Prior Lake-Spring Lake Watershed District

Annual Report

2013

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

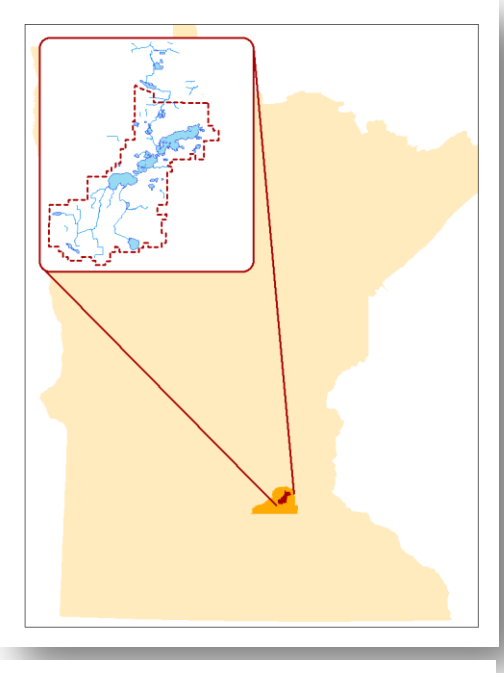
This report has been prepared by the Prior Lake-Spring Lake Watershed District (PLSLWD, or District) and details the activities of the District through the calendar year 2013. The report will focus on the District's program and project accomplishments relative to the approved Capital Improvement Plan 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 2013 are listed below.

Fred J. Corrigan
Manager
Term: 5/21/13 – 3/2/16
Resides in Prior Lake

8075 E. Marindale Dr.
Prior Lake, MN 55372

952-445-9681
fcorrigan@armofmn.com

William Kallberg
President
Term: 3/3/10 - 3/2/13
Resides in Spring Lake Township

2550 South Shore Drive
Prior Lake, MN 55372

William Schmokel
Vice President
Term: 3/3/10 - 3/2/13
Resides in Prior Lake

4151 Grainwood Circle NE
Prior Lake, MN 55372

Greg Aamodt
Treasurer
Term: 6/12/10 - 2/11/13
Resides in Prior Lake

15221 Wilds Parkway NW
Prior Lake, MN 55372

Marianne Breitbach
President (beginning 6/11/13)
Manager (until 6/11/13)
Term: 8/13/12 – 3/2/15
Resides in Prior Lake

14890 Pixie Point Circle SE
Prior Lake, MN 55372

952-440-7561
jmbreit@gmail.com

Bruce Thorsen
Treasurer
Term: 6/26/11 - 6/25/14
Resides in Spring Lake Township

PO Box 1264
Prior Lake, MN 55372

952-440-5757
dbthorsen@gmail.com

Curt Hennes
Vice President (beginning 6/11/13)
Manager (until 6/11/13)
Term: 2/12/2013-6/11/2016

17286 Sunset Trail SW
Prior Lake, MN 55372

952-440-7443
c121347@netzero.net

Woody Spitzmueller
Secretary
Term: 5/21/2013-3/2/2016

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. Adam Fitzpatrick became a new member in 2013 and replaced Christian Morkeberg. 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 2013 are listed below.

Paul Krueger
Resides in Spring Lake Twp
17746 Fairlawn Avenue
Prior Lake, MN 55372

Steve Pany
Resides in Prior Lake
5561 Cedarwood Street NE
Prior Lake, MN 55372

Larry Rundell
Resides in Prior Lake
15096 Fish Point Road
Prior Lake, MN 55372

Kim Silvernagel
Resides in Prior Lake
3152 Butternut Circle
Prior Lake, MN

Christian Morkeberg
Resides in Spring Lake Twp
17556 Vergus Avenue
Jordan, MN 55352

Roger Wahl
Resides in Prior Lake
16510 Inguadona Beach
Prior Lake MN 55372

Jim Weninger
Resides in Spring Lake Twp
2591 Spring Lake Rd SW
Shakopee, MN 55379

Adam Fitzpatrick
Resides in Prior Lake
3173 Wild Horse Pass
Prior Lake, MN 55372

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, 14070 Commerce Avenue NE, Suite 300, Prior Lake, MN 55372. Staff throughout all or part of calendar year 2013 are listed below.

Michael Kinney*
District Administrator
mkinney@plslwd.org

Amy Tucci*
Administrative Assistant
atucci@plslwd.org

Meghan Litsey*
District Outreach Specialist
mlitsey@plslwd.org

Nat Kale*
Watershed Planner
nkale@plslwd.org

Jaime Rockney*
Water Resources Specialist
jrockney@plslwd.org

Emily Javens
Watershed Engineer
ejavens@plslwd.org

Jamie Dayton
Intern
jdayton@plslwd.org

*Current staff as of Dec 31, 2013

CONSULTING SERVICES

Solicitation for consulting services for 2012 and 2013 were made in September and October, 2011. After review of submittals, at its December 13, 2011 meeting, the District Board elected to maintain the existing consulting firms for 2012 and 2013.

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

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

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

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

Smith Partners, PLLP
Legal Services
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 (Resolution 13-272). 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 lead 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.

The goals listed in table 4.1 (i.e., the CIP) represent a concise summary of the goals listed above. In Section 2 of the actual plan document, there is additional clarification of each of these goals as well.

Reorganized Policies and Projects: The original 2010 plan organizes policies by area of interest, some of which roughly correlate with the original 13 goals. Projects in the Implementation section of the plan are organized by physical location (District-wide, Outlet, Spring Lake, Prior Lake, Upper Watershed, etc.). Neither organizational scheme matches the annual budget organization, which is broadly by area of work (In-Lake Management, Regulation, etc.). This proposed plan amendment uses a common scheme of organization for the Policies and Implementation sections of the plan, which will also be used to organize the annual budgets (and this annual report) from 2014 on. There are eight overall categories:

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[1]

Additional and Revised Implementation Projects: Reorganizing the Implementation section of the plan provided us with the opportunity to combine certain projects (such as Aquatic Vegetation Management, which had been split between Prior, Spring, and Fish lakes despite being managed as a single program). We also took the opportunity to add a number of additional projects that have been discussed by the Board of managers, District staff, and representatives of other organizations. State rules and regulations require that the District include a project in its plan before it can spend money to design or build it, so inclusion of multiple projects should minimize, though not eliminate, the need for future plan amendments[2]. Major new and significantly revised projects include the Spring Lake Alum Treatment (major increase in funding), Buck Lake Channel Chemical Treatment, County Ditch 13 In-line or Parallel Treatment, Upper Watershed Lake Outlet Modification, Buck Lake Channel and Lake Restoration, and a number of others.

It is important to note that planned expenditures are not the same as budgeted expenditures; the District is not bound to spending precisely what is included in the plan. Rather, these are projections of the upper limit of what the District would spend in a given year. Project funding could be reduced or removed based on the outcomes of feasibility studies. Alternatively, new projects could be added or funding increased, but that would require another plan amendment. Finally, planned expenditures are not the same as the annual tax levy. Other sources of funding, such as cash reserves, grants, or participation from other project partners, could significantly reduce the levy amounts from the budgeted expenditure (which itself could differ from the planned expenditure).

[1] The "Administration" category is used for organizing policies. It is not used for the Implementation section of the plan, nor in annual budgeting; rather, administrative costs are included in individual budgets.

[2] Conversely, state rules and regulations do NOT require a District to spend money on a project simply because it is included in the plan.

ASSESSMENT OF 2013 WORK PLAN

The following is a summary of the activities completed in 2013 organized by the new structure of the District's 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

ALUM TREATMENT

Spring Lake was treated with Aluminum Sulfate (Alum) to help control release of nutrients contained in the lake bed. This was the first of three treatments. Half of the total dose was applied in October of 2013 (292,000 gallons). The second treatment will be applied in 2016, and the third treatment in 2019. The second and third treatments will dose ¼ of the total dose (146,000 gallons each). Barr Engineering conducted the study and HAB Aquatic Solutions conducted the Alum Treatment.

ARCTIC LAKE

A Subwatershed Analysis Project on Arctic Lake partnered between City of Prior Lake, SMSC, and PLSLWD. The project resulted in an implementation strategy that addressed water quality and other impairments in Arctic Lake that impact Upper Prior Lake. A report was completed by HDR that included a subwatershed assessment, water quality management, and BMP retrofit analysis for the Arctic Lake Subwatershed.

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 restore a wetland (near the intersection of County Road 12 and County Road 17) and team up with the City of Prior Lake and Scott County to make it happen.

The Board approved the Wetland Restoration Project which increases upland storage capacity and improves the quality of stormwater runoff entering Spring Lake by restoring and improving the currently ditched wetland. The

work was scheduled to begin in 2014. This was a partnership between the City of Prior Lake, Scott County, and PLSLWD.

When the restoration is complete, the wetland will store an additional 186 acre-feet of stormwater per year and help to reduce stormwater volume runoff and nutrient loading.

OPERATIONS AND MAINTENANCE

AQUATIC VEGETATION

Based on a recommendation from Blue Water Science, 23 acres were treated for Curlyleaf Pondweed on Upper and Lower Prior Lakes. This treatment was a partnership between PLSLWD and City of Prior Lake. An Aquatic Invasive Plant Control grant from DNR paid for part of the treatment and the remaining was split between PLSLWD and City of Prior Lake. The curlyleaf was treated by Lake Restoration, Inc.

COST SHARE

In 2013, the PLSLWD Board of Managers approved a cost share framework that clarified which types of Best of Management Practices are eligible for incentive. As a result, seven raingardens were installed through the Blue Thumb program, two wells were decommissioned, one landowner participated in a bank-shore stabilization project near Mud Bay on Upper Prior Lake, and one resident installed a rain barrel at their home.

Installing a Rain Garden with the Blue Thumb Program

FARMER LED COUNCIL

The Farmer Led Council was established in 2013. The primary purpose of this council is to be a "Farmer Led" organization that engages farmers to be proactive in nutrient management and conservation planning efforts in the Upper Watershed. Currently, 20% of the cropland is committed to being active in this program.

FERRIC CHLORIDE TREATMENT FACILITY

The system was redesigned in order to release Ferric Chloride ($FeCl_3$) solution into a desiltation basin, rather than the stream (requirement of the MPCA). This redesign was approved by the Board and construction began in 2013.

Because of the construction, the facility did not start dosing FeCl until July 15. Dosing quit about a month later, totaling approximately 2,000 gallons of $FeCl_3$ used. A full report can be found on the www.plslwd.org or by contacting PLSLWD staff.

ROUGH FISH MANAGEMENT

Many attempts were made to seine carp out of Spring Lake in early 2013, but none of the efforts were successful.

On June 2nd, PLSLWD staff organized a carp tournament on Fish, Spring, and Prior Lakes. CAC and PLSLWD Board members volunteered assisted with the weigh-in process. Over twenty teams participated in the tournament and a total of 1,464 pounds (107 fish) of carp were caught. The first place prize of $1,000 was awarded to Team Kzaley, who caught 17 carp with a combined weight of 237 pounds. Biggest fish went to Team Back Country Bowfishing, an under-18 team, who picked up the largest carp at 28.8 pounds and 91 centimeters. The fish were collected by Buckingham Companies, Inc. and transported to the Shakopee Mdewakanton Sioux Community Organics Recycling Facility to be processed.

SPRING LAKE TOWNSHIP PARCEL

A parcel was purchased from Spring Lake Township for $1.00, with the understanding that an assessment of $6,500- $7,000 needs to be paid on the property. The property could be used in the future as a promotional tool showing shoreline stabilization, habitat, or other shoreline possibilities.

PLANNING

PLAN UPDATE

A major watershed plan update was approved in 2013. More detail is provided earlier in this report.

GRANTS

Grants obtained by the District that were active in 2013 are as follows:

- USDA-NRCS Wetland Reserve Enhancement Program (WREP)
  This $2.5 million project is a watershed-based regional program to restore and enhance high quality wetlands and surrounding upland habitat in Sand Creek and Prior Lake-Spring Lake Watersheds in Scott County, MN. This is a joint initiative with the Prior Lake-Spring Lake Watershed District (PLSLWD), Scott Soil and Water Conservation District (SWCD), Scott Watershed Management Organization (WMO), Rice SWCD, Le Sueur SWCD, and the Minnesota Department of Natural Resources (MDNR). The grant went into effect on October 1st, 2010 and will continue for a five year period.
- Spring and Prior Lakes Upper Watershed Stormwater Runoff Volume Reduction
  A grant of $195,600 was received by the District from BWSR via the Clean Water Fund. The grant funding will aid in the establishment and restoration of wetlands and natural depressional areas in the upper watershed of the District, reducing both nutrient levels and water volume reaching the

lakes during wet seasons. The grant began on April 7, 2011 and was expected to continue through December 31, 2012, however the grant has been amended to continue through December 31, 2013.

- Lower Prior Lake Diagnostic Study
  The District received a grant of $48,417 for a diagnostic study on Lower Prior Lake that included an assessment of current water quality and pollutant sources and prescribe targeted protection strategies for the lake. Funding was provided through the Clean Water Partnership administered by the MPCA. The grant began on January 29, 2011 and was continued through June 30, 2013.
- Aquatic Invasive Species Control Grant
  For 23 acres of curlyleaf pondweed treatment on Upper and Lower Prior Lake, a grant totaling $3,000 was received from the MN DNR.

BOUNDARY REVISION

Three areas of possible revision of the PLSLWD boundary were discussed in 2013. Two of the locations are in Savage, and one around the Prior Lake outlet, including Shakopee, Prior Lake, and the SMSC. This discussion has been put on hold until some research regarding infiltration in the SMSC land has been completed.

BUCK LAKE DIAGNOSTIC AND FEASIBILITY *STUDY*

Barr Engineering was selected to complete a diagnostic and feasibility study on the Buck Lake watershed in order to reduce the amount of phosphorus entering Spring Lake from this tributary.

PRIOR LAKE 100 YEAR FLOODPLAIN

EOR completed a revision to the FEMA-approved 1995 United States Army Corps of Engineers (USACE) HEC-1 model for Prior Lake, reported on model revision results, and recommended a 100-year, 10-day event scenario to utilize in pursuit of revision of the regulatory floodplain elevation with FEMA.

MONITORING AND RESEARCH

Monitoring included a mix of staff led, volunteer based, and contracted work which incorporated in-lake monitoring, stream water quality and flow measurements, precipitation and aquatic vegetation monitoring according to the Monitoring Plan. 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).

Please refer to the 2013 Annual Monitoring Report for more detail on the monitoring program and results. You can find this report on the PLSLWD website or by contacting the office. INCLUDE MAP??

STREAM CHEMISTRY SAMPLING

Stream samples were collected at 9 locations around the watershed by PLSLWD staff. Three sites were sampled to fulfill the MPCA permit for the Ferric Chloride site: CD1 (also ST_5A), CD2 (also ST_7), and CD3 (also ST_7A). For a study on the Buck Lake watershed, two sites were added in 2013 (ST_16 and ST_13). The District Monitoring

Program included 4 sites (ST_11, ST_14, ST_19, and ST_26A). Water temperature, conductivity, pH, turbidity, and dissolved oxygen were measured using a Hydrolab MS5 multi-parameter meter.

STAGE/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. Using FLUX, EOR created a flow chart that estimates TP and TSS loading within the watershed by using chemistry and flow data from 2011, 2012, and 2013. The sites mentioned in the Stream Chemistry section above (except CD3, ST_16, and ST_13) also had level loggers. In addition to those sites, loggers were installed at ST_21 and ST_08, both of which were located on the outlet of a lake and the lake data was used to calculate loads.

Flow measurements were collected by PLSLWD, Scott SWCD, and EOR. Meters used include Marsh McBirney, FloMate 2000, and a Sontek Flowtracker. Level loggers were all pressure transducers except for one ultrasonic distance sensor.

DEPLOYMENTS

Deployment monitoring data was collected by installing sondes in the water for an extended amount of time (typically two weeks at a time). This method was used in 2013 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 2013, a special study on Buck Lake had 4 sondes deployed from June 17 – September 9. Other sites that had a sonde deployed during 2013 include ST_26A, ST_26B, ST_19, and ST_20.

DNR STAFF GAGE

Three staff gages were monitored weekly for the DNR on Pike, Cates, and Lower Prior Lake. Staff gages are surveyed in every year to tie the results to Mean Sea Elevation.

AUTOMATED LEVEL LOGGERS

Prior to 2013, one automated level logger was active on Lower Prior Lake (installed in 2012). In 2013, 3 new loggers were installed to monitor the lake levels on Pike, Spring, and Fish Lake. The loggers were programmed to log the lake level every 15 minutes and then transmit the data to the PLSLWD office. Lower Prior Lake data was then transmitted to the website which was available for the public to view the most current lake level data.

THREE RIVERS PARK DISTRICT

Three Rivers Park District monitored four lakes in 2013: Fish, Pike, 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. Seven volunteers collected lake samples for the CAMP program in 2013.

Lake	Volunteer(s)
Spring	Jim and Liz Weniger
Upper Prior	Scott and Kim Silvernagel
Lower Prior (site 1)	Marianne Breitbach and Carter Christie
Lower Prior (site 2)	Dave Rech
Cates	Tom Sletta
Haas	Tom Chaklos
Fish	Jon Haferman

Volunteers collect samples every other week during ice-free conditions, which include parameters such as secchi depth, phosphorus, and chlorophyll-A.

PRECIPITATION

Three volunteers collected rain and snowfall data daily in 2013 – Jonathan Cohen, Richard Schultz, and Larry Mueller. The PLSLWD then forwarded the data to the State Climatologist. District staff also records daily precipitation at the office location.

EOR installed and maintained two automated tipping-bucket rain gauges which collected rainfall totals in 15 minute increments during 2013. These gauges did not collect snowfall data.

AQUATIC VEGETATION SURVEYS

Blue Water Science conducted vegetation surveys on five lakes – Spring, Upper Prior, Lower Prior, Fish, and Pike Lake. These surveys include the type and density of vegetation at predetermined sampling locations throughout the lakes. In lakes with invasive plants, Blue Water Science recommends treatment options, when deemed appropriate.

SEDIMENT CORE ANALYSIS

FISH AND PIKE LAKES

Lake sediment cores were analyzed in Fish and Pike Lake by the St. Croix Watershed Research Station and the University of St. Thomas. This project was established to accomplish the following goals:

- Quantify the amount of total and releasable phosphorus in the surface sediments of Fish and Pike Lakes
- Estimate lake-wide phosphorus release rates for each lake using sediment-P concentraions and intact sediment core incubations
- Examine phosphorus accumulation since European settlement in Fish Lake

A report of the results was produced and can be found at www.plslwd.org, or by contacting the PSLWD office.

SPRING LAKE

A report on the sediment coring that was done on Spring Lake in 2012 (by the St. Criox Watershed Research Station and University of St. Thomas) was completed in 2013. The report is titled "Historical water quality and ecological change in Spring Lake, Scott Co., MN" and concludes that historic, pre-settlement TP in Spring Lake was in the range of 60 ppb +/- 5 ppb. This information was especially useful when applying for a Site Specific Standard for Spring Lake of 60 ppb (not yet approved, but a likely chance). The current standard for Spring Lake is set at 40 ppb, which according to this data, is not a realistic goal.

The report includes:

- Historical populations of algae and total phosphorus in Spring Lake
- Sediment composition, diatom subfossils, and algal pigments used to model historic TP
- Sediment accumulation rates
- Diatom assemblages and sediment pigment concentrations
- A model of TP concentrations established using diatom assemblages

The complete report can be found at www.plslwd.org or by contacting the PLSLWD office.

AQUATIC VEGETATION DENSITY MAPPING

A new program in 2013, aquatic vegetation density, bathymetry, and bottom hardness in a lake was mapped utilizing a depth finder. Volunteers used their own boats, attached the depth finder, and followed pre-determined tracks to cover all or parts of Spring, Upper Prior, and Lower Prior lakes. Prior Lake Association donated $700 towards the purchase of a depth finder. Your Boat Club volunteered the use of a boat for volunteers mapping Prior Lake.

The potential benefits of this project included:

- A better understanding of density and location of vegetation in lakes
- Better bathymetric maps
- Provide lake bottom sediment composition maps
- Ability to monitor effectiveness of vegetation management (curlyleaf pondweed treatment)
- Helpful in determining locations for vegetation management
- Helpful for fishermen
- Potential greater understanding of lake ecology and sediment deposition rates
- Better management of the lakes for fisheries
- Direct engagement of interested citizens in monitoring the health of lakes

REGULATION

Under the terms of the Municipal Separate Storm Sewer permit (MS4 permit), the District was required to adopt regulations that forbid illicit discharge of substances to the outlet channel. At the December 2013 Regular Board meeting, the Board of Managers approved Rule K: Illicit Discharge.

INSPECTIONS

District staff continued to attend the City of Prior Lake's weekly development review committee meetings at Prior Lake City Hall in 2013. In May, the District hired Jamie Dayton, Erosion and Sediment Control Intern, to assist with inspections involving erosion and sediment control, Best Management Practices (BMP), and easements. Since a majority of the City of Prior Lake's active construction sites are within the PLSLWD boundary, the District entered into a shared site inspection agreement with City of Prior Lake to pool resources and combine inspection efforts. As a result, Jamie Dayton inspected 18 construction sites during the summer of 2013.

Permit Inspections

Annual inspections continued on District-owned Best Management Practices (BMP) and easements. Jamie Dayton led this effort, and a total of 76 BMP inspections were conducted.

PERMIT ACTIVITY

The District issued five new permits in 2013: 13.01: Jeffers Pass Outlet; 13.02: County Road 12: Improvements; 13.03: Sunset Avenue Improvements; 13.04: Valley Park Business Center; and 13.05: East Village 3rd Addition. These permits and previous permits: 10.02: Jeffers Waterfront; and 11.03: Jeffers Pointe were subject to regular erosion and soil control inspections. The District closed permit 03.14: Crystal Bay Townhomes with the issuance of Certificates of Completion to the applicant.

EDUCATION AND OUTREACH

TOURS

Alex Gehrig, with the Freshwater Society, planned the District's Annual Boat tour and invited citizens, CAC, LAC, Lake Association Board members, and PLSLWD board members to attend. The group met at Captain Jack's in Prior Lake and then boarded two pontoons. While touring Upper Prior Lake, the group discussed

Annual Boat Tour

current water quality of the lakes and recent District projects.

The Twilight Farm Tour was scheduled to be held at a sod farm in 2013, but was later cancelled due to unfavorable site conditions.

PLSLWD staff organized a watershed tour to showcase the District's most innovative and effective solutions for water quality management. Local partners were invited to attend the tour. Tour stops included: Pike Lake Park, the Prior Lake Outlet Structure, Iron Enhanced Sand Filters, the Iron Chloride Facility, and the Boudin Neighborhood retrofit projects.

CITIZEN ADVISORY COMMITTEE

PLSLWD staff continued to conduct and attend monthly Citizen Advisory Committee (CAC) meetings. In 2013, the CAC strove to understand their role to the Board of Managers. Alex Gehrig, with the Freshwater Society, facilitated a survey which allowed CAC members to express concerns and their thoughts on the effectiveness of the CAC. Overall, the results were positive and the CAC members brainstormed solutions to address concerns that were identified in the survey. As a result, the CAC meeting minutes and monthly updates are included in every Board meeting package, and a Board member was assigned to attend regular CAC meetings.

Steve Pany, a member of the Citizen Advisory Committee (CAC), wrote three articles on various water quality topics for the Prior Lake American newspaper.

Fall Community Festival was staffed by members of the Citizen Advisory Committee to promote Watershed District activities and lake friendly lawn care practices.

The CAC also hosted an informational meeting on the Spring Lake Alum Treatment for the public at Prior Lake City Hall.

COMMUNITY INVOLVEMENT

Staff gave presentations at local community group meetings including the Prior Lake Association, Rotary Club, and Optimists Club, etc.

Staff also attended the Savage Arbor Day tree sale and distributed handouts about the Raingarden-in-a-Box program and the upcoming raingarden workshops.

The City of Prior Lake and PLSLWD hosted two raingarden workshops at in May and two in September at Prior Lake City Hall. In total, 48 residents from Scott County participated in the workshops, which resulted in 11 new raingardens.

A movie night was hosted by Freshwater Society for a screening of "Troubled Waters" at the Prior Lake Public Library.

In early November, PLSLWD staff organized a Rake for the Lake event. A group of 25 students from the Prior Lake High School EcoTeam

Rake for the Lake Event

gathered at Memorial Park in Prior Lake and collected leaves and other organic debris from the park. The students gathered 3,440 pounds of leaves and the City of Prior Lake disposed of the organic debris by using one of their specialized vacuum trucks.

PLSLWD staff worked with Paul Krueger, CAC Member and owner of Krueger Dairy, to establish a Farmer Led Council. The purpose of the Farmer Led Council is to connect agricultural producers and allow the agricultural community to actively lead an effort to increase the implementation of practices to reduce nutrients and protect local water resources. In the fall of 2013, seven farming landowners representing 1,400 acres of cropland agreed to take the initial step of taking soil samples for nutrient management plans.

Elementary school students from the Prior Lake-Savage Area Schools learned about the role of native plants in raingardens and water quality from PLSLWD staff during the Outdoor Education Days at the McColl Pond Environmental Learning Center. They also participated in a raingarden scavenger hunt.

PRESS AND SOCIAL MEDIA

The District submitted 18 articles for printing in local newspaper, Spring Lake Association newsletter, Prior Lake Association newsletter, Outdoor News, the website, and more. Citizen Advisory Committee members also submitted articles in the Prior Lake American Newspaper to cover water friendly tips, brief educational items, and outreach to get citizens involved.

The District updated its website in 2013. The new website offers a restructured user experience and now includes a live lake-level display and a “News & Events” page that tracks all new posts to the website, as well as any upcoming events. Twitter and Facebook accounts were updated regularly.

In 2013, two newsletters were released summarizing projects and news within the District.

PRIOR LAKE OUTLET CHANNEL

STRUCTURE

The Outlet Structure reconstruction was signed off on being complete in January of 2013. The new outlet structure was designed by Wenck Associates, Inc. and the work was completed by Quiring Escavating, LLC.

The outlet structure was flowing from May 10 through August 30 in 2013, out-letting approximately 7,609 acre feet of water total, moderating lake elevations below the Ordinary High Water (OHW) and preventing major flooding.

More than 35 inspections were made throughout the year to ensure the integrity and efficiency of the system was maintained.

CHANNEL

Twenty-six flow measurements were conducted at four locations along the outlet channel. Nine of those thirty-two flow measurements, and two of the stations, were monitored for purposes of XP-SWMM model calibration.

Ten measurements were collected at the outlet structure and seven were collected at site 26A for the purpose of water quantity monitoring and load calculations. Water quality samples were also taken at site 26A.

Using flow data from 2 sites in 2012, an update to the PLOC XP-SWMM model was updated in January 2013. However, in April 2013, NOAA formally adopted the new Atlas 14 for the Midwest area to reflect the changes in precipitation depth and intensity due to a more complete and robust data set. With flow data collected in 2013 (including 2 new monitoring sites) and the new Atlas 14 standards, the model will again be updated in 2014 to support management decisions regarding long-term usability of the channel.

Precipitation was collected with an automated tipping bucket in segment 5A.

Full or partial inspections were completed along the outlet channel on 35 days in 2013.

RESTORATION AND MAINTENANCE

In 2013, three failing culverts were replaced between Segments 3 and 4B (Pike Lake Road, Jackson Trail, and the Field Road downstream of Jackson Trail). In addition, vegetation along the channel was managed for herbaceous invasives by EOR and woody invasives by Applied Ecological Services. Garlic mustard was hand cut in Segments 3-8. Small populations of Common burdock were cut in Segments 4A, 4B, and 8. Block locust, common buckthorn, and Tatarian honeysuckle suckers and seedlings were treated in segments 1, 3, 4A, 5C, 6, and 7A.

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. Although submission and review of the LGUs Local Surface Water Management Plans is required to occur by June of 2012, the City of Savage plan was reviewed and approved on June 14, 2011. Submittals of plans from the City of Shakopee were approved in 2012, Scott County was approved in early 2013, and the City of Prior Lake was approved in 2011. As of the end of 2013, the City of Prior Lake was anticipating updating their surface water management plan again when the PLSLWD rules revisions occurred, but no such revisions were completed in 2013.

STORMWATER

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

FINANCIAL REPORT

The 2013 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, 2013. A copy of the 2013 Annual Audit is available for review on the District website and at the District office.

2013 FINANCIAL SUMMARY

Values presented in the chart and graph below are unaudited. Please refer to the 2013 Annual Audit for more details.

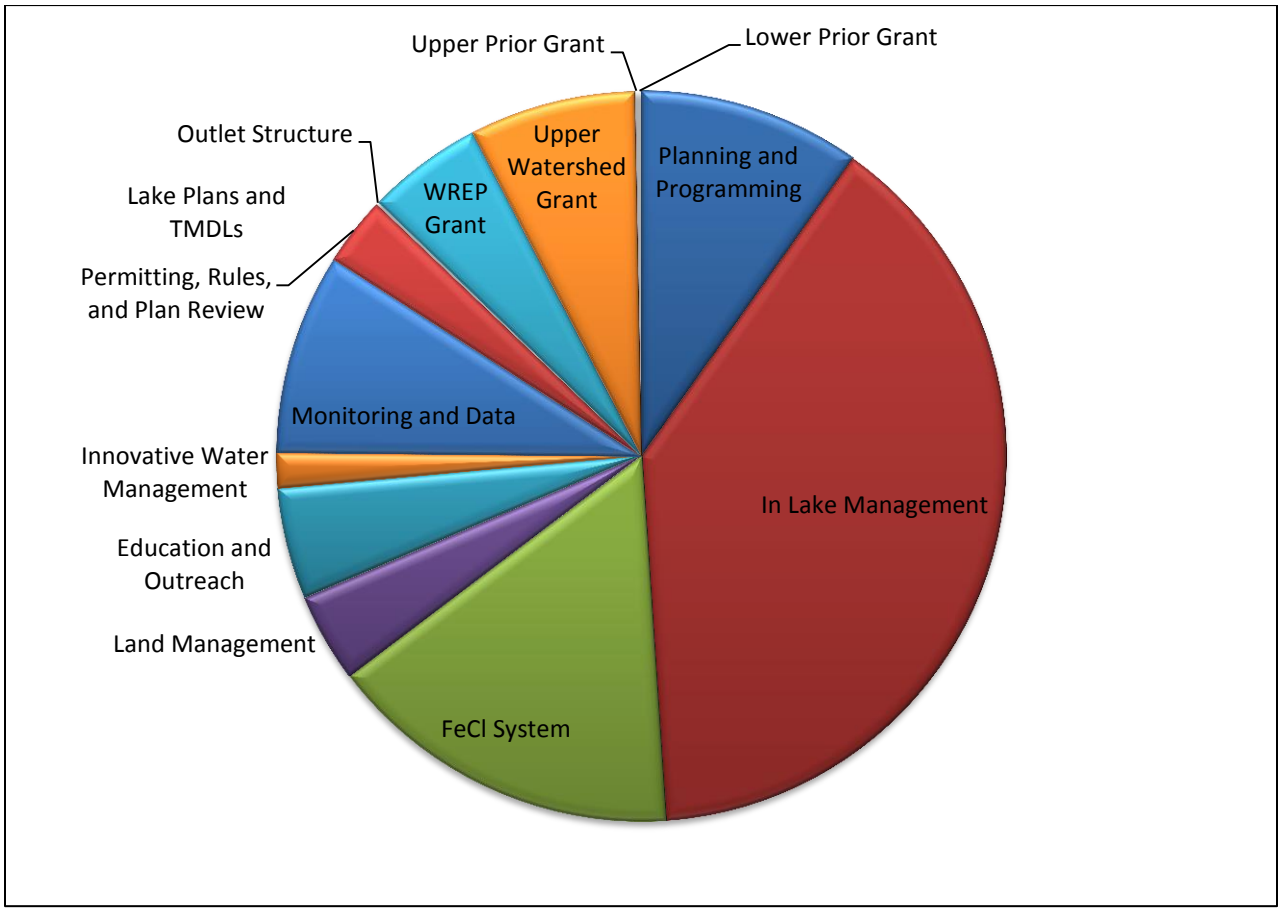
2013 FINANCIAL SUMMARY

Fund	Starting Balance	Approved Budget	Tax Levy Revenue*	Additional Revenue**	Expenditures	Ending Balance
General	$148,910	$107,026	$128,647	($1,586)	$133,863	$142,108
509 Implementation	$1,712,715	$1,528,517	$405,800	$140,572	$1,531,812	$727,275
MOA/JPA Funds	$563,297	$275,862	$0	($4,454)	$140,994	$417,849
Bond Debt Service	$1,235,843	$151,645	$138,556	($9,650)	$1,351,979	$12,770
Bond Construction Funds	$20,525	$0	$0	($20,525)	$0	$0
Total	$3,681,290	$2,063,050	$673,003	$104,357	$3,158,648	$1,300,002

*Tax levy revenues shown are tax levy dollar amounts collected. The 2013 actual tax levy was $671,131.

** Additional revenues include permit fees, investment income, transfers (to)/from other funds, and grant funding used of $104,357.

509 IMPLEMENTATION EXPENDITURES - 2013



2014 WORK PLAN

The following is a summary of implementation activities planned to be completed in 2014 and the amount budgeted for that activity.

509 Implementation Fund	$825,725
General Fund	$98,000
Debt Service Fund	$149,275

CAPITAL PROJECTS

The District received grants through the Clean Water Fund and will be participating in a restoration partnership on Arctic Lake with the City of Prior Lake and Shakopee Mdewakanton Sioux Community and a wetland restoration project in Fish Point Park, partnering with the City of Prior Lake.

OPERATIONS AND MAINTENANCE

The Cost Share program and Farmer Led Council will be continued. Operation and Maintenance of the Ferric Chloride Facility will continue. Aquatic Vegetation Treatment will occur if curlyleaf is determined a nuisance. The District will again attempt to remove carp from Spring Lake.

PLANNING

The District will be contracting with Barr Engineering to do a feasibility study in the Buck Lake system, which flows to Spring Lake. The study will determine the most feasible way of reducing phosphorus loading to Spring Lake. The Scott Soil and Water Conservation District will be conducting an assessment in the Upper Watershed to determine potential conservation practice locations that could reduce phosphorus loadings to Spring Lake via County Ditch 13. The CR 12/17 wetland restoration, a partnership with the City of Prior Lake and Scott County, will be completed in 2014.

MONITORING AND RESEARCH

The District will continue its monitoring program in 2014, which includes stream monitoring, flow monitoring, lake quality, lake level, plant surveys, and plant density monitoring. The District will attempt to calculate the carp population on Spring Lake after an electrofishing event.

REGULATION

The District will continue to partner with City of Prior Lake to conduct erosion and sediment control inspections and attend weekly Development Review Committee meetings. Additionally, District staff anticipates a Rules revision to comply with the new MS4 requirements and the ongoing practice of closing old District permits and issuing new permits, as needed.

EDUCATION AND OUTREACH

The District will continue its education and outreach program to meet the requirements of the MS4 permit and improve understanding of local water resources and practices among all stakeholders in the District. The District will also continue facilitating CAC meetings, and other special programs and events, like the Raingarden-in-a-Box program, Twilight Farm Tour, and community clean-ups, etc.

PRIOR LAKE OUTLET CHANNEL

The District will continue to coordinate the partnership between PLSLWD, City of Prior Lake, City of Savage, and the Shakopee Mdewakanton Sioux Community. Maintenance and projects will be discussed and decided upon by the Technical Advisory Committee and JPAMOA members.