



MINNEHAHA CREEK WATERSHED DISTRICT 2018 ANNUAL ACTIVITY REPORT



**MINNEHAHA CREEK
WATERSHED DISTRICT**



Table of Contents

1.0	Introduction	3
2.0	Annual Activity Report	3
	2.A. Board Members	3
	2.B. Staff Contact Information	3
	2.C. Assessment of 2018 Work Plans	4
	2.D. 2019 Work Plans	4
	2.E. Evaluation of Progress on Goals and Implementation Actions	5
	2.F. Trends in Monitoring Data	5
	2.G. Annual Communications	9
	2.H. Solicitation of Services	9
	2.I. Status of Local Plans	9
	2.J. Status of Locally Adopted Ordinances	10
	2.K. Permits, Variances, and Violations	10
3.0	Annual Audit Report	10
	Appendix 1 - MCWD 2018-2019 Publications	11
	Appendix 2 - MCWD 2018 Audit Report	12

1.0 Introduction

This report has been prepared to satisfy the Minnehaha Creek Watershed District's (MCWD or District) annual reporting requirements set forth in Minnesota Statutes Chapter 103D.351, which requires watershed districts to file an annual report with the Board of Soil and Water Resources and the Department of Natural Resources. Metropolitan watershed districts are required to follow reporting requirements described in MR 8410.0150.

2.0 Annual Activity Report

The following information is provided to satisfy the requirements of MN Rules 8410.0150, Subpart 3.

2.A. Board Members

Below is a list of the District's Board of Managers as of April 22, 2019, including the designated officers and the county that appointed each member. Hennepin County will be appointing two new managers, anticipated on April 23, 2019, to replace outgoing managers Shekleton and Becker.

Table 1. MCWD Board of Managers

Manager	County	Contact Information
Sherry Davis White, President	Hennepin	swhite@minnehahacreek.org
Bill Olson, Vice President	Carver	bolson@minnehahacreek.org
Richard Miller, Treasurer	Hennepin	rmiller@minnehahacreek.org
Kurt Rogness, Secretary	Hennepin	krogness@minnehahacreek.org
Bill Becker	Hennepin	bbecker@minnehahacreek.org
Jessica Loftus	Hennepin	jloftus@minnehahacreek.org
Brian Shekleton	Hennepin	bshekleton@minnehahacreek.org

2.B. Staff Contact Information

The District currently employs 28 staff. The names, job titles, and contact information for all staff can be found on the District website at <https://www.minnehahacreek.org/about/staff>. The contact information for the District Administrator is provided below.

James Wisker, District Administrator
Minnehaha Creek Watershed District
15320 Minnetonka Blvd.
Minnetonka, MN 55345
Phone: 952-641-4509
Email: jwisker@minnehahacreek.org

2.C. Assessment of 2018 Work Plans

District staff prepared 19 individual work plans for 2018 as listed below. All activities were substantially completed as proposed with the exception of a few schedule changes for capital projects. The initial aluminum sulphate application for the Wassermann West project (fund 3153) and the design of the Meadowbrook Golf Course project (fund 3150) were postponed to 2019. Conversely, the District was able to complete the full demolition of the Cold Storage Facility for the 325 Blake Road project.

The publications included in Appendix 1 highlight the major initiatives that were completed or underway in 2018. Expenditures under each work plan are included in the audit report in Appendix 2.

- Operations and Support Services:
 - Information Technology (1003)
 - Government Relations (1004)
- Planning and Permitting:
 - Permit Administration (2001)
 - Planning and Projects (2002)
 - Project Maintenance and Land Management (2003)
 - Land Acquisition and Capital Project Finance (2004)
 - Habitat Restoration Initiative (2006)
- Capital Projects:
 - Taft/Legion Improvements (3140)
 - 325 Blake Rd Stormwater Management (3145)
 - 54th St. Stream Restoration (3147)
 - FEMA Flood Repairs (3148)
 - Highway 101 Causeway (3149)
 - Meadowbrook Golf Course (3150)
 - Minnehaha Preserve Enhancement (3151)
 - Wassermann West Wetland Restoration and Park Improvement (3153)
- Education and Communications:
 - Education (4002)
 - Communications (4003)
- Research and Monitoring:
 - Research & Monitoring (5001)
 - Aquatic Invasive Species (5005)

2.D. 2019 Work Plans

For 2019, the District prepared one comprehensive work plan encompassing activities in its two focal subwatersheds, Six Mile Creek-Halsted Bay and Minnehaha Creek, as well as its watershed-wide responsive programming. This document includes a summary of the District's 2019 budget and can be found on the District website at: <http://www.minnehahacreek.org/about/district-finances/budget>.

2.E. Evaluation of Progress on Goals and Implementation Actions

In January 2018, the District adopted its new [Watershed Management Plan](#). Section 3.7 of the Plan describes the District's framework for setting goals and evaluating progress through a sequential process that begins with strategic goals and long-range targets and leads to subwatershed and then project-specific targets, performance measurement, and evaluation.

The District is undertaking a comprehensive information technology update in 2019-2020 that will improve the District's ability to track and report on progress toward its goals across its various programs and projects.

Below is a summary of the available metrics for District implementation over the last plan cycle (2008-2017). Several projects that were identified in the District's 2018-2027 Plan are underway but not yet completed. Progress toward implementation under the new Plan will be provided in the 2019 annual report.

- Regulation/permitting (2008-2015, not quantified for 2016-2017):
 - Phosphorus load reduction – 312 lbs
 - Volume reduction - 637 ac-ft

- District projects (2008-2017):
 - 33 projects implemented
 - Stormwater management – 1742 acres
 - Phosphorus load reduction – 699 lbs
 - TSS reduction – 23.5 tons (not quantified for all projects)
 - Volume reduction – 143 acre-feet
 - Restored shoreline/streambank – 14,870 feet or 2.82 miles
 - Restored wetlands – 27.7 acres
 - Restored uplands – 164 acres
 - Floodplain storage created – 22.8 acre-feet
 - Publicly accessible green space created – 53 acres
 - Public trails created – 8793 feet or 1.67 miles

- Cost share grant projects:
 - 79 grant projects constructed (2011-2017)

2.F. Trends in Monitoring Data

The Research and Monitoring program evaluates trends for its long-term (“anchor”) lake and stream monitoring stations throughout the District. The 30 lake and 12 stream stations were assessed for trends in water quality and stream yield from 2009-2018. All the stations had eight or more years of consecutive data. Trends were computed using the Mann-Kendall test on water clarity (secchi disk), algal abundance (chlorophyll-a) and total phosphorus (TP) in the epilimnion on lakes.

For streams, the Mann-Kendall test was used to compute stream yield trends. Flow-corrected concentrations were assessed for water quality trends. A locally weighted scatterplot smoothing (LOWESS) residual was calculated between the parameter of interest (TSS or TP concentrations) and

flow. Stream water quality was then assessed by the Mann-Kendall test to determine if a significant increasing or decreasing trend exists.

All statistical analyses were computed using R-studio statistical packages. An alpha of 0.05 was used to determine if a significant trend exists for lake and stream water quality. Lakes with significant trends are displayed in Table 2, and the stream stations with significant trends are displayed in Table 3.

Minnehaha Creek Subwatershed

Minnehaha Creek Subwatershed has been identified as having high phosphorus and total suspended solid watershed loading due to high levels of urban and suburban development. Many of these poor water quality conditions are driven by high levels of impervious land use, loss of wetlands, and ditched streams. For this reason, MCWD has prioritized water quality improvement projects in the Minnehaha Creek Subwatershed in recent years.

The results from the trend analysis indicate that nearly every stream station in the Minnehaha Creek Subwatershed show improving total phosphorus or total suspended solids concentrations (Table 3). In addition, Lake Hiawatha and Twin Lake showed significant water quality improvement in total phosphorus and chlorophyll-a, respectively (Table 2).

Furthermore, Lake Hiawatha has met state water quality standards for total phosphorus, chlorophyll-a, and secchi depth in recent years (Figure 1 and 2). The lake and stream trend analysis results for Minnehaha Creek Subwatershed suggest that the focused effort by MCWD, and partner agencies, in recent years is positively impacting water quality conditions in Minnehaha Creek and its receiving waters (Lake Hiawatha).

Six Mile Creek-Halsted Bay Subwatershed

Six Mile Creek-Halsted Bay (SMCHB) subwatershed is another area of focus for the MCWD; however, the organizational focus on the SMCHB subwatershed has only occurred in the last few years. The SMCHB subwatershed, unlike Minnehaha Creek Subwatershed, has relatively low urban or suburban land use and is dominated by open space, parks, agricultural land, and low density development. The SMCHB subwatershed's water quality issues are driven primarily by high abundance of carp, disturbed wetlands, agricultural runoff, and lake internal phosphorus loading.

SMCHB Subwatershed stream water quality trend analysis shows improvements in stream water quality conditions, but had no significant improvements in lake water quality. These data suggest that recently implemented wetland and upland improvement projects may be having a positive impact on stream water quality conditions; however, in-lake lake issues such as sediment phosphorus release or common carp sediment resuspension are continuing to drive poor water quality in Six Mile Creek Lakes.

Other Subwatersheds

No other subwatersheds had significant lake or stream water quality improvements. Furthermore, several lakes in other subwatersheds, including Langdon Lake, Painter Creek, and the Gleason Lake Subwatershed, show degrading water quality conditions. These trends are relatively intuitive since these watersheds have had fewer BMPs implemented relative to Six Mile Creek and Minnehaha Creek.

Table 2. Significant trends for lakes within Minnehaha Creek Watershed District.

Subwatershed	Lake	Total Phosphorus	Chlorophyll-a	Secchi Disk
Christmas Lake	Christmas Lake	No Trend	No Trend	No Trend
Gleason Lake	Gleason Lake	No Trend	No Trend	Degrading
Long Lake	Long Lake	No Trend	No Trend	No Trend
	Tanager Lake	No Trend	No Trend	No Trend
Six Mile Creek	Parley Lake	No Trend	No Trend	No Trend
	Wassermann Lake	No Trend	No Trend	No Trend
	Steiger	No Trend	No Trend	No Trend
	Wauburn	No Trend	No Trend	No Trend
	Zumbra	No Trend	No Trend	No Trend
Lake Virginia	Lake Virginia	No Trend	No Trend	No Trend
	Lake Minnewashta	No Trend	No Trend	No Trend
	St. Joe	No Trend	No Trend	No Trend
Minnehaha Creek	Bde Maka Ska	No Trend	No Trend	No Trend
	Cedar Lake	No Trend	No Trend	Degrading
	Cobblecrest Lake	No Trend	No Trend	No Trend
	Lake of the Isles	No Trend	No Trend	No Trend
	Powderhorn Lake	No Trend	Degrading	Degrading
	South Oak Lake	No Trend	No Trend	No Trend
	Twin Lake	No Trend	Improving	No Trend
	Lake Nokomis	No Trend	No Trend	No Trend
	Lake Harriet	No Trend	No Trend	No Trend
Lake Hiawatha	Improving	No Trend	No Trend	
Lake Minnetonka	Carman Bay	No Trend	No Trend	No Trend
	Crystal Bay	No Trend	No Trend	No Trend
	Forest Bay	No Trend	No Trend	No Trend
	Grays Bay	No Trend	Improving	No Trend
	Halsted Bay	No Trend	Improving	No Trend
	Jennings Bay	No Trend	No Trend	No Trend
	Lower Lake South Bay	No Trend	Improving	No Trend
	Stubbs Bay	No Trend	No Trend	No Trend

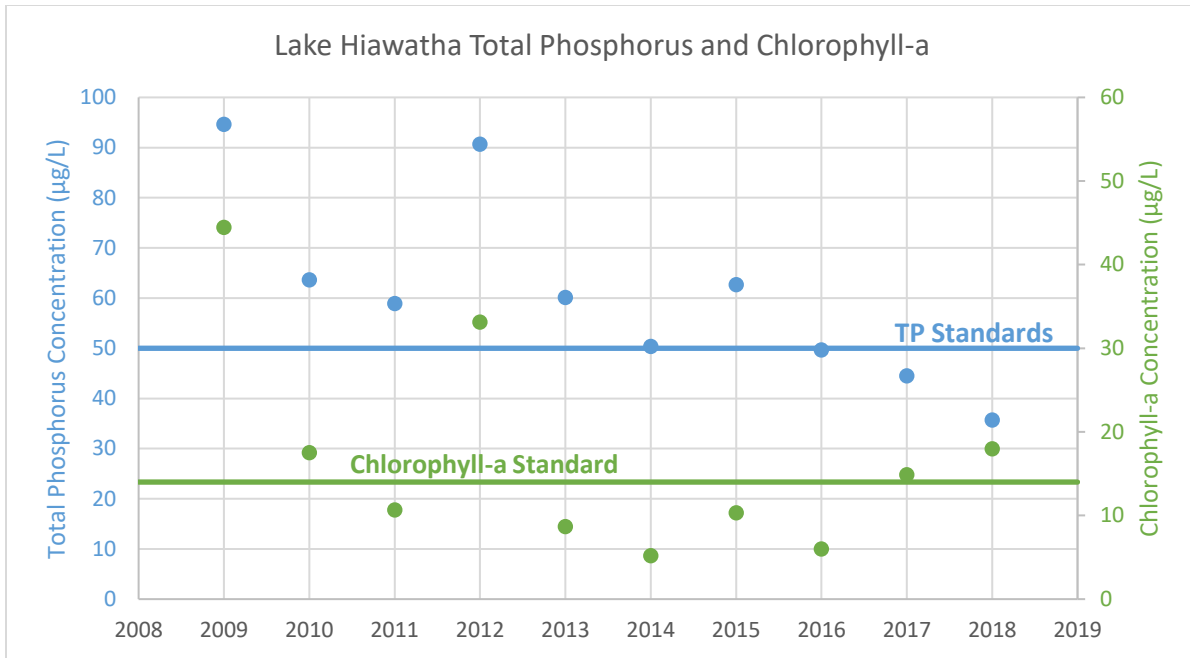


Figure 1. Lake Hiawatha annual summer average chlorophyll-a and total phosphorus concentrations over the past ten years (2009 to 2018).

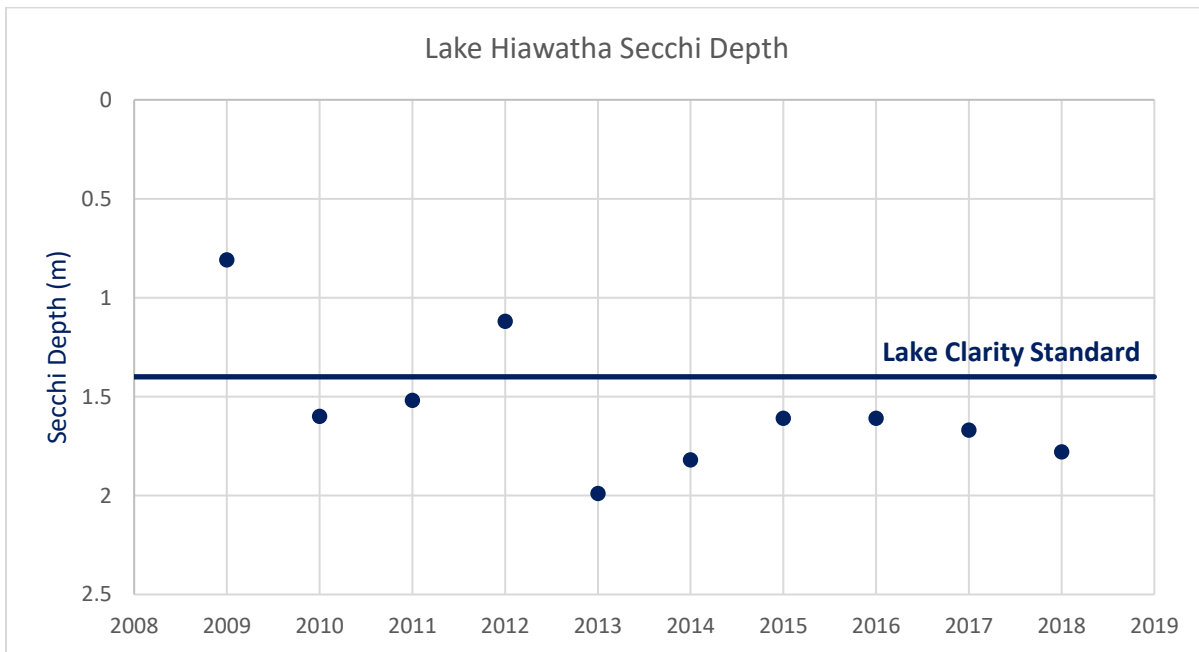


Figure 2. Lake Hiawatha annual summer average secchi depth over the past ten years (2009 to 2018).

Table 3. Significant trends for streams within Minnehaha Creek Watershed District.

Subwatershed	Stream Station	Total Phosphorus Trend	Total Suspended Solids
Dutch Lake	Dutch Lake: Lake Outlet	No Trend	No Trend
Langdon Lake	Langdon Lake Outlet	Degrading	Degrading
Minnehaha Creek	Minnehaha Creek I-494 Ramp	No Trend	No Trend
	Minnehaha Creek W. 34 St.	No Trend	Improving
	Minnehaha Creek Excelsior Blvd	Improving	No Trend
	Minnehaha Creek: W. 56th St.	Improving	Improving
	Minnehaha Creek: 21st/Minnehaha Pkwy	Improving	Improving
	Minnehaha Creek: Hiawatha Ave	Improving	No Trend
Painter Creek	Painters Creek: W. Branch Rd	Degrading	No Trend
Six Mile Creek	Six Mile Creek: Auburn Lk East Inlet	Improving	No Trend
	Six Mile Creek: Lundsten Lk - North Outlet	Improving	No Trend
	Six Mile Creek: Mud Lake Outlet	Improving	Improving

2.G. Annual Communications

MCWD’s outreach is guided by the district’s Watershed Management Plan which marked its first full year of implementation in 2018. The goal of the MCWD’s communications efforts are to increase awareness about the watershed district’s strategic priorities of building high impact capital improvement projects and influencing policy change that promotes early coordination and the integration of land use planning and water quality improvements. In 2018, MCWD issued a total of 18 news releases, 13 newspaper columns, and 62 e-newsletters on topics including capital projects, program activities, water quality data, events, and finances. The District distributed both a mid-year and annual report to cities, counties, state agencies, and other stakeholders. These publications can be found in Appendix 1. Other past news releases and newsletters can be found at: <http://www.minnehahacreek.org/about/newsroom>. The MCWD website received approximately 215,562 views in 2018, and the District continued an active social media presence on Facebook, Twitter, Instagram and YouTube.

2.H. Solicitation of Services

In March 2018, in accordance with MN Statutes 103B.227, the District solicited proposals for legal, engineering, government relations, accounting, and information technology professional services.

2.I. Status of Local Plans

MN Statutes § 103B.235 and MN Rules § 8410.0160 grant watershed districts the authority to review and approve local water management plans (LWMPs). Under this framework, watershed districts can assign responsibilities to local government units (LGUs) for carrying out implementation actions defined

in the watershed plan. The LWMP is a required element of the LGU comprehensive land use management plan which LGUs were required to update by the end of 2018.

The primary focus of the LWMP requirements set forth in the District's 2017 Plan is on improving the integration of land use and water planning. To effectively integrate the goals of MCWD and its LGUs in a way that maximizes community benefits and effectively leverages public funds, the District has invited a partnership framework with its communities. In addition to the legally required elements of LWMPs, as defined in State statute and rules, the MCWD Plan requires communities to develop a coordination plan which describes how the LGU and MCWD will share information and work together to integrate land use and water planning.

Fifteen of the District's 29 communities received approval of their LWMP during 2018. As of April 22, 2019, all 29 communities have either received approval or have submitted draft LWMPs that are undergoing review or further revision.

2.J. Status of Locally Adopted Ordinances

The District's 2017 Plan did not establish any requirements for local ordinances.

2.K. Permits, Variances, and Violations

In 2018, the MCWD reviewed and processed 720 permit applications. No permits were denied, and there were nine variances or exceptions approved. A total of 542 inspections were completed in 2018. The majority of non-compliant sites were resolved through MCWD inspection reports to permittees and on-site meetings to discuss corrections and solutions to site-specific issues. MCWD issued ten notices of probable violation in 2018, and four Wetland Conservation Act violations. One formal enforcement action was issued by the MCWD Board of Managers.

3.0 Annual Audit Report

The full 2018 audit report is included as Appendix 2.

Appendix 1 - MCWD 2018-2019 Publications
