



Prior Lake- Spring Lake Watershed District

Annual Report

2018

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.

PRIOR LAKE - SPRING LAKE
WATERSHED DISTRICT

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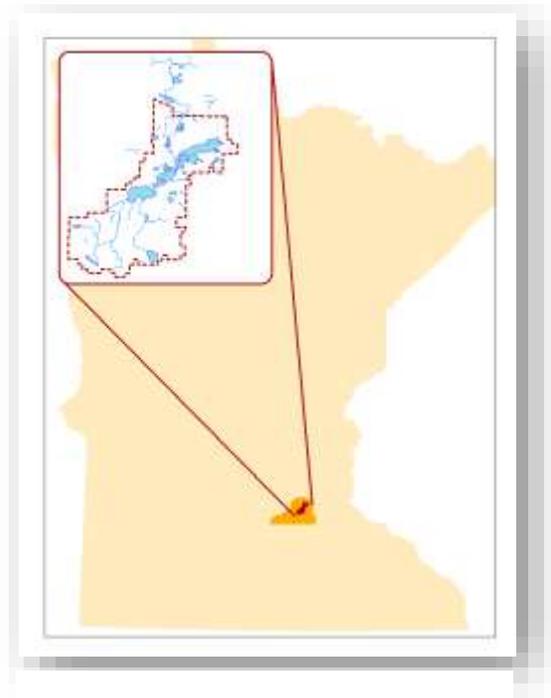
INTRODUCTION

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 2018. The report will focus on the District's program and project accomplishments relative to the approved Capital Improvement Plan established in the 2010 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 BACKGROUND

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 is 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 tribal lands are located within the District.



Location of PLSWD

BOARD OF MANAGERS

The PLSLWD is administered by a five-person Board of Managers (Board) appointed by the Scott County Commissioners. All of 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 2018 are listed below.

Fred J. Corrigan

President

Term: 3/3/19-3/2/22

Resides in Prior Lake

8075 E. Martindale Dr.
Prior Lake, MN 55372

952-445-9681
fcorrigan@armofmn.com

Marianne Breitbach

Vice President

Term: 3/3/15-3/2/18

Resides in Prior Lake

14890 Pixie Point Circle SE
Prior Lake, MN 55372

952-440-7561
jmbreit@gmail.com

Curtis Hennes

President

Term: 2/5/2013-6/11/19

Resides in Spring Lake Township

17286 Sunset Trail SW
Prior Lake, MN 55372

952-440-7443
clphennes@gmail.com

Charlie Howley

Secretary

Term: 7/26/17-7/25/20

4291 Coachman Lane NE
Prior Lake, MN 55372

952-440-5800
chowley@htpo.com

Mike Myser

Board Member

Term: 3/12/18-3/13/2021

3857 Island View Cir NW
Prior Lake, MN 55372

651-341-5932
m.myser@mchsi.com

Woody Spitzmueller

Treasurer

Term: 3/3/16-3/2/19

4279 Grainwood Circle
Prior Lake, MN 55372

952-440-7607
bwspitz@integra.net

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 6:30pm at the Prior Lake City Hall, located at 4646 Dakota St. SE, Prior Lake, MN 55372.

Citizen Advisory Committee members that served during the calendar year 2018 are listed below.

Jerry Mealman

Resides in Spring Lake Twp

Steve Pany

Resides in Prior Lake

Larry Rundell

Resides in Prior Lake

Kim Silvernagel

Resides in Prior Lake

Elizabeth Schramm

Resides in Prior Lake

Roger Wahl

Resides in Prior Lake

Jim Weninger

Resides in Spring Lake Twp

Adam Fitzpatrick

Resides in Prior Lake

Joe Schramm

Resides in Prior Lake

James Goodchild

Resides in Prior Lake

Jodi See

Resides in Prior Lake

Marianne Breitbach

Resides in Prior Lake

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.

Diane Lynch
District Administrator
Primary Contact
dlynch@plslwd.org
952-440-0067

Amy Tucci
Administrative Assistant
atucci@plslwd.org

Jaime Rockney
Water Resources Specialist
jrockney@plslwd.org

Kathryn Keller-Miller
Water Resources
Assistant/Outreach
Specialist
kkeller-miller@plslwd.org

Maggie Karschnia
Water Resources Project
Manager
mkarschnia@plslwd.org

Jeff Anderson
Water Resources Technician
janderson@plslwd.org

CONSULTING SERVICES

The following are the consulting firms selected in 2017 for 2017/18 consulting services:

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

Blue Water Science
Ecological Services
Steve McComas
Phone: 651-690-9602

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

Messerli and Schadow, PLLP
Accounting Services
Chris Schadow
Phone: 952-927-8350
www.messerli-schadow.com

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

WSB & Associates
Carp Management Services
Tony Havranek
Phone: 651-286-8473
www.wsbeng.com

WATER RESOURCES MANAGEMENT PLAN

The Minnesota Board of Water and Soil Resources (BWSR) approved the District's third generation Water Resources Management Plan (WRMP) on June 23, 2010 and the District Board adopted the plan at its July 13, 2010 meeting. A copy of the WRMP is available electronically on the District website or by request, or in hard copy format at the District office.

In 2013, a major update to the WRMP was approved by BWSR in August and adopted by the District Board in September. The three major categories to the amendment included:

1. Goal Revisions
2. Reorganized Policies and Projects
3. Additional and Revised Implementation Projects

Goals Revision: Previously the District had 13 goals. This led to some confusion about what the top priorities of the District were as it related to Board actions. This plan update narrows the goals to just 5, which will make it easier for the Board and staff to focus on the priorities of the organization. The revised goals can be found in Section 2.3, and are as follows:

1. To minimize the negative effects of water level fluctuations in the District. **Action: The District completed a Flood Study, updated its O&M Plan for the Outlet Structure and initiated a major flood storage project at Sutton Lake. In addition, the District restored a wetland at highways 12/17 in Prior Lake which provides water quality and water storage benefits.**
2. To maintain or improve the quality of all water resources within the District. **Action: The District completed several water quality projects on Upper and Lower Prior Lake, Arctic Lake as well as Spring Lake. It continued major projects, such as capturing phosphorus through dosing from the Ferric Chloride Plant, killing curlyleaf pondweed and developing and implementing a comprehensive Integrative Pest Management Program (IPM)**
3. To maintain and expand the recreational, aesthetic, and wildlife habitat benefits associated with surface water and natural spaces in the District. **Action: The District restored the 12/17 wetland and restored shorelines at its Spring Lake Demonstration Project area and Raymond Park, where some threatened species have been identified. In addition, the District required contractors on projects to use erosion and sediment control measures that protect wildlife.**
4. To improve understanding of local water resources and practices among all stakeholders in the District. **Action: The District undertook a vigorous Education and Outreach effort, expanded its social media presence, conducted numerous educational events and facilitated the efforts of the Citizen Advisory Committee.**
5. To be as efficient and effective as possible in all District activities. **Action: The District has completed many programs and projects with a small staff and budget.**

Plan Update: The District began working on updating its Plan, due in 2020.

ASSESSMENT OF THE 2018 WORK PLAN

The following is a summary of the activities completed in 2018 organized by District’s revised 2013/18 WRMP.

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

CAPITAL PROJECTS

COUNTY ROAD 12/17 WETLAND RESTORATION PROJECT

When Scott County planned to improve the County Road 12/17 area in 2013, the PLSLWD saw an opportunity to work collaboratively with the City of Prior Lake and Scott County to restore a wetland near the intersection of County Road 12 and County Road 17 that would reduce stormwater volume runoff and nutrient loading into Spring Lake. This project was partially funded by a Clean Water Fund grant through the Board of Water & Soil Resources.

The City of Prior Lake is the owner of the property and as per an executed cooperative agreement with PLSLWD, is prohibited from altering the flood retention, water quality or ecological function of the wetland for 25 years. This agreement also holds the District responsible for maintaining the wetland and uplands plantings on the property for the first 5 years.



12/17 Wetland Restoration

In 2018, the District worked with AES to ensure the continued establishment of native vegetation established at the site. Invasive species were treated with herbicide and areas were spot-mowed to

discourage growth. Water levels were manipulated to encourage desired plant growth and carp barriers continue to block carp from entering the basin.

It was discovered that a non-native seed mix which could encroach on the wetland vegetation and/or act as a seed source for problem weeds in future years appeared to have been incorrectly planted along a half-acre strip of the project area along Sunset Avenue. In order to correct this, the vegetation in this area was terminated in 2018 and re-seeded with a native seed mix as specified in the original plans.

The District will continue to manage the vegetation at the site over the next year to ensure native plant establishment. It is anticipated that the site will be in acceptable condition for the City's final acceptance at the end of the year, concluding the District's maintenance responsibilities of the partnership agreement for the project.

LOWER PRIOR LAKE PROTECTION PROJECT IMPLEMENTATION

Lower Prior Lake is located within the City of Prior Lake and is approximately 960 acres, with a maximum depth of 60 feet. It currently meets water quality standards, but degraded water quality is a concern in the late summer when algae is prolific. A 2013 Clean Water Partnership (CWP) Diagnostic Study concluded that the water quality of the upper bay of Lower Prior Lake is strongly influenced by the water quality of Upper Prior Lake but even more so by the phosphorus loading from the watershed.

In 2014, a Minnesota Clean Water Partnership grant was successfully obtained from the Minnesota Pollution Control agency to implement BMPs identified in the diagnostic study that could potentially result in maintaining or improving the water quality conditions in the Upper Basin as much as 10% within 10 years. The proposed projects will reduce phosphorus by 33 lb/yr, or 10% of the total drainage area phosphorus load of 326 lb/year to Lower Prior Lake.

As part of this grant project, the District partnered with the City of Prior Lake to complete a shoreline restoration at Watzl's Beach in 2015. This restoration included the removal of invasive species and undesirable woody plants, and planting native prairie and lakeshore species that will help to stabilize the shoreline and provide habitat for wildlife.

The District installed a biofiltration basin on the east side of Indian Ridge Park in Prior Lake in 2016. It was designed to filter out sediment and nutrients from the stormwater that runs off properties and streets in the Indian Ridge Park neighborhood.

In 2017, an innovative biofiltration basin was installed at the corner of Fairlawn Shores and 150th Street in Prior Lake to reduce the potential of flooding in that neighborhood and to provide further water quality treatment. The system was brought on-line in 2018. Although functioning well, water was not entering the basins from the street as much as anticipated. The City, District Engineer, and

staff have worked together to design a modification that will improve this basin’s ability to receive water and the District anticipates completing this improvement project in 2019.



Sand Point Beach Park Volunteer Event

The last project completed under this grant is a water quality improvements project in Sand Point Beach Park in Prior Lake. This partnership project with the City of Prior Lake includes restoring and expanding the park’s two stormwater ponds, installing an iron-enhanced sand filter and restoring native prairie to some areas of the park. This project reduces the amount of phosphorus entering Lower Prior Lake from Sand Point Beach Park by 25 pounds per year and was installed in 2018.

OPERATIONS AND MAINTENANCE

AQUATIC VEGETATION MANAGEMENT

No aquatic vegetation management took place in 2018 due to late ice-out and lakes warming up too quickly to treat for Curlyleaf Pondweed without harmful effects to native vegetation.

COST SHARE

The District has a residential incentive program and a rural cost share program coordinated with the Scott Soil and Water Conservation District. The District approved rural cost-share projects such as 2 cover crops/soil health; 1 filters/riparian buffers; 2 native prairie restoration and 1 pasture seeding for a total of 7 projects. The SWCD received requests and provided follow-up assistance to 35 new requests for conservation assistance.



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 & 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 base-level and site-tailored practices that are available and needed
- 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 are needed to overcome them

The District held four FLC meetings in 2018 where a variety of agricultural topics related to water quality were discussed. At its meetings, the FLC brought in three guest speakers to learn more about key topics, including Tim Radatz from Discovery Farms, Timm Johnson from Horse Creek Farmer-Led Watershed Council, and Jeff Vetch from the University of Minnesota. They also participated in a Cover Crop Field Day Tour in November, showcasing some of their fields.

The FLC provides recommendations for innovative cost-share programs and incentives that are not included in the PLSLWD's current cost share programming. 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 piloted by two FLC members in 2017, and two additional members in 2018. Six test fields total were used to refine the scoring system and requirements of the program which is planned to be released in January of 2019 with the first four farms, represented by two farmers, being awarded Lake-Friendly Farm certification.

In 2018, the FLC developed a new Cover Crop Initiative Program that targeted critical water quality fields in the watershed, identifying tiered priority areas. A total of 493 acres were enrolled in the program in 2018. Scott SWCD helped to coordinate the aerial seeding of both over-winter and winter-kill seed mixes on most of the fields, with a couple of farmers opting to interseed the mixes directly on their fields. In addition to no-cost seeding, the program also

offered free rental of the no-till & interseeder equipment to aid in implementation. The program is anticipated to continue with a slightly larger scale in 2019 with the hopes of getting more new farmers working with 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 reached Spring Lake. In 1998, a Ferric Chloride plant was constructed to use this chemical upstream of the desiltation pond to bind up phosphorus.

In 2013, the system was redesigned to release a Ferric Chloride (FeCl_3) solution into a desiltation basin, rather than the stream, per a MPCA permit requirement. Initial targets for design parameters, with input and agreement by regulatory agencies, was to allow flows up to approximately 30 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.

On September 11, 2018, the pump was programmed to dose ferric chloride based on a relationship with stream height. The maximum dose rate of treatment is 4 gallons per hour at 0.50 feet of depth over the ferric chloride weir. Over 0.50 feet of depth, the pump will continue dosing at 4 gallons per hour based on maximum flow calculations of the desilt pond diversion culvert.

The desiltation pond treated water with Ferric Chloride from April 1 to November 20 in 2018. 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 31% and dissolved phosphorus by 58%. In other words, a total of 1,614 million gallons were treated, 465 pounds of total phosphorus were removed and 616 pounds of dissolved phosphorus were removed.

Results of the 2018 sampling can be found in the Annual Ferric Chloride Report available on www.plslwd.org.

ROUGH FISH MANAGEMENT



In 2018, the District continued into its third year with its Carp Management Program in Spring and Prior Lakes, which was partially funded through a Clean Water Partnership grant from the Minnesota Pollution Control Agency. The project 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 project has several different components, including: track movement and population of carp, complete carp removals, install barriers at strategic locations, and engage local community through outreach materials and events. In 2018, the District continued to actively track the movement of the 13 active radio-tagged carp in Spring Lake, Upper and Lower Prior Lakes with an antennae. The carp location maps were documented on the District's website so that the public could see their locations.

In 2018, the District also continued to track carp through Passive Integrate Transponder (PIT) tags. 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 through a specific location. In 2018, the District installed three receiver devices to study the movement of carp throughout different waterbodies which helped document movement and determined the effectiveness of installed carp barriers. Two receivers were installed on the channel which Spring Lake drains into Upper Prior Lake to better understand the seasonal movements and mixing of the two populations. The third receiver was placed upstream of Spring Lake to confirm potential location of spawning grounds.

Telemetry surveys were conducted on Spring Lake and Prior Lakes to determine aggregation areas and migration routes. These surveys guided timing and location of seine (carp removal) events and identified potential carp barrier locations.

On January 18, 2018, 35,000 pounds (17 tons) of carp were removed from Upper Prior Lake during a seine event. This represented roughly 20% of the current carp population in Upper Prior Lake and is considered a success. This seine on Upper Prior Lake was the largest haul of carp the Watershed District had on record, netting approximately 3,000 carp.



Potential carp barrier locations were identified which were determined by the radio-tag monitoring, site visits, anecdotal information, and staff knowledge. Staff explored different carp barrier designs and conducted site visits to determine the barrier suitability for the sites. Carp were discovered in a wetland to the west of Upper Prior Lake in 2019, including one that had been radio-tagged. Barrier designs were developed in 2018 in partnership with the City of Prior Lake and in coordination with the MnDNR, ready for implementation in 2019.

Additionally, the existing carp barrier located at the FeCL facility had not been functioning for several years. WSB engineers and District staff worked together to re-design this weir to include a different, functional carp barrier, as well as some safety updates. These updates are anticipated to be implemented in 2019.

In 2019, the PLSLWD will continue with its carp management efforts under its current, approved version of the IPM Plan and under new grant funding provided through a federal 319 grant and a Watershed-Based Funding grant through BWSR to help accelerate management efforts moving forward. The goal in 2019 is to expand carp management efforts into connecting waterbodies, managing carp on a watershed level.

RAYMOND PARK

In 2017, the District partnered with Great River Greening (GRG) to restore shoreline and habitat at the City of Prior Lake's park. The project also aimed to create a demonstration site for four different habitat types: beach restoration, oak savanna restoration, shoreline restoration and low maintenance turf grass. Twenty-five Prior Lake High School students helped plant native plants along the shoreline and hauled woodchips for the trail. The project was partially funded by a Conservation Partners Legacy grant and Great River Greening.

In 2018, the vegetation in the restoration continued to become established. Great River Greening provided vegetation maintenance and came out several times to mow the site and spot spray buckthorn re-sprouts and seedlings, as well as a patch of reed canary grass that emerged. In the oak

savanna, the area where the mulch pile sat had poor vegetation establishment, so the District ordered additional savanna seed mix and city staff loosen up the soil and seeded the area in the fall.

In 2019, additional seeding will be done at the park, as needed, and interpretive signs will be designed and installed. Great River Greening will provide vegetation maintenance in 2019 before maintenance responsibilities are transferred to the city in 2020.

PLANNING

FLOOD DAMAGE REPAIR

The District sustained over \$1 million in damages in the Prior Lake Outlet Channel due to the 2014 flooding events. The District was approved for federal funding for repairs from the Federal Emergency Management Administration (FEMA) for Emergency Protective Measures (Temporary Spring Lake Dam); Culverts and Crossings; Downed Trees and Sediment Delta and Bank Erosion.

By the end of 2017, all of the projects were completed except for the Bank Erosion, which is the most expensive and extensive project, estimated at \$750,000. It is anticipated this large project will be completed in 2019.

MONITORING AND RESEARCH

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

STREAM MONITORING DATA

STREAM CHEMISTRY SAMPLING

Stream chemistry samples were collected at 15 locations around the watershed by PLSLWD staff. Water temperature, conductivity, pH, turbidity, and dissolved oxygen were also measured at these locations using a Hydrolab MS5 multi-parameter meter.

- 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_40, ST_19USFWS, ST_14, ST_24, ST_26A, ST_S3P, ST_S3PP). These sites were monitored biweekly.
- Two agricultural monitoring sites were monitored biweekly for the Farmer-Led Council program. (T3 and B3). T3 is sampled where it flows out of the tile and B3 is located in a channel downstream of T3. B3 is a tributary of Fish Lake and located approximately 100 feet before entering Fish Lake.

STAGE AND FLOW MONITORING

Continuous stage and flow monitoring occurred in conjunction with the stream chemistry and lake monitoring. Stage and flow monitoring consisted of level loggers that recorded stage continuously and flow measurements. 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 (except T3) all had level loggers. In addition to those sites, stage and flow were monitored on the outlets of Fish, Spring, Prior Lakes (sites ST_o8, ST_21, PL_OUT respectively).

Flow measurements were collected by PLSLWD and Scott SWCD. Flow meters used include FloMate 2000 and a Sontek Flowtracker. Continuous stage was recorded using level loggers, such as pressure transducers and ultrasonic distance sensors.



Stream Monitoring

LAKE MONITORING DATA

AUTOMATED LEVEL LOGGERS

Four automated level loggers were installed to monitor the lake levels on Spring, Prior, Fish, 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.

DNR STAFF GAGE

Three staff gages were monitored for the DNR on Pike, Spring, and Lower Prior Lake. Staff gages are surveyed in every year by DNR to tie the results to Mean Sea Elevation. Volunteers helped monitor the levels of Pike Lake.

THREE RIVERS PARK DISTRICT

Three Rivers Park District monitored five lakes in 2018: Fish, Pike, Upper Prior, Lower and Upper Prior and Spring Lakes. These lakes are monitored 13 times per year, and where possible, profile samples are collected.

CAMP VOLUNTEER LAKE MONITORING

The CAMP program was coordinated by Metropolitan Council, and locally coordinated by the PLSLWD. Four volunteers collected lake samples for the CAMP program in 2018.

Lake	Volunteer(s)
Lower Prior (site 2)	Steve Reinders
Haas	Tom Chaklos
Buck Lake	Steve Beckey
Cates	Paula Thomsen

Samples were collected every other week during ice-free conditions, which include parameters such as secchi depth, phosphorus, and Chlorophyll-A.

AQUATIC VEGETATION SURVEYS

Blue Water Science conducted summer aquatic vegetation surveys on six lakes –Upper & Lower Prior Lake, Fish Lake, RSutton Lake, Fish Lake, Jeffers Pond, Little Prior Lake, and Geis Wetland. These surveys include the type and density of vegetation at predetermined sampling locations throughout the lakes during summer, which is the time most vegetation is present.

Curlyleaf Pondweed surveys were completed in springtime on four lakes – Spring, Fish, Upper Prior, and Lower Prior Lakes to determine if treatment was needed. Due to a late spring ice out and a rapid rise in lake temperatures, CLP treatments were not scheduled.

AQUATIC VEGETATION DENSITY MAPPING

A new program in 2013, lakes were mapped using a software called BioBase. BioBase software creates maps of aquatic vegetation density, bathymetry, and bottom hardness utilizing a depth finder mounted to a boat.

Volunteers and staff mapped all or parts of Spring, Fish, Upper Prior, and Lower Prior, Cates, Pike and Buck Lakes.

Prior Lake Association has donated \$700 annually since 2013 towards the BioBase program. Your Boat Club gives a discount of half-price to a subscription for use a boat. Volunteers donated their time and boats.



The benefits of this project included:

- A better understanding of density and location of vegetation in lakes
- More accurate bathymetric maps
- Lake bottom sediment composition maps
- Improved implementation and analysis of curlyleaf pondweed treatments
- Greater understanding of lake ecology and sediment deposition rates
- Better fisheries management and for sports fishing

PRECIPITATION

One volunteer collected rain and snowfall data daily in 2018 –Richard Schultz. The PLSLWD then forwarded the data to the State Climatologist. District staff also recorded daily precipitation at the office location. The District installed a new weather station in 2018 at the Spring Lake Townhall which is logging and transmitting data to Weather Underground.

REGULATION

EASEMENT INSPECTIONS

The District holds many conservation easements and development agreements that were acquired while permits were being actively issued. These easement and agreement restrictions provide water quality benefits by protecting water resources with buffers and water quality features. The District's conservation easement program contains three components to ensure protection of its investments: yearly monitoring inspections, effective communication with landowners and a strong enforcement policy.

In 2018, the District inspected 36 out of 37 total conservation easements, which represented 161 landowners. Of the 161 landowners' properties that were visited by District staff, 108 properties were in compliance with the easement terms, 17 had first-time violations, 24 were working towards a resolution of easement violations and 12 were multi-year violators with no action towards compliance. Of the multi-year violators, many have made improvements, correcting some, though not yet all, of the easement violations on their property, and we have made initial contact and begun to resolve issues with many of the other landowners.

Staff wrote letters to all the landowners advising them of the violations and offering to provide them further assistance to ensure the violations would not continue. The most common easement violations were: mowing, yard waste, storage (wood etc.), dumping/trash, landscaping, planting non-natives and installing fences. During the 2019 inspections, staff will concentrate on monitoring the violating properties and working with landowners to resolve issues.



PERMIT ACTIVITY

The District inspected active permits to ensure that conditions of the permit were being met. The District issued four new permits in 2018:

- 18.01 MnDOT Highway 13 Project
- 18.02 County Road 42 Project
- 18.03 Woodside_Huron Project
- 18.04 TH13_Duluth Ave_Village Lake Dr Project
- 18.05 MnDOT TH13_2019 Project

18.06 CSAH 21_TH 13 Project. Weekly permit inspections began in April and went through November 2018. Inspections continued from last years' open permits 17.01, 17.03, 17.04, and started new with 18.02, and 18.03.

In addition, the District continued to close out permits as the projects met all necessary requirements.

EDUCATION AND OUTREACH

CITIZEN ADVISORY COMMITTEE

PLSLWD staff continued to conduct and attend monthly Citizen Advisory Committee (CAC) meetings. CAC meeting minutes and monthly updates were included in every Board meeting package, and a Board member was assigned to attend regular CAC meetings. The CAC and City of Prior Lake coordinated Clean Water Clean-ups in the Spring and Fall, where over 120 citizens

participated in preventing organic material in local parks from being deposited in lakes through stormwater runoff.

The CAC also coordinated community outreach at Lakefront Days in August.

COMMUNITY INVOLVEMENT

The District conducted a tour of the bank erosion caused by the 2014 flooding along the PLOC for the Board of Managers and District partners. The City of Prior Lake, Scott SWCD and the District hosted a native prairie workshop, a shoreline workshop and a cover crop workshop. In addition, the District gave presentations at the annual meetings of the Prior Lake and Spring Lake Associations as well as an Annual Update to Sand Creek Township. Other annual updates will be completed in 2019.

PRESS AND SOCIAL MEDIA

The District submitted 16 articles to be published in the Prior Lake American. The Prior Lake American also wrote at least two front page header articles highlighting District initiatives and water quality issues, including one on the District's cost-share program and another on chloride pollution. The District also provided articles for the Prior Lake and Spring Lake Association newsletters. Staff submitted 8 articles to be published in the bi-monthly Scott County SCENE. In addition, other media outlets were used to publicize District events.

Lake levels for Prior and Spring Lakes were updated automatically on the website year-round.. Numerous Facebook and Twitter posts were made on a wide-variety of articles.

PRIOR LAKE OUTLET CHANNEL

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.

CHANNEL

The Channel 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 joint powers 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 Channel is considered an MS4 municipal stormwater conveyance system and the District must secure permits and submit annual reports.

Channel inspections were made throughout the year to ensure the integrity and efficiency of the system was maintained. Continuous flow was recorded at four locations along the channel and Sonde measurements were also taken at some culvert crossings.



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 reviewed and/or approved: the Scott WMO's Comprehensive Water Resources Management Plan; Lower MN River Watershed District's Watershed Management Plan and Prior Lake's Local Surface Water Management Plan.

STORMWATER (NO CHANGE)

The District does not participate in stormwater monitoring or drainage design performance standards.

FINANCIAL REPORT

The 2018 PLSLWD Audit was completed by Abdo, Eick and Meyers LLP, and includes 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, 2018. A copy of the 2018 Annual Audit is available for review on the District website and at the District office after May 14, 2019, when it is approved by the Board of Managers.

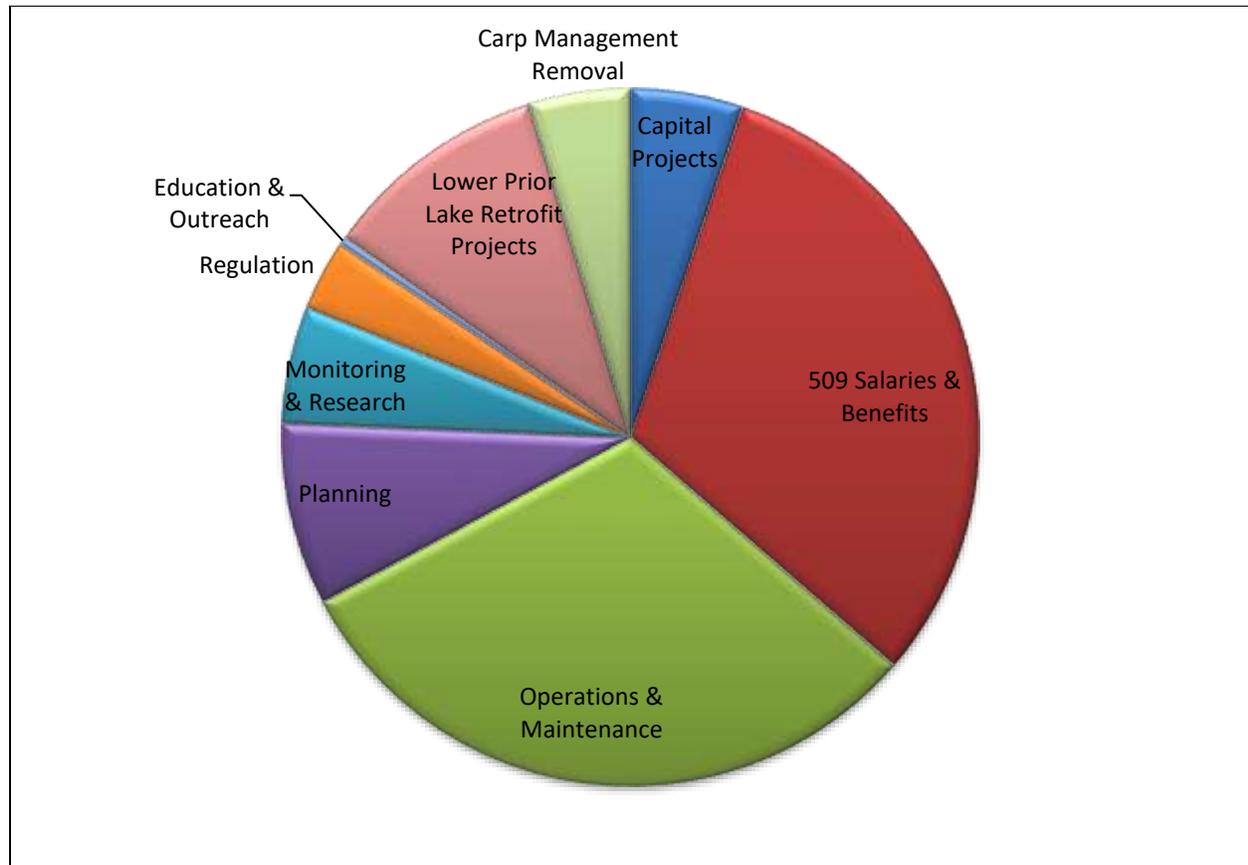
2018 FINANCIAL SUMMARY

Values presented in the chart and graph below are unaudited. Please refer to the 2018 Annual Audit for more details, which can be found at www.plslwd.org

2018 Project Expenditures

2018 FINANCIAL SUMMARY

Fund	Starting Balance	Approved Budget	Tax Levy Revenue*	Additional Revenue**	Transfers to/(from)	Expenditures	Ending Balance
General	\$136,755	\$182,475	\$181,671	\$844	\$0	\$100,552	\$218,718
509 Implementation	\$592,624	\$1,556,886	\$1,436,462	\$116,415	(\$46,796)	\$1,329,046	\$769,659
MOA/JPA Funds	\$575,286	\$1,052,750	\$0	\$230,005	\$46,796	\$378,635	\$473,452
Bond Debt Service	\$22,706	\$168,475	\$167,736	\$140	\$0	\$168,475	\$22,107
Total	\$1,327,371	\$2,960,586	\$1,785,869	\$347,404	\$0	\$1,976,708	\$1,483,936



GRANTS

Grants obtained by the District that were active in 2018 were as follows:

- Lower Prior Lake Protection Project Implementation Grant
Goal: Reduce watershed phosphorus loading by 33 lb/yr, or 10% of the total drainage area phosphorus load of 326 lb/year
Funding Source: Clean Water Partnership Grant through the MN Pollution Control Agency
Total Grant Amount: \$142,522
Effective: October 7, 2014 to June 30, 2018
- Carp Management in Spring and Prior Lake grant
Goal: Utilize integrated pest management principles to effectively manage the common carp population to reduce the levels of phosphorus in the basin.
Funding Source: Clean Water Partnership Grant through the MPCA
Total Grant Amount: \$67,323

Effective: May 6, 2014 to December 31, 2018

- Carp Barrier in Spring Lake grant

Goal: Install a low maintenance barrier at the junction of Spring Lake to an upstream wetland area

Funding Source: Conservation Legacy Partners through the DNR

Total Grant Amount: \$18,156

Effective: March 21, 2017-June 30, 2018

2019 WORK PLAN

THE FOLLOWING IS A SUMMARY OF IMPLEMENTATION ACTIVITIES PLANNED TO BE COMPLETED IN 2019 AND THE AMOUNT BUDGETED FOR THAT ACTIVITY.

The following is a summary of implementation activities planned to be completed in 2019 and the amount budgeted for that activity.

509 Implementation Fund	\$1,443,535
General Revenue	\$200,722
Debt Service Fund	\$170,235

CAPITAL PROJECTS

In 2019, The District will partner with Spring Lake and Sand Creek Townships and the City of Prior Lake on Public Infrastructure Partnership Projects. In addition, the District will finish engineering and possibly construction on the Sutton Lake Flood Mitigation Project.

OPERATIONS AND MAINTENANCE

The Cost Share and Residential Incentives programs and Farmer Led Council will be continued. Operation and Maintenance of the Ferric Chloride Facility will continue. Aquatic Vegetation Treatment may occur in Prior and Spring Lakes, depending upon the survey reports.

PLANNING

The District will continue to identify and explore locations for upper watershed storage.

MONITORING AND RESEARCH

The District will continue its monitoring program in 2019, which includes stream monitoring, flow monitoring, lake quality, lake level, plant surveys, and plant density monitoring.

REGULATION

The District completed an MS4 Annual Report. The District's rules were last substantially revised in 2003. A decade later, planning was undertaken by the District and its municipal partners to advance rule revisions, but ultimately, the District decided not to move forward with finalization and adoption of a new set of rules. The new rule for Illicit Discharge, Rule P, was adopted by the District on December 10, 2013. Four rules were revised and adopted to meet MS4 requirements on October 13, 2015 in order to meet MS4 permit requirements: A (Definitions), D (Stormwater Management), E (Erosion & Sediment Control) and P (Illicit Discharge). The District convened a Rules TAC in August of 2017 and rule revisions are expected to be completed in 2019.

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 innovative public outreach and education opportunities. Updating the website will continue. As indicated earlier, the District's Education and Outreach Plan will be updated in 2019.

PRIOR LAKE OUTLET CHANNEL

Major damage to the channel will continued to be fixed with funding from FEMA and the State of Minnesota. Projects and other maintenance will be discussed and decided upon by the Technical Advisory Committee and the Cooperators (Memorandum of Agreement) members. The Memorandum of Agreement (joint powers agreement), which was approved in 2006, will continued to be updated in 2019.

2018 UPDATE

The Annual Communications Plan, Implementation Plan Update and Annual Solicitation Letter are provided in separate documents.

The following graphs indicate the status of the District's monitoring efforts since 2004:

