Prior Lake-Spring Lake Watershed District

Annual Report

2022

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

Mission: To manage & preserve the water resources of the Prior Lake-Spring Lake Watershed District to the best of our ability using input from our communities, sound engineering practices, and our ability to efficiently fund beneficial projects which transcend political jurisdictions.

Contact Information: 4646 Dakota St SE, Prior Lake, MN 55372
edick@plslwd.org ; 952-440-0068

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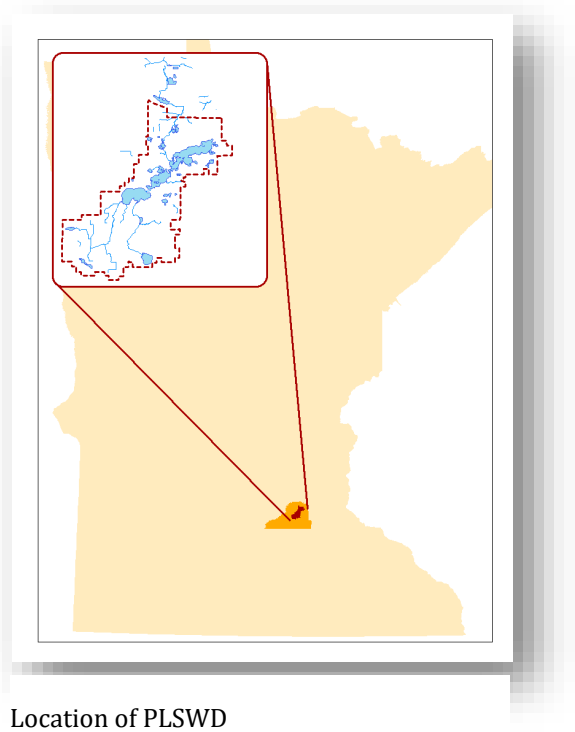
INTRODUCTION

This report has been prepared by the Prior Lake-Spring Lake Watershed District (PLSLWD, or District) and details the activities of the District through the calendar year 2022. The report will focus on the District's program and project accomplishments relative to the approved Capital Improvement Plan established in the 2020 PLSLWD Water Resources Management Plan and annual work plan. Annual reporting requirements listed in Minnesota Rules Chapter 8410.0150, Subpart 3 will also be included in this report.

ABOUT THE DISTRICT

The Prior Lake-Spring Lake Watershed District was established on March 4, 1970 by order of the Minnesota Water Resources Board (MWRB) under the authority of the Minnesota Watershed Act (Minnesota Statutes, Chapter 112). The order was in response to a petition filed by resident landowners within the watershed on June 24, 1969. This citizen petition sought establishment of the District for the purposes of wisely managing and conserving the waters and natural resources of the watershed.

The PLSLWD is approximately 42 square miles in size and located in north central Scott County, Minnesota, encompassing parts of the cities of Prior Lake, Shakopee, and Savage and parts of Sand Creek and Spring Lake Townships. In addition, a portion of the Shakopee Mdewakanton Sioux Community (SMSC) tribal lands are located within the District.



Location of PLSWD

BOARD OF MANAGERS

PLSLWD is administered by a five-person Board of Managers (Board) appointed by the Scott County Commissioners. All the District's policies, goals, and accomplishments are directed by the citizens who serve on the Board. The Board of Managers meets the second Tuesday of the month at 6:00 PM at the Prior Lake City Hall, located at 4646 Dakota St. SE, Prior Lake, MN 55372. Meeting notices, agendas and approved minutes are available on the District website at www.plslwd.org/meetings.

Board members serving during the calendar year 2022 are listed below.

Bruce Loney *President from 7/12/22* *Vice President 3/8/22 – 7/12/22* *Treasurer until 3/8/22/22* *Terms: 3/3/22-3/2/25* *3/3/19-3/2/22* *Resides in Prior Lake* *5870 Shannon Circle SE* *Prior Lake, MN 55372* *952-769-7408* *bruceloney1972@gmail.com*	Frank Boyles *Vice President from 7/12/22* *Term: 7/26/20 - 7/25/23* *Resides in Prior Lake* *5153 Hope Street* *Prior Lake, MN 55372* *952-292-0400* *frank10350@mchsi.com*	Christian Morkeberg *Treasurer from 7/12/22* *Term: 3/3/22-3/2/25* *Resides in Spring Lake Township* *17556 Vergus Ave* *Jordan, MN 55352* *952-412-2600* *cmorkeberg@me.com*
Ben Burnett *Secretary from 8/18/22* *Term: 6/7/22 – 3/4/24* *Resides in Prior Lake* *3040 Creekview Circle SW* *Prior Lake, MN 55372* *952-491-3786* *Burnettb317@gmail.com*	Matt Tofanelli *Manager* *Term: 6/12/22 – 6/11/25* *Resides in Prior Lake* *15742 West Avenue SE* *Prior Lake, MN 55372* *952-239-9287* *mtofanelli@emtengineering.com*	Mike Myser *President* *Term: 3/4/21 – 6/6/22* *Resides in Prior Lake* *3857 Island View Cir NW* *Prior Lake, MN 55372* *651-341-5932* *m.myser@mchsi.com*
Curt Hennes *Vice President* *Term: 6/12/19-6/11/22* *Resides in Prior Lake* *17286 Sunset Trail SW* *Prior Lake, MN 55372* *952-440-7443* *clphennes@gmail.com*	Steve Pany *Secretary* *Term: 7/14/20-3/2/22* *Resided in Prior Lake*	

CITIZEN ADVISORY COMMITTEE

The Prior Lake-Spring Lake Watershed District formalized its Citizen Advisory Committee (CAC) in 2011. The CAC consists of residents who provide input and recommendations to the Board on projects, reports, prioritization, and act as the primary interface for the Board to integrate the current issues of concern of the local citizens.

The CAC meets monthly on the last Thursday of the month at 6:30 PM at the Prior Lake City Hall, located at 4646 Dakota St. SE, Prior Lake, MN 55372. As a result of the coronavirus pandemic, a portion of the 2022 CAC meetings were conducted in a hybrid format where some of the members met in person and some members participated virtually.

Citizen Advisory Committee members that served during the calendar year 2022 are listed below.

Matt Newman *Resides in Spring Lake Township* *Term: 06/2020 – 03/2023*	*Christopher Crowhurst* *Resides in* Spring Lake Township *Term: 05/2020 – 03/2023*	*Woody Spitzmueller* *Resides in Prior Lake* *Term: 03/2022 – 03/2025* *04/2019 – 03/2022*
Loren Hanson *Resides in Spring Lake Township* *Term: 04/2021 – 03/2024*	*Maureen Reeder* *Resides in Spring Lake Township* *Term: 05/2021 – 03/2024*	*Ron Hoffmeyer* *Resides in Prior Lake* *Term: 05/2022 – 03/2025*
Curtis Witt *Resides in Prior Lake* *Term: 05/2022 – 03/2025*	*David Hagen* *Resides in Prior Lake* *Term: 07/2021 – 01/2022*	*Jim Weninger* *Resides in Prior Lake* *Term: 01/2020 – 03/2022*
Christian Morkeberg *Resides in Spring Lake Township* *Term: 07/2019 – 03/2022*	*Ben Burnett* *Resides in Prior Lake* *Term: 09/2020 – 06/2022*	*Matt Tofanelli* *Resides in Prior Lake* *Term: 04/2021 – 06/2022*

STAFF

Day-to-day operations of the Prior Lake-Spring Lake Watershed District are managed by a District Administrator and staff. All staff can be contacted through the main District phone number, 952-447-4166, or at the District Office, 4646 Dakota Street SE, Prior Lake, MN 55372.

Joni Giese District Administrator jgiese@plslwd.org	Emily Dick Water Resources Project Manager (as of 11/7/22) edick@plslwd.org	Jeff Anderson Water Resources Coordinator janderson@plslwd.org
Shauna Capron Water Resources Technician (as of 7/14/22) Water Resources Specialist (until 7/13/22) scapron@plslwd.org	Elizabeth Frödén Water Resources Specialist (as of 7/14/22) Water Resources Assistant (until 7/13/22) efroden@plslwd.org	Patty Dronen Administrative Assistant pdronen@plslwd.org
Paul Nelson Manager of Special Projects (as of 10/17/22) pnelson@plslwd.org	Jaime Rockney Water Resources Project Manager (until 5/11/22)	Allison Weyer Permitting Coordinator (3/1/22 - 8/23/22)
Kendra Held Summer Intern (6/1/22 – 8/19/22)	Sydney Jones Summer Intern (6/1/22 – 8/12/22)	

CONSULTING SERVICES

The following are the consulting firms selected in 2021 for 2022/23 consulting services:

Abdo, Eick and Meyers, LLP
Audit Services
Andy Berg
Phone: 952-835-9090
www.aemcpas.com

Smith Partners, PLLP
Legal Services
Charles Holtman
Phone: 612-344-1400
www.smithpartners.com

Emmons and Olivier Resources, Inc
Engineering Services
Carl Almer
Phone: 651-770-8448
www.eorinc.com

The following consulting firm was selected in 2020 for 2021/22 consulting services:

CliftonLarsonAllen (CLA)
Accounting Services
Christopher Knopik
Phone: 612-376-4500
www.claconnect.com

WATER RESOURCES MANAGEMENT PLAN

The Minnesota Board of Water and Soil Resources (BWSR) approved the District's fourth generation Water Resources Management Plan (WRMP) on June 24, 2020, and the District Board adopted the plan at its July 14, 2020 meeting. A copy of the WRMP is available on the District website or by request, or in hard copy format at the District office.

THREE PRIORITY CONCERN AREAS

During discussions and meetings for the WRMP, three recurring priority concerns were identified. PLSLWD used these three priority concerns to develop three guiding principles with nine underlying policies and 23 measurable goals.

WATER QUALITY

Maintaining or improving the water quality in the PLSLWD's resources with most emphasis on lakes that have public access and are most widely used.

AQUATIC INVASIVE SPECIES

Continued monitoring and management of existing AIS (curly-leaf pondweed, Eurasian water milfoil, zebra mussels and common carp), as well as prevention of new AIS.

REDUCE FLOODING

Making strides toward flood reduction goals on Prior Lake (e.g. upstream storage) and reducing the impacts of flooding in other areas in the District.

PRIMARY ISSUES

Within the Priority Concern Areas above, the PLSLWD identified several associated issues:

WATER QUALITY ISSUES:

- External Loading
- Internal Loading
- Low Plant Diversity
- High Phosphorus Levels
- Insufficient Information Available
- Loss of Wetland Quality
- Loss of Wetland Quantity
- Streambank Erosion & Slumping
- Erosion along the Prior Lake Outlet Channel
- Groundwater Quality and/or Contamination

AQUATIC INVASIVE SPECIES ISSUES:

- New AIS Can Reduce Water Quality
- Common Carp Reduce Water Quality
- Overgrowth of Invasive Plants
- Recreational & Ecological Hazards

REDUCE FLOODING ISSUES:

- Current Flooding Risks on Prior Lake
- Historical Flooding on Prior Lake
- Future Increased Runoff
- Insufficient Information to Inform Projects
- Need to Assess Flood Reduction Goals

PRIORITY GOALS

Within the Priority Concerns above, there are a total of 23 goals. While all these goals are intended to be accomplished in this ten-year WRMP, there were four that were of highest priority. These include:

WATER QUALITY MAIN GOALS:

- ***GOAL WQ2:*** ***Meet the state water quality standards for aquatic recreation on Spring Lake.***
- ***GOAL WQ3:*** ***Meet the state water quality standards for aquatic recreation on Upper Prior Lake.***

AQUATIC INVASIVE SPECIES MAIN GOALS:

- ***GOAL AIS1:*** ***Develop and implement an Aquatic Invasive Species (AIS) Response and Prevention Plan in coordination with Scott County to help prevent new AIS from entering Tier 1 lakes.***

REDUCE FLOODING MAIN GOALS:

- ***GOAL RF1:*** ***Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period.***

ASSESSMENT OF THE 2022 WORK PLAN

The following is a summary of the activities completed in 2022 organized by District's 2020 WRMP.

1. Capital Projects
2. Operations and Maintenance
3. Planning
4. Monitoring and Research
5. Regulation
6. Education and Outreach
7. Prior Lake Outlet Channel
8. Administration

CAPITAL PROJECTS

FISH LAKE SHORELINE & PRAIRIE RESTORATION PROJECT

Fish Lake Park is located on the northwest corner of Fish Lake at Spring Lake Town Hall and is owned by Spring Lake Township. The project enhanced a section of shoreline along Fish Lake behind the town hall and created a prairie restoration on the north side of the property.

The restorations will improve habitat for wildlife and pollinators and act as a demonstration site for landowners interested in completing restorations on their own properties, giving them an opportunity to view an example of a rain garden (existing project), prairie and shoreline restoration all in one, easily accessible location. This project is a frequent site for events and is home to Spring Lake Township's main park. This project is a partnership between Spring Lake Township and the Prior Lake-Spring Lake Watershed District.

The initial site restoration was completed in 2019. Invasive species, including reed canary grass and buckthorn, along shoreline were controlled; existing turf grass in the prairie restoration area was terminated and the prairie and shoreline areas were seeded with native plant species in fall 2019. Additional vegetation maintenance occurred at the site in 2020 and 2021. In 2022, select final seeding was performed, and plant plugs installed. Design began on interpretative signs explaining the restoration project in 2021, with sign installation occurring in 2022. Spring Lake Township accepted the project and assumed all maintenance responsibilities in 2022.

OPERATIONS AND MAINTENANCE

CARP MANAGEMENT

In 2022 the District moved into its eighth year with its Carp Management Program in Spring and Prior Lakes. In 2020 the District received the Minnesota Association of Watershed District's Program of the Year award for the program, and in 2022, District staff presented at the Minnesota Water Resources Conference about the success of the carp program. The District's carp management work was partially funded through a 319 grant from the Minnesota Pollution Control Agency (MPCA) and a Watershed-based Implementation Funding grant from BWSR. 2021 was the third and final year of the grant funding provided through both funding sources. Final grant reporting was submitted in 2022.

The District continued its Accelerated Carp Management Strategies (ACMS) in 2022, which were created in 2020 to accelerate the removals of carp in Spring and Upper Prior Lakes. A major component in the ACMS was to increase removal efforts and diversify methods. Some of those methods included a migration trap called a "Push Trap" and the use of underwater speakers to train and move carp into seining areas.

The management program as a whole aims to improve the water quality of Spring and Upper Prior Lakes by decreasing total phosphorus concentrations using an Integrated Pest Management Plan (IPM). The program has several different components, including tracking movement and population of carp, removing seine obstructions, completing carp removals, installing carp barriers at strategic locations, and engaging local community through outreach materials and events.

In 2022 the District continued to actively track the movement of 21 carp that were implanted with radio-tags in Spring Lake and Upper Prior Lake using a Yagi antenna. 10 tags were installed in 2021 and 11 more in 2022. Radio-tags have a lifespan of around 18 to 24 months, and not all tags implanted in 2021 are still active. The District does its best to keep up a manageable radio-tag count, taking into account older radio-tags becoming unresponsive; the plan for 2023 is to add 10 to 14 new radio tags. Carp location maps were developed based on the tracking data, which were posted occasionally on the District's social media pages so that the public could see their locations.

The District also continued to track carp through Passive Integrate Transponder (PIT) tags that are implanted into the carp. By the end of 2022, approximately 456 PIT tagged carp remain in the waterbodies. PIT tags are used to track movement of carp through a specific channel where a receiver is installed. This is a more economical way of tracking carp but has its limitations as the carp can only passively be tracked when they pass through a specific location.

In 2022 the District installed six receiver devices to study the movement of PIT tagged carp throughout different waterbodies, which helped document movement and determine the effectiveness of installed carp barriers. The receivers were installed at the Pike Lake inlet, Jeffers Daylight Pond outlet, Arctic Lake East channel, Tadpole Pond outlet, Spring Lake outlet, and downstream of the ferric chloride weir.

Telemetry surveys were conducted on Spring Lake and Prior Lakes to determine aggregation areas and migration routes. These surveys guided timing and location of carp removal events.

The District worked with its consultants to complete removal events utilizing a variety of methods, which resulted in the following:

	Spring Lake (2022)		**Upper Prior Lake (2022)**	
REMOVAL METHOD:	**# OF CARP:**	**WEIGHT (lbs):**	**# OF CARP:**	**WEIGHT (lbs):**
Seines	158	1110		
Electrofishing	249	1164	306	2165
Stream Removals			804	5231
Gill Netting	30	150		
Push Trap	20	112		
TOTAL:	**457**	**2536**	**1110**	**7396**

In 2022 Upper Prior Lake's overall carp biomass decreased from approximately 211 kg/ha to 190 kg/ha, while Spring Lake's overall carp biomass decreased from approximately 227 kg/ha to 224 kg/ha.

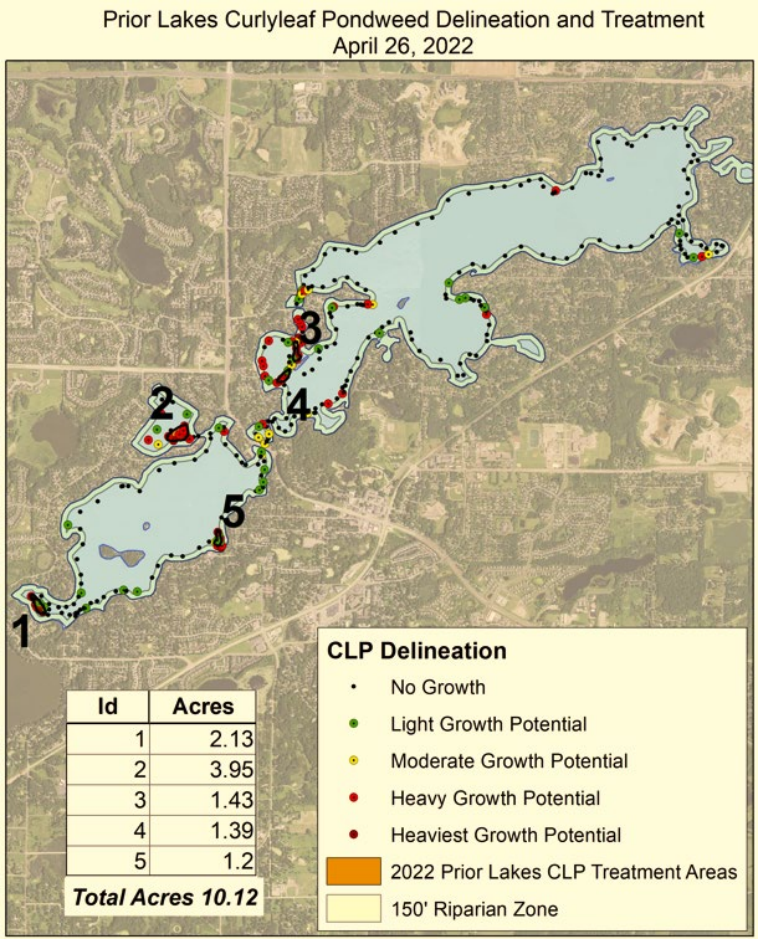
In 2022 there were six carp barriers: 12/17 Wetland, Desilt Pond, FeCl Weir, Arctic Lake outlet, and Northwoods Pond. Carp migration spawning activity will be monitored to see if any additional barriers are needed moving forward.

The District's goal in 2023 is to continue effective carp management by following the Integrated Pest Management Plan for Common Carp and incorporating techniques developed through the Accelerated Carp Management Strategies.

AQUATIC VEGETATION MANAGEMENT

Aquatic vegetation management for curly-leaf pondweed (CLP) occurred on Spring, Upper Prior, and Lower Prior Lakes in 2022. 2.82 acres on Lower Prior, 7.281cres on Upper Prior, and 8.14 acres on Spring Lake were treated by PLM Lake and Land Management Corporation with Diquat, an herbicide. Treatment on Upper Prior Lake was funded by a Minnesota Department of Natural Resources (DNR) AIS Control Grant. Treatment on Spring Lake and Lower Prior Lake was funded by Scott County's AIS

Prevention funds from the Minnesota Legislature. The image below shows the delineation and treatment map for Upper and Lower Prior Lakes. In addition to CLP treatments, the District supported Spring Lake Association actions to manage Eurasian Watermilfoil (EWM) found in Spring Lake through aquatic plant delineations.



COST SHARE

The District has a cost share incentive program for residents and agricultural producers coordinated with the Scott Soil and Water Conservation District (SWCD). Scott SWCD received requests and provided follow-up assistance to 85 landowners in the watershed, 60 of which were new requests for conservation assistance. There were 19 projects approved and 22 cost share projects completed. Cost share projects completed in 2022 include 4.3 acres of native prairie restoration, 145 feet of waterway stabilization, 0.6 acres of filter strips, 138.4 acres of conservation tilling/no-till practices, 2 wells decommissioned, and 147.8 acres of cover crops.

FARMER-LED COUNCIL

The Farmer-Led Council (FLC) was created in 2013 to help the District reduce nutrient loading to Spring Lake to levels that meet or exceed state water quality standards. Agricultural lands make up the majority of the landscape in the Spring Lake and Upper Prior Lake watersheds. As such, farmers are the most important stewards of the land, and their active input and participation is critical to achieving water quality goals.

Represented by local leaders in the farming community, the role of the FLC is to develop and guide the implementation of strategies that PLSLWD will use to accomplish agriculture's share of the nutrient reduction goal. Specifically, the FLC aims to:

- Inform decision makers and the general public about practical issues and opportunities related to soil and water conservation on agricultural lands.
- Identify sustainable agriculture practices for both standard and site-specific applications.
- Define the approach for engaging with and assisting farmers to implement practices.
- Establish a schedule with reasonable milestones and timelines for progress.
- Identify potential barriers to implementation, along with tools and resources that are needed to overcome them.

The District held two FLC meetings in 2022 where a variety of agricultural topics related to water quality were discussed. The District and Scott SWCD also held a two-session "Growing Healthy Soils Workshop" in partnership with the FLC, reaching a total of 111 attendees.

In 2022 the FLC continued with its inlet protection program which included offering free Agri-Drain water quality inlets to farmers.

The Lake-Friendly Farm program was first piloted by two FLC members in 2017. Since then, over a dozen farms have been certified into this program aimed at targeting phosphorus reduction in the upper watershed. In 2022, no additional farms were certified through the Lake-Friendly Farm program, with certification delayed to early 2023. However, planning for certification was initiated on two farms totaling 64 acres, which will likely be certified in 2023. In total, 784 acres have been certified through the Lake Friendly Farm program. Approximately 13.6% of cropland in the District has been certified as "Lake-Friendly."

Nearly 321 acres were enrolled in the Cover Crop Initiative Program in 2022. Scott SWCD helped to coordinate the aerial seeding on 7 fields. The remaining were planted by renting the SWCD no-till drills which were provided free of charge to five landowners to aid in implementation. Significant additional acreage was initially enrolled in the cover crop program but was not seeded due to drought conditions experienced in 2022. The program is anticipated to continue and grow in 2023 with the hopes of getting additional farmers incorporating cover crops in the upper watershed.

FERRIC CHLORIDE TREATMENT FACILITY

A desiltation pond was built in 1978 to capture phosphorus before the stormwater from County Ditch 13 reaches Spring Lake. In 1998 a ferric chloride plant was constructed to use this chemical upstream of the desiltation pond to bind with phosphorus and preventing it from entering the lake.

In 2013, the system was redesigned to release the ferric chloride ($FeCl_3$) solution into a desiltation basin, rather than the stream, per a MPCA permit requirement. The initial targets for design parameters, with input and agreement by regulatory agencies, was to allow flows up to approximately 30 cubic feet per second (cfs) into the desiltation pond for normal operations. High flows were to overtop a high flow bypass weir east of the existing pond which flows directly to Spring Lake to prevent possible resuspension and flushing within the desiltation pond.

In September 2018 the pump was programmed to dose ferric chloride based on a relationship with stream height. The maximum treatment dose rate is 4 gallons per hour when the depth over the ferric chloride weir is 0.50 feet. Once the depth is greater than 0.50 feet, the pump will continue dosing at 4 gallons per hour based on the maximum flow calculations of the desilt pond diversion culvert.

In 2022 the desiltation pond treated water with ferric chloride from March 18 to June 30. The pump was shut off earlier than usual due to dry conditions and no water flow in the stream. Samples were taken weekly during treatment to analyze efficiency of the treatment system. On average, the treated water decreased the concentration of total phosphorus by 9% and dissolved phosphorus by 50%. The Annual Ferric Chloride Report, which include the results of the 2022 sampling, will be posted to the District website by June 1, 2023.

RESTORATION PROJECTS MAINTENANCE

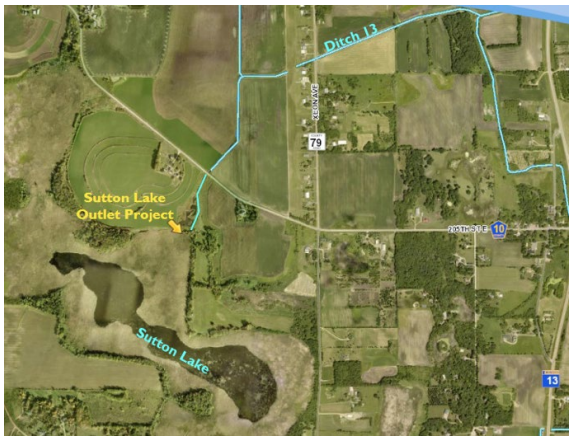
The District conducted vegetation maintenance on a Spring Lake shoreline restoration project that was previously installed.

PLANNING

2020 WATER RESOURCES MANAGEMENT PLAN

In 2020 the District completed its Water Resources Management Plan, meeting with stakeholders, conducting public meetings and adding final revisions before its approval. The updated ten-year management plan laying out the District's goals and activities for 2020 - 2029 was successfully completed and approved in 2020. The plan served as a framework for District activities in 2022 and will continue to do so in 2023.

SUTTON LAKE MANAGEMENT PLAN



In 2021 the District completed the construction of the Sutton Lake Outlet Structure. Sutton Lake is at the headwaters of County Ditch 13 (CD13), which outlets into Spring Lake. The primary purpose of the outlet structure is to increase storage and slow the flow of water downstream. This will decrease the likelihood of flooding along CD 13.

The Sutton Lake Outlet Structure was originally identified in the Prior Lake Stormwater Management & Flood Mitigation Study as a possible project with high flood damage reduction potential. In 2022 the District prepared a lake management plan for the purpose of enhancing wildlife habitat through operation of the outlet structure on Sutton Lake. The lake management plan will be finalized upon receipt of DNR review comments and brought forward for acceptance by the Board of Managers in 2023.

UPPER WATERSHED BLUEPRINT

The Upper Watershed is a 12,760-acre area that drains to Spring Lake, Upper Prior Lake and Lower Prior Lake and represents approximately 67 percent of the total tributary to these lakes. In 2021 the District managers approved the Upper Watershed Blueprint study, which provides a stormwater management and implementation approach for PLSLWD and local partners to improve water quality conditions and reduce flooding in the Upper Watershed over the next ten years.

The Upper Watershed Blueprint resulted in the identification of 14 potential water quality projects and three potential flood reduction projects that could help the District meet its 10-year goals. These projects will help the District meet the annual phosphorus reduction goal of 2,959 pounds set in the Total Maximum Daily Load (TMDL) study for Spring and Upper Prior Lakes to improve water quality in the lakes.

Subsequent to the study approval, the Board of Managers selected six projects from the study to focus on for near-term implementation:

- Sutton Lake Iron-Enhanced Sand Filter (IESF) – 735 lbs/yr estimated phosphorous reduction
- Swamp Lake Iron-Enhanced Sand Filter (IESF) – 223 lbs/yr estimated phosphorous reduction
- Buck Lake East Wetland Enhancement – 100 lbs/yr estimated phosphorous reduction
- Spring West Iron-Enhanced Sand Filter (IESF) – 249 lbs/yr estimated phosphorous reduction
- Buck Lake Chemical Treatment System – 793 lbs/yr estimated phosphorous reduction
- County Ditch 13 Chemical Treatment System – 1,062 lbs/yr estimated phosphorous reduction

The amount of phosphorus reduction may be different if multiple projects are completed in series because an upstream capture of phosphorus will mean less phosphorus is available to be captured

downstream. If all six projects listed above are completed, the total annual phosphorous reduction would be approximately 2,712 pounds.

The District completed feasibility studies for two of the water quality projects identified in the Upper Watershed Blueprint in 2022: Spring West Iron Enhanced Sand Filer (IESF) and Sutton Lake IESF. The District also completed a draft feasibility study for the Buck Lake Wetland Enhancement, which will be finalized in 2023 upon receipt of DNR review comments. Based upon the convening process for the BWSR Watershed Based Implementation Funding 22/23, the District plans to complete the Swamp Lake IESF using a portion of the allotted funds. The Swamp Lake IESF budget request was submitted to BWSR in 2022. The District plans to submit project work tasks and contracting with BWSR in 2023, along with initiating the associated feasibility study.

MONITORING AND RESEARCH

Monitoring was conducted in accordance with the Prior Lake-Spring Lake Watershed District Long Term Monitoring Plan and included a mix of staff, volunteer, and contract work, which incorporated in-lake monitoring, stream water quality & flow measurements, precipitation, and aquatic vegetation monitoring. Partners included Metropolitan Council Environmental Services, Three Rivers Park District, Shakopee Mdewakanton Sioux Community (SMSC), Scott Soil and Water Conservation District (SWCD), Blue Water Science, and Emmons and Oliver Resources (EOR). District seasonal interns also assisted with monitoring activities.

WISKI DATABASE

In 2022 the District initiated the transition from its access database to a WISKI database, which is a product of Kisters North America. The new database was set up and the importation of historical data began. This new database has capabilities and features that will enable staff to manage and analyze data more efficiently and consistently. In 2023 historical data importation will be completed and new pathways, calibration procedures, and analysis methods will be in place for incoming data.

STREAM MONITORING DATA

STREAM CHEMISTRY SAMPLING

Stream chemistry samples were collected at 12 locations around the watershed by PLSLWD staff. Samples were collected biweekly as long as there was sufficient flow. Water temperature, conductivity, pH, turbidity, and dissolved oxygen were also measured at these locations using a YSI EXO1 multi-parameter sonde:

- Three sites were sampled weekly to fulfill the MPCA permit requirements for the Ferric Chloride site (FC_CD1, FC_CD2, FC_CD3).
- The District Monitoring Program included eight sites (ST_11, ST_14, ST_19, ST_40, ST_5C, ST_5D, ST_5E, and DLO). These sites were monitored biweekly.

- One agricultural monitoring site was monitored biweekly for the Farmer-Led Council program (B3). B3 is a tributary of Fish Lake and located approximately 100 feet before entering Fish Lake.

STAGE AND FLOW MONITORING

Continuous stage and flow were monitored using level loggers in conjunction with the stream chemistry and lake monitoring. By combining chemistry and stage/flow monitoring results, loads can be calculated using the FLUX modeling software. The sites mentioned in the stream chemistry section above all had level loggers. In addition to those sites, stage and flow were monitored on the outlets of Fish, Sutton, Crystal, and Prior Lakes (sites ST_08, Sutton, CRY_OUT, and PL_OUT respectively). Stage and flow were also monitored at ST_26A, which is along the channel that flows into Pike Lake.


Stream Monitoring

Flow measurements were collected by PLSLWD and Scott SWCD. The flow meter used was a Sontek Flowtracker2. Continuous stage was recorded using level loggers, including pressure transducers, an ultrasonic distance sensor and an area velocity meter.

LAKE MONITORING DATA

LEVEL LOGGERS

Three telemetry level loggers were installed to monitor the lake levels on Spring, Prior, and Pike Lakes. The loggers were programmed to log the lake level every 15 minutes and then transmit the data to the PLSLWD website once per hour, which was accessible to the public. Additionally, two non-telemetry loggers were used in Fish and Buck Lakes, which required manual data download, similar to the loggers used for all stream sites.

DNR STAFF GAGES

Five staff gages were monitored for the DNR on Buck, Fish, Pike, Spring and Lower Prior Lakes. Staff gages are surveyed in every year by the DNR to tie the results to Mean Sea Elevation.

THREE RIVERS PARK DISTRICT

Three Rivers Park District monitored five lakes in 2022: Fish, Pike, Upper Prior, Lower Prior and Spring Lakes. These lakes are monitored 13 times per year, and where possible, profile samples are collected.

CAMP VOLUNTEER LAKE MONITORING

The Citizen Assisted Monitoring Program (CAMP) program was coordinated by Metropolitan Council, and locally coordinated by PLSLWD. Volunteers collected samples on seven lakes through the CAMP program in 2022.

Lake	Volunteer(s)
Lower Prior (site 2)	Amy Card
Haas	Tom Chaklos
Buck Lake	Steve Beckey
Cates	Paula Thomsen
Little Prior	PLSLWD staff
Fish	Jon Haferman
Crystal	Scott Thulien

Samples are typically collected every other week during ice-free conditions. Sampling includes parameters such as Secchi depth, phosphorus, and chlorophyll-a.

AQUATIC VEGETATION SURVEYS

Using a point-intercept survey (evenly-spaced sampling locations around the lake), Blue Water Science conducted summer aquatic vegetation surveys on six lakes – Arctic Lake, Sutton Lake, Haas Lake, Rice Lake, Fish Lake, and Lower Prior Lake. These surveys include the type and abundance of vegetation at predetermined sampling locations throughout the lakes during summer, which is the time most vegetation is present.

Curly-leaf pondweed (CLP) surveys were completed in springtime on Fish Lake, Upper Prior Lake, Lower Prior Lake, and Spring Lake to determine if treatment was needed. Aquatic vegetation management for curly-leaf pondweed occurred on Spring, Lower Prior and Upper Prior Lakes in 2022, and aquatic vegetation management for Eurasian watermilfoil was managed by the Spring Lake Association on Spring Lake.

AQUATIC VEGETATION DENSITY MAPPING

The density of aquatic vegetation in District lakes was mapped using BioBase software. BioBase creates whole-lake maps of aquatic vegetation density, bathymetry, and bottom hardness, connecting the points collected in the aquatic vegetation surveys. BioBase mapping is used to fill in the gaps and complement the work of the vegetation surveys.

Staff and interns mapped all or parts of ten lakes and ponds in the District in 2022. This includes Arctic Lake, Buck Lake, Cates Lake, Crystal Lake, Desilt Pond, Fish Lake, Lower Jeffers Pond and Wildlife Pond, Lower Prior Lake, Pike Lake, Spring Lake, and Upper Prior Lake.

The benefits of this project include:

- More accurate bathymetric maps

- A better understanding of density of vegetation in lakes and plant area coverage (percentage of lake bottom growing plants)
- Lake bottom sediment composition maps
- Improved implementation and analysis of curly-leaf pondweed treatments
- Greater understanding of lake ecology and sediment deposition rates
- Better management of fisheries including for sports fishing

Lake	Plant Area Coverage %	Year
Arctic	14	2022
Buck	73.4	2022
Cates	88.1	2022
Crystal	33.2	2022
Desilt Pond	29.5	2022
Fish	24.4	2022
Upper Jeffers Fish Pond	82.9	2020
Lower Jeffers Fish Pond	97.6	2022
Little Prior	50	2016
Lower Prior	41.7	2022
Pike East	88.7	2022
Spring	28.3	2022
Upper Prior	36	2022

PRECIPITATION

District staff recorded daily precipitation at the office precipitation station location. The District also has a weather station at Spring Lake Town Hall, which logged and transmitted data to Weather Underground. The District may seek out a volunteer for an additional station in 2023.

BOAT INSPECTIONS (AIS)

IN-PERSON INSPECTIONS

In-person boat inspections were conducted within the District by Waterfront Restoration at the launches of Upper Prior, Lower Prior, Spring, and Fish Lakes. A total of 3,550 inspections occurred between the four lakes between May 13 and October 2, 2022.

A total of 48 entering violations were identified, the majority of which were plants removable by hand. There were findings of significance on 334 exiting watercrafts, but because they were found and resolved before exiting the launch, they were not classified as violations.

INTERNET LANDING INSTALLED DEVICE SYSTEM (I-LIDS)

An I-LIDS station was installed at the Spring Lake boat launch in 2021 as a pilot project. I-LIDS is a motion-activated recording system that monitors boats as they enter and leave the water. It also issues an automatic audio reminder to people to check the boat and trailer for invasive species. The goal of the system is to increase awareness of Minnesota aquatic invasive species law and encourage compliance.

In 2022 I-LIDS recorded 2,150 launches and captured five possible violations. The District decided to discontinue the pilot project at the end of the 2022 season.

REGULATION

EASEMENT INSPECTIONS

The District holds many conservation easements and development agreements over wetland and watercourse buffer strips that were acquired through permit activity or capital project construction. These buffer strips and associated easement and agreement restrictions provide water quality benefits by protecting District water resources. The District's conservation easement program contains three components to ensure protection of its investments: yearly monitoring inspections, effective communication with landowners and an enforcement policy.

In 2022 staff inspected the District's 51 conservation easements. The District's conservation easements are on property owned by 188 landowners. In 2022, 72% of properties were in compliance, which is an increase from the 2021 compliance rate. yet, there is still a need for on-going annual inspections. Numerous easement boundary signs were found missing but were not noticed to landowner as violations. The District will be researching and developing an approach to improve sign placement longevity and/or efficient replacement in 2023. Of those sites with violations, most of the easements had only minor violations of the easement terms, such as mowing, yard waste, storage (wood etc.), dumping/trash, landscaping, and planting non-natives. Staff are working with landowners that have larger violations to resolve the violations and bring their easement area into compliance. Many landowners with violations have made improvements, correcting some, if not yet all, of the easement violations on their property.

PERMIT ACTIVITY

- The District inspected active permits to ensure that conditions of the permit were being met. The District issued one new permit in 2022 (22.01 Prior Lake Downtown South) and conditionally approved a second permit (22.02 Spring Lake Regional Park).

No variances to District rules were applied for in 2022.

Inspections were performed on active construction projects for District open permits. The District continued to close out permits (17.01, 20.01, 20.03) as the projects met requirements.

DISTRICT RULES UPDATE

In 2017, Prior Lake-Spring Lake Watershed District (PLSLWD) initiated a process to update the District's rules, which had not been substantively revised since 2003. Over the course of the rule revision process, the following meetings and activities were held to facilitate discussion and receive comments from District partners on proposed rule revisions:

- Five TAC Meetings
- Three Road Authority Meetings
- Three Board of Managers Workshops
- Public Hearing (October 8, 2019)
- 45-day Review Period (comment period closed on October 29, 2019)
- One Local Government Unit (LGU) Workshop (February 5, 2020)
- Courtesy Review on draft rule redlines, dated November 24, 2021

Comments from District partners and legal counsel were incorporated into an updated version of the District's rules, which was approved by the Board of Managers in May 2022, effective June 1, 2022.

EDUCATION AND OUTREACH

CITIZEN ADVISORY COMMITTEE

PLSLWD staff facilitates and attends monthly Citizen Advisory Committee (CAC) meetings. CAC meeting minutes were included in monthly Board meeting packets. Manager Loney was the assigned Board of Managers liaison to the CAC from January through June 2022. The role was transferred to Manager Tofanelli starting in July for the remainder of the year. In this role, Managers Loney and Tofanelli helped develop CAC meeting agendas and attended the CAC meetings. On June 30, 2022, the District hosted a joint Board of Managers and CAC meeting, which provided an opportunity for the managers and CAC members to share thoughts on District priorities. The joint meeting was deemed a success and will be held on an annual basis.

The CAC researched and provided advisory recommendations to the Board of Managers on several topics in 2022, including a budget request for potential flood storage project feasibility studies and whether to continue to the I-LIDS pilot project. CAC members also participated in a community outreach event at the local farmers market and storm drain stenciling. The CAC also focused on a wide variety of topics within its three subcommittees: Shoreline Restoration; Lake Life and Water Quality, AIS, Fish Stocking; and Storage and Flooding.

COMMUNITY INVOLVEMENT

The District partnered with the Scott SWCD through the Scott County Clean Water Education Program (SCWEP) to provide public outreach and education opportunities. The District and the Scott

SWCD hosted a "Growing Healthy Soils" workshop, a native prairie workshop, and made a shoreline workshop digitally available in 2022.

The District hosted an informational booth at a City of Prior Lake Farmer's Market.

The District and the City of Prior Lake typically coordinate Clean Water Clean-Up events. In 2022, a second year of stormwater drain stenciling was coordinated. The intent of the stenciling is to remind people that stormwater eventually ends up in local lakes and to keep litter and fluids other than stormwater out of the stormwater drains. The District assembled stormwater drain stenciling kits and the City of Prior Lake identified storm drains to be stenciled. District staff coordinated with resident stenciling teams to facilitate the stenciling. There were approximately 56 stormwater drains stenciled in 2022.

In 2022, the District made presentations at the annual meetings of Spring Lake Township, Prior Lake Association and Spring Lake Association. The District also hosted a vegetation identification workshop with Spring Lake Association. Eighty members attended the vegetation workshop. Finally, the District led educational activities at a Fishing Clinic for children held by City of Prior Lake. Over 50 children were taught about a wide variety of aquatic plants and their importance to lake health.

The District has a strong network of volunteers that aim to involve community members in efforts to improve local water resources. Along with volunteers already mentioned (CAMP, precipitation readings), the District runs several volunteer programs to report carp sightings (Carp Espionage), ice observations, and starry stonewort sightings (Starry Trek).

A full report of the Education and Outreach completed in 2022 can be found on the District website detailed in the 2023 Education and Outreach plan.

PRESS AND SOCIAL MEDIA

The District submitted four articles to be published in the Scott County SCENE, a quarterly government publication sent to all county residents. Several articles and updates were posted to the District's website on topics such as bluegill stocking and the Hike the Watershed challenge. In addition, other media outlets and newsletters were used to publicize District programs, projects and educational initiatives, including the Prior Lake American newspaper, and newsletters for the Prior Lake Association and Spring Lake Association.

Lake levels for Prior, Spring, and Pike Lakes were updated automatically on the website during the growing season. Facebook and Instagram posts were made on a wide variety of topics. Video recordings of the District's 2022 Board of Managers meetings were published on the District's YouTube channel.

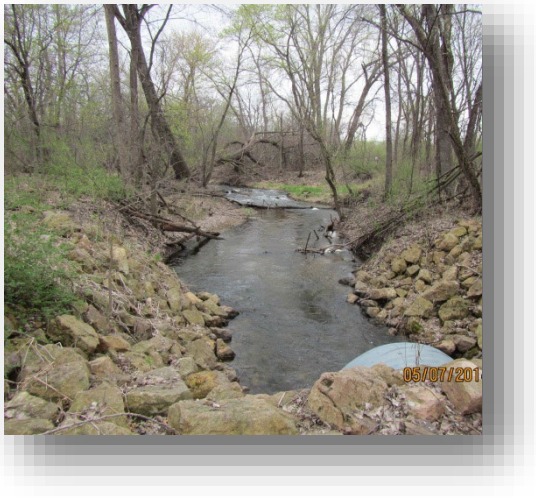
PRIOR LAKE OUTLET CHANNEL

OUTLET STRUCTURE

The Prior Lake Outlet Structure was constructed in 1983 to address high lake level issues on Prior Lake, which does not have a natural outlet. The structure received a major update in 2010 to incorporate an improved design.

PRIOR LAKE OUTLET CHANNEL (PLOC)

The Prior Lake Outlet Channel (PLOC) is utilized by the District and other partners in managing lake levels on Prior Lake as well as providing a 7-mile stormwater conveyance system for the surrounding communities. There is a Memorandum of Agreement between the Cities of Prior Lake, Shakopee, the Shakopee Mdewakanton Sioux Community and the District that specifies operation and maintenance as well as cost-sharing.



The PLOC is considered an MS4 municipal stormwater conveyance system and the District must secure permits and submit annual reports. The 2022 annual report is available on the PLSLWD website, which includes a summary of all activities that were completed along the channel.

Some of the recurring annual activities included channel inspections, flow and chemistry monitoring, and invasive terrestrial vegetation management.

CHANNEL MAINTENANCE AND REPAIR

In 2022, construction was completed on two channel repair projects. The first project entailed the removal of accumulated sediment from a widened section of the channel just upstream from Dean Lake in the City of Shakopee. This channel segment was intentionally designed to collect sediment prior to water entering Dean Lake. An assessment of the channel determined the sediment collection area was full and that it was time for sediment removal maintenance activities.

The second project included the enhancement of approximately 1,100 linear feet of stream corridor via bank stabilization, revegetation, and reconnection to floodplain. Stabilization activity was split between four locations within the cities of Prior Lake and Shakopee.

WETLAND BANKING PROGRAM

The Prior Lake-Spring Lake Watershed District does not have a locally adopted wetland banking program within its jurisdiction.

STATUS OF LOCAL PLAN ADOPTION AND IMPLEMENTATION

Minnesota Rule 8410 required that local units of government complete their Surface Water Management Plans and Comprehensive Plans by December 31, 2018. The District has previously reviewed and/or approved: the Scott WMO's Comprehensive Water Resources Management Plan; Lower MN River Watershed District's Watershed Management Plan; the City of Savage's Local Water Plan; the City of Shakopee's Surface Water Management Plan and Prior Lake's Local Surface Water Management Plan. In 2022, no local plans were submitted to PLSLWD for review.

EVALUATION OF PROGRESS

The Districts Water Resources Management Plan adopted July 14, 2020, for the years 2020 through 2030, includes the following Outcome and Measures Dashboards to serve as a tool for evaluating progress on watershed goals and to assess whether adjustments are needed. The Water Resources Management Plan states the dashboards will be updated every two years. The dashboards have been updated to reflect progress made by the District related to the Water Resources Management Plan's stated goals.

Goal WQ1

Maintain or improve 5-year average for TP, Chlorophyll-a and Secchi depth in Lower Prior Lake.

Performance Measures:	Every two years, evaluate water quality trends on a 5-year running average to ensure water quality is maintained or improved.

Benchmark Measures:	
Total Phosphorus (TP)	**24 µg/l**
Chlorophyll-a (Chl-a)	**6.9 µg/l**
Secchi depth	**4.43 m**

5-Year Average Tracking:	
Total Phosphorus (TP)	
2021	21.61
2023	
2025	
2027	
2029	
Chlorophyll-a (Chl-a)	
2021	7.45
2023	
2025	
2027	
2029	
Secchi depth	
2021	4.15
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lower Prior Lake Subwatershed Project*		✓									
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program				✓	✓	✓		✓	✓	✓	

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Project Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Lower Prior Lake Diagnostic Study Update					✓						
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

If one or more of the three water quality measures begins to show downward trends, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ2

Meet the state water quality standards for aquatic recreation on Spring Lake.

Performance Measures:	**Use in-lake water quality monitoring results for TP, Chl-a and Secchi depth to assess progress every two years; request delisting to MPCA**

Benchmark Measures:	
Total Phosphorus (TP)	**60 µg/l**
Chlorophyll-a (Chl-a)	**20 µg/l**
Secchi depth	**1.4 m**

Outcome: Request state delisting to MPCA by 2029

2-Year Average Tracking:	
Total Phosphorus (TP)	
2021	20.04
2023	
2025	
2027	
2029	
Chlorophyll-a (Chl-a)	
2021	12.41
2023	
2025	
2027	
2029	
Secchi depth	
2021	2.24
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
In-Lake Alum Treatments*	✓										
County Ditch 13 Restoration*						✓	✓	✓	✓	✓	✓
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fish Lake Watershed Projects			✓								
Spring Lake Regional Park Project				✓	✓						
Spring Lake West Subwatershed Project*		✓	✓								
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*				✓	✓	✓		✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program				✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ferric Chloride Treatment System	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Wetland Restoration						✓	✓				
Project Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Blueprint	✓	✓									

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

If at least two of the water quality measures are not meeting benchmarks by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ3

Meet the state water quality standards for aquatic recreation on Upper Prior Lake.

Performance Measures:	**Use in-lake water quality monitoring results for TP, Chl-a and Secchi depth to assess progress every two years; request delisting to MPCA.**

Benchmark Measures:	
Total Phosphorus (TP)	**40 µg/l**
Chlorophyll-a (Chl-a)	**14 µg/l**
Secchi depth	**1.4 m**

Outcome: Request state delisting to MPCA by 2029

2-Year Average Tracking:	
Total Phosphorus (TP)	
2021	19.53
2023	
2025	
2027	
2029	
Chlorophyll-a (Chl-a)	
2021	13.6
2023	
2025	
2027	
2029	
Secchi depth	
2021	1.95
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
In-Lake Alum Treatments*	✓	✓			✓	✓	✓				
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arctic Lake BMP Projects				✓				✓			
Fish Lake Watershed Projects		✓	✓								
Spring Lake West Subwatershed Project		✓	✓								
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FeCl Treatment System	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Restoration						✓	✓				
Project Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Blueprint	✓	✓									

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

If at least two of the water quality measures are not meeting benchmarks by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ4

Improve water quality in Fish Lake by reducing annual phosphorus load by 40 lbs/year.

Performance Measures:	**Every two years, assess water quality to measure improvements in TP, Chl-a and Secchi depth; reduce annual P load by 40 lbs/year by 2029.**

Baseline Measures *(2005-2014)*:	
Total Phosphorus (TP)	**42 µg/l**
Chlorophyll-a (Chl-a)	**20 µg/l**
Secchi depth	**1.3 m**

<u>Outcome:</u> Implement projects to reduce annual P load by 40 lbs/yr, resulting in improved water quality in one or more measures by 2029.

2-Year Average Tracking:			
	TP	Chl-a	Secchi
2021	**32**	**20.5**	**1.27**
2023			
2025			
2027			
2029			

Annual P Load Reductions:	
Projects Implemented (lbs/year)	
2021	**None**
2022	**None**

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Fish Lake Watershed Projects*		✓	✓								
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Feasibility Reports		✓		✓		✓		✓		✓	

Monitoring Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

<u>If at least two of the water quality measures have not shown improvement by 2025, the following should be explored:</u>

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ5

Improve water quality in Arctic Lake by supporting SMSC's improvement efforts to reduce watershed phosphorus loading by 37 lbs/yr and by partnering with SMSC, the City of Prior Lake and the Three Rivers Park District on future projects as opportunities arise.

Performance Measures:	Every two years, assess water quality (TP, Chl-a and Secchi) to measure improvements; track load reductions associated with project implementation.

Baseline Measures *(2008-2017)*:	
Total Phosphorus (TP)	127.5 µg/l
Chlorophyll-a (Chl-a)	40 µg/l
Secchi depth	0.43 m

Outcome: Support & coordinate with SMSC on projects, resulting in improved water quality in one or more measures by 2029.

2-Year Average Tracking:			
	TP	Chl-a	Secchi
2021	94.11	33.74	0.42
2023			
2025			
2027			
2029			

Load Reduction Tracking		
Project	Year	lb/year

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Arctic Lake BMP Projects*				✓				✓			

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

If at least two of the water quality measures have not shown improvement by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ6

In partnership with SMSC and the City of Prior Lake, improve Pike Lake by achieving 10% percent improvement in TP concentrations to work toward the TMDL pollutant reduction requirements.

Performance Measures:	Every two years, assess TP concetrations to measure improvements; track load reductions associated with project implementation.

Baseline Measures *(2012-2017)*:		
	West Side	East Side
Total Phosphorus (TP)	102 µg/l	170 µg/l

10% Improvement GOAL:		
	West Side	East Side
Total Phosphorus (TP)	92 µg/l	153 µg/l

2-Year Average Tracking:		
	West Side	East Side
Total Phosphorus (TP)		
2021	53.23	192
2023		
2025		
2027		
2029		

Load Reduction Tracking		
Project	Year	lb/year

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Priogram	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve water quality improvement results.*

If there is not a documented decrease in TP concentrations by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting water quality? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ7

Assess the quality of Sutton Lake and develop a Lake Management Plan.

Performance Measures:	**Assessment of lake quality and development of management plan.**

Performance Tracking:	
Step	Status
Install Outlet (2020)	**Completed 2021**
Complete Lake Management Plan (2020)	**In Progress**
Manage Outlet (2021)	**Complete**
Manage Outlet (2022)	**Complete**
Manage Outlet (2023)	
Manage Outlet (2024)	
Manage Outlet (2025)	
Manage Outlet (2026)	
Manage Outlet (2027)	
Manage Outlet (2028)	
Manage Outlet (2029)	
Manage Outlet (2030)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Sutton Lake Outlet Structure*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to achieve the goal.*

Outcome: ***Lake Management Plan and effectively managed outlet structure.***

If there is no progress by 2022, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor slowing the progress? *If so, consider a study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ8

Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.

Performance Measures:	**Conduct a lake diagnostic study to identify water quality standard; set management goals for next 10-year plan.**

Performance Tracking:	
Step	Status
Diagnostic Study (2026)	
Water Quality Standard (2026)	
Management Goals Set (2029)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Buck Lake Diagnostic Study						✓	✓				
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

If there is no progress by 2026, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor slowing the progress? *If so, consider a study to explore solutions.*

Goal WQ9

Assess the quality of Tier 3 Lakes and assign lake management classifications.

Performance Measures:	**In-lake water quality monitoring; assign lake classifications.**

Performance Tracking:	
Lake	Management Classification
Haas Lake	**Unclassified**
Crystal Lake	**Unclassified**
Rice Lake	**Unclassified**
Cates Lake	**Grade A for Chl-a, Secchi, and P**
Jeffers Pond	**Unclassified**
Swamp Lake	**Unclassified**

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

If there is no progress by 2028, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor slowing the progress? *If so, consider a study to explore solutions.*

Goal WQ10

Maintain no net loss of wetland in the District.

Performance Measures:	Every two years track and assess wetland impacts; fully establish wetland banking program.

Outcome: **Biennial wetland loss assessments and successful establishment of wetland banking program.**

Performance Tracking:	
Biennial Permit / LGU Review	Status
2021	Incomplete
2023	
2025	
2027	
2029	
Wetland Banking Program Steps	Status
Program Establishment (2021)	Incomplete
Reserve Fund Created (2022)	Incomplete
First Project Completed (2025)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Banking Program*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Comprehensive Wetland Plan Update	✓				✓						

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓

** Projects in **bold** have the greatest potential to achieve goals.*

If wetland loss is occuring and/or wetland banking program has not reached the above milesones, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting wetland preservation? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ11

Restore or enhance 5% (24 of 482 acres) of the restoration/enhancement management class of wetlands (as identified in the Comprehensive Wetland Plan), focusing on those that work towards prioritized and/or multiple District goals.

Performance Measures:	Track progress towards restored/enhanced wetland acres every two years.

Performance Tracking:	
Project Milestones	Status
CWP Plan Update 2020	Incomplete
Create Wetland Reserve Fund (2021)	Incomplete
CWP Plan Update 2024	
Restoration Milestones	Acres
Wetland Restoration 1 (by 2025)	
Wetland Restoration 2 (by 2027)	
Wetland Restoration 3 (by 2029)	
Wetland Restoration 4	
Wetland Restoration 5	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Wetland Restoration		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Comprehensive Wetland Plan Update	✓				✓						

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to achieve goals.*

If there is no progress in meeting wetland restoration acreage goals by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting wetland preservation? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ12

Stabilize a minimum of ten bank erosion/slumping sites, prioritzing those that impact Tier 1 or Tier 2 Lakes and/or meet multiple District goals.

Performance Measures:	Track progress on bank stabilization projects implemented every two years, 10 completed by 2029.

Performance Tracking:	
Project Milestones	Status
Conduct Field Assessment (2021)	Incomplete
Strategic Outreach (2022)	Ongoing
Stabilization Milestones	Status
Streambank Restoration 1 (by 2023)	Smith Lined Waterway Complete 2020
Streambank Restoration 2 (by 2025)	Moen Lined Waterway Completed 2022
Streambank Restoration 3 (by 2025)	
Streambank Restoration 4 (by 2025)	
Streambank Restoration 5 (by 2027)	
Streambank Restoration 6 (by 2027)	
Streambank Restoration 7 (by 2027)	
Streambank Restoration 8 (by 2029)	
Streambank Restoration 9 (by 2029)	
Streambank Restoration 10 (by 2029)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
County Ditch 13 Restoration*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to achieve goals.*

If no streambank stablization projects have been completed by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting completion of projects? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal WQ13

Improve the stability of the Prior Lake Outlet Channel through annual maintenance and 10,000 linear feet of bank repair work.

Performance Measures:	Track progress towards 10,000 linear feet of bank repair work every two years.

Performance Tracking:	
Project Milestones	Status
Develop Bank Repair Plan (2021)	Complete
Complete Bank Repairs (2023)	
Inspection + Maintenance Review	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PLOC Bank Restoration	✓	✓	✓	✓							
PLOC Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

If 10,000 linear feet of bank repair work has not been completed by 2025, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting completion of projects? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed above? *Consider working with partners and exploring grants.*

Goal WQ14

Active participation in groundwater planning efforts and prioritize projects, programs and priority areas (e.g. DWSMA's) that include groundwater benefits".

Performance Measures:	**Staff attendance at groundwater planning workshops/meetings and incorporation of groundwater considerations into project selection process.**

Performance Tracking:	
Groundwater Protection Planning	
YEAR	MEETINGS ATTENDED
2021	0
2023	
2025	
2027	
2029	
Groundwater Considerations in Projects	
YEAR	PROJECT UPDATES
2021	9 decommissioned wells
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Groundwater Protection Plan		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Groundwater						✓	✓	✓	✓	✓	✓

Goal AIS1

Develop and implement an Aquatic Invasive Species (AIS) Response and Prevention Plan in coordination with Scott County to help prevent new AIS from entering Tier 1 lakes (lakes with public access).

Performance Measures:	**Completed AIS Plan; regular monitoring for AIS and implementation according to plan.**

Performance Tracking:	
Project Milestones	Status
Create AIS Response Plan (2021)	**Complete**
Biennially review implementation of: *- CLP assessment & treatment* *- AIS Reponse Plan implementation*	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
AIS Rapid Response Plan		✓		✓		✓		✓		✓	

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to achieve goals.*

If new AIS is discovered in the District or an existing AIS has rebounded, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting AIS introduction/management? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal AIS2

Effectively manage common carp in Tier 1 Lakes to 30 kg/ha or below.

Performance Measures:	**Annually update IPM Plan for Carp; implement activities in the Plan to achieve carp populations of 30 kg/ha or below in Tier 1 Lakes.**

Performance Tracking:

	2019	2021	2023	2025	2027	2029
Lake	**Carp (kg/ha)**	**Carp (kg/ha)**	**Carp (kg/ha)**	**Carp (kg/ha)**	**Carp (kg/ha)**	**Carp (kg/ha)**
Lower Prior	9.4	Incomplete				
Upper Prior	304.8	211				
Spring	266.2	226.9				
Fish	85.7	Incomplete				

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

O & M Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Carp Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

<u>If carp populations are not making significant progress towards meeting goals by 2025, the following should be explored:</u>

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting carp management? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the District? *Consider working with partners and exploring grants.*

Goal AIS3

Monitor curly-leaf pondweed growth on Tier 1 Lakes and treat as needed to prevent adverse effects on water quality.

Performance Measures:	**Monitor curly-leaf pondweed; implement treatments of curly-leaf pondweed as needed.**

Performance Measures:

	2021	2023	2025	2027	2029
Lake	**Status**	**Status**	**Status**	**Status**	**Status**
Lower Prior	Complete				
Upper Prior	Complete				
Spring	Complete				
Fish	Complete				

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2028	2029
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Goal AIS4

Implement new management techniques for zebra mussels as innovative, cost-effective methods are developed.

Performance Measures:	**Monitor advances in management techniques; implement control methods as available.**

Performance Measures:

Research Review	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

<u>Outcome:</u> Regular coordination with UMN and other research labs; feasibility study for new methods of zebra mussel management, if developed.

<u>If no new research is discovered by 2027, the District may consider the following:</u>

1) Exploring new approaches to existing treatment methods.
2) Reaching out to international groups for more ideas.

Goal RF1

Achieve the first-tier priority flood reducation goal to reduce the flood level on Prior Lake from 905.62 to 905.5 feet for the 25-year return period.

Performance Measures:	**Track storage created towards goal of 176 acre-feet on Prior Lake.**

Flood Levels *(25-Year Return Period)*	
Existing	**905.62 ft**
GOAL	**905.50 ft**

Upstream Storage	
GOAL:	**176 ac-ft**

Performance Tracking:	
Project	**Status**
Sutton Lake Outlet (2021)	**Complete**
Upstream Storage Status	**Acre-feet**
2023	
2025	
2027	
2029	
Flood Level Status	**feet**
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
County Ditch 13 Restoration		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sutton Lake Outlet Structure*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Comprehensive Wetland Plan Update	✓				✓						
Feasibility Reports		✓		✓		✓		✓			✓
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Storage Strategy	✓	✓									

Monitoring Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to make progress towards achieiving the goal.*

If the goal has not been achieved by 2027, the following should be explored:

1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
2) Is there an unexpected, external factor affecting the achievement of the goal? *If so, consider a feasiblity study to explore solutions.*
3) Are there additional/enhanced opportunities in the projects listed in bold above? *Consider working with partners and exploring grants.*

Goal RF2

Continue to operate the Prior Lake Outlet Structure according to the Prior Lake Outlet Control Structure Management Policy and Operating Procedures (last revised July 3, 2017).

Performance Measures:	**Submit the Prior Lake Outlet System Annual Operations Report to MNDNR.**

Biennial Performance Tracking:	
Annual Reports Submitted	**Status**
2021	**Submitted**
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**
PLOC Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Goal RF3

Eliminate/reduce the impact of new development and redevelopment on flooding.

Performance Measures:	Revised rules are adopted; District Rules effectively enforced

Biennial Performance Tracking:	
Assess Permit Program	**Status**
2021	Complete
2023	
2025	
2027	
2029	
Projects	**Status**
Revised Rules Adopted	Adopted 2022

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Permit Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓					✓
District Boundary Revisions	✓	✓									

** Projects in **bold** have the greatest potential to make progress towards achieiving the goal.*

Goal RF4

In partnership with the City of Prior Lake, complete updates to the PCSWMM Model to refine and improve understanding of flooding in the watershed.

Performance Measures:	Updated PCSWMM model.

Biennial Performance Tracking:	
PCSWMM Updates	**Status**
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

** Projects in **bold** have the greatest potential to make progress towards achieiving the goal.*

Goal RF5

Assess progress on flood reduction goals and establish an updated flood reduction goal for the next water resources management plan.

Performance Measures:	Track progress on development of Upper Watershed Storage Strategy; updated flood reduction goal by 2029.

Performance Tracking:	
Updated Goals	**Status**
2029	In Progress

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Upper Watershed Blueprint	✓	✓									

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

FINANCIAL REPORT

The 2022 PLSLWD Audit was completed by Abdo and will include both the District's Annual Financial Report and the Independent Auditor's Report on Compliance with Minnesota Legal Compliance Guide for Local Governments for the year ended December 31, 2022. A copy of the 2022 Annual Audit will be available for review on the District website and at the District office after May 9, 2023, when it is scheduled to be approved by the Board of Managers.

2022 FINANCIAL SUMMARY

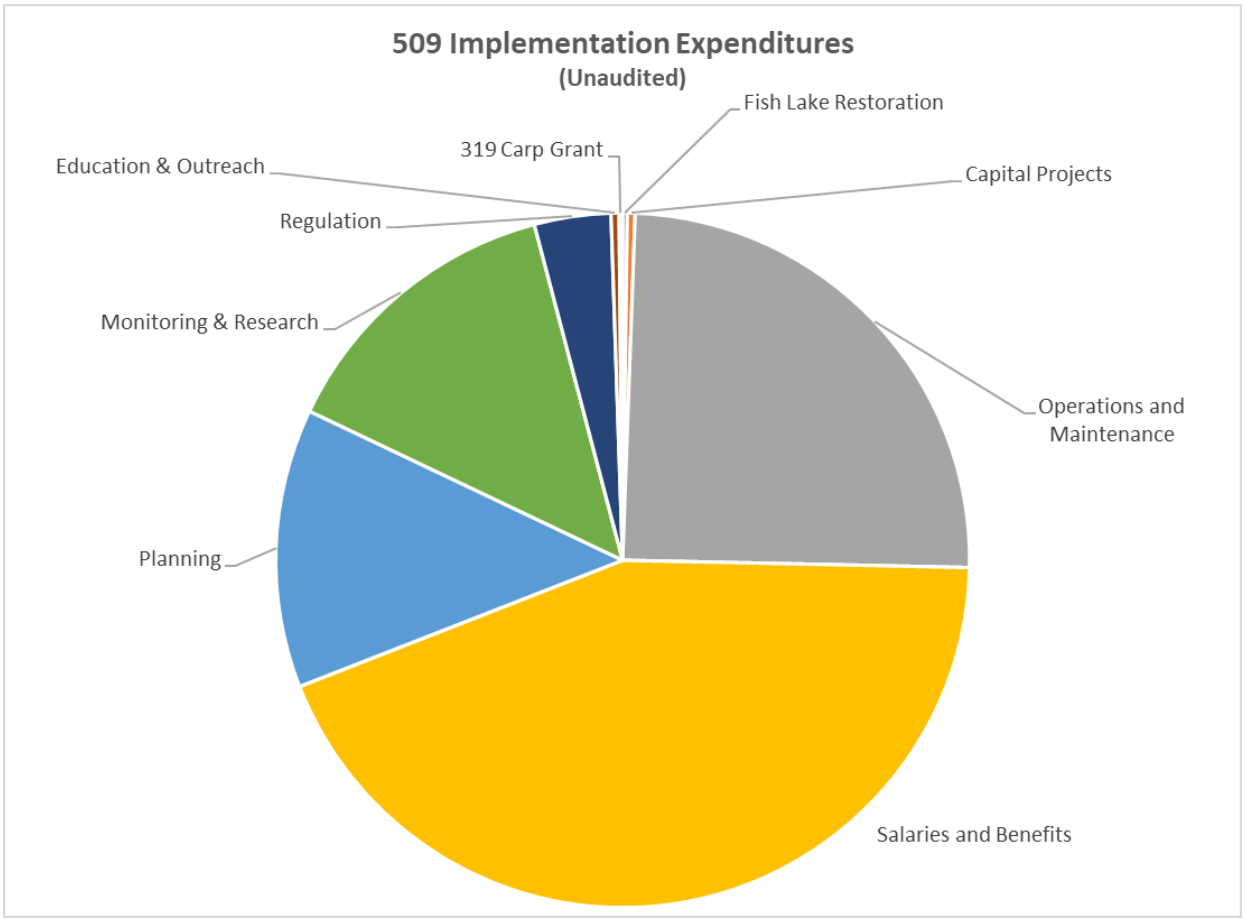
Values presented in the chart and graph below are unaudited. Please refer to the 2022 Annual Audit for more details, which can be found at www.plslwd.org

2022 Project Expenditures

2022 FINANCIAL SUMMARY

Fund	Starting Balance	Approved Budget	Tax Levy Revenue*	Additional Revenue **	Transfers To/(From)	Expenditures	Ending Balance ***
General	$ 273,746	$ 246,200	$ 244,146	$ 5,854	$ -	$ 218,102	$ 305,644
509 Implementation	1,272,082	1,707,735	1,598,157	118,463	(19,148)	917,149	2,052,405
MOA/JPA Funds	371,656	-	-	216,082	19,148	379,987	226,899
Bond Debt Services	-	-	-	-	-	-	-
Total	**$ 1,917,484**	**$1,953,935**	**$1,842,303**	**$ 340,399**	**$ -**	**$ 1,515,238**	**$2,584,948**

* Tax levy revenues shown are actual tax levy dollars collected. The 2022 tax levy was $1,848,935.
** Additional revenue comprised of permit fees, investment income, and grant funding.
*** Ending balance is not audited, and subject to change with year end adjustments and accruals.



GRANTS

Grants obtained by the District that were active in 2022 were as follows:

- *Metro Watershed Based Implementation Funding – Lower Minnesota River South Watershed Area*
  Goal: Conduct two feasibility studies to determine suitability for possible future projects.
  Funding Source: BWSR
  Total Grant Amount: $39,575
  Effective: April 14, 2021 to December 31, 2023

- *Watershed-based Implementation Funding grant*
  Goal: Utilize integrated pest management principles to effectively manage the common carp population and aquatic vegetation to reduce the levels of phosphorus in several District lakes and wetlands including Spring Lake, Prior Lake, Pike Lake, the Geis wetland and the Northwoods wetland. The District's Farmer-Led Council held two meetings for the District's agricultural community to discuss new and innovative conservation practices within Scott County. Two feasibility studies were conducted to determine suitability for possible future projects.
  Funding Source: BWSR
  Total Grant Amount: $185,000
  Effective: May 15, 2019 to December 31, 2022

- *Fish Lake Shoreline & Prairie Restoration Project grant*
  Goal: Enhance the shoreline and reconstruct a prairie on Fish Lake at Spring Lake Town Hall.
  Funding Source: Conservation Legacy Partners through the DNR
  Total Grant Amount: $13,800
  Effective: April 4, 2019 to June 30, 2022

- *Sutton Lake Outlet Structure Project grant*
  Goal: Install outlet structure on Sutton Lake to control high flows and reduce downstream flooding.
  Funding Source: DNR – Flood Damage Reduction grant
  Total Grant Amount: $207,000
  Effective: July 1, 2020 to December 30, 2022

2023 WORK PLAN

The following is a summary of implementation activities planned to be completed in 2023 and the amount budgeted for that activity.

Implementation Fund	$2,220,900
General Fund	$252,200

CAPITAL PROJECTS

In 2023 the District does not have any capital projects slated.

OPERATIONS AND MAINTENANCE

The Cost Share program and Farmer-Led Council will be continued. Operation and maintenance of the ferric chloride facility will continue. The District will be performing a study to solicit a consultant to evaluated the lifespan of the existing ferric chloride tank and to better plan for its replacement. Ideally, work on the ferric chloride plant would begin in 2023. Aquatic vegetation treatment may occur in Fish, Prior, and Spring Lakes, depending upon the survey reports. Aquatic point intercept vegetation surveys will be performed on three District lakes and ponds in 2023. Vegetation maintenance will continue at the District's Spring Lake parcel restoration site. The District will continue to perform AIS inspections at boat launches on Spring, Upper Prior, Lower Prior and Fish Lakes.

The Carp Management Program will continue with its three main components: track, block, and remove. The carp will be tracked using PIT tags, radio tags, and visual observations. The District plans to stock bluegills in two wetlands where carp are known to spawn to reduce carp reproductive success. The District will attempt to remove a significant population of carp from Spring and Upper Prior Lakes in 2023.

PLANNING

The District will move forward with projects identified in the Upper Watershed, including finishing up feasibility studies for one water quality project (Swamp IESF), and two flood storage projects. Pending landowner agreement, two feasibility studies (Sutton IESF, and Spring Lake West IESF and Wetland Bank) for water quality will be carried forward to design and permitting. Additionally, a lake management plan (Fish Lake) will be updated to confirm the source of phosphorus loading and inform future management.

MONITORING AND RESEARCH

The District will continue its monitoring program in 2023, which includes stream chemistry monitoring, flow monitoring, lake quality, lake level, plant surveys, and plant density monitoring. The

District will also continue the migration of its water quality database to the new WISKI database. This will increase reliability of the database and efficiency in the data pipeline.

REGULATION

Annual conservation easement inspections will be performed. New conservation easements will be established through permitting activity. The District will track and compile MS4 data to include in the 2023 Annual Report. Construction inspections for existing and new permits will continue to occur.

The District will seek to establish equivalency MOAs with partnering LGUs to reduce permitting burden on the District and permittees.

EDUCATION AND OUTREACH

The District will continue its education and outreach program to meet the requirements of its MS4 permit and improve understanding of local water resources and practices among all stakeholders in the District. The District will continue working with the Scott County Clean Water Education Program and will be participating in public outreach and education opportunities. Updating the website and writing articles for submittal to local newspapers will continue. The full 2023 Education and Outreach plan is available on the District website.

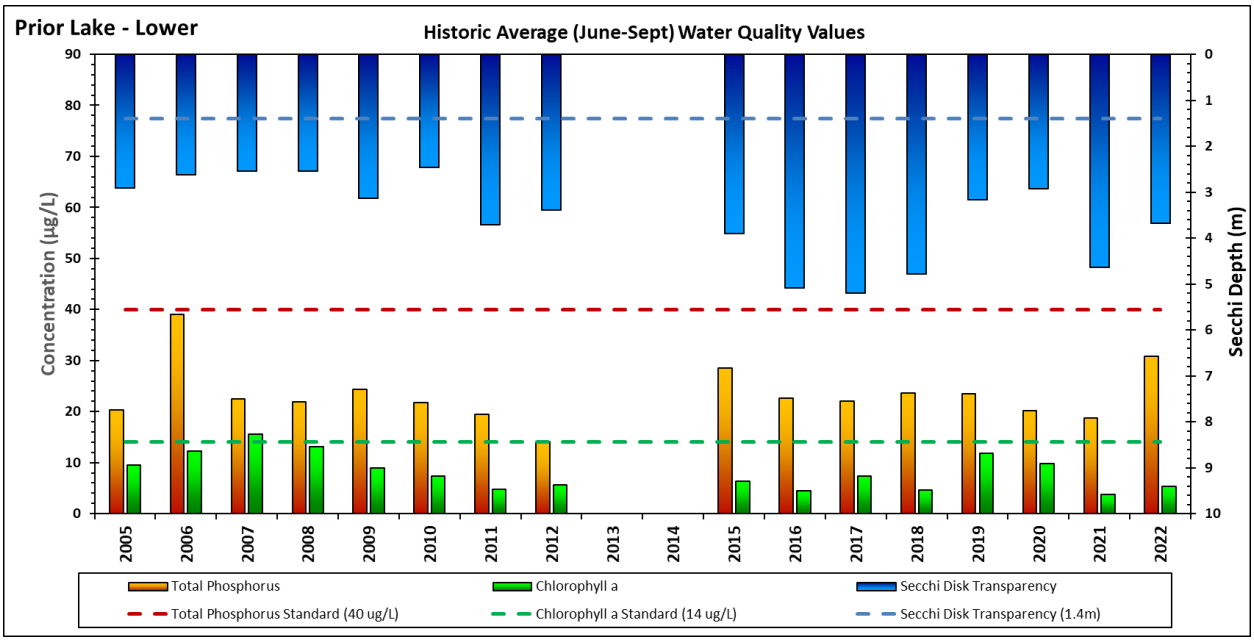
PRIOR LAKE OUTLET CHANNEL

Recurring annual operations such as inspections and vegetation management will continue in 2023. The District will proceed with soliciting bids for consultants to prepare construction documents in 2023 and potentially solicit construction bids. Projects and other maintenance will be discussed and decided upon by the Technical Advisory Committee and the Cooperators (Memorandum of Agreement) members.

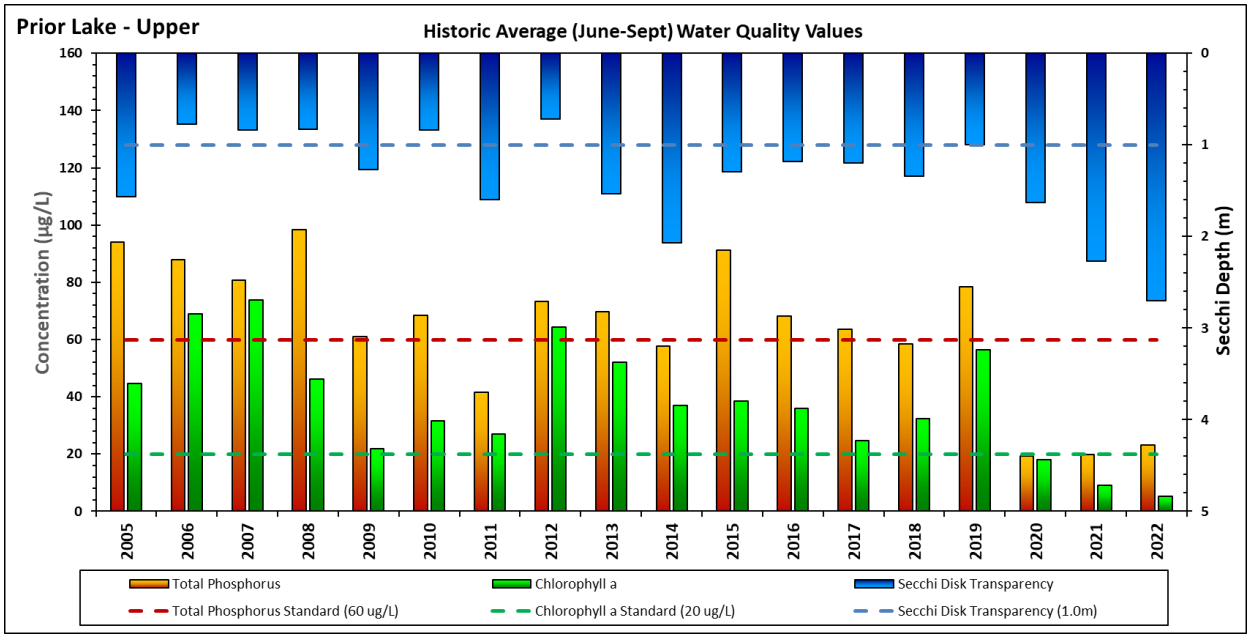
WATER QUALITY GRAPHS

The following graphs indicate the status of the District's monitoring efforts on District lakes since 2004.

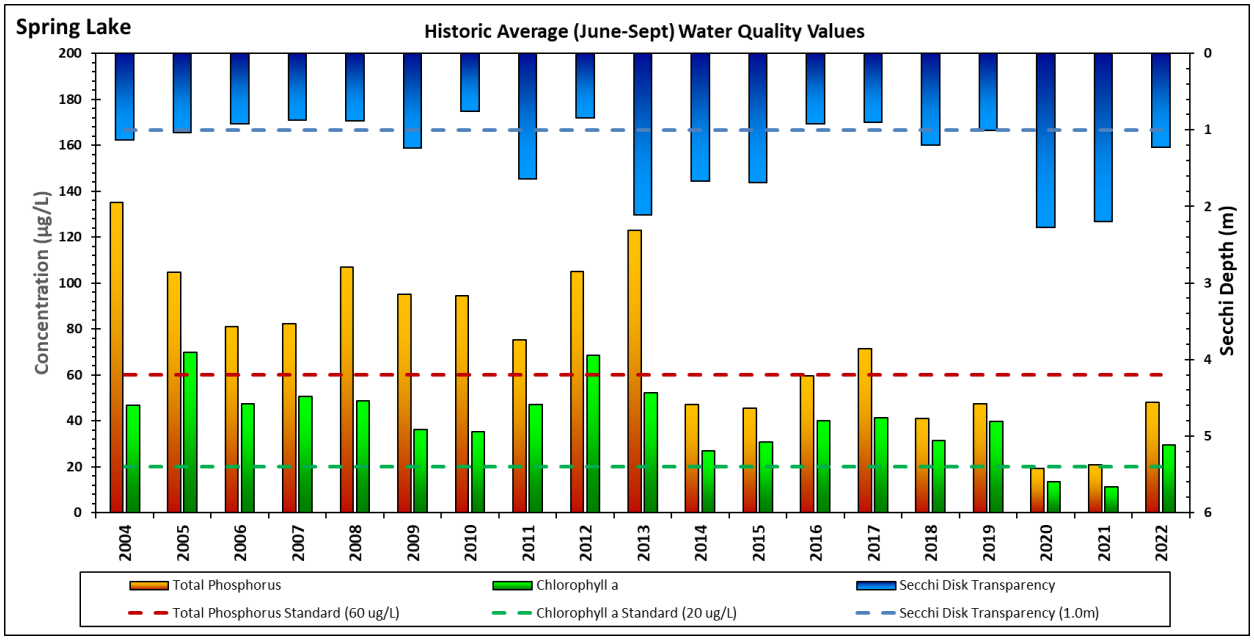
Lower Prior Lake



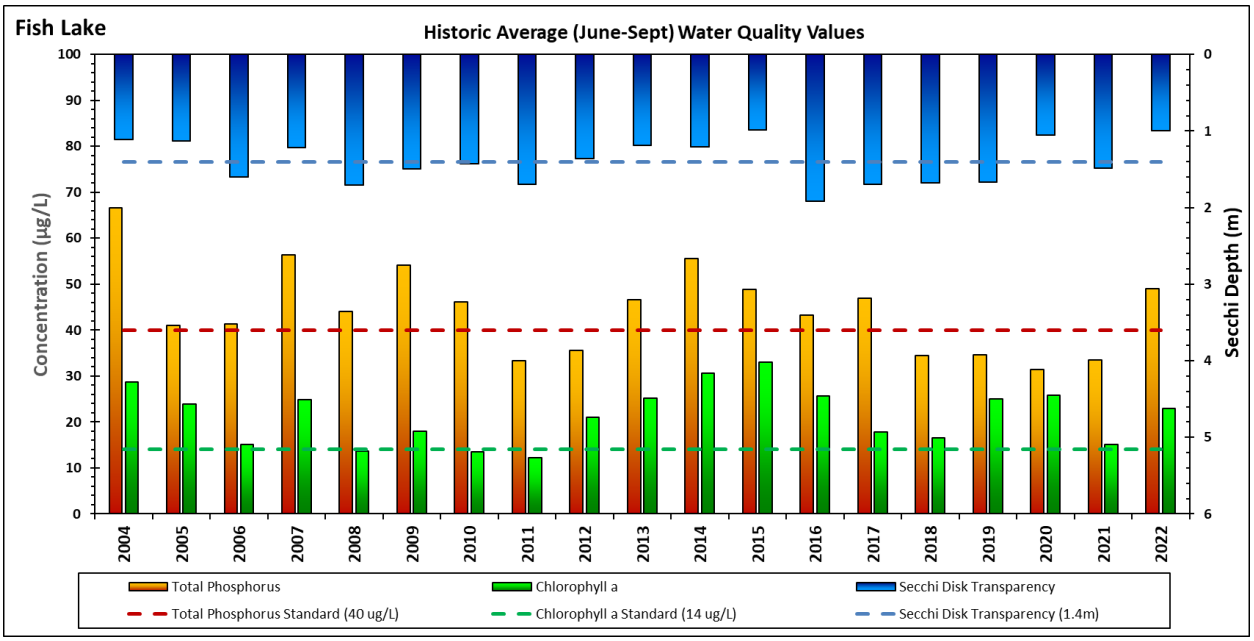
Upper Prior Lake



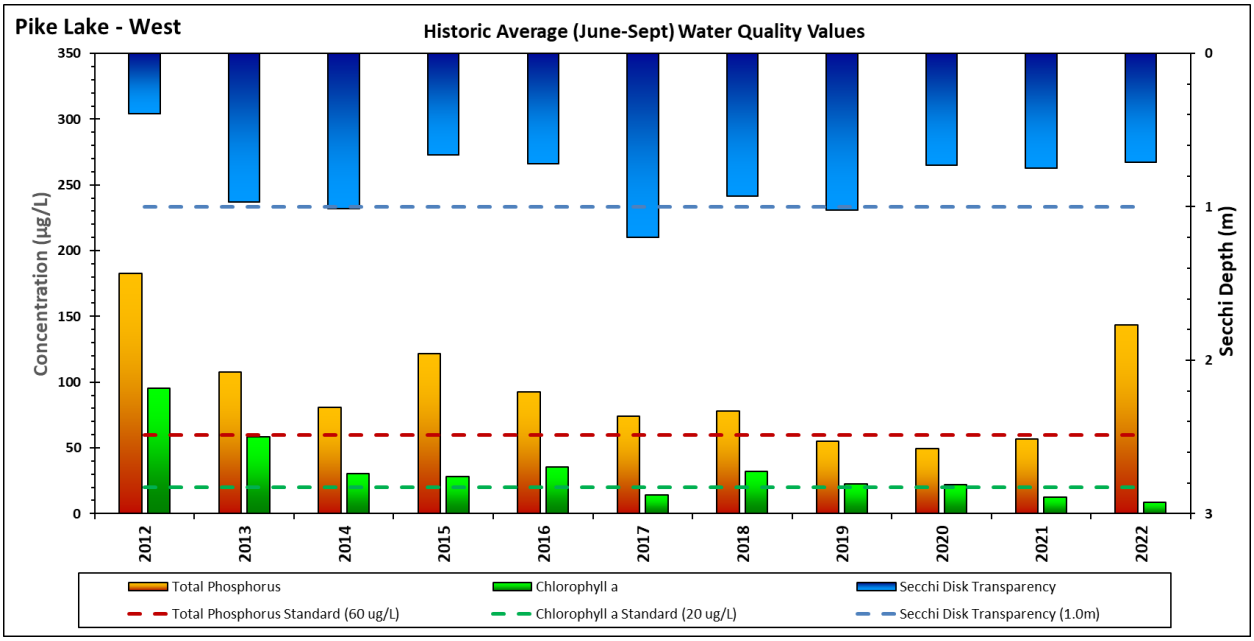
Spring Lake



Fish Lake



Pike Lake - West



Pike Lake - East