply from the tanker trucks.
2. The treatment barge started applying alum to Fish Lake at 1:00 PM on September 18. The treatment barge had a computer with GPS technology that had pre-programmed bathymetry data to assist with the route of the application. The computer also controlled the pumping rate of the alum based on boat speed and water depth to ensure the effective dose of alum applied to the lake.
3. The treatment barge has the ability to apply 20,000+ gallons of alum per day. Alum was applied to 120 acres of Fish Lake at depths greater than 20 feet. The target dose of alum was 95,000 gallons for the entire treatment. A total of 95,349 gallons of alum (22 alum trucks) was applied to Fish Lake. The treatment was completed by 1:00 PM on September 21.
4. HAB Aquatic Solutions set up a website for the Fish Lake Alum Treatment (<http://fishlakealum.com>). The website gave daily updates of the project, and provided an opportunity for anyone to submit questions that they may have had about the project.
5. The Fish Lake Area Residents Association (Dave Haas) set up a media event on September 20. Doug Baines attended the media event as representation for the Elm Creek Watershed Commission. There were approximately 10 to 15 home owners in attendance. There were also presentations by HAB Aquatic Solutions and Three Rivers Park District about the project followed by a boat tour in order to observe the alum application. The CCX news media video is available at the following link: <https://www.youtube.com/watch?v=Mt1gYo5IGtw>

Daily Application Log for Fish Lake, MN Alum Application - 2017						
Date	Lake	Hours of Application	Approx. Alum Applied (gal)	Approx. Acres Covered	Alum Truck Deliveries	Notes
9/18/2017	Fish	12:35 - 20:25	19,800	50.2	6	First day of application
9/19/2017	Fish	6:55 - 21:00	30,668	77.8	7	
9/20/2017	Fish	7:40 - 21:35	29,385	74.3	7	
9/21/2017	Fish	7:35 - 13:05	15,496	39.1	2	Application completed
Total			95,349	241.4	22	





RUSH CREEK HEADWATERS SUBWATERSHED ASSESSMENT



WHAT IS A SUBWATERSHED ASSESSMENT (SWA)?

A subwatershed assessment is a detailed evaluation of how much stormwater and pollutants such as sediment and nutrients runs off the land within an area of interest. A SWA uses a fine-scale model that can predict runoff down to the field level. Specialized software tools and field assessments can then help identify the best pollutant-reducing practices to implement and where they will have the most impact. After review with local landowners, the end result is a series of detailed maps showing the recommended practices, and a set of actions, costs, and pollutant reductions expected.

WHY DO A SUBWATERSHED ASSESSMENT (SWA)?

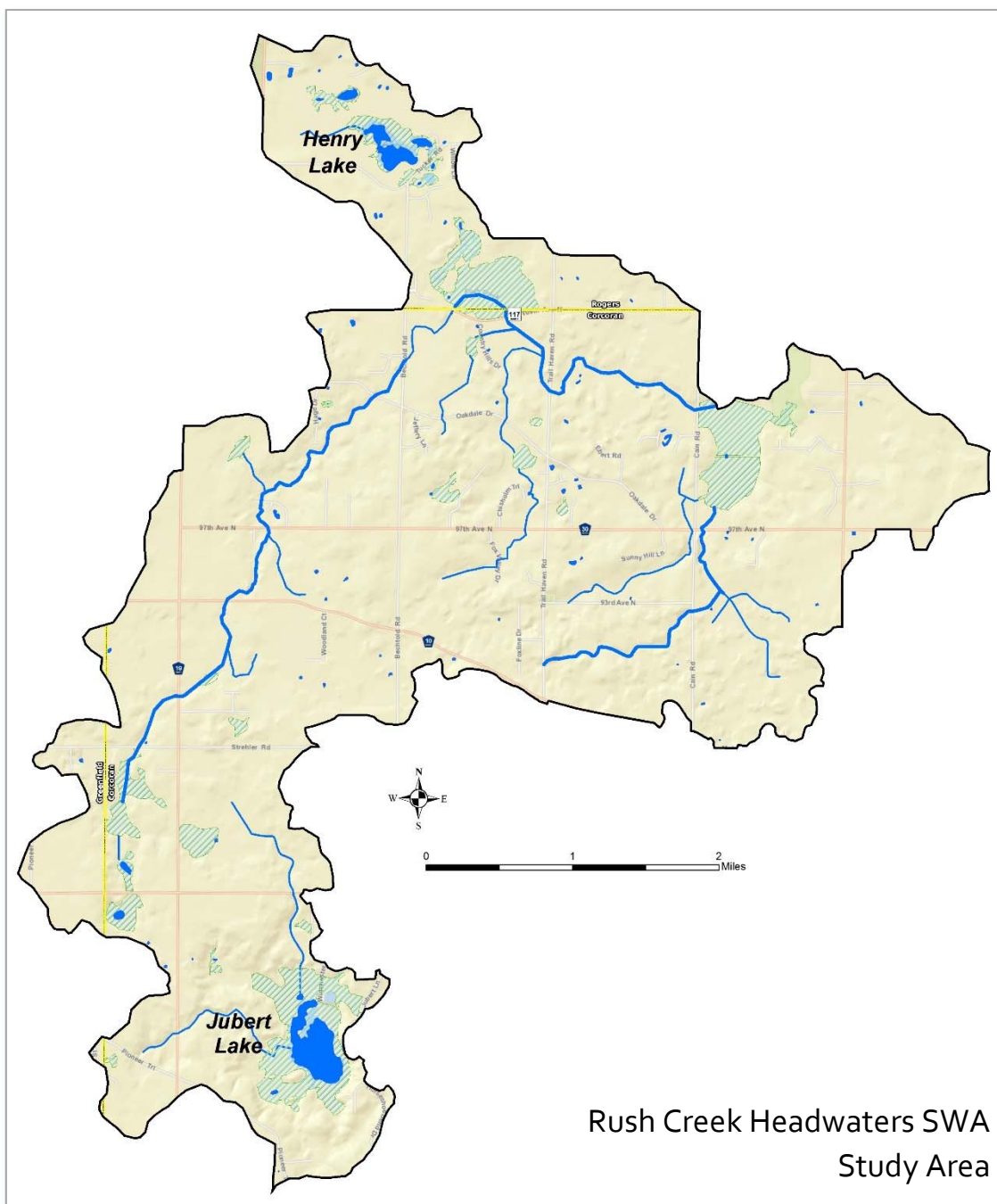
Several of the lakes and streams in the Elm Creek watershed do not meet state water quality standards and the cities are required to reduce the amount of pollutants conveyed to them. The subwatershed assessment (SWA) will “zoom in” on land in the area that is the headwaters for Rush Creek and the Rush Creek South Fork, including Henry Lake and Jubert Lake, to identify possible practices to reduce those pollutants, and then review those with land owners to see which are most feasible. The team completing the SWA includes city, watershed, hydrology, engineering and agricultural management specialists who know this area and will include landowners who can bring their practical knowledge and expertise to the SWA.

The SWA will look at both agricultural and developed areas, and will also include a review of Rush Creek itself for streambank erosion and opportunities for in-stream practices.

The results of the SWA will be used to help landowners, cities, and other interested parties find the best, most cost-effective ways to improve water quality in Rush Creek and Henry and Jubert Lakes. The SWA will also be helpful in applying for grant funding to help landowners and cities undertake voluntary pollutant-removing practices.



An example of practices that could be considered for this field, including contour buffer strips (purple lines), grass waterways (green lines), and small basins for water and sediment control (orange polygons and lines).

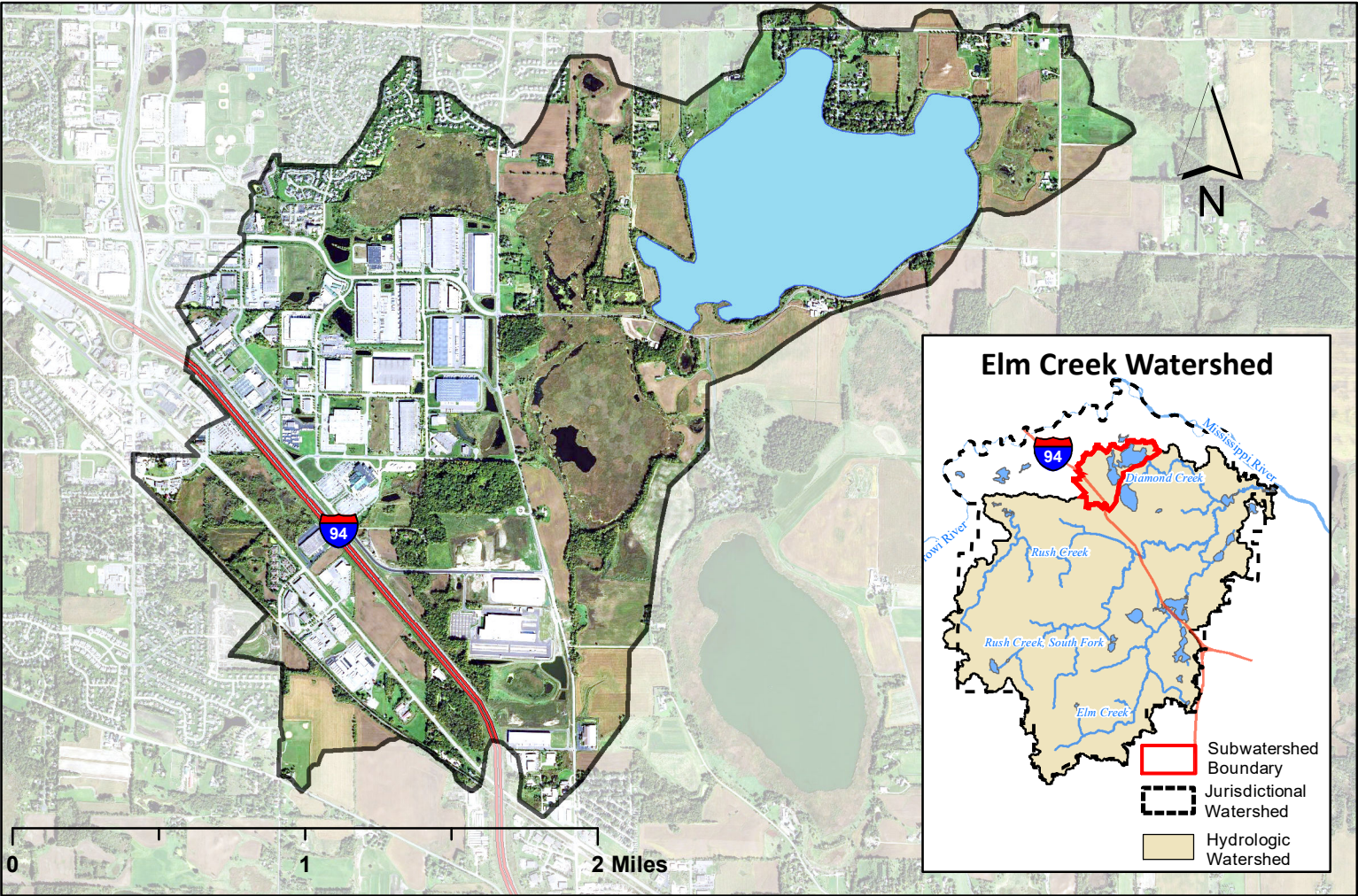


The Study Area is 19.75 square miles, most of which is in the city of Corcoran. Rush Creek rises from a wetland complex in the northwest quadrant of the County Road 19 and County Road 50 intersection. The Area includes about seven miles of Rush Creek. There are two lakes in the Study Area: Henry Lake in the city of Rogers, and Jubert Lake in Corcoran. Henry Lake is an Impaired Water, with excessive nutrient concentrations causing poor water quality. Jubert Lake is the headwaters of the Rush Creek South Fork. It, too, has poor water quality, but has not been officially designated an Impaired Water. Rush Creek is an Impaired Water for excess *E. coli* bacteria and low dissolved oxygen, and high nutrient levels are stressing the biotic community.

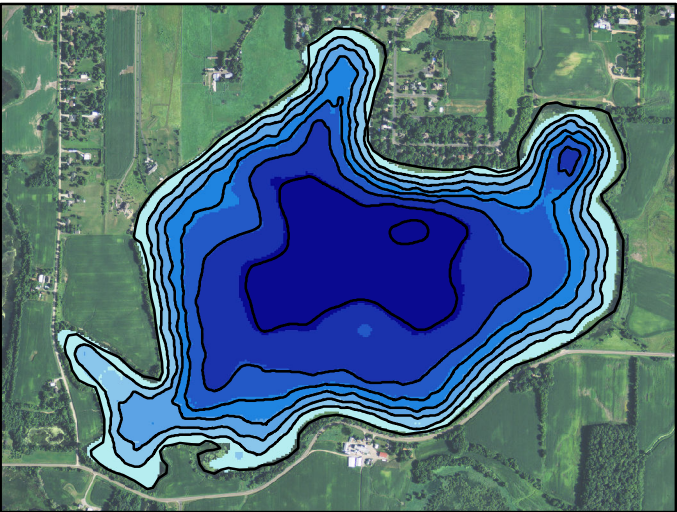
Lake Monitoring History

	<i>Cook</i>	<i>Cowley</i>	<i>Diamond</i>	<i>Dubay</i>	<i>Fish</i>	<i>French</i>	<i>Henry</i>	<i>Jubert</i>	<i>Laura</i>	<i>Medina</i>	<i>Mill Pond</i>	<i>Mud</i>	<i>Rice</i>	<i>Sylvan</i>	<i>Weaver</i>
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														

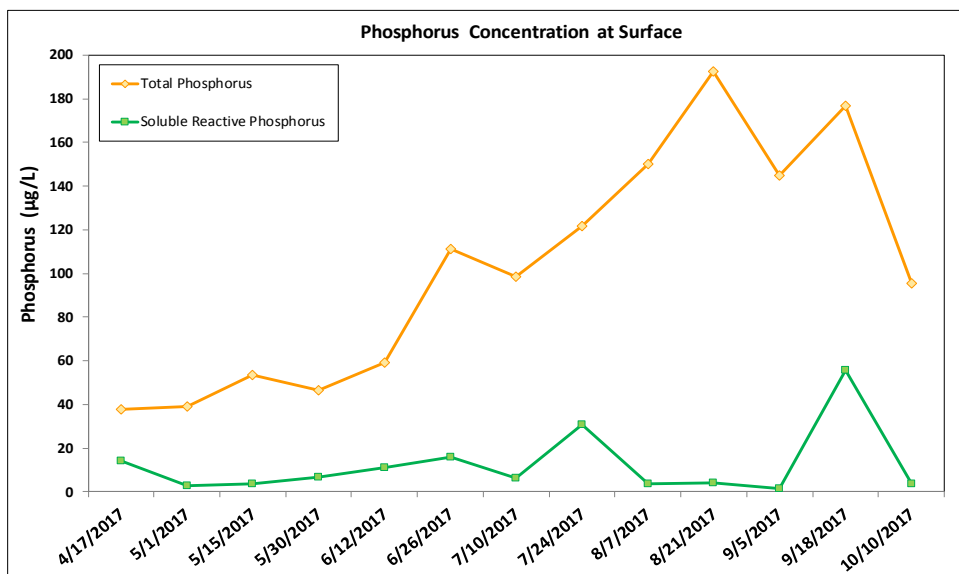
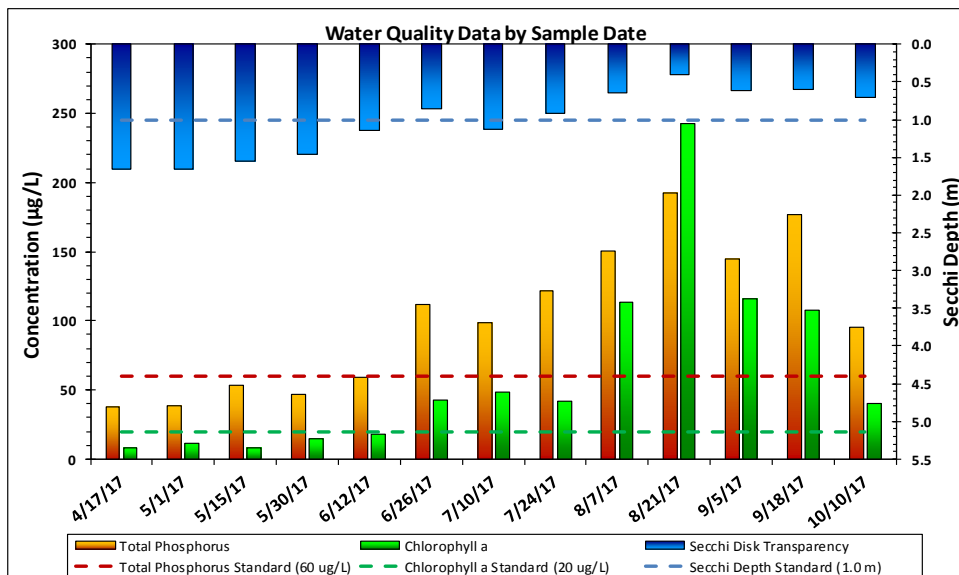
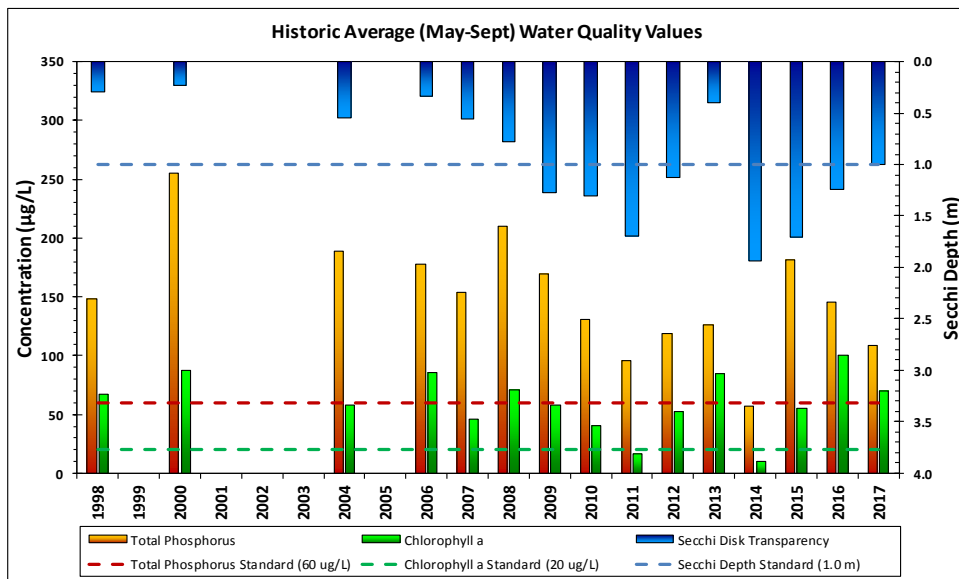
Diamond Lake Watershed Map



Diamond Lake Bathymetry



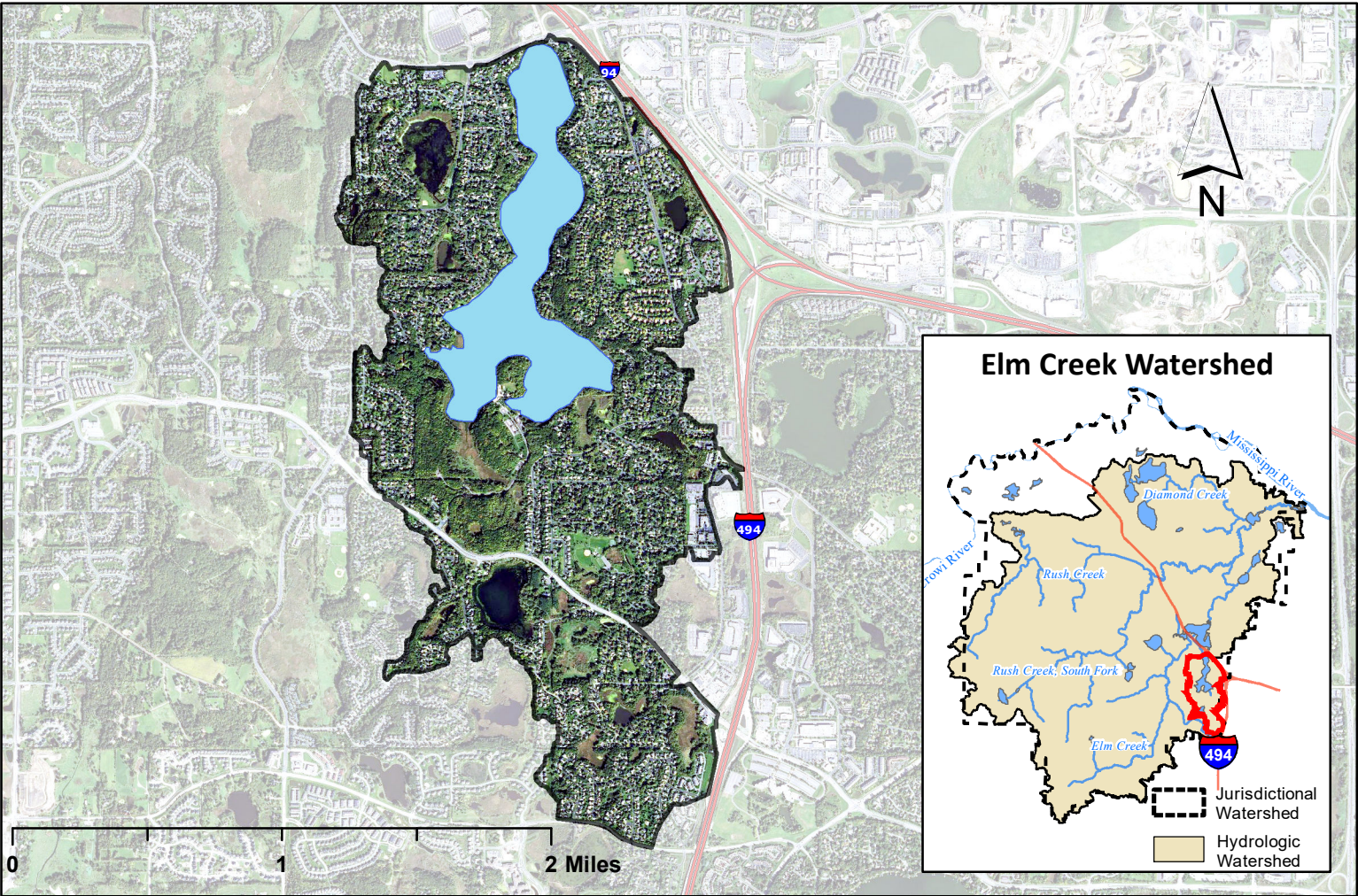
Lake and Watershed Characteristics	
DNR #	27012500
Watershed Area	2,367 Acres
Lake Area	382 Acres
Percent Littoral Area	100%
Average Depth	3.97 ft.
Maximum Depth	7.37 ft.
Watershed Area:Lake Area	6.2:1
Impairment Classification	Excess Nutrients 2006
Classification	Shallow Lake



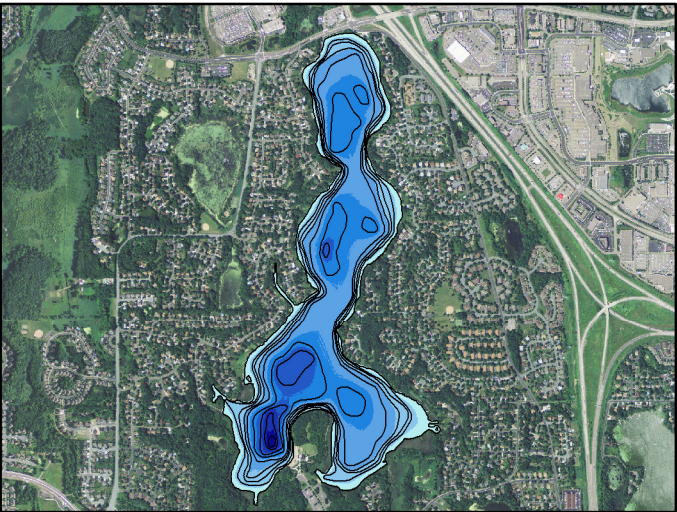
Diamond Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1998	D	D	F	D-
1999				
2000	F	F	F	F
2001				
2002				
2003				
2004	F	D	F	F
2005				
2006	F	F	F	F
2007	F	C	F	D-
2008	F	D	D	D-
2009	F	D	C	D
2010	D	C	C	C-
2011	D	B	C	C
2012	D	D	D	D
2013	D	F	F	F
2014	C	B	C	C+
2015	F	D	C	D
2016	D	F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

Met Council Grading System for Lake Water Quality

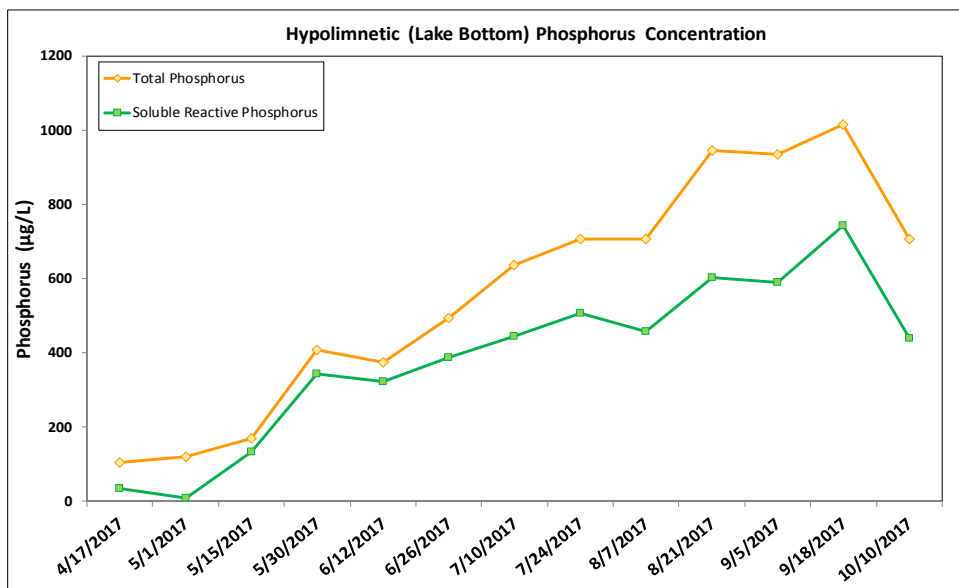
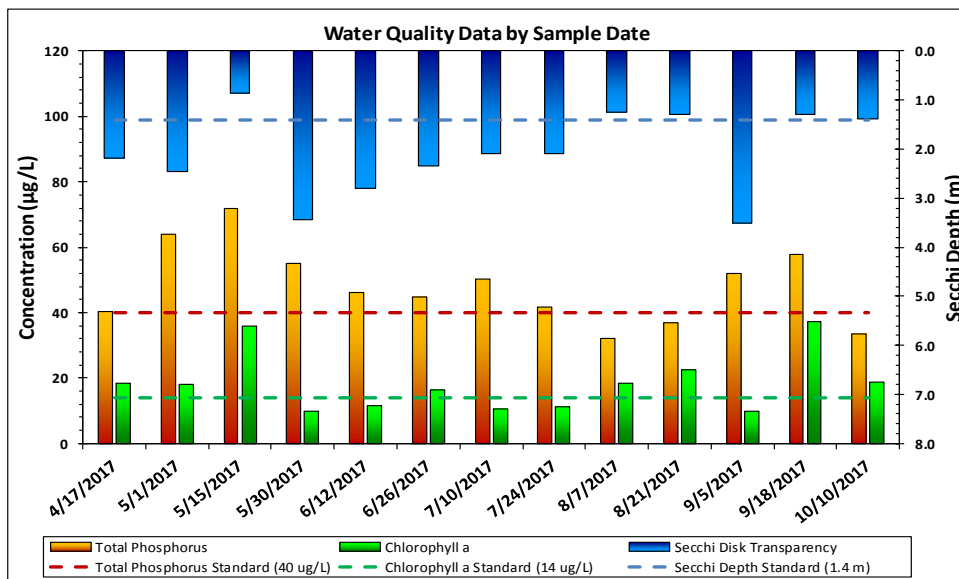
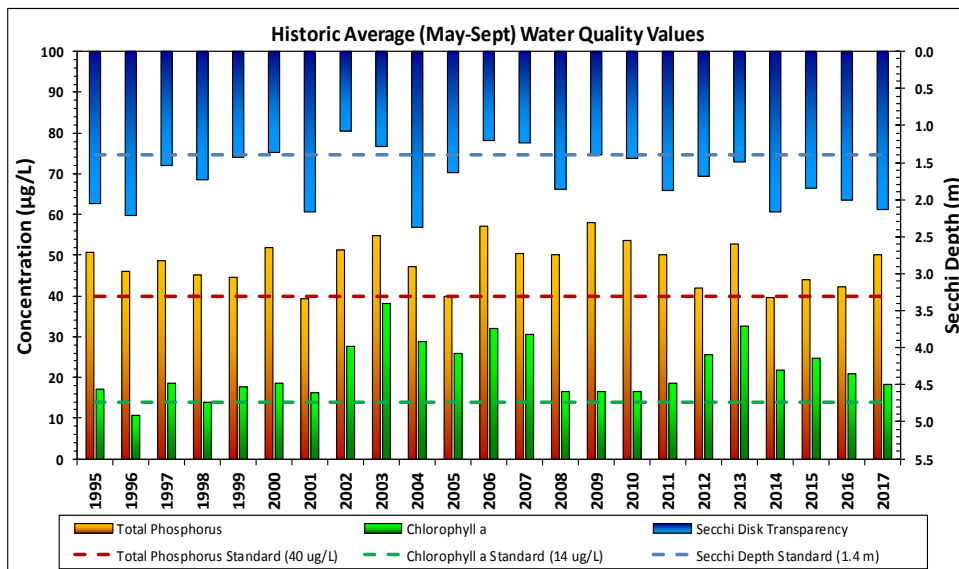
Fish Lake Watershed Map



Fish Lake Bathymetry



Lake and Watershed Characteristics	
DNR #	27011800
Watershed Area	1,611 Acres
Lake Area	232 Acres
Percent Littoral Area	32%
Average Depth	20.5 ft.
Maximum Depth	62 ft.
Watershed Area:Lake Area	6.9:1
Impairment Classification	Excess Nutrients 2008
Classification	Deep Lake



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

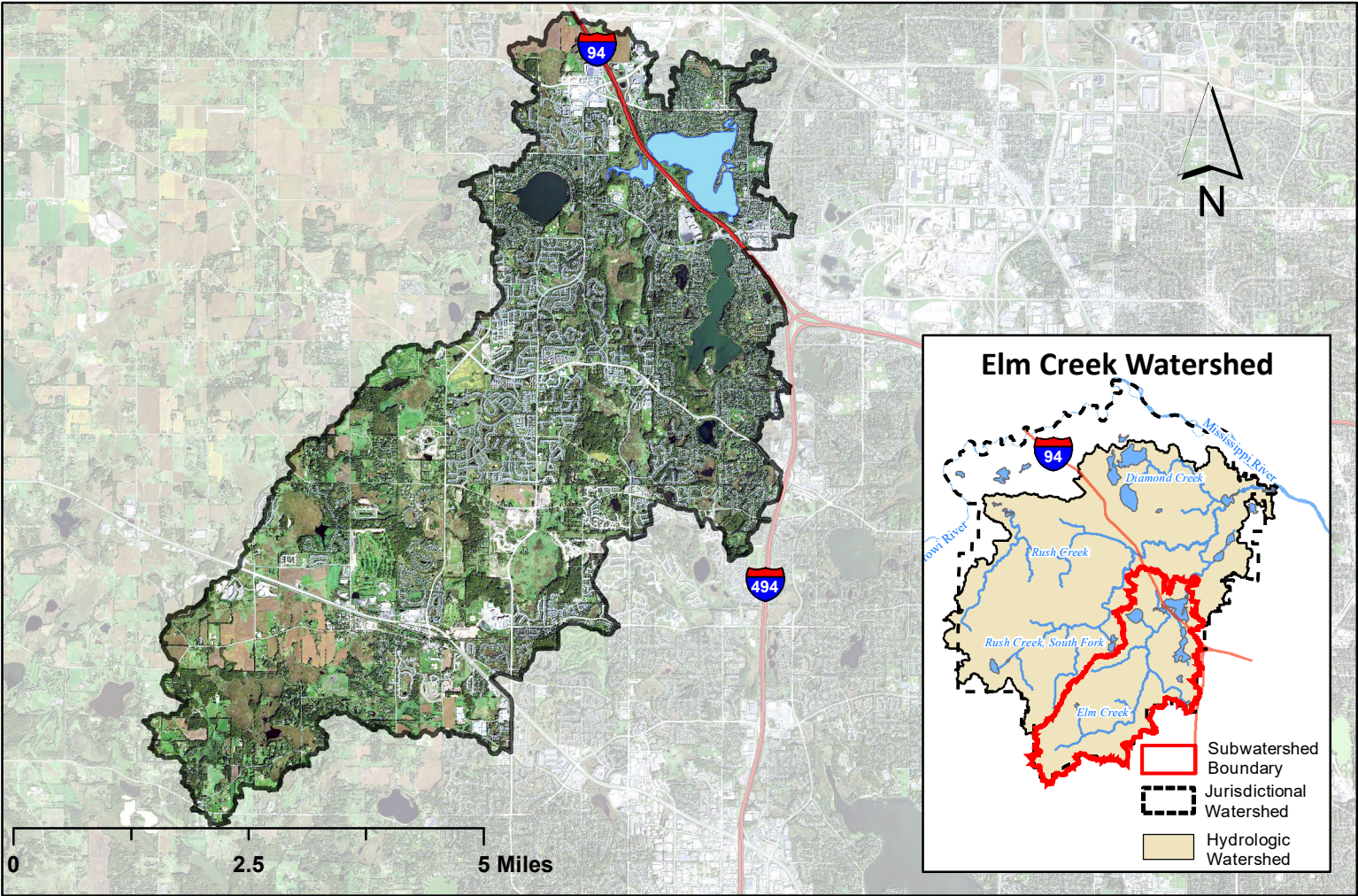
Met Council Grading System for
Lake Water Quality



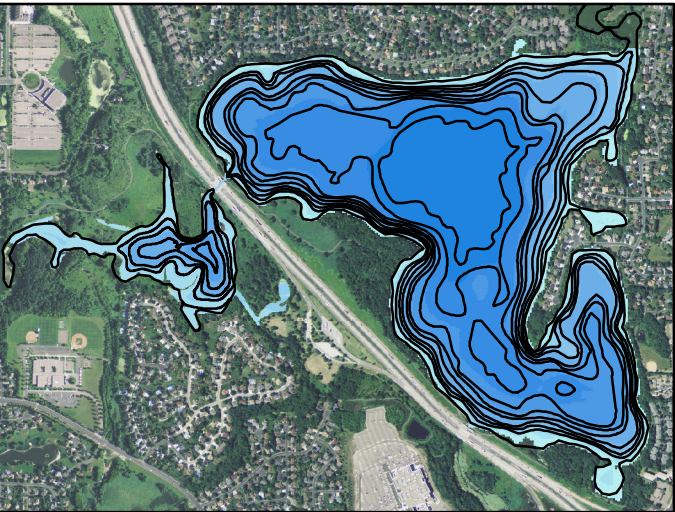
Division of Water
Resources

December 2017

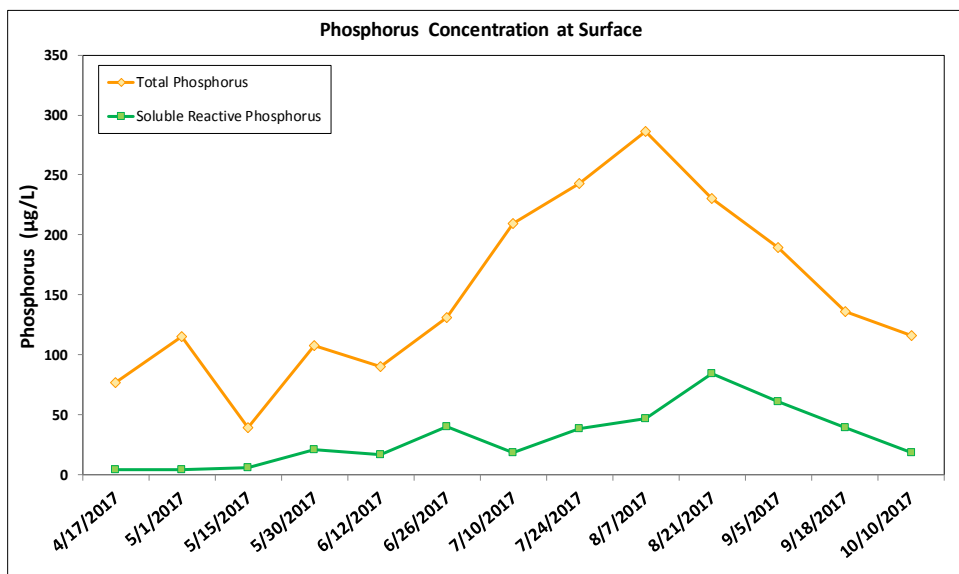
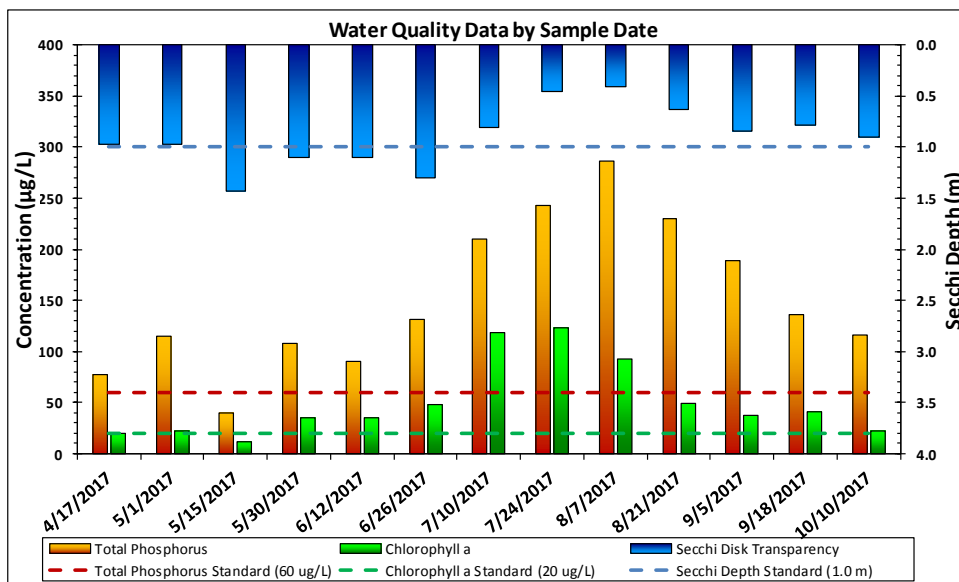
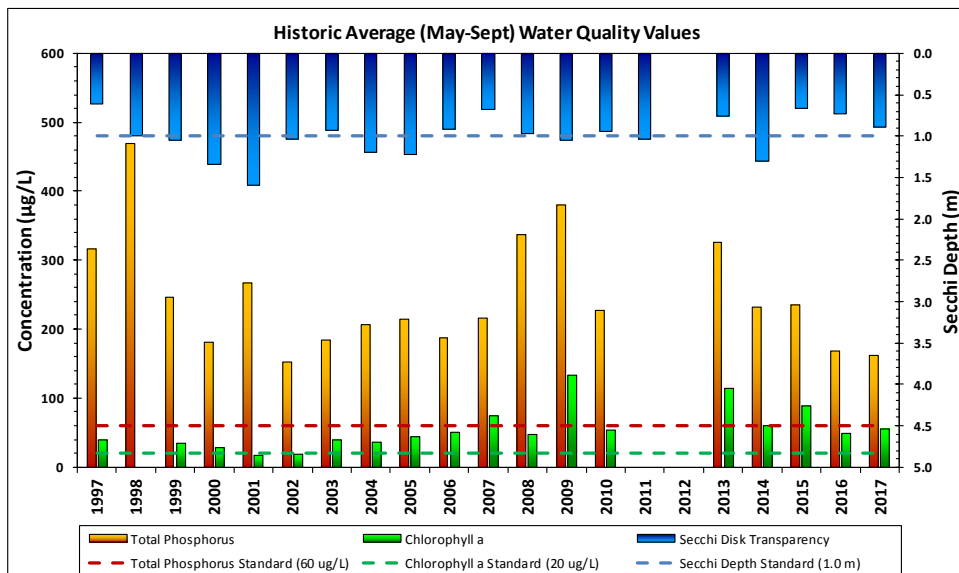
Rice Lake Watershed Map



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 Area:Lake Area	52.4:1
Impairment Classification	Excess Nutrients 2010
Classification	Shallow Lake



Rice Lake - Main Basin Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1997	F	C	F	D-
1998	F	A	D	C-
1999	F	C	D	D
2000	F	C	C	D+
2001	F	B	C	C-
2002	D	B	D	C-
2003	F	C	D	D
2004	F	C	D	D
2005	F	C	C	D+
2006	F	D	D	D-
2007	F	D	F	F
2008	F	C	D	D
2009	F	F	D	F
2010	F	D	D	D-
2011			D	F
2012				
2013	F	F	D	F
2014	F	D	C	D
2015	F	F	F	F
2016	F	D	D	D-
2017	F	D	D	D-
MPCA Standard	C	C	D	C

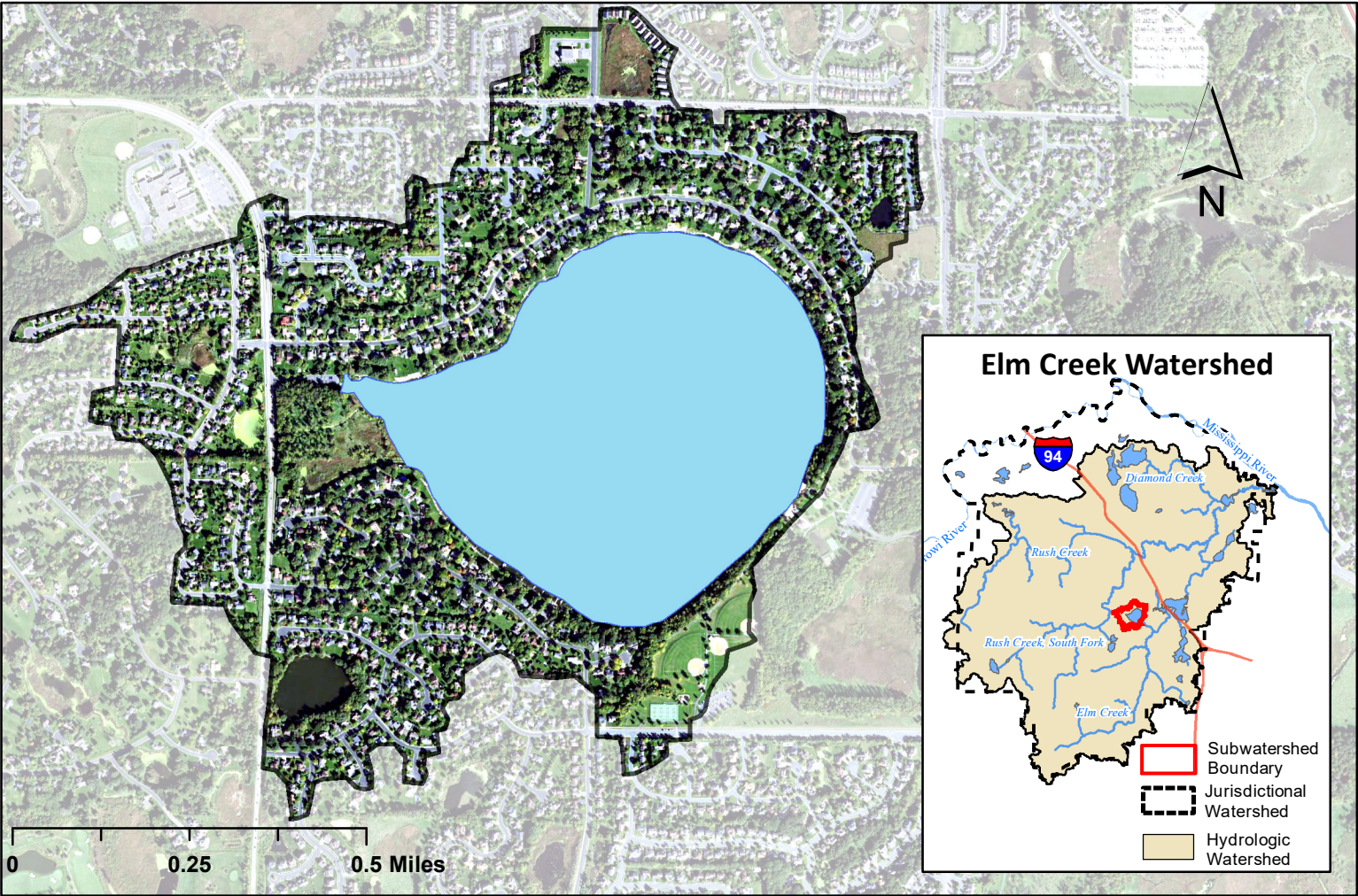
Met Council Grading System for Lake Water Quality



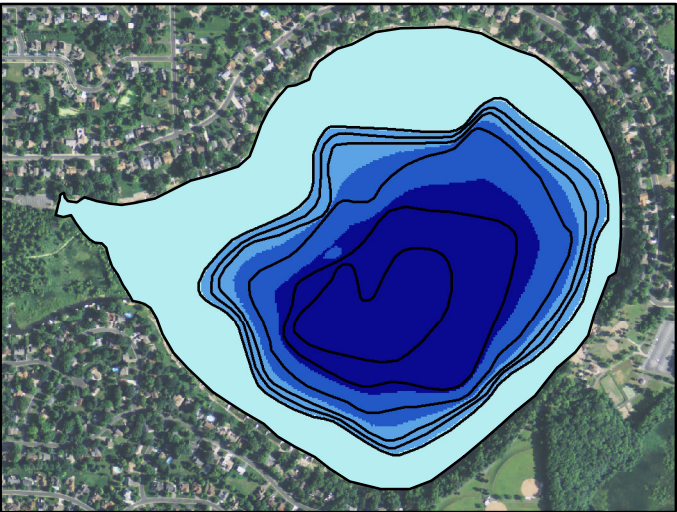
Division of Water Resources

December 2017

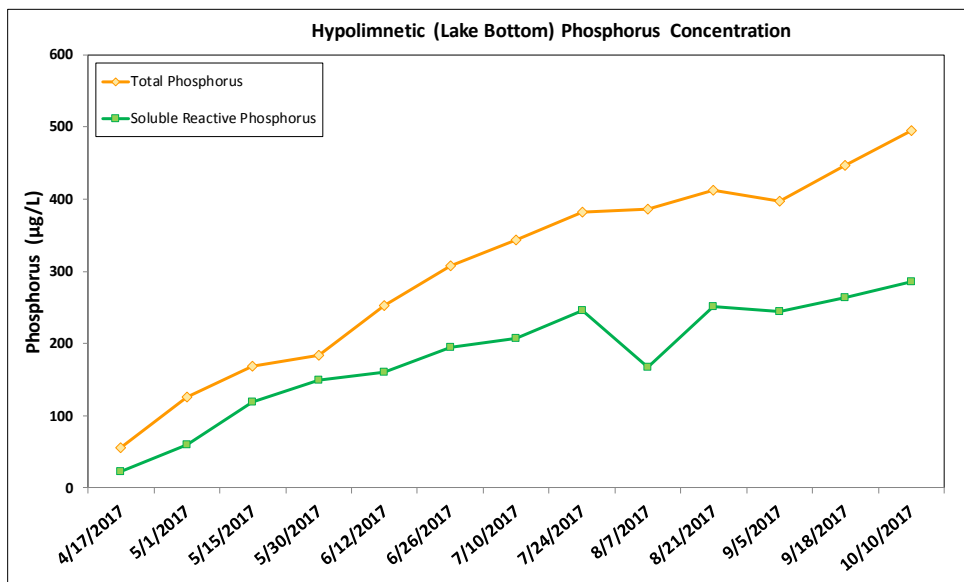
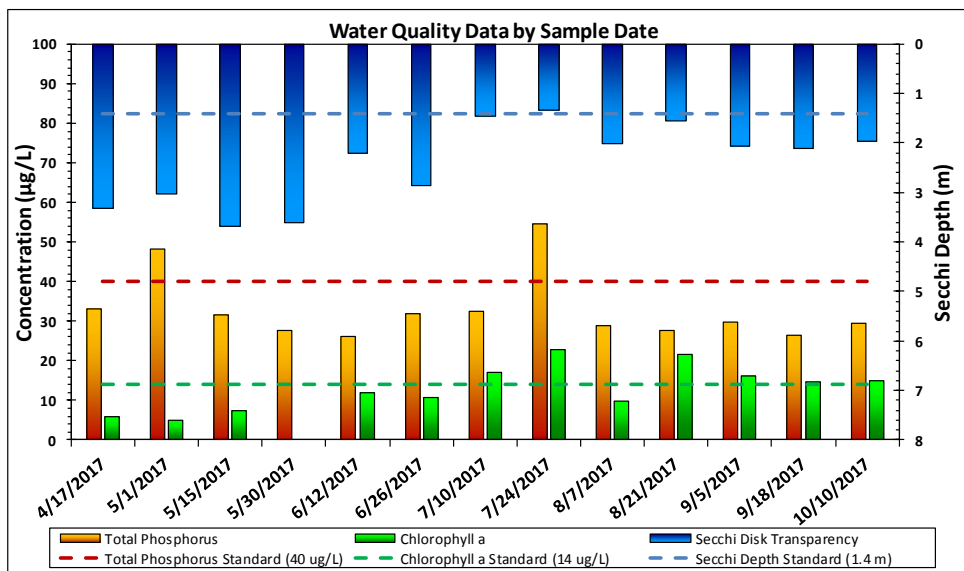
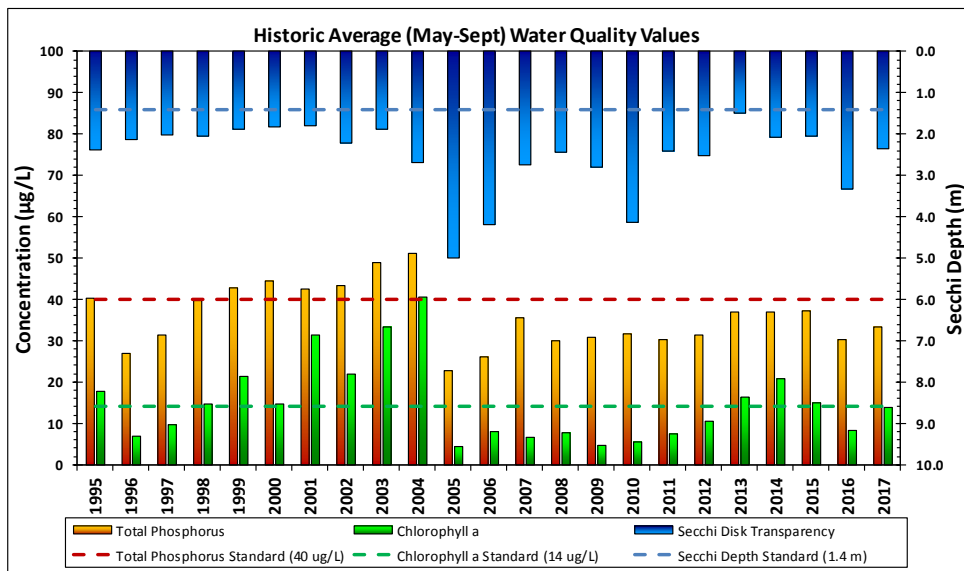
Weaver Lake Watershed Map



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 Area:Lake Area	1.3:1
Impairment Classification	None
Classification	Deep Lake



Weaver Lake Water Quality Report Card				
Year	TP	Chl-a	Secchi	Avg Grade
1995	C	B	B	B-
1996	B	A	C	B
1997	B	A	C	B
1998	C	B	C	C+
1999	C	C	C	C
2000	C	B	C	C+
2001	C	C	C	C
2002	C	C	B	C+
2003	C	C	C	C
2004	C	C	B	C+
2005	A	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	B	B
2013	C	B	C	C+
2014	C	C	C	C
2015	C	B	C	C+
2016	B	A	A	A-
2017	C	B	B	B-
MPCA Standard	C	B	C	C+

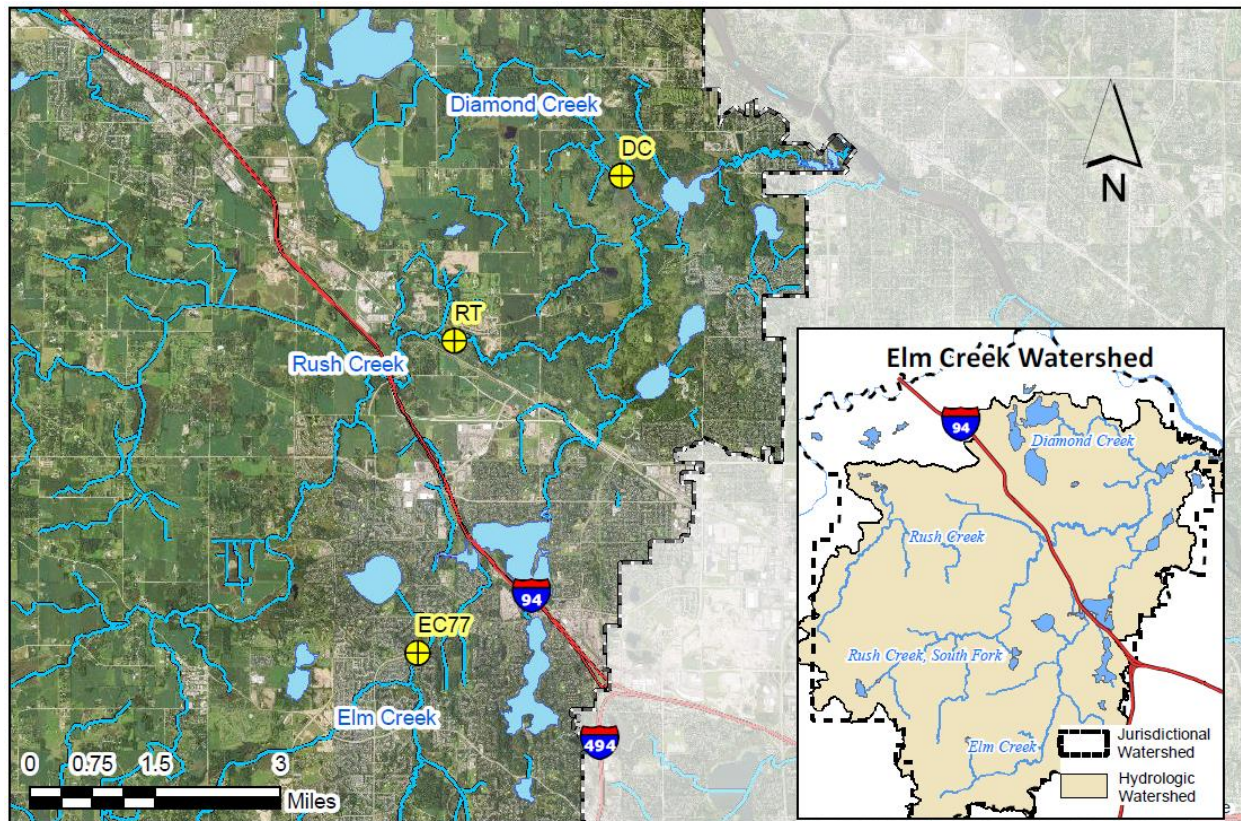
Met Council Grading System for Lake Water Quality



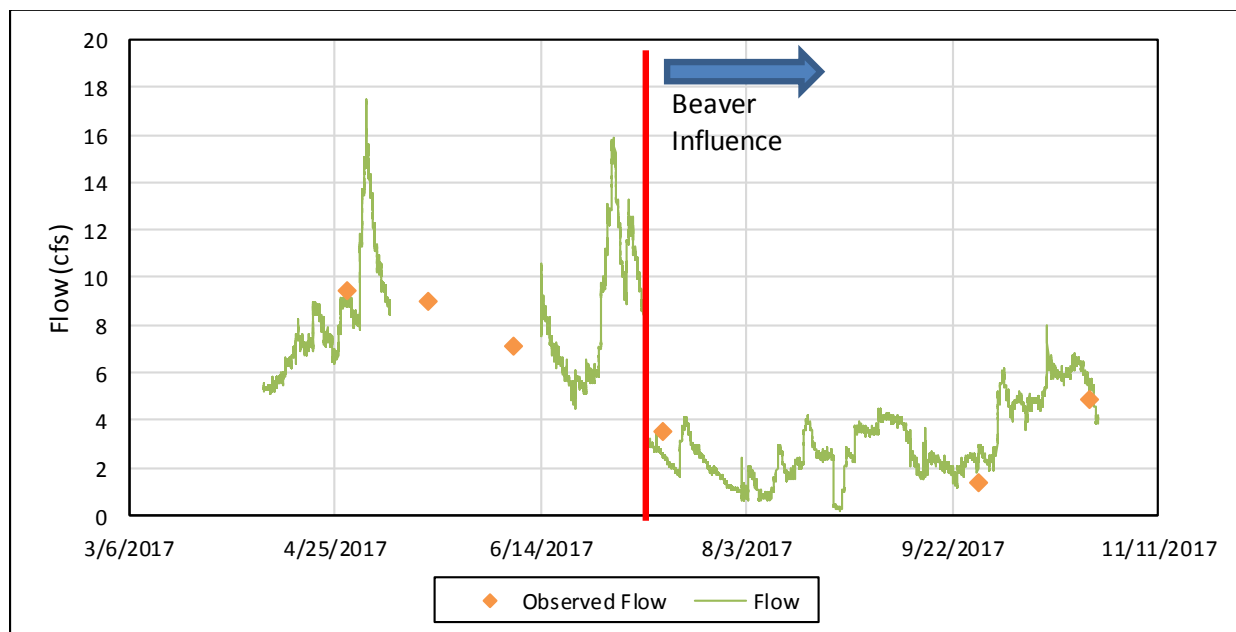
Division of Water Resources

December 2017

Stream Monitoring

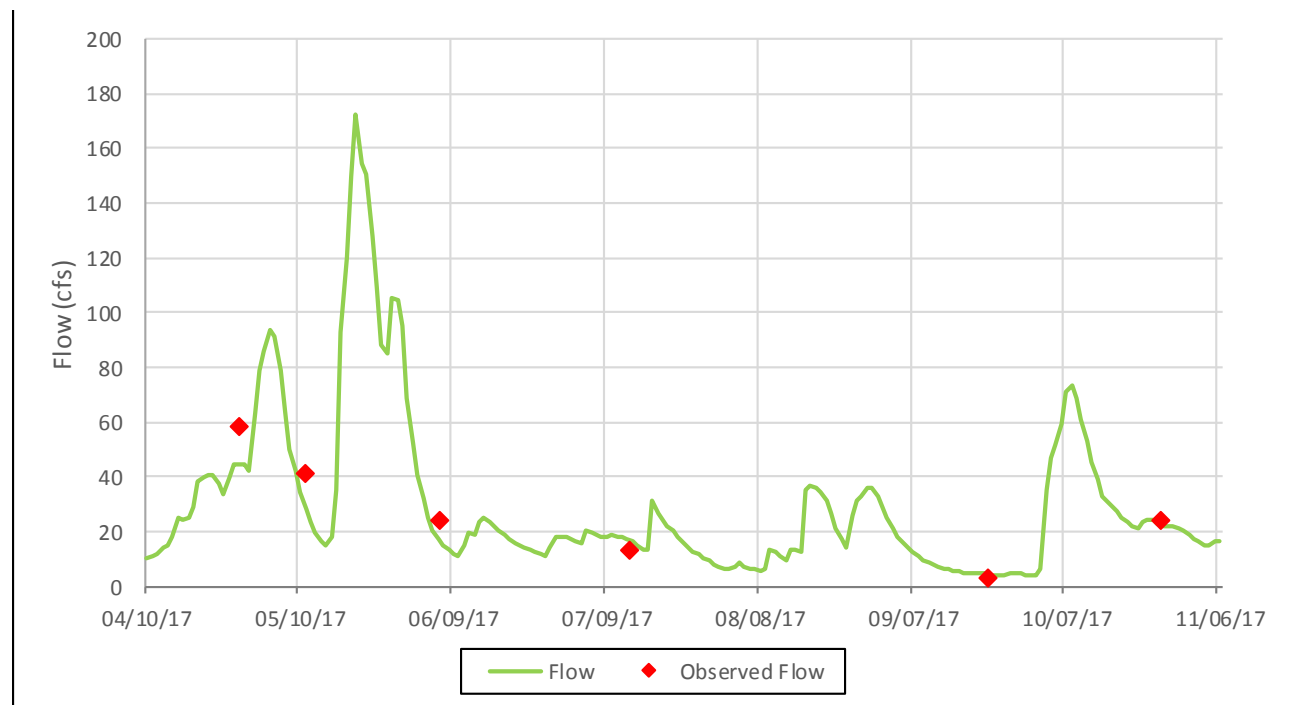


DC - Diamond Creek

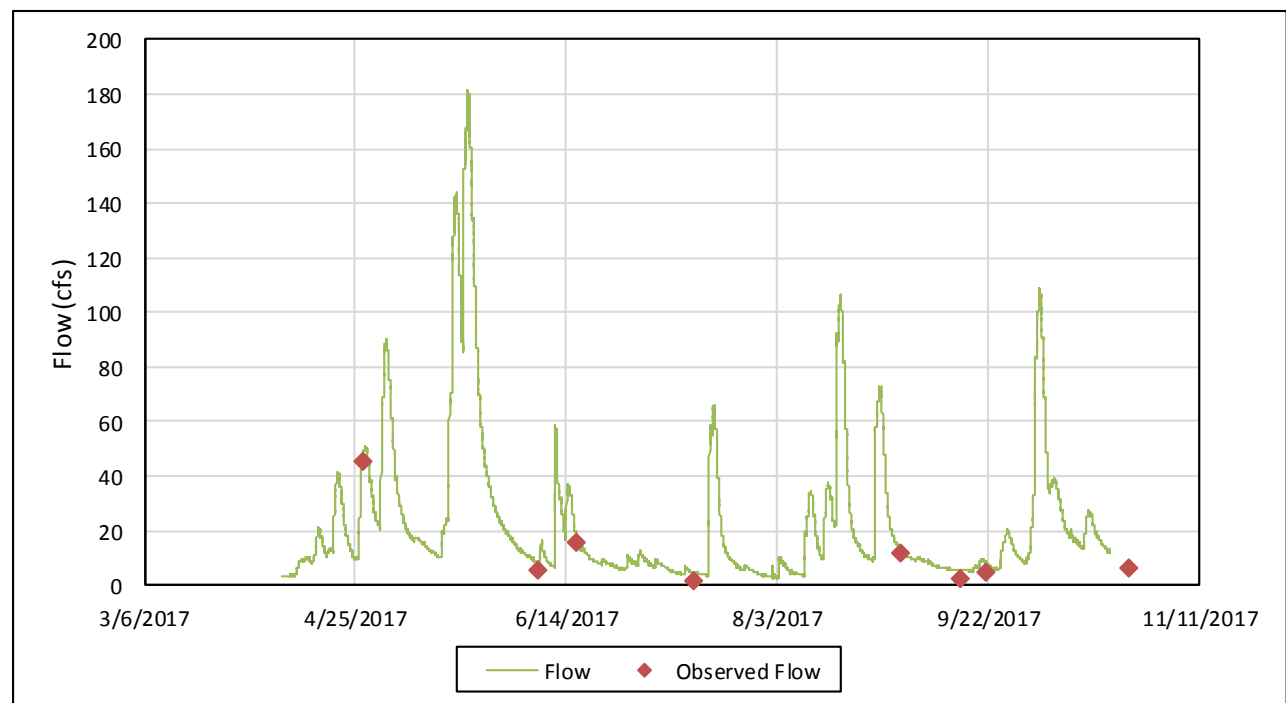


- Missing data because of malfunction with the HOBO. The data was repaired, but not all of it was recoverable.

RT - Rush Creek at Territorial



EC77 - Elm Creek at 77th Place



2017 Stream Monitoring

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 on the Internet at

http://waterdata.usgs.gov/mn/nwis/uv/?site_no=05287890&PARAMeter_cd=00065,00060.

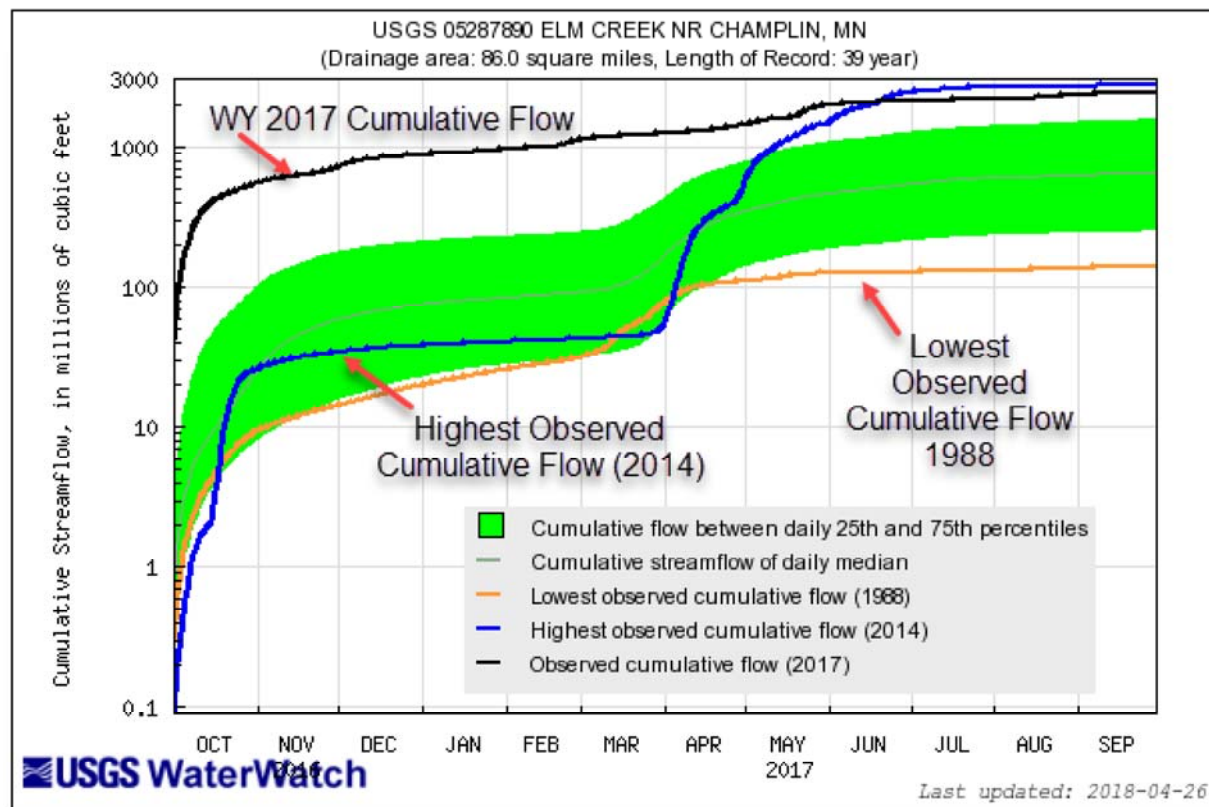
Flow Monitoring

Storm event samples are collected using an automatic sampler. Routine manual sampling occurs approximately monthly. The average daily discharge for the 2017 WY (October 1, 2016 through September 30, 2017) was 78.8 cubic feet per second (cfs) or 12.55 inches. During the same period, the minimum and maximum observed average daily discharge values were 9.02 cfs and 496 cfs, respectively. The long-term average daily discharge at the station is 42.1 cfs or 6.65 inches (years 1979-2017). A spreadsheet of the data received in 2017 water year (WY), including daily discharge and summary information, long-term flow volumes (calendar and water years), the flow hydrograph and the annual instantaneous peak discharge values at the gauging station for the period of record are also found in this appendix.

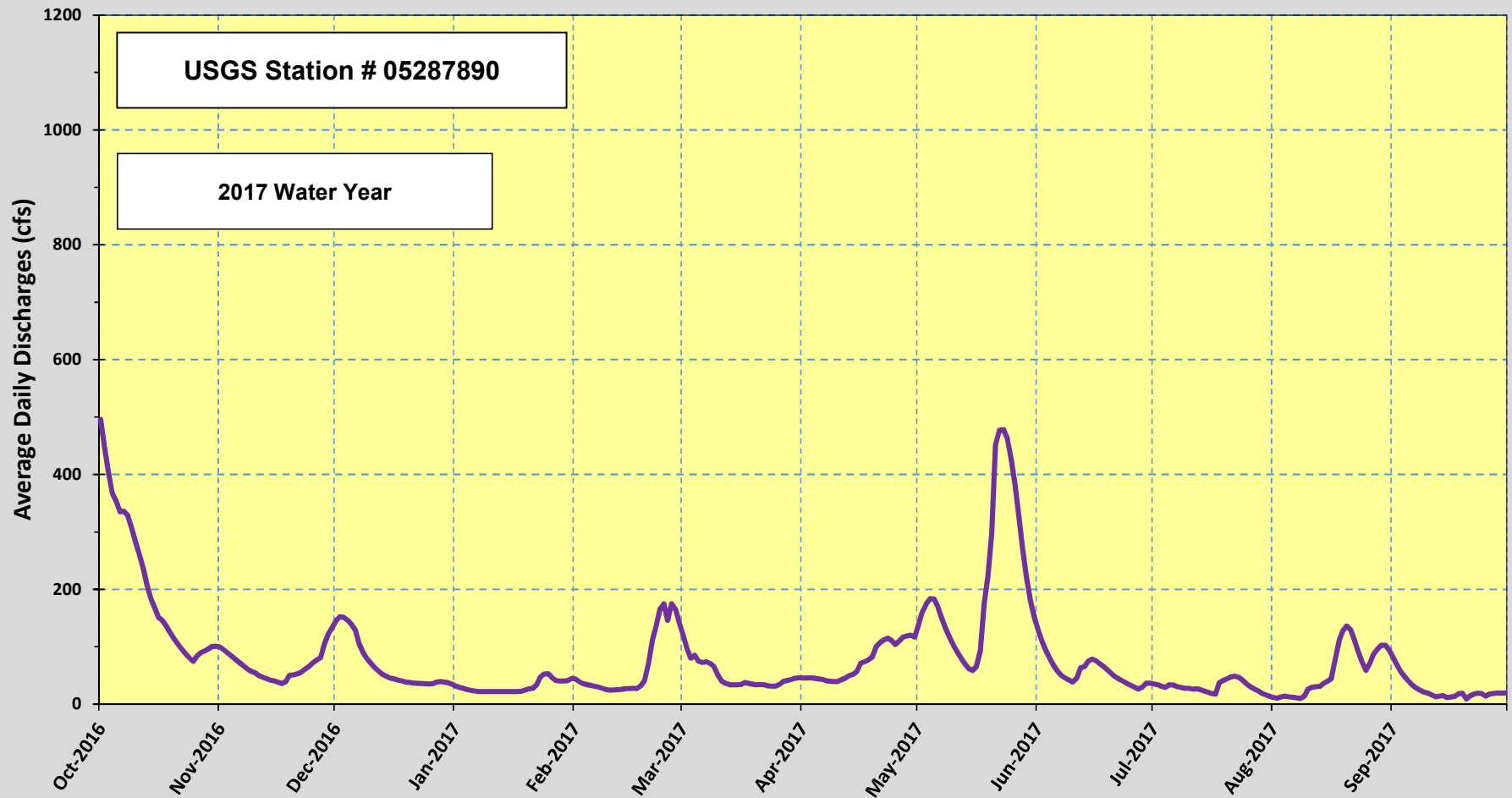
Elm Creek Annual Instantaneous Peak Discharge Rates							
Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)	Date	Peak Flow (cfs)
4/4/79	307	3/31/89	159	5/15/99	538*	3/27/09	119
3/25/80	199	8/1/90	225	7/13/00	112	3/17/10	369
6/15/81	44	6/1/91	371	4/25/01	875	3/24/11	803
4/3/82	471*	3/8/92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

*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.



Elm Creek near Champlin Average Daily Discharges



Water-Quality Data for Water Year 2017

[illegible]

U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

[illegible]

U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

[illegible]

U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

[illegible]

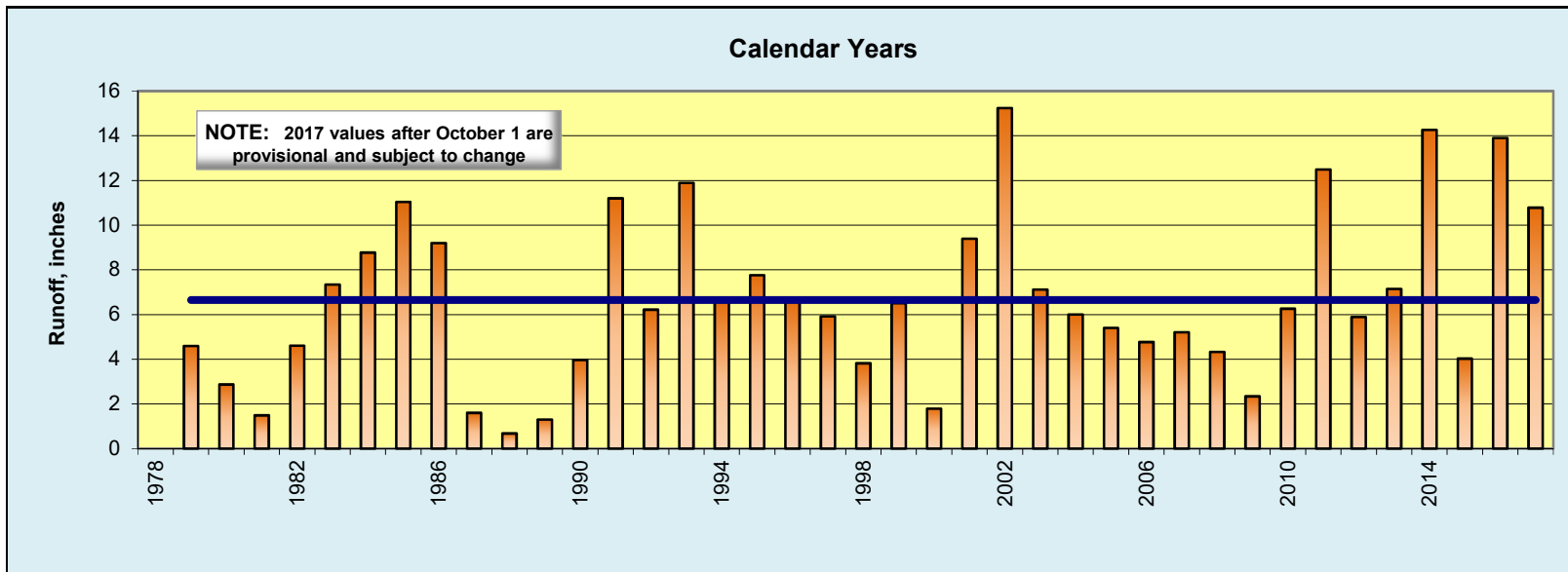
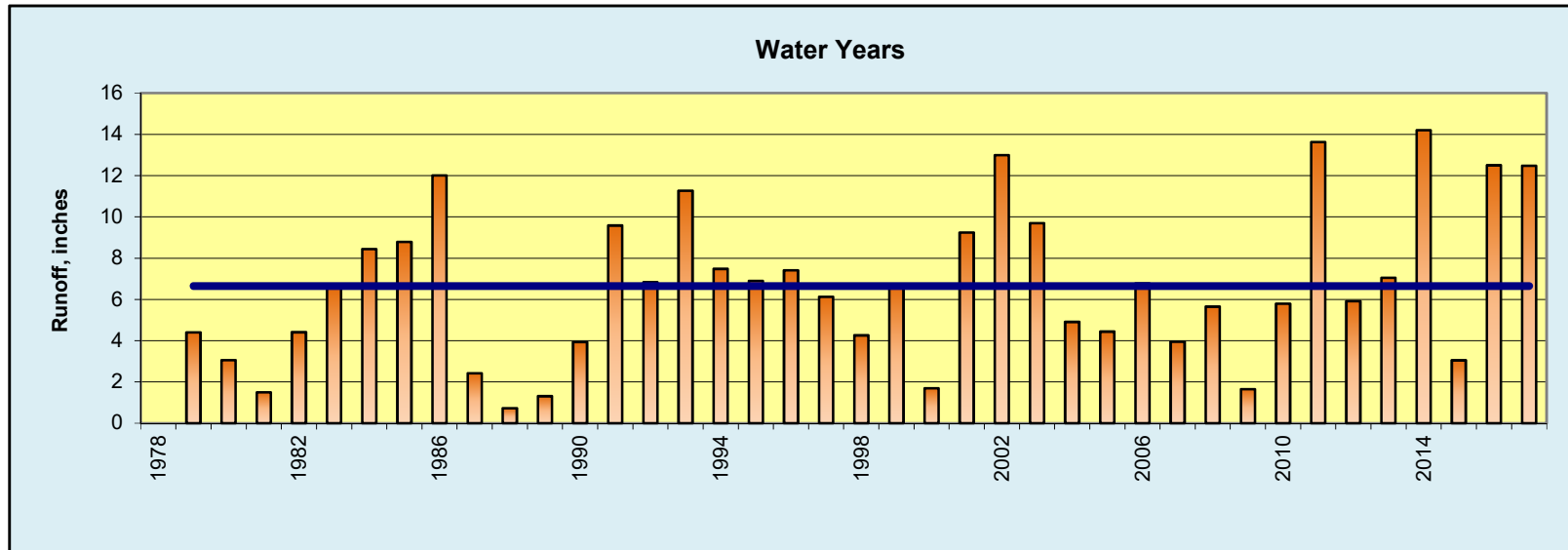
U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

[illegible]

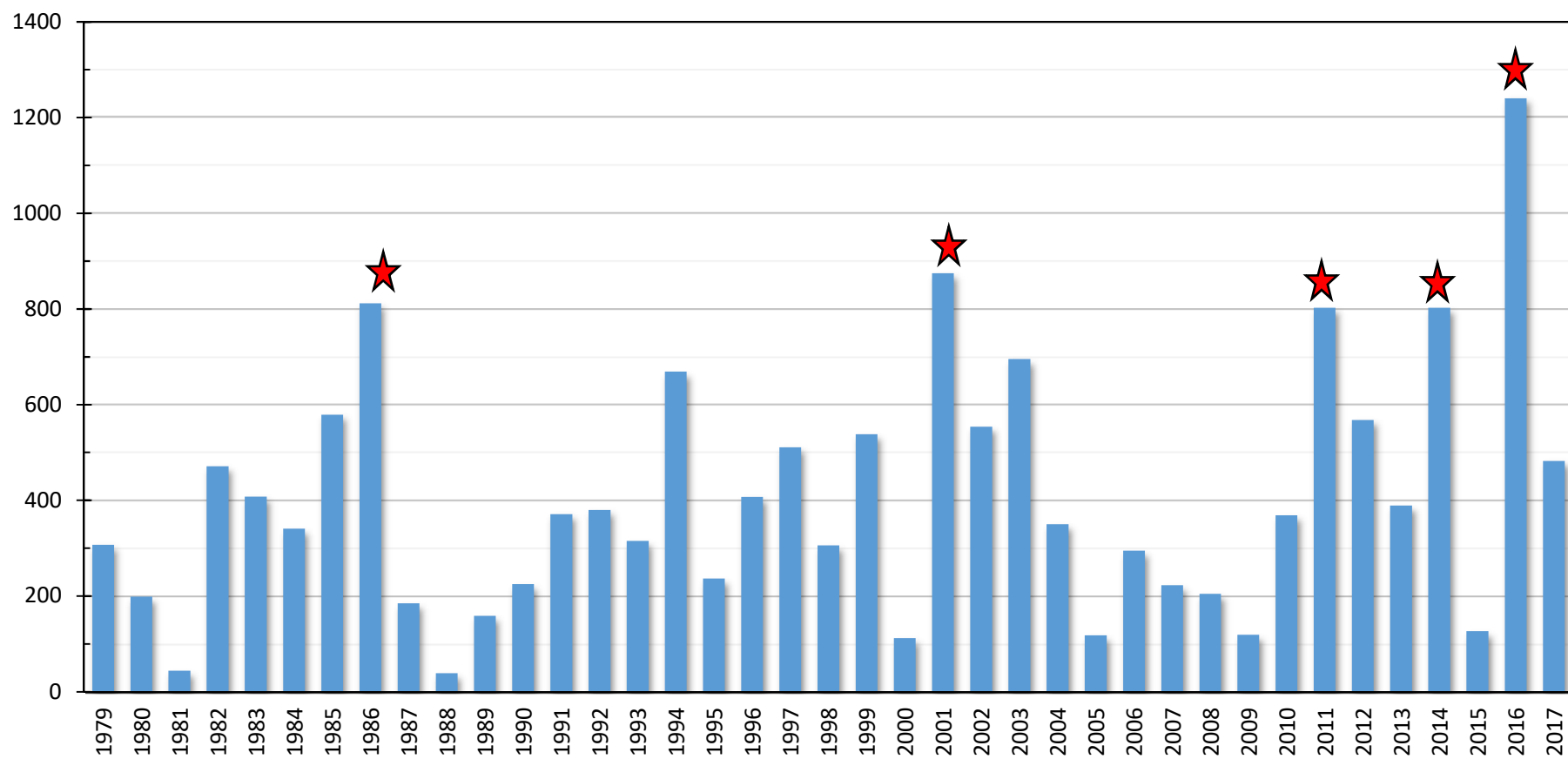
U.S. Geological Survey
 Elm Creek near Champlin, Station Number 5287890
 Water-Quality Data for Water Year 2017

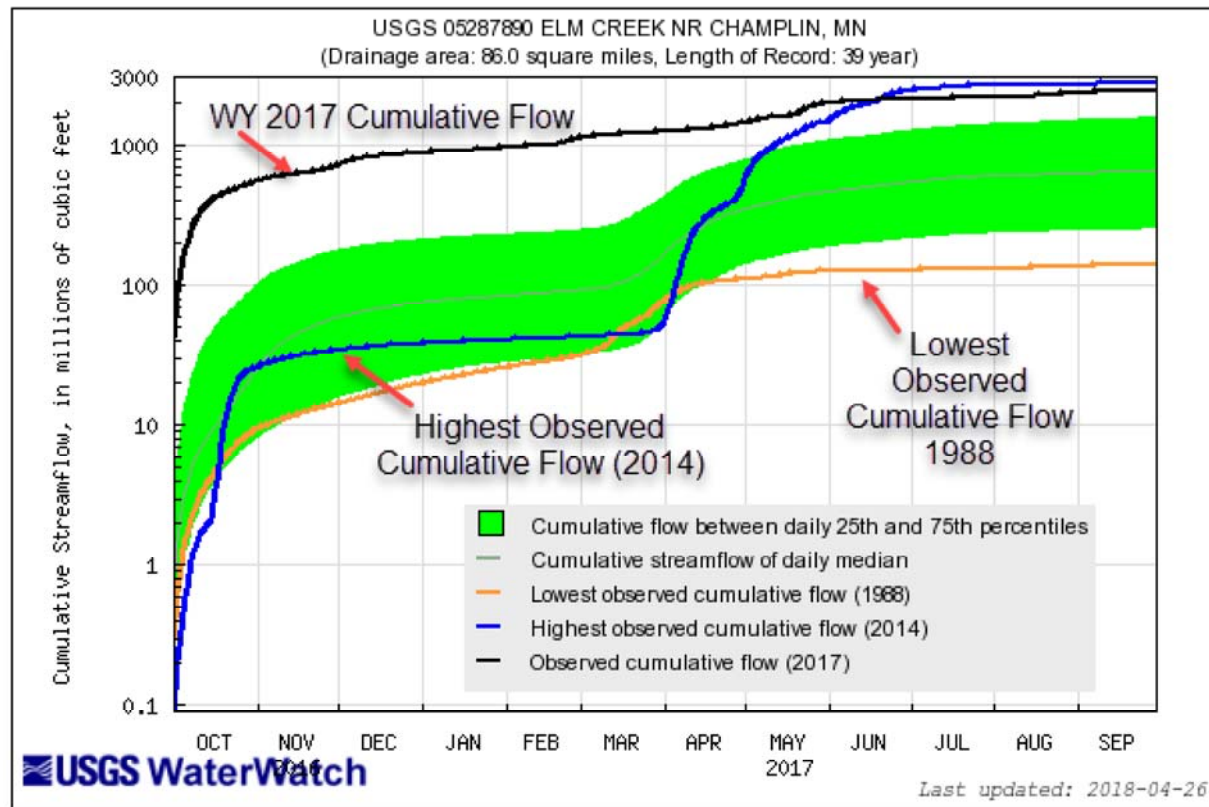
site no	sample date	sample time	sample end date	sample end time	p99172	p99173	p99206
5287890	18-Oct-16	12:30				20224	10036
5287890	29-Nov-16	11:30			20209	20224	10036
5287890	6-Dec-16	12:00			20209	20149	10036
5287890	20-Jan-17	10:00			20209	20149	10036
5287890	24-Feb-17	09:30			20219	20141	10036
5287890	27-Mar-17	10:00			20219	20218	10028
5287890	12-Apr-17	11:00			20219	20218	10044
*5287890	1-May-17	11:33	4-May-17	08:33		20218	10044
*5287890	17-May-17	11:57	20-May-17	05:57		20218	10044
5287890	19-May-17	10:00			20219	20218	10044
*5287890	20-May-17	11:33	23-May-17	08:33		20218	10044
5287890	5-Jun-17	12:30			20219	20218	10044
*5287890	11-Jun-17	13:20	13-Jun-17	10:20		20218	10044
5287890	14-Jun-17	02:58	16-Jun-17	05:58		20218	10044
5287890	19-Jul-17	11:30			20219	20218	10044
*5287890	10-Aug-17	15:54	13-Aug-17	12:54		20218	10044
*5287890	16-Aug-17	12:12	18-Aug-17	09:12		20218	10044
*5287890	18-Aug-17	12:37	21-Aug-17	09:37		20259	10044
5287890	21-Aug-17	10:30			20219	20259	10044
5287890	5-Sep-17	11:30			20219	20259	10048
* Automatic Event Samples							

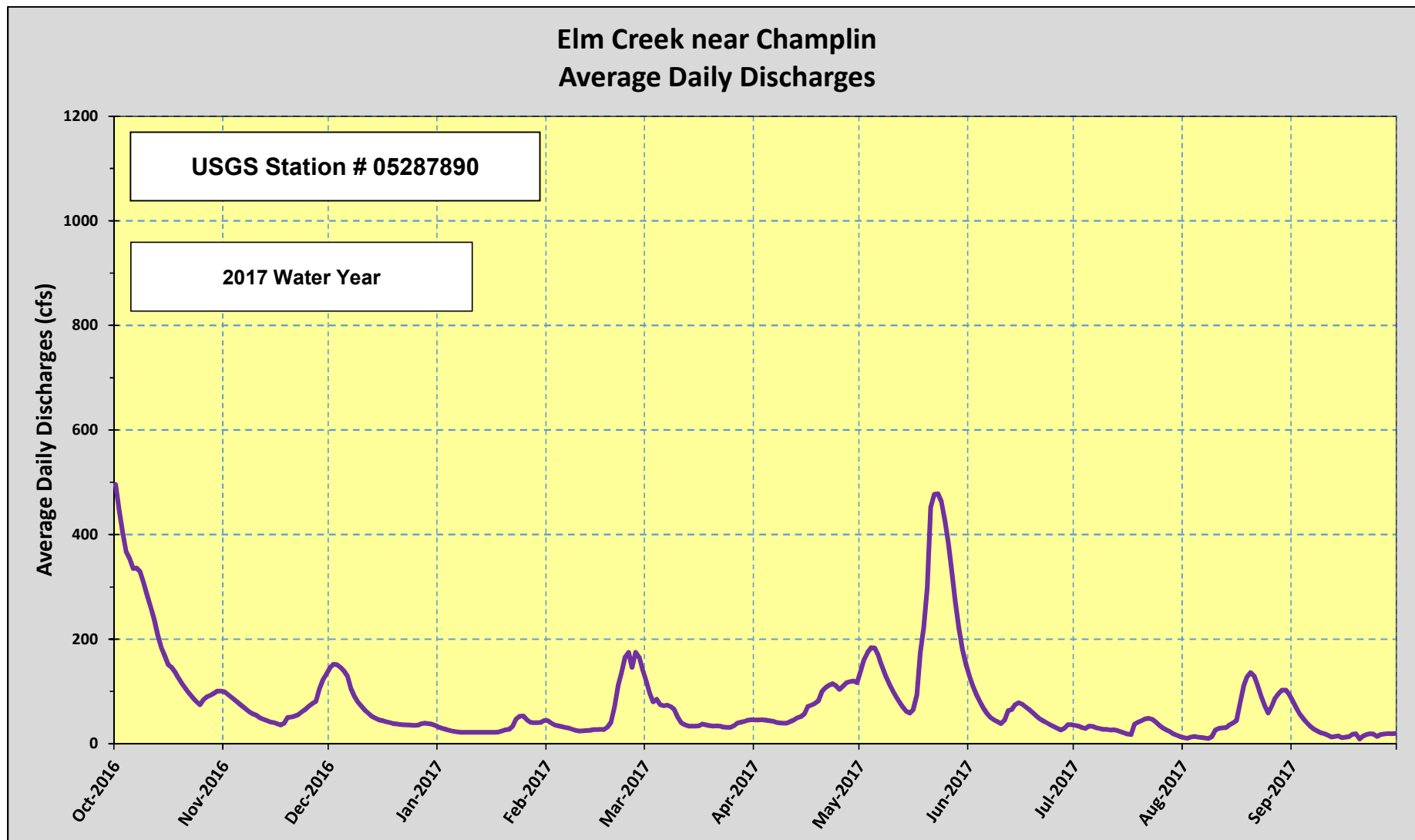
Annual Runoff Summary
Elm Creek Near Champlin, USGS 05287890



Peak Streamflows (cfs)
Elm Creek near Champlin
USGS 05287890







U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

site no	sample date	sample time	sample end date	sample end time	sample start time datum cd	tm datum rlbty cd	coll ent cd	medium cd	p00004	p00010	p00025	p00041	p00060	p00063	p00065
5287890	18-Oct-16	12:30			CDT	K	USGSMNWC	WS	34	12.5	734	0	138	5	6.47
5287890	29-Nov-16	11:30			CST	K	USGSMNWC	WS	34	4.2	717	2	122	5	6.07
5287890	6-Dec-16	12:00			CST	K	USGSMNWC	WS	34	1.1	727	2	122	5	6.16
5287890	20-Jan-17	10:00			CST	K	USGSMNWC	WS	32	0.7	727	2		1	4.11
5287890	24-Feb-17	09:30			CST	K	USGSMNWC	WS	34	0.7	732	2		5	6.74
5287890	27-Mar-17	10:00			CDT	K	USGSMNWC	WS	33	4.9	738	1		5	4.36
5287890	12-Apr-17	11:00			CDT	K	USGSMNWC	WS	33	8.3	743	2		5	4.45
*5287890	1-May-17	11:33	4-May-17	08:33	CDT	K	USGSMNWC	WS							
*5287890	17-May-17	11:57	20-May-17	05:57	CDT	K	USGSMNWC	WS							
5287890	19-May-17	10:00			CDT	K	USGSMNWC	WS	34	13.4	744	3		5	7.4
*5287890	20-May-17	11:33	23-May-17	08:33	CDT	K	USGSMNWC	WS							
5287890	5-Jun-17	12:30			CDT	K	USGSMNWC	WS	30	20.7	740	0		5	5.02
*5287890	11-Jun-17	13:20	13-Jun-17	10:20	CDT	K	USGSMNWC	WS							
5287890	14-Jun-17	02:58	16-Jun-17	05:58	CDT	K	USGSMNWC	WS							
5287890	19-Jul-17	11:30			CDT	K	USGSMNWC	WS	34	21.3	742	1		5	4.47
*5287890	10-Aug-17	15:54	13-Aug-17	12:54	CDT	K	USGSMNWC	WS							
*5287890	16-Aug-17	12:12	18-Aug-17	09:12	CDT	K	USGSMNWC	WS							
*5287890	18-Aug-17	12:37	21-Aug-17	09:37	CDT	K	USGSMNWC	WS							
5287890	21-Aug-17	10:30			CDT	K	USGSMNWC	WS	34	21.1	740	0		5	6.24
5287890	5-Sep-17	11:30			CDT	K	USGSMNWC	WS	34	16.6	741	1		5	4.6
* Automatic Event Samples															

U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

site no	sample date	sample time	sample end date	sample end time	p00095	p00191	p00300	p00301	p00340	p00400	p00530	p00535	p00540	p00600
5287890	18-Oct-16	12:30			457	3E-05	7.3	71	69	7.5	< 15	< 10	< 15	1
5287890	29-Nov-16	11:30			559	2E-05	10.7	87	60	7.7	< 15	< 10	< 15	1.3
5287890	6-Dec-16	12:00			555	1E-05	12.6	93	47	8	< 15	< 10	< 15	1.1
5287890	20-Jan-17	10:00			842	2E-05	11	80	56	7.7	< 15	< 10	< 15	
5287890	24-Feb-17	09:30			531	3E-05	11.9	86	60	7.6	21	< 10	< 21	1.5
5287890	27-Mar-17	10:00			640	1E-05	11.4	92	61	7.8	< 15	< 10	< 15	0.95
5287890	12-Apr-17	11:00			659	1E-05	9.8	86	68	7.9	< 15	< 10	< 15	< 0.93
*5287890	1-May-17	11:33	4-May-17	08:33	626	1E-05			59	8	17	< 10	< 17	0.95
*5287890	17-May-17	11:57	20-May-17	05:57	550	1E-05			76	8	51	16	35	1.3
5287890	19-May-17	10:00			565	4E-05	6.8	66	64	7.4	30	< 10	< 30	1.2
*5287890	20-May-17	11:33	23-May-17	08:33	511	1E-05			57	8	25	< 10	< 25	1.1
5287890	5-Jun-17	12:30			540	2E-05	6.7	76	56	7.6	< 15	< 10	< 15	1.1
*5287890	11-Jun-17	13:20	13-Jun-17	10:20	493	1E-05			67	8	23	< 10	< 23	1.3
5287890	14-Jun-17	02:58	16-Jun-17	05:58	510	1E-05			66	8.1	18	< 10	< 18	1.1
5287890	19-Jul-17	11:30			465	3E-05	6.4	74	62	7.6	< 15	< 10	< 15	1.4
*5287890	10-Aug-17	15:54	13-Aug-17	12:54	486				65		< 15	14	< 1	1.5
*5287890	16-Aug-17	12:12	18-Aug-17	09:12	456	1E-05			77	7.9	36	11	25	2
*5287890	18-Aug-17	12:37	21-Aug-17	09:37	481	1E-05			98	8	18	11	7	1.7
5287890	21-Aug-17	10:30			481	6E-05	4.5	51	75	7.3	< 30	14	< 16	1.6
5287890	5-Sep-17	11:30			495	3E-05	7	74	72	7.5	< 15	< 10	< 15	1.4
* Automatic Event Samples														

U.S. Geological Survey
 Elm Creek near Champlin, Station Number 5287890
 Water-Quality Data for Water Year 2017

site no	sample date	sample time	sample end date	sample end time	p00605	p00608	p00610	p00613	p00618	p00625	p00631	p00665	p00666	p00940
5287890	18-Oct-16	12:30			0.85	0.04	0.05	0.009	0.121	0.9	0.13	0.18	0.13	33.5
5287890	29-Nov-16	11:30			0.52	0.19	0.22	0.022	0.578	0.74	0.599	0.07	< 0.02	110
5287890	6-Dec-16	12:00			0.84	0.03	0.04	0.005	0.235	0.88	0.239	0.1	0.04	50.6
5287890	20-Jan-17	10:00												109
5287890	24-Feb-17	09:30			1	0.13	0.14	0.014	0.333	1.2	0.347	0.17	0.06	62.2
5287890	27-Mar-17	10:00			0.76	0.06	0.07	0.004	0.109	0.83	0.113	0.09	0.03	72.3
5287890	12-Apr-17	11:00			0.82	0.04	0.06	0.002	< 0.038	0.89	< 0.040	0.09	0.05	75.5
*5287890	1-May-17	11:33	4-May-17	08:33	0.86	0.02	0.02	0.001	0.064	0.89	0.065	0.1	0.06	79.5
*5287890	17-May-17	11:57	20-May-17	05:57	1	0.05	0.06	0.007	0.154	1.1	0.16	0.21	0.12	68
5287890	19-May-17	10:00			1	0.03	0.04	0.004	0.133	1	0.137	0.21	0.13	69.8
*5287890	20-May-17	11:33	23-May-17	08:33	0.88	0.04	0.03	0.005	0.177	0.91	0.182	0.14	0.1	61.1
5287890	5-Jun-17	12:30			0.94	0.05	0.07	0.006	0.114	1	0.12	0.23	0.15	49.6
*5287890	11-Jun-17	13:20	13-Jun-17	10:20	0.94	0.08	0.11	0.018	0.211	1	0.229	0.24	0.15	51.3
5287890	14-Jun-17	02:58	16-Jun-17	05:58	0.88	0.05	0.06	0.01	0.104	0.94	0.114	0.26	0.18	55.6
5287890	19-Jul-17	11:30			1	0.09	0.13	0.028	0.191	1.2	0.219	0.24	0.16	46.4
*5287890	10-Aug-17	15:54	13-Aug-17	12:54	1.2	0.08	0.09	0.044	0.159	1.3	0.203	0.2	0.12	57.4
*5287890	16-Aug-17	12:12	18-Aug-17	09:12	1.7	0.1	0.12	0.024	0.115	1.8	0.139	0.28	0.13	54.7
*5287890	18-Aug-17	12:37	21-Aug-17	09:37	1.5	0.06	0.08	0.012	0.079	1.6	0.091	0.25	0.14	57.7
5287890	21-Aug-17	10:30			1.4	0.06	0.09	0.008	0.045	1.5	0.053	0.27	0.15	56.5
5287890	5-Sep-17	11:30			1.1	0.13	0.16	0.026	0.085	1.3	0.11	0.2	0.13	47.8
* Automatic Event Samples														

U.S. Geological Survey
 Elm Creek near Champlin, Station Number 5287890
 Water-Quality Data for Water Year 2017

site no	sample date	sample time	sample end date	sample end time	p30207	p30208	p32000	p50280	p71845	p71846	p71851	p71856	p71999	p72105
5287890	18-Oct-16	12:30			1.97	3.9	5	1001	0.063	0.052	0.535	0.029	10	20
5287890	29-Nov-16	11:30			1.85	3.5	5	1001	0.279	0.243	2.56	0.072	10	20
5287890	6-Dec-16	12:00			1.88	3.5	5	1001	0.05	0.043	1.04	0.015	10	20
5287890	20-Jan-17	10:00			1.25			1001					10	20
5287890	24-Feb-17	09:30			2.05			1001	0.184	0.171	1.47	0.047	10	20
5287890	27-Mar-17	10:00			1.33			1001	0.097	0.082	0.485	0.013	10	20
5287890	12-Apr-17	11:00			1.36			1001	0.082	0.05	< 0.166	0.008	10	20
*5287890	1-May-17	11:33	4-May-17	08:33				1002	0.028	0.028	0.283	0.004	10	
*5287890	17-May-17	11:57	20-May-17	05:57				1002	0.073	0.064	0.68	0.022	10	
5287890	19-May-17	10:00			2.26			1001	0.054	0.044	0.587	0.015	10	20
*5287890	20-May-17	11:33	23-May-17	08:33				1002	0.042	0.047	0.782	0.017	10	
5287890	5-Jun-17	12:30			1.53			1001	0.094	0.069	0.504	0.02	10	20
*5287890	11-Jun-17	13:20	13-Jun-17	10:20				1002	0.14	0.107	0.935	0.059	10	
5287890	14-Jun-17	02:58	16-Jun-17	05:58				1002	0.077	0.065	0.46	0.031	10	
5287890	19-Jul-17	11:30			1.36			1001	0.17	0.122	0.846	0.093	10	20
*5287890	10-Aug-17	15:54	13-Aug-17	12:54				1002	0.117	0.107	0.704	0.143	10	
*5287890	16-Aug-17	12:12	18-Aug-17	09:12				1002	0.155	0.123	0.51	0.078	10	
*5287890	18-Aug-17	12:37	21-Aug-17	09:37				1002	0.099	0.076	0.348	0.041	10	
5287890	21-Aug-17	10:30			1.9			1001	0.116	0.074	0.197	0.028	10	20
5287890	5-Sep-17	11:30			1.4			1001	0.203	0.167	0.375	0.085	10	20
* Automatic Event Samples														

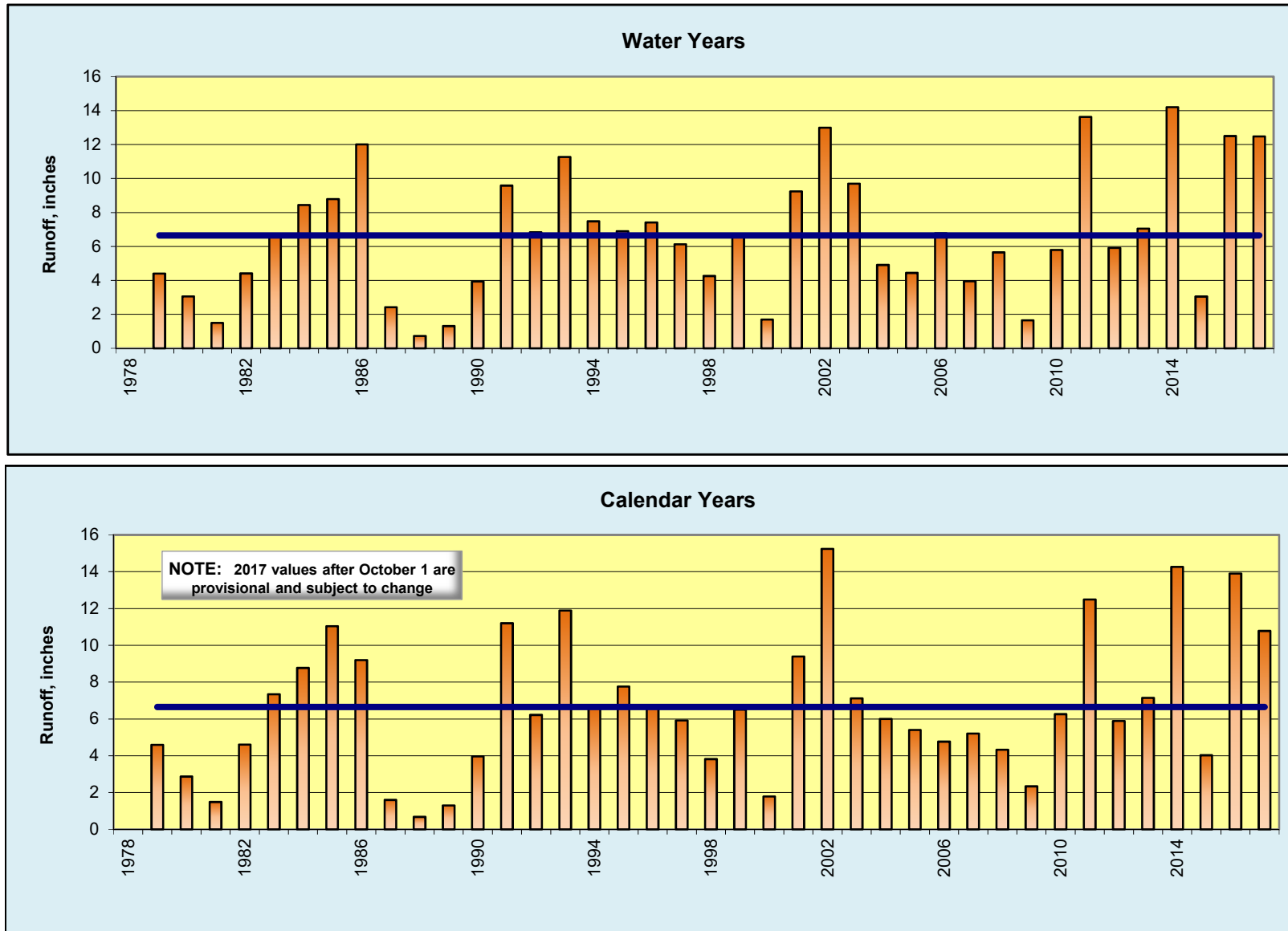
U.S. Geological Survey
Elm Creek near Champlin, Station Number 5287890
Water-Quality Data for Water Year 2017

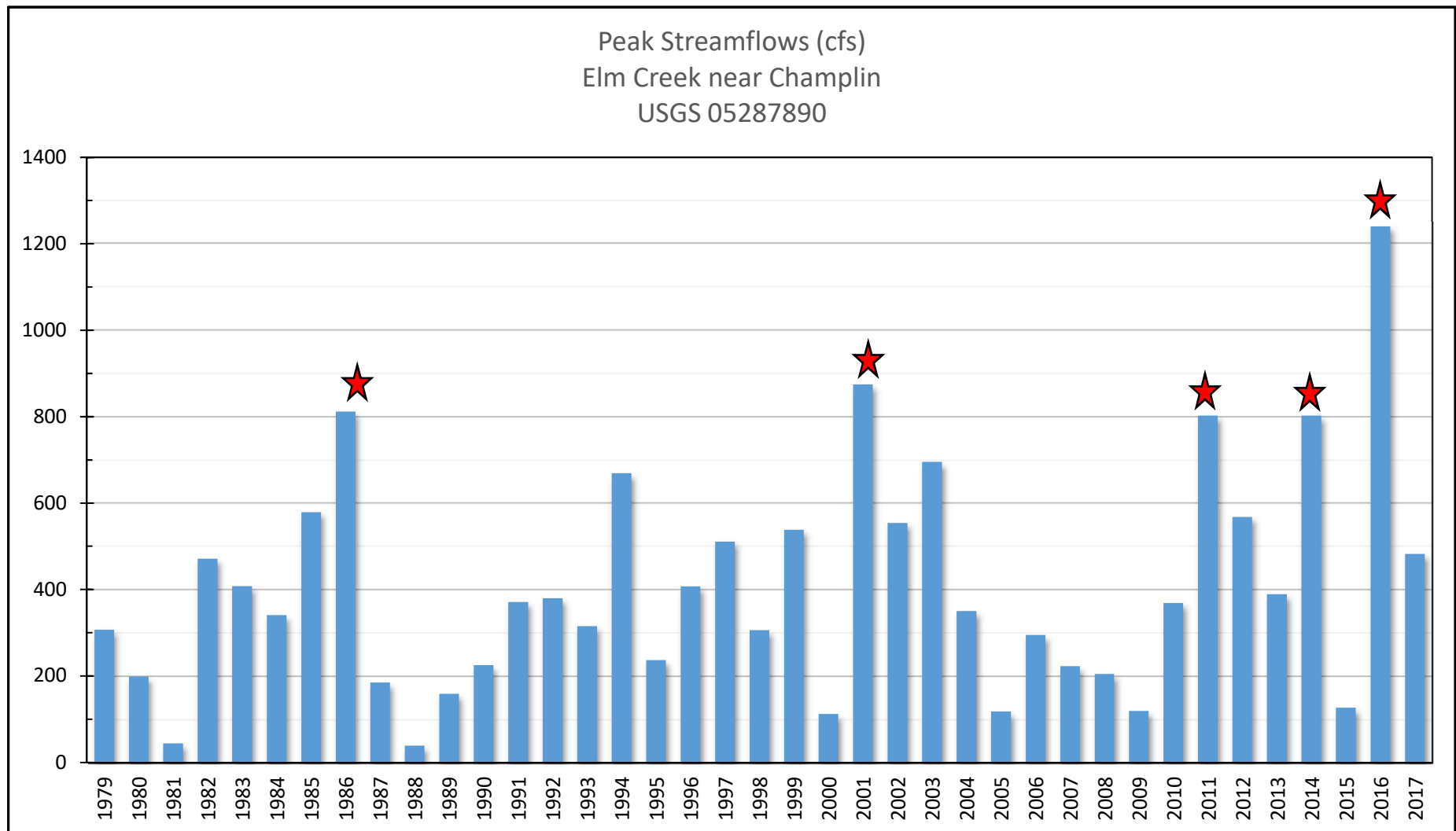
site no	sample date	sample time	sample end date	sample end time	p82398	p84164	p84171	p84182	p99111	p99156	p99162	p99163	p99165	p99171
5287890	18-Oct-16	12:30			40	3061	10	1	1	40216	30470	30476	30451	20214
5287890	29-Nov-16	11:30			40	3061	10	1	1	40216	30470	30476	30451	20216
5287890	6-Dec-16	12:00			40	3061	10	1	1	40216	30470	30476	30451	20216
5287890	20-Jan-17	10:00			60	3061	10	1	1	40221	30470	30476	30451	20216
5287890	24-Feb-17	09:30			60	3061	10	1	1	40221	30470	30476	30484	20216
5287890	27-Mar-17	10:00			60	3061	10	1	1	40221	30470	30476	30484	20216
5287890	12-Apr-17	11:00			40	3061	10	1	1	40221	30519	30476	30484	20216
*5287890	1-May-17	11:33	4-May-17	08:33	25	4115	10	2	1	40228			30451	20216
*5287890	17-May-17	11:57	20-May-17	05:57	25	4115	10	2	1	40228			30451	20216
5287890	19-May-17	10:00			40	3061	10	1	1	40228	30519	30476	30536	20216
*5287890	20-May-17	11:33	23-May-17	08:33	25	4115	10	2	1	40228			30451	20216
5287890	5-Jun-17	12:30			40	3061	10	1	1	40228	30519	30476	30536	20216
*5287890	11-Jun-17	13:20	13-Jun-17	10:20	25	4115	10	2	1	40228			30451	20216
5287890	14-Jun-17	02:58	16-Jun-17	05:58	25	4115	10	2	1	40228			30451	20216
5287890	19-Jul-17	11:30			40	3061	10	1	1	40228	30519	30438	30536	20216
*5287890	10-Aug-17	15:54	13-Aug-17	12:54	25	4115	10	2	1	40228			30451	20190
*5287890	16-Aug-17	12:12	18-Aug-17	09:12	25	4115	10	2	1	40242			30451	20190
*5287890	18-Aug-17	12:37	21-Aug-17	09:37	25	4115	10	2	1	40242			30451	20227
5287890	21-Aug-17	10:30			40	3061	10	1	1	40242	30533	30438	30451	20216
5287890	5-Sep-17	11:30			40	3061	10	1	1	40247	30533	30438	30451	20227
* Automatic Event Samples														

U.S. Geological Survey
 Elm Creek near Champlin, Station Number 5287890
 Water-Quality Data for Water Year 2017

site no	sample date	sample time	sample end date	sample end time	p99172	p99173	p99206
5287890	18-Oct-16	12:30				20224	10036
5287890	29-Nov-16	11:30			20209	20224	10036
5287890	6-Dec-16	12:00			20209	20149	10036
5287890	20-Jan-17	10:00			20209	20149	10036
5287890	24-Feb-17	09:30			20219	20141	10036
5287890	27-Mar-17	10:00			20219	20218	10028
5287890	12-Apr-17	11:00			20219	20218	10044
*5287890	1-May-17	11:33	4-May-17	08:33		20218	10044
*5287890	17-May-17	11:57	20-May-17	05:57		20218	10044
5287890	19-May-17	10:00			20219	20218	10044
*5287890	20-May-17	11:33	23-May-17	08:33		20218	10044
5287890	5-Jun-17	12:30			20219	20218	10044
*5287890	11-Jun-17	13:20	13-Jun-17	10:20		20218	10044
5287890	14-Jun-17	02:58	16-Jun-17	05:58		20218	10044
5287890	19-Jul-17	11:30			20219	20218	10044
*5287890	10-Aug-17	15:54	13-Aug-17	12:54		20218	10044
*5287890	16-Aug-17	12:12	18-Aug-17	09:12		20218	10044
*5287890	18-Aug-17	12:37	21-Aug-17	09:37		20259	10044
5287890	21-Aug-17	10:30			20219	20259	10044
5287890	5-Sep-17	11:30			20219	20259	10048
* Automatic Event Samples							

Annual Runoff Summary
Elm Creek Near Champlin, USGS 05287890





U.S. Geological Survey Water Quality data – Explanation of codes for 05287890 Elm Creek near Champlin, MN

site_no	Station number
sample_dt	Begin date
sample_tm	Begin time
sample_end_dt	End date
sample_end_tm	End time
sample_start_time_datum_cd	Time datum
tm_datum_rlbty_cd	Time datum reliability code
coll_ent_cd	Agency Collecting Sample Code
body_part_id	Body part code
P00004	Stream width, feet
P00010	Temperature, water, degrees Celsius
P00025	Barometric pressure, millimeters of mercury
P00041	Weather, World Meteorological Organization code
P00060	Discharge, cubic feet per second
P00063	Number of sampling points, count
P00065	Gage height, feet
P00095	Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius
P00191	Hydrogen ion, water, unfiltered, calculated, milligrams per liter
P00300	Dissolved oxygen, water, unfiltered, milligrams per liter
P00301	Dissolved oxygen, water, unfiltered, percent of saturation
P00340	Chemical oxygen demand, high level, water, unfiltered, milligrams per liter
P00400	pH, water, unfiltered, field, standard units
P00530	Suspended solids, water, unfiltered, milligrams per liter
P00535	Loss on ignition of suspended solids, water, unfiltered, milligrams per liter
P00540	Suspended solids remaining after ignition, water, unfiltered, milligrams per liter
P00600	Total nitrogen [nitrate + nitrite + ammonia + organic-N], water, unfiltered, milligrams per liter
P00605	Organic nitrogen, water, unfiltered, milligrams per liter as nitrogen
P00608	Ammonia, water, filtered, milligrams per liter as nitrogen
P00610	Ammonia, water, unfiltered, milligrams per liter as nitrogen
P00613	Nitrite, water, filtered, milligrams per liter as nitrogen
P00618	Nitrate, water, filtered, milligrams per liter as nitrogen
P00625	Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen
P00631	Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen
P00665	Phosphorus, water, unfiltered, milligrams per liter as phosphorus
P00666	Phosphorus, water, filtered, milligrams per liter as phosphorus
P00940	Chloride, water, filtered, milligrams per liter
P30207	Gage height, above datum, meters

P30208	.....	Discharge, cubic meters per second
P50280	.....	Site visit purpose, code
P71845	.....	Ammonia, water, unfiltered, milligrams per liter as NH ₄
P71846	.....	Ammonia, water, filtered, milligrams per liter as NH ₄
P71851	.....	Nitrate, water, filtered, milligrams per liter as nitrate
P71856	.....	Nitrite, water, filtered, milligrams per liter as nitrite
P71999	.....	Sample purpose, code
P72105	.....	Sample location, distance upstream, feet
P82398	.....	Sampling method, code
P84164	.....	Sampler type, code
P84171	.....	Sample splitter type, field, code
P84182	.....	Bottle or bag sampler material (construction), code
P99111	.....	Type of quality assurance data associated with sample, code
P99156	.....	Sulfuric acid NWIS lot number, 4.5 N (1:7), 1 mL, National Field Supply Service (NFSS) stock number Q438FLD
P99162	.....	Conductance standard NWIS lot number, 250 uS/cm KCl, National Field Supply Service (NFSS) stock number Q44FLD
P99163	.....	Conductance standard NWIS lot number, 500 uS/cm KCl, National Field Supply Service (NFSS) stock number Q45FLD
P99165	.....	Conductance standard NWIS lot number, 1000 uS/cm KCl, National Field Supply Service (NFSS) stock number Q47FLD
P99171	.....	pH 10 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) stock numbers Q122FLD, Q123FLD
P99172	.....	pH 4 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) stock numbers Q124FLD, Q125FLD
P99173	.....	pH 7 Buffer solution, NWIS lot number, National Field Supply Service (NFSS) stock numbers Q126FLD, Q127FLD
P99206	.....	NWIS lot number, capsule filter, 0.45 micron

Description of sample_start_time_datum_cd:	CST Central Standard Time;	CDT .....Central Daylight Time
Description of tm_datum_rlbtty_cd:	K Known	
Description of coll_ent_cd:	USGSMNWC USGS	Minnesota Water Science Center
Description of medium_cd:	WS Surface water	
Description of tu_id:	https://www.itis.gov/	
Description of remark_cd:	< less than	

Hennepin County

Wetland Health Evaluation Program

2017



Staring Lake, Eden Prairie. Photo by Rod Flancher

The Wetland Health Evaluation Program (WHEP) is a citizen volunteer wetland monitoring program that is focused on educating the public on wetland ecology and quality issues; as well as, providing local governments with wetland planning information. WHEP is currently active in Dakota and Hennepin counties, with a number of cities sponsoring local monitoring teams. The MPCA was instrumental in developing the WHEP sampling invertebrate and Citizen Plant Wetland Assessment Guide, which were adapted from the depressional wetland Indices of Biological Integrity (IBI). WHEP is coordinated in Hennepin County by staff in Environment and Energy. For more information please contact:

Mary Karius
Hennepin County Environmental Services
701 4th St. S, Suite 700
Minneapolis, MN
612-596-9129

Hennepin County Project Partners:

- **City of Bloomington**, Public Works
Contact: Steve Gurney
Team Leader: Jim Drake
- **City of Eden Prairie**, Public Works
Contact: Environmental Coordinator, Leslie Stovring
Team Leader: Abigail Hammond
- **City of Minnetonka** Natural Resources
Contact: Aaron Schwartz, Natural Resource Specialist
Team Leader: Kristine Maurer, David Kuhlmann
- **Hennepin County wetlands**
Contact: Mary Karius, David Thill Hennepin County Environment and Energy
- **Minneapolis Park and Recreation Board**, Environmental Operations Department
Contact: Rachel Crabb
Team Leader: Ann Journey
- **Mississippi Park Connection/National Park Service**
Contact: Katie Nyberg
Team Leader: Ann Journey
- **Elm Creek Watershed Management Commission**
Contact: Judie Anderson, JASS; Richard Brasch, Three Rivers Park District
Team Leader: Alex Yellick
- **Pioneer/Sarah Watershed Management Commission**
Contact: Judie Anderson, JASS; Jim Kujawa, Kristen Barta, Hennepin County Environment and Energy
Team Leader: Alex Yellick
- **Shingle Creek Watershed Management Commission**
Contact: Diane Spector, Wenck and Assoc.
Team Leader: DeeDee Crist
- **West Mississippi Watershed Management Commission**
Contact: Diane Spector, Wenck and Assoc.
Team Leader: DeeDee Crist
- **Minnesota Pollution Control Agency**
Trainers: Joel Chirhart, Mark Gernes
- **Normandale Community College**

What is Hennepin County's Wetland Health Evaluation Program (WHEP)?

For the past two decades, WHEP has provided a great opportunity for Hennepin County residents to connect with the wetlands in their communities and become advocates for their sustainability.

Watershed management organizations and cities contract with Hennepin County to administer volunteer water quality monitoring programs. WHEP is designed to collect data and provide hands-on environmental education experiences for volunteers. The volunteers use protocols approved by the Minnesota Pollution Control Agency to gather a variety of organisms. Their presence or absence can indicate a possible change in water quality. This biological data is often used to assess the long-term health of water and is complimentary to chemical analysis and other data used to determine water quality.

How is the WHEP data used?

The data collected is primarily used by watershed management organizations and cities. Some organizations use the data to communicate to residents about the health of their local water resource. Some organizations have used the data to identify or track impacts of restoration efforts. They may also use the data as a historic catalog of specific organisms that have been collected and identified. For example, the county's program has data going back 17 years on Minnehaha Creek. In many cases, organizations use the data to fulfill the education requirement for storm water management plans.

"Quick glances from the street only provide a very basic assessment of the types of plants that may be present compared to the plot sampling and careful ID work of the WHEP volunteers. Much of the information collected to date has indicated that many of the wetlands that have been examined fare better than expected, have more species than are visible from edge, and may contain some surprises that we would never have been discovered through other means." – Aaron Schwartz, *Natural Resource Specialist, City of Minnetonka*

DATA KEY**INVERTEBRATES****# Kinds of Leeches**

The # of Leeches present in the sample; number is higher in healthier wetlands.

Kinds of Odonata

This measures the number of dragonflies and damselflies in a sample. This number is higher in healthier wetlands.

ETSD

This metric adds the number of mayfly larvae (Ephemeroptera), caddisfly larvae (Trichoptera), dragonfly presence (D), and fingernail clam presence (Sphaeriidae). This collection is sensitive to pollution.

Kinds of Snails

This measures the number of Snails TYPES in the wetland. The higher the number the better quality wetland.

Total Invertebrate Taxa

The total number of invertebrate taxa is the strongest indicators of health in a wetland. This is an overall inventory of invertebrates, the higher the number the better diversity.

VEGETATION**Vascular Genera**

This measures the richness or number of different kinds of vascular plants.

Nonvascular Genera This measures the richness or number of different kinds of nonvascular plants such as mosses, liverworts and lichens.

Grasslike Genera This measures the richness of a specific type of vascular plants including grasses, sedges and related genera.

Carex Cover This measures the extent of coverage by member of the genus Carex or sedges. Abundance increases in healthier wetlands.

Utricularia Presence Bladderwort is a group of carnivorous plants that feed on macroinvertebrates. Its presence suggests a good condition.

Aquatic Guild This metric measures the richness of the aquatic plants which tends to decrease as human disturbance increases.

Persistent Litter This measures the abundance of certain plants whose leaves and stems decompose very slowly. The greater abundance means more nutrients are tied up in undecomposed plants. This will increase with increased disturbance.

SCORING SUMMARY

Invertebrates

19 - 25 Excellent
12 - 18 Moderate
5 - 11 Poor

Vegetation

26-35 Excellent
16-25 Moderate
7-15 Poor



Odonata. Photo by Rod Flancher

2017 Wetlands	Invertebrate Score	Vegetation Score
Elm Creek Watershed Commission		
EC – 1 Blundell Restoration	11 - Poor	17 – Moderate
EC – 2 Bulduc Restoration	7 - Poor	15 – Poor
EC – 3 Bulduc wetland	13 - Moderate	15 - Poor
EC-4 Cedar Hollow, Plymouth	7 - Poor	13 – Poor
EC-5 NW Greenway, Plymouth	17 - Moderate	7 - Poor

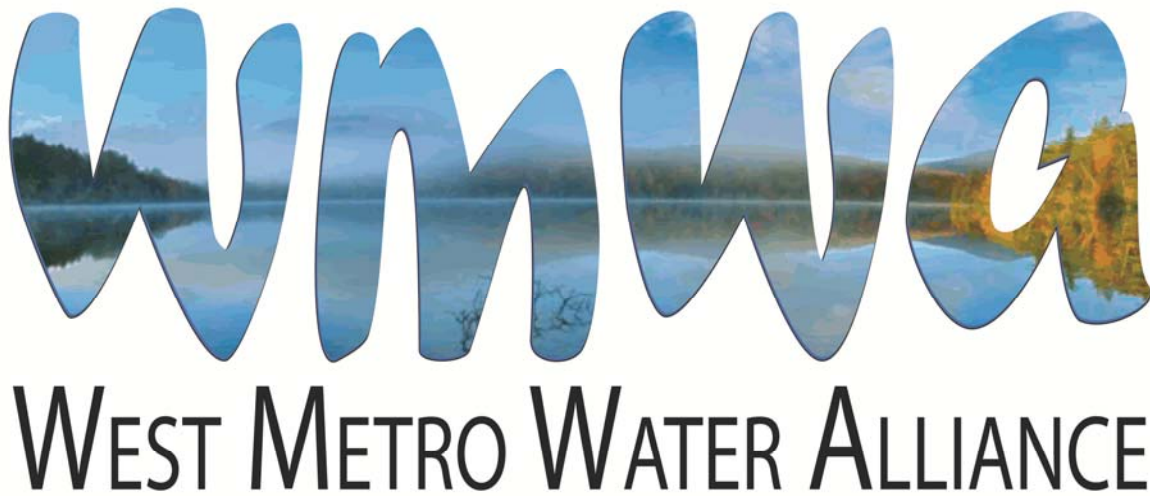
Site Summaries**Elm Creek Watershed**

Team Leader: Alex Yellick

Team Members: Neil Buelow, Judy Hovell, Carolyn Mueller, Kevin Smith, Thomas Saba,

Number of Hours: 84

Site	Notes	Invertebrate Community	Vegetation Community
Elm Creek sites			
EC-1 Blundell Restoration	This is a wetland restoration in Rogers. We are monitoring to check how it is doing. Data will help us track how wetland restorations fare over time as well as making sure this one is holding up and no additional work is needed.	11 – Poor	17- Moderate
EC-2 Bulduc Restoration	This is a wetland restoration in Rogers. We are monitoring to check how it is doing. Data will help us track how wetland restorations fare over time as well as making sure this one is holding up and no additional work is needed.	7 – Poor	15 – Poor
EC-3 Bulduc Wetland	This wetland is part of the Bulduc properties where a restored wetland is also being monitored. This wetland is east of the entry road and is being monitored to determine general condition.	13 - Moderate	15 - Poor
EC-4 Cedar Hollow	This wetland is on city property in Plymouth, very urbanized watershed with developments, nestled in a maple-basswood forest. The area surrounding the wetland and the wetland itself is being developed into a new park system. We will use this data to assess the condition of the water resource given its location in the watershed.	7 – Poor	13 – Poor
EC-5 Northwest Greenway	This site is part of a large wetland/floodplain complex that the Elm Creek flows through. A pedestrian bridge is being built over the creek on north edge of this complex. Ultimately we want to see impacts of bridge/trail on this wetland. The Watershed Organization will find it useful for evaluating impacts of infrastructure.	17 - Moderate	7 - Poor



2017 ANNUAL REPORT

BACKGROUND

In 2006 the Shingle Creek and West Mississippi Watershed Management Commission's Education and Public Outreach Committee (EPOC) invited the Education Committee of the Bassett Creek Watershed Management Commission to partner in developing joint education and outreach activities. Since that time this voluntary partnership has grown to include the Elm Creek Watershed Management Commission, the Three Rivers Park District, Hennepin County Department of Environment and Energy, and the Freshwater Society. The WMOs are designated as "members," the latter three organizations as "partners."

This alliance, the West Metro Water Alliance (WMWA), grew from a recognition that the individual organizations have many common education and public outreach goals and messages that could be more efficiently and effectively addressed and delivered collaboratively and on a wider scale.

MEETINGS

WMWA meets monthly, as needed, on the second Tuesday, at Plymouth City Hall. Member representatives include Laura Jester, Administrator, Bassett Creek WMC; Doug Baines, Dayton, Elm Creek WMC; Catherine Cesnik, Plymouth, Elm Creek WMC; and Shelley Marsh, Brooklyn Center, and Ben Scharenbroich, Plymouth, Shingle Creek, Elm Creek and West Mississippi WMCs. Partner attendees have included Denis Hahn, Three Rivers Park District; and Mary Karius, Hennepin County. Other attendees include Mary Anderson, Sharon Meister, and Tracy Leavenworth, Watershed PREP Educators; Dawn Pape, Lawn Chair Gardener; and Michaela Neu, Mississippi WMO. Diane Spector, Wenck Associates, serves as technical support for WMWA, and Amy Juntunen, JASS, serves as administrative support. In 2017 nine meetings were held. All WMWA member Commissioners and city staff are welcome to attend meetings.

THE WMWA PROGRAM

Goals of the WMWA program are to:

- Inform public about the watershed organizations and their programs.
- Provide useful information to public on priority topics.
- Engage public and encourage positive, water-friendly behaviors.

Three informational pieces have been developed by WMWA to support these goals. The *10 Things You Can Do* Brochure targets the general public. The brochure is distributed at all venues where the Commissions or member cities have a presence and also in the Watershed PREP classrooms. It is also available on the websites of the WMO member cities.

The *Maintain Your Property the Watershed Friendly Way* handbook targets small businesses, multi-family housing properties, and common interest communities such as homeowners' associations. It contains tips for specifying and hiring turf and snow maintenance contractors, and includes checklists for BMP inspections.

The *Residential Snow and Ice Care* brochure is an educational piece designed to inform citizens of the chloride pollution problem and ways to reduce salt use.

WATERSHED PREP

Watershed PREP is a program of WMWA and stands for Protection, Restoration, Education, and Prevention. 2017 was the fifth year of the program. Two contract educators with science education backgrounds are shared between the member watersheds. The focus of the program is two-fold - to present water resource-based classes to fourth grade students and to provide education and outreach to citizens, lake associations, other civic organizations, youth groups, etc. Goals of the program are 1) to have audiences gain a general understanding of watersheds, water resources and the organizations that manage them, and 2) to have audiences understand the connection between actions and water quality and water quantity. The ultimate goal is to make this program available to all fourth graders in the four WMWA watersheds and to other schools as contracted.

Fourth Grade Program. Three individual lessons meeting State education standards have been developed. **Lesson 1**, *What is a Watershed and Why do we care?*, provides an overview of the watershed concept and is specific to each school's watershed. It describes threats to the watershed. **Lesson 2**, *Water Cycle - More than 2-dimensional!*, describes the movement and status of water as it travels through the water cycle. **Lesson 3**, *Stormwater Walk*, investigates movement of surface water on school grounds.



In 2017, 163 classes totaling 4,430 students attended lessons 1 and 2 (compared to 127 and 3,374, respectively in 2016, compared to 149 and 4,042, respectively in 2015, compared to 78 and 1,373, respectively, in 2014, and 37 and 931, respectively, in 2013.) *Appendix A* details the students reached in lessons 1 and 2.

Community Education and Outreach. The PREP educators also provided outreach at five school and community water-related events using the large model watershed "Enviroscape" for runoff education. Outreach activities are also described in *Appendix A*.

UPDATED WORK PLAN

In 2015 the WMWA Work Plan was updated to reflect current practices. The updated Work Plan identified the following activities:

1. Facilitate information availability and sharing.
2. Reschedule professional opinion survey to measure knowledge and attitudes about water resources to 2019.
3. Provide Coordinated Communication, Media Relations, and Information Sharing that more closely parallel what the NPDES Permit education and public outreach minimum measure require. Components include identifying priority issues every year, developing a communications plan that identifies educational goals by stakeholder, establishing measurable goals, and identifying responsible parties.
4. Develop county-wide or regional activities. (At this time WMWA does not have the capacity to undertake these activities.)
5. Pursue and obtain funding for education and public outreach activities.
6. Support and expand in scope and reach the Watershed PREP program.

WMWA's 2017 and 2018 budgets reflect these activities and were approved by the members on March 8, 2016 and April 11, 2017, respectively. The budgets are included in this report as *Appendix C*.

SPECIAL PROJECT

At WMWA's request, Metro Blooms/Blue Thumb submitted a proposal for a project that would encourage residents to replace impervious surface and turf grass with native plantings to benefit clean water by reducing stormwater runoff. The project includes the additional benefit of creating habitat for pollinators. An agreement between Metro Blooms and the Shingle Creek Commission, as fiscal agent for WMWA, to move the project forward was approved.

Phase one of the project began with creation of a name, tag line and logo. The project was promoted in the Blue Thumb space at the State Fair where the public voted to name the campaign, *Pledge to Plant for Pollinators and Clean Water*.

Phase two included a roll out of the *Pledge* campaign on the Metro Blooms and WMWA websites where citizens can enter the square footage of their new plantings, creation of a *Pledge to Plant* banner for events, and a social media campaign that began in May 2016. The Campaign was promoted at the State Fair and other area events in 2016 and 2017.

In 2017, 321 people submitted the Pledge online covering over 376 acres compared to approximately 250 pledges for 25 acres in 2016, although several submissions did not specify an area to be planted, so it may be more. The total includes a few larger prairie restoration projects but the median pledge covers 200 square feet. Most of the pledges come from the metro area, but pledges have been received from 17 other states: Arkansas, California, Illinois, Indiana, Kansas, Michigan, Missouri, Montana, New Jersey, New York, North Dakota, Ohio, Oklahoma, Tennessee, Virginia, Wisconsin, and Wyoming.



RESILIENT YARD WORKSHOPS

In 2017, four Resilient Yard workshops, hosted by WMWA member cities and presented by Metro Blooms were held. Workshops took place in Plymouth, Champlin, Crystal, and Brooklyn Park. Attendees learned about raingardens, native plantings, and turf alternatives or "bee lawns" and other practices, like stormwater recapture and reuse with rain barrels, diversion of downspouts away from impervious surfaces, and use of pervious pavers for driveways and patios. Combined attendance at those three workshops was 123, and 42 additional WMWA area residents attended the same workshop in other cities, for a total of 165.

Sherman Associates, owners of Autumn Ridge Apartments in Brooklyn Park, have agreed to a 2018 budget and workplan which includes the design and installation of five raingardens, a permeable pavement system, a large native planting at the corner of the property and a new playground, pending application and receipt of grant funding from Hennepin County and the Shingle Creek Watershed Management Commission. As a result of this Agreement, the Brooklyn Park Resilient Yard workshop was held at the Autumn Ridge site, followed by a public information event and picnic attended by 150 residents.

Surveys were sent by Metro Blooms shortly after the workshop and again at year-end with the following results:

Post-Workshop Survey

- 88% of respondents indicated they were likely or very likely to install native plants in their yard this year.
- 66% indicated they were likely or very likely to install a “bee lawn” in their yard this year.
- 58% indicated they were likely or very likely to install a raingarden in their yard in the next two years (many of the respondents who were unlikely noted they already had at least one).
- “Bee lawns” and turf alternatives in general were the clear favorite topics—the next workshop series will definitely include more information about these.
- 95%+ rated the workshop experience, the presenters, and the information presented “above average” or “excellent”.

Year-End Survey

- 24% of respondents have installed or are working on installing raingardens since the workshop.
- Another 36% plan to do so in the future (and 24% already had at least one raingarden before the workshop).
- 30% installed or began installing turf alternatives (on an average of 20-30% of their yards)
- Another 38% plan to do so in the future.

Other practices attendees adopted after the workshop include:

- Keeping leaves and grass clippings out of the street and storm drain (24%)
- Redirecting downspouts to a planted area (20%)
- Cleaning debris from a nearby storm drain (13%)
- Adjusting use of salt/sand for de-icing (11%)

Interestingly, whereas decreasing runoff was the number one reason people installed raingardens, reducing dependence on irrigation, fertilizing and mowing was the primary motivation for people to install turf alternatives. The #2 and #3 motives for either practice remain the same though: respectively, creating habitat for pollinators and beautifying their property.

WMWA WEBSITE

A new website, www.westmetrowateralliance.org, went live in January 2016. The website serves as a repository for documents and information for access by member cities and citizens, lists local events WMWA is participating in and/or otherwise promoting, stores Watershed PREP information for schools, and collects information for the *Pledge to Plant* campaign and newsletter subscriptions.

The website had 581 unique visitors engaged in 750 individual sessions with an average of 2.31 pages viewed per session for a total of 1,733 page views on the website in 2017. The website metrics can be found in Appendix B

2017 MARKETING ACTIVITY

Water Links. The members and their partners contribute to the WMWA eNewsletter *Water Links*, which is published by the Hennepin County Department of Environment and Energy to a subscriber list of 2,200. Three issues were published in 2017. Articles included seasonal topics such as Environmentally Friendly Lawn Care, Managing Fall Yard Waste, and Snow and Ice control, as well as watershed project updates such as carp tracking and removal, new project installations, research on iron and bio-char enhanced sand filters, creek restorations, and agricultural improvements, promotion of the *Pledge to Plant* campaign and Watershed PREP program, and city and watershed events.

Seed Packets. One of the priority messages in 2017 was the role of native vegetation in improving stormwater infiltration and reducing other negative environmental impacts. To help promote this message, WMWA and the member Commissions handed out 400 packets of native seeds at community events. A short educational message was printed on the seed packets.



Plymouth Home Expo. Bassett Creek, Shingle Creek, and Elm Creek booths were combined into a large area and included a WMWA focus area at the 2017 Expo, April 7 and 8. There were over 100 direct contacts at the booths. Several handouts were available from Bassett Creek, Shingle Creek, and Elm Creek including seed packets, raingarden design booklets, planting in clay soils guides, Pledge to Plant flyers and the *10 Things* and *Smart Salting* brochures. In addition, Bassett Creek handed out branded dog waste bag dispensers and watershed maps. The Expo also featured the Blue Thumb pull-out roots display and banner, as well as an interactive pollutant display from

WaterShed Partners.

Social Media. In May 2016 WMWA contracted with Dawn Pape, Lawn Chair Gardener, LLC, to create a social media campaign for the Pledge to Plant campaign and WMWA in general on Facebook and Twitter. As of December 31, 2017, the WMWA Facebook page had 119 likes and the Twitter page had 92 followers. The most well-received posts had a reach of 1,982 and over 500 engagements. There were 72 tweets and 152 facebook posts by the WMWA accounts in 2017.

To learn more about WMWA, contact:

*Diane Spector, Wenck Associates, 763.479.4280, dspector@wenck.com
or Amy Juntunen, JASS, 763.553.1144, amy@jass.biz*

APPENDIX

APPENDIX A – WATERSHED PREP / EDUCATOR ACTIVITY

Table 1. 2017 Community education and outreach participation

Date	Event	City	Participants
3/4	Basswood Science Night	Maple Grove	Elm Creek
4/8	Plymouth Expo	Plymouth	BC, SC, EC
10/5	Sonnesyn Field Trip-Raingardens	New Hope	Bassett
8/8	Plymouth Kids Fest	Plymouth	BC, SC, EC
10/17	New Hope City Days	New Hope	Shingle

Community Education and Outreach. The PREP educators provided outreach at five community and school events. Because of the nature of these events, it is difficult to keep a tally of the number of contacts made and citizens engaged. One of the largest of these events is the Plymouth Home Expo. WMWA and its four WMOs staff adjoining booths to do combined outreach to the 1,000+ visitors to the Expo.

Table 2. Watershed PREP Program participation growth.

Year	# Classrooms	# Students	# and Type of Schools
<i>Lesson 1</i>			
2013	63	1,679	13 in six districts; one charter school; one parochial school
2014	116	3,469	30 in seven districts; one magnet school; one parochial school
2015	122	3,183	36 in nine districts; two charter schools; five parochial schools
2016	107	2,850	29 in seven districts, one charter school, 5 parochial schools
2017	125	3358	12 in seven districts, one charter school, one parochial school
<i>Lesson 2</i>			
2013	14	390	Three in three districts; one charter school; one parochial school
2014	22	645	Five in three districts
2015	27	859	Six in five districts
2016	20	524	Five in three districts, one parochial school
2017	38	1,072	Seven in three districts, one parochial school

*Includes eight classrooms in the Minnehaha Creek Watershed District paid for by others.

APPENDIX A – WATERSHED PREP / EDUCATOR ACTIVITY

Table 1. 2017 schools and students participating in Lesson 1: What is a Watershed?

	Date	School	School District	City	Watershed	Classes	Students
1	1/10	Hassan	Elk River	Rogers	Elm	8	220
2	1/12	Jackson MS (8th gr.) Expert	Anoka-Hennepin	Champlin	W. Miss	2	51
3	1/31	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	65
4	2/17	Forest Elementary	Robbinsdale	Crystal	Shingle	4	102
5	2/21	Noble Academy	Charter	Brooklyn Park	W. Miss	2	48
6	3/7	Kimberly Lane	Wayzata	Plymouth	Bassett	4	112
7	3/8	Sunset Hill	Wayzata	Plymouth	Bassett	4	111
8	3/23	Oakwood	Wayzata	Plymouth	Minnehaha	4	109
9	3/27	Gleason Lake	Wayzata	Plymouth	Minnehaha	4	100
10	3/28	Plymouth Creek	Wayzata	Plymouth	Bassett	5	125
11	4/19	Palmer Lake	Osseo	Brooklyn Park	Shingle	4	88
12	4/18	Good Shepherd	Parochial	St. Louis Park	Bassett	2	48
13	5/1	Zachary Lane Elementary	Robbinsdale	Plymouth	Bassett	4	110
14	5/25	Rush Creek	Osseo	Maple Grove	Elm	5	140
15	5/22	Birchview	Wayzata	Plymouth	Bassett	4	90
16	5/18	Meadow Ridge Elementary**	Wayzata	Plymouth	Elm	5	137
17	4/10	Greenwood Elementary	Wayzata	Plymouth	Bassett	5	127
18	5/16	Northport Elementary	Robbinsdale	Brooklyn Ctr	Shingle	5	107
19	5/31	Meadowbrook Elementary	Hopkins	Golden Valley	Bassett	4	112
20	10/7	Sacred Heart	Parochial	Robbinsdale	Shingle	1	24
21	4/25	Mary Queen Of Peace	Parochial	Rogers	Elm	1	8
22	10/12	Basswood Elementary	Osseo	Maple Grove	Elm	3	89
23	10/17	Palmer Lake	Osseo	Brooklyn Park	Shingle	3	88
24	10/16	Champlin Brooklyn Park	Anoka-Hennepin	Champlin	W. Miss	6	163
25	11/17	Rogers Elementary School	Elk River	Rogers	Elm	4	132
26	10/26	Oxbow Creek Elementary	Anoka-Hennepin	Champlin	W. Miss	7	208
27	10/6	School of Engineering and Arts	Robbinsdale	Golden Valley	Bassett	3	129
28	10/12	Monroe Elementary	Anoka-Hennepin	Brooklyn Park	W. Miss	4	130
29	10/4	Sonnesyn Elementary	Robbinsdale	New Hope	Bassett	3	71
30	12/20	Robbinsdale Spanish Imm.	Robbinsdale	Plymouth	Bassett	5	119
31	11/21	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	75
32	9/11	Weaver Lake Science Math & Tech	Osseo	Maple Grove	Elm	4	120

Total: 125 3358

APPENDIX A – WATERSHED PREP / EDUCATOR ACTIVITY

Table 3. 2017 schools and students participating in Lesson 2: The Incredible Journey

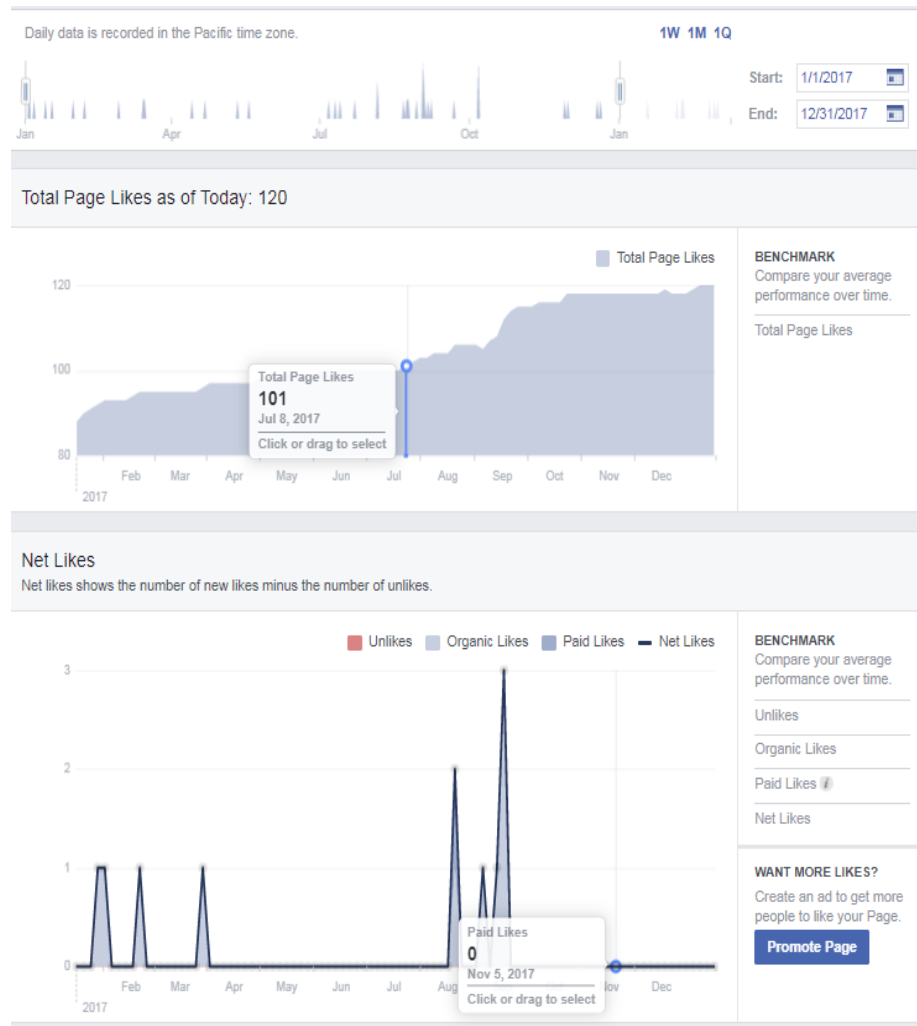
	Date	School	School District		Watershed	Classes	Students
1	1/26	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	66
2	4/13	Palmer Lake	Osseo	Brooklyn Park	Shingle	4	88
3	5/11	Rush Creek	Osseo	Maple Grove	Elm	5	140
4	5/17	Meadowbrook Elementary	Hopkins	Golden Valley	Bassett	4	112
5	10/6	School of Engrg & Arts (SEA)	Robbinsdale	Golden Valley	Bassett	1	42
6	10/16	Palmer Lake	Osseo	Brooklyn Park	Shingle	3	87
7	10/18	Basswood Elementary	Osseo	Maple Grove	Elm	3	90
8	10/30	Rogers Elementary	Elk River	Rogers	Elm	7	212
9	11/2	Sacred Heart	Parochial	Robbinsdale	Shingle	1	24
10	10/3	Sonnesyn Elementary	Robbinsdale	New Hope	Bassett	3	72
11	11/14	Zanewood Elementary	Osseo	Brooklyn Park	Shingle	3	75
12	10/5	Jackson MS-Water Day (6th gr)	Anoka-Hennepin	Champlin	W. Miss	4	130
13	11/21	Sonnesyn Elementary	Robbinsdale	New Hope	Bassett	2	75
Total						38	1072

Evaluation:

The educators evaluate the success of the Fourth Grade Program by surveying students and teachers about the quality of the program, the learning that was observed, and the performance of the educators. Much of the feedback occurs during and right after the presentations in spontaneous comments.

APPENDIX B – WEBSITE/SOCIAL MEDIA ACTIVITY

Likes



APPENDIX C – BUDGET

WMWA 2017 Operating Budget

	BC	EC	SC	WM	Partners	Total	<u>Actual 2017 thru 1/16/2018</u>		
							Revenue	Expense	Balance
Member Reimbursement Admin/Tech Servs									
Routine tasks, coordinate newsletter, etc.	3,750	3,750	3,750	3,750		15,000	15,360	13,631	1,729
Annual Report, Newsletter, Social Media							\$360 carryover from 2016		
Member Reimbursement – Special Projects	1,500	1,500	1,500	1,500		6,000	9,910	2,856	7,054
							\$3,910 carryover from 2016		
Watershed PREP	4,500	4,500	4,500	4,500		18,000	25,961	11,252	14,709
Fourth Grade Initiative							\$7961 carryover from 2016		
Public Outreach									
Green Yard Workshops – Metro Blooms*	3,000	3,000	3,000	3,000	2,500	14,500	10,677	10,947	270
							\$750 OST from City of Champlin		
Total	12,750	12,750	12,750	12,750	2,500	53,500	61,908	38,686	23,222

APPENDIX C – BUDGET

WMWA 2018 Operating Budget

Revenue	BC	EC	SC	WM	Partners	Total
Member Reimbursement Admin/Tech Servs	4,000	4,000	4,000	4,000		16,000
Member Reimbursement - Special Projects	2,000	2,000	2,000	2,000		8,000
Watershed PREP	4,500	4,500	4,500	4,500		18,000
Fourth Grade Initiative						
Public Outreach						
Green Yard Workshops - Metro Blooms	3,000	3,000	3,000	3,000	2,500	14,500
Total Revenue	10,500	10,500	10,500	10,500	0	42,000



Metro Blooms

Grow. Bloom. Inspire!

Media Alert

For Immediate Release

Contact: Becky Rice, becky@metroblooms.org, 612-865-0248

Learn How to Create a Weather Resilient Yard

2017 spring workshops hosted by Metro Blooms across the metro

What: Unseasonably warm weather, long periods of drought, and flooding rains are the new normal for Minnesota's spring and summer seasons. Metro Blooms *Creating Weather Resilient Yards* workshops will give you an overview of the Minnesota's changing weather patterns and ways to mitigate the impact in your own yard. You'll receive recommendations for your own property and options for establishing mowable, native alternatives to "grass" turf. Includes one-on-one assistance from Metro Blooms landscape designers, Blue Thumb *Planting for Clean Water* Partners, Hennepin County Master Gardeners, and Master Water Stewards, as well as information about cost share programs and Blue Thumb resources for help along the way.

When:

Thursday, April 6, 2017
6-9 PM
Champlin City Hall
11955 Champlin Drive, Champlin, MN 55316

Where:

How to Register: Visit metroblooms.org to register online, or call 651-699-2426 *This workshop is just \$15 per household, so register soon. Some locations fill up fast.* You can also mail your registration to Workshop Registration, P.O. Box 17099, Minneapolis, MN 55417. Enclose a check payable to Metro Blooms, and include the workshop location, your name, address, zip code, phone number and your email address.

Why: Increasingly severe changes in Minnesota's weather patterns are impacting all of us, but these changes are felt the most in our cities. The urban heat "island effect" intensifies heat waves, and instead of storm water soaking into the soil where it can be cleaned, cooled and in turn help cool the earth - the high amount of impervious surface causes storm water to runoff carrying with it toxins and pollutants directly to our waters. You will learn there are many ways to create a more resilient landscape that can improve the microclimate in your own yard and protect our natural environment.

Who: Workshop presented by Metro Blooms, sponsored by the City of Champlin, Shingle Creek and West Mississippi Watershed Management Commission, Elm Creek Watershed Management Commission, and the Bassett Creek Watershed Management Commission.

Metro Blooms, a local non-profit organization, works to strengthen communities by promoting environmentally-sound landscaping that beautifies neighborhoods and protects our environment.

Hennepin County River Watch 2017



Richfield College Experience Program, sampling Nine Mile Creek in Moir Park, Bloomington

Introduction

The River Watch Program has provided hands-on environmental education to students throughout Hennepin County since 1995. Every spring and fall, students and teachers venture into streams with waders securely fastened and dip nets in hand to collect aquatic macroinvertebrates, or bottom-dwelling, spineless organisms such as mayflies, stoneflies, snails and beetles. Macroinvertebrates are influenced by physical and chemical properties of streams, so monitoring these organisms helps assess water quality. River Watch is an eye-opening experience for all participants, and the resulting data helps us understand the health of our streams. In 2017, 18 stream stretches were monitored in the spring and/or fall. Data was gathered by more than 671 students from 30 classes and 16 schools. Students, teachers and chaperones donated more than 5,000 hours. Thank you to all of you who participated this year!

YEAR IN REVIEW

2017 was a big year for Hennepin County River Watch! We saw Cindy Jahnke from Brooklyn Park High School mark her **22nd** year monitoring Shingle Creek, three new groups join our program monitoring four new sites and the presence of a STONEFLY in Elm Creek! Kaleidoscope Charter School found three individuals of the Perlidae family. GREAT JOB!!!



Caption: Park Center High School, Cindy Jahnke



Data Analysis

- The Family Biotic Index measures the overall community of invertebrates and their tolerance to pollution levels. The scale ranges from 0 to 10 with the lower values indicating high sensitivity to pollution and good water quality.

Hilsenhoff Family Biotic Index

Family Biotic Index	Water Quality	Degree of Organic Pollution
0-3.50	Excellent	No apparent organic pollution
3.51-4.50	Very Good	Possible slight organic pollution
4.51-5.50	Good	Some organic pollution probable
5.51-6.50	Fair	Fairly significant organic pollution likely
6.51-7.50	Fairly Poor	Substantial pollution likely
7.51-8.50	Poor	Very substantial pollution likely
8.51-10.0	Very Poor	Severe organic pollution likely



2017 monitoring groups and results

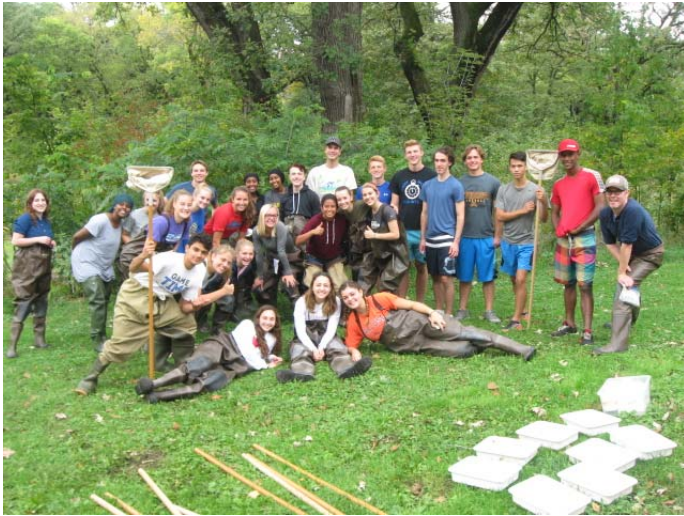
Site	School	Teacher	2016 grade	2017 grade	Years monitoring
Rush Creek, Elm Creek tributary at 101 st Lane, Maple Grove	Kaleidoscope Charter School, Otsego	Carrie Lynch	6.60 Fairly Poor	4.75 Good	12
Elm Creek at Elm Creek Golf Club	Wayzata High School, Plymouth	Susie Newman	construction	construction	20
Elm Creek at Peony Lane at Wayzata High School	Wayzata High School, Plymouth	Susie Newman	6.1 Fair	8.10 Poor	20
Elm Creek at Maple Grove Senior HS	West Lutheran High School, Plymouth	Steve Merten		6.15 Fair	4

Historical data

Historical data for the monitored sites is available on the River Watch interactive map. The map also includes site photos, information about watersheds and land cover data to help investigate how land use may impact water quality.

The map is available at www.hennepin.us/riverwatch.







Horse Stable Redesign for Water Quality and Animal Health Field Day

August 5th, 2017, Dayton, MN

About a dozen horse stable managers attended a field day on a cool summer Saturday morning to see how Joanie Stene of Foxwood Farm, along with County resources, redesigned a stable and pasture system for improved horse health, ease of management, and water quality.



*Karl Hakanson, U of M Extension
Hennepin County.*

Karl Hakanson, U of M Extension Educator for Hennepin County, started things off with a primer on runoff pollution. Hakanson emphasized key principles of runoff pollution; that water pollution comes from human activities on the land and that it comes from a multitude of small sources spread out over the landscape.

Says Hakanson, “This makes it much harder to recognize and control that “point” sources of pollution, such as from municipal or industrial discharges”. The other key to understanding runoff pollution is that it only happens during major rain events. His advice is to go outside in a pouring rain and see where the water flows across your property, adding, “The goal is to slow the runoff water down, spread it out, and soak it in”.



*Kirsten Barta, Hennepin Co., Joanie
Stene, landowner*

Kirsten Barta, Rural Conservationist for Hennepin County, explained how the County is fortunate to have a lot of water. Prior to European settlement, most of the county was covered by lakes, streams and wetlands. With the growth of the Twin Cities, water has become difficult to avoid when working with horses and other livestock operations.



Michelle DeBoer, U of MN

Barta explained that manure contains a lot of phosphorus. When phosphorus reaches the water it can cause algal blooms, some of which are toxic, and excessive plant growth. As those plants and algae die they decompose, which depletes oxygen from the water leading to fish kills and other problems.

She estimates an average of eight-pound reduction of phosphorus runoff annually from the Stene site improvements. While this may not sound like a lot, consider that one pound of phosphorus –the limiting nutrient in natural water bodies-- can grow 500 pounds of algae. Five pounds of runoff there, eight pounds here, 20 pounds from a field over there. Times 10,000’s of sites and 100,000 of acres. “It all adds up.”



Jim Kujawa (left), Hennepin Co.

Barta says that surface waters should be properly buffered from livestock and their access to sensitive areas restricted. Livestock trample delicate wetland plants and cause erosion into streams. A 30’ vegetated buffer paired with proper manure and grazing management can produce significant benefits. “Water quality is everyone’s responsibility”, said Barta, “careful planning and management can keep our waters healthy for all to enjoy.”

Michelle DeBoer, U of M Equine Management PhD Candidate, stressed the multiple benefits to good pasture and manure management, including improved horse health and providing real cost savings in reduced feed and fertilizer purchases. DeBoer reviewed the benefits of rotational grazing and the importance of soil health. She said a composting set up, like Stene’s new three-bin system, facilitates proper manure management . Composted



Sturdy roof gutters with downspouts direct clean water away from lot underground to grass waterway.



Tiled waterway between pasture and lot (foreground) greatly improves drainage, filters runoff water before it reaches wetland.



Tiled, grassed waterway (right) below barn, horses fenced out, improved pasture (foreground).



Stene (left) explains how the waterway empties to a rock spill way to further settle any remaining solids in the runoff water before entering the wetland.



The new composting facility allows manure to be collected to prevent runoff and creates a dry, uniform material perfect for use on pastures.

manure reduces bulk and creates a near odorless, stable, easy to handle fertilizer and soil builder that can be used anywhere on the farm.

Jim Kujawa, Surface Water Resource Specialist for Hennepin County, discussed the process used by Joanie and Hennepin County staff to make her project a reality. How Joanie's desires to eliminate mud from her stable areas equated to water quality benefits for her and the public, making it a win-win situation.

Kujawa talked about the programs and procedures used to plan, design and construct the Stene water management system. This included costs associated with all of the components necessary from start to finish and the state and local cost-sharing programs available to Joanie to make it affordable for her.

Joanie Stene, owner of Foxwood Farm, spoke about the reasons she pursued fixing the water problem on her farm. Like a majority of farm owners in the area, she discovered that the farm she purchased was situated on a wet, poorly drained location. She has struggled with a muddy mess for years. Her main concern was the dry lot area. The water would collect and turn green with algae. Her horses were beset with recurrent abscesses, and one horse twisted his knee in the slop and had to be stall rested for two months.

A longer-term concern to Joanie, and part of her reason for going ahead with the project, was the untreated runoff that flowed into the Three Rivers Park District wetland just beyond the back pasture. Her family enjoys the wetland and she considers herself to be a conservationist.

The construction started last year during one of the wettest Augusts on record. Work slowed to a crawl. It took twice as long to finish as it was supposed to. The rains, however, proved to Joanie that she had made the right decision: the lot was never going to be dry!

Asked if she was glad she did these improvements, the resounding answer was YES! She is very pleased that she went ahead with this project. Her only regret was not doing it sooner.

Recently, as she looked out at the rain --and it rained for most of the previous week, her paddocks were dry and the pastures were in good condition. Joanie says, "I am thrilled that I no longer have to worry about the horses and the footing, or the wetland, with its myriad of wildlife we love to watch and photograph. Although not an easy decision to make originally, I would encourage anyone with similar issues to consider it."

Elm Creek Watershed Management Commission 2017-2018 Budgets

			2017 Budget	2018 Budget
GENERAL OPERATING BUDGET				
Operating Expenses				
Administrative			90,000	90,000
	Watershed-wide TMDL Admin			2,500
Grant Writing			5,000	4,000
Website			6,000	6,000
Legal Services			2,000	2,000
Audit			5,000	5,000
Insurance			3,800	3,900
Contingency			2,000	1,000
		Subtotal	113,800	114,400
Project Reviews				
	Technical - HCEE		98,000	95,000
	Technical Support - Consultant		15,000	12,000
	Admin Support		11,000	14,000
		Subtotal	124,000	121,000
Wetland Conservation Act				
	WCA Expense - HCEE		12,000	17,750
	WCA Expense - Legal		500	500
	WCA Expense - Admin		2,000	1,500
		Subtotal	14,500	19,750
Water Monitoring				
	Stream Monitoring			
	Stream Monitoring - USGS		24,177	24,900
	Stream Monitoring - TRPD			
	Extensive Stream Monitoring		7,000	7,600
	DO Longitudinal Survey		500	1,000
	Gauging Station - Elec Bill		220	250
	Rain Gauge Network		100	100
	Lake Monitoring			
	Lake Monitoring - CAMP		1,200	720
	Lake Monitoring - TRPD			
	Sentinel Lakes		2,470	3,300
	Additional lake		618	825
	Aquatic Vegetation Surveys		1,029	1,100

Elm Creek Watershed Management Commission 2017-2018 Budgets

			2017 Budget	2018 Budget
		Source Assessment	2,000	0
		Watershed-wide TMDL - Followup - TRPD	10,000	5,000
		Wetland Monitoring - WHEP	4,000	4,000
		Stream Health - SHEP	0	
		Subtotal	53,314	48,795
	Education			
		Education - City/Citizen Programs	4,000	4,000
		2011 Workshop Series		
		WMWA General Admin	4,000	4,000
		WMWA Implementa Activities incl Watershed PREP	6,000	6,500
		Survey		
		R Garden Workshop/Intensive BMPs	2,000	2,000
		Education Grants	2,000	2,000
		Macroinvertebrate Monitoring-River Watch	6,000	3,000
		Ag Specialist		
		Subtotal	24,000	21,500
	Stormwater Studies - Channel Study			
		Channel Study - Admin		
		Channel Study Review		
		Channel Study Amendments		
	Management Plan			
		Plan Amendments	5,000	2,000
		Local Plan Review	2,000	8,000
		Contribution to 4th Generation Plan		
		Subtotal	7,000	10,000
	CIPs, Special Projects, Studies			
		Capital Outlay - CIPs - Ad Valorem	249,000	490,000
		Projects ineligible for ad valorem	50,000	50,000
		Studies, Subwatershed Assessments	35,000	35,000
		Subtotal	334,000	575,000
	Contingency		0	0
	Total Operating Expense		670,614	910,445

Elm Creek Watershed Management Commission 2017-2018 Budgets

			2017 Budget	2018 Budget
Revenue				
	CIPs - Ad Valorem		249,000	490,000
	Project Review Fees		100,000	80,000
	Water Monitoring - TRPD Co-op Agmt		6,500	6,500
	BMP Implementation			
	WCA Fees		8,000	10,000
	Forfeited/Reimbursed Sureties, Reimbursement from LGUs		0	0
	Membership Dues		219,700	225,000
	Watershed-wide TMDL			
	Interest Income		100	250
	Dividend Income			750
	Miscellaneous Income			
		Total Operating Revenue	583,300	812,500
		To (From) Cash Reserves	87,314	97,945
ASSIGNED FUND BALANCES				
	Capital Projects			
	Revenue			
	Ad Valorem Levy Funds		492,812	490,000
	Expense			
	Commission Cost Share		492,812	490,000
	Administrative Expense		4,000	
		Total Capital Projects	125,049	125,049
	Third/Fourth Generation Management Plan			
	Member Assess - Contribution to Reserves			
	Encumbered from General Fund			
	Less Expenses			
		Total Third Gen Plan	0	0
	WCA - Beginning Accumulated		46,000	46,000
	WCA Activity - Current Year		0	0
		WCA - Year-End Accumulated	46,000	46,000
	Special Projects, Studies			
	Assigned for special-projects, studies		35,000	35,000
	Assigned for special monitoring			
	Less Expenses		41,625	30,028
		Total Projects, Studies	57,207	62,179
		Total Assigned Fund Balances	228,256	233,228
RECAP				
	TOTAL CASH ON HAND - at year-end		396,480	298,535
	Total Assigned Funds		228,256	233,228
	Total Unassigned Funds		168,224	65,307

**Elm Creek Watershed Management Commission
2017-2018 Member Assessments**

2017	2016 Taxable Market Value	2017 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	410,505,694	3.85%	8,458.23	-3.24%	-283
Corcoran	709,731,668	6.66%	14,623.61	0.77%	112
Dayton	501,487,424	4.70%	10,332.86	3.60%	359
Maple Grove	5,651,956,239	53.01%	116,455.30	0.42%	486
Medina	891,170,325	8.36%	18,362.05	6.82%	1,172
Plymouth	905,845,273	8.50%	18,664.42	6.92%	1,208
Rogers	1,592,062,304	14.93%	32,803.53	4.08%	1,286
Totals	10,662,758,927	100.00%	219,700.00	2.02%	4,340
2018	2017 Taxable Market Value	2018 Budget Share		Increase over Prev Year	
		%age	Dollars	%age	Dollars
Champlin	435,155,559	3.82%	8,593.96	1.60%	136
Corcoran	742,511,061	6.52%	14,663.98	0.28%	40
Dayton	563,384,729	4.95%	11,126.38	7.68%	794
Maple Grove	5,908,582,953	51.86%	116,689.62	0.20%	234
Medina	950,777,365	8.35%	18,777.07	2.26%	415
Plymouth	1,108,795,705	9.73%	21,897.80	17.32%	3,233
Rogers	1,683,675,595	14.78%	33,251.20	1.36%	448
Totals	11,392,882,967	100.00%	225,000.00	2.41%	5,300

ELM CREEK WATERSHED
MANAGEMENT COMMISSION

Financial Statements and
Supplemental Information
For the Year Ended
December 31, 2017

ELM CREEK WATERSHED MANAGEMENT COMMISSION

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JOHNSON & COMPANY, Ltd.

Certified Public Accountants

Thomas J. Opitz, CPA, CVA
Bridget K. McKelvey, CPA, MBT, CVA
Thomas D. Johnson, CPA
Thomas A. Barber, CPA

MEMBER
American Institute of Certified Public Accountants
Minnesota Society of Certified Public Accountants
Private Companies Practice Section of
American Institute of Certified Public Accountants

Dwaine C. Johnson (Retired)
Lisa M. Roden, CPA, MST
Brad R. Cohrs, CPA

INDEPENDENT AUDITORS' REPORT

Commissioners
Elm Creek Watershed Management Commission
Plymouth, Minnesota

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities and major fund of the Elm Creek Watershed Management Commission (the Commission), as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

The Commission's management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Commission's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a reasonable basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and major fund of the Commission as of December 31, 2017, the respective changes in the financial position thereof, and the budgetary comparison for the General Fund for the year then ended in accordance with accounting principles generally accepted in the United States of America.



OTHER MATTERS**Required Supplementary Information**

Accounting principles generally accepted in the United States of America require that Management's Discussion and Analysis (MD&A) be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. The Commission has not presented the MD&A that accounting principles generally accepted in the United States of America have determined necessary to supplement, although not required to be part of, the basic financial statements.

Prior Year Comparative Information

We have previously audited the Commission's financial statements for the year ended December 31, 2016 and, in our report dated April 12, 2017, we expressed an unqualified opinion on the financial statements of the governmental activities and major fund. The financial statements include prior year partial comparative information, which does not include all of the information required in a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Commission's financial statements for the year ended December 31, 2016, from which such information was derived.

Other Reporting

We have also issued our report dated April 11, 2018, on our consideration of the Commission's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance.

Johnson & Company, Ltd.

April 11, 2018

BASIC FINANCIAL STATEMENTS

Elm Creek Watershed Management Commission

Statement of Net Position and
Governmental Fund Balance Sheet

As of December 31, 2017

(with Partial Comparative Actual Amounts as of December 31, 2016)

	Governmental Activities	
	2017	2016
Assets		
Cash and investments	\$ 959,050	\$ 524,931
Restricted cash	150,571	46,000
Accounts receivable	10,262	1,596
Total assets	<u>\$ 1,119,883</u>	<u>\$ 572,527</u>
Liabilities and Fund Balances/Net Position		
Liabilities		
Accounts payable	\$ 54,320	\$ 42,733
Financial and administrative guarantee fee deposits	150,571	46,000
Total liabilities	<u>204,891</u>	<u>88,733</u>
Fund balances/net position		
Restricted fund balances/net position		
Restricted for capital improvement projects	621,135	129,048
Assigned fund balances/net position		
Assigned for capital projects, studies	143,832	62,832
Assigned for water monitoring program	-	1,000
Total assigned funds	<u>143,832</u>	<u>63,832</u>
Unrestricted/unassigned fund balances/net position	150,025	290,914
Total assigned or unrestricted fund balances/net position	<u>293,857</u>	<u>354,746</u>
Total fund balances/net position	<u>914,992</u>	<u>483,794</u>
Total liabilities and fund balances/net position	<u>\$ 1,119,883</u>	<u>\$ 572,527</u>

Elm Creek Watershed Management Commission

Statement of Activities and
Governmental Fund Revenues, Expenditures, and
Changes in Fund Balances/Net Position
Budget and Actual

Year Ended December 31, 2017

(with Partial Comparative Actual Amounts for the Year Ended December 31, 2016)

	Governmental Activities			
	2017		2016	
	Original and Final Budget	(Audited)	Over (Under)	(Audited)
Revenue				
General				
Member assessments	\$ 219,700	\$ 219,700	\$ -	\$ 215,360
Property taxes (ad valorem)	-	494,330	494,330	249,866
Charges for services - project and wetland review fees	108,000	85,114	(22,886)	70,882
Reimbursements	6,500	5,036	(1,464)	5,133
Grants	-	125,140	125,140	-
Interest income	100	5,921	5,821	915
Miscellaneous	-	-	-	-
Total revenue	<u>334,300</u>	<u>935,241</u>	<u>600,941</u>	<u>542,156</u>
Expenditures				
Current				
Administration	109,000	103,637	(5,363)	102,229
Education	24,000	21,336	(2,664)	18,124
Grant programs	-	212,076	212,076	-
Insurance	3,800	2,355	(1,445)	1,442
Professional fees	7,000	4,500	(2,500)	5,541
Technical support	113,000	111,571	(1,429)	100,434
Water monitoring	53,314	40,286	(13,028)	34,785
Watershed programs	104,500	668	(103,832)	15,032
Watershed plan	7,000	1,370	(5,630)	1,698
Capital outlay				
Improvement projects	-	6,244	6,244	252,642
Total expenditures	<u>421,614</u>	<u>504,043</u>	<u>82,429</u>	<u>531,927</u>
Net change in fund balances/net position	<u>\$ (87,314)</u>	<u>431,198</u>	<u>\$ 518,512</u>	<u>10,229</u>
Net fund balances/net position				
Beginning of year		483,794		473,565
End of year		<u>\$ 914,992</u>		<u>\$ 483,794</u>

Elm Creek Watershed Management Commission

Notes to Financial Statements
December 31, 2017**NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES****Organization**

The Elm Creek Watershed Management Commission is formed under a Joint Powers Agreement, as amended according to Minnesota Statutes Sections 103B.201 through 103B.255 and Minnesota Rules Chapter 8410 relating to Metropolitan Area Local Water Management and its reporting requirements. Elm Creek Watershed Management Commission was established in February, 1973 to protect and manage the natural resources of the Elm Creek Watershed.

The Commission is considered a governmental unit, but is not a component unit of any of its members. As a governmental unit, the Commission is exempt from federal and state income taxes.

Reporting Entity

A joint venture is a legal entity resulting from a contractual agreement that is owned, operated, or governed by two or more participants as a separate and specific activity subject to joint control, in which the participants retain either an ongoing financial interest or an ongoing financial responsibility. The Commission is considered a joint venture.

As required by accounting principles generally accepted in the United States of America, these financial statements include the Commission (the primary government) and its component units. Component units are legally separate entities for which the primary government is financially accountable, or for which the exclusion of the component unit would render the financial statements of the primary government misleading. The criteria used to determine if the primary government is financially accountable for a component unit include whether or not the primary government appoints the voting majority of the potential component's unit board, is able to impose its will on the potential component unit, is in a relationship of financial benefit or burden with the potential component unit, or is fiscally depended upon by the potential component unit. Based on these criteria, there are no component units required to be included in the Commission's financial statements.

Government-Wide and Fund Financial Statement Presentation

The government-wide financial statements (the Statement of Net Position and the Statement of Activities) report information about the reporting government as a whole. These statements include all the financial activities of the Commission. The Statement of Activities demonstrates the degree to which the direct expenses of a given function are offset by program revenues. Direct expenses are those that are clearly identifiable with a specific function or segment. Program revenues include charges to customers or applicants who purchase, use, or directly benefit from goods, services, or privileges provided by a given function or segment, and grants or contributions that are restricted to meeting the operational or capital requirements of a particular function or segment. Other internally directed revenues are reported instead as general revenues.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)****Measurement Focus, Basis of Accounting and Financial Statement Presentation**

The government-wide financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as soon as eligibility requirements imposed by the provider have been met.

Governmental fund financial statements are reported using the current financial resources measurement focus and the modified accrual basis of accounting. Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be available when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Commission considers revenue to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting.

Fund Financial Statement Presentation

The accounts of the Commission are organized on the basis of funds, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenue, and expenditures. Resources are allocated to, and accounted for in individual funds based on the purposes for which they are to be spent and the means by which spending activities are controlled. The resources of the Commission are accounted for in one major fund:

- **General Fund (Governmental Fund Type)** - This fund is used to receive dues and miscellaneous items which may be disbursed for any and all purposes authorized by the bylaws of the Commission.

Typically, separate fund financial statements are provided for Governmental Funds. However, due to the simplicity of the Commission's operation, the Governmental Fund financial statements have been combined with the government-wide statements.

Budgets

The amounts shown in the financial statements as "budget" represent the budget amounts based on the modified accrual basis of accounting. A budget for the General Fund is adopted annually by the Commission. Appropriations lapse at year-end. Budgetary control is at the fund level.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)****Members' Contributions**

Members' contributions are calculated based on the member's share of the taxable market value of all real property within the watershed to the total market value of all real property in the watershed.

Capital assets

The Commission follows the policy of expensing any supplies or small equipment at the time of purchase. The Commission currently has no capitalized assets.

Risk Management

The Commission is exposed to various risks of loss related to torts: theft of, damage to, and destruction of assets; error and omissions; and natural disasters. The Commission participates in the League of Minnesota Cities Insurance Trust (LMCIT), a public entity risk pool for its general property, casualty, and other miscellaneous insurance coverages. LMCIT operates as a common risk management and insurance program for a large number of cities in Minnesota. The Commission pays an annual premium to LMCIT for insurance coverage. The LMCIT agreement provides that the trust will be self-sustaining through member premiums and will reinsure through commercial companies for claims in excess of certain limits. Settled claims have not exceeded this commercial coverage in any of the past three years. There were no significant reductions in insurance coverage during the year ended December 31, 2017.

Receivables

The Commission utilizes an allowance for uncollectible accounts to value its receivables; however, it considers all of its receivables to be collectible as of December 31, 2017 and 2016.

Net Position

In the government-wide financial statements, net position represents the difference between assets, deferred outflows of resources, liabilities, and deferred inflows of resources. Net position is displayed in three components:

Net Investment in Capital Assets - Consists of capital assets, net of accumulated depreciation, reduced by any outstanding debt attributable to acquire capital assets.

Restricted Net Position - Consists of net position restricted when there are limitations imposed on their use through external restrictions imposed by creditors, grantors, or laws or regulations of other governments.

Unrestricted Net Position - All other net position that do not meet the definition of "restricted" or "net investment in capital assets."

The Commission applies restricted resources first when an expense is incurred for which both restricted and unrestricted resources are available.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 1 - SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)****Prior Period Comparative Financial Information/Reclassification**

The basic financial statements include certain prior year partial comparative information in total but not at the level of detail required for a presentation in conformity with accounting principles generally accepted in the United States of America. Accordingly, such information should be read in conjunction with the Commission's financial statements for the year ended December 31, 2016, from which the summarized information was derived. Also, certain amounts presented in the prior year data may have been reclassified in order to be consistent with the current year's presentation.

NOTE 2 - ASSETS, LIABILITIES AND NET POSITION**A. Deposits**

In accordance with applicable Minnesota Statutes, the Commission maintains a checking account authorized by the Commission.

The following is considered the most significant risk associated with deposits:

Custodial Credit Risk - In the case of deposits, this is the risk that in the event of a bank failure, the Commission's deposits may be lost.

Minnesota Statutes require that all deposits be protected by federal deposit insurance, corporate surety bond, or collateral. The market value of collateral pledged must equal 110 percent of the deposits not covered by federal deposit insurance or corporate surety bonds. Authorized collateral includes treasury bills, notes, and bonds; issues of U.S. government agencies; general obligations rated "A" or better; revenue obligations rated "AA" or better; irrevocable standard letters of credit issued by the Federal Home Loan Bank; and certificates of deposit. Minnesota Statutes require that securities pledged as collateral be held in safekeeping in a restricted account at the Federal Reserve Bank or in an account at a trust department of a commercial bank or other financial institution that is not owned or controlled by the financial institution furnishing the collateral. The Commission has no additional deposit policies addressing custodial credit risk.

At year-end, the Commission had no funds held in its bank account. All funds were transferred to their MBIA investment account. (see below)

B. Investments

At December 31, 2017 and 2016, the Commission held \$1,109,621 and \$570,931 (approximate cost and fair market value), respectively, in investments with MBIA in Minnesota 4M Holdings.

The 4M fund is an external investment pool not registered with the Securities Exchange Commission (SEC) that follows the same regulatory rules of the SEC under rule 2a7. The 4M Fund is a customized cash management and investment program for Minnesota public funds that is allowable under Minnesota Statutes. The fair value of the position in the pool is the same as the value of the pool shares.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 2 - ASSETS, LIABILITIES AND NET POSITION (CONTINUED)**

Investments are subject to various risks, the following of which are considered the most significant:

Custodial Credit Risk - For investments, this is the risk that in the event of a failure of the counterparty to an investment transaction (typically a broker-dealer) the Commission would not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. The Commission does not have a formal investment policy addressing this risk, but typically limits its exposure by purchasing insured or registered investments, or by the control of who holds the securities.

Credit Risk - This is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Minnesota Statutes limit the Commission's investments to direct obligations or obligations guaranteed by the United States or its agencies; shares of investment companies registered under the Federal Investment Company Act of 1940 that receive the highest credit rating, are rated in one of the two highest rating categories by a statistical rating agency, and all of the investments have a final maturity of 13 months or less; general obligations rated "A" or better; revenue obligations rated "AA" or better; general obligations of the Minnesota Housing Finance Agency rated "A" or better; bankers' acceptances of United States banks eligible for purchase by the Federal Reserve System; commercial paper issued by United States corporations or their Canadian subsidiaries, rated of the highest quality category by at least two nationally recognized rating agencies, and maturing in 270 days or less; Guaranteed Investment Contracts guaranteed by a United States commercial bank, domestic branch of a foreign bank, or a United States insurance company, and with a credit quality in one of the top two highest categories; repurchase or reverse purchase agreements and securities lending agreements with financial institutions qualified as a "depository" by the government entity, with banks that are members of the Federal Reserve System with capitalization exceeding \$10,000,000; that are a primary reporting dealer in U.S. government securities to the Federal Reserve Bank of New York; or certain Minnesota securities broker-dealers. The Commission's investment policies do not further address credit risk.

Concentration Risk - This is the risk associated with investing a significant portion of the Commission's investment (considered 5 percent or more) in the securities of a single issuer, excluding U.S. guaranteed investments (such as treasuries), investment pools, and mutual funds. The Commission does not have an investment policy limiting the concentration of investments.

Interest Rate Risk - This is the risk of potential variability in the fair value of fixed rate investments resulting from changes in interest rates (the longer the period for which an interest rate is fixed, the greater the risk). The Commission does not have an investment policy limiting the duration of investments.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 2 - ASSETS, LIABILITIES AND NET POSITION (CONTINUED)****C. Guarantee Fee Deposits**

The financial and administrative guarantee fee deposits payable are received as guarantee that the mitigation will perform as required. Upon completion, and if the project meets the qualified plan requirements, these financial guarantees are refunded.

NOTE 3 - FUND BALANCE CLASSIFICATION

The following fund balance classifications describe the relative strength of the spending constraints placed on the purposes for which resources can be used:

- **Nonspendable** - amounts that are not in a spendable form (such as inventory) or are required to be maintained intact;
- **Restricted** - amounts constrained to specific purposes by their providers (such as grantors, bondholders, and higher levels of government), through constitutional provisions, or by enabling legislation;
- **Committed** - amounts constrained to specific purposes by a government itself, using its highest level of decision-making authority; to be reported as committed, amounts cannot be used for any other purpose unless the government takes the same highest level action to remove or change the constraint;
- **Assigned** - amounts a government intends to use for a specific purpose; intent can be expressed by the governing body or by an official or body to which the governing body delegates the authority;
- **Unassigned** - amounts that are available for any purpose; these amounts are reported only in the general fund.

The Commission establishes (and modifies or rescinds) fund balance commitments by passage of an ordinance or resolution. This is typically done through adoption and amendment of the budget. A fund balance commitment is further indicated in the budget document as a designation or commitment of the fund. Assigned fund balance is established by the Commission through adoption or amendment of the budget as intended for specific purpose.

NOTE 4 - COMMITMENTS AND CONTRACTS**Minnesota Pollution Control Agency (MPCA) - Watershed-wide TMDL Project**

During 2009, the MPCA contracted the Commission to conduct a water monitoring program of the Elm Creek watershed for a cost not to exceed \$35,000. This contract was amended four times to add additional funds of \$148,000 for phase II, \$100,000 for phase III, \$109,995 for phase IV, \$16,500 for phase V and \$58,495 for phase VI. Total cost to the MPCA not to exceed \$467,990. The Commission has contracted Three Rivers Park District to perform the services in conjunction with this project. The Commission incurred expenses of \$668 and \$15,032 during the years ended December 31, 2017 and 2016, respectively. This project was finalized and approved during 2017.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017**NOTE 4 - COMMITMENTS AND CONTRACTS (CONTINUED)****Restricted fund balance - capital improvement projects**

During 2015, the Commission received \$68,916 from tax levies that is to be used for the Tower Drive improvement project. The Commission incurred expenses of \$16 and \$37 in project related costs during the years ending December 31, 2017 and 2016, respectively. As of December 31, 2017, the city of Medina has yet to complete the project. The Commission will hold the remaining funds of \$66,874 (less administrative costs) until completion.

During 2015, the Commission received \$62,654 from tax levies that is to be used for the Elm Creek Dam rehabilitation project. The Commission incurred expenses of \$14 and \$34 in project related costs during the years ending December 31, 2017 and 2016, respectively. As of December 31, 2017, the city of Champlin has yet to complete the project. The Commission will hold the remaining funds of \$60,974 (less administrative costs) until completion.

During 2017 and 2016, the Commission received \$1,273 and \$249,866, respectively, from tax levies that is to be used for the Plymouth Elm Creek Restoration project. The Commission incurred \$1,836 and \$245,557 of costs associated with this project during the years ended December 31, 2017 and 2016, respectively. This project is substantially complete as of December 31, 2017.

During 2017, the Commission received \$80,353 from tax levies that is to be used for the Fox Creek Stream Bank Stabilization Phase Two Project. During 2016, The Commission incurred project related costs of \$106. The Commission will hold the remaining funds of \$80,247 (less administrative costs) until completion.

During 2017, the Commission received \$75,043 from tax levies that is to be used for the Mississippi River Shoreline Repair and Stabilization Project. During 2016, The Commission incurred project related costs of \$106. The Commission will hold the remaining funds of \$74,937 (less administrative costs) until completion.

During 2017, the Commission received \$187,604 from tax levies that is to be used for the Elm Creek Dam Rehabilitation Project. During 2016, The Commission incurred project related costs of \$106. The Commission will hold the remaining funds of \$187,498 (less administrative costs) until completion.

During 2017, the Commission received \$75,043 from tax levies that is to be used for the Rush Creek Main Restoration Project. During 2016, The Commission incurred project related costs of \$106. The Commission will hold the remaining funds of \$74,937 (less administrative costs) until completion.

During 2017, the Commission received \$75,043 from tax levies that is to be used for the Fish Lake Aluminum Treatment Project. During 2016, The Commission incurred project related costs of \$106. The Commission will hold the remaining funds of \$74,937 (less administrative costs) until completion.

Elm Creek Watershed Management Commission

Notes to Financial Statements (continued)
December 31, 2017

NOTE 4 - COMMITMENTS AND CONTRACTS (CONTINUED)**Grants****Fish Lake Internal Phosphorus Loading Control Project**

During 2017, the State of Minnesota Board of Water and Soil Resources (BWSR) awarded \$200,000 to the Commission for the Fish Lake Internal Phosphorus Loading Control Project. The total project is expected to cost \$300,000. The Commission is to provide \$75,000, the Three Rivers Park District is to provide \$8,000 and the Maple Grove Fish Lake Area Residents Association is to provide \$17,000 of the remaining costs associated with the project.

During 2017, the Commission received \$100,000 from BWSR and incurred costs of \$178,455 and fully expended its share of the project costs.

Rush Creek Headwaters Subwatersheds Assessment Project

During 2017, BWSR awarded \$50,280 to the Commission for the Rush Creek Headwaters Subwatersheds Assessment Project. The total project is expected to cost \$62,850. The Commission is to provide \$12,070 and the City of Corcoran is to provide \$500 of the remaining costs associated with the project.

During 2017, the Commission received \$25,140 from BWSR and incurred costs of \$33,320

NOTE 5 - MEMBERS' ASSESSMENTS

Dues received from members were as follows:

	For Year Ended December 31			
	2017		2016	
	Amount	Percentage	Amount	Percentage
Champlin	\$ 8,458	3.85 %	\$ 8,741	4.06 %
Corcoran	14,624	6.66	14,511	6.74
Dayton	10,333	4.70	9,974	4.63
Maple Grove	116,455	53.01	115,969	53.85
Medina	18,362	8.36	17,190	7.98
Plymouth	18,664	8.50	17,457	8.11
Rogers	32,804	14.92	31,518	14.63
Total	<u>\$ 219,700</u>	<u>100.00 %</u>	<u>\$ 215,360</u>	<u>100.00 %</u>

OTHER REQUIRED REPORTS

**INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER
FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS**

Board of Directors
Elm Creek Watershed Management Commission
Plymouth, MN

We have audited, in accordance with the auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and the major fund of the Elm Creek Watershed Management Commission (the Commission) as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated April 11, 2018.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Commission's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Commission's internal control. Accordingly, we do not express an opinion on the effectiveness of the Commission's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that material misstatement of the financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses, as defined above. However, material weaknesses may exist that have not been identified. We did identify the following deficiencies in internal control that we consider to be significant deficiencies:

Because of the limited size of your office staff, your organization has limited segregation of duties. A good system of internal accounting control contemplates an adequate segregation of duties so that no one individual handles a transaction from inception to completion. While we recognize that your organization is not large enough to permit an adequate segregation of duties in all respects, it is important that you be aware of the condition.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Commission's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. Accordingly, this communication is not suitable for any other purpose.

April 11, 2018

INDEPENDENT AUDITORS' REPORT ON
MINNESOTA LEGAL COMPLIANCE

Board of Directors
Elm Creek Watershed Management Commission
Plymouth, Minnesota

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and major fund of the Elm Creek Watershed Management Commission (the Commission) as of and for the year ended December 31, 2017, and the related notes to the financial statements, which collectively comprise the Commission's basic financial statements, and have issued our report thereon dated April 11, 2018.

The *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*, promulgated by the State Auditor pursuant to Minn. Stat. 6.65, contains six categories of compliance to be tested: contracting and bidding, deposits and investments, conflicts of interest, claims and disbursements, miscellaneous provisions, and tax increment financing. Our audit considered all of the applicable listed categories, except that we did not test for compliance in tax increment financing, because the Commission does not utilize tax increment financing.

In connection with our audit, nothing came to our attention that caused us to believe that the Commission failed to comply with the provisions of the *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*. However, our audit was not directed primarily toward obtaining knowledge of such noncompliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Commission's noncompliance with the above referenced provisions.

This report is intended solely for the information and use of those charged with governance and management of the Elm Creek Watershed Management Commission and the State Auditor and is not intended to be and should not be used by anyone other than these specified parties.

April 11, 2018

