



Prior Lake- Spring Lake Watershed District

Annual Report

2017

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

TABLE OF CONTENTS

TABLE OF CONTENTS.....1

INTRODUCTION4

ABOUT THE DISTRICT4

 Background4

 Board of Managers.....5

 Citizen Advisory Committee6

 Staff7

 Consulting Services7

WATER RESOURCES MANAGEMENT PLAN8

ASSESSMENT OF 2015 WORK PLAN8

 CAPITAL PROJECTS9

 County Road 12/17 Wetland Restoration Project.....9

 Lower Prior Lake Protection Project Implementation9

 OPERATIONS AND MAINTENANCE.....10

 Aquatic Vegetation Management.....10

 Cost Share11

 Farmer-Led Council.....11

 Ferric Chloride Treatment Facility.....12

 Rough Fish Management13

 Raymond Park.....14

 PLANNING.....15

 Flood Damage Repair15

 MONITORING AND RESEARCH15

 Stream Monitoring Data16

Lake Monitoring Data.....17

Precipitation.....19

REGULATION.....19

 Easement Inspections19

 Permit Activity19

EDUCATION AND OUTREACH20

 Citizen Advisory Committee.....20

 Community Involvement.....20

 Press and Social Media20

PRIOR LAKE OUTLET CHANNEL.....21

 Structure21

 Channel21

WETLAND BANKING PROGRAM.....21

STATUS OF LOCAL PLAN ADOPTION AND IMPLEMENTATION.....22

STORMWATER.....22

FINANCIAL REPORT.....23

 2017 Financial Summary23

 Grants.....24

2018 WORK PLAN25

 CAPITAL PROJECTS25

 OPERATIONS AND MAINTENANCE25

 PLANNING26

 MONITORING AND RESEARCH.....26

 REGULATION26

 EDUCATION AND OUTREACH.....26

 PRIOR LAKE OUTLET CHANNEL26

This page left bland intentionally

INTRODUCTION

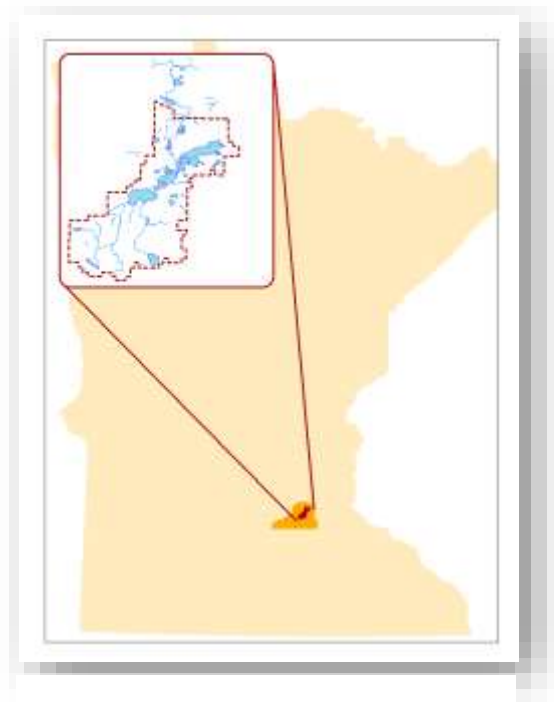
This report has been prepared by the Prior Lake-Spring Lake Watershed District (PLSLWD, or District) and details the activities of the District through the calendar year 2017. The report will focus on the District's program and project accomplishments relative to the approved Capital Improvement Plan 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 2017 are listed below.

Fred J. Corrigan

Manager

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

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: 7/26/14-7/25/17

4291 Coachman Lane NE
Prior Lake, MN 55372

952-440-5800
chowley@htpo.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 2017 are listed below.

Paul Krueger
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

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
dlynch@plslwd.org

Amy Tucci
Administrative Assistant
atucci@plslwd.org

Jaime Rockney
Water Resources Specialist
jrockney@plslwd.org

Kathryn Keller-Miller
Conservation
Assistant/Education
Specialist
Kkeller-miller@plslwd.org

Maggie Karschnia
Water Resources Project
Manager
mkarschnia@plslwd.org

CONSULTING SERVICES

Solicitation for auditing services for 2017 was conducted in October 2016 and Abdo, Eick and Meyers, LLP, was selected for a year contract. The following are the consulting firms selected in 2017 for 2017/18:

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

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.
2. To maintain or improve the quality of all water resources within the District.
3. To maintain and expand the recreational, aesthetic, and wildlife habitat benefits associated with surface water and natural spaces in the District.
4. To improve understanding of local water resources and practices among all stakeholders in the District.
5. To be as efficient and effective as possible in all District activities.

ASSESSMENT OF 2017 WORK PLAN

The following is a summary of the activities completed in 2017 organized by District's revised 2013 WRMP.

- | | |
|-------------------------------|------------------------------|
| 1. Capital Projects | 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. It is expected that no further maintenance work on the vegetation is necessary after this period.

In 2017, the District worked with AES to ensure the continued advancement of native vegetation established at the site. A prescribed burn was completed in April of 2017 to discourage invasive species and to further encourage native plant establishment. In addition, 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 and disturbing the bottom of the basins.

The District will continue to manage the vegetation at the site over the next two years to ensure native plant establishment. A re-seeding effort will be completed on the east side of the project along Sunset Avenue where the wrong mix was planted in efforts to fully establish the site with native prairie species.



12/17 Wetland Restoration

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 vegetation is starting establish and the system will be brought on-line in 2018.

The last project in this grant will include the installation of an iron-enhanced sand filter in Sand Point Beach Park in Prior Lake. This project will be installed in 2018 and will be completed by June 30th.



OPERATIONS AND MAINTENANCE

AQUATIC VEGETATION MANAGEMENT

Based upon a recommendation from Blue Water Science, 20.4 acres were treated for curlyleaf pondweed on Spring Lake, 2.55 acres were treated for curlyleaf pondweed on Lower Prior Lake.

Curlyleaf pondweed was not treated in 2017 in order to allow the lake to become more vegetated. An Aquatic Invasive Plant Control grant from the Scott County paid for the treatment. The curlyleaf was treated by PLM Lake and Land Management.

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 feedlot/pasture management; 2 filters/riparian buffers; 1 native prairie restoration and 3 well abandonments for a total of 9 projects. The SWCD received requests and provided follow-up assistance to 49 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 three FLC meetings in 2017 where a variety of agricultural topics related to water quality were discussed. 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 Variable Rate Application cost-share program that was implemented in 2016 was successful and became part of the PLSLWD's regular cost-share programming in 2017. The FLC also continued with the 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. Two test fields were used to refine the scoring system and requirements of the program. Two more FLC members will test the Lake Friendly Farm program in 2018 before it is planned to be released to the rest of the farmers in the District in the fall of 2018.

In 2017, the FLC sponsored a "Cover Crop Reverse Auction," where farmers provided bids to fund the planting of cover crops on their fields. Proposals were selected based upon cost-effectiveness considering soils, slope, impacts to water and other factors. A total of 118 acres were planted in the fall of 2018 under this program.

The FLC also provided free interseeder rental for cover crops as an incentive for those who did not participate in the reverse auction to try cover crops on their fields

In 2018, the FLC will be trying out a new Cover Crop Incentive Program that will target critical water quality fields in the watershed and releasing the Lake Friendly Farm Program.

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 the majority of 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.

The desiltation pond treated water with Ferric Chloride from April 1 to October 31 in 2015. 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 35% and dissolved phosphorus by 58%. In other words, a total of 938 million gallons were treated, 534 pounds of total phosphorus were removed and 240 pounds of dissolved phosphorus were removed.

Results of the 2017 sampling can be found in the Annual Ferric Chloride Report available on www.plslwd.org.

ROUGH FISH MANAGEMENT

The District helped support the 5rd Annual Carp Tournament on Prior and Spring Lakes on May 20, 2017. The event was sponsored by a local marina and was the first night carp tournament held for the annual event. Several teams participated and the largest haul was 62 fish, which is the biggest haul since the tournament began. The District contributed \$2,500 in prize money for the winners.

In 2017, the District continued into its second year with Carp Management 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, Upper Prior and Lower Prior Lakes by decreasing total phosphorus concentrations using integrated pest management. 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 2017, the District continued to track the movement of the 26 radio-tagged carp in Spring Lake, Upper and Lower Prior Lakes. The carp location maps were documented on the District's website so that the public could see their locations.



In 2017, the District used another method to track carp. Passive Integrate Transponder (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. In 2017, the District installed two receiver devices to study the movement of carp throughout different waterbodies which helped document movement and determined the effectiveness of installed carp barriers.

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 30, 2017, 34,000 pounds (17 tons) of carp were removed from Spring Lake during a seine event. This represented roughly 70% of the current carp population in Spring Lake and is considered

a great success. This seine on Spring Lake was the largest haul of carp the Watershed District had on record, netting 2,575 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. The District successfully applied for a MnDNR Clean Water Partnership grant for a new, innovative carp barrier on an identified carp spawning area that connects to Spring Lake and installed the barrier in 2017.

A temporary barrier was placed on the Spring Lake outlet to Upper Prior Lake. This was installed with careful timing to avoid effecting migration of native fish. A PIT tag station was installed in the channel to determine effectiveness of the temporary barrier.

The PLSLWD cooperated with the University of Minnesota to participate in a study of bluegill predation on carp eggs as a means to control carp populations. The study took place in a controlled wetland to the west of Spring Lake and the final results showed no successful recruitment of carp in an isolated system that contained adult bluegill.

Based on information gathered from the telemetry surveys, population studies and seine events, the PLSLWD created an Integrated Pest Management (IPM) Plan for Common Carp. This plan was reviewed and approved by the Board and will be used to help guide future carp management activities throughout the watershed district.

In 2018, the PLSLWD will continue with its carp management efforts under the IPM Plan and pursue further grant funding to help accelerate management efforts after the current grant expires.

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, additional seeding will be done, as needed. Interpretive signs will be installed and the area will be maintained by Great River Greening for two years before maintained responsibilities are transferred to the city.

PLANNING

STORMWATER MANAGEMENT & FLOOD MITIGATION STUDY

Due to the extensive flooding in 2014, the District partnered with the City of Prior Lake and collaborated with Spring Lake Township to complete a study that updated the watershed’s hydraulic and hydrologic model, reviews flood related issues and projects, identified potential flood reduction strategies and developed an implementation plan. This Stormwater Management and Flood Mitigation Study began in 2015 and was completed in 2016.



2015 Flood Study Brochure

There were two approved short-term recommendations in the Study. First, the City of Prior Lake would complete a written plan in order to effectively coordinate temporary enhanced protection measures during flood events. The City adopted its Flood Response Policy on June 26, 2017. Secondly, the District would actively manage the Prior Lake Outlet by updating its Outlet Control Structure Management Policy and Operating Procedures, which regulates the opening of the low-flow gate. The District received permission from the DNR to open the gate more often, depending upon the results of modeling. This Policy was accepted by the District on July 3, 2017. The long-term recommendation was for the District to identify sites and implement upper watershed flood storage. The District identified one site and discussed it with existing landowners. The landowners did not want their land inundated with water, so the District will be working on other options in 2018.

FLOOD DAMAGE REPAIR

The District sustained over \$1 million in damages in the Prior Lake Outlet Channel due to the flood. 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 project, estimated at \$750,000. It is anticipated this extensive project will be completed in 2018.

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 16 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_19, ST_17, 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 consists of level loggers that record 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 and B3) all had level loggers. In addition to those sites, stage and flow were monitored on the outlets of Fish, Spring, Prior Lakes (sites ST_08, ST_21, PL_OUT respectively).

Flow measurements were collected by PLSLWD and Scott SWCD. Flow meters used include FloMate 2000 and a Sontek



Stream Monitoring

Flowtracker. Continuous stage was recorded using level loggers, such as pressure transducers and ultrasonic distance sensors.

DEPLOYMENTS

Deployment monitoring data was collected by installing sondes in the water for an extended amount of time (two weeks at a time). This method is used to collect continuous data upstream and downstream of a location of interest in order to view changes both spatially and temporally. Parameters collected include conductivity, temperature, turbidity, and dissolved oxygen. In 2015, Scott SWCD was hired to conduct the deployment study in the Upper Watershed.

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 2017: 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. Three volunteers collected lake samples for the CAMP program in 2016.

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 Prior Lake, Haas Lake, Rice Lake, Pike Lake, Jeffers Fish Pond, and Jeffers Wildlife Pond. 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. After treatment, an assessment was completed to determine the effectiveness of the treatment.

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, Arctic, Fish, Upper Prior, and Lower Prior Lakes.

Prior Lake Association has donated \$700 annually since 2013 towards the BioBase program. Your Boat Club donated the use of a boat for staff to map Prior Lake at no charge to the District. 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

Two volunteers collected rain and snowfall data daily in 2017 –Richard Schultz, and Larry Mueller. The PLSLWD then forwarded the data to the State Climatologist. District staff also recorded daily precipitation at the office location.

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 2017, the District inspected 35 out of 37 total conservation easements, which represented 155 landowners. Out of the 155 landowners' properties that were visited by District staff, 95 properties were in compliance with the easement terms, 14 had first-time violations and 46 were multi-year violators. 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, vegetable gardens, landscaping, planting non-natives and installing fences. During the 2018 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 2017:

- 17.01 Living Hope Church Project
- 17.02 Zinran Avenue Improvements Project
- 17.03 Prior Lake 2017 Road Reconstruction Projects
- 17.04 Rolling Oaks Circle Road Improvement Project

In addition, the District continued to inspect existing easements, and close out permits as the projects closed and 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 150 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.

In addition, the CAC completed its second Water Quality Improvement Award process. Four families received \$500 each for raingardens, shoreline restoration and a filter strip.

COMMUNITY INVOLVEMENT

In order to demonstrate new and ongoing projects, the District conducted a Lower Prior Implementation Projects and carp tour for the Board of Managers, District partners and Citizen Advisory Committee. The City of Prior Lake, Scott SWCD and the District hosted one raingarden workshop and two shoreline workshops. 41 attended the prairie workshop; 78 attended the cover crop workshop and two prairie workshops. In addition, the District made PowerPoint presentations at the annual meetings of the Prior Lake and Spring Lake Associations.

PRESS AND SOCIAL MEDIA

The District submitted 13 articles that were published in the Prior Lake American. It also provided articles for the Prior Lake and Spring Lake Association newsletters. Staff submitted 9 articles that were 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 daily on the website during the monitoring season. Numerous Facebook posts were made on a wide-variety of articles daily and many were tweeted.

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

With approval of the District's WRMP in June of 2010, local units of government (LGU) having land use planning and regulatory responsibility are required by statute to prepare or update existing local water management plans. There were no revisions in 2017.

STORMWATER

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

FINANCIAL REPORT

The 2016 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, 2017. A copy of the 2017 Annual Audit is available for review on the District website and at the District office after May 8, 2018, when it is approved by the Board of Managers.

2017 FINANCIAL SUMMARY

Values presented in the chart and graph below are unaudited. Please refer to the 2015 Annual Audit for more details, which can be found at www.plslwd.org

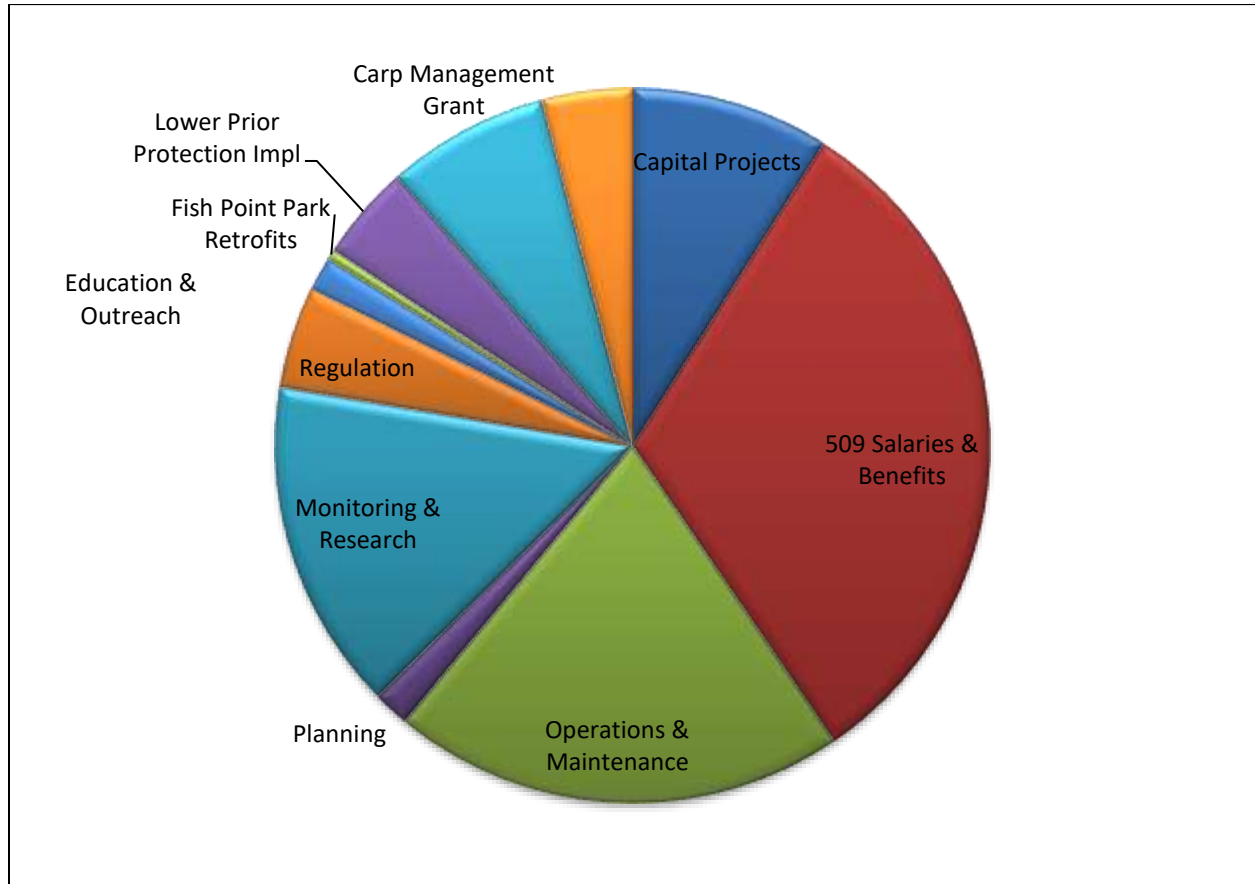
2017 FINANCIAL SUMMARY

Fund	Starting Balance	Approved Budget	Tax Levy Revenue*	Additional Revenue**	Transfers to/(from)	Expenditures	Ending Balance
General	\$167,571	\$173,050	\$172,186	\$1,148	\$0	\$204,150	\$136,755
509 Implementation	\$372,098	\$828,303	\$971,447	\$88,620	(\$123,098)	\$716,443	\$592,624
MOA/JPA Funds	\$519,360	\$373,686	\$0	\$192,733	\$123,098	\$259,905	\$575,286
Bond Debt Service	\$23,211	\$161,375	\$160,711	\$159	\$0	\$161,375	\$22,706
Total	\$1,082,240	\$1,536,414	\$1,304,344	\$282,660	\$0	\$1,341,873	\$1,327,371

Tax levy revenues shown are actual tax levy dollars collected. The 2017 tax levy was 1,310,000.

** Additional revenue is comprised of permit fees, investment income and grant funding.

2017 Project Expenditures



GRANTS

Grants obtained by the District that were active in 2017 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, 2016
- 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

2018 WORK PLAN THE FOLLOWING IS A SUMMARY OF IMPLEMENTATION ACTIVITIES PLANNED TO BE COMPLETED IN 2016 AND THE AMOUNT BUDGETED FOR THAT ACTIVITY.

The following is a summary of implementation activities planned to be completed in 2016 and the amount budgeted for that activity.

509 Implementation Fund	\$1,443,682
General Revenue	\$182,475
Debt Service Fund	\$168,475

CAPITAL PROJECTS

In 2018, The District will continue partnering with the City of Prior Lake on the Lower Prior Implementation Plan and Carp Management in the Spring and Prior Lake system.

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 will occur in Prior and Spring Lakes.

PLANNING

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

MONITORING AND RESEARCH

The District will continue its monitoring program in 2018, which includes stream monitoring, flow monitoring, lake quality, lake level, plant surveys, and plant density monitoring.

REGULATION

The District will complete an MS4 Annual Report and apply for a new SWPPP.

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 2018.

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 2018 and the MOA structure may be revised.