MEMORANDUM
Comfort Lake-Forest Lake Watershed District

District Wide

Date: March 16, 2023
To: CLFLWD Board of Managers
From: Mike Kinney, District Administrator
Subject: 2022 Year in Review, Annual Report, and Progress Report

Background/Discussion

The enclosed Year in Review was first developed in 2016 and has been updated each year since. This one-page infographic is the highest-level summary we provide each year. The Annual Report provides the next level of detail, and the Progress Report provides the most detail of the three District-wide yearend summaries. All three reports are hyperlinked at the bottom of this memo.

Annual Report

The District is required, per Minnesota Rules Chapter 8410, to complete and submit an annual report to the Board of Water and Soil Resources (BWSR). It must be submitted within 120 days of the end of the calendar year, i.e., by **April 30, 2023**. The draft report is enclosed. Managers are encouraged to provide any comments, questions, or requested revisions directly to staff prior to the March 23rd meeting, if possible. This will enable staff to compile the feedback and present to the full Board for consideration/discussion.

The audit and water monitoring data are preliminary, pending acceptance of the Audit Report and Water Monitoring Report by the Board. Once the data associated with these items are finalized, and all manager comments are satisfied (if applicable), staff will bring the final draft of the Annual Report to the Board for approval. Reminder that the Annual Report must be approved and submitted to the state by April 30.

Progress Report

Staff recommend reducing the frequency of the full progress report to every other year, starting by cutting back the progress report this year (i.e., reporting year 2022). We propose to produce the next full progress report in 2024. That report would cover the years 2022-2023. This timing will coincide with the next year the District holds the State of the Watershed public meeting. Statute indicates watershed districts must evaluate progress toward goals every two years, so this proposed schedule will align with statute as well. Staff expect the reduced frequency will result in greater engagement with readers and free up about 40 hours of staff time every other year.

Proposed Progress Summary to be prepared in the "off" years (e.g., reporting year 2022):

1. Project Implementation Update: status summary of active projects and their outcomes
2. Portfolio of Completed and In Progress Projects: maps and tables of the District's projects and their outcomes
3. Clean Water Fund Grant Award Comparison: aggregate Clean Water Fund Projects & Practices grant award data for all grantees (this grant program has been critical to the District's success with its projects)
4. Updated 5200 section of the Progress Report itself. Here's a link to last year's, for reference. To be updated with the 2022 monitoring data, which was recently received.

In 2015, the District began a comprehensive effort to evaluate progress toward the goals and metrics described in the District's 10-Year Watershed Management Plan, resulting in the creation of the District's first annual comprehensive Progress Report in 2016. Each year since then has been a continuous process of improvement in the District's communication about its progress. Those improvements have also resulted in a much larger quantity of content. In total including appendices, the 2016 report was 58 pages long, and the 2021 report was 297 pages long. This has grown into a lot of content for readers to digest on an annual basis. Staff recommends that scaling back the frequency of the report will give readers more breathing room to read through the report in its entirety and take in the results. We would align this frequency with our State of the Watershed event, which will be a good way to showcase the metrics and progress. Staff recommends this will be a more effective way of telling the District's story; telling it in a way that will be easier for people to really take in.

Attached:
2022 Year in Review Summary

2022 Annual Report

2022 Progress Summary – proposed scaled back alternative to the full 300-page progress report

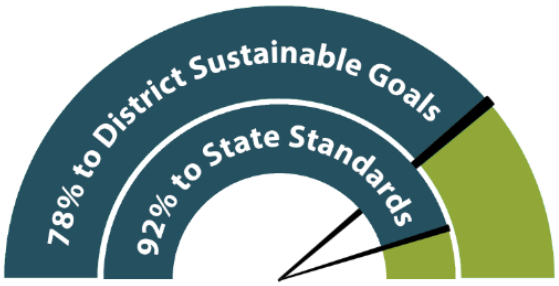
- Project Implementation Update
- Portfolio of Completed and In Progress Projects
- Clean Water Fund Grant Award Comparison (FY 2014-2023)
- Updated 5200 section of the Progress Report (forthcoming; staff received the draft 2022 monitoring report on March 17th and requires more time to incorporate the monitoring data into updated charts and figures)

2022
YEAR IN REVIEW

The District was **awarded $1,371,578 in grant funding** in 2022. The District will implement grant-funded projects throughout the Bone, Forest, Comfort and Little Comfort Lake Management Districts.

Watercraft inspectors spent a total of **3,673 hours at boat landings** within the District completing **over 8,900 watercraft inspections.** The District partners with both Chisago County and the MN DNR on watercraft inspections.

The District issued **39 permits** and performed **746 site inspections** to ensure project compliance with District rules and minimize the impact of construction on local waterbodies.



Projects, programs, outreach, and education efforts have resulted in **meeting 92% of phosphorus reductions** needed to achieve state water quality standards.

Several in-person and virtual events were held in 2022 including the return of the **District Tour** and the **State of the Watershed** Public Meeting. The District also hosted a weekly booth at Forest Lake's Arts in the Park.

District staff performed **22 shoreline site visits** resulting in **5 residential plant grant applications**. These projects help filter stormwater runoff and utilize native plants to restore shorelines and prevent erosion. The District is developing a more comprehensive shoreline program for 2023.

The District was selected to host a **MN GreenCorps Member** and hired its first high school intern through Forest Lake High School's **Career Launch Internship Program**.

The District broke ground on several water quality improvement projects in 2022 including the **Country Road-50 Iron Enhanced Sand Filter**. This project will **reduce phosphorus loads to Forest Lake by 97 lb/yr.** The District received a $747,000 Clean Water Fund Grant and a $191,965 Section 319 Small Watershed Focus Grant to help implement this project.

CLFLWD
WATERSHED DISTRICT

Like the new look? CLFLWD updated its logo, brand, and website in 2022, and launched it to the public January 2023. Visit us at www.clflwd.org.

Comfort Lake-Forest Lake Watershed District

2022 Annual Report
2023 Work Plan & Budget

CLFLWD
WATERSHED DISTRICT

Cover Image: School Lake in spring

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I. INTRODUCTION

Pursuant to Minnesota Statutes Section 103D.351 and Minnesota Rules Section 8410.0150, the Board of Managers of the Comfort Lake–Forest Lake Watershed District (CLFLWD or District) submits its 2022 Annual Report. The District was established by petition order of the State of Minnesota in 1999. This report is intended to inform readers of the District's 2022 activities, plans, goals, and objectives, and describe its projected work plan and budget for 2023. The District invites comments and suggestions on the report. The District submits its Annual Activity Report to the Board of Water and Soil Resources, the Commissioner of the Department of Natural Resources, and the Director of the Ecological and Water Resources Division. Copies are available from the District Administrator or at www.clflwd.org.

This report provides background information on the District; summarizes budgets, levies, and the 2022 audit; summarizes the District's programs and activities completed in 2022 and presents a work plan for 2023. For a more information please see the 2022 Progress Report and 2022 Yearend Summary Infographic. Both are available at www.clflwd.org.

II. 2022 BOARD OF MANAGERS

Stephen Schmaltz, President
Appointed County: Washington
Term Expires: September 2023

Christopher Loth, Vice President
Appointed County: Washington
Term Expires: September 2025

Dave Bakke, Secretary
Appointed County: Washington
Term Expires: September 2024

Jackie Anderson, Treasurer
Appointed County: Chisago
Term Expires: September 2023

Douglas Toavs, Assistant Treasurer
Appointed County: Chisago
Appointed: July 2021
Term Expires: September 2023

III. 2022 CITIZEN ADVISORY COMMITTEE MEMBERS

Jerry Grundtner
Forest Lake, MN 55025

Curt Sparks
Forest Lake, MN 55025

Randy Schumacher
Forest Lake, MN 55025

Tom Furey
Scandia, MN 55073

Ted Hansen
Wyoming, MN 55092

Geneva Kubal
Forest Lake, MN 55025

The Citizen Advisory Committee did not have a chairperson in 2022 for lack of an interested volunteer.

IV. 2022 TECHNICAL ADVISORY COMMITTEE

Representatives from each of the District's cities and counties, state agencies, neighboring watershed districts, and the Metropolitan Council comprise the District's Technical Advisory Committee (TAC). The TAC provides assistance with the development of the District's watershed management and capital improvement plans, rules and specific projects, as well as support for the CAC. 2022 members of the TAC included:

Table 1. 2022 Technical Advisory Committee Members

Name(s)	Organization
Michelle Jordan	Board of Water and Soil Resources
Mike Isensee	Carnelian-Marine-St. Croix Watershed District
John Pechman, Jason Lind	Chisago City
Jerry Spetzman, Susanna Wilson-Witkowski	Chisago County
Jessica Jagoe	Chisago County Dept. of Env. Services/Zoning
Craig Mell	Chisago SWCD
Sherry Stirling, Jeanette Peterson	Chisago Lake Township
Patrick Casey, Ryan Goodman, Tim Olson	City of Forest Lake
Ken Cammilleri	City of Scandia
Robb Linwood, Fred Weck, Mark Erichson	City of Wyoming
Melissa Glenna	Franconia Township
Judy Sventek	Metropolitan Council
Nicholas Phelps, Angelique Dahlberg	MN Aquatic Invasive Species Research Center
Jeffrey Berg	MN Department of Agriculture
John Freitag	MN Department of Health
Daniel Scollan	MN Department of Natural Resources
Nick Tiedeken	MN Department of Transportation
Eric Alms	MN Pollution Control Agency
Nick Tomczik	Rice Creek Watershed District
Jay Riggs, Erik Anderson	Washington Conservation District
Tom Dietrich, Stephanie Grayzeck Souter	Washington County

V. 2022 STAFF AND CONSULTANTS

For the majority of 2022, the District employed 10 full-time permanent staff members and a full-time temporary GreenCorps Member in partnership with the MN Pollution Control Agency. Staffing has consistently adapted each year to the needs of the District based on the Watershed Management Plan and Board direction since the hire of District Administrator Kinney in February 2014. In addition, numerous independent contractor consultants provided all necessary accounting, legal, public information and other services to fulfill its obligations, goals, and objectives within budget.

Table 2. 2022 Staff and Consultants

Staff	Position	Address	Telephone	E-mail
Mike Kinney	District Administrator	44 Lake Street South, Suite A Forest Lake, MN 55025	(651) 395-5855	Michael.kinney@clflwd.org
Aidan Read	Land Management Specialist		(651) 583-6590	Aidan.read@clflwd.org
Beth Carreño	Senior Program Manager		(651) 395-5852	Beth.carreno@clflwd.org
Blayne Eineichner	Project Coordinator		(651) 395-5857	Blayne.eineichner@clflwd.org
Bobbie Law	Office Manager		(651) 313-8820	Bobbie.law@clflwd.org
Emily Heinz	Planning Coordinator		(651) 395-5856	Emily.heinz@clflwd.org
Garrett Miller	AIS Coordinator		(651) 395-5854	Garrett.miller@clflwd.org
Jessica Lindemyer	Operations & Outreach Specialist		(651) 395-5858	Jessica.lindemyer@clflwd.org
Mike Sandager	Permitting Coordinator		(651) 395-5859	mike.sandager@clflwd.org
Jess Hall	MN GreenCorps Member		(651) 395-5853	jess.hall@clflwd.org
Peter Brennhofer	District Technician		(No longer employed at CLFLWD)	
Consultants	**Services**	**Address**	**Telephone**	**E-mail**
Nancy Martinson Redpath and Company	Accountant	4810 White Bear Pkwy, White Bear	(651) 426-7000	NMartinson@redpathcpas.com

		Lake, MN 55110		
Cassy Hill Redpath and Company	Payroll	4810 White Bear Pkwy, White Bear Lake, MN 55110	(651) 407-5809	chill@redpathcpas.com
Greg Graske, Cecilio Olivier Emmons and Olivier Resources	Engineers	1919 University Ave W Suite 300, St Paul, MN 55104	(651) 770-8448	ggraske@eorinc.com colivier@eorinc.com
Consultants	**Services**	**Address**	**Telephone**	**E-mail**
Justin Nilson Abdo, Eick & Meyers, LLP	Auditor	5201 Eden Avenue, Ste 250 Edina, Minnesota 55436	(952) 715-3011	justin.nilson@abdosolutions.com
Ken Carlson North Risk Partners	Insurance	2010 Centre Pointe Blvd. Mendota Heights, MN 55120	(651) 379-7909	KCarlson@bearence.com
Chuck Holtman Smith Partners, PLLP	Attorney	400 Second Ave. S. #1200 Minneapolis, MN 55401	(612) 344-1400	holtman@smithpartners.com
Jay Riggs/Angela Defenbaugh Washington Conservation District	Technical Advisors	455 Hayward Ave N, Oakdale, MN 55128	(651) 330-8220	jriggs@mnwcd.org adefenbaugh@mnwcd.org
Craig Mell/Casey Thiel Chisago SWCD	Technical Advisors	38814 3rd Ave. North Branch, MN 55056	(651) 674-2333	craig.mell@mn.nacdnet.net casey.thiel@mn.nacdnet.net

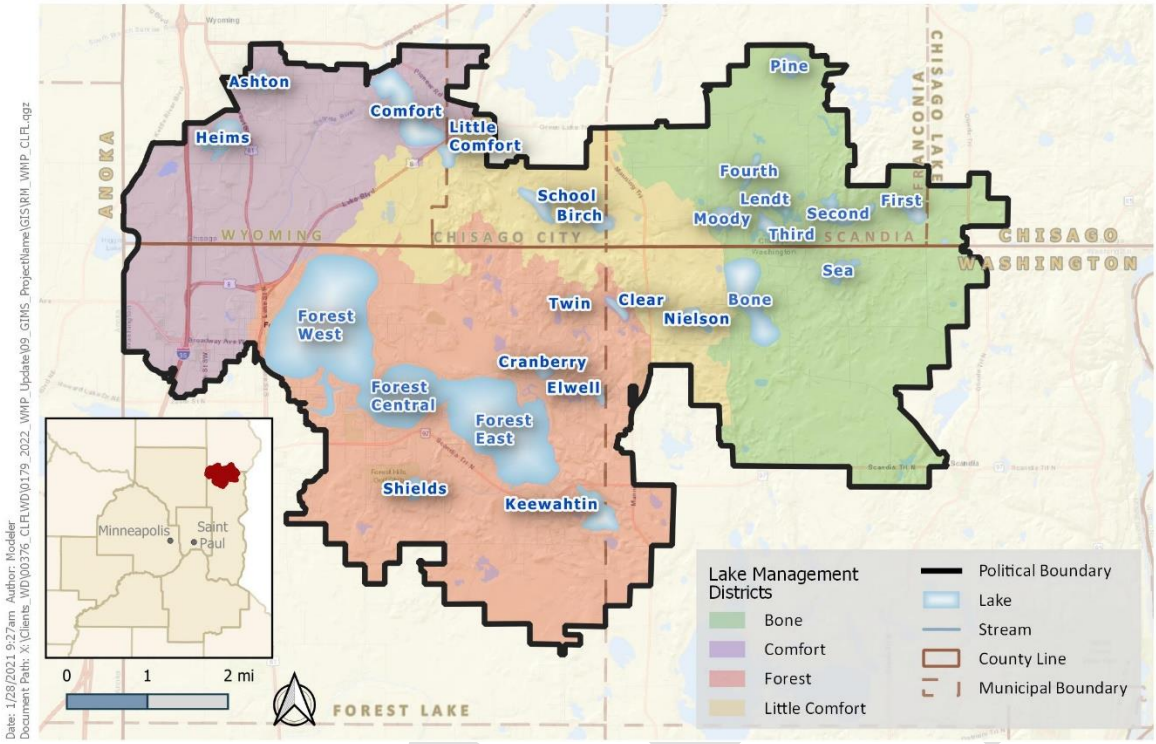


Figure 1. Map of CLFLWD Lake Management Districts

VI. BACKGROUND

The Comfort Lake–Forest Lake Watershed District (District) was established in 1999 after citizens petitioned the Board of Water and Soil Resources (BWSR) to replace the existing Forest Lake Watershed Management Organization (FLWMO) in order to address water quality and flooding issues. The petition included the area encompassed by FLWMO plus the drainage area of Comfort Lake in Chisago County (former Joint Ditch No. 1 (JD 1) drainage area). For more information, including an interactive historic timeline, visit www.clflwd.org/about/history/.

The District encompasses roughly 49 square miles in northern Washington County and southern Chisago County, including portions of the cities of Chisago City, Forest Lake, Scandia, and Wyoming, and Chisago Lake Township, and Franconia Township. The District transects both metropolitan and outstate (i.e., outside of the metro) counties, with roughly 60 percent of the watershed within Washington County and 40 percent in Chisago County.

The District is managed by a five-member Board, with three members appointed by Washington County and two members appointed by Chisago County. The Board of Managers includes the positions of President, Vice President, Secretary, Treasurer, and Assistant Treasurer which are elected annually. The District's first Water Management Plan (WMP) was approved by the Board of Water and Soil Resources in October 2001 with the most recent major WMP update completed in September 2021. The Board of Managers, with the help of its Citizen Advisory Committee (CAC), adopted the following mission statement:

> The mission of the Comfort Lake–Forest Lake Watershed District is to protect and improve its water resources through adaptive management approaches and education of local stakeholders.

VII. HISTORY OF SIGNIFICANT EVENTS

1983	The Forest Lake Watershed Management Organization is established under the Metropolitan Surface Water Management Act.
1987	Original boundary expanded to include drainage areas of Bone and Twin Lakes.
1998	A petition is filed with State of Minnesota to establish the Comfort Lake–Forest Lake Watershed District under MS 103D (Watershed Law).
1999	The State of Minnesota orders the establishment of the Comfort Lake–Forest Lake Watershed District. The former Forest Lake Watershed Management Organization is dissolved.
2001	The first Watershed Management Plan is completed and adopted.
2005	The first full-time administrator is hired, and a local office is opened in Forest Lake.
2006	Local projects enhanced with water quality/quantity features including pervious parking lot at the new Keys Restaurant, Lakeside Park and Broadway Avenue enhancement, and numerous other development projects.
2007	The Watershed and Lake Water Quality Modeling Report and Capital Improvement Plan are completed.
2008	The Metropolitan Surface Water Management Act authorities for the District are authorized by the Legislature, providing expanded authority to raise funds for projects. Comprehensive Water Management Plan amended to include the Capital Improvement Plan. Rules are formally adopted, and a permit/regulatory program to control development impacts begins.
2010	Six Lakes Total Maximum Daily Load (TMDL) Study completed. Sunrise River Water Quality and Flowage petition from Chisago County is accepted by resolution, and the District Engineer is directed to complete a preliminary engineering report.
2011	The Sunrise River Water Quality and Flowage Preliminary Engineer's Findings are accepted, and related projects are incorporated into the draft Watershed Management Plan. The 10-year revision of District's Watershed Management Plan is completed and adopted later that year.
2012	The Sunrise River Water Quality and Flowage Project is ordered, and two fish barriers are installed at the inlet and outlet of Bone Lake to control carp population.
2013	Two Whole Farms Plans are completed. A large agricultural project that included treatment of horse farm manure runoff and an iron sand filter is completed near Bone Lake.
2014	Aquatic Invasive Species Action Plans for four different lakes, a Moody Lake Diagnostic Study, and the Target Retrofit Project are completed. A Rapid Response Program/Plan for Aquatic Invasive Species is also adopted.
2015	The Bone Lake Diagnostic Study was completed, and significant progress was made on the Hilo Lane Stormwater Retrofit Project, the Bixby Park Project, and the

	Moody Lake Wetland Restoration feasibility study. The Bone Lake inlet and outlet fish barriers were retrofitted to reduce flooding impacts and turtle mortality.
2016	The Bixby Park Water Quality Improvement project was completed, and implementation began on the Hilo Lane Stormwater Retrofit, Moody Lake Wetland Rehabilitation, and Forest Lake Wetland Treatment Basin projects. Program Assistant and Watershed Assistant were added to staff.
2017	Three major capital improvement projects were completed: Hilo Lane Stormwater Retrofit, Moody Lake Wetland Rehabilitation (phase 1), and Forest Lake Wetland Treatment Basin (aka 3rd Lake Pond). The District was awarded over $1M in grants for implementing more projects.
2018	District rule revisions and a minor Watershed Management Plan amendment were finalized. Four significant capital improvement projects were completed: Moody Lake Wetland Alum Treatments, Moody Lake Whole-Lake Alum Treatment (phase 1), Bone Lake Wetland Restoration (phase 1), and Shields Lake Stormwater Harvest and Irrigation Reuse System. A Watershed Technician/Permitting Coordinator was added to full-time permanent staff. The District was awarded $160,000 in grants.
2019	The following projects were completed: Moody Lake Whole-Lake Alum Treatment (phase 2), Shields Lake Stormwater Harvest & Irrigation Reuse System (phase 2), Shields Lake Alum Treatment (phase 1), and Shields Lake Fish Barrier Upgrade. Another Watershed Technician and a Project Coordinator were added to full-time permanent staff. The District was awarded $250,000 in grants.
2020	The District completed phase 2 of the Shields Lake Alum Treatment, upgraded the Shields Lake winter aeration system, and performed project development for several upcoming projects including Bone Lake Southeast (Meadowbrook) Drained Wetland Restoration, Bone Lake Northeast Wetland Restoration, Washington Judicial Ditch 6 Iron Enhanced Sand Filter, Little Comfort Lake Phosphorus Reduction Projects, and Sunrise River/Highway 61 Wetland Enhancement. At the beginning of the year the District hired a Permitting Coordinator and hired two seasonal Watershed Technicians as full-time permanent staff. The District was awarded $1.3 million in grants.
2021	The District concluded its 2.5-year long process to update its 10-year Watershed Management Plan, encompassing years 2022-2031. The District completed the Bone Lake Southeast (Meadowbrook) Drained Wetland Restoration Project and continued project development of additional projects as listed above in year 2020. Throughout most of 2021 the District maintained a full-time permanent staff of 11 professionals. The District was awarded $570,000 in grants.
2022	The District completed the Bone Lake Northeast Wetland Restoration Project in early 2022 and began construction on two projects in late 2022, to be completed in 2023 – County Road 50 Iron Enhanced Sand Filter and Sunrise River/Highway 61 Wetland Enhancement. The District was awarded over $1.3 million in grants in fiscal year 2022. In-house staffing remained active with 10 full-time permanent employees and one MN GreenCorps Member.

VIII. FINANCIAL REPORT

The District is funded by ad valorem taxes levied on properties within the District through statutory authority in the MN Watershed (M.S. 103D) and the Metropolitan Surface Water Management (M.S. 103B) Acts. These funds, along with grants, loans, bonds, and special assessments can be used to fund District projects and programs. The District's permit program is funded in part through the collection of permit fees.

At a minimum, M.S. Chapter 103D requires that watershed districts have the following programs:

- General/Administrative: conducting the business of the District
- Regulation: administering the District's rules and permits
- Planning: administering the District's watershed management plan and budgets
- Maintenance of Projects and District Owned Facilities
- Capital Projects
- Public Relations: administering the requirements of reporting to and notifying the public

The budget must be adopted and certified on or before September 15th of each year. M.S. Chapter 103D.911 requires that the managers hold a public hearing before adopting a budget.

The District's annual operational and project budgets are generally greater than the District levy, as the District supplements its annual levy through its reserve fund and grants. Upon adoption of the Capital Improvement Plan (CIP) in 2008, the District adopted a level multi-year levy strategy that built reserves for future project work. The reserve fund and the annual levy are also supplemented with grant dollars. It is the District's intention to continue this practice and to partner with its counties and cities to leverage multi-governmental funding and grant opportunities for appropriate projects and programs, including the use of sub-watershed levies and bonding. Also critical to the financial management of the District is the use of 0% interest, 10-year amortized, loans from the Federal Clean Water Act Fund, administered through the Minnesota Pollution Control Agency (MPCA). The use of the grants and loan programs through the state and federal clean water programs allows the District to accelerate projects and to reach water quality goals much sooner than is common practice.

The pie charts on the following page break down 2022 budgeted expenses and revenues by category. The Financial Report/Budget Comparison table provides a recent history of the District's past budgets, levies, and grants.

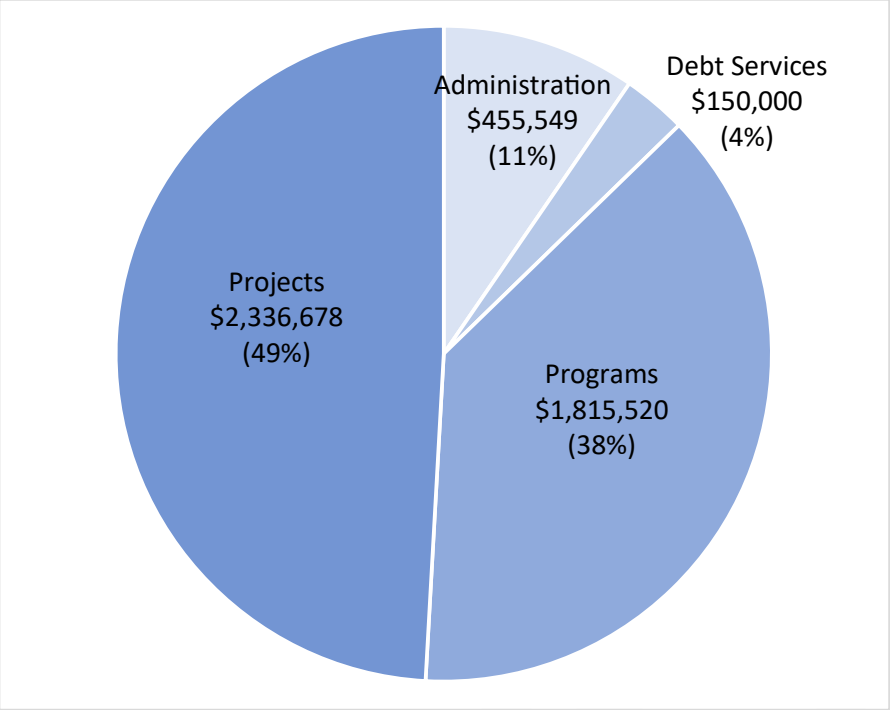


Figure 2. 2022 Expense Budget, Including Transfers

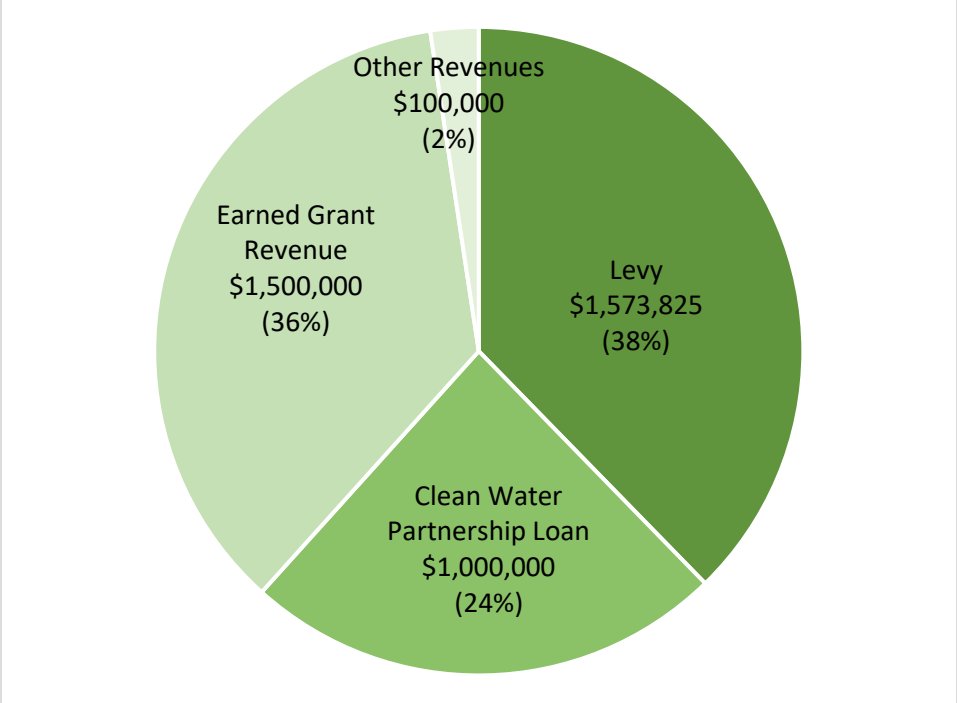


Figure 3. 2022 Estimated Actual Revenues

Table 3. Financial Report / Budget Comparison

	2021 Actual (audited)	2022 Budget (w/ transfers)	2022 Actual (unaudited)
REVENUES:			
Levy	$1,474,116	$1,622,500	$1,573,825
Grants & Other	$235,494	$1,643,133	$1,600,000
TOTAL REVENUES	$1,709,610	$3,265,633	$3,173,825
EXPENDITURES:			
Administration	$396,244	$455,549	$479,493
Debt Services		$150,000	$150,000
Programs:			
General Program Development	$67,418	$14,944	$7,187
Rules and Rulemaking	$11,521	$20,600	$0
Permitting	$216,997	$206,176	$232,694
Monitoring and Assessment	$266,821	$191,548	$179,216
NPS Abatement (Cost-Share)	$32,800	$182,408	$28,126
Education & Outreach	$111,909	$129,038	$128,063
Interagency Communication	$148,206	$134,983	$156,338
Research	$37,248	$44,629	$76,905
Measurement of Progress	$7,291	$8,704	$12,030
Grant Research & Prep	$23,656	$22,154	$12,244
Operations & Maintenance	$54,027	$52,583	$51,395
Aquatic Invasive Species	$190,032	$252,626	$188,552
Land Acquisition and Management	$81,915	$523,704	$530,386
Watershed Planning & Resiliency	$0	$31,424	$6,931
Projects:			
General Project Development	$212,044	$95,320	$129,773
Floodplain	$0	$115,111	$35,058
Lakes - District-Wide	$95,359	$60,334	$62,381
Lakes - Individual Lake Projects	$205,539	$1,832,350	$2,107,729
Streams	$1,189	$30,111	$37,678
Wetlands	$107,747	$13,408	$13,869
Upland Resources	$0	$183,340	$81,251
Groundwater	$594	$6,704	$6,930
TOTAL EXPENDITURES	$2,268,557	$4,757,748	$4,714,229
Loan Proceeds	$856,693	$1,600,000	$1,000,000
Revenues over expenditures	($558,947)	($1,492,115)	($1,540,404)
Fund balance - January 1	$919,583	-	$1,217,329
Fund balance - December 31	$1,217,329	-	$676,925

IX. 2022 FINANCIAL AUDIT

The 2022 financial audit office visit was completed by Abdo, Eick and Meyers, LLP, on March 9-10, 2023. The final audit documents include the District's Annual Financial Report and the Independent Auditor's Report on Compliance with Minnesota Legal Compliance Guide of Local Governments for the year ended December 31, 2022. Once complete, a copy of the 2022 financial audit report will be available by contacting the District office or visiting the District's website at www.clflwd.org.

X. DISTRICT PROGRAMS

A. District Rules and Permitting Program

In order to fulfill requirements mandated by the State, as well as provide guidance to local communities, the CLFLWD adopted Rules on December 18, 2008. The District rules and information on its permit program and materials can be found on its website at www.clflwd.org/permitting.php.

Revisions to the District rules went into effect on March 12, 2018. One significant result of the rule revisions was an increase in Erosion Control permit issuance due to the reduction in the applicability threshold from 200 cubic yards of disturbance to 50 cubic yards of disturbance (in addition to other threshold changes). Erosion control is critical to water quality, and a strong regulatory program for land use alterations is the foundation of a successful water quality program.

In 2022, there were 55 permit applications; up from 33 in 2021. All applications were reviewed by staff and the District Engineer, Emmons & Olivier Resources, Inc. Over the course of the year, 39 permits were active at various times and 789 site inspections occurred, both down from 2021 figures (72 active permits, 868 site inspections). The number of inspections has remained relatively high in order to ensure full coverage of highly active sites, as routine inspections have a positive effect on compliance with District rules. Compliance rates of these inspections were evaluated in the 2022 Progress Report and determined to be at 94% compliant, which is measured as "Excellent" by the District's progress evaluation metric for the permitting program. It is anticipated that a high level of permit activity will continue in 2023. Appendix A contains a summary of the permits and variances issued in 2022. No applications were denied.

Aerial photo of School Lake outlet channel

B. Monitoring and Data Assessment

The District has a robust annual monitoring program with the purpose of evaluating the water quality conditions of its water resources. The program includes lake and stream water quality monitoring as well as project effectiveness and watershed-wide diagnostic monitoring. The District uses these data to establish baseline water quality trends, to identify waterbodies that are impaired and in need of restoration as well as to evaluate the success of completed projects.

2022 marked the third year the District implemented its updated monitoring plan including additional diagnostic and project effectiveness monitoring sites, greater utilization of citizen volunteers, and transitioning oversight of all monitoring efforts to District staff, resulting in cost-savings. The District contracted with Emmons & Olivier Resources for technical services associated with a portion of the monitoring program. Volunteers through the Metropolitan Council's Citizen-Assisted Monitoring Program (CAMP) collected lake water samples, took Secchi depth and surface water temperature, and recorded basic user perceptions and weather information.

Volunteers also assisted through the District's Citizen Assisted Tributary (CAT) Monitoring Program by collecting stream water grab samples. Working with volunteers not only results in a savings to the monitoring budget but also builds relationships between the District and local lake associations and stakeholders. In 2022, 5 volunteers participated in CAMP, and additional lake monitoring was conducted by District staff.

Some of the main takeaways from this year's monitoring report include: Overall, 2022 lake water quality was excellent with no lakes in the District exceeding state standards for total phosphorus (TP) and chlorophyll-a or Secchi depth criteria (average for the year 2022 alone). Most of the lakes started the monitoring season close to or slightly exceeding water quality standards; the likely cause was a snow melt and runoff event in late February through April observed at the Sunrise River stream gage. A very dry June and July likely contributed to small external loading to the lakes, and the water quality improved in most of the lakes.

Monitoring reports and presentations can be found on the District's website at www.clflwd.org.


(Left) Stream Survey, (Right) Water Monitoring Equipment

C. Nonpoint Source Pollution Abatement (Cost-Share) Program

Residential Program

Technical and financial assistance was made available to residential property owners in the District who wished to plant native species on their property to provide wildlife habitat, control erosion, and protect water quality. The District began the plant grant program in 2016 which provided 100% cost-share grants to homeowners in an amount up to $500 for the purchase of native plants. 2022 marked the fifth year in which the District solely offered plant grants as part of its cost-share program. The District partners with Washington Conservation District (WCD) and Chisago Soil and Water Conservation District (CSWCD) to implement this program.

Starting in 2023, the District will put more emphasis on the cost-share program and offer a wider array of cost-share grant options, including residential clean water project grants and a pilot lake association grant program. Visit www.clflwd.org for the latest information.

In 2022, CLFLWD, WCD, and Chisago SWCD staff performed 24 site visits in order to engage with interested homeowners. As a result of those site visits, 6 residents submitted plant grant applications and 3 best management practices were installed. Table 4 shows available data on program participation since 2006.

Table 4. Cost-Share Project Implementation Summary

County	Number of Traditional Cost-Share Projects Implemented 2006-Present	Number of Plant Grant Projects Implemented 2006-Present
Washington County	40	23
Chisago County	7	4
TOTAL	**47**	**27**

Agricultural & Rural Land Program

In 2022 the District continued to organize meetings with the farmer-led council and helped implement conservation practices on 67 acres of farmland, leading to a reduction of 43.4 lbs/year of phosphorus at Bone Lake. A further 39.5 lbs/year reduction came from partner organizations and other landowners implementing practices. In addition to the nutrient reductions, the groundwork conducted by staff and the farmer-led council have set up the District for success in future implementation of conservation farming practices. Future efforts will focus on expanding adoption of non-structural conservation practices throughout the watershed using cost-share funds, the leadership of the farmer-led council, and the assistance of soil and water conservation district partners.

D. Education and Outreach

Below is a summary of education and outreach activities performed by the District in 2022. In addition to the District's in-house efforts, the District continued to partner with the East Metro Water Resources Education Program (EMWREP). The EMWREP 2022 Annual Report is available at www.mnwcd.org/emwrep-partners.

Ongoing Activities

- Continued the implementation of several citizen science programs including Citizen Assisted Monitoring Program (CAMP), Citizen Assisted Tributary monitoring program (CAT), and zebra mussel sampling plate program (see additional detail below).
- Continued annual visits to the 4th grade classrooms at Lakes International Language Academy to present on water quality and facilitate the implementation of public-facing educational messaging as designed by the students.
- Presented at local lake association meetings (Bone Lake, Comfort Lake and Forest Lake).
- Maintained social media presence.
- Hosted weekly informational booth at the City of Forest Lake's Arts in the Park.
- Worked with partner agencies to host and promote online educational webinars.
- Presented at the annual conference of the Minnesota Association of Watershed Districts (MAWD) on the topic of the District's Wetland Dumping Education program.
- Returned to hosting an in-person District Tour of recently completed and upcoming project sites. A GIS story map was created following the event to provide a virtual version of the District Tour.
- Returned to hosting an in-person State of the Watershed public meeting. The meeting was held at Eko Backen event center in Scandia and was streamed live on Lakes Area Television with a full recording available on YouTube.
- Partnered with the Hardwood Creek Library to present several workshops on topics including aquatic plant ID, environmentally friendly lawn management, and native shoreline plantings.

Citizen Scientists at Work

The District worked with multiple volunteers to collect important data throughout the watershed and advise on watershed activities in 2022.

- Citizen Assisted Monitoring Program (CAMP): 5 volunteers collected in-lake water quality samples – Tom Furey, Wally Ostlie, Doug Joens, Steve Schmaltz, and Amy Vislisel.
- Citizen Assisted Tributary (CAT) Monitoring Program: 1 volunteer collected tributary water quality samples – Randy Schumacher.
- Zebra Mussel Sampler Plates: 10 volunteers monitored zebra mussel sampler plates on their docks throughout the summer to gauge zebra mussel populations – Kathleen Krause, Tom Furey, Cheryl Komlac, Dave Bakke, Bill Keilty, Doug Joens, KC Douglas, Mark McKee, Michelle Stevens, and Geneva Kubal.
- Continued partnership in the regional Adopt-A-Drain program.

- Master Watershed Stewards: In 2022 the District continued its support of the Minnesota Water Stewards Program (formerly known as the Freshwater Society Master Water Stewards program).
- Citizen Advisory Committee: the District's Citizen Advisory Committee (CAC) met virtually via Zoom on a monthly basis throughout the year.



(Left to right): Lakes International Language Academy 4th Grade Watershed Chalk Day, District Tour Watercraft Inspection Demonstration, CAT Volunteer Water Samples

E. Interagency Communication

Ongoing Interagency Communication

The District coordinates with other agencies on a regular basis in order to implement the majority of its programs and projects. It is estimated that at least 70% (likely more) of the District's activities are coordinated with another organization or agency. Some of the agencies and organizations that the District regularly coordinates with include: local municipalities, neighboring watershed districts, Chisago and Washington Soil and Water Conservation Districts, Chisago and Washington Counties, Chisago Lake Improvement District, MN Dept. of Natural Resources, MN Pollution Control Agency, MN Dept. of Transportation, Metropolitan Council, St. Croix Watershed Research Station, East Metro Water Resources Education Program, and more.

In 2022 the District created a new position and hired a Senior Program Manager. This position will help to further expand the District's interagency communication efforts and make communications more consistent.

One Watershed, One Plan

On November 10, 2020 the CLFLWD Board adopted Resolution 20-11-01, adopting the Lower St. Croix Comprehensive Watershed Management Plan, which will not replace, but will supplement, the CLFLWD Watershed Management Plan by better defining how the District will carry out certain program activities within its discretion. In 2022 the District continued to participate in the Lower St. Croix Partnership at multiple levels including Policy Committee, Advisory Committee, Steering Committee, and Planning Team. More information, including the LSC approved plan, Watershed Based Implementation Funding grant work plan, watershed boundaries and the organizations involved can be found at www.lsc1w1p.org.

F. Research

The St. Croix Watershed Research Station (SCWRS) completed phase III of paleolimnological sediment core work in the District with core collection on Little Comfort Lake and all three basins of Forest Lake. Paleo cores paint a picture of historic lake conditions and help the District determine if in-lake water quality goals are achievable.

Sediment Core Collection on Little Comfort Lake
(photos courtesy of St. Croix Watershed Research Station)

G. Measurement of Progress

In 2015, the District began a comprehensive effort to evaluate progress toward the goals and metrics described in the District's 10-year Watershed Management Plan, resulting in the creation of the District's first annual comprehensive Progress Report in 2016. 2022 marks the seventh year that the District created a comprehensive Progress Report. The report will be available on the District's website at: www.clflwd.org.

H. Grant Research & Preparation

The District applied for $1.4 million in grant funds for fiscal year 2022. A total of 13 grant applications were submitted by the District. A total of $1.35 million in grant funds was awarded to the District in FY22 (note that grant awards do not necessarily result in actual grant revenue in the same year). In late 2022 the District was awarded a $533,600 FY23 Clean Water Fund grant for the Forest Lake Alum Treatment Project. Statewide, the District is the biggest winner of Clean Water Fund Projects & Practices grants over the past ten years with a cumulative award of $5 million between fiscal years 2014-2023 (see

Table 5). The District's use of diagnostic monitoring to target highly cost-effective water quality improvement projects is key to its success in winning grants.

Table 5. Clean Water Fund Summary

Organization	Grant Dollars Awarded Total Projects and Practices (FY 2014-2023)	Application Points Total Projects and Practices (FY2014-2023)
Comfort Lake-Forest Lake WD	**$5,067,334**	**1,197**
Becker SWCD	$4,433,710	868
Benton SWCD	$3,658,210	1,010
Crow Wing SWCD	$3,335,000	519
Chisago SWCD	$2,702,500	1,251

I. Operations and Maintenance

The purpose of the Operations & Maintenance Program is to continue regular operational activities and address maintenance needs of District-owned projects and facilities. In 2022 District staff inspected all projects and took photo points to help to document any changes at each project. Staff are working on a rapid assessment protocol to streamline O&M yearly inspections and further document project conditions. In addition to routine inspections, staff re-secured weir panels at the Forest Lake outlet fish barrier that had come loose and worked to mitigate the impact of colonizing beavers at the Bone Lake Southeast Wetland Project site that were increasing water levels outside of the project area.

J. Aquatic Invasive Species Prevention and Management

In 2022, the District continued a high level of involvement in the prevention and management of aquatic invasive species (AIS) on all major lakes. Regular updates were provided at monthly board meetings throughout the growing season. The latest report can always be found on the District's website: www.clflwd.org/AISUpdates.php.

The following yearend reports and summaries were completed for the year 2022:

- District-Wide: AIS Program Yearend Summary and Watercraft Inspection Program Yearend Report
- Moody Lake: Curly-leaf Pondweed Delineation & Assessment (including full point-intercept survey as required for Natural Environment Lakes)
- Bone Lake: Curly-leaf Pondweed and Eurasian Watermilfoil Delineation & Assessment, and MN Department of Natural Resources Zebra Mussel Diving Survey
- Little Comfort Lake: Curly-leaf Pondweed Survey
- Lake Keewahtin: AIS Detection Survey (including observations of curly-leaf pondweed and purple loosestrife)

- Shields Lake: Curly-leaf Pondweed Delineation & Assessment (including full point-intercept survey as required for Natural Environment Lakes)
- Forest Lake: Curly-leaf Pondweed and Eurasian Watermilfoil Delineation & Assessment, Flowering Rush Delineation & Assessment
- Comfort Lake: Curly-leaf Pondweed and Eurasian Watermilfoil Delineation & Assessment

As in previous years, the District contracted with Blue Water Science to complete several AIS surveys. Using information from the surveys, the District coordinated two curly-leaf pondweed treatments (Shields Lake and Forest Lake), two purple loosestrife treatments (Lake Keewahtin and Forest Lake), and two rounds of flowering rush treatment on Forest Lake. Additionally, District staff performed several rounds of manual flower removal on flowering rush in Forest Lake. The District did not treat Eurasian watermilfoil in 2018, 2019, 2020, and 2021 but continued to coordinate the surveys. Management of curly-leaf pondweed and flowering rush in Forest Lake was a joint effort between the District, the Forest Lake Lake Association, and the City of Forest Lake. Communication with the lake associations on Bone, Comfort, and Forest lakes were a key component of AIS prevention and management in 2022 and will continue in 2023.

In 2022, there were **8,956 inspection surveys** performed over **3,673 hours** at public accesses within the CLFLWD, which includes three accesses on Forest Lake, one on Bone Lake, and one on Comfort Lake. This includes inspections by the MN Department of Natural Resources, the CLFLWD-Chisago County joint program, and locally hired CLFLWD inspectors. Figure 4 shows the total number of inspection hours per public access in 2022. Figure 5 summarizes the District-wide total inspection hours and number of inspections performed each season since 2014.

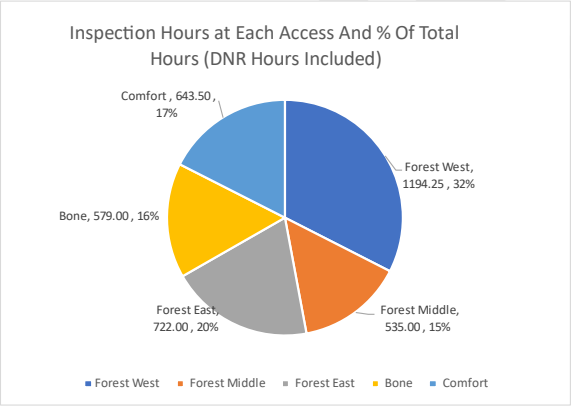


Figure 4. 2022 Inspection Hours per Access

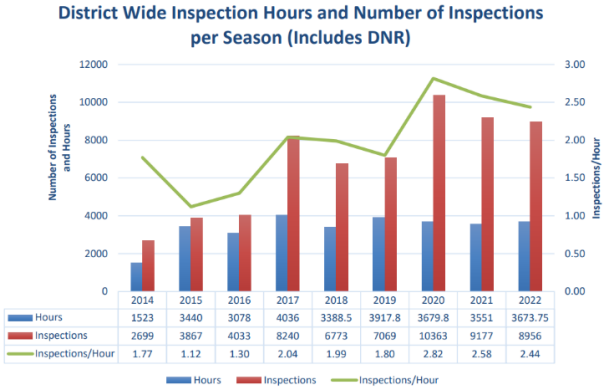


Figure 5. CLFLWD Inspection Summary

Inspection numbers vary each year, but overall show an increasing trend compared to when the program began (there were less than 800 hours in 2010). A major factor in the District's ability to perform more inspection surveys and hours at accesses is funding, which comes from multiple sources such as local tax levy, grants, and partner organization contributions. In 2022, the District's watercraft inspection program received funding contributions from the following sources: Washington County AIS Prevention Aid, Chisago County AIS Prevention Aid, City of Forest Lake, City of Scandia, Bone Lake Association, Scandia-Marine Lions Club, and the District's tax levy.

Watercraft Inspection Demonstration at 2022 Annual State of the Watershed Public Meeting (Jack Mackenzie left, Garrett Miller right)

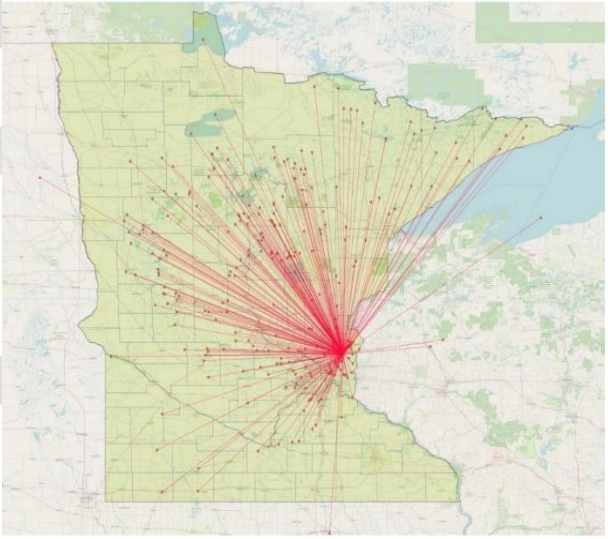


Figure 6. Flow map showing lakes that were visited by watercraft before coming to Forest Lake, Comfort Lake or Bone Lake. Each line represents at least one boater who traveled from another lake to a CLFLWD lake.

K. Land Acquisition & Management

In 2022 the District continued to research several properties that align with District goals and objectives including shoreland preservation, wetland protection/restoration, native plant species protection, education and outreach, and placement of a new District office space.

The District applied for and is tentatively slated to receive a Lessard-Sams Outdoor Heritage Fund grant in the amount of $1.94 million, to acquire a property south of Bone Lake. The property contains 119 acres of wetland and 110 acres of restorable upland habitat. The grant will not be finalized until summer 2023. The District is currently undergoing land negotiations. The District also identified a property near Little Comfort Lake that would be a good candidate for a water quality improvement project and is currently undergoing land negotiations. Both of these properties were evaluated against the land acquisition criteria in the Watershed Management Plan and found to be good candidates for acquisition in order to serve the District's goals.

North Shore Trail Nature Area

In early 2022 the District closed on one of the properties that it had evaluated the year prior – the North Shore Trail Nature Area (located north of Forest Lake's east basin, near Cranberry Lake). This is a 19-acre parcel with shoreline frontage on the north side of Forest Lake's east basin ("3rd Lake"). The District's acquisition of this parcel means protection of approximately 2-3 acres of mature forested upland, 16 acres of wetland and over 3,000 feet of undeveloped shoreline, all of which provide significant habitat for a variety of terrestrial and aquatic species. The District obtained a Conservation Partners Legacy grant in the amount of $400,000 which funded the majority of the acquisition cost. The District plans to partner with Great River Greening to enhance the native vegetation and improve wildlife habitat on the site.

L. Watershed Planning & Resiliency

Floodplain Vulnerability and Resiliency Planning

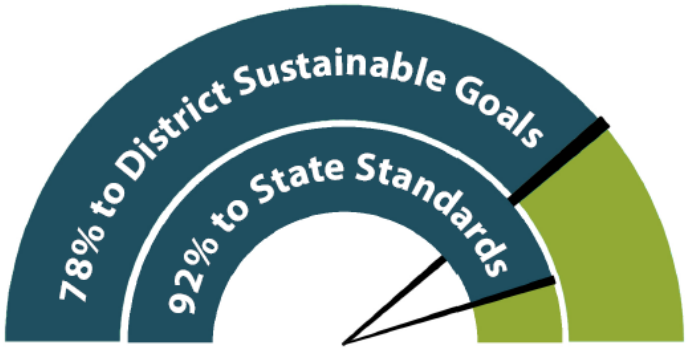
In 2022 the District partnered with neighboring watershed management organizations to jointly apply for a to fund completion of the floodplain vulnerability assessment in 2022, but the grant application was not awarded. The District locally funded some flood hazard mapping within the CLFLWD boundaries in 2022 in order to keep the effort moving forward. In early 2023 the District applied again for grant funds to complete a comprehensive floodplain vulnerability assessment which will include flood hazard modeling, social vulnerability assessment, interagency coordination, and a robust civic engagement approach. If the grant is awarded, the District would seek to complete the floodplain vulnerability assessment in 2023.

XI. CAPITAL IMPROVEMENT PROJECTS

As of the end of 2022, the District has implemented projects and programs to achieve cumulative phosphorus load reductions so that priority lakes were 92% of the way toward meeting state standards (2,981 lb/yr out of 3,245 lb/yr) and 78% of the way toward meeting District long-term goals (4,505 lb/yr out of 5,802 lb/yr).

District Wide

Progress Toward Phosphorus Reduction Goals



State Standard Reduction Goal: 3,245lbs
District Sustainable Reduction Goal: 5,802lbs*

*The reduction goal to achieve the District's long-term sustainable goals has increased by 527 lb/yr as a result of findings from the 2022 Forest Lake In-Lake Feasibility Study. Forest Lake's internal load reduction goal was uncertain prior to the study, but is now set at 527 lb/yr. This goal will be achieved by an alum treatment project which will occur in 2023-2025.

Below are descriptions of several projects that the District worked on in 2022. More information on projects is available at: www.clflwd.org/projects.php.

Moody Lake Capstone Projects

Cumulative Phosphorus Reduction: 62 lb/yr | Lifespan and Cost-Benefit Vary by Practice

Project feasibility occurred in 2022, and the project ordering is slated for March 2023. This project involves multiple best management practices in order to reduce phosphorus loading to Moody Lake by a total of 62 pounds per year and reduce sediment loading by a total of 8,940 pounds per year. The District performed diagnostic monitoring and site-specific wetland coring to target remaining nutrient loading hotspots in the direct drainage area. Proposed projects include: agricultural field gully repair, excavation of phosphorus-laden soils, raingarden and other park improvements, and wetland dredging. The District received a $239,500 Clean Water Fund grant for this project.

Moody Lake Park and Round Barn

Bone Lake Northeast Wetland Restoration

Lifetime Project Cost: $216,000 | Phosphorus Reduction: 15 lb/yr | Lifetime Cost-Benefit: $600/lb

The project was constructed in February 2022, removing accumulated phosphorus-rich sediment from a wetland directly adjacent to Bone Lake that had a history of receiving direct livestock manure runoff from an adjacent dairy farm barnyard. Excavated materials was used to improve soil health on a nearby agricultural field. This project is estimated to reduce watershed phosphorus loads to Bone Lake by 15-25 lb/yr. The District was awarded a Clean Water Fund grant in the amount of $171,200 for this project.

(Left) Hydroseeding and vegetation restoration at project site, (Right) Spoils site ag restoration

Bone Lake Subwatershed Analysis Implementation

Total 2022 Phosphorus Reduction: 83 lb/yr | Lifespan and Cost-Benefit Vary by Practice

The District continued to organize meetings of the farmer-led council and was directly involved in the implementation of conservation practices on 67 acres of farmland, leading to a reduction of 43.4 lbs/year of phosphorus at Bone Lake. A further 39.5 lbs/year reduction came from partner organizations and other landowners implementing practices. Combined, practices implemented in 2022 result in a total phosphorus reduction of 83 lb/yr and sediment reduction of 314,000 lb/yr. In addition to the nutrient reductions, the groundwork conducted by staff and the farmer-led council have set up CLFLWD for success in future implementation of conservation farming practices. Future efforts will focus on expanding adoption of non-structural conservation practices throughout the watershed using cost-share funds, the leadership of our Farmer-led Council, and the assistance of our Conservation District partners. The District was awarded a Clean Water Fund grant in the amount of $144,000 for this project. At the end of the grant period, this project was under budget, with final grant spend at approximately $50,000. The District will return the grant balance to the Board of Water and Soil Resources.

Field Ranking	Field ID	At Lake Phosphorus Reduction (lb/yr)	Total Phosphorus Reduction	Sediment Reduction (Tons/year)	Practice Installed	Acres	Details
4 (Bone)	SBL 15-B	17	38.8	45.6	327 - Conservation Cover	8	Row crops were converted to perennial vegetation by the landowner with technical assistance from CLFLWD staff
6 (Bone)	SBL 22-C	12.7	31.2	33.3	512 - Pasture and hay planting	26.2	Row crops were converted to a multi-species pasture planting with technical assistance from CLFLWD staff.
18 (Bone)	SBL 22-G	4.5	11.2	11	512 - Pasture and hay planting	12.7	Row crops were converted to a multi-species hay planting with technical assistance from CLFLWD staff.
9 (Bone)	SBL 02-A	9.2	14.4	16.9	512 – Pasture and hay planting	20.1	Row crops were converted to a multi-species hay planting directly by CLFLWD which has leased the property.
Totals		**43.4**	**95.6**	**106.8**		**67**	

Agricultural best management practice summary table

Washington Judicial Ditch 6 County Road 50 Iron-Enhanced Sand Filter

Lifetime Project Cost: $1.5 M | Phosphorus Reduction: 97 lb/yr | Lifetime Cost-Benefit: $500/lb

Project construction began in fall 2022 and continued into the winter. Site restoration and project closeout will occur in 2023. This project treats 50% of the subwatershed runoff with an offline, multi-cell iron enhanced sand filtration (IESF) treatment system. The headwaters of Washington Judicial Ditch 6 (WJD-6) are dominated by wetlands and contributes nearly half of the total phosphorus load in the WJD-6 system, most of which is dissolved and difficult to remove with traditional best management practices. According to the final design, this project will reduce watershed phosphorus loads to Forest Lake by 97 pounds per year. This project was identified through multiple rounds of diagnostic monitoring which found that WJD-6 is the second largest contributor of water flow and phosphorus loads to Forest Lake, second only to Shields Lake which is currently addressed by implementation of the Shields Lake Stormwater Harvest, Irrigation Reuse System and Alum Treatment project. The District was awarded multiple grants for this project totaling $939,365.

Project Construction: (Left) Iron Sand Filter Beds, (Right) Ditch Intake Pool

Washington Judicial Ditch 6 Wetland Restoration

Lifetime Project Cost: $520,000 | Phosphorus Reduction: 20 lb/yr | Lifetime Cost-Benefit: $1,000/lb

Project feasibility occurred in 2022, and the project ordering occurred in February 2023. The proposed project will restore approximately a degraded wetland by means of sediment excavation and vegetation rehabilitation. The current wetland condition is partially drained by a small private ditch that flows into WJD-6 and eventually into Forest Lake, and 100% dominated by a monotype of reed canary grass. The project will provide for deeper pools along with large shallow wetland benches to promote nutrient uptake, treat stormwater and improve habitat diversity. This project is estimated to reduce phosphorus loading by approximately 20 lb/yr. The District received a $386,000 Clean Water Fund grant for this project.

Little Comfort Lake Infiltration Basin

Lifetime Project Cost: $550,000 | Phosphorus Reduction: 80-100 lb/yr | Lifetime Cost-Benefit: $300/lb

The proposed project is an alternative design to the original wetland impoundment concept. This project now involves re-directing flow from a ditch into an out-of-commission gravel pit, essentially converting the gravel pit into an infiltration basin. This project has an estimated phosphorus reduction of 80-100 pounds per year for Little Comfort Lake, which is equal to or greater than the original project concept. The project will also result in floodplain storage and habitat benefits. The District was awarded a $354,600 Clean Water Fund grant for this project and is in the process of requesting an amendment to the grant in order to reflect the updated project concept.

Project site

Sunrise River-Highway 61 (Tax Forfeit) Drained Wetland Restoration (Chisago Petition)

Lifetime Project Cost: $1.6 million | Phosphorus Reduction: 89 lb/yr | Lifetime Cost-Benefit: $600/lb

Project construction occurred over winter 2022/2023. Site restoration and project closeout will occur in 2023. This project modified an existing ditched wetland complex located on 41.7 acres of District-owned tax forfeited property to increase water quality treatment potential and storage capacity. The project will result in annual phosphorus reductions of 89 pounds per year to the Sunrise River and 65 pounds per year to Comfort Lake, helping to restore and protect Comfort Lake which ultimately drains to the St. Croix River through the Sunrise River. The project was identified for targeted implementation through the District's 2012 Sunrise River Water Quality and Flowage Project and the 2010 CLFLWD District Six Lakes TMDL Study. The District was awarded multiple grants for this project, totaling $892,449.

Project construction and signage

XII. 2023 WORK PLAN AND BUDGET

The 2023 budget and levy were adopted on September 8, 2022, with an approved expense budget of $4.9 million and watershed-wide ad valorem levy of $1,622,500. A summary of the budget and estimated revenues is below.

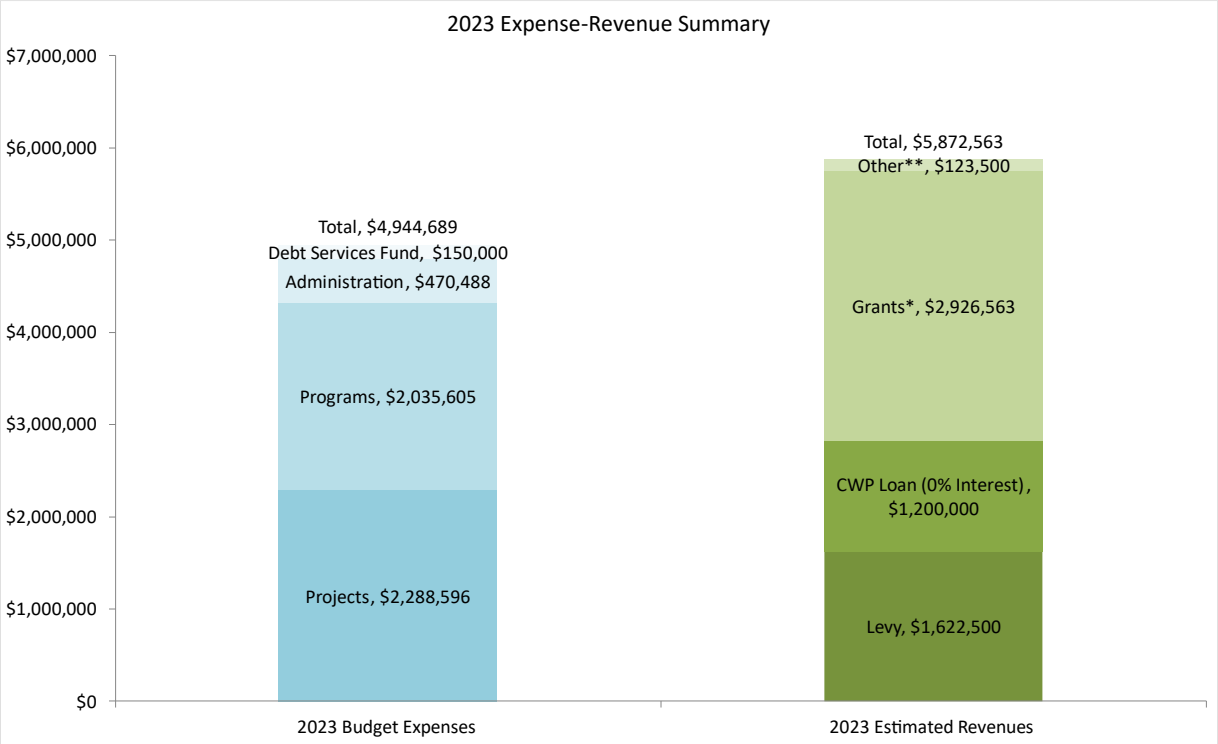


Figure 7. 2023 Budget Summary

**Estimated earned grant revenue*

***Other revenues include partner contributions, permit deposits, interest income.*

Table 6. 2023 Expense Budget Overview

Account Code	Budget Item	2023 WMP	2023 Est. Grant Spend	2023 Est. Other Rev. Spend	2023 Ongoing Expenses	2023 New Expenses	2023 Total Expense Budget
	Staff/Consultant Summaries (pulled out from budget below)						
	District Staff Wages/Benefits (Rolled in to each subcategory below	*$806,814*	*$0*	*$75,585*	*$808,760*		*$884,345*
	Engineering Costs (Rolled in to subcategories below)	*$698,072*	*$100,000*	*$0*	*$645,000*		*$745,000*
	Legal Costs (Rolled in to subcategories below)	*$94,420*	*$7,000*	*$0*	*$80,000*		*$87,000*
1-000	**ADMINISTRATION**	**$448,760**	**$0**	**$0**	**$470,488**	**$0**	**$470,488**
1-001	BOARD ADMINISTRATION	71,080			32,700	0	32,700
1-002	GENERAL OFFICE EXPENSES	107,151			99,767	0	99,767
1-003	GENERAL ADMINISTRATIVE	179,292			228,021	0	228,021
1-004	PROFESSIONAL SERVICES	91,237			110,000	0	110,000
2-000	**DEBT SERVICES FUND**	**$150,000**	**$0**	**$0**	**$150,000**	**$0**	**$150,000**
2-000	CWP LOAN PRINCIPAL REPAYMENT	150,000			150,000	0	150,000
3-000	**PROGRAMS**	**$1,835,392**	**$752,089**	**$121,156**	**$1,057,361**	**$105,000**	**$2,035,605**
3-000	GENERAL PROGRAM DEVELOPMENT	15,383	0	0	12,559	0	12,559
3-001	DISTRICT RULES AND RULEMAKING	0	0	0	0	25,000	25,000
3-002	PERMITTING	212,180	0	111,656	113,778	0	225,433
3-003	MONITORING & DATA ASSESSMENT	288,565	0	0	184,229	0	184,229
3-004	NON-POINT SOURCE POLLUTION ABATEMENT	130,491	0	0	132,553	60,000	192,553
3-005	EDUCATION AND OUTREACH	132,790	0	0	139,203	10,000	149,203
3-006	INTERAGENCY COMMUNICATION	59,410	0	0	48,971	0	48,971
3-007	RESEARCH	17,505	0	0	9,559	0	9,559
3-008	MEASUREMENT OF PROGRESS	12,200	0	0	9,059	0	9,059
3-009	GRANT RESEARCH & PREPARATION	22,809	0	0	23,473	0	23,473
3-010	OPERATIONS & MAINTENANCE	324,636	0	0	63,387	0	63,387
3-011	AIS PREVENTION & MANAGEMENT	295,850	33,068	9,500	223,464	10,000	276,032
3-012	LAND ACQUISITION	293,339	719,021	0	87,450	0	806,471
3-013	WATERSHED PLANNING & RESILIENCY	30,234	0	0	9,679	0	9,679
5-000	**PROJECTS**	**$1,965,158**	**$1,468,058**	**$0**	**$818,538**	**$2,000**	**$2,288,596**
5-000	GENERAL PROJECT DEVELOPMENT	98,133	0	0	112,793	0	112,793
5-100	FLOODPLAIN	100,256	0	0	77,676	0	77,676
5-200	LAKES	1,617,534	1,432,258	0	573,769	2,000	2,008,027
5-300	STREAMS	117,938	35,800	0	31,626	0	67,426
5-400	WETLANDS	13,792	0	0	15,117	0	15,117
5-500	UPLAND RESOURCES	0	0	0	0	0	0
5-600	GROUNDWATER	17,505	0	0	7,559	0	7,559
TOTAL BUDGET		**$4,399,310**	**$2,220,147**	**$121,156**	**$2,496,387**	**$107,000**	**$4,944,689**

*District staff costs (wages, benefits, PERA, payroll taxes) are allocated to different sections of the budget using the breakdown from the 2020 Workload Analysis.

Table 7. 2023 Estimated Revenue Overview

Revenue Source Description	Estimated Revenue
2023 LEVIES	**$1,622,500**
General Fund	$250,000
Liability Insurance	$8,200
Implementation (Projects/Programs to support WMP/CIP)	$1,014,300
Debt Services	$350,000
2023 LOAN	**$1,200,000**
Clean Water Partnership Loan B (Loan A closed out in 2021)	$1,200,000
2023 ESTIMATED EARNED GRANT REVENUE	**$2,978,563**
FY20 Clean Water Fund: CR50 Iron Enhanced Sand Filter	$74,740
FY20 Clean Water Fund: Sunrise River/Hwy 61 Wetland Enhancement	$246,000
FY22 319 Small Watershed Focus: Sunrise River/Hwy 61 Wetland Enhancement	$100,000
FY21/23 LSC WBIF: Sunrise River/Hwy 61 Wetland Enhancement	$300,449
FY20 Conservation Partners Legacy: Shields Shoreline Restoration	$8,000
FY21 Clean Water Fund: Bone Lake NE Wetland Restoration	$17,120
FY23 Clean Water Fund: Forest Lake Alum Treatment Project	$266,800
FY23 Lessard-Sams OHF: Bone Lake South Wetland Acquisition	$1,942,000
FY23 DNR & Washington County AIS Grants	$23,454
2023 ESTIMATED OTHER REVENUES	**$123,500**
City of Forest Lake (AIS prevention partnership)	$9,000
Bone Lake Association (AIS prevention partnership)	$3,000
City of Scandia (AIS prevention partnership)	$1,000
Scandia Lions Club (AIS prevention partnership)	$500
Chisago County (AIS prevention partnership)	$5,000
Permit Fees	$100,000
Interest Income	$5,000
Dept. of Natural Resources provided watercraft inspection hours on Forest Lake	550 hours
TOTAL ESTIMATED REVENUE	**$5,924,563**

**Excess revenue is placed in Reserve Fund for future projects.*

Table 8. 2023 Work Plan Overview

WMP Code	Work Plan Category	Total Staff Hours	FTE	Percentage of Total Work Plan	2023 Cost
1000	**ADMINISTRATION**	**3,494**	**1.9**	**17.38%**	**$153,726**
1001	BOARD ADMINISTRATION	1,628	0.9	8.10%	$71,628
1002	GENERAL OFFICE EXPENSES	740	0.4	3.68%	$32,558
1003	GENERAL ADMINISTRATIVE	1,074	0.6	5.34%	$47,253
1004	PROFESSIONAL SERVICES	52	0.0	0.26%	$2,288
3000	**PROGRAMS**	**13,449**	**7.5**	**66.91%**	**$591,719**
3000	GENERAL PROGRAM DEVELOPMENT	354	0.2	1.76%	$15,575
3001	DISTRICT RULES AND RULEMAKING	72	0.0	0.36%	$3,168
3002	PERMITTING*	3,304	1.8	16.44%	$145,367
3003	MONITORING & DATA ASSESSMENT	1,631	0.9	8.11%	$71,760
3004	NON-POINT SOURCE POLLUTION ABATEMENT	2,108	1.2	10.49%	$92,746
3005	EDUCATION AND OUTREACH	2,091	1.2	10.40%	$91,998
3006	INTERAGENCY COMMUNICATION	916	0.5	4.56%	$40,301
3007	RESEARCH	96	0.1	0.48%	$4,224
3008	MEASUREMENT OF PROGRESS	204	0.1	1.01%	$8,975
3009	GRANT RESEARCH & PREPARATION	394	0.2	1.96%	$17,335
3010	OPERATION & MAINTENANCE	314	0.2	1.56%	$13,815
3011	AIS PREVENTION & MANAGEMENT*	1,279	0.7	6.36%	$56,273
3012	LAND ACQUISITION	516	0.3	2.57%	$22,703
3013	WATERSHED PLANNING & RESILIENCY	170	0.1	0.85%	$7,480
5000	**PROJECTS**	**3,157**	**1.8**	**15.71%**	**$138,899**
5000	GENERAL PROJECT DEVELOPMENT	1,629	0.9	8.10%	$71,672
5100	FLOODPLAIN	12	0.0	0.06%	$528
5200	LAKES*	1,420	0.8	7.06%	$62,476
5300	STREAMS	84	0.0	0.42%	$3,696
5400	WETLANDS	12	0.0	0.06%	$528
5500	UPLAND RESOURCES	0	0.0	0.00%	$0
5600	GROUNDWATER	0	0.0	0.00%	$0
	Totals	**20,100**	**11.2**	**100%**	**$884,345**

APPENDIX A – SUMMARY OF PERMITS AND VARIANCES ISSUED

Appendix A – Summary of Permits and Variances Issued

Permit Number	Permit Name	Permitted On	Rule 2	Rule 3	Rule 4	Rule 5	Rule 6	Rule 7	Rule 11
18-017-P10	Third Lakes Estate B1 L2	5/11/2022		X					
18-017-P11	Third Lakes Estate B1 L9	6/14/2022		X					
18-017-P7	Third Lake Estates Home P7	3/16/2022		X					
18-017-P9	Third Lake Estates Transfer - Block 1, Lot 8	9/19/2022		X					
19-036-P6	Hunter Hill Lot 5 Block 2	5/23/2022		X					
19-036-P6-T	Hunter Hill B2 L5	8/5/2022		X					
19-036-P7	Hunter Hill Lot 2 Block 1	5/18/2022		X					
19-036-P7-T	Hunter Hill Lot 2 Block 1 Transfer	8/5/2022		X					
19-036-P8	Hunter Hill Lot 1 Block 1	5/18/2022		X					
19-036-P8-T	Hunter Hill B1 L1 Transfer	6/21/2022		X					
19-036-P9	Hunter Hill Lot 5 Block 1	6/28/2022		X					
21-020	Keehr Shed	10/31/2022			X				X
21-033	North Shore Circle Utility Improvements	2/13/2022	X	X					
22-001	Scandia 2022 Street Improvements	6/7/2022		X					
22-004	Phillips SFH	3/23/2022		X					
22-005	Lindeberg SFH	4/13/2022		X					
22-007	Torkelson SFH	4/15/2022		X					
22-008	Haaq-Emerson SFH	4/25/2022		X					
22-009	Klecker SFH	5/25/2022		X					
22-011	Holl SFH	6/2/2022		X					
22-012	Knisley SFH	5/26/2022		X					
22-013	Wiegel Grading	6/6/2022		X					
22-014	Lewis SFH	6/6/2022		X					
22-018	Markgraf Pole Barn	7/25/2022		X					
22-019	Fenton Drainage	8/30/2022		X					
22-020	McGregor Home	7/28/2022		X					
22-021	Drews Addition	9/9/2022		X					
22-023	Larson Garage	9/8/2022		X					
22-024	Stahley Grading	10/17/2022		X					
22-026	Micallef Addition	9/15/2022		X					
22-029	Pream Garage	9/15/2022		X					
22-032	Wille Garage	10/3/2022		X					
22-033	Schocinski SFH	11/3/2022		X					
22-034	McDonalds Site Improvements	9/29/2022		X					
22-037	Forest Lake Mini Storage P2	12/2/2022	X	X					
22-039	Miller SFH	11/3/2022		X					
22-042	Schlender Barn	11/15/2022		X					
22-044	Benick Pole Barn	12/19/2022		X					

Key

Rule 2.0 - Stormwater Management
Rule 3.0 – Erosion Control
Rule 4.0 – Lake, Stream, Wetland Buffers
Rule 5.0 – Shoreline & Streambank Alterations Rule 6.0 – Watercourse & Basin Crossing
Rule 7.0 – Floodplain & Drainage Alterations
Rule 11.0 – Variances

Visit www.clflwd.org/permitting.php for more info

2022 Draft Progress Summary

- Project Implementation Update
- Portfolio of Completed and In Progress Projects
- Clean Water Fund Grant Award Comparison (FY 2014-2023)
- Updated 5200 section of the Progress Report (forthcoming; staff received the draft 2022 monitoring report on March 17th and requires more time to incorporate the monitoring data into updated charts and figures)

Appendix D – Project Implementation Update

Project Name (2022 Active Projects)	Project Description	Project Outcomes Phosphorus (P), Sediment, Storage, Wetland or Field Acres	Progress Update (Project Phase as of 12/31/22)
Moody Lake Capstone Projects	Target projects to achieve the remaining phosphorus load reduction to Moody Lake in order for Moody Lake to maintain long-term water quality goals. Proposed projects include: agricultural field gully repair, excavation of phosphorus-laden soils, raingarden and other park improvements, and wetland dredging.	To Moody Lake: 62 lb/yr P reduction 8,940 lb/yr sediment reduction Storage added: 0.8 acre-ft (estimated) Wetland restored: 0.5 acres	(Phase 2. Feasibility) Executed the Clean Water Fund grant agreement in spring 2023. Began landowner coordination and project agreements/legal coordination. Began preliminary project design. A feasibility report and project ordering will be brought to the Board in March 2023. Once the project is ordered, it will transition to Phase 3. Design.
Subwatershed Assessment Implementation	Implement best management practices (BMPs) on agricultural lands identified as having the best cost-benefit of phosphorus reduction to downstream Moody and Bone Lakes. Practices were funded through a variety of means including a Clean Water Fund grant, partnership with Chisago SWCD, and landowner local funds.	To Bone Lake: 83 lb/yr P reduction 177,293 lb/yr sediment reduction Fields converted/treated: 89 acres	(Phase 4. Implementation) The District spearheaded the creation of a farmer-led advisory council, which meets multiple times per year. Creation of this council, along with staff's outreach to landowners, resulted in several landowners implementing non-structural agricultural best management practices on their properties.
Bone Lake Northeast Wetland Restoration	Remove accumulated phosphorus-rich sediment from the northern portion of a wetland directly adjacent to Bone Lake that had a history of receiving direct livestock manure runoff from an adjacent dairy farm barnyard.	To Bone Lake: 15 lb/yr P reduction Storage added: 3.4 acre-ft (estimated) Wetland restored: 2.0 acres	(Phase 5. O&M) Project construction occurred in early 2022, and site revegetation occurred throughout the 2022 growing season. This project was closed out in December 2022 and is now in the operations & maintenance phase.

Project Name (2022 Active Projects)	Project Description	Project Outcomes Phosphorus (P), Sediment, Storage, Wetland or Field Acres	Progress Update (Project Phase as of 12/31/22)
Melanie Trail Roadside Best Management Practices Partnership project with City of Scandia.	Construct roadside best management practices on Melanie Trail to treat road runoff prior to entering Bone Lake. Stormwater treatment above and beyond regulatory requirements	To Bone Lake: 2 lb/yr P reduction	(Phase 5. O&M) District engineers worked closely with City of Scandia engineers to perform feasibility and construction oversight. Construction was completed in summer/fall 2022. This project will be maintained by the City of Scandia.
Little Comfort Lake Infiltration Basin	Re-direct ditched flow into an out-of-commission gravel pit in order to convert the gravel pit into an infiltration basin. The project will likely involve some re-shaping of the pit in order to maximize water quality and habitat benefits.	To Little Comfort Lake: 80-100 lb/yr P reduction Storage added: TBD	(Phase 2. Feasibility) Continued landowner coordination, project feasibility, and data gathering in 2022. The District has requested a grant extension to 12/31/24 in order to complete this project. This project will replace the East Wetland Impoundment project that was originally proposed as part of the Little Comfort Lake Diagnostic Study. The new Infiltration Basin project is estimated to achieve water quality benefits equal to or greater than the East Wetland Impoundment.
School Lake Outlet Channel	Implement best management practices in this subwatershed in order to treat excess phosphorus and sediment loading.	TBD	(Phase 2. Feasibility) The originally proposed project involved beaver dam analogs in the stream channel, which is a low-cost way to mimic natural conditions and improve water quality. However, the MN DNR will not permit these practices. District staff and engineers continue to evaluate project alternatives.
Little Comfort Lake Alum Treatment Project (on hold)	Whole lake alum treatment project is on hold as a result of new data. The District must focus on addressing external nutrient loading, then collect more data before proceeding with an alum treatment.	TBD	(On Hold) Newly obtained in-lake data, combined with existing data the District already gathered, suggests that an alum treatment is not recommended at this time. The District Engineer produced a technical memorandum summarizing the data and recommendation.

Project Name (2022 Active Projects)	Project Description	Project Outcomes Phosphorus (P), Sediment, Storage, Wetland or Field Acres	Progress Update (Project Phase as of 12/31/22)
July Avenue Agricultural Practices and Wetland Restoration	Address nutrient loading from an agricultural operation draining to School Lake	TBD	(Phase 1. Planning) District staff and engineers gathered data to evaluate the impacts that historic cattle farming had on downstream wetlands between agricultural operation and School Lake. This data will inform potential future projects.
Washington Judicial Ditch 6 Wetland Restoration	Restore wetland including sediment excavation and vegetation rehabilitation. The current wetland condition is partially drained by a small private ditch that flows into WJD-6 and eventually into Forest Lake, and 100% dominated by a monotype of reed canary grass.	To Forest Lake: 20 lb/yr P reduction 3,200 lb/yr sediment reduction Storage added: 5.7 acre-ft Wetland restored: 4 acres	(Phase 2. Feasibility) Executed the Clean Water Fund grant agreement in spring 2023. Began landowner coordination and project agreements/legal coordination. Began preliminary project design. A feasibility report and project ordering will be brought to the Board in February 2023. Once the project is ordered, it will transition to Phase 3. Design.
Washington Judicial Ditch 6 Country Road 50 Iron Enhanced Sand Filter	Treat 50% of the WJD-6 subwatershed runoff with an offline, multi-cell iron enhanced sand filtration (IESF) treatment system.	To Forest Lake: 97 lb/yr P reduction 3,000 lb/yr sediment reduction	(Phase 4. Implementation) Completed the first phase of construction in late 2022. Will complete the second phase of construction in spring 2023, site revegetation over the 2023 growing season, and project closeout by late 2023.
Castlewood Agricultural Best Management Practices	Reduce cropland erosion and nutrient loading to Forest Lake tributaries by implementing agricultural best management practices (BMPs), such as perennial crop conversion, on a farm field in the Castlewood subwatershed.	To Forest Lake: 6.1 lb/yr P reduction 284,000 lb/yr sediment reduction	(Phase 4. Implementation) Continued to implement perennial hay crop in 2022. Sold hay crop harvest to offset planting costs. Will conduct soil testing in 2023 to track fertility and soil health metrics.
North Shore Circle Roadside Best Management Practices Partnership project with City of Forest Lake.	Construct roadside best management practices on North Shore Circle to treat road runoff prior to entering Forest Lake. Stormwater treatment above and beyond regulatory requirements.	To Forest Lake: 3.4 lb/yr P reduction 807 lb/yr sediment reduction	(Phase 5. O&M) District engineers worked closely with City of Forest Lake engineers to perform feasibility/design. These BMPs were constructed in 2022. The City is responsible for operations & maintenance.

Project Name (2022 Active Projects)	Project Description	Project Outcomes Phosphorus (P), Sediment, Storage, Wetland or Field Acres	Progress Update (Project Phase as of 12/31/22)
Forest Lake Enhanced Street Sweeping Plan and Implementation	CLFLWD created a comprehensive street sweeping plan to quantify and optimize phosphorus removal. City of Forest Lake implements the Enhanced Street Sweeping Plan by utilizing a newly purchased a vacuum sweeper and hiring in-house staff to operate it according to frequencies identified in the plan.	Estimated reductions, by lake subwatershed, based on actual 2019 sweeping data. Reductions achieved at the lake are estimated to be approximately 50% of reductions achieved at the source (sweeper). Reductions achieved at the sweeper: Forest Lake: 143 lb/yr P Forest Lake: 381,648 lb/yr solids Shields Lake: 11 lb/yr P Shields Lake: 32,802 lb/yr solids Keewahtin Lake: 2 lb/yr P Keewahtin Lake: 4,831 lb/yr solids Comfort Lake: 65 lb/yr P Comfort Lake: 154,814 lb/yr solids	(Phase 5. O&M) City continued street sweeper operation in 2022. This program received two awards in 2022: League of Minnesota Cities City of Excellence Award, and Comfort Lake-Forest Lake WD's Watershed Champion Award.
Sunrise River-Highway 61 (Tax Forfeit) Wetland Enhancement – Chisago County Petitioned Project	Modify an existing ditched wetland complex located on District-owned tax forfeited property to increase water quality treatment and storage capacity.	To Comfort Lake: 65 lb/yr P reduction 18,630 lb/yr sediment reduction To Sunrise River: 89 lb/yr P reduction 154,814 lb/yr sediment reduction Storage added: 18.5 acre-ft Wetland restored: 22.1 acres	(Phase 4. Implementation) Completed project design, bidding, and site prep in 2022. Construction to occur in early 2023 under frozen conditions. Site revegetation to occur over 2023 growing season. Project closeout expected in late 2023.

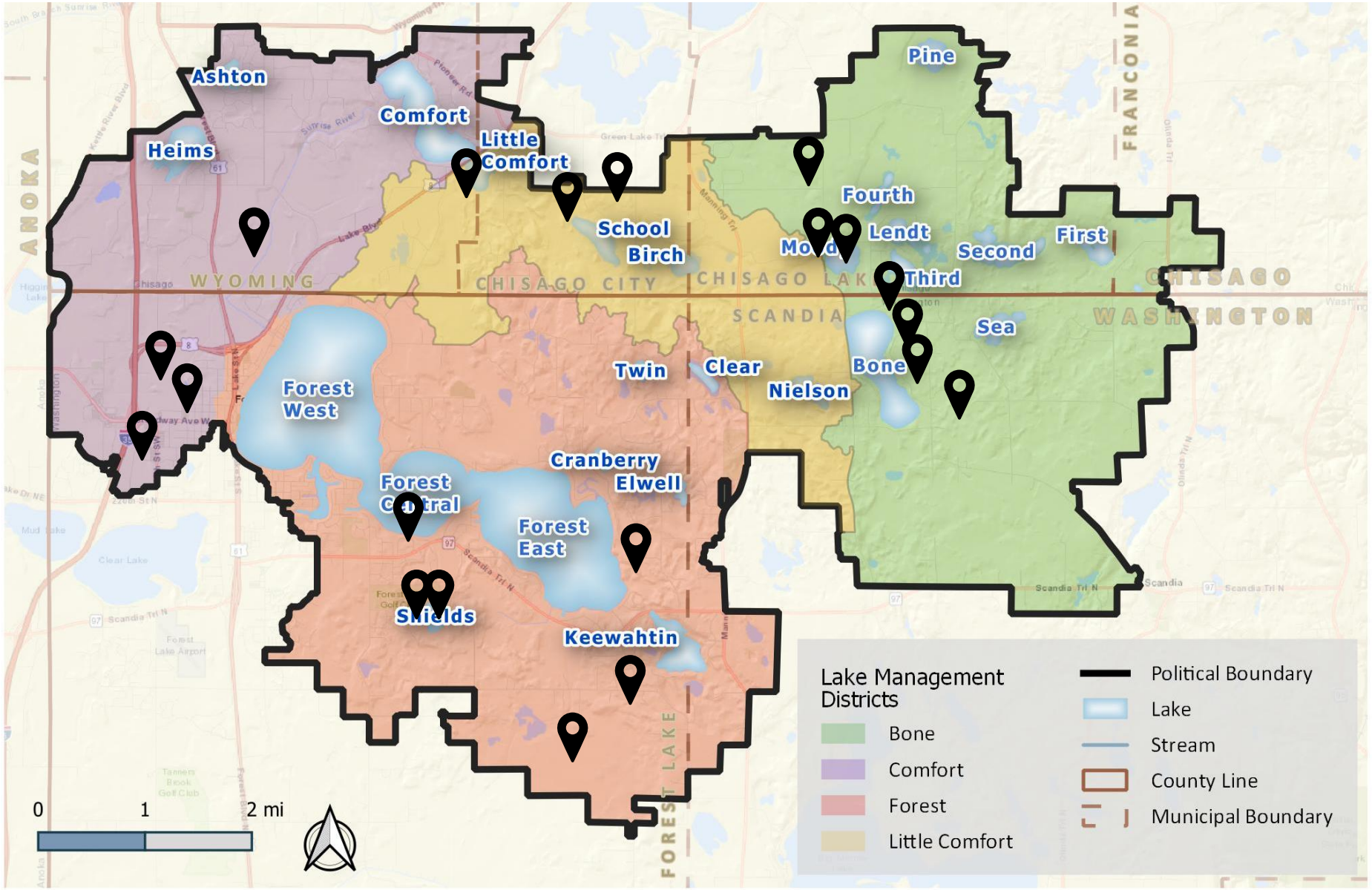
Project Name (2022 Active Projects)	Project Description	Project Outcomes Phosphorus (P), Sediment, Storage, Wetland or Field Acres	Progress Update (Project Phase as of 12/31/22)
Regional Stormwater Treatment Facility	Construct a regional stormwater treatment facility to treat runoff from urban areas and increase floodplain storage. The City of Forest Lake contains the most concentrated urban portion of the District which drains to Comfort Lake and is the top priority for implementation.	To Comfort Lake: TBD Storage added: TBD	(Phase 2. Feasibility) Continued coordinating this project closely with the City of Forest Lake. Several potential projects have been identified. Additional feasibility and coordination with the City of Forest Lake is necessary prior to continuing to project design.

Projects are color-coded by lake management district: green = Bone Lake, yellow = Little Comfort Lake, pink = Forest Lake, purple = Comfort Lake

Project Phases:

- *Phase 0. Not Started*
- *Phase 1. Planning*
- *Phase 2. Feasibility*
- *Phase 3. Design*
- *Phase 4. Implementation*
- *Phase 5. Operations & Maintenance (O&M)*

Appendix E – Portfolio of Completed & In-Progress Projects

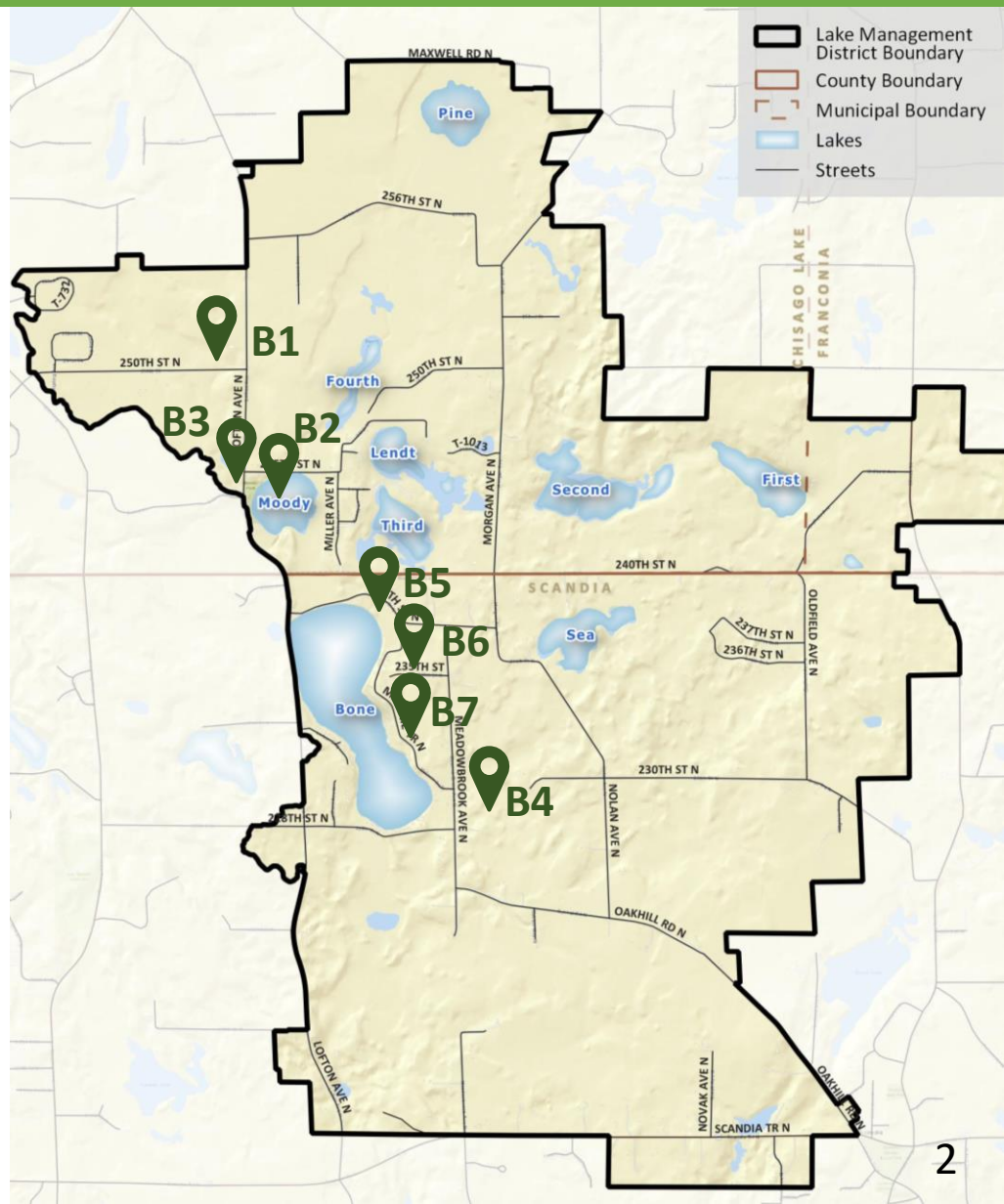


This appendix summarizes programs and projects undertaken by the District and its partners. It is not an exhaustive list of all projects and practices within the watershed, but is merely a summary of some of the activities resulting in significant progress toward nutrient reduction goals.

Bone Lake Management District

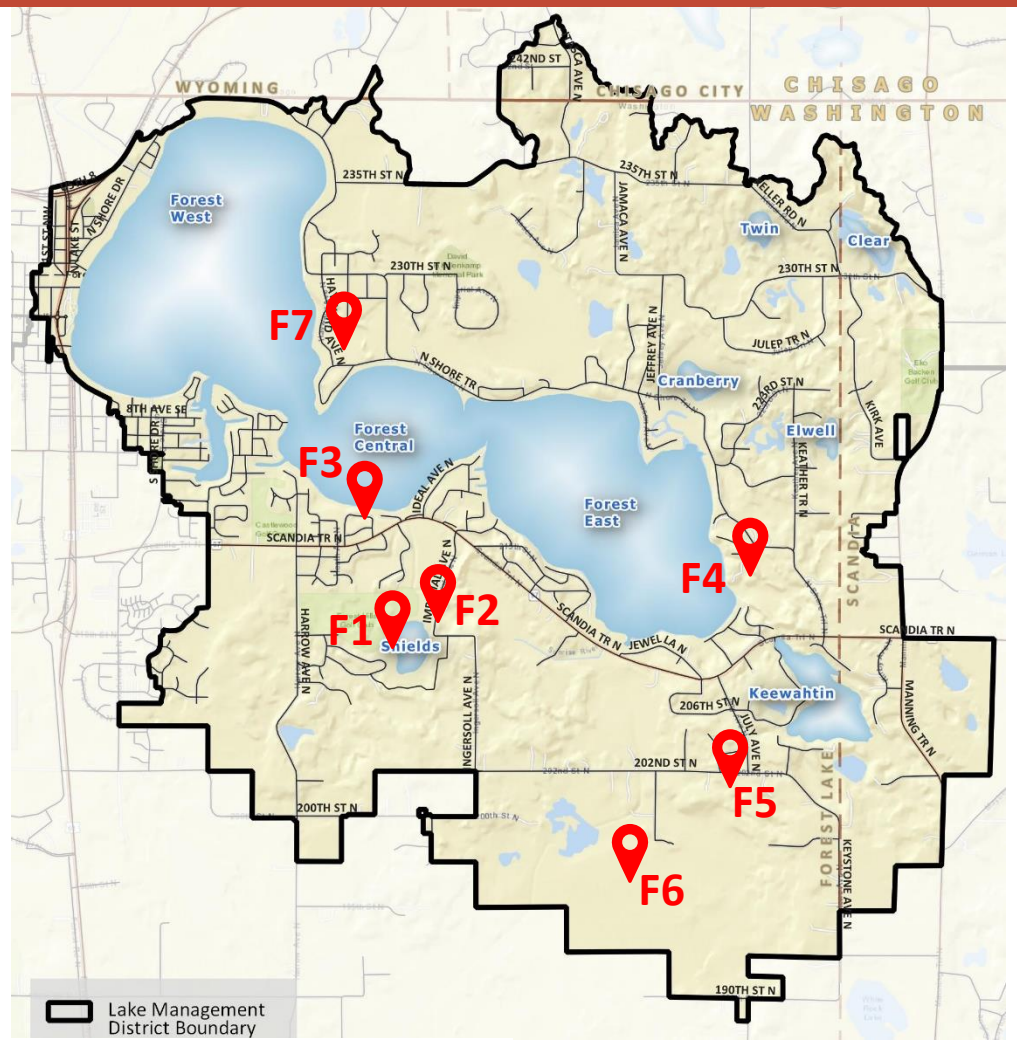
Completed and In-Progress Projects	Outcomes at Moody or Bone Lake (reductions)	Outcomes at Edge of Project (reductions)
B1: Moody Wetland Rehabilitation - Completed	455 lb/yr phosphorus (P) 457,120 lb/yr total suspended solids (TSS)	455 lb/yr P 457,120 lb/yr TSS
B2: Moody Lake Alum Treatment - Completed	324 lb/yr P	324 lb/yr P
B3: Moody Lake Capstone Projects – In Progress	62 lb/yr P 12,257 lb/yr TSS	62 lb/yr P 12,257 lb/yr TSS
B4: Bone Lake Southeast Drained Wetland Restorations - Completed	35 lb/yr P 324,640 lb/yr TSS	35 lb/yr P 324,640 lb/yr TSS
B5: Bone Lake Northeast Legacy Wetland Restoration – Completed	15 lb/yr P	15 lb/yr P
B6: Melanie Trail Cropland Conversion – Ongoing	34 lb/yr P 27,600 lb/yr TSS	34 lb/yr P 27,600 lb/yr TSS
B7: Melanie Trail Roadside Practices – In Progress	2 lb/yr P	2 lb/yr P
Fish Barriers & Rough Fish Harvest – Completed	Necessary to maintain water quality	Necessary to maintain water quality
Moody/Bone Ag Practices – In Progress	83 lb/yr P 177,293 lb/yr TSS	147 lb/yr P 314,000 lb/yr TSS
TOTAL	1,010 lb/yr P or 504,900 lbs of algae growth	910 lb/yr P

*Many projects result in multiple additional benefits such as wildlife habitat and flood storage creation.
*Literature values indicate 1 lb of phosphorus can support up to 500 lbs of algae growth.
*See TSS Footnotes slide after project summary slides.



Forest Lake Management District

Completed and In Progress Projects	Outcomes at Forest Lake (reductions)	Outcomes at Edge of Project (reductions)
F1: Shields Lake Stormwater Reuse & Alum - Completed	531 lb/yr phosphorus (P) to Forest Lake	1,000 lb/yr P to Shields Lake (edge of project) 185 lb/yr TSS
F2: Shields Lake Fish Barrier, Aerator - Completed Shoreline Restoration – In Progress	Necessary to maintain water quality	Necessary to maintain water quality
F3: Hilo Lane Stormwater Retrofit - Completed	12 lb/yr P	12 lb/yr P
F4: 3rd Lake Pond Restoration - Completed	56 lb/yr P 1,696 lb/yr TSS	56 lb/yr P 1,696 lb/yr TSS
F5: CR50 Iron Enhanced Sand Filter – In Progress	97 lb/yr P 3,000 lb/yr TSS	97 lb/yr 6,000 lb/yr TSS
F6: Washington Judicial Ditch 6 Wetland Restoration – In Progress	20 lb/yr P 5,558 lb/yr TSS	38 lb/yr 5,558 lb/yr TSS
F7: N. Shore Circle BMPs (City Forest Lk) - Completed	6 lb/yr P	6 lb/yr P
Enhanced Street Sweeping – Ongoing	≤ 72 lb/yr P ≤ 190,824 lb/yr sediment	143 lb/yr P 381,648 lb/yr sediment
Forest Lake Alum Treatment – In Progress	527 lb/yr P	527 lb/yr P
TOTAL**	1,321 lb/yr P or 660,300 lbs of algae	1,745 lb/yr P

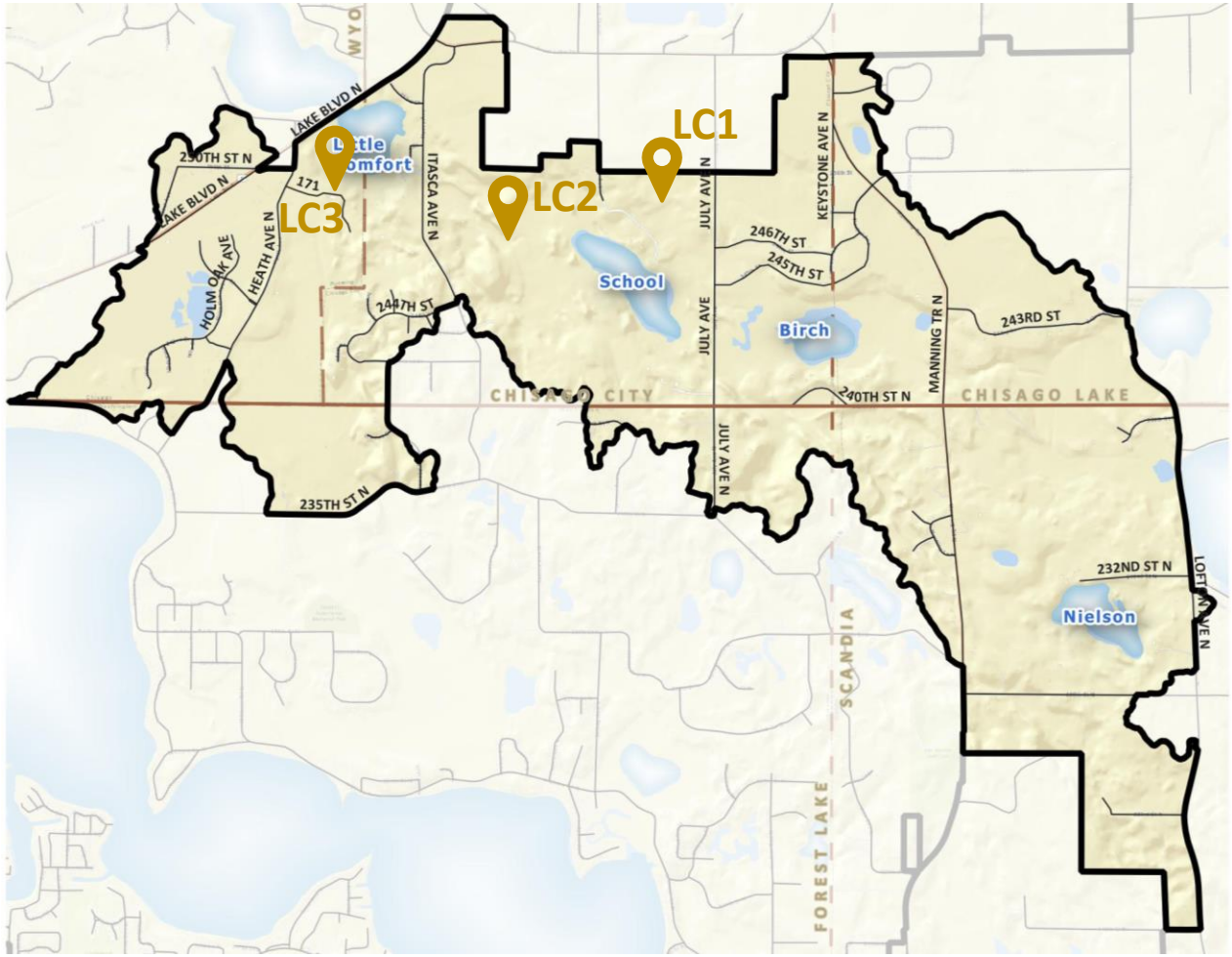


*Many projects result in multiple additional benefits such as wildlife habitat and flood storage creation.
*Literature values indicate 1 lb of phosphorus can support up to 500 lbs of algae growth.
*Street sweeping estimates are based on material removed from the street surface and do not reflect total load reductions to the downstream lakes. The actual load reduction to downstream water resources is generally 50% or less than the total load recovery and depends on the number and type of BMPs along the treatment train.
*See TSS Footnotes slide after project summary slides.

Little Comfort Lake Management District

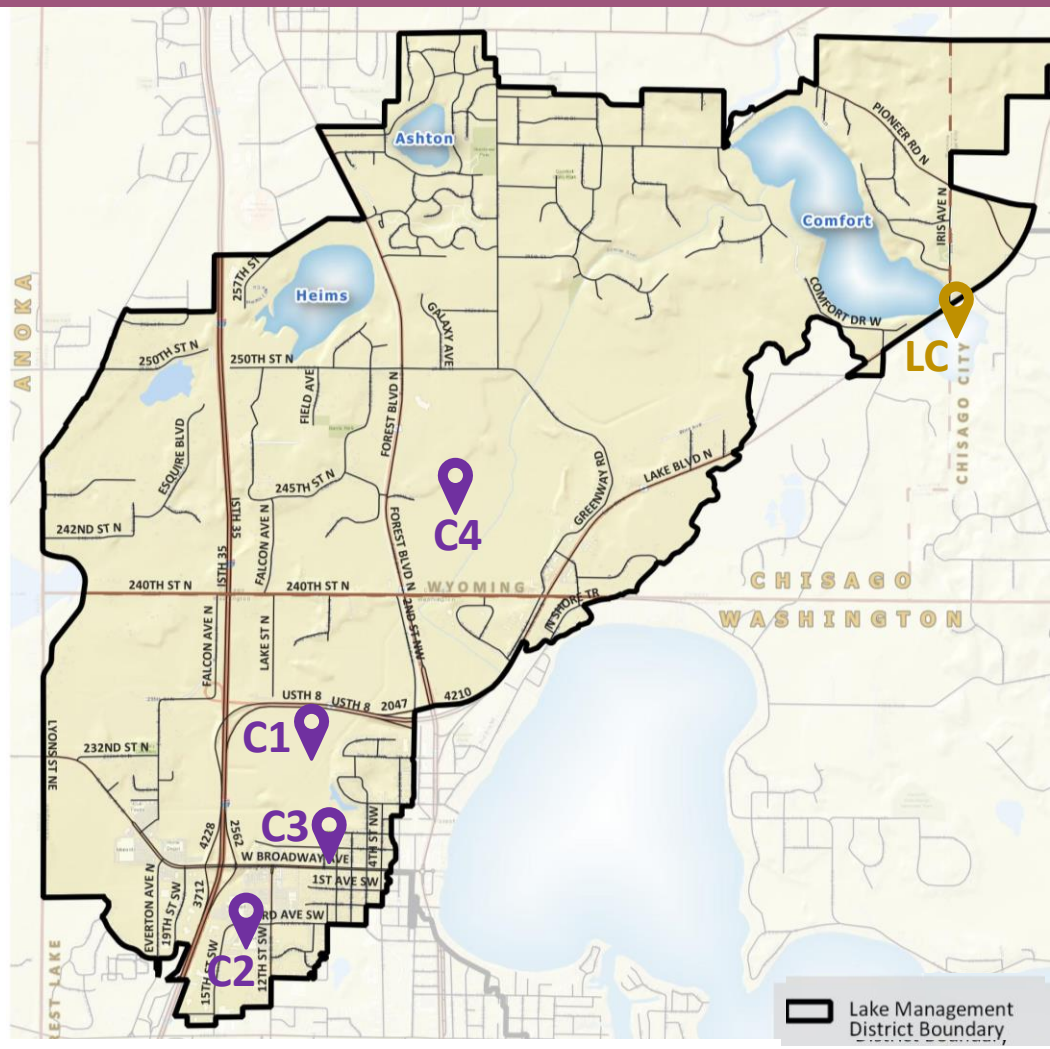
Completed and In-Progress Projects	Outcomes at Little Comfort Lake (reductions)	Outcomes at Edge of Project (reductions)
LC1: July Avenue Ag BMPs & Wetland Restorations – In Progress	TBD pending feasibility	TBD pending feasibility
LC2: School Lake Outlet Channel Improvements – In Progress	TBD pending feasibility	TBD pending feasibility
LC3: Little Comfort Infiltration Basin – In Progress	80-100 lb/yr phosphorus	80-100 lb/yr phosphorus
Little Comfort Alum Treatment – On Hold Until Other Projects Complete	TBD	TBD
TOTAL	80-100 lb/yr or 40,000-50,000 lb of algae growth	

*Many projects result in multiple additional benefits such as wildlife habitat and flood storage creation.
*Literature values indicate 1 lb of phosphorus can support up to 500 lbs of algae growth.
*See TSS Footnotes slide after project summary slides.



Comfort Lake Management District

Completed and In Progress Projects	Outcomes at Comfort Lake (reductions)	Outcomes at Edge of Project (reductions)
C1: Bixby Park Wetland Enhancement (Chisago Co. Petition) - Completed	93 lb/yr phosphorus (P) 5,546 lb/yr total suspended solids (TSS)	206 lb/yr P 55,458 lb/yr TSS
C2: Target Retrofits - Completed	5 lb/yr P	11 lb/yr P
C3: Broadway Ave Iron Sand Filter – Completed	15 lb/yr P 683 lb/yr TSS	33 lb/yr P 6,834 lb/yr TSS
C4: Sunrise River Hwy 61 Wetland Enhancement (Chisago Co Petition) – In Progress	65 lb/yr P 18,630 lb/yr TSS	89 lb/yr P 51,740 lb/yr TSS
Enhanced Street Sweeping (Multiple Locations) - Ongoing	≤ 32 lb/yr P ≤ 77,407 lb/yr TSS	65 lb/yr P 154,814 lb/yr TSS
Regional Treatment Facility (Location TBD) – In Progress	TBD	TBD
Stormwater Permits (Multiple Locations)	28 lb/yr P	33 lb/yr
LC: Little Comfort Lake Projects – In Progress	64 lb/yr to Comfort Lake	(See Little Comfort Lake Management District)
TOTAL**	301 lb/yr P or 150,600 lbs of algae growth	499 lb/yr P



*Many projects result in multiple additional benefits such as wildlife habitat and flood storage creation.
*Literature values indicate 1 lb of phosphorus can support up to 500 lbs of algae growth.
*Street sweeping estimates are based on material removed from the street surface and do not reflect total load reductions to the downstream lakes. The actual load reduction to downstream water resources is generally 50% or less than the total load recovery and depends on the number and type of BMPs along the treatment train.
*See TSS Footnotes slide after project summary slides.

Total Suspended Solids (TSS) Footnotes

The following notes accompany the total suspended solids (TSS) loading figures on the previous slides

- The District monitors sediment loading annually. View the latest monitoring report at www.clflwd.org/monitoring.php. View the presentation on Comfort Lake sediment loading from the 3/24/22 regular board meeting here.
- Moody Lake Wetland Rehabilitation: TSS loading estimated from RUSLE raster layer created by EOR. Assumes 80% TSS removal for the wetland and 85% for the buffer. Removal due to buffer was subtracted from load to wetland (the drainage area to the latter includes that for the former).
- Moody Lake Capstone Projects: TSS loading estimated from RUSLE raster layer created by EOR. Value is for buffer establishment only assuming 85% removal. Not enough information on the gully repair to estimate TSS benefits at this time.
- Bone Lake Southeast Drained Wetland Restorations: TSS loading estimated from RUSLE raster layer created by EOR. Assumes 80% TSS removal for each of the wetland restoration projects.
- Shields Lake Stormwater Reuse Project: TSS loading estimated from modeled flows and TSS grab samples. Ponds immediately upstream and downstream significantly reduce the TSS load reduction impact of this pond on the lake.
- 3rd Lake Pond Restoration: TSS loading estimated from RUSLE raster layer created by EOR. Assumes 80% TSS removal for the immediate drainage area only due to the pond immediately upstream.
- CR50 Iron Enhanced Sand Filter: TSS load reductions from the feasibility report. Assumes a 50% impact reduction factor due to the downstream wetland.
- WJD-6 Wetland Restoration: TSS loading estimated from measured flows and TSS grab samples from 2018. Assumes 80% TSS removal.
- Bixby Park Wetland Enhancement (Chisago Co Petition): TSS load reductions from the P8 model. Assumes a 90% impact reduction factor due to the distance from the lake.
- Broadway Avenue Iron Enhanced Sand Filter: TSS loading using the simple method, Met Council Generalized Land Use, and unit area loading values from the MN Stormwater Manual. Assumes 100% TSS removal and a 90% impact reduction factor due to the distance from the lake.

*Disclaimer: These values represent rough approximations of sediment load reductions based on generalized land use and land cover characteristics and limited monitoring data.

Appendix C - Clean Water Fund Grant Awards (FY 2014-2023)

(Grant program from 2008 MN constitutional amendment. Projects and Practices category only.)

	Organization	Total Projects and Practices Grants Awarded (FY 2014-2023)
1	**Comfort Lake-Forest Lake WD**	**$5,067,334**
2	Becker SWCD	$4,433,710
3	Benton SWCD	$3,658,210
4	Crow Wing SWCD	$3,335,000
5	Chisago SWCD	$2,702,500
6	Vermillion River JPB/JPO	$2,666,950
7	Stearns SWCD	$2,369,737
8	Pope SWCD	$2,361,300
9	Bois de Sioux WD	$2,355,010
10	Anoka Conservation District	$2,255,825
11	Shingle Creek WMC	$2,057,550
12	Coon Creek WD	$2,024,023
13	Capitol Region WD	$1,835,000
14	Rice Creek WD	$1,777,604
15	Douglas SWCD	$1,666,908
16	City of Anoka	$1,662,146
17	Pomme de Terre River Association	$1,635,325
18	Red Lake SWCD	$1,502,163
19	Bassett Creek WMC	$1,500,000
20	Lower Mississippi River WMO	$1,472,000
21	Pelican River WD	$1,470,108
22	Minnehaha Creek WD	$1,400,240
23	Okabena-Ocheda WD	$1,398,312
24	Middle St. Croix River WMO	$1,370,450
25	Wilkin SWCD	$1,346,000

	Organization	Total Projects and Practices Grants Awarded (FY 2014-2023)
26	Carlton SWCD	$1,341,444
27	Dakota County	$1,295,724
28	Pennington SWCD	$1,255,142
29	Cedar River WD	$1,208,000
30	Middle Fork Crow River WD	$1,176,250
31	**City of Forest Lake**	**$1,107,000**
32	Scott SWCD	$1,101,430
33	Redwood-Cottonwood Rivers Contr	$1,048,880
34	Isanti SWCD	$950,055
35	Wright SWCD	$928,375
36	Brown's Creek WD	$927,950
37	Martin County	$882,000
38	Pioneer-Sarah Creek WMC	$821,000
39	Fillmore SWCD	$804,385
40	Mississippi WMO	$800,000
41	Carnelian-Marine-St. Croix WD	$780,481
42	Nine Mile Creek WD	$750,000
43	Clearwater River WD	$712,906
44	Dakota SWCD	$700,000
45	Le Sueur SWCD	$697,350
46	City of St. Paul	$695,000
47	Buffalo-Red River WD	$650,000
48	Prior Lake-Spring Lake WD	$638,700
49	East Polk SWCD	$618,680
50	Valley Branch WD	$604,000
	Total	**$77,818,157**

WD = Watershed District SWCD = Soil and Water Conservation District CA = Control Area
WMB = Watershed Management Board WMC = Watershed Management Commission WMO = Watershed Management Org.

CLFLWD assisted the City of Forest Lake with its FY18 CWF grant proposal for Forest Lake Enhanced Street Sweeping Implementation (award = $220,000) by performing the comprehensive street sweeping study and report in 2017 and assisting with the FY18 grant proposal and work plan. CLFLWD also assisted the City of Forest Lake with its FY17 CWF grant proposal for Forest Lake High School Stormwater Reuse (award = $505,000) by performing initial coordination with the Forest Lake High School and project engineers.