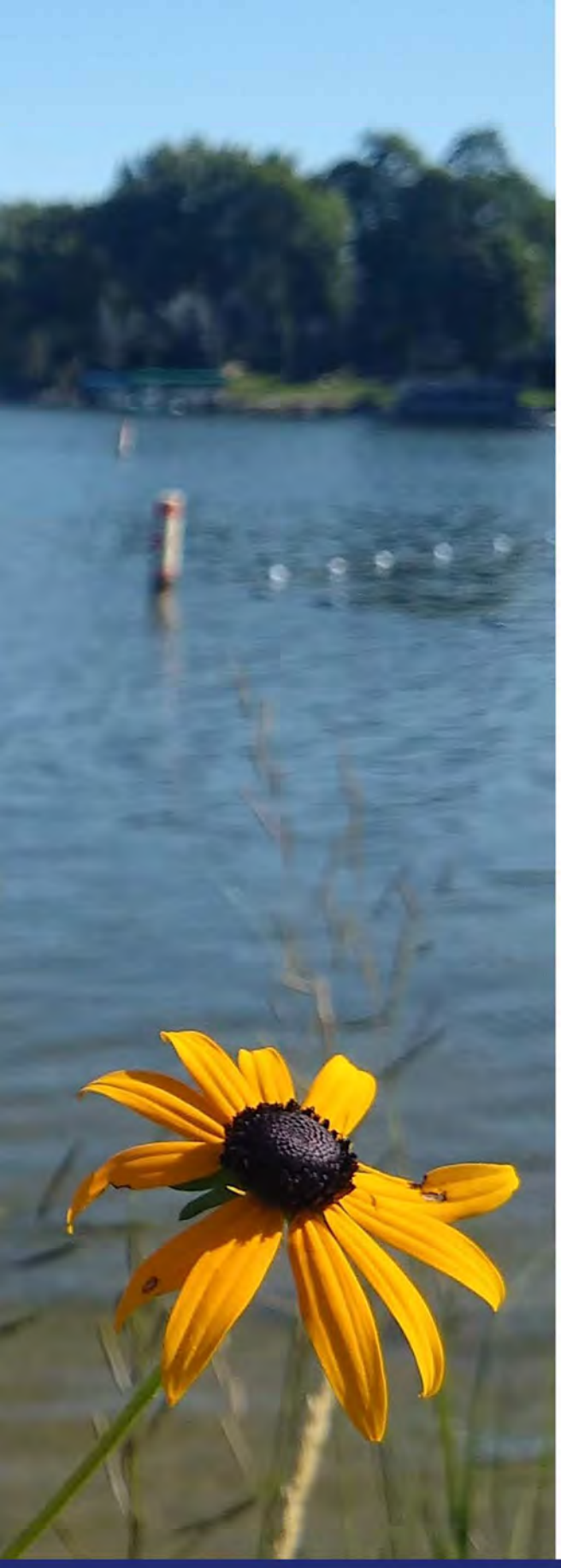
2020 to 2030

Water Resources Management Plan

PRIOR LAKE-SPRING LAKE WATERSHED DISTRICT



PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

Water Resources Management Plan 2020 - 2030

Adopted on July 14, 2020
Amended on May 21, 2024

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ACRONYMS

AIS	Aquatic Invasive Species
BMP	Best Management Practice
BWSR	Board of Water and Soil Resources
CAC	Citizen Advisory Committee
CAMP	Citizen Lake Monitoring Program
CFS	Cubic Feet per Second
Chl-a	Chlorophyll-a
CIP	Capital Improvement Program
CLP	Curly-leaf Pondweed
CREP	Conservation Reserve Enhancement Program
CWP	Comprehensive Wetland Plan
DO	Dissolved Oxygen
DWSMA	Drinking Water Supply Management Area
EPA	Environmental Protection Agency
FeCl	Ferric Chloride
IBI	Index of Biotic Integrity
IIME	Issues Identification Mapping Exercise
IPM	Integrated Pest Management
FEMA	Federal Emergency Management Agency
FLC	Farmer-Led Council
GIS	Geographic Information System
GPR	Minnesota Groundwater Protection Rule
LGU	Local Government Unit
LMRWD	Lower Minnesota River Watershed District
mg/L	Milligrams per Liter
MLCCS	Minnesota Land Cover Classification System
MNDNR	Minnesota Department of Natural Resources
MnDOT	Minnesota Department of Transportation
MOA	Memorandum of Agreement
MPCA	Minnesota Pollution Control Agency
MS4	Municipal Separate Storm Sewer System
MWRB	Minnesota Water Resources Board
NFMP	Minnesota Nitrogen Fertilizer Management Plan
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWL	Ordinary High Water Level
PCSWMM	Advanced modeling software for EPA Storm Water Management Model (SWMM)
PLOC	Prior Lake Outlet Channel
PLSLWD	Prior Lake-Spring Lake Watershed District
SCWEP	Scott Clean Water Education Program
SMSC	Shakopee Mdewakanton Sioux Community
SWCD	Soil & Water Conservation District
SWPPP	Storm Water Pollution Prevention Program
TAC	Technical Advisory Committee

TEP	Technical Evaluation Panel
TN	Total Nitrogen
TMDL	Total Maximum Daily Load
TP	Total Phosphorus
TSS	Total Suspended Solids
µg/L	Microgram per Liter
USDA	United States Department of Agriculture
USFWS	United States Fish & Wildlife Service
VRJPO	Vermillion River Watershed Joint Powers Organization
WCA	Wetland Conservation Act
WD	Watershed District
WMO	Watershed Management Organization
WRMP	Water Resources Management Plan
WRAPS	Watershed Restoration and Protection Strategy
XP-SWMM	Modeling software for simulation of storm, sanitary and combined sewer systems

I. Executive Summary

This 2020-2030 Water Resources Management Plan (WRMP) has been prepared in accordance with Minnesota Statutes 103B and 103D that require watershed districts to adopt and periodically update watershed management plans. These plans must describe the physical, biological, and hydrological setting, as well as current and proposed land use and development. The WRMP must set forth goals and policies for protecting water resources and include an implementation plan of specific activities that will be undertaken to achieve the WRMP's goals.

*The **mission of the PLSLWD** is to manage and 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.*

Watershed districts are local, special-purpose units of government that work to solve and prevent water-related problems. Districts may be established when water management problems become greater than one community or city can handle or when conducive to public health and public welfare and for specific State statute purposes. The jurisdictional boundary is often loosely based on hydrologic watersheds, but many boundaries are not solely hydrologic and may include additional factors. This style of managing water, pertaining more closely to a watershed boundary, allows for an overall, holistic approach to resource conservation.

In 1987, the Legislature directed watershed districts in the seven-county metro area to develop and implement a watershed management plan. These plans are required to:

- protect, preserve, and use natural surface and groundwater storage and retention systems;
- minimize public capital expenditures needed to correct flooding and water quality problems;
- identify and plan for means to effectively protect and improve surface and groundwater quality;
- establish more uniform local policies and official controls for surface and groundwater management;
- prevent erosion of soil into surface water systems;
- promote groundwater recharge;
- protect and enhance fish and wildlife habitat and water recreational facilities; and
- secure the other benefits associated with the proper management of surface and groundwater.

This Fourth Generation WRMP for the Prior Lake-Spring Lake Watershed District (PLSLWD) sets forth the goals, policies, programs, and projects that will be undertaken during the period 2020-2030 in fulfillment of its mission and responsibilities under Minnesota Statutes.

A. PLSLWD Overview

1. PLSLWD Purpose

The PLSLWD was established on March 4, 1970 by order of the Minnesota Water Resources Board (MWRB), which is now the Minnesota Board of Water and Soil Resources (BWSR) under the authority of the Minnesota Watershed Act (Minnesota Statutes, Chapter 112). The order was in response to a petition filed with the MWRB by residents within the watershed on June 24, 1969. The citizen petition sought establishment of the PLSLWD for the purpose of wisely managing and conserving the waters and natural resources of the watershed. More specifically, this petition was intended to address the rising lake levels and the need for an outlet Prior Lake, which was landlocked at the time. The year 2020 commemorates the 50th Anniversary of the PLSLWD.

The PLSLWD is approximately 42 square miles in size and is in north central Scott County, Minnesota, encompassing parts of the cities of Prior Lake, Shakopee, and Savage and portions of Sand Creek and Spring

Lake Townships (**Figure 1**). In addition, a portion of the Shakopee Mdewakanton Sioux Community (SMSC) Tribal Lands are located within the watershed. The SMSC is a sovereign nation and has the ability to partner with the District in their management of water resources. The activities and policies of the PLSLWD are administered by a five-person Board of Managers appointed by the commissioners of Scott County. The PLSLWD administers the Prior Lake Outlet Channel (PLOC) via the PLOC Memorandum of Agreement or Use, Operation, and Maintenance of the Prior Lake Outlet Channel and Outlet Structure (MOA) in **Appendix E**.

2. PLSLWD Map

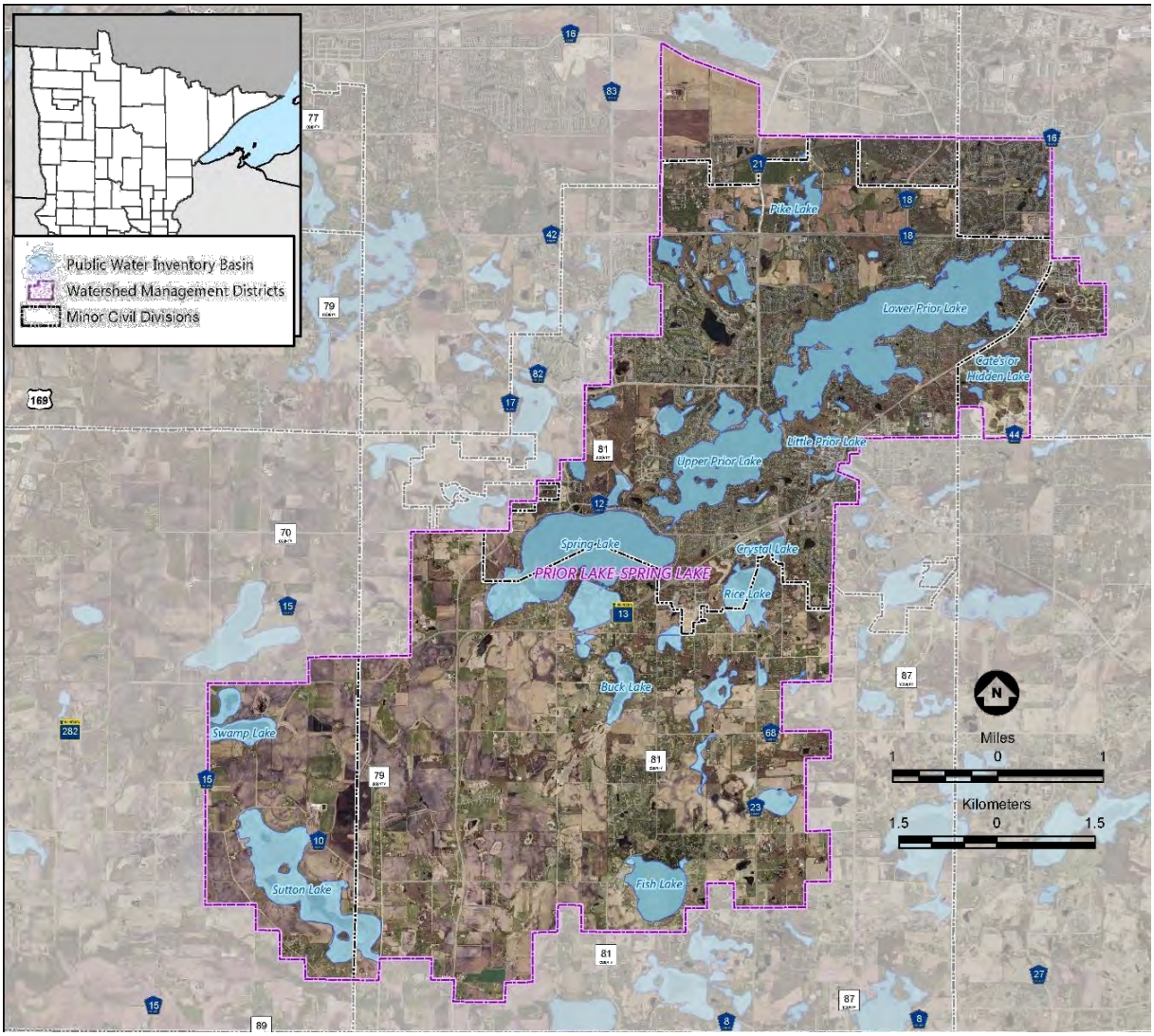


Figure 1. Map of the Prior Lake-Spring Lake Watershed District Boundary

3. Past Accomplishments

In the early years of the PLSLWD, the Board's focus was on flood reduction on Prior Lake by installing, maintaining and improving the Prior Lake Outlet Channel. The PLSLWD has continued to maintain and improve the outlet and structure over the years. In 1995, an Inventory and Inspection Report for Water Quality Detention Basins was conducted, and a final report for this was completed in 1997. In 2002 a Flood-proofing/Buyout study was conducted and in 2004 a Storage and Infiltration Study was conducted.

The Board began to incorporate water quality goals into its WRMP shortly after the outlet was established. Some of the major water quality improvements over the years include:

- **Ferric Chloride Treatment Facility:** In 1998, the PLSLWD constructed a ferric chloride ($FeCl_3$) treatment system to precipitate phosphorus out of stormwater from County Ditch 13, the main inflow to Spring Lake. The system was constructed as part of a Minnesota Pollution Control Agency (MPCA) Clean Water Partnership Implementation Project. In 2013, the PLSLWD finished updating the Ferric Chloride Facility to meet new Minnesota Pollution Control Agency requirements and increased the capacity of the system to treat water flowing through the area. Testing has shown that the Ferric Chloride Facility provides an estimated removal of 35% of the total phosphorus (TP) coming from the County Ditch 13 system.
- **12/17 Wetland Restoration Project:** The CR12/17 Wetland Restoration Project is an innovative stormwater treatment project intended to improve water quality in Spring Lake by removing approximately 60 lbs/year of TP loading. The wetland restoration project enhances flood control and captures phosphorus and sediment before they reach Spring Lake and other downstream waterbodies. The project's restored wetlands and iron-enhanced sand filter treat runoff from two highways, city roads and an upstream 60-acre agricultural area.
- **Spring Lake Alum Treatment:** Studies have determined that approximately half of the annual phosphorus loading to Spring Lake comes internally from the bottom sediments of Spring Lake. In order to address the internal phosphorus inputs, PLSLWD contracted with HAB Aquatic Solutions to conduct an alum application over an eleven-day period in October 2013. The application produces a "floc" that settles to the bottom of the lake. The floc effectively intercepts and binds the phosphorus, which makes it unavailable for algae to use for growth. A second treatment was completed in 2018 and a third and final dose is anticipated for 2020/2021 based on water quality monitoring results.
- **Carp Management Program:** The PLSLWD's common carp management program maximizes water quality restoration and remediation by addressing one of the root causes of internal loading identified in the TMDL for Spring and Upper Prior Lakes. Carp stir up sediment from the lake bottom when they forage for food; this re-suspended sediment makes more phosphorus available to phytoplankton and increases the shading effect on native submergent aquatic vegetation. In 2017, the PLSLWD adopted an Integrated Pest Management Plan for Common Carp (IPM Plan) and has worked to bring common carp populations down to levels which do not impair water quality. The PLSLWD manages carp populations by assessing current populations levels, tracking their locations, completing removals, and blocking access to spawning areas. In 2019, the PLSLWD committed to an Accelerated Carp Management Program, which supports innovative methods for comprehensive carp removal.
- **Lower Prior Lake Protection Projects:** In 2013, PLSLWD completed a diagnostic study that 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 the water quality of the rest of Lower Prior Lake is more strongly influenced by phosphorus loading from Lower Prior Lake's direct watershed. The study identified several potential projects that would help maintain the good water quality in Lower Prior Lake, many of which were completed including: Sand Point Beach Park Iron-Enhanced Sand Filter Project, Fish Point Park Water

Quality Improvement Project, Fairlawn Shores Biofiltration Basin Project, Indian Ridge Biofiltration Basin Project and Watzl's Beach Shoreline Restoration.

- **Demonstration Projects:** The PLSLWD completed shoreline restoration projects on property it owns on the north side of Spring Lake; the City of Prior Lake's Raymond Park; and the Fish Lake shoreline & prairie at Spring Lake Town Hall.
- **Cost-share Projects**: The PLSLWD invested its funds to support over 75 projects in both rural and urban areas of the PLSLWD that protected water quality.
- **Flood Damage & Planning:** The PLSLWD sustained nearly $1 million of damage along the Prior Lake Outlet Channel due to a series of storms in June 2014. Work to repair the channel was substantially completed by December 2019. In addition, the PLSLWD completed a Flood Study with the City of Prior Lake in 2016 which identified three implementation strategies. Two of the three strategies have been completed.
- **Conservation Easements.** Since 2015, the PLSLWD has completed a comprehensive review of its conservation easements, including: surveys, developing baseline maps, enforcing the PLSLWD's rules, working with landowners to comply with legal requirements and providing technical assistance, when needed.
- **Citizen Engagement.** Coordinating with the City of Prior Lake, the PLSLWD conducted 10 Spring and Fall Clean Water Clean-ups, which targeted organic waste and invasive species, to protect water quality throughout the City. The PLSLWD has also sought to educate and encourage the public to pursue good practices and activities which support healthy habitats and water resources.
- **Monitoring**. In 2009, a Water Quality Monitoring Summary was developed. In 2010, the Board adopted their Third Generation WRMP, which was revised in 2013 and amended in 2018. The Third Generation Plan represents the third set of WRMPs developed by watershed organizations in the Twin Cities metropolitan area.

B. Plan Structure

PLSLWD developed this WRMP as a guide to facilitate the improvement and protection of the watershed's health in the next 10 years. The 2020-2030 WRMP consists of eight sections:

SECTION I: EXECUTIVE SUMMARY

This section reviews the PLSLWD's history, accomplishments, general purpose and requirements, the PLSLWD's mission, PLSLWD boundary, and provides a summary of issues, goals and major actions.

SECTIONS II – V OVERVIEW:

*The next four sections of the 2020-2030 WRMP follow four key steps to form and articulate the strategies laid out in this Plan (***Figure 2***):*

Figure 2. 2020-2030 WRMP structure

SECTION II: ISSUES IDENTIFICATION & ASSESSMENT

This section is a background on the development of the PLSLWD's 2020-2030 WRMP, the PLSLWD's committees, issues identification, priority concerns, priority areas for implementation and an adaptive management strategy.

SECTION III: GUIDING PRINCIPLES, POLICIES & MEASURABLE GOALS

This section describes the three Guiding Principles that address and align with the three priority concerns and their priority issues. From the Guiding Principles, nine underlying Policies were formed to help solidify the commitments the PLSLWD is making over the next 10 years. From those Policies, 23 measurable Goals were identified.

SECTION IV: IMPLEMENTATION ACTIONS, PROGRAMS & PROJECTS, AND FUNDING

This section identifies 74 Implementation Actions (methods or approaches) to address the priority concerns and primary issues listed in Section II and to help accomplish the 23 Goals listed in Section III. The Implementation Actions in this WRMP helped to ultimately identify the key Projects that will be necessary to meet goals. By using Implementation Actions to inform the Projects, it also helps recognize overlapping and/or complimentary Implementation Actions that help to achieve multiple Goals.

The 48 Projects in this 2020-2030 WRMP are organized into the PLSLWD's following program areas:

- Capital Projects
- Operations & Maintenance
- Planning
- Monitoring & Research
- Regulation
- Education & Outreach
- Administration

Each of the Projects are further broken down into implementation steps with a timeline table to gauge progress. The waterbodies addressed, respective Goals & Implementation Actions, funding source and total costs are identified for each Project in this section.

SECTION V: OUTCOMES & MEASURES

This section provides a dashboard for the PLSLWD that provides ongoing measurement and reporting of benchmarks and helps the PLSLWD monitor progress in realizing the goals of the 2020-2030 WRMP. This section provides a way to measure and monitor progress of outcomes with key milestones and achievable timelines.

SECTION VI: LAND AND WATER RESOURCES INVENTORY

This section is divided into two main subsections: Existing and Future Conditions and Hydrologic Systems.

Existing and Future Conditions. An inventory of existing conditions and proposed future development within the PLSLWD. It is divided into three categories: physical environment, biological inventory, and human environment.

Hydrologic Systems. An inventory of basic hydrologic data for the PLSLWD. It is divided into four subsections: precipitation, water quantity, water quality, and groundwater.

SECTION VII: LOCAL GOVERNMENT UNIT REQUIREMENTS

This section provides an overview and description of local plan requirements for local units of government with the PLSLWD boundaries once this 2020-2030 WRMP is approved.

SECTION VIII: PLAN REVIEW AND AMENDMENT

This section provides information on how the WRMP will be reviewed and the process for amending it.

Figure 3 *(below) further breaks down the components of Sections II-V to better illustrate how the important parts of this WRMP are connected and relate to each other from section to section.*

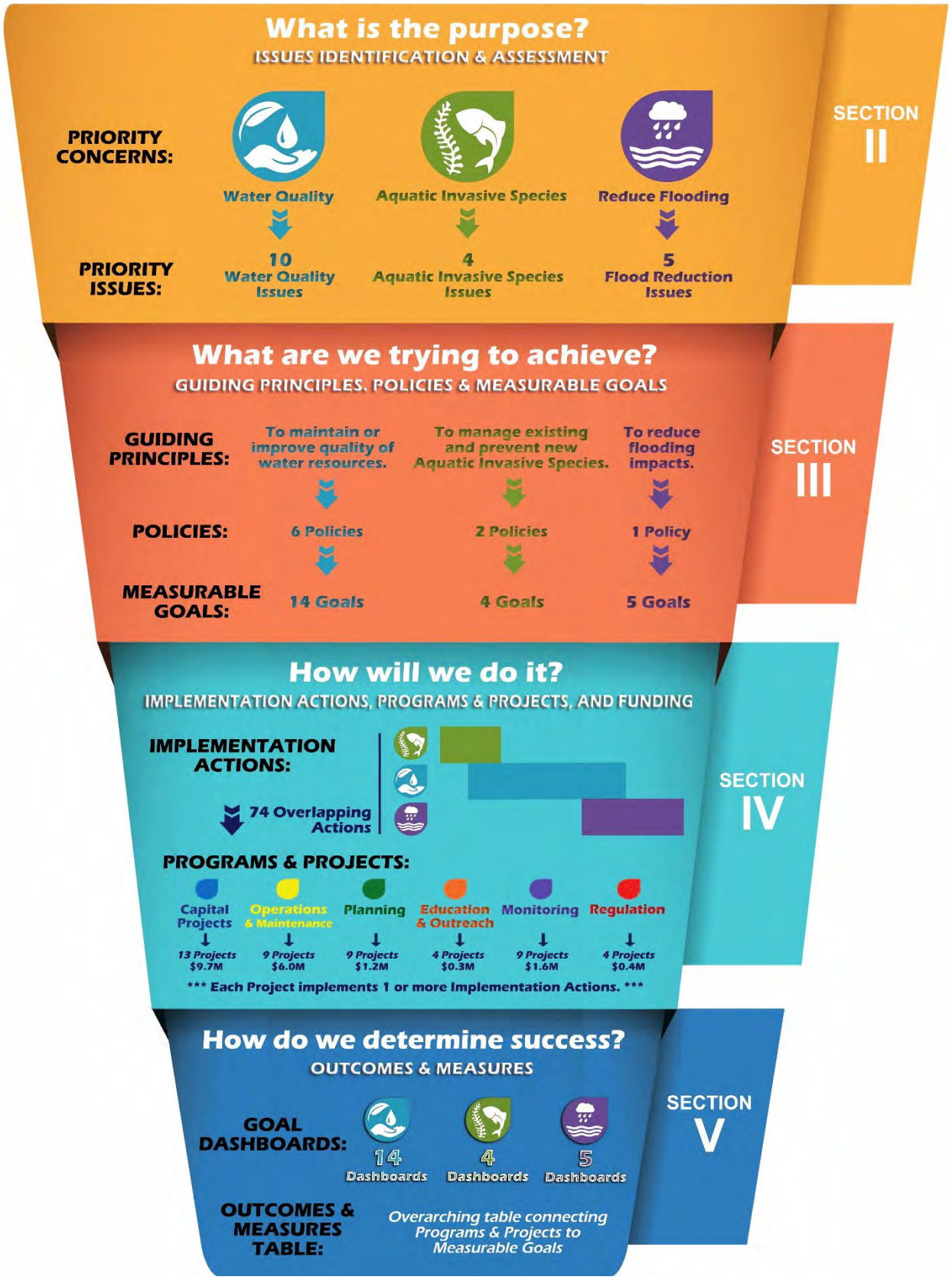


Figure 3. Visual representation of the contents of the 2020-2030 WRMP

C. Priority Concern Areas & Primary Issues

The lakes and water resources of the PLSLWD play a vital role in the health, economics, environmental quality, aesthetics, and quality of life of the local community. As the PLSLWD has a multitude of water resources within its boundaries but a limited amount of resources to improve or protect them, the PLSLWD must focus its efforts on the most important factors affecting the community.

1. Three Priority Concern Areas

In the public planning process, the PLSLWD used its three priority concerns to develop three Guiding Principles with nine underlying Policies, and a total of 23 Goals. During discussions and meeting for the WRMP, three recurring priority concerns were decided upon by the PLSLWD and four specific goals floated to the surface as having the highest degree of urgency.

PRIORITY CONCERNS:

WATER QUALITY

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

AQUATIC INVASIVE SPECIES

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

REDUCE FLOODING

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

2. Primary Issues

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

WATER QUALITY ISSUES:

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

AQUATIC INVASIVE SPECIES ISSUES:

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

REDUCE FLOODING ISSUES:

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

D. Main Goals

1. Priority Goals

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

WATER QUALITY MAIN GOALS:

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

AQUATIC INVASIVE SPECIES MAIN GOALS:

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

REDUCE FLOODING MAIN GOALS:

- ***GOAL RF1:*** ***Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period (Source: Prior Lake Stormwater Management & Flood Mitigation Study, 2016).***

2. SMART Goals Framework

The development of this WRMP has identified several specific problems and issues impacting resources in the watershed, focusing on three primary areas of concern: Water Quality, Aquatic Invasive Species and Reduce Flooding. This WRMP and its components are designed around the SMART framework:

- **S**pecific. Goals are clear, concrete and action-oriented
- **M**easurable. Goals can be objectively evaluated re. whether they were met
- **A**chievable. Goals are possible and realistic
- **R**elevant. Goals connect back to the PLSLWD's mission and guiding principles
- **T**ime-bound. Goals meet a deadline or frequency

E. Major Actions

The WRMP details the specific Implementation Actions and associated Programs & Projects that the PLSLWD expects to undertake over the course of this 10-year plan. These Projects were selected to address the resource concerns & issues identified above during the planning process and to ultimately work towards achieving the goals identified in this WRMP. Each Project implements one or more Implementation Actions.

While all the projects in this WRMP work in unison to achieve the Goals, there are several major Projects that will achieve significant milestones during the 10 years of this plan. The individual projects under each of the three categories may work to meet multiple Goals, but will achieve the most progress towards addressing Goals in the category they were placed under. These include:

WATER QUALITY

- In-Lake Alum Treatments
- Public Infrastructure Projects
- Wetland Restorations
- Cost-Share Projects
- Farmer-Led Council Initiatives
- Ferric Chloride Treatment System

AQUATIC INVASIVE SPECIES

- AIS Prevention & Management
- Carp Management
- AIS Rapid Response Plan

REDUCE FLOODING

- Storage & Infiltration Projects
- Sutton Lake Outlet Structure
- Wetland Banking Program
- PLOC Management
- Upper Watershed Blueprint

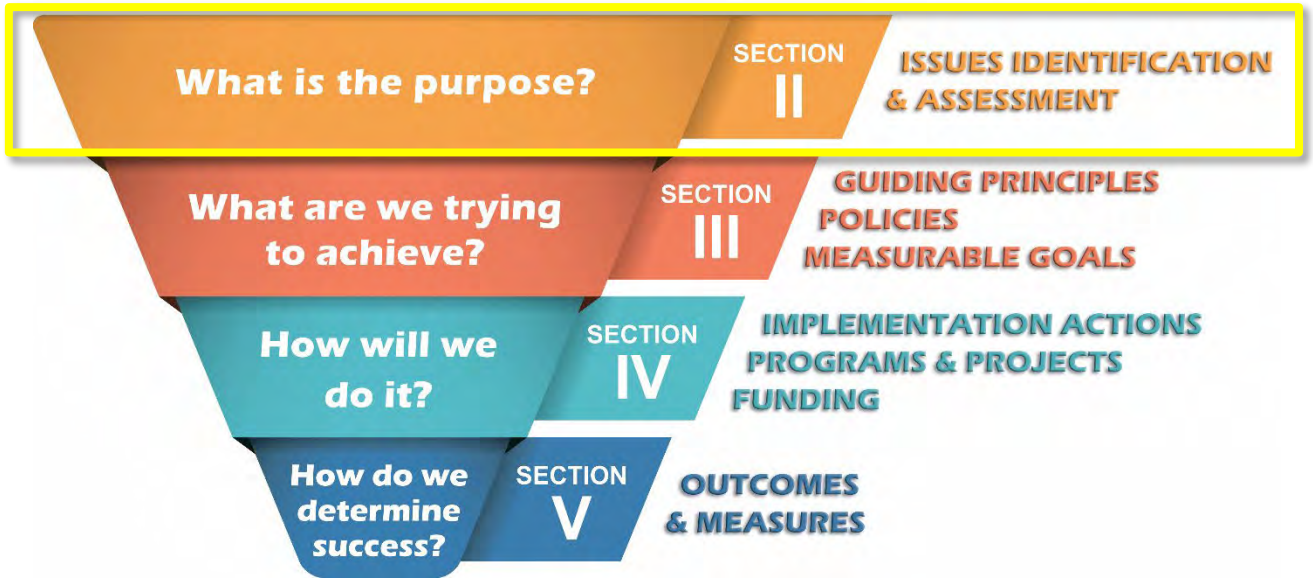
Note: Additional information about the above major PLSLWD Projects can be found in Section IV of this WRMP.

F. Local Government Responsibilities

After the PLSLWD's 2020-2030 WRMP has been approved and adopted, pursuant to M.S. 103B, local units of government (LGU) having land use planning and regulatory responsibility are required to prepare a Local Water Management Plan or amend an existing Local Plan. Local plan content is driven primarily by M.R. 8410 and must include a capital improvement program and implementation plan to bring the local water management plan into conformance with the PLSLWD's 2020-2030 WRMP. Local Water Management Plans must be approved by the PLSLWD and adopted by the LGU within two years of BWSR's approval of the PLSLWD's WRMP. In accordance with M.S. 103B.235 Subd. 4, LGUs must adopt and implement Local Plans within 120 days of receiving PLSLWD approval and amend official controls to be in compliance with the Local Plan within 180 days of receiving PLSLWD approval. LGUs shall complete necessary regulatory updates within one year of the adoption of new Rules and Standards by the PLSLWD. There are no new responsibilities in this WRMP as compared to the existing District plan.

Further information about local government responsibilities can be found in **Section VII** of this WRMP.

II. Issues Identification & Assessment



The first step in developing this WRMP was to identify the issues that are most pertinent to stakeholders of the watershed. This process is a key element of this WRMP because it brings to the forefront the specific issues and their locations in the PLSLWD, ultimately dictating the development of goals and implementation actions that are outlined in this WRMP.

A. Plan Notification Process

The PLSLWD initiated the plan-development process on February 2, 2018 by notifying the designated state plan-review agencies, Scott County, adjacent watershed management organizations and watershed district communities that it was starting the plan-update process. As part of this notification, it was requested that each entity provide the following information:

- Description of management expectations for priority issues
- Summaries of relevant water management goals
- Water resource information relevant to the Prior Lake – Spring Lake Watershed District
- Drafts of local water plans
- 5-year capital improvement plans

The PLSLWD received feedback from the Minnesota Pollution Control Agency, Minnesota Department of Natural Resources (MNDNR), BWSR, Metropolitan Council, Scott County Environmental Services, and the City of Prior Lake, which is shown in **Table 1**. This information was compared to the issue statements contained in the PLSLWD's previous watershed management plan for consistency and discussed with the PLSLWD's Technical Advisory Committee (which includes representation from each plan review agency, Scott County and watershed communities) during its initial planning meeting, which was held on May 14, 2018.

Table 1. Summary of comments received in response to PLSLWD Notification Letter

Comment	MPCA	MNDNR	BWSR	Met. Council	Scott County	City of Prior Lake
Maintain or improve the **quality** of all water resources within the District, address TMDL goals (including TCMA Chloride TMDL)	√	√	√	√		√
Impact of soil erosion problems on **water quantity** and **quality**				√		√
Stream and lake **bank stabilization** and restoration		√				
Land use practices and rural residential development impacts on **water quality** and **water quantity**				√	√	
Include actions to help prevent the spread of **AIS**		√				
Support the County's PUD process with respect to **regional stormwater storage** and **wetland restoration**					√	
Protect and preserve **wetlands**						√
Address **flooding issues** by increasing water storage in the watershed above Spring Lake (including rate control)		√		√	√	√
Maintain and expand the **recreational**, **aesthetic**, and **wildlife habitat** benefits associated with surface water and natural spaces in the District		√		√		√
Monitoring of area water resources (including annual aquatic plant surveys)		√		√		
Surface water/groundwater interactions (including the promotion of groundwater recharge)				√		√
Groundwater sustainability		√		√		
Long-term **maintenance** of projects				√		
Establish a **partnership approach** to managing the outlet channel, implementing projects and programs, and improving public services		√			√	√

B. Review of Local and Regional Planning Documents

One of the first steps in determining the PLSLWD's priority concerns was to look back at the issues, policies and goals established in the previous watershed management plans. While many of the issues remain the same today, information generated over the last ten years allowed the PLSLWD to modify the policies and goals by making them more specific and more measurable. Much of this newer information was compiled from plans and feasibility studies conducted by PLSLWD, Scott County, state agencies, member communities and other entities, and it informed the PLSLWD's assessment of priority concerns. The planning documents reviewed can be categorized as follows:

- *County, Watershed District/Watershed Management Organization, and Local Surface Water Management Plans*
- *State resources and documents (e.g. 2016 Nonpoint Priority Funding Plan, 2040 Water Resources Policy Plan, Thrive MSP 2040, Watershed Health Assessment Framework, Total Maximum Daily Load and Watershed Restoration and Protection Strategy reports)*
- *Groundwater management plans (e.g. Scott County Groundwater Report, Shakopee Mdewakanton Sioux Community Groundwater Protection Plan)*
- *Comprehensive Plan Updates*

- *Local plans, studies and policies (e.g. Upper Prior Lake In-Lake Phosphorous Management Plan, Integrated Pest Management Plan, Arctic Lake Subwatershed Assessment)*

In total, over 50 documents were compiled to create a comprehensive list of plans to inform the Prior Lake – Spring Lake WRMP. These documents are included in the bibliography in **Appendix A**. Information collected during this review of existing plans and policies was supplemented with information provided by the Plan Notification Process and the Stakeholder and Public Involvement Process described below.

C. Issues Identification Mapping Exercise

While the PLSLWD Board of Managers and staff were well aware of the priority issues and concerns facing the watershed, having worked on these same issues since the 2010-2019 WRMP, they took the opportunity to explore additional resource restoration and protection needs using an Issues Identification Mapping Exercise (IIME).

The IIME, also referred to as "zonation", is a conservation prioritization software that uses geographic information and user input weighting to identify locations on the landscape that have varying degrees of environmental sensitivity or management priority. This tool utilized existing data layers and a values model approach to assign weights to the various conservation features located in the watershed. In total, there were 24 data layers or conservation features included in the IIME. While many of the data layers were generated by state agencies (e.g. Lakes Vulnerable to Phosphorous Addition (MNDNR) and Altered Watercourses (MPCA)), a quarter of the data layers were generated by Scott County or PLSLWD (e.g. wells with nitrate concentrations greater than 10 ppm (Scott County) and Wetland Management Classifications (PLSLWD)).

As one of the IIME tools, the PLSLWD Board, staff, and advisory committees were asked to take a survey to assess their value ratings within five potential priority areas. The results of this survey are shown below in **Figure 4** and were used to weight the potential issue areas in the mapping process.

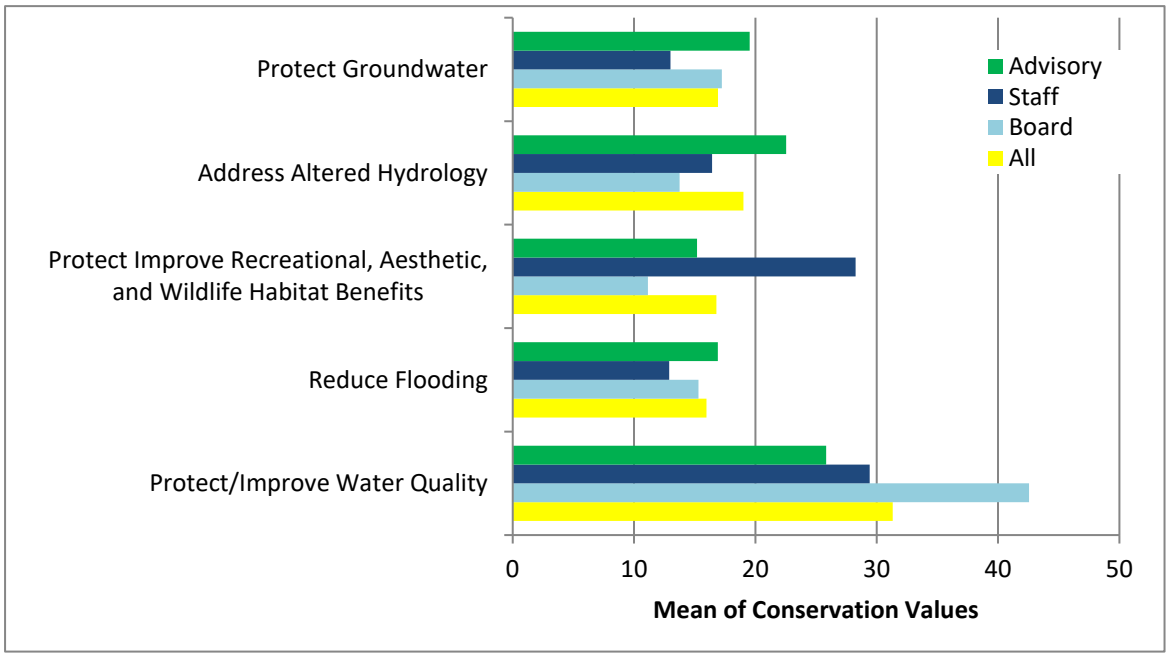


Figure 4. Results of Broad-Scale IIME Survey

After stacking the 24 data layers on top of each other and applying the values provided by the PLSLWD Board of Managers, staff and Technical Advisory Committee, a map identifying 10 potential issue areas was generated

(**Figure 5**). This map, along with the five maps highlighting potential priorities, was reviewed with the Board of Managers, staff, and Technical Advisory Committee (TAC). The Citizen Advisory Committee (CAC) then reviewed the result of the surveys taken by other stakeholders and weighed in with detailed comments regarding the potential issue areas identified. The issue areas were further vetted by the plan partners and the public.

The areas that were identified as potential issue areas are also described in **Table 2.**

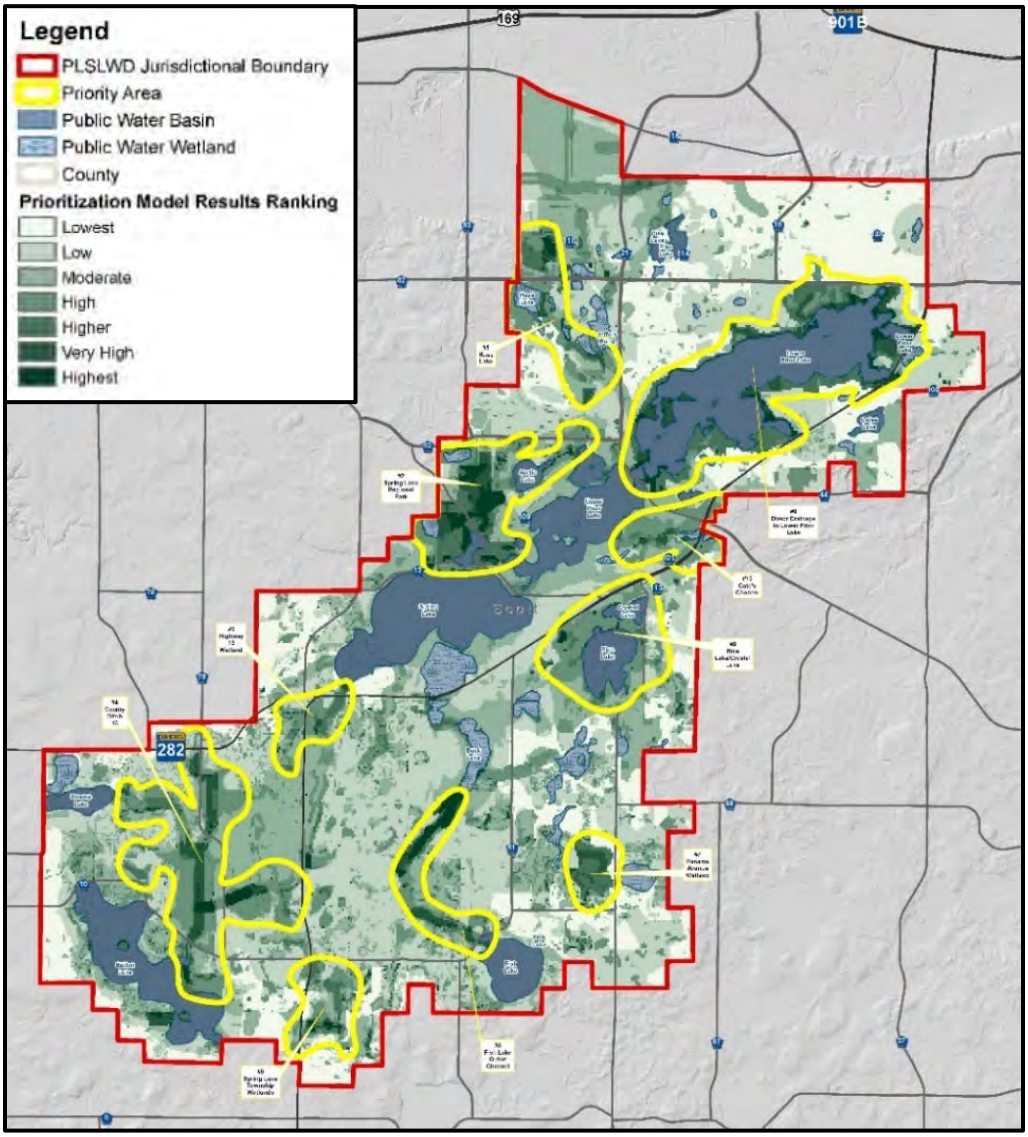


Figure 5. Potential Issue Areas for Consideration

Table 2. Summary of potential issue areas identified by IIME

Potential Issue Area for Consideration	Layers most influential in determining high ranking
Haas Lake	• *DWSMA* • *Ecological Corridor Areas* • *Sites of Biodiversity Significance*
Spring Lake Regional Park	• *High Quality Wetlands* • *Ecological Corridor Areas* • *Regional Park* • *Sites of Biodiversity Significance*
Hwy 13 Wetland	• *Groundwater Sensitivity* • *Areas of High Soil Loss Potential* • *Altered Watercourses* • *Basins for Flood Storage*
County Ditch 13	• *Groundwater Sensitivity* • *Altered Watercourses* • *High Quality Wetlands* • *Wetlands for Water Quality*
Spring Lake Township Wetlands	• *Groundwater Sensitivity* • *Altered Watercourses* • *Wetlands for Water Quality* • *Basins for Flood Storage*
Fish Lake Outlet Channel	• *Altered Watercourses* • *High Quality Wetlands* • *Ecological Corridor Areas* • *Wetlands for Water Quality*
Panama Avenue Wetland	• *Cultivated Areas* • *Ecological Corridor Areas* • *Wetlands for Water Quality* • *Basins for Flood Storage*
Direct Drainage to Lower Prior Lake	• *Groundwater Sensitivity* • *Lakes Vulnerable to Phosphorus Addition* • *Significant Shoreland Area* • *Existing Urban Areas*
Cate's Channel	• *High Quality Wetlands* • *Wetlands for Water Quality* • *Altered Watercourses* • *Existing Urban Areas*
Rice Lake/Crystal Lake	• *Lakes Vulnerable to Phosphorus Addition* • *High Quality Wetlands* • *Ecological Corridor Areas* • *Wetlands for Water Quality*

NOTE: Potential areas chosen for further consideration and project development in **bold**.

Through the IIME process, the Board had a clearer view of where to place the PLSLWD's priorities over the next ten years. While many of the above ten potential issue areas held high resource values, most did not have significant issues or opportunities for regionally significant projects. Based on the feedback received from the public engagement process (**Appendix L**), the Board determined that with the limited resources available, work should be focused more on the most widely used resources and/or those most in need of improvements due to state listed impairments. However, this IIME process helped the PLSLWD identify three issue areas that held multiple benefits to PLSLWD resources which were ultimately chosen for consideration and incorporation of

projects into this WRMP: These resources include: 1) **Spring Lake Regional Park** where there is an opportunity for a regional stormwater pond or water quality improvement; 2) **County Ditch 13** where an improvement would not only help improve the stream system, but also Spring and Prior Lakes; and 3) **Direct Drainage to Lower Prior Lake**, a regionally significant resource which also impacts the downstream waterbody, Pike Lake. These three issue areas were prioritized to be included in the Tiered Lake approach.

The direct watersheds of Spring and Upper Prior Lakes were not included in the IIME as there was general consensus that the District has been focusing on these impaired waters and will continue to do so.

D. Plan Partners and Role in Plan Development

In addition to drawing from existing local and regional plans and incorporating agency input, significant efforts were made to engage member communities, stakeholder groups and the public in the planning process. One of the most critical components of any planning process is engaging members of the community in sharing local knowledge and identifying values and motivations that will inform the process and plan content. This section describes the various groups involved in the public engagement process. A complete list of the meetings held during the plan development process is provided in **Appendix L**.

1. PLSLWD Board of Managers

The PLSLWD Board of Managers participated in a series of workshops that produced the Managers' priorities for watershed management issues, goals and implementation actions over the 10-year timeframe of the WRMP.

During this series of special meetings, the Board discussed how they would like to address newer issues such as groundwater management and changes in precipitation patterns as well as on-going issues related to upland storage and priorities for lake management. The key findings of these discussions were that there are three priority concerns (water quality, AIS and flood reduction), but there were also areas that the Board would like more information such as what role the PLSLWD should play in groundwater management, what the pros & cons would be of a PLSLWD boundary change to better reflect where the water drains, at what level the Board should consider wetland management, and to what degree can the PLSLWD better address and make progress on flood reduction goals.

2. Technical Advisory Committee

The PLSLWD's Technical Advisory Committee (TAC) included one staff representative from the BWSR, MNDNR, MPCA, Metropolitan Council, Scott County Watershed Management Organization, Scott Soil & Water Conservation District (SWCD), Shakopee Mdewakanton Sioux Community (SMSC), Lower Minnesota River Watershed District (LMRWD), Scott County, City of Prior Lake, City of Savage, City of Shakopee, and Spring Lake Township.

The TAC participated in the plan development process by participating in the IIME (taking the survey and discussing the results) and providing feedback on the issues, measurable goals and implementation plan.

3. Citizen Advisory Committee

The PLSLWD's Citizen Advisory Committee (CAC) consists of residents who provide input and recommendations to the Board of Managers on projects, reports and prioritization and act as the primary interface for the Board to address the current issues of concern of local citizens. There were fourteen citizen representatives on the CAC, all of whom participated in the plan development process.

Like the TAC, the CAC participated in the plan development process by participating in the IIME (taking the survey and discussing the results) and providing feedback on the issues, measurable goals and the implementation plan.

4. Farmer-Led Council

The PLSLWD's Farmer-Led Council (FLC) is comprised of local farmers who develop and guide the implementation of strategies that the PLSLWD will use to accomplish agriculture's share of the nutrient reduction goal. Agricultural lands make up the majority of the land in the Spring Lake and Upper Prior Lake watersheds. As such, farmers are the most important stewards of the land and their active input and participation is critical to achieving water quality goals.

The FLC participated in the plan development process by participating in an Agricultural Issues Survey, summarized in **Appendix L**, identifying issues of concern to the agricultural community and providing feedback on measurable goals and strategies.

5. Stakeholders and the General Public

PLSLWD held two meetings with the public over the course of the plan development process: the first to identify issues and concerns and the second to weigh in on the implementation plan and review draft plan content. Information collected during the stakeholder and public engagement process is summarized in **Appendix L**.

While much of the feedback supports the issues, policies and goals brought forward from previous plans, new information was brought to light that resulted in the development of new issues, policies and goals, allowed for further refinement of existing issues, policies and goals or led to discussions with the Managers and staff about priorities for watershed management. For example, feedback received from the public indicated that protecting the recreational value and ecological health of the PLSLWD's resources was a big concern and priority for residents of the watershed. This need led to a discussion about all of the PLSLWD's surface water resources (e.g. smaller, disconnected lakes and streams) and how they are being managed now and into the future.

E. Previous Plan Recommendations

During the PLSLWD's Level II performance review in 2016 (**Appendix K**), BWSR concluded that the PLSLWD had completed or was making progress on 37 of their 62 action initiatives (60%). Several of the items were not started pending the completion of the Minnesota Pollution Control Agency's Watershed Restoration and Protection Strategies (WRAPS) study and report for the Lower Minnesota River watershed. Some of the actions that were dropped were projects that the managers considered and evaluated but determined to be infeasible or not warranted. BWSR was particularly impressed with the PLSLWD's tracking and reporting of the changing conditions of the water resources in the District, particularly the lakes. The PLSLWD's website contains detailed information about water quality and other lake conditions. However, while there were many excellent projects implemented by the PLSLWD, BWSR provided three key recommendations to the Board for future consideration:

1) To consider setting measurable resource condition targets for PLSLWD lakes;
2) To consider how to engage with all PLSLWD partners in both communication and collaboration to address PLSLWD goals; and
3) To address the Local Water Plan compliance action item.

The following are major projects and programs completed since 2016 PRAP Level II Report:

- The Prior Lake Stormwater Management and Flood Mitigation Study (2016 Flood Study) was completed. Two of the three recommendations of the Flood Study were also completed: The City of Prior Lake completed a Flood Response Policy to coordinate temporary protection measures during flood events and the District updated its Management Policy and Operating Procedure and received approval by the MNDNR to open the low-flow gate at its own discretion, by following the Procedure. The third recommendation was to meet the first-tier, high priority Prior Lake protection level of 905.5 for the 25-year return period. The District is nearing completion of its first flood storage project, the Sutton Lake Outlet Modification Project.
- FEMA-funded projects resulting from the 2014 Flood are nearly complete. Nearly $900,000 in damages to the Prior Lake Outlet Channel included stream bank erosion, downed trees, sediment delta and culvert replacements.
- Four Lower Prior Lake Retrofit Implementation Projects were completed which will reduce phosphorus by 33 lb. or 10% of the total drainage area phosphorus load to Lower Prior Lake. In addition, the Fish Point Park Water Quality Improvements Project was completed and was expected to reduce phosphorus from entering Lower Prior Lake by 34 pounds per year.
- The Farmer-Led Council (FLC) was created in 2013 to develop and guide the implementation of strategies the District will use to accomplish agriculture's share of the nutrient reduction goal. The FLC has expanded to include more area farmers who participate in regular meetings, attend workshops, participate in new incentive programs like the Lake Friendly Farm and Cover Crop Incentive Program and initiate new projects, such as the Cover Crop Reverse Auction.
- Carp Management has grown from sponsoring Carp Tournaments and occasional seines to implementing a comprehensive Integrated Pest Management Plan (IPM Plan) that includes population estimates, installing carp barriers, large open and closed water seines and an Accelerated Carp Management Plan that focuses upon innovative techniques to reduce the carp population in Spring and Upper Prior.
- Two demonstration shoreline restoration projects were completed on Spring Lake—on the District's property and at the city of Prior Lake's property, Raymond Park. Another shoreline restoration project started in 2019 on Fish Lake.
- Conservation easements were not a high priority of the District prior to 2016. All 37 conservation easements, which represent 155 landowners, have been inspected annually and most have responded to easement violations by correcting problems or making improvements.
- The Citizen Advisory Committee met monthly and participated in Lakefront Days and Clean Water Clean-ups. In 2019, they initiated a new action plan for CAC-sponsored activities and events for 2020 and beyond, such as fish stocking, AIS/Signage, shoreline restoration and the District's 50th Anniversary.

F. Priority Concerns and Issues

There have been multiple points in the planning process where the plan partners were asked to prioritize issues and concerns. For example, the FLC participated in an Agricultural Issues Survey while the Board, staff and TAC participated in the IIME Survey. Both of these surveys were conducted early in the planning stages. As more information was collected and comments/concerns were organized into issue categories and goals, the Board of Managers conducted a second prioritization exercise which helped to refine the plan priorities.

While all the issues and concerns identified during the plan development process were considered for incorporation in the 2020-2030 WRMP, it was recognized that they could not all be addressed in the next 10 years. The PLSLWD Board of Managers took the following steps to prioritize what could reasonably be accomplished within the 10-year timeframe of the 2020-2030 WRMP:

- Identified and considered relevant plans and programs recognizing that PLSLWD needs to coordinate its activities with its member communities, Scott County and surrounding watershed management organizations.
- Reviewed the results of surveys taken by the Farmer-Led Council, the Technical Advisory Committee, the Board of Managers and staff. As **Figure 4** demonstrates, the highest priority for participants of the Issues Identification Mapping Exercise (IIME) survey was protecting and/or improving water quality.
- Reviewed feedback from farmers in the Agricultural Issues Survey which identified impacts to groundwater resources, degraded soil health, loss of productivity due to flooding and soil loss as the highest priority issues for the agricultural community.
- Reviewed all the comments collected for the potential issue areas identified by the IIME.
- Evaluated whether data was available to support the management decisions that were being called for by the plan partners (e.g. difficult to assign management classifications to the streams since there is little data available to assess existing conditions).
- Recognized that funds and resources are limited, and activities needs to be prioritized, measured and targeted. Evaluated what has been accomplished in the last ten years and what could reasonably be achieved within the next ten years recognizing that many of the concerns and issues identified in the watershed are priorities.
- Projects and programs that provide a water quality and/or flood reduction benefits to the downstream chain-of-lakes (lakes upstream of and including Lower Prior Lake) and/or groundwater system.
- Recognized that the projects and programs administered by PLSLWD maintain, if not enhance the recreational, aesthetic, and wildlife habitat benefits associated with surface water and natural spaces in the District. Because the PLSLWD strives to address these benefits in their work, the Board does not see the need to have an explicit goal related to recreation, aesthetics and wildlife habitat at this time.

The Board of Managers used the above information to determine that there are currently THREE PRIORITY CONCERNS with underlying ISSUES within the PLSLWD:

WATER QUALITY

AQUATIC INVASIVE SPECIES

REDUCE FLOODING

WATER QUALITY: Throughout the issue identification process, one of the strongest recurring themes was the improvement of water quality in the PLSLWD's resources. Most emphasis in comments and discussion was placed on the lakes that were most widely used and had public access. Ten issues that affect water quality in the PLSLWD's resources were identified as well as their sources (**Table 3**).

Table 3. Water Quality issues in the PLSLWD and their associated sources

ISSUE	*SOURCE(S)*
External Loading	***Stormwater Runoff*** ***County Ditch 13 System*** ***Agricultural Runoff*** ***Altered/Loss of Wetlands***
Internal Loading	***Aquatic Invasive Species*** ***Lake Sediment***
Low Diversity	***Dominant Plant Species***
High Phosphorus Levels	***Internal Loading***
Minimal Information Available	***Limited Historical Monitoring***
Loss of Wetland Quantity	***Development*** ***Agricultural Activities***
Loss of Wetland Quality	***Insufficient Targeting & Outreach*** ***Development*** ***Upstream Waterbodies***
Streambank Erosion & Slumping	***Historical Damage to Banks*** ***Stormwater Drainage***
Erosion along the PLOC	***Significant Rain Events & Flooding***
Groundwater Quality and/or Contamination	***Current and Future Land Uses*** ***Improperly Sealed Wells*** ***Overuse of Groundwater***

AQUATIC INVASIVE SPECIES: The PLSLWD has made great strides in control and management of aquatic invasive species (AIS) such as curly-leaf pondweed and common carp. Further management was supported by the residents and partners, as well as the prevention of new AIS entering lakes with public access which is where the greatest threat to new AIS introductions is. Four AIS issues and their sources are shown in **Table 4**.

Table 4. AIS issues in the PLSLWD and their associated sources

ISSUE	*SOURCE(S)*
New AIS Can Reduce Water Quality	***Infested Boats Entering Lakes*** ***Zebra Mussels***
Common Carp Can Affect Water Quality	***Carp Populations Too High***
Overgrowth of Curly-Leaf Pondweed	***Early Season Growth***
Recreational & Ecological Hazards	***Overgrowth of Zebra Mussels***

REDUCE FLOODING: Since the PLSLWD completed the Stormwater Management & Flood Mitigation Study in partnership with the City of Prior Lake in 2016, it has worked to implement components of the WRMP to reduce flooding impact on Prior Lake. The public and partners showed support in continuing this effort to make strides towards the prioritized flood reduction goal in the study and identified this topic as one of its major concerns. Five identified issues that relate to reducing flooding and their sources are shown in **Table 5**.

Table 5. Flooding issues in the PLSLWD and their associated sources

ISSUE	*SOURCE(S)*
Flooding on Prior Lake	***Insufficient Upstream Storage*** ***Historical & New Land Development*** ***Loss and Degradation of Wetlands***
Historical Flooding on Prior Lake	***No Natural Outlet to Prior Lake***
Future Increased Runoff	***Development*** ***Increased rainfall depths & intensities***
Insufficient Information to Inform Projects	***PCSWMM Model Needs Updating***
Need to Update Flood Reduction Goals	***2016 Stormwater Management & Flood Mitigation Study***

G. Priority Areas for Implementation

While there are numerous surface water resources in the watershed including lakes, streams, and wetlands, the PLSLWD Board of Managers have prioritized the 14 lakes in the District into three tiers for the 2020-2030 WRMP. Upper Prior Lake, Lower Prior Lake, Spring Lake and Fish Lake are regional amenities that provide economic benefit and recreational value to the surrounding communities and have been identified as Tier 1 Lakes. On-going challenges in addressing water quality and flooding issues on these waterbodies continue to remain the focus of the watershed district.

1. Lakes

Lakes will follow the following prioritization criteria (**Figure 6**):

Tier 1 Lakes: Those lakes within the District that receive the most public use and have historically received the greatest amount of prior investment.

- Lower Prior Lake
- Upper Prior Lake
- Spring Lake
- Fish Lake

Tier 2 Lakes: Those lakes within the District that have a TMDL and/or that have received significant recent or planned investment into the resource.

- Pike Lake
- Arctic Lake
- Sutton Lake
- Buck Lake

Tier 3 Lakes: Those lakes that have no known water quality impairment and/or need more information to make management decisions.

- Haas Lake
- Crystal Lake
- Rice Lake
- Cates Lake
- Jeffers Pond
- Swamp Lake

2. Wetlands & Streams

Restoration of wetlands and streams and other potential projects that contribute to the improvement in water quality of a Tier 1 lake will be given higher priority during the selection process. The method that will be used to target projects for wetlands, streams, and other resources will follow an adaptive prioritization strategy. The parameters that will be taken into account include but are not limited to:

- Watershed modeling and targeted studies (i.e. the streambank inventory to detect all streams with degraded and/or unstable banks and the Comprehensive Wetland Plan) to identify where the biggest benefits can be achieved
- Downstream water quality and volume reduction benefits
- Willingness of landowners to adopt restoration/protection practices
- Opportunities for local LGU and/or agency partnerships
- Cost-effectiveness of a project
- Funding sources/opportunities (grants)
- How much time it will take to complete

By prioritizing projects in this manner, PLSLWD can make accelerated progress toward restoring the quality of these systems and providing the flood protection needed.

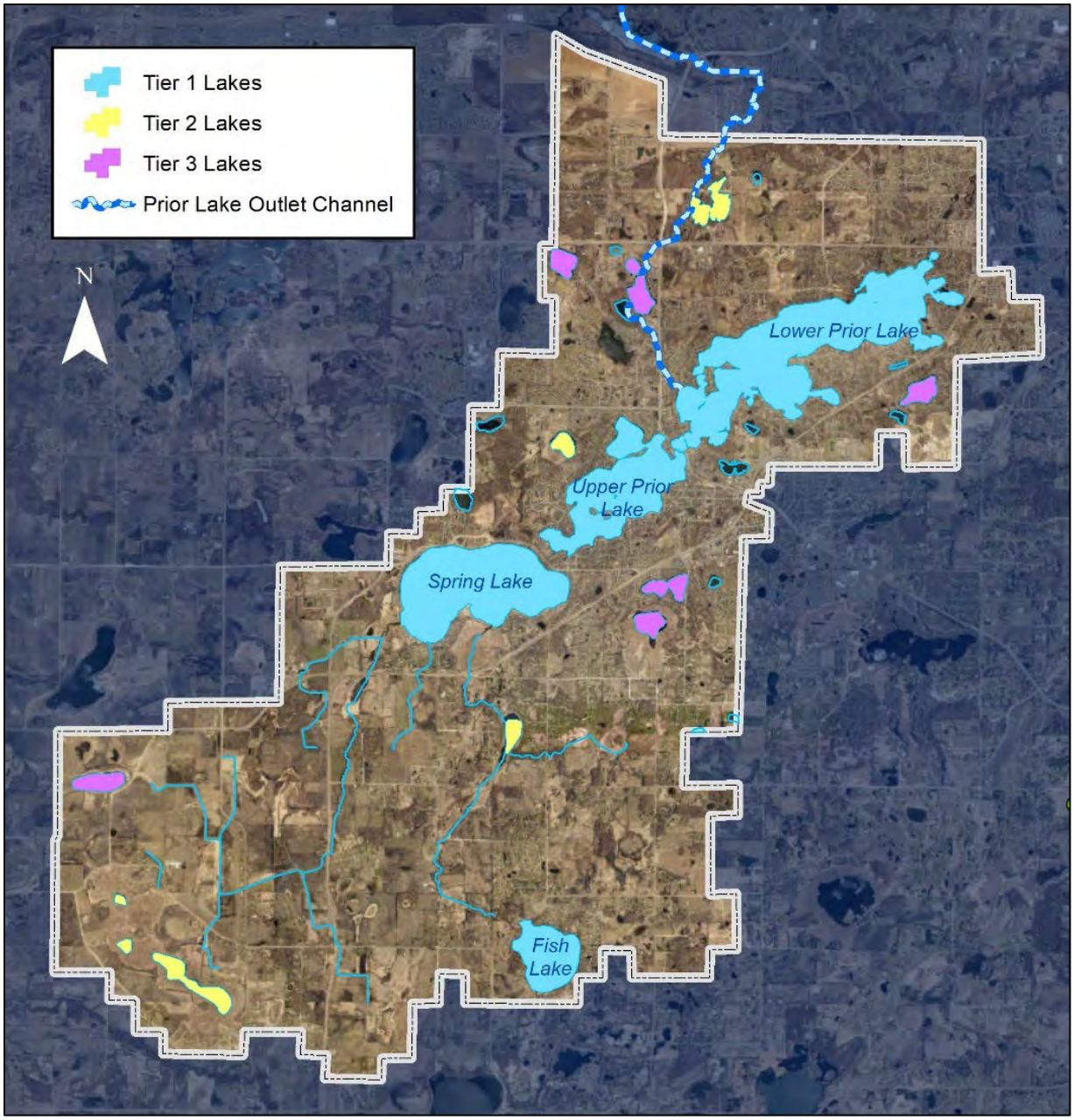
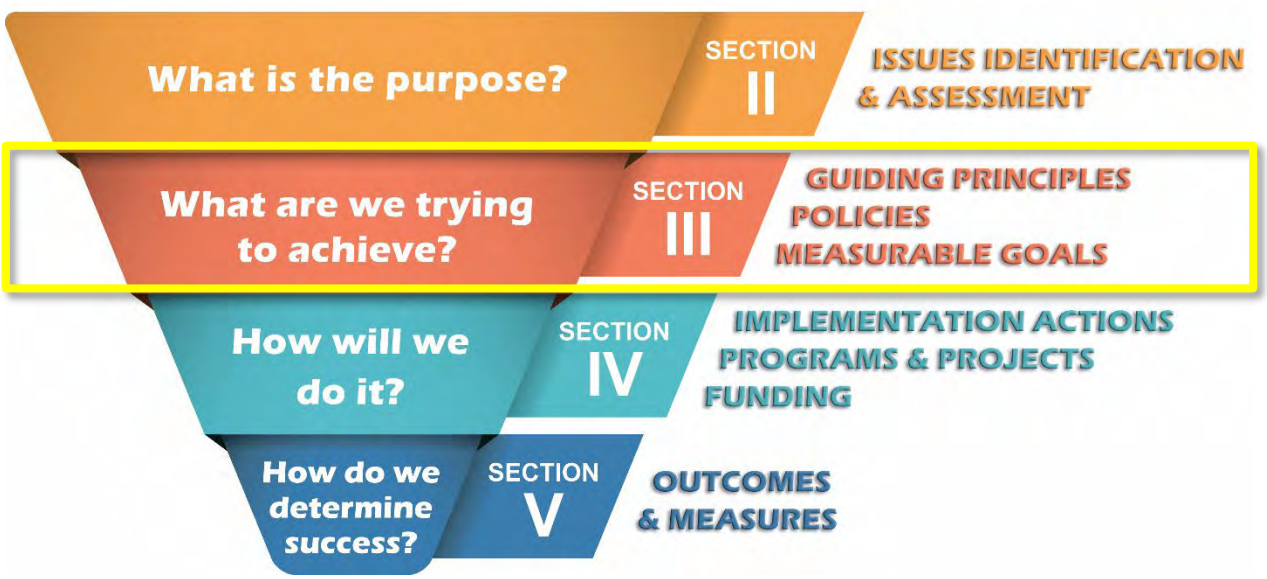


Figure 6. Lake Tier Categories in the PLSLWD

III. Guiding Principles, Policies, & Measurable Goals



The PLSLWD developed a set of guiding principles that address the issues identified in the previous section and are based on input from the Citizens Advisory Committee, Technical Advisory Committee, Farmer-Led Council, and residents. These guiding principles, policies, and measurable goals serve as a roadmap for the Board of Managers and were used to prepare the Implementation Actions, which are provided in Section IV of this WRMP. This format will make the WRMP more of a working document, providing clear guidance for PLSLWD decision-making and an understandable description of direction for residents and partners.

THREE GUIDING PRINCIPLES:

GUIDING PRINCIPLE #1: To maintain or improve quality of water resources (WQ)

Maintain or improve water quality in lakes, streams and wetlands to support healthy ecosystems and provide the public with a wide range of water-based benefits and collaborate with others responsible for groundwater management and protection.

GUIDING PRINCIPLE #2: To manage existing and prevent new Aquatic Invasive Species in the District (AIS).

Effectively manage existing aquatic invasive species (AIS) that adversely affect the quality of the lakes in the District with public access and take measures to help prevent new AIS from entering these systems.

GUIDING PRINCIPLE #3: To reduce flooding impacts (RF)

Manage and/or reduce flooding impacts through programs and projects that address altered hydrology and protect public safety and economic well-being.

These three guiding principles are further described below, and underlying policies have been developed for each principle. Specific, measurable goals have been identified under every policy and are assigned an

associated number (e.g. WQ12, RF4, GW1, IE3, etc.) in reference to one of the three main guiding principles above.

A. GUIDING PRINCIPLE #1: To Maintain or Improve the Quality of Water Resources in the District (WQ)

1. LAKES

The Prior Lake – Spring Lake Watershed District has 14 lakes, some of which are meeting the state's water quality standards and some of which are not. Many of the PLSLWD's lakes and waterbodies (including streams and wetlands) are connected, meaning that water quality issues in upstream lakes and subwatersheds have a direct impact on the quality of water in Upper Prior Lake, Lower Prior Lake and Spring Lake. In order to have the most significant impact to the most heavily used water resources of the PLSLWD, a three-tiered priority lake system will be implemented that focuses the most effort on Tier 1 Lakes which are the most-widely used by residents and the general public due to their public boat launches, ample amenities and recreational attributes.

a) Tier 1 Lakes

Tier 1 lakes provide important recreational, aesthetic, and ecological benefits to the PLSLWD. However, the MPCA has identified that three out of the four Tier 1 lakes (Upper Prior, Spring and Fish Lakes) do not support aquatic recreation use due to elevated nutrients that can cause unsightly algae blooms which may impact property values, make swimming undesirable, and produce toxins that are harmful to livestock, pets, and humans. The lakes are impaired as a result of a combination of excess phosphorus from external sources from the watershed and legacy phosphorus already present in the lake (i.e. internal loading). Dissolved oxygen dynamics, fish communities and aquatic plants can all be a part of internal nutrient cycling.

Additionally, in 2018, the MPCA identified two lakes that do not support aquatic life and are impaired for biotic integrity (Lower Prior Lake and Spring Lake). The biological integrity of a waterbody is a key part of assessing its water quality. Biological integrity is the ability of an aquatic ecosystem to support and maintain a balanced, adaptive community of organisms having a species composition, diversity, and function comparable to that of a natural habitat.

POLICY: PLSLWD is committed to maintaining or achieving state water quality standards for aquatic recreation for Tier 1 lakes (Lower Prior Lake, Upper Prior Lake, Spring Lake and Fish Lake).

- ***GOAL WQ1: Maintain 5-year average for TP, Chlorophyll-a and Secchi depth in Lower Prior Lake.***

- ***GOAL WQ2:*** ***Meet the state water quality standards for aquatic recreation on Spring Lake.***
- ***GOAL WQ3:*** ***Meet the state water quality standards for aquatic recreation on Upper Prior Lake.***
- ***GOAL WQ4:*** ***Improve water quality in Fish Lake by reducing annual phosphorous load by 40 lbs/year (50% of Lower MN Watershed Restoration and Protection Strategy).***

b) Tier 2 Lakes

One of the Tier 2 lakes (Pike Lake) has been identified by the MPCA as being impaired for aquatic recreation due to excess nutrients, both from internal and external sources. The remaining three Tier 2 lakes have received significant recent or planned investment into the water resource due to their unique attributes as well as their connectivity and direct impact on Tier 1 lakes. While none of the four Tier 2 lakes have public access points, they still provide important water quality, aesthetic, and ecological benefits to the PLSLWD.

POLICY: PLSLWD is committed to achieving improvements to water quality for Tier 2 lakes (Pike Lake, Sutton Lake, Arctic Lake, and Buck Lake).

- ***GOAL WQ5:*** ***Improve water quality in Arctic Lake by supporting SMSC's improvement efforts to reduce watershed phosphorus loading by 37 lbs/yr and by partnering with SMSC, the City of Prior Lake and the Three Rivers Park District on future projects as opportunities arise.***
- ***GOAL WQ6:*** ***In partnership with SMSC and the City of Prior Lake, improve Pike Lake by achieving 10% percent improvement in TP concentrations to work toward the TMDL pollutant reduction requirements.***
- ***GOAL WQ7:*** ***Assess the quality of Sutton Lake and develop a Lake Management Plan.***
- ***GOAL WQ8:*** ***Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.***

c) Tier 3 Lakes

There are several other lakes where monitoring data exists but there is insufficient information to assess if the resource meets the state's water quality standard. These lakes include: Crystal, Jeffers Pond, Rice, and Swamp. All but Jeffers Pond contributes stormwater runoff to the Prior-Spring chain-of-lakes. None have public access; however, they are valued by the residents who live near the resources which provide scenic, flood-reduction, water quality, and aesthetic benefits to the public and habitat for wildlife.

Policy: PLSLWD intends to monitor and assess the water quality for Tier 3 lakes (Haas Lake, Cates Lake, Jeffers Pond, Rice Lake, Crystal Lake, and Swamp Lake).

- ***GOAL WQ9:*** ***Assess the quality of Tier 3 Lakes.***

2. WETLANDS

The 2012 Comprehensive Wetland Plan inventoried a total of 716 wetlands covering 3,533 acres of the watershed. Of these, the 2012 Comprehensive Wetland Plan identifies two classes of protection wetlands: the Hydrology Class and the Natural Areas Management Class wetlands. The Hydrology Class warrants protection in order to preserve existing downstream water quality function and groundwater recharge function. The Natural Areas Management Class warrants protection based on the high ranking for vegetative diversity and wildlife habitat. Additionally, the City of Prior Lake has identified several high-quality wetlands that need to be protected from adjacent land use changes. For instance, the wetland in the Trillium Cove development is a high-quality wetland (floating bog) that is accessible to the public via a trail system. Encroachment of terrestrial invasive species is affecting the resource. In addition, Rice Lake Park Wetland is also a high-quality resource in need of a buffer and vegetative management.

A significant portion of the wetlands within the upper watershed of the PLSLWD have been lost to agricultural land use activities (i.e. tiling and ditching). While development-related wetland impacts are mitigated per Wetland Conservation Act (WCA) regulations, replacement often occurs outside the watershed. Wetland restoration and enhancement projects, while an on-going activity for the PLSLWD as part of its flood reduction strategies (needed to address the flood protection goal), have been limited in number.

The PLSLWD has identified high quality wetlands to protect and degraded wetlands to enhance as part of its Comprehensive Wetland Plan (**Appendix I**). Efforts for restoration will consist of referral of restorations to other appropriate agency programs, projects required as a part of future development as well as easement acquisition and restoration by the PLSLWD itself.

Policy: PLSLWD is committed to maintaining or improving the quantity & quality of wetlands in the District.

- ***GOAL WQ10:*** ***Maintain no net loss of wetlands in the District.***
- ***GOAL WQ11:*** ***Restore or enhance 5% (24 of 482 acres) of the Restoration/Enhancement Management Class of wetlands (as identified in the Comprehensive Wetland Plan), focusing on those that work towards prioritized and/or multiple PLSLWD goals.***

3. STREAMS

There are several stream systems located in the watershed. The major stream systems serve as conveyance for stormwater runoff as it makes its way from the upper watershed (e.g. County Ditch 13) to the chain-of-lakes and on to the Minnesota River via the Prior Lake Outlet Channel.

The MPCA has identified two streams that do not support aquatic life and are impaired for biotic integrity: specific reaches of County Ditch 13 and the Prior Lake Outlet Channel. Both of these stream reaches are highly altered and viewed more as conveyance systems than high quality streams. As such, addressing altered hydrology and pollutant loading from areas tributary to these systems continues to be the primary focus of the PLSLWD and its member communities.

That said, there are several smaller stream systems located in the watershed that residents who attended WRMP public meetings expressed interest in having the PLSLWD manage for other functions such as wildlife habitat and recreational value. Examples of higher priority resources identified through the public engagement process include Buck Lake Creek and Cates Creek. The PLSLWD intends to conduct assessment of these systems and potentially establish management goals for incorporation into a plan amendment.

Policy: PLSLWD is committed to improving streambank stability on public waters & major streams.

- ***GOAL WQ12: Stabilize a minimum of ten bank erosion/slumping sites, prioritizing those in the watersheds of Tier 1 or Tier 2 lakes and/or meet multiple PLSLWD goals[1].***
- ***GOAL WQ13: Improve the stability of the Prior Lake Outlet Channel through annual maintenance, pipelining, and complete 10,000 linear feet of bank repair work (PLOC Master Plan, 2019).***

4. GROUNDWATER

Land alterations have the potential to impact groundwater resources as well as groundwater dependent natural resources. The Scott County Geological Atlas indicates that there are portions of the watershed that are highly susceptible to groundwater contamination. Without proper land-use and water resource management, the following impacts could occur: reduced groundwater quality, reduced groundwater recharge, alterations to drinking water supply, and alterations to the functions and values of groundwater dependent natural resources. The Twin Cities Metropolitan Area Master Water Supply Plan's water supply profile for the communities located in the watershed identify several issues related to drinking water protection including:

- Significant vulnerability to contamination: travel time from land surface to bedrock aquifers is estimated to be less than 50 years in Sand Creek Township, SMSC, Savage, Shakopee, Spring Lake Township, and Prior Lake.
- Potential for significant decline in aquifer water levels: regional groundwater modeling indicates significant aquifer decline under 2040 demand pumping rates in Shakopee, Spring Lake Township, SMSC, and Prior Lake.
- Potential impacts on surface water features and ecosystems from groundwater pumping; groundwater-dependent natural resources and surface waters in the area may be directly connected to regional groundwater system in Savage, Shakopee, Spring Lake Township, SMSC, and Prior Lake.

Additionally, Scott County's assessment of groundwater monitoring identifies the need to better coordinate the collection and analysis of groundwater data.

Drinking Water Protection

The Twin Cities Metropolitan Area Master Water Supply Plan indicates that communities in the PLSLWD are located in areas vulnerable to groundwater contamination. Although watershed districts are not

[1] this is an interim goal that is to be revised via a plan amendment after the inventory and assessment work has been completed.

directly responsible for water supply infrastructure or management, several activities may indirectly affect water supply sources in the region.

Groundwater Conservation

The Twin Cities Metropolitan Area Master Water Supply Plan identifies the potential for significant decline in aquifer water levels in the Twin Cities and specifically in the south and east metro. Regional groundwater modeling indicates significant aquifer decline under 2040 pumping demand.

Policy: PLSLWD is committed to supporting efforts for sustainable groundwater management.

- ***GOAL WQ14: Actively participate in groundwater planning efforts to support municipal protection of highly vulnerable areas of DWSMA's or groundwater dependent natural resources.***

B. GUIDING PRINCIPLE #2: Manage existing and prevent new AIS in the District.

The aquatic ecosystems in the PLSLWD are experiencing negative impacts from existing aquatic invasive species (AIS) and continue to be threatened by new invasions. Over the years, residents have noticed detrimental changes in lakes often caused by the presence of AIS. Because AIS affect natural resources, human health, recreation, and ecosystem services throughout the District, their presence can have significant economic impacts on utilities, tourism, and the value of waterfront property.

AIS enter and are distributed throughout the District by human-assisted vectors including recreational boating, hunting, fishing, tourism, development activities, and the trade of live organisms. The PLSLWD and its local partners have invested thousands of hours combatting existing and new invasions of AIS by implementing educational programs, investing in boat inspections at public boat launches, managing the populations of common carp and curly-leaf pondweed, and monitoring spread of zebra mussels.

The PLSLWD's continued success with AIS prevention, containment, and control requires the establishment of priorities. The broad spectrum of challenges, combined with a limited amount of resources, requires that a strategic approach be taken to combat AIS.

Policy: PLSLWD is committed to working to prevent new AIS from entering Tier 1 Lakes.

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

Policy: PLSLWD is committed to managing existing AIS in Tier 1 Lakes that could have a detrimental effect on water quality.

- ***GOAL AIS2: Effectively manage common carp in Tier 1 and Tier 2 lakes to 100 kg/ha or below.***
- ***GOAL AIS3: Monitor curly-leaf pondweed growth on Tier 1 lakes and treat as needed to prevent adverse effects on water quality.***
- ***GOAL AIS4: Implement new management techniques for zebra mussels as innovative cost-effective methods are developed.***

C. GUIDING PRINCIPLE #3: To Reduce Flooding Impacts

As the Prior Lake Stormwater Management & Flood Mitigation Study notes, lake levels for Upper and Lower Prior Lakes have historically been one of the most important issues for the community, especially for the residents living around the lakes. In 2016, the Prior Lake Stormwater Management & Flood Mitigation Study was completed to develop a plan to protect public safety and maintain emergency access, protect public utility infrastructure, maintain traffic flow through the County Road 21 corridor, and maintain access to private properties. The Stormwater Management & Flood Mitigation Study also identified ten upland storage sites to be further investigated for potential flood reduction as well as water quality benefits. The PLSLWD is pursuing implementation of one of these sites with the construction of a managed outlet at Sutton Lake. The PLSLWD will pursue additional flood reduction projects upon completion of the Upper Watershed Blueprint.

Additionally, there are localized flooding issues throughout the watershed that do not receive the same level of attention due to the number of property owners impacted. The City of Prior Lake's Local Water Surface Water Management Plan identifies several localized drainage issues which they intend to address within the 10-year timeframe of their plan.

One of the approaches adopted by the Board of Managers to address the flooding concerns posed by potential increases in runoff volumes as the watershed develops is to minimize increases in runoff volume resulting from new and redevelopment through its District Rules and permitting program. The PLSLWD is also interested in reducing runoff volumes from areas that developed prior to the adoption of storm water management requirements, promoting the use of innovative volume control BMPs in site designs, and increasing storage areas in the watershed by preserving and restoring wetlands (Goals WQ10 & WQ11).

Policy: PLSLWD is committed to reducing flooding impacts in the District.

- ***GOAL RF1: Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period (Source: Prior Lake Stormwater Management & Flood Mitigation Study, 2016).***
- ***GOAL RF2: Continue to operate the Prior Lake Outlet Structure according to the Prior Lake Outlet Control Structure Management Policy and Operating Procedures (last revised July 3, 2017).***
- ***GOAL RF3: Eliminate/reduce the impact of new developments and redevelopment on flooding.***
- ***GOAL RF4: In partnership with the City of Prior Lake, complete updates to the PCSWMM model to refine and improve understanding of flooding in the watershed.***
- ***GOAL RF5: Assess progress on flood reduction goals and establish an updated flood reduction goal for the next water resources management plan.***

IV. Implementation Actions, Programs & Projects, and Funding

While trying to develop and organize all of the potential methods or approaches ("Implementation Actions") that the PLSLWD could use to help achieve its goals, it became clear that there were many instances of overlap where an Implementation Action helps to achieve multiple goals. For example, a wetland restoration project could achieve multiple goals: improve water quality in downstream lakes, provide flood reduction benefits and restore a wetland. As such, the WRMP has a structure that allows for this overlap and creates a framework of how everything ties together in the Programs & Projects subsection.

In addition, the individual Projects work towards accomplishing one or more Implementation Actions and achieving one or more Goals. By recognizing this web of connectivity between Implementation Actions, Projects, and Goals, the District is better able to evaluate and prioritize its work by considering the compound benefits during project selection.

A. Implementation Actions

The PLSLWD identified 74 Implementation Actions (methods or approaches needed to achieve goals) to address the priority concerns and primary issues listed in Section II and to help achieve the goals listed in Section III. The Implementation Actions in this WRMP were used to ultimately identify the key projects in Section IV that will be necessary to meet the goals. Organizing the Implementation Actions and projects separately helps to recognize overlapping and/or complimentary Implementation Actions that address multiple goals.

Many of the Implementation Actions included in this iteration of the WRMP are a continuation of existing PLSLWD practices to address ongoing PLSLWD responsibilities (e.g., continued operation of the PLOC). Other Implementation Actions are new, reflecting emerging issues and changing priorities within the PLSLWD.

77 Implementation Actions that Help Achieve One or More Goals:

The Implementation Actions are organized by the measurable goals listed in Section III above. Note that some Implementation Actions address multiple goals and may be listed more than once. The Implementation Actions that repeat are identified by *italicized text.* Each of the Implementation Actions later will be organized into PLSLWD programs, keeping the same numbering system and color scheme as below:

Capital Projects # Operations & Maintenance # Planning # Monitoring # Regulation # Education & Outreach

- *Italicized grey text* = Implementation Action repeated from previous goal. Note that it keeps the same number.
- Implementation Actions are numbered in order, 1-77, regardless of color (program).

GOAL WQ1: Maintain or improve 5-year average for Total Phosphorus, Chlorophyll-a and Secchi depth in Lower Prior Lake.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
External Loading	Stormwater Runoff	1 Review the Lower Prior Lake Diagnostic Study and set new goals as needed.
		2 Implement stormwater retrofits in the Lower Prior Lake drainage area as opportunities arise.
		3 Continue to provide assistance to the City of Prior Lake for its Targeted Intensive Street Sweeping program.
		4 Implement activity identified in the 2020 Lower Prior Lake Subwatershed Feasibility Study.
		5 Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.
		6 Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.
		7 Regularly and effectively monitor water quality on Tier 1 lakes and its tributaries in order to inform District plans and projects.

GOAL WQ2: Meet the state water quality standards for aquatic recreation on Spring Lake.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
External Loading	Stormwater Runoff	*3 Continue to provide assistance to the City of Prior Lake for its Targeted Intensive Street Sweeping program.*
		5 Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.
		6 Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.
		7 Regularly and effectively monitor water quality on Tier 1 lakes and its tributaries in order to inform District plans and projects.
		8 Implement nutrient reduction BMPs in the Spring West subwatershed, such as those identified in the Spring Lake West Subwatershed Feasibility Study.
		9 Implement one or more storage and infiltration projects identified in upper watershed planning efforts such as District feasibility studies, the 2023 Flood Storage Decision Matrix, the 2016 Flood Study, the Upper Watershed Blueprint and the Spring & Upper Prior Lake TMDL Implementation Plan.
		10 Update the District's Comprehensive Wetland Plan which identifies strategic wetlands that help work towards achieving prioritized and/or multiple goals, including climate resiliency.
		11 Strategically target and implement a minimum of one wetland restoration in the Spring Lake Watershed identified in Comprehensive Wetland Plan.
		12 Continue to provide cost-share opportunities for residential & agricultural water quality and habitat improvement projects within the watershed, including Farmer-Led Council initiatives, that reduce nutrient loading or runoff volume.
		13 Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
		14 Collaborate with the City of Prior Lake to promote efforts for the Innovative P load reductions program.
		75 Reassess feasibility of Buck Chemical Treatment System and implement if feasible.
		76 Implement a streambank restoration project, such as the Buck Stream Stabilization.
External Loading	Stormwater Runoff	15 Collaborate with Scott County to incorporate water quality improvement components at Spring Lake Regional Park *(Source: Scott County Local Water Resources Plan, Page 33).*
		16 Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.
		17 Work with the Farmer-Led Council to create win-win programming in agricultural areas to improve water quality, including cover crop programs, no-till incentives, and other soil health initiatives.
		18 Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.
		19 Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.
		20 Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.
		21 Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.
		22 Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for residents per year that helps provide information for projects that benefit water quality and/or flood reduction.
		23 Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.
		24 Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.
		25 Develop a plan to conduct outreach to non-profit partners (e.g. Great River Greening, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.
	County Ditch 13 System	26 Operate and maintain the Ferric Chloride Treatment System, completing dredging of the desilt pond as necessary. Make system improvements informed by 2023/2024 Ferric Chloride System Assessment.
		27 Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch

			13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).
Internal Loading	AIS	28	Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.
		29	Annually assess curly-leaf pondweed on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.
	Lake Sediment	30	Complete aluminum sulfate treatments on Spring Lake, Fish Lake and Upper Prior Lake as needed to achieve water quality standards.

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

ISSUE	SOURCE	IMPLEMENTATION ACTIONS	
External Loading	Stormwater Runoff	4	*Implement activities that help reduce phosphorus in Spring Lake (see above Implementation Actions).*
		5	*Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		6	*Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		7	*Regularly and effectively monitor water quality on Tier 1 lakes and its tributaries in order to inform District plans and projects.*
		9	*Implement one or more storage and infiltration projects identified in upper watershed planning efforts such as District feasibility studies, the 2023 Flood Storage Decision Matrix, the 2016 Flood Study, the Upper Watershed Blueprint and the Spring & Upper Prior Lake TMDL Implementation Plan.*
		10	*Update the District's Comprehensive Wetland Plan which identifies strategic wetlands that help work towards achieving prioritized and/or multiple goals, including climate resiliency.*
		12	*Continue to provide cost-share opportunities for residential & agricultural water quality and habitat improvement projects within the watershed, including Farmer-Led Council initiatives that reduce nutrient loading or runoff volume.*
		13	*Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*
		14	*Collaborate with the City of Prior Lake to promote efforts for the Innovative P load reductions program.*
		16	*Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.*
		18	*Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*
		19	*Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.*
		20	*Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.*
		21	*Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.*
		22	*Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for*

ISSUE	SOURCE	IMPLEMENTATION ACTIONS	
			residents per year that helps provide information for projects that benefit water quality and/or flood reduction.
		23	*Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		24	*Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*
Internal Loading	AIS	25	*Develop a plan to conduct outreach to non-profit partners (to assess potential opportunities to leverage funds and/or collaborate on projects.*
		28	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*
		29	*Annually assess curly-leaf pondweed on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.*
	Lake Sediment	30	*Complete aluminum sulfate treatments on Spring Lake, Fish Lake and Upper Prior Lake as needed to achieve water quality standards.*

GOAL WQ4: Improve water quality in Fish Lake by reducing annual phosphorous load by 40 lbs/year (50% of Lower MN Watershed Restoration and Protection Strategy).

ISSUE	SOURCE	IMPLEMENTATION ACTIONS	
External Loading	Stormwater Runoff	5	*Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		6	*Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		7	*Regularly and effectively monitor water quality on Tier 1 lakes and its tributaries in order to inform District plans and projects.*
	Agricultural Runoff	12	*Continue to provide cost-share opportunities for residential & agricultural water quality and habitat improvement projects within the watershed, including Farmer-Led Council initiatives that reduce nutrient loading or runoff volume.*
		21	*Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.*
		23	*Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		31	Explore a potential biofiltration or iron-enhanced sand filtration treatment of agricultural runoff (tile drainage) on the north side of Fish lake, completing a project as opportunities and funding are available.
	Altered/Loss of Wetlands	32	Partner with the new or current owners of the Fish Lake Acres Campground to implement wetland restoration and enhancement project as feasible.
Internal Loading	AIS	28	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*

		29 *Annually assess curly-leaf pondweed on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.*
		77 Complete an updated Fish Lake Management Plan to inform future management and potential BMPs to improve Fish Lake.
		78 Study and implement projects identified in the Fish Lake Management Plan to reduce phosphorus loads in Fish Lake.
		30 *Complete aluminum sulfate treatments on Spring Lake, Fish Lake and Upper Prior Lake as needed to achieve water quality standards.*

GOAL WQ5: Improve water quality in Arctic Lake by supporting SMSC's improvement efforts to reduce watershed phosphorus loading by 37 lbs/yr and by partnering with SMSC, the City of Prior Lake and the Three Rivers Park District on future projects as opportunities arise.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
External Loading	Stormwater Runoff	5 *Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		33 Support the SMSC with implementation of stabilization and retrofit water quality BMP projects in the Arctic Lake watershed as identified.
		34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.
Internal Loading	Common Carp	35 Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.

GOAL WQ6: In partnership with SMSC and the City of Prior Lake, improve Pike Lake by achieving 10% percent improvement in TP concentrations to work toward the TMDL pollutant reduction requirements

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
External Loading	Stormwater Runoff	5 *Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		34 *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*
		36 Work with the developers to include enhanced water quality and habitat features in projects, providing cost-share as incentives.
Internal Loading	Common Carp	28 *Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*
		35 *Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.*

GOAL WQ7: Assess the quality of Sutton Lake and develop a Lake Management Plan.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Low Diversity	Dominant Plant Species	*34* *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*
		37 Develop a lake management plan for Sutton Lake.
		38 Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.
Low Diversity	Dominant Plant Species	39 Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.

GOAL WQ8: Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
High phosphorus levels	Internal loading	*34* *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*
		40 Conduct a lake diagnostic study for Buck Lake to determine phosphorus budget, including a sediment core analysis, and identify restoration strategies based on applicable standard.

GOAL WQ9: Assess the quality of Tier 3 Lakes.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Minimal information available	Limited historical monitoring	*34* *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*

GOAL WQ10: Maintain no net loss of wetlands in the District.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Loss of wetland quantity	Development	*5* *Enforce District Rules through an active permit program and assess the need for rule updates on a five-year basis.*
		6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		41 Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.
		42 Protect wetlands and wetland buffers under PLSLWD conservation easements or other municipal control through District Rule J enforcement or other mechanisms.
		43 Create a District wetland banking program to ensure no wetland loss when the use of wetland credits is necessary for a project within the District.

	Agricultural activities	23 *Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		44 Identify opportunities to use other programs (e.g. Conservation Reserve Enhancement Program, non-profit organization programs, etc.) to temporarily or permanently protect wetlands in the agricultural areas.
		45 Continue to provide cost-share opportunities for wetland restoration projects.

GOAL WQ11: Restore or enhance 5% (24 of 482 acres) of the Restoration/Enhancement Management Class of wetlands (as identified in the Comprehensive Wetland Plan), focusing on those that work towards prioritized and/or multiple District goals.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Loss of Wetland Quality	Insufficient targeting & outreach	6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		18 *Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*
		20 *Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.*
		21 *Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.*
		23 *Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		38 *Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.*
		39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*
		45 *Continue to provide cost-share opportunities for wetland restoration projects.*
		46 Update the Comprehensive Wetland Plan (CWP) to discretely characterize wetland storage capacity and downstream water quality functions.
		47 Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.
	Development	41 *Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*

Loss of Wetland Quality	Upstream Waterbodies	48 Coordinate with LGU partners to improve/protect buffers on public property through habitat improvement, signage, or regular inspections.
		49 Monitor and enforce existing conservation easements.
		24 Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.
Loss of Wetland Quality	Upstream Waterbodies	*25 Develop a plan to conduct outreach to non-profit partners (e.g. GRG, TPL, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.*
		50 Assess the storage capacity of the Hwy 13 wetland to maintain pretreatment function for the Ferric Chloride Treatment System and dredge/restore as recommended.
		51 Enhance the habitat and wetland functions of the Frog Farm Wetland.

GOAL WQ12: Stabilize a minimum of ten bank erosion/slumping sites, prioritizing those that impact Tier 1 or Tier 2 lakes and/or meet multiple District goals.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Streambank erosion & slumping	Historical damage to banks	*27 Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch 13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).*
		23 Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.
		52 Develop a Streambank Restoration Program that strategically prioritizes sites for stabilization based on water quality & flooding benefits and implements a minimum of ten projects.
		53 Complete bank erosion inventory project for streams and other tributaries in the upper watershed to establish baseline conditions and the number of sites that needing stabilization.
	Stormwater drainage	*6 Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		21 Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.
		54 Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through the Cost Share Program.

		22 *Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for residents per year that helps provide information for projects that benefit water quality and/or flood reduction.*
Streambank erosion & slumping	Stormwater drainage	24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*
		25 *Develop a plan to conduct outreach to non-profit partners (e.g. GRG, TPL, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.*
		39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*

GOAL WQ13: Improve the stability of the Prior Lake Outlet Channel through annual maintenance, pipelining, and complete 10,000 linear feet of bank repair work (PLOC Master Plan).

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Erosion along PLOC	Significant rain events & flooding	55 Maintain (or finish completion of) the Prior Lake Outlet Channel Stabilization Project (7,400 linear feet of bank repair funded by FEMA Public Assistance funding), completing as-builts and post-stabilization bank assessment work on repaired channel banks.
		56 Repair an additional 10,000 linear feet of eroded banks at locations identified in the PLOC Master Plan (EOR, 2019).
		57 Manage the Prior Lake Outlet Channel per the Memorandum of Agreement for Use, Operation, and Maintenance of the Prior Lake Outlet Channel and Outlet Structure, Version 9, dated April 2, 2019.

GOAL WQ14: Actively participate in groundwater planning efforts to support municipal protection of highly vulnerable areas of DWSMA's or groundwater dependent natural resources.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Groundwater quality and/or contamination	Current and future land uses	39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*
		58 Serve on wellhead protection planning teams to assist public water suppliers with planning and implementation activities to address land use planning concerns.
		59 Develop a plan on how to better incorporate consideration of groundwater and drinking water protection when reviewing new permits and completing capital projects to incorporate the alignment with NFMP and GPR activities.
	Improperly sealed wells	60 Continue to provide Cost Share funding for the sealing of decommissioned wells in partnership with the SWCD.

Quality of groundwater	61	Develop new incentives for low-impact development practices and BMPs that reduce the need for irrigation, promote infiltration, and protect groundwater quality through the Cost Share Program.

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

ISSUE	SOURCE		IMPLEMENTATION ACTIONS
New AIS can reduce water quality	Infested boats entering lakes	6	*Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		18	*Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*
		20	*Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.*
		23	*Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		24	*Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*
		25	*Develop a plan to conduct outreach to non-profit partners (e.g. GRG, TPL, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.*
		39	*Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*
		62	Create and implement an AIS Rapid Response and Prevention Plan for Tier 1 lakes in collaboration with local and state partners.
		63	Partner with local partners and/or the University of Minnesota to implement strategies to prevent the spread of known and emerging AIS in Tier 1 lakes.
	Zebra Mussels	64	As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Prior Lake.

GOAL AIS2: Effectively manage common carp in Tier 1 and Tier 2 lakes to 100 kg/ha or below.

ISSUE	SOURCE		IMPLEMENTATION ACTIONS
New AIS can reduce water quality	Infested boats entering lakes	28	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*
		34	*Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*
		35	*Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.*

GOAL AIS3: Monitor curly-leaf pondweed growth on Tier 1 lakes and treat as needed to prevent adverse effects on water quality.

ISSUE	SOURCE		IMPLEMENTATION ACTIONS
Overgrowth of curly-leaf pondweed	Early season growth	29	*Annually monitor curly-leaf pondweed (CLP) on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.*

GOAL AIS4: Implement new management techniques for zebra mussels as innovative cost-effective methods are developed.

ISSUE	SOURCE		IMPLEMENTATION ACTIONS
Recreational & ecological hazards	Overgrowth of zebra mussels	64	*As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Prior Lake.*

GOAL RF1: Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period (Source: Prior Lake Stormwater Management & Flood Mitigation Study, 2016).

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Flooding on Prior Lake	Insufficient upstream storage	21 *Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.*
		23 *Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*
		25 *Develop a plan to conduct outreach to non-profit partners (e.g. GRG, TPL, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.*
		27 *Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch 13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).*
		39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*
		65 Conduct an assessment of the upland storage sites identified in the Stormwater Management & Flood Mitigation Study, 2016 and the Upper Subwatershed Assessment to create a prioritized list of potential storage areas based on refined cost estimates, feasibility, and opportunity.
		66 Complete flood reduction projects in order to provide a total of 176 acre-feet of storage in the upper watershed (includes Sutton Lake project) and to improve climate resiliency.
		67 Develop a Detention Policy in coordination with LGU partners (which includes the Spring Lake Dam Policy) for each of the waterbodies in the District that identifies normal operating levels and ability to manage water levels for flood management.
	Historical & new land development	5 *Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*
		16 *Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.*
		24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*
		68 Provide incentives through the Cost Share Program to member communities and the development community to promote the use of green infrastructure that contributes to flood reduction on Prior Lake.

****Goal RF1 continued from previous page****

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Flooding on Prior Lake	Loss and degration of wetlands	69 Provide financial incentives to residents and businesses in the District to implement BMPs that reduce flooding to the lakes through the Cost Share Program. *5 Enforce District Rules through an active permit program and assess the need for rule updates on a five-year basis.* *6 Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.* 70 Restore two or more wetlands that help contribute to flood reduction on Prior Lake.

GOAL RF2: Continue to operate the Prior Lake Outlet Structure according to the Prior Lake Outlet Control Structure Management Policy and Operating Procedures (July 3, 2017).

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Historic flooding on Prior Lake	No natural outlet on Prior Lake	71 The Prior Lake Outlet Structure is operated according to the MNDNR-approved Prior Lake Outlet Control Structure Management Policy and Operating Procedures (last revised July 3, 2017).

GOAL RF3: Eliminate/reduce the impact of new developments and redevelopment on flooding.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Future increased runoff	Development	*5 Enforce District Rules through an active permit program and assess the need for rule updates on a five-year basis.* *20 Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.* *22 Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for residents per year that helps provide information for projects that benefit water quality and/or flood reduction.* *24 Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.* *41 Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.* 72 Explore District boundary changes based on updated watershed information in order to capture more areas that are flowing to Tier 1 lakes and to eliminate those areas that are flowing to other watersheds.

GOAL RF4: In partnership with the City of Prior Lake, complete updates to the PCSWMM model to refine and improve understanding of flooding in the watershed.

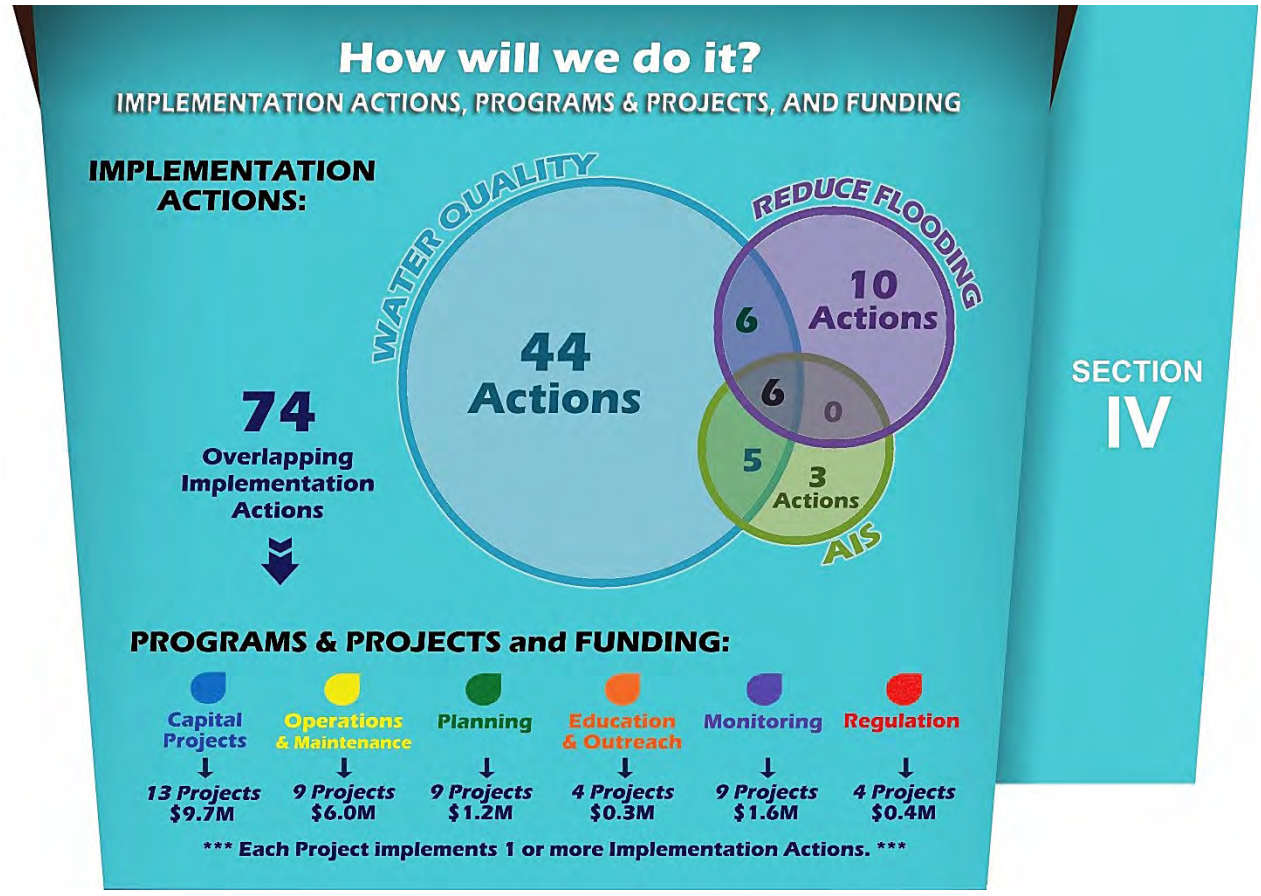
ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Insufficient information to inform projects	PCSWMM model	73 Partner with the City of Prior Lake to set goals for and complete modeling updates that provide sufficient information to inform future flood reduction decisions.

GOAL RF5: Assess progress on flood reduction goals and establish an updated flood reduction goal for the next water resources management plan.

ISSUE	SOURCE	IMPLEMENTATION ACTIONS
Need to update goals	2016 Stormwater Management & Flood Mitigation Study	39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.* 74 Complete an assessment of progress towards flood reduction goals on year 9 of the plan along with an increased precipitation and intensity resiliency scenario analysis, and set new goals for the next 10-year plan.

B. Programs & Projects and Funding

The Implementation Actions identified above were used to create Programs and Projects that employ these methods or approaches.



The PLSLWD has a wide range of programs and services that work together to achieve progress toward the PLSLWD's goals and provide value to its communities. These programs include:

PLSLWD PROGRAMS:

- **Capital Projects** – constructing or completing new water resources projects
- **Operations & Maintenance** – maintaining and/or improving existing water resources projects
- **Planning** – developing long-term plans for water resources and the community with landowners, LGU partners, businesses, non-profits and others
- **Education & Outreach** – providing education and capacity building for communities and residents to take action to improve water resources
- **Monitoring** – collecting and analyzing data to identify issues and inform implementation
- **Regulation** – enforcing District Rules through permitting program and identifying alternatives for projects that could meet or exceed water resource protection requirements
- **Administration** – services and materials necessary to perform day-to-day operations to support the programs above

PLSLWD PROJECTS:

This section of the WRMP details the Projects the PLSLWD expects to undertake over the course of this 10-year WRMP and their appropriate funding sources. These Projects are organized by the program categories listed above and were selected to address the resource issues identified during the planning process and to ultimately work towards achieving the goals and Implementation Actions identified in this 2020-2030 WRMP. Each Project description includes the following information:

- **10-Year Budget**: Summarizes the planned expenditures in thousands of dollars.
- **WATERBODIES ADDRESSED:** Waterbodies that will benefit from the completion of the Project
- **MANAGEMENT GOALS ADDRESSED:** Which management goals will be addressed by the Project
- **IMPLEMENTATION ACTIONS PERFORMED:** Strategies that will be implemented as part of the Project
- ***SUPPORTING IMPLEMENTATION ACTIONS:*** Implementation Actions implemented in other projects in the plan that help support the success of this Project
- ***Background & Purpose:*** The necessity and the scope of the Project is discussed, as well as any history that provides information to better understand the purpose of the Project.
- ***Implementation Steps:*** Specific action steps to complete each Project with an associated timeline. In some instances, implementation steps might closely match Implementation Actions, while in most scenarios these steps provide more detailed milestones for completion of the larger project.
- ***Funding Sources:*** Clearly identifying potential sources of funding for each Project which may include the PLSLWD's ad valorem levy ("District Levy") on all property within the District or other levy authorities under Minnesota Statutes Chapter 103B.251, grant opportunities from state, federal, or other entities, potential partner or local organization contributions, and/or other sources.

The PLSLWD's Implementation Plan includes operations and management activities ("nonstructural solutions") as well as capital projects ("structural solutions") to address these problems and issues and progress toward the PLSLWD's various goals. Capital projects can be initiated in a number of ways, including by staff and Board identification; by partners such as local governments proposing cost-share projects; or by petition in accordance with State Statute 103D.705.

The PLSLWD maintains a standing Technical Advisory Committee of city, township, county, SWCD, and other interested parties, and will continue to rely on that TAC for technical review and input during WRMP implementation as needed. The PLSLWD also has a Citizen Advisory Committee and Farmer-Led Council which are utilized to obtain comments and advice from community stakeholders for relevant programs and projects. The Board will continue that practice as this WRMP is implemented.

Specific awards will be made by the Board of Managers in accordance with criteria and procedures established for each program, but in general will relate to public value, cost-benefit, and location within an area for targeted improvement as identified in TMDLs and the various other modeling efforts. The District will select funding for capital projects and operations & maintenance projects based on a weighted decision matrix that considers/includes the following criteria:

- Volume Reduction
- Nutrient & TSS Load Reductions
- Priority Level of Receiving Waterbody
- Cost Effectiveness
- Wildlife Habitat Benefits
- Innovation
- Collaboration and Partner Contributions
- Public Outreach / Education

1. Capital Improvement Program

Capital projects are generally large, expensive projects that cannot be funded easily with one of the existing implementation mechanisms, such as the cost-share framework. The PLSLWD will seek to implement these projects in partnership with local entities where possible, and seek grant funding, again where possible. The PLSLWD is prepared to contribute at least 25% of the estimated cost of the planned expenditures in this section, regardless of the outcome of grant applications. Each individual project is intended to significantly advance a goal or goals of the PLSLWD.

All capital projects will be preceded by a study, concept plan and/or cost-benefit analysis to determine their feasibility, either as part of a greater study (such as a TMDL study), or in the preceding year as a separate expenditure (see Section IV.C.3.4 – Feasibility Reports). The Board may choose not to fund planned capital expenditures if the outcome of the feasibility report is unfavorable.

1. IN-LAKE ALUM TREATMENTS

10-Year Budget: $3,266,100

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake*

IMPLEMENTATION ACTIONS PEFORMED:

30 Complete aluminum sulfate treatments on Spring Lake, Fish Lake and Upper Prior Lake as needed to achieve water quality standards.

Background & Purpose

The Spring Lake-Upper Prior Lake Nutrient TMDL identified internal load as a significant source of phosphorus to Spring and Upper Prior Lake. The reduction of internal pollutant loading through one or more internal load management projects is identified as an important strategy in the improvement of water quality in Spring Lake and Upper Prior Lake. Controlling internal loading is necessary to improve water quality and clarity in Spring Lake and Upper Prior Lake.

Spring Lake has been dosed with two of the three phased aluminum sulfate (alum treatment) applications. The first application was in 2013 and the second was in 2018. A third application is scheduled for 2020.

The Upper Prior Lake Alum Treatment Feasibility Study (2019) prescribes a two-phased treatment approach. The first of which is scheduled for 2020 and the second is tentatively scheduled for 2022, depending on lake response and the success of the PLSLWD's Carp Management Program.

Legacy (in-lake) phosphorus loading is also anticipated to be an issue on Fish Lake. This source of phosphorus can be managed by conducting an alum treatment. All efforts will be made to reduce incoming phosphorus and remove carp before exploring an alum treatment.

Implementation Steps

1. Continue to fund In-Lake Alum Reserve Fund: This fund has been established to dampen annual levy fluctuations associated with in-lake alum treatments.

2. Spring Lake Phase III Sediment Monitoring: Collect sediment cores and re-evaluate the current potential for sediment phosphorus release in advance of pursuing the third phase of an in-lake alum treatment for Spring Lake.
3. Spring Lake Phase III Alum Treatment: Complete Phase III Alum treatment on Spring Lake, as determined necessary by lake assessment and feasibility studies.
4. Upper Prior Lake Phase I Alum Treatment: The PLSLWD will complete the Phase I Alum treatment on Upper Prior Lake, dosing and timing as determined by feasibility study and as funds are available, pursuing grants as applicable.
5. Upper Prior Lake Phase II Sediment Monitoring: Collect sediment cores and re-evaluate the current potential for sediment phosphorus release in advance of pursuing the second phase of an in-lake alum treatment for Upper Prior Lake.
6. Upper Prior Lake Phase II Alum Treatment: The PLSLWD will complete the Phase II Alum treatment on Upper Prior Lake, dosing and timing as determined by feasibility study and as funds are available, pursuing grants as applicable.

IMPLEMENTATION STEP	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. In-Lake Alum Reserve Fund											
2. Spring Lake Phase III Monitoring											
3. Spring Lake Phase III Alum Treatment											
4. Upper Prior Lake Phase I Alum Treatment											
5. Upper Prior Lake Phase II Monitoring											
6. Upper Prior Lake Phase II Alum Treatment											

Funding Sources

The Spring Lake Alum Treatment is a continuation of an existing program and is not eligible for grant funding. It is anticipated the funding for this component of the project will come from District Levy. Other potential funding sources would be the Spring Lake Association or by the creation of a special taxing district.

The Upper Prior Lake Alum Treatment is a new project that has been awarded a Clean Water Fund grant from BWSR. Up to $449,500 of grant funding has been awarded for the project with a required 25% match from the District Levy.

2. COUNTY DITCH 13 RESTORATION

10-Year Budget: $272,500

WATERBODIES ADDRESSED:

- Tier 1 Lakes: *Spring, Upper Prior*
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ12:** *Stabilize a minimum of ten bank erosion sites*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

27 Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch 13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).

SUPPORTING IMPLEMENTATION ACTIONS:

11 *Strategically target and implement a minimum of one wetland restoration in the Spring Lake Watershed that is identified in Comprehensive Wetland Plan.*

16 *Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.*

23 *Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

52 *Develop a Streambank Restoration Program that strategically prioritizes sites for stabilization based on water quality & flooding benefits and implements a minimum of ten projects.*

53 *Complete bank erosion inventory project for streams and other tributaries in the upper watershed to establish baseline conditions and the number of sites that needing stabilization.*

54 *Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through the Cost Share Program.*

Background & Purpose

The greatest amount of phosphorus loading from external sources into Spring Lake comes from the County Ditch 13 system. This system has been altered over time in both shape/direction and amount of flow. Working with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to improve the stabilization of banks and water quality in County Ditch 13 will provide multiple benefits to residents. Those benefits include flood reduction, water quality improvements, wildlife habitat, stream improvements, and aesthetics.

Implementation Steps

The first step of this project is envisioned as 2-3 year effort culminating in a vision for the future of the County Ditch 13 system, one which sets the stormwater management goals, standards and framework for the potential transition from agricultural to predominantly rural residential land use (as planned by land use authorities). Once a plan has been developed, the 2020-2030 WRMP will be revised/updated to include specific undertakings for this project.

1. Gather Information: Activities completed in other projects such as the PCSWMM update, Comprehensive Wetland Plan update, Upper Watershed Blueprint development and municipal land use plans will be used to help to frame the overall vision for the County Ditch 13 system including proposed management, potential strategies and implementation projects. Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities to improve stabilization of banks and water quality in County Ditch 13.
2. Develop Goals: Anticipated benefits, landowner interest, and discussions with the current ditch authority will help frame a Vision Plan that will be developed outlining goals for the project.
3. Execute Agreements: Work with landowners, farming operators, Scott County, and LGUs to draft and execute agreements for work along County Ditch 13.
4. Implement Projects: Complete implementation projects to restore County Ditch 13.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Gather Information											
2. Develop Goals											
3. Update WRMP											
4. Execute Agreements											
5. Implement Projects											

Funding Sources

The funding for restoration of County Ditch 13 will likely come from a variety of sources. Implementation Steps 1-3 will come from the District Levy. The PLSLWD will pursue state grants (e.g. BWSR Clean Water Fund grant), potential contributions from partners, and landowner contributions for the completion of the projects in Step 4.

3. PUBLIC INFRASTRUCTURE PROJECTS

10-Year Budget: $639,950

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ1:** *Maintain or improve water quality in Lower Prior Lake* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

2 Implement stormwater retrofits in the Lower Prior Lake drainage area as opportunities arise.

3 Continue to provide assistance to the City of Prior Lake for its Targeted Intensive Street Sweeping program.

13 Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.

14 Collaborate with the City of Prior Lake to promote efforts for the Innovative P load reductions program.

SUPPORTING IMPLEMENTATION ACTIONS:

1 *Review the Lower Prior Lake Diagnostic Study and set new goals as needed.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

68 *Provide incentives through the Cost Share Program to member and development communities to promote the use of green infrastructure that contributes to flood reduction on Prior Lake.*

Background & Purpose

One strategy to reduce stormwater runoff to the lakes is to retrofit streets, highways, and other public infrastructure with volume management and load reduction BMPs on routine street, highway, and other reconstruction projects. Public entities with which the PLSLWD may consider partnering on infrastructure upgrades include the cities of Prior Lake, Savage & Shakopee; Scott County; Sand Creek & Spring Lake Townships; and the Shakopee Mdewakanton Sioux Community. These funds may also be used as match to grants from other sources.

Implementation Steps

1. Identify Projects: The PLSLWD will annually solicit potential projects from partners each spring for consideration in the following year's budget. The PLSLWD will make efforts to specifically inquire on potential retrofits in the Lower Prior Lake drainage area and the City of Prior Lake's Targeted Intensive Street Sweeping & Innovative P Load Reductions Programs.
2. Annually Select Projects: As opportunities become available, the PLSLWD will use the following questions to determine whether proposed projects eligible for funding or cost sharing:
    a) WATER QUALITY BENEFITS: How much phosphorus pollution does the project prevent from entering Tier 1 or Tier 2 lakes?
    b) FLOOD REDUCTION BENEFITS: How much flood reduction benefit does the project provide?
    c) COST-EFFECTIVENESS: What is the cost per pound of phosphorus or acre-foot of water volume, and how does it compare to other, similar projects the PLSLWD has funded?

d) ADDITIONAL GOALS: To what degree does the project address other goals of the PLSLWD, such as education or ecosystem restoration?
e) COLLABORATION: What is the level of commitment on the part of the partner organization to the project (monetary commitment and/or staff time)?
f) LONG-TERM MANAGEMENT: Is there a firm plan for maintaining the project after construction and who is responsible (if applicable)?

Projects will be selected by the Board each August for implementation in the following calendar year.

3. Install Projects: The PLSLWD will annually implement projects that were selected. At minimum, these projects will include:
   - Three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.
   - Contributions to the Targeted Intensive Street Sweeping Program as needed/requested.
   - Collaboration on the Innovative P load reductions Program.

   Note that some projects may be on a two-year timeframe where the first year includes design and the second year includes construction. Projects may also include feasibility studies to explore options for implementation.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Identify Projects											
2. Annually Select Projects											
3. Install Projects											

Funding Sources

The funding for the Public Infrastructure Partnership Projects will come from the District Levy, partner contributions, local organizations (e.g. lake associations or schools), and grant sources as available.

4. ARCTIC LAKE BMP PROJECTS

10-Year Budget: $32,500

WATERBODIES ADDRESSED:

- Tier 1 Lakes: *Upper Prior*
- Tier 2 Lakes: *Arctic*

MANAGEMENT GOALS ADDRESSED:

- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

33 Support the SMSC with implementation of stabilization and retrofit water quality BMP projects in the Arctic Lake watershed as identified.

35 Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*

Background & Purpose

In 2017, the PLSLWD received a Clean Water Fund grant that was ultimately leveraged with Shakopee Mdewakanton Sioux Community (SMSC), Scott County Parks and the City of Prior Lake to complete a $500,000 project that restored a 50-acre wetland and reduced the amount of phosphorus in the 507-acre Arctic Lake watershed entering Arctic Lake. The PLSLWD will assist the SMSC with water quality monitoring, carp management and identify and implement projects that will continue to reduce phosphorus and sediment loads that are passed along to Upper Prior Lake.

Implementation Steps

1. Identify Projects: The PLSLWD will meet annually with SMSC and the City of Prior Lake to discuss the status of Arctic Lake, to share monitoring information, to explore ways to share resources, and to identify potential stabilization projects and/or retrofit water quality BMPs.
2. Carp Management Coordination: The PLSLWD will partner with SMSC as lead on carp management activities for Arctic Lake. This could include such activities as tracking, removals, carp barriers, or education.
3. Project Implementation: The PLSLWD will participate as a partner on Arctic Lake BMP projects as identified and led by SMSC, pursuing grant funding for leverage as opportunities are available.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Identify Projects											
2. Carp Management Coordination											
3. Project Implementation											

Funding Sources

The funding for the Public Infrastructure Partnership Projects will come from the District Levy, partner contributions, and local organizations (e.g. lake associations or schools), pursuing federal & state grants for funding as available.

5. FISH LAKE WATERSHED PROJECTS

10-Year Budget: $100,000

WATERBODIES ADDRESSED:

- Tier 1 Lakes
- Tier 2 Lakes: *Buck*

MANAGEMENT GOALS ADDRESSED:

- **WQ4:** *Improve water quality in Fish Lake*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

31 Explore a potential biofiltration or iron-enhanced sand filtration treatment of agricultural runoff (tile drainage) on the north side of Fish lake, completing a project as opportunities and funding are available.

32 Partner with the new or current owners of the Fish Lake Acres Campground to implement wetland restoration and enhancement project as feasible.

77 Complete an updated Fish Lake Management Plan to inform future management and potential BMPs to improve Fish Lake.

78 Study and implement projects identified in the Fish Lake Management Plan to reduce phosphorus loads in Fish Lake.

SUPPORTING IMPLEMENTATION ACTIONS:

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

Background & Purpose

Fish Lake water quality slightly exceeds the state water quality standard of 40 ug/L of phosphorus and is considered impaired for excess nutrients. A WRAPS and Total Maximum Daily Load (TMDL) study is anticipated to be completed by the MPCA in 2027.

Fish Lake is known to have a high internal load of phosphorus, but there are also some inputs from external sources. An assessment of the watershed and monitoring shows a tributary on the north side of the lake contributes relatively large amounts of phosphorus that comes from an open tile inlet in a farm field. A tributary from the west side of the lake has also been observed to have high turbidity. These hotspots will be assessed for potential conservation projects, which will reduce sedimentation and phosphorus from these tributaries, along with strategies identified in the MPCA's upcoming TMDL Implementation Plan. After the external sources have been addressed, the lake monitoring will show whether internal projects (possibly an alum treatment) may be needed to reach the water quality standard. Since the water quality is very near the standard, the PLSLWD hopes it can reach that goal solely by addressing external sources.

Implementation Steps

1. Targeted Outreach: The PLSLWD will work with Scott SWCD, Spring Lake Township, and the FLC to conduct targeted outreach to the landowners surrounding Fish Lake to explore the interest in potential projects. Specifically, the PLSLWD will coordinate an outreach effort to the landowner on the north side of the lake to explore a potential biofiltration or iron-enhanced sand filtration treatment of agricultural runoff (tile drainage), and to the new or current owners of the Fish Lake Acres Campground to explore a potential wetland restoration and enhancement project.

2. Feasibility Studies: The PLSLWD will complete a feasibility study for projects of interest such as the north and west tributaries that have been identified as nutrient sources, as well as any potential projects identified in the updated Fish Lake Management Plan and upcoming TMDL Implementation Plan. The PLSLWD will work with the landowners to identify their goals and concerns.
3. Implement Projects: Based on Board direction, the PLSLWD will implement one or more cost-effective projects that improve the water quality of Fish Lake.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Targeted Outreach											
2. Feasibility Studies											
3. Update the WRMP											
4. Implement Projects											

Funding Sources

The funding for the Public Infrastructure Partnership Projects will come from the District Levy, partner contributions (e.g. Spring Lake Township, Scott County, etc.) and state grant sources (e.g. BWSR Clean Water Funds, Watershed-Based Funding grant, etc.)

6. LOWER PRIOR LAKE SUBWATERSHED PROJECT

10-Year Budget: $180,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Lower Prior*	• **WQ1:** *Maintain or improve water quality in Lower Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

2 Implement stormwater retrofits in the Lower Prior Lake drainage area as opportunities arise.

4 Implement activity identified in the 2020 Lower Prior Lake Subwatershed Feasibility Study.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

Background & Purpose

The 2013 Lower Prior Lake Diagnostic Study identified numerous BMP retrofit opportunities within direct discharge subwatersheds to Lower Prior Lake, however limited investigation of Subwatersheds 6 and 36 was completed as there are existing stormwater management features within these areas. The PLSLWD has since monitored runoff from the ditch east of Your Boat Club and the results indicate that high pollutant discharge persists from these watersheds. The District received a BWSR Watershed-Based Funding Metro grant in 2019 to complete feasibility study on this subwaterhed with the intent of pursuing project(s) as determined feasible.

The feasibility study will be completed in 2020 and will identify potential retrofit water quality BMP(s) in Subwatersheds 6 and 36, which demonstrate high pollutant loads. This information will be used to complete projects in 2021 as determined cost-effective.

Implementation Steps

1. Engineering Design: Working in coordination with potential partners including the landowners and, the City of Prior Lake, MnDOT, the County, and/or the City of Savage, the PLSLWD will complete feasibility and design work for the project(s) that will be identified in the 2020 Lower Prior Lake Subwatershed Feasibility Study.
2. Construction: The PLSLWD will implement the project in the following year and acquire grants for the projects, as applicable and available.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Engineering Design											
2. Construction											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (the City of Prior Lake, MnDOT, Scott County, or the City of Savage), and state grant sources (MPCA, BWSR, etc.).

7. SPRING LAKE REGIONAL PARK PROJECT

10-Year Budget: $20,000

WATERBODIES ADDRESSED:

- Tier 1 Lakes: *Spring, Upper Prior*

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*

IMPLEMENTATION ACTIONS PERFORMED:

15 Collaborate with Scott County to incorporate water quality improvement components at Spring Lake Regional Park *(Source: Scott County Local Water Resources Plan, Page 33).*

SUPPORTING IMPLEMENTATION ACTIONS:

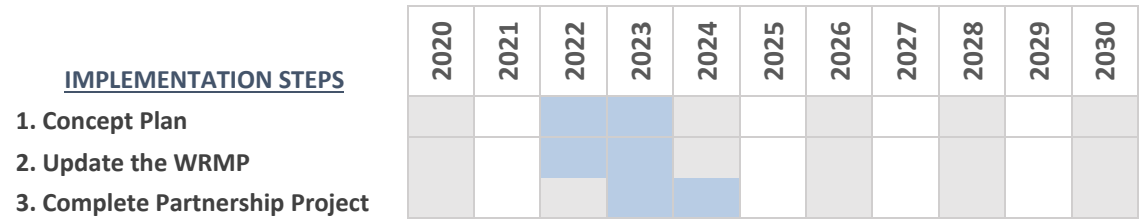
24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

Background & Purpose

As per the Spring Lake Regional Master Plan, work with Scott County to design water quality practices that complement the development of a 9-acre lakefront area, which includes trails, an open air picnic pavilion for large groups, passive picnic area, parking lot, entrance road, fishing pier and platform.

Implementation Steps

1. Concept Plan: Coordinate and partner with Scott County on a water quality practice that complements the lakefront area at Spring Lake Regional Park. Apply for grants for the project as available, leveraging public dollars.
2. Update the Water Resource Management Plan: Update the WRMP to include specific projects for the Spring Lake Regional Park Project.
3. Complete Partnership Project: Based on concept plan and as funding allows, incorporate one or more water quality improvement components at Spring Lake Regional Park.



Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (the City of Prior Lake, MnDOT, Scott County, or the City of Savage), and state grant sources (e.g. MNDNR) as available.

8. SPRING LAKE WEST SUBWATERSHED PROJECT

10-Year Budget: $230,000

WATERBODIES ADDRESSED:

- Tier 1 Lakes: *Spring, Upper Prior*

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

8 Implement nutrient reduction BMPs in the Spring West subwatershed, such as those identified in the Spring Lake West Subwatershed Feasibility Study.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

36 *Work with the developers to include enhanced water quality and habitat features in projects, providing cost-share as incentives.*

41 *Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*

Background & Purpose

The Spring West Subwatershed is drained via a stream (ditch) running east from the Highway Department that enters the west side of Spring Lake. This ditch has been monitored for several years and the results indicate high phosphorus, conductivity, chlorides, *E. coli* and nitrates. There is potentially to design and implement a water quality BMP along this ditch corridor in this watershed that has higher concentrations than any other subwatershed the PLSLWD has monitored. The feasibility study completed in 2020 prepared concept plans for the preferred alternative, a refined cost estimate and identification of assumptions and additional data needs for advancing the preferred alternative to final design.

Implementation Steps

1. Engineering & Design: Coordinate with landowners and LGUs to complete design plans for nutrient reduction BMPs, such as the projects identified in the 2020 Spring Lake West Subwatershed Feasibility Study. Agreements will be acquired as needed.
2. Project Construction: The PLSLWD will acquire grants as available and complete construction of the project.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Engineering & Design											
2. Project Construction											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (Scott County, and/or landowner contributions), and state grant sources (e.g. BWSR, MPCA, etc.) as available.

9. STORAGE & INFILTRATION PROJECTS

10-Year Budget: $3,242,850

WATERBODIES ADDRESSED:

- Wetlands
- Tier 1 Lakes: Spring Lake, Lower Prior, Upper Prior

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

9 Implement one or more storage and infiltration projects identified in upper watershed planning efforts such as District feasibility studies, the 2023 Flood Storage Decision Matrix, the 2016 Flood Study, the Upper Watershed Blueprint and the Spring & Upper Prior Lake TMDL Implementation Plan.

66 Complete flood reduction projects in order to provide a total of 176 acre-feet of storage in the upper watershed (includes Sutton Lake project) and to improve climate resiliency.

SUPPORTING IMPLEMENTATION ACTIONS:

8 *Implement the strategy identified in the Spring Lake West Subwatershed Feasibility Study.*

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

Background & Purpose

The 2016 Prior Lake Stormwater Management & Flood Mitigation Study recommended a short-term strategy to meet the first-tier, high priority Prior Lake protection level of 905.5 feet above sea level for the 25-year return period. In addition, in order to meet a second-tier flood level goal, the Study recommended that the PLSLWD would lead efforts to cost-effectively provide additional flood protection above the high-priority protection level of 905.5 based on future assessments as part of an adaptive management strategy.

Implementation Steps

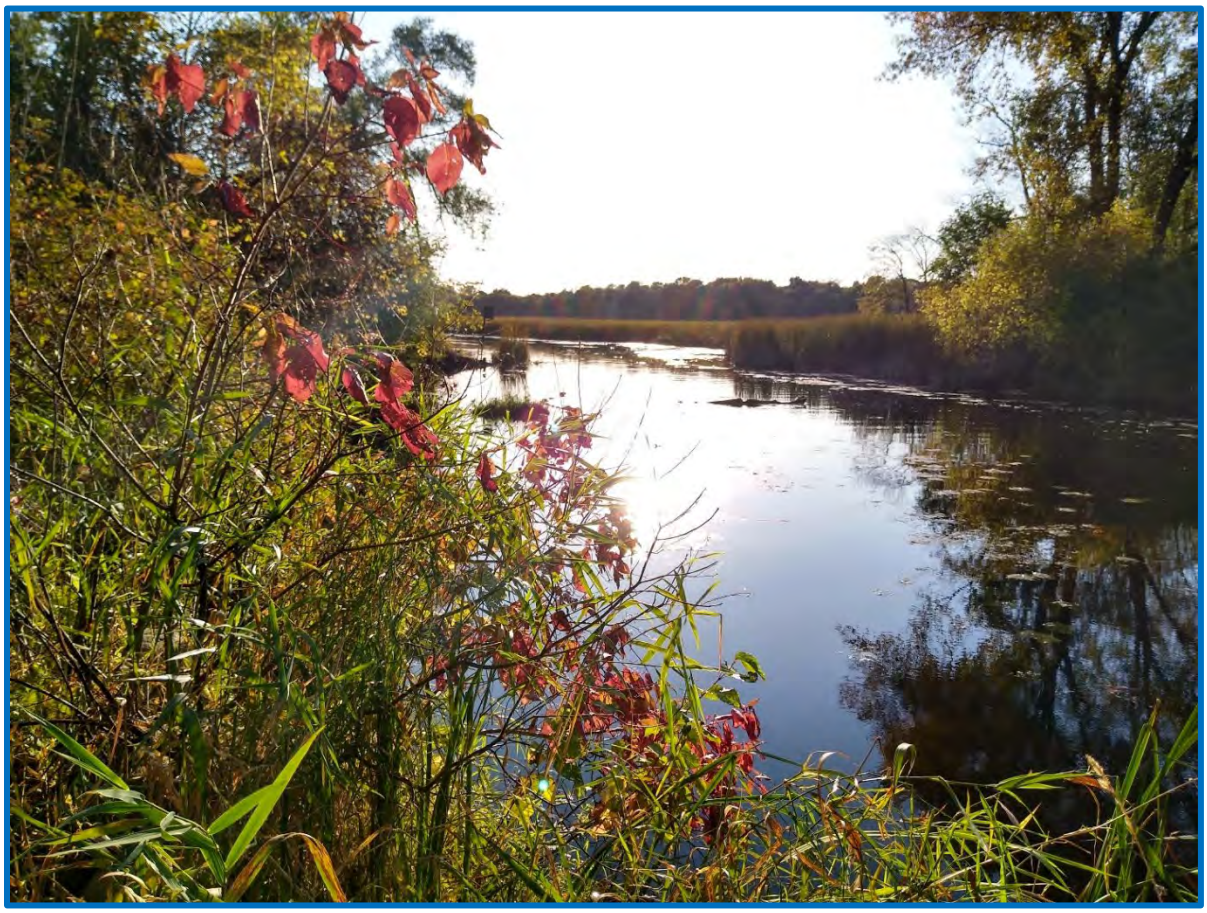
1. Develop Upper Watershed Blueprint: See Section IV.C.3.9. This Blueprint will use information from the Spring & Upper Prior Lake TMDL Plan as well as other resources to identify potential storage & infiltration projects.
2. Prioritize Potential Projects: The PLSLWD will complete baseline analysis of sites and conduct initial outreach to landowners. This information will be used to prioritize potential projects based upon cost/benefit/feasibility to achieve a collective total of 176-acre feet of storage in the upper watershed in combination with the Sutton Lake Outlet project within the timeframe of this plan.
3. Engineering & Design: The PLSLWD will complete engineering and design for one or more projects.
4. Construction: The PLSLWD will implement one or more storage and infiltration projects, including one identified in upper watershed planning efforts such as District feasibility studies, the 2023 Flood Storage Decision Matrix, the 2016 Flood Study, the Upper Watershed Blueprint and the Spring &

Upper Prior Lake TMDL Implementation Plan, to achieve a total of 176 acre-feet of storage in the upper watershed (in combination with the Sutton Lake project) and to improve climate resiliency.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Prioritize Potential Projects											
2. Engineering & Design											
3. Project Construction											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (the City of Prior Lake, MnDOT, Scott County, or the City of Savage), and state grant sources as available.



10. STREAMBANK RESTORATION PROGRAM

10-Year Budget: $237,300

WATERBODIES ADDRESSED:

- Tier 1 Lakes
- Tier 2 Lakes
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or improve water quality in Lower Prior Lk.*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lk.*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ12:** *Stabilize a minimum of ten bank erosion sites*

IMPLEMENTATION ACTIONS PERFORMED:

52 Develop a Streambank Restoration Program that strategically prioritizes sites for stabilization based on water quality & flooding benefits and implements a minimum of ten projects.

53 Complete bank erosion inventory project for streams and other tributaries in the Upper Watershed to establish baseline conditions and the number of sites that needing stabilization.

76 Implement a streambank restoration project, such as the Buck Stream Stabilization.

SUPPORTING IMPLEMENTATION ACTIONS:

27 *Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch 13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).*

54 *Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through the Cost Share Program.*

Background & Purpose

Both measured and anecdotal evidence indicates that streams in the upper watershed of Spring & Prior Lakes are eroding and/or slumping, causing loss of usable land, impairments to biota, and adverse water quality impacts downstream. As many of the stream segments and ditches lie on private property, there is not an existing inventory of where problem areas might exist.

This project will complete an inventory of all those stream segments in the upper watershed that the PLSLWD can gain access to with assistance from the Scott SWCD, Farmer-Led Council, Scott County, and Spring & Sand Creek Townships. This information will be used to summarize and prioritize potential project areas and its benefits to landowners, wildlife habitat, downstream water resources and residents. Based on this inventory, the PLSLWD will implement, on average, one bank restoration project per year over the course of this 2020-2030 WRMP.

In addition, there are a number of smaller stream systems located in the watershed that residents who attended WRMP public meetings expressed interest in having the PLSLWD manage for other functions such as wildlife habitat and recreational value. Examples of higher priority resources identified through the public engagement process include Buck Lake Creek and Cates Creek. The PLSLWD will consider conducting additional assessment through its monitoring program of these systems and potentially establish management goals for incorporation into a future plan amendment.

Implementation Steps

1. Bank Erosion Inventory Project: The PLSLWD will work with Scott SWCD and landowners to conduct a field assessment of bank stability on all streams within the upper watershed to inventory unstable banks that are sources of nutrient and sediment deposition in downstream resources and to identify areas where streams and/or the PLOC could access the floodplain, which is a means for sediment and flood reduction.
2. Strategic Outreach: The PLSLWD will work with Scott SWCD to conduct targeted outreach to landowners and farmers at high priority sites to gauge interest in a stream improvement project.
3. Prioritize Potential Projects: The PLSLWD will complete baseline analysis of sites where there is interest by landowners and a measurable benefit to water quality. This information will be used to prioritize bank restoration sites based on downstream water quality improvements in consideration of:
   a. WATER QUALITY BENEFITS: How much phosphorus pollution does the project prevent from entering Tier 1 or Tier 2 lakes?
   b. COST-EFFECTIVENESS: What is the cost per pound of phosphorus or acre-foot of water volume, and how does it compare to other, similar projects the PLSLWD has funded?
   c. ADDITIONAL GOALS: To what degree does the project address other goals of the PLSLWD, such as education or ecosystem restoration?
   d. COLLABORATION: What is the level of commitment on the part of the partner organization to the project (monetary commitment and/or staff time)?
   e. LONG-TERM MANAGEMENT: Is there a firm plan for maintaining the project after construction and who is responsible (if applicable)?
4. Engineering & Design: The PLSLWD will work with the landowners to complete engineering and design for a minimum of ten streambank restoration projects.
5. Project Construction: The PLSLWD will implement a minimum of ten streambank restoration projects, using grants, partner contributions, and landowner match as leverage to complete larger/additional projects as available.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Bank Erosion Inventory Project											
2. Strategic Outreach											
3. Prioritize Potential Projects											
4. Engineering & Design											
5. Project Construction											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (Spring Lake Township, Sand Creek Township, Scott County, etc.), landowner contributions, and state and federal grant sources as available.

11. SUTTON LAKE OUTLET STRUCTURE

10-Year Budget: $356,700

WATERBODIES ADDRESSED:

- Tier 1 Lakes: *Spring, Upper Prior*
- Tier 2 Lakes: *Sutton*
- Streams: *Ditch 13*

MANAGEMENT GOALS ADDRESSED:

- **WQ7:** *Assess Sutton Lake & develop a Management Plan*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

37 Develop a lake management plan for Sutton Lake.

66 Complete flood reduction projects in order to provide a total of 176 acre-feet of storage in the upper watershed (includes Sutton Lake project) and to improve climate resiliency.

SUPPORTING IMPLEMENTATION ACTIONS:

67 *Develop a Detention Policy in coordination with LGU partners (which includes the Spring Lake Dam Policy) for each of the waterbodies in the District that identifies normal operating levels and ability to manage water levels for flood management.*

Background & Purpose

In response to the 2014 flood, the PLSLWD completed the Prior Lake Stormwater Management & Flood Mitigation Study in coordination with the City of Prior Lake. This study identified potential upstream storage areas to reduce flooding on Prior Lake, one of which was an outlet control structure on Sutton Lake. Installation of a controlled outlet weir to control high flows will provide drawdown capacity below the normal pool elevation to improve aquatic vegetation and habitat and increase flood storage, and is expected to achieve a potential high water line reduction of 0.12 foot on Prior Lake. Furthermore, this project will allow Sutton Lake to bounce periodically, more similar to a natural lake/wetland system that does not have a ditched outlet. The weir will not raise the 100-year, 24-hour High Water Line (HWL) on Sutton Lake.

A MNDNR Public Waters Work Permit was issued on February 8, 2019 for the Sutton Outlet Control Structure based on the 60% Draft Plan Set. This permit is conditioned on final construction plan set and operating plan approval by the MNDNR Area Hydrologist and Wildlife Manager prior to construction. In response to these conditions EOR submitted to MNDNR on April 4, 2019 a draft operating plan for review and comment. On April 18, 2019 the PLSLWD was informed that the operating plan triggered additional statute and rule requirements that were not considered by the MNDNR when the permit was issued. The PLSLWD resubmitted the operating plan with conditioned drawdown and developed final plans for construction that have been approved by the MNDNR.

Implementation Steps

1. Complete Construction: Construction of the outlet weir is scheduled for 2020.
2. Complete Natural Resource Inventories: Bathymetric surveying of Sutton Lake and the extent and density of existing cattail vegetation, wetland seed bank field investigation and a Natural Resources Inventory (NRI) to document plant and animal communities within the project area.
3. Develop Lake Management Plan: A lake management plan is required by MNDNR if the PLSLWD intends to pursue drawdown below the existing control elevation of Sutton Lake. In addition, the landowners surrounding the lake have expressed interest in lake management for waterfowl.
4. Implement Lake Management Plan: Implement activities identified in the lake management plan.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Complete Construction											
2. Complete Natural Resources Inventories											
3. Develop Lake Management Plan											
4. Implement Lake Management Plan											

Funding Sources

The funding for this Project will come from the District Levy.

12. WETLAND RESTORATION & ENHANCEMENT

10-Year Budget: $539,950

WATERBODIES ADDRESSED:

- Wetlands
- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ11:** *Restore/enhance wetlands in the District*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

11 Strategically target and implement a minimum of one wetland restoration in the Spring Lake Watershed identified in Comprehensive Wetland Plan.

47 Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.

51 Enhance the habitat and wetland functions of the Frog Farm Wetland.

70 Restore two or more wetlands that help contribute to flood reduction on Prior Lake.

SUPPORTING IMPLEMENTATION ACTIONS:

10 *Update the District's Comprehensive Wetland Plan which identifies strategic wetlands that help work towards achieving prioritized and/or multiple goals, including climate resiliency.*

32 *Partner with the new or current owners of the Fish Lake Acres Campground to implement wetland restoration and enhancement project as feasible.*

45 *Continue to provide cost-share opportunities for wetland restoration projects.*

46 *Update the Comprehensive Wetland Plan (CWP) to discretely characterize wetland storage capacity and downstream water quality functions.*

49 *Monitor and enforce existing conservation easements.*

Background & Purpose

The PLSLWD has restored several wetland areas in the watershed and has created an inventory of potential additional sites. The PLSLWD will continue to solicit wetland restoration program participation by expanding communication and education programs regarding wetland restoration and acquisition. Where they qualify, the PLSLWD will attempt to enroll wetlands into the BWSR wetland bank.

Implementation Steps

1. Establish Reserve Fund: Similar to in-lake alum treatment, the PLSLWD intends to establish a reserve fund for wetland restoration. The reserve funds are intended to receive $50K or more per year, starting in 2021 for the duration of the WRMP. Funds reserved for restoration will be used for that purpose only.
2. Identification & Outreach: The PLSLWD will identify potential sites and conduct strategic outreach to landowners based on the PLSLWD's updated Comprehensive Wetland Plan (**Appendix I**), including those in the Spring Lake Watershed and those that contribute to flood reduction on Prior Lake. Outreach will include social media, articles in papers and newsletters, direct mailings, SWCD staff contacts, and advertisement at local events.

3. Prioritize and Select Projects: As opportunities become available, the PLSLWD will use the following questions to determine which projects will move forward:
   a) WATER QUALITY BENEFITS: How much phosphorus pollution does the project prevent from entering Tier 1 or Tier 2 lakes?
   b) FLOOD REDUCTION BENEFITS: How much flood reduction benefits does the project provide?
   c) COST-EFFECTIVENESS: What is the cost per pound of phosphorus or acre-foot of water volume, and how does it compare to other, similar projects the PLSLWD has funded?
   d) ADDITIONAL GOALS: To what degree does the project address other goals of the PLSLWD, such as education or ecosystem restoration?
4. Frog Farm Wetland Feasibility Study: The PLSLWD will complete a feasibility study for the restoration of the Frog Farm wetland on the south side of Spring Lake along the Buck Lake channel.
5. Engineering & Agreements: The PLSLWD will complete design work for a minimum of three wetland restorations (in combination with Wetland Banking Program below) and will establish agreements with landowners.
6. Construction: The PLSLWD will implement a minimum of three wetland restoration projects with at least one in the Spring Lake Watershed (Frog Farm Wetland) and two that contribute to flood reduction on Prior Lake (in combination with the implementation of the Wetland Banking Program).

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Establish Reserve Fund											
2. Identification & Outreach											
3. Prioritize and Select Projects											
4. Frog Farm Wetland Feasibility Study											
5. Engineering & Agreements											
6. Construction											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (Spring Lake Township, Sand Creek Township, City of Prior Lake, City of Savage, SMSC, Scott County, etc.), landowner contributions, and state and federal grant sources as available.

13. WETLAND BANKING PROGRAM

10-Year Budget: $539,950

WATERBODIES ADDRESSED:

- Tier 1 Lakes
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ10:** *Maintain no net loss of wetlands in the District*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

43 Create a District wetland banking program to ensure no wetland loss when the use of wetland credits is necessary for a project within the District.

47 Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.

SUPPORTING IMPLEMENTATION ACTIONS:

44 *Identify opportunities to use other programs (e.g. Conservation Reserve Enhancement Program, non-profit organization programs, etc.) to temporarily or permanently protect wetlands in the agricultural areas.*

46 *Update the Comprehensive Wetland Plan (CWP) to discretely characterize wetland storage capacity and downstream water quality functions.*

70 *Restore two or more wetlands that help contribute to flood reduction on Prior Lake.*

Background & Purpose

In many instances, the limitations of site conditions for development and road construction projects in the PLSLWD require that wetlands be mitigated. However, most wetland credits purchased for wetland mitigation are located outside of the District, creating a net loss in wetlands over time. Establishing wetland banking credits in areas that benefit the flood reduction goal of Prior Lake will help maintain no net loss of wetlands in the PLSLWD. Wetland credits will be purchased by outside parties, replenishing the program funds over time which will allow for additional wetland banking at no cost to the PLSLWD.

The SWCD, Scott WMO and BWSR recently partnered on a 54-acre wetland banking project, Helena Wetland Bank Project, and credit was available starting in 2019. It is anticipated that the credits from this bank will be used up within five years. Prior to the completion of that project, the PLSLWD will contact the Scott SWCD to discuss potential partnership on another banking project that will provide significant storage in the upper watershed.

Implementation Steps

1. Initial Program Establishment: The PLSLWD will research and identify other local wetland bank programs in the area and region. The PLSLWD will then develop a new wetland banking program based on the success of other organizations with guidance or in partnership with BSWR staff.
2. Establish Reserve Fund: Similar to in-lake alum treatment, the PLSLWD intends to establish a reserve fund for wetland restoration. The reserve funds are intended to receive $50K or more per year, starting in 2021 for the duration of the plan. Funds reserved for wetland banking will be used for that purpose only.

3. Strategic Outreach: The PLSLWD will partner with Scott SWCD to help identify potential wetland banking sites. Strategic outreach will be conducted to landowners and/or LGU partners with suitable sites. A site will then be selected based on cost, benefit, and feasibility.
4. Engineering & Agreements: The PLSLWD will complete design work for a minimum of one wetland restorations and will establish agreements with landowners for wetland banking.
5. Construction: The PLSLWD will implement a minimum of one wetland restoration project specifically for purposes of wetland banking within the District. Annual maintenance will be completed until the site is fully established and meets the requirements for wetland banking.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Initial Program Establishment											
2. Establish Reserve Fund											
3. Strategic Outreach											
4. Engineering & Agreements											
5. Construction											

Funding Sources

The funding for this Project will come from the District Levy and potential LGU partner contributions. While the initial investment into the program will be large, the program will get reimbursed for the installation of the wetlands by ultimately selling the wetland credits for projects within the District.

2. Operations and Maintenance Program

PLSLWD owns and operates the Highway 13 Wetland Weir, Ferric Chloride Treatment System, and downstream desiltation pond, all of which need on-going operation and maintenance. In addition, PLSLWD is an MS4 for the Prior Lake Outlet Channel and operates the Prior Lake Outlet Structure. It should be noted that PLSLWD holds insurance policies for these structures. Through a MOA with the cities of Prior Lake and Shakopee and the SMSC, they are responsible for inspecting and maintaining the Prior Lake Outlet Channel to ensure conveyance of flows as defined and allowed by the MOA. In addition, PLSLWD has implemented stormwater BMPs with its partners for which short-term maintenance is needed until acceptance by the municipality for on-going long-term maintenance.

Additionally, the PLSLWD will continue to operate its cost-share programs. When implementing its cost-share programs, the PLSLWD will follow a set of steps to benefit from input from public agencies, watershed residents, and other interested parties.

1) The overall program funding level will be set annually through the PLSLWD's budgeting process. This is an open process that occurs in August and early September each year, and includes a public hearing as required by statute at which all parties can review and address the Board of Managers on the PLSLWD's proposed program budget.
2) The PLSLWD will follow the procedures identified in this plan for biennial review of its implementation priorities. Every other year, as a part of this review, the PLSLWD will conduct public hearings with prior published notice and written notice to the county and all local cities and townships within the watershed. The Board will hear and consider all public comments and make plan implementation and funding decisions in an open public meeting.
3) Cost-share funding proposals will be processed and evaluated according to a written set of guidelines adopted by the Board of Managers for each program. The primary purposes of these guidelines are to a) provide for consistency in PLSLWD review and selection of proposals for funding; b) direct PLSLWD funds to projects and locations that will further the goals and priorities of the watershed plan in an effective manner and are supported by data such as modeling or other inventories or analysis; c) ensure that funding is formalized in a grant agreement that guarantees project completion and maintenance. The Board may review these terms from time to time, but any revisions will not deviate from the three purposes cited.
4) When a portion of cost-share funding is intended to be applied to capital construction, the PLSLWD will follow procedures under State Statutes 103B.251 for project-specific public and Board of Managers review before authorizing any use of funding for design or construction.

1. AIS PREVENTION & MANAGEMENT

10-Year Budget: $910,850

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes • Other waterbodies as identified	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake* • **AIS1:** *Develop and implement AIS Plan* • **AIS3:** *Monitor & treat CLP on Tier 1 & 2 Lakes* • **AIS4:** *Implement newt techniques for zebra mussels*

IMPLEMENTATION ACTIONS PERFORMED:

7 Regularly and effectively monitor water quality on Tier 1 lakes and its tributaries in order to inform District plans and projects.

29 Annually assess curly-leaf pondweed on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.

62 Create and implement an AIS Rapid Response and Prevention Plan for Tier 1 lakes in collaboration with local and state partners.

63 Partner with local partners and/or the University of Minnesota to implement strategies to prevent the spread of known and emerging AIS in Tier 1 lakes.

64 As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Lower Prior Lake.

SUPPORTING IMPLEMENTATION ACTIONS:

6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*

18 *Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*

Background & Purpose

AIS Prevention. Aquatic Invasive Species (AIS) can be detrimental to water quality, recreation, fish populations and wildlife habitat. In order to help prevent the introduction of ***new*** AIS, a robust AIS prevention program will be established.

AIS Management. PLSLWD's current known AIS include Eurasian water milfoil (EWM), curly-leaf pondweed (CLP), zebra mussels, and common carp. While CLP and carp have been observed on all four Tier 1 lakes, EWM and zebra mussels are present on Lower & Upper Prior Lakes only.

The PLSLWD manages for AIS when they pose a threat to water quality on Tier 1 lakes and does not treat invasive species for recreational benefits alone. When proven to effective in improving water quality, the PLSLWD will treat and manage AIS on Tier 1 lakes where cost-effective.

- Eurasian water milfoil can be detrimental to some lakes, overtaking habitat and outcompeting native plants. Currently, EWM has not risen to nuisance levels and has not been treated but is being monitored through regular aquatic plant surveys.
- Curly-leaf pondweed is an invasive aquatic plant that has been observed on all four Tier 1 lakes. It has early season growth and has been shown in some studies to reduce water quality when it dies off mid-summer. In order to control the plant and keep it from spreading throughout the lakes, efforts will be taken to reduce its growth in each lake as needed. The PLSLWD has been treating CLP in lakes

since 2007. As of 2017, Scott County has provided funding for the CLP treatments through a state grant program.

- Zebra mussels can disrupt the ecosystem and food chain and outcompete native mussels. Prior Lake is the only known lake in the District with zebra mussels and it is important to take steps to help reduce the spread to other lakes. Scouting and monitoring for zebra mussels on non-infected lakes should be done regularly to catch early infestations. These inspections are normally conducted at boat launches since that is the most likely source for a new infestation.
- Common Carp can affect the water quality and plant diversity in a lake due to their disruptive feeding habitats. Since this AIS is managed comprehensively throughout the watershed, common carp management is contained in a separate section in Operations & Maintenance (see Section IV.C.2.2).

The PLSLWD may consider AIS management on waterbodies other than Tier 1 lakes based on Board direction. Specifically, the Buck Lake Assessment may suggest management of CLP to improve habitat and/or water quality on this resource. The following questions should be asked in consideration of AIS management on lakes other than Tier 1 lakes:

a) THREAT TO OTHER LAKES: What threat does the infestation pose to spread to surrounding lakes with a high priority on protecting Tier 1 lakes?
b) WATER QUALITY: What risk does the AIS pose to water quality on the lake or to connecting Tier 1 lakes?
c) HABITAT: What detriment does the AIS pose to fish and wildlife habitat in the lake or connecting Tier 1 lakes?

AIS Prevention Implementation Steps:

1. Training and Education: PLSLWD staff will attend a minimum of one AIS conference, workshop, or training each year to ensure that the PLSLWD stays abreast of the latest techniques and methods to reduce, control, or eliminate AIS. The PLSLWD will also educate residents on the spread of AIS through signs, mailings, social media, and local events.
2. Monitor and Assess New AIS: The PLSLWD will create an AIS monitoring program implement strategies to monitor and assess new AIS which will include a citizen monitoring program. The program may include zebra mussel eDNA monitoring, installing zebra mussel monitoring plates, aquatic plant surveys, and/or implementing innovative ideas.
3. Implement Rapid Response Plan: The PLSLWD will develop and annually update an AIS Rapid Response Plan (see Section IV.C.3.1), implementing activities as necessary.
4. Boat Inspections: The PLSLWD will support actions by the MNDNR and Scott County to conduct watercraft inspections both in and out of Prior and Spring Lakes, as well as AIS washing stations, during the months of May-September. The PLSLWD will augment hours provided by both entities as needed to provide sufficient inspections to protect the lakes.
5. Dock Removal Inspections: The PLSLWD will hire a vendor to inspect commercial dock installation and dock removal boats every year in May/June and again in September/October.
6. Innovative AIS Prevention: The PLSLWD will work with the University of Minnesota and/or other organizations to implement one or more projects that will help prevent future AIS establishment in Tier 1 Lakes, including strategies to better manage the spread and population of zebra mussels in and out of Lower Prior Lake as new research allows.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Training and Education											
2. Monitor and Assess New AIS											
3. Implement Rapid Response Plan											
4. Boat Inspections											
5. Dock Removal Inspections											
6. Innovative AIS Prevention											

AIS Management Implementation Steps:

1. Annual Curly-leaf Pondweed Assessments: The PLSLWD will complete aquatic plant surveys each spring on Spring and Prior Lakes, as well as Fish Lake as needed, to assess whether or not a CLP treatment is required.
2. Curly-leaf Pondweed Treatments: As funding is available, the PLSLWD will coordinate CLP treatments on targeted areas.
3. Implement AIS Rapid Response Plan: Based on monitoring information and identification of new AIS in District waterbodies, applicable implementation activities in the plan may be completed on Tier 1 Lakes.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Annual Curly-leaf Pondweed Assessments											
2. Curly-leaf Pondweed Treatments											
3. Implement AIS Rapid Response Plan											

Funding Sources

The funding for this Project will come from the District Levy, partner contributions (Spring Lake Township, Prior Lake, Scott County, etc.), local organizations (e.g. lake associations), and state or federal grants.

2. CARP MANAGEMENT PROGRAM

10-Year Budget: $972,927

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes • Tier 2 Lakes	• **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake* • **WQ5:** *Improve water quality in Arctic Lake* • **WQ6:** *Improve water quality in Pike Lake* • **AIS2:** *Effectively manage common carp*

IMPLEMENTATION ACTIONS PERFORMED:

28 Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.

SUPPORTING IMPLEMENTATION ACTIONS:

35 *Support SMSC"s monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.*

Background & Purpose

The 2012 Spring Lake and Upper Prior Lake TMDL Implementation Plan identified internal loading, including the load from rough fish, as a source of roughly half of the phosphorus internal loading to the lakes. The plan went further to identify rough fish management as a way to significantly reduce estimated phosphorus loading.

As a result, the PLSLWD put together an Integrated Pest Management Plan (IPM) for Common Carp in 2017 to come up with a plan to reduce the common carp population in the District. This plan is meant to be a working document which is updated as new strategies and goals are incorporated into the plan.

Carp stir up sediment from the lake bottom when they forage for food. This re-suspended sediment makes more phosphorus available to phytoplankton and increases the shading effect on native submergent aquatic vegetation. Carp also feed directly on or uproot vegetation, further increasing the level of phosphorus in the water column. By removing the carp from the system, both the phosphorus within the carp carcass and the amount that would typically be excreted will be completely removed, while also abating the release of phosphorus created by foraging behavior.

This project uses integrated pest management (IPM) principles to effectively manage the common carp population within the entire watershed as a whole, including all lakes, wetlands and streams that are interconnected to Spring and Prior Lakes. IPM involves the use of targeted carp removals and barriers, as well as monitoring environmental parameters that can inhibit or promote carp population growth within the Spring and Prior Lakes basins. Adaptive management will use the carp population data that is collected including population and biomass estimates as well as migration routes and winter aggregation locations.

Implementation Steps

1. Update the Integrated Pest Management Plan for Common Carp (IPM Plan): The PLSLWD's IPM Plan will be updated and approved by the Board annually to ensure that the latest information

and strategies are being used to manage the carp population in Tier 1 lakes and the connecting waterbodies.

2. Carp Management: The PLSLWD will implement the components of the IPM Plan to control/reduce the carp population which include:
    a. Data Collection
    b. Physical Removal
    c. Biological Controls
    d. Carp Barriers
    e. Education

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Update IPM Plan for Common Carp											
2. Carp Management											
Data Collection											
Physical Removal											
Biological Controls											
Carp Barriers											
Education											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (SMSC. City of Prior Lake, Scott County, etc.), local organizations (e.g. lake associations), and state and federal grants.

3. COST SHARE PROGRAM

10-Year Budget: $717,200

WATERBODIES ADDRESSED:

- All District Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lake*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ6:** *Improve water quality in Pike Lake*
- **WQ10:** *Maintain no net loss of wetlands in the District*
- **WQ11:** *Restore/enhance wetlands in the District*
- **WQ12:** *Stabilize a minimum of ten bank erosion sites*
- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

12 Continue to provide cost share opportunities for residential & agricultural water quality improvement projects within the watershed, including Farmer-Led Council initiatives, that reduce nutrient loading to lakes.

36 Work with the developers to include enhanced water quality and habitat features in projects, providing cost-share as incentives.

45 Continue to provide cost-share opportunities for wetland restoration projects.

54 Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through the Cost Share Program.

60 Continue to provide Cost Share funding for the sealing of decommissioned wells in partnership with the SWCD.

61 Develop new incentives for low-impact development practices and BMPs that reduce the need for irrigation, promote infiltration, and protect groundwater quality through the Cost Share Program.

68 Provide incentives through the Cost Share Program to member communities and the development community to promote the use of green infrastructure that contributes to flood reduction on Prior Lake.

69 Provide financial incentives to residents and businesses in the District to implement BMPs that reduce flooding to the lakes through the Cost Share Program.

SUPPORTING IMPLEMENTATION ACTIONS:

6 *Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.*

18 *Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*

22 *Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for residents per year that helps provide information for projects that benefit water quality and/or flood reduction.*

23 *Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.*

Background & Purpose

The PLSLWD will update its Cost Share program (Cost Share Docket) with Scott SWCD annually and implement a results-focused cost share program that engages rural, urban, shoreline and business landowners. Where there are gaps in the Cost Share Docket, the PLSLWD will initiate projects with partners and recipients. Where possible, the PLSLWD will apply for and leverage state and federal grants for cost share incentive payments. The program will be prioritized around a "pay-for-performance principle," which is primarily a "dollar per pound of phosphorus removed."

Implementation Steps

1. Annually Update Cost Share Docket: The PLSLWD will annually update its partnership agreement with Scott SWCD to implement the Cost Share Program which will provide cost-share funding for residential & agricultural water quality improvement projects, including Farmer-Led Council Initiatives, wetland restorations, buffers & filter strips along ditches and streams, the sealing of decommissioned wells, green infrastructure projects, flood reduction projects, etc. The updates will also include new incentives for low-impact development practices and BMPs that reduce irrigation and increase infiltration to be incorporated by 2025.
2. Prioritized Project Selection: The PLSLWD will meet with Scott SWCD twice per calendar year to assess potential projects and prioritize project selection based on project funding, feasibility, and the cost-benefits. The PLSLWD will use the following questions to help determine cost-benefit:

   1. WATER QUALITY BENEFITS: How much phosphorus pollution does the project prevent from entering Tier 1 or Tier 2 lakes or wetlands?

   2. FLOOD REDUCTION BENEFITS: How much flood reduction benefits does the project provide?

   3. COST-EFFECTIVENESS: What is the cost per pound of phosphorus or acre-foot of water volume and how does it compare to other, similar projects the PLSLWD has funded?

   5. COLLABORATION: What is the level of commitment on the part of the landowner, or applicable partner organization to the project (monetary commitment and/or staff time)?

   6. LONG-TERM MANAGEMENT: Is there a firm plan for maintaining the project after construction and who is responsible (if applicable)?
3. Outreach to Developers: As opportunities arise, the PLSLWD will conduct outreach to developers to encourage enhanced water quality features and the use of green infrastructure that contributes to flood reduction on Prior Lake in projects, providing cost-share as incentives when appropriate, and referring them to Scott SWCD for applying for cost-share.
4. Implement Projects: Scott SWCD will implement projects based on the above selection process.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Annually Update Cost Share Docket											
2. Prioritized Project Selection											
3. Outreach to Developers											
4. Implement Projects											

Funding Sources

The funding for this Project will come from the District Levy, Scott SWCD, local organizations, and state and federal grants.

4. FARMER-LED COUNCIL INITIATIVES

10-Year Budget: $764,250

WATERBODIES ADDRESSED:

- All District Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ6:** *Improve water quality in Pike Lake*

IMPLEMENTATION ACTIONS PERFORMED:

17 Work with the Farmer-Led Council to create win-win programming in agricultural areas to improve water quality, including cover crop programs, no-till incentives, and other soil health initiatives.

21 Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.

SUPPORTING IMPLEMENTATION ACTIONS:

12 *Continue to provide cost-share opportunities for residential & agricultural water quality and habitat improvement projects within the watershed, including Farmer-Led Council initiatives that reduce nutrient loading or runoff volume.*

27 *Partner with local farmers, landowners, Scott County, Spring Lake Township and Sand Creek Township to identify opportunities and implement projects to improve stabilization of banks, habitat and water quality in County Ditch 13, such as an iron enhanced sand filter (ie. MB CD-13, Sutton, Swamp BMP sites).*

Background & Purpose

To help the PLSLWD reach its nutrient reduction goals for its water resources, PLSLWD has engaged with local farmers to build a Farmer-Led Council (FLC). 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.

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 will:

- 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 needed to overcome them

The FLC has focused its efforts on win-win programming for PLSLWD and farmers. This includes soil health initiatives such as cover crops, nutrient management, and no-till farming. The FLC incentives allow innovative new phosphorus reduction ideas to be implemented and refined prior to introduction to the regular cost-share docket if successful.

The PLSLWD partners with the Scott SWCD to help coordinate and implement the FLC programs, and the two agencies work together on coordinated grant efforts. The Scott SWCD also helps promote and implement many state and federal programs available to the farmers, including the Minnesota Agricultural Water Quality Certification Program, as well as communicating rules and regulations such as the Minnesota Buffer Law and the Groundwater Protection Rule in those vulnerable areas identified by the Minnesota Department of Agriculture (MDA).

In 2019, the Lake Friendly Farm Program was publicly released by the FLC to recognize farmers that are doing an outstanding job of managing their farms in a way that protects the water resources in the PLSLWD. The program identifies and publicly recognizes existing best management practices in the watershed and assists farmers in identifying potential areas for improvement to help protect the District's water resources.

Implementation Steps

1. Conduct Regular Meetings: The PLSLWD will organize a minimum of three FLC meetings each year, engaging guest speakers for key topics as appropriate.
2. FLC Cost-Share and Incentives: The FLC will direct innovative new programming outside of the District's regular cost-share program with a set budget each year. This will include win-win programming that improves water quality, including cover crops, no-till practices, and other soil health initiatives.
3. Lake-Friendly Farm Program: The FLC will continue to encourage, participate in, and promote enrollment in the District's Lake-Friendly Farm Program which identifies and publicly recognizes existing best management practices in the watershed and assists farmers in identifying areas for improvement to help protect the District's water resources.
4. County-Wide Events: The FLC will coordinate with county-wide partners to organize two or more county-wide events that highlight conservation practices that benefit water quality, focusing on soil health and win-win solutions for farmers.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Conduct Regular Meetings											
2. FLC Cost-Share and Incentives											
3. Lake-Friendly Farm Program											
4. County-Wide Events											

Funding Sources

The funding for this Project will come from the District Levy, Scott SWCD, and state and federal grants.

5. FERRIC CHLORIDE TREATMENT SYSTEM

10-Year Budget: $1,333,950

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Spring, Upper Prior*	• **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

26 Operate and maintain the Ferric Chloride Treatment System, completing scheduled dredging of the desilt pond as necessary. Make system improvements informed by 2023/2024 Ferric Chloride System Assessment.

Background & Purpose

The ferric chloride treatment system is located on the County Ditch 13 channel immediately south of MN Highway 13 and was constructed in 1998. The structure and ferric chloride injection system require periodic adjustment and inspection to ensure effective operation. This system is inspected three times per week to ensure all is working properly. Sampling is conducted once a week per the MPCA permit. System maintenance includes checking the pump, filling the ferric tank, weeding, inspecting the weir, spring set up, winter shut down, and checking the lines for leaks.

The desiltation (i.e. sedimentation) pond is located on the County Ditch 13 tributary entering the southwest corner of Spring Lake. The pond was one of the earliest PLSLWD projects and was designed to decrease sedimentation occurring in the western end of Spring Lake. The basin has been dredged on several occasions over the years and enhanced to serve a flocculation basin for the Ferric Chloride Treatment System.

The desiltation pond was constructed in 1978, cleaned out in 1999 and again in 2012 to return the pond back to the original storage capacity. This basin will need to be dredged at least once during the lifetime of this plan.

Implementation Steps

1. Operate the Ferric Chloride Treatment System: Annually dosing of ferric chloride (FeCl) into the stream that flows into Spring Lake as per the FeCl Treatment System operation plan.
2. Desiltation Pond Survey: Survey basin storage capacity every three years to establish typical maintenance frequency and schedule next maintenance excavation project.
3. Desiltation Pond Maintenance Excavation: Prepare plans and specifications, obtain permits, solicit bids and construction administration for restoration of basin flocculation capacity. Also includes survey and soil sampling per NPDES-SDS requirements.
4. Desiltation Pond Outlet Improvement: Develop outlet structure improvement concept plan options to enhance flow capacity and monitoring capability and consider implementation with future maintenance excavation project.
5. Assess FeCl Dosing Curve: Consider flow and season conditioned dosing curve refinements to enhance performance.
6. Replace and Update Storage Facility: The tank holding ferric chloride has a lifespan of 10-20 years. The tank was installed in 1997 and should be replaced as soon as possible. The shed was not designed with replacement in mind and will need to be rebuilt or modified in order to replace the tank.

7. Remote Sensing: Install remote sensing (and operational control, if feasible) to reduce labor costs. This remote sensing will allow staff to view tank and stream levels from the office reducing the number of visits at the treatment site from 3x/week to 1x/week.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Operate the FeCl Treatment System											
2. Desiltation Pond Survey											
3. Desiltation Pond Maintenance Excavation											
4. Desiltation Pond Outlet Improvement											
5. Assess FeCl Dosing Curve											
6. Replace and Update Storage Facility											
7. Remote Sensing											

Funding Sources

The funding for this Project will come from the District Levy.

6. HIGHWAY 13 WETLAND RESTORATION

10-Year Budget: $240,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Spring* • Wetlands	• **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ11:** *Restore/enhance wetlands in the District*

IMPLEMENTATION ACTIONS PERFORMED:

50 Assess the storage capacity of the Hwy 13 wetland to maintain pretreatment function for the Ferric Chloride Treatment System and dredge/restore as recommended.

Background & Purpose

The Highway 13 Wetland was excavated in 1998 to serve as a pretreatment basin for the downstream Ferric Chloride Treatment System. Periodic survey of basin and potential maintenance excavation may be needed during the lifetime of this plan to maintain pretreatment capacity.

Implementation Steps

1. Survey Wetland: Survey basin storage capacity every five years to establish typical maintenance frequency and schedule next maintenance excavation project.
2. Maintenance Excavation: Prepare plans and specifications, obtain permits, solicit bids and construction administration for restoration of basin flocculation capacity. Also includes survey and soil sampling per NPDES-SDS requirements.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Survey Wetland						■					
2. Maintenance Excavation							■				

Funding Sources

The funding for this Project will come from the District Levy.

7. PLOC BANK RESTORATION

10-Year Budget: $245,807

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 2 Lakes: *Pike* • Streams: *PLOC*	• **WQ13:** *Improve the stability of the Prior Lake Outlet Channel*

IMPLEMENTATION ACTIONS PERFORMED:

55 Maintain (or finish completion of) the Prior Lake Outlet Channel Stabilization Project (7,400 linear feet of bank repair funded by FEMA Public Assistance funding), completing as-builts and post-stabilization bank assessment work on repaired channel banks.

56 Repair an additional 10,000 linear feet of eroded banks at locations identified in the PLOC Master Plan (EOR, 2019).

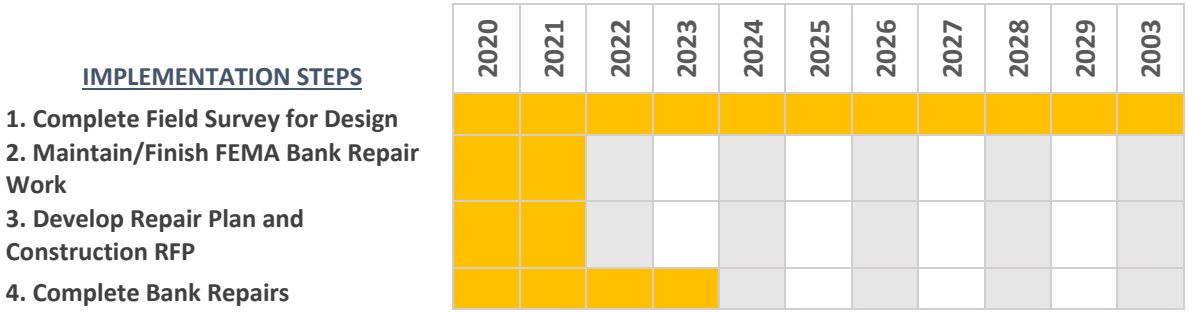
Background & Purpose

The outlet channel is an artificial and potentially unstable conveyance. The PLSLWD is the entity principally charged with monitoring the channel; all PLOC partners share the costs of resolving issues per the terms of the MOA.

The outlet channel has in the past, and will in the future, failed in various ways, including slumping and crumbling banks, meandering outside of the established easement area, and other issues. The MOA partners, including the PLSLWD, have committed to maintaining the channel in a functional state. This program will deal with repairs to the channel as needed.

Implementation Steps

1. Field Survey for Design: Inspection of channel conditions to assess need for repairs.
2. Maintain/Finish FEMA Bank Repair Work: Maintain (or finish completion of) the Prior Lake Outlet Channel Stabilization Project (7,400 linear feet of bank repair funded by FEMA Public Assistance funding), completing as-builts and post-stabilization bank assessment work as needed.
3. Develop Repair Plan and Construction RFP: Develop repair plan for PLOC and prepare a construction request for proposal (RFP) for non-FEMA bank repairs identified by the PLOC Master Plan.
4. Bank Repairs: Conduct three bank repair projects by 2023 to stabilize 10,000 linear feet of PLOC banks identified by the PLOC Master Plan. Costs are pro-rated per the approved PLOC MOA cost-share formula.



Funding Sources

The funding for this Project will come from the District Levy and the other PLOC partners (City of Shakopee, City of Prior Lake, and SMSC) as laid out in the PLOC MOA.

8. PLOC MANAGEMENT

10-Year Budget: $706,200

WATERBODIES ADDRESSED:

- Tier 2 Lakes: *Pike*
- Streams: *PLOC*

MANAGEMENT GOALS ADDRESSED:

- **WQ13:** *Improve the stability of the Prior Lake Outlet Channel*
- **RF2:** *Continue to operate the PLOC*

IMPLEMENTATION ACTIONS PERFORMED:

57 Manage the Prior Lake Outlet Channel per the Memorandum of Agreement for Use, Operation, and Maintenance of the Prior Lake Outlet Channel and Outlet Structure, Version 9, dated April 2, 2019 and revisions after the Master Plan is completed in 2024.

71 The Prior Lake Outlet Structure is operated according to the MNDNR-approved Prior Lake Outlet Control Structure Management Policy and Operating Procedures (last revised July 3, 2017).

Background & Purpose

The PLOC is funded by a MOA between the "Cooperators:" the PLSLWD, the Shakopee Mdewakanton Sioux Community and the cities of Shakopee and Prior Lake. In 2019, the Cooperators substantively revised the MOA, of which one of the revisions was to include an inspection program identifying responsible parties for each and every crossing of the PLOC. The Cooperators also developed a Master Plan to assess the current conditions of the PLOC from a channel capacity, bank stability, easement alignment with physical conditions and invasive species management. The Cooperators requested the Master Plan as a means to guide MOA activities over five years as a bridge to consideration of alternate means to manage the channel. At the end of the five years (2024), the Cooperators will determine what the next MOA will entail.

Implementation Steps

PLSLWD activities for the PLOC include administration, Cooperator meeting coordination, invasive plant management, culvert/channel inspections, channel repair, XP-SWMM model maintenance, water quantity monitoring, and outlet structure and pipe maintenance as outlined in the MOA. The Prior Lake Outlet Structure will be operated in accordance with the MNDNR-approved Prior Lake Outlet Control Structure Management Policy and Operating Procedures.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Invasive Plant Management											
2. Channel Inspections											
3. Channel Repairs (incl. pipelining)											
4. XP-SWMM Model Maint.											
5. Outlet Operations											
6. MOA Management											

Funding Sources

The funding for this Project will come from the District Levy and the other PLOC partners (City of Shakopee, City of Prior Lake, and SMSC) as laid out in the PLOC MOA. Grants will be sought to support pipelining.

9. PROJECT MAINTENANCE

10-Year Budget: $85,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lake* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

2 Implement stormwater retrofits in the Lower Prior Lake drainage area as opportunities arise.

26 Operate and maintain the Ferric Chloride Treatment System, completing scheduled dredging of the desilt pond as necessary. Make system improvements informed by 2023/2024 Ferric Chloride System Assessment.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

19 *Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

50 *Assess the storage capacity of the Hwy 13 wetland to maintain pretreatment function for the Ferric Chloride Treatment System and dredge/restore as recommended.*

Background & Purpose

After the construction of Public Infrastructure Partnership Projects is completed, there is typically a vegetation maintenance period before the PLSLWD officially hands the project over to the respective LGU partner. As of 2019, the following projects require maintenance until accepted by the LGU partner:

- 12/17 wetland (until 2020) – City of Prior Lake
- Raymond Park (until 2020) – City of Prior Lake
- Fairlawn Shores (until 2021) – City of Prior Lake
- Fish Lake Shoreline Project (until 2021) – Spring Lake Township

In addition, the PLSLWD has acquired fee title or easement to lands that it has restored and/or maintains the vegetation on. As of 2019, the PLSLWD has the following maintenance lands:

- Spring Lake Shoreline Project – oak savanna and shoreline restorations
- Frog Farm Wetland – PLSLWD allows neighbor to hay for vegetation maintenance
- FeCl system easements – maintain/mow vegetation for access

Implementation Steps

1. Develop Annual Maintenance Plans: Annually develop maintenance plans for current projects for incorporation into the budget into the following calendar year each August.

2. Complete Maintenance Work: Complete any necessary maintenance work for water quality and flood reduction projects through staff or consultants.
3. Maintain FeCl System Easements: Mow/cut/remove/maintain vegetation and provide regular upkeep to field road at FeCl building site and desilt pond in order to maintain adequate access to the sites.
4. Acquire Project Acceptance Letters: Work with LGU partners to receive project acceptance letters from respective LGU partner as vegetation maintenance obligations are met for stormwater retrofit projects and water quality improvement projects.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Develop Annual Maintenance Plans											
2. Complete Maintenance Work											
3. Acquire Project Acceptance Letters											

Funding Sources

The funding for this Project will come from the District Levy, potential partner contributions (City of Prior Lake, Spring Lake Township, etc.) and any appropriate grant funds for maintenance work.

3. Planning Program

Planning is integral to the efficient and effective management of the PLSLWD's resources, and to ensure regular progress toward PLSLWD goals. Planning includes staying abreast of regional, state, and federal water resource issues, keeping the PLSLWD's WRMP up to date, reviewing plans from other local government entities, and performing studies and feasibility reports.

1. AIS RAPID RESPONSE & PREVENTION PLAN

10-Year Budget: $61,000

WATERBODIES ADDRESSED:

- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

- **AIS1:** *Develop and implement AIS Plan*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*

IMPLEMENTATION ACTIONS PERFORMED:

62 Create and implement an AIS Rapid Response and Prevention Plan for Tier 1 lakes in collaboration with local and state partners.

SUPPORTING IMPLEMENTATION ACTIONS:

18 *Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.*

19 *Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.*

34 *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*

38 *Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.*

39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*

63 *Partner with local partners and/or the University of Minnesota to implement strategies to prevent the spread of known and emerging AIS in Tier 1 lakes.*

64 *As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Prior Lake.*

Background & Purpose

Preventing new introductions and infestations of AIS in the District's lakes is crucial to avoiding their establishment, spread, and irreversible consequences. History has proven that once an AIS has become established and widespread, eradication is nearly impossible, and control efforts can become perpetual and costly programs.

An ounce of prevention is worth a pound of cure when it comes to AIS and early detection and rapid response are a crucial to prevent establishment. The sooner a new introduction is detected, the greater probability there is that the AIS can be contained and potentially eradicated.

The purpose of an AIS Rapid Response & Prevention Plan (RRPP) is to guide the PLSLWD in the management of aquatic invasive species and, through education and awareness, prevention measures, and applied research, work with state and local partners to protect the District's water resources from this environmental threat.

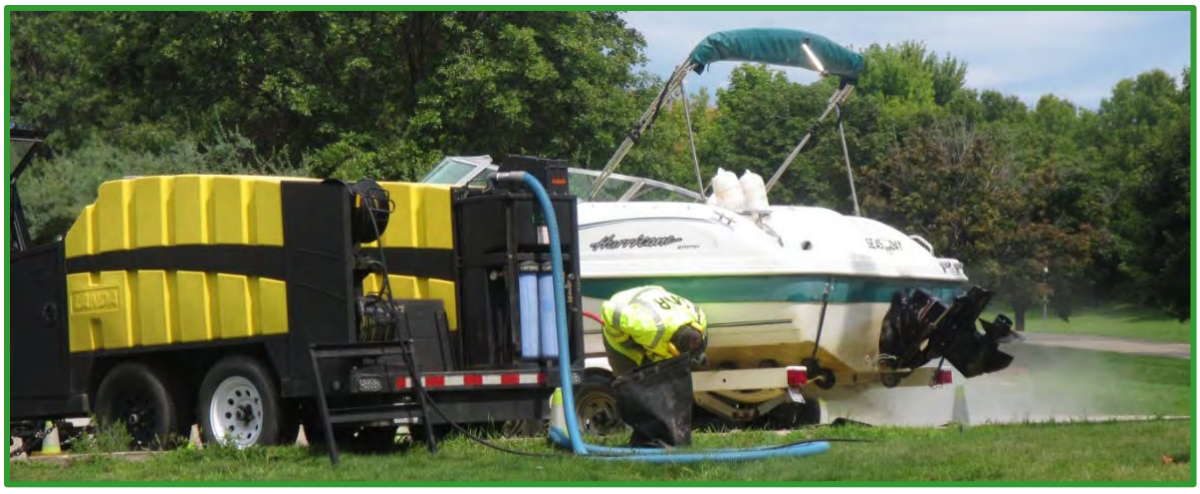
Implementation Steps

1. Gather Information: Research other AIS prevention plans across Minnesota and consult with MPCA, MNDNR, and UMN on best practices. Attend trainings and conferences on AIS to ensure the latest information is incorporated into the plan and its regular updates.
2. Draft AIS RRPP: Based on information gathered, draft a plan that comprehensively addresses AIS prevention on Tier 1 lakes.
3. Solicit Feedback: Gather feedback on the RRPP from local and state partners, including the CAC, lake associations, LGUs, MPCA and MNDNR through their regular meetings, online/email surveys, and/or a special meeting to discuss AIS.
4. Finalize Plan: Present the final AIS RRPP to the Board by the end of 2021 and update the plan as new information and prevention strategies are available.
5. Regularly Update Plan: Regularly update the RRPP as new information becomes available, at minimum every two years.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Gather Information											
2. Draft AIS RRPP											
3. Solicit Feedback											
4. Finalize Plan											
5. Regularly Update Plan											

Funding Sources

The funding for this Project will come from the District Levy and potentially from LGU partners.



2. COMPREHENSIVE WETLAND PLAN UPDATE

10-Year Budget: $32,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All District Lakes • Wetlands	• **WQ10:** *Maintain no net loss of wetlands in the District* • **WQ11:** *Restore/enhance wetlands in the District* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

10 Update the District's Comprehensive Wetland Plan which identifies strategic wetlands that help work towards achieving prioritized and/or multiple goals, including climate resiliency.

46 Update the Comprehensive Wetland Plan (CWP) to discretely characterize wetland storage capacity and downstream water quality functions.

SUPPORTING IMPLEMENTATION ACTIONS:

44 *Identify opportunities to use other programs (e.g. Conservation Reserve Enhancement Program, non-profit organization programs, etc.) to temporarily or permanently protect wetlands in the agricultural areas.*

Background & Purpose

The PLSLWD's current Comprehensive Wetland Plan (CWP) was adopted by the Board on April 10, 2012. The CWP was created to help accomplish goals and meet policies set forth in the 2010-2019 WRMP and was modeled after the Comprehensive Wetland Protection and Management Plan (CWPMP) process developed under MN Rule 8420.0830 for the Minnesota Wetland Conservation Act (WCA). The 2012 CWP was used to develop wetland management standards to support other important water resource management activities in the PLSLWD. In addition, PLSLWD provided an inventory of the Restoration/Enhancement Management Class of wetlands to Scott County for the purpose of mapping potential Public Values for potential flexibility during the Planned Unit Development (PUD) process.

Since the 2012 CWP was adopted, better mapping information (e.g. LiDAR) is now available to further identify and refine wetland areas in the District. In pursuit of wetland restoration projects that address water quality & flood reduction goals, it is vital that the PLSLWD have the best information available for its outreach efforts to potential partners and landowners for wetland restorations and upper watershed storage sites.

Implementation Steps

1. Update Wetland Inventory: Update existing CWP wetland database and mapping using remote sensing techniques to incorporate LiDAR data, SSURGO Soils data, MLCCS land use data, and high-resolution aerial photography. This effort will provide more accurate wetland boundaries, estimate storage (volume) capacity, delineate likely water sources and drainage area, characterize landscape position and basin morphometry, and distance to downstream water resources of value. Other relevant databases will also be incorporated into this update including the University of MN Restorable Wetland Inventory and any information available from the Scott SWCD.
2. Prioritize Wetland Basins for Upper Watershed Storage: Complete cost-benefit assessment based on preliminary estimate of probable cost to restore wetlands versus the flood storage and water quality benefit they could provide. Provide the update inventory to Scott County to support the use of Public Value areas for the County's PUD process.

3. Consider Adoption as BWSR CWPMP: With future overall rule revisions, the Board may consider BWSR approval of the CWP as a CWPMP. The CWPMP would serve as the basis for regional stormwater planning and rule development for the upper watershed regulating land development and drainage system maintenance. It would provide the technical foundation for the development of rules to achieve no-net loss of wetland functions and acreage within the CWPMP boundary. The CWPMP would provide the basis for the management of wetland resources in consideration of municipal and agricultural land use needs. Ultimately, the CWPMP would balance land use needs and the goals of the PLSLWD with the goals of the WCA to achieve a no-net loss of wetland and associated ecological function.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Update Wetland Inventory											
2. Prioritize Wetland Basins											
3. Consider Adoption as BWSR CWPMP											

Funding Sources

The funding for this Project will come from the District Levy and potentially from LGU partners.

3. DISTRICT PLAN UPDATES

10-Year Budget: $272,600

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Waterbodies	• All Goals

IMPLEMENTATION ACTIONS PERFORMED:

All Implementation Actions

Background & Purpose

This 2020-2030 WRMP will guide the PLSLWD and its activities through 2030 or until superseded by adoption and approval of a subsequent plan or amended plan. It is important to note that BWSR's approval of a Plan amendment does not extend the life of the District's Plan. Updates to a State approved Plan constitutes a Plan amendment that must be completed in accordance with MN Rule 8410.0140 and MN Statute 103B.231 Subp. 11. Prior to the plan expiration, the PLSLWD will begin the process of updating its WRMP in accordance with all applicable Minnesota laws and rules.

Implementation Steps

1. 2020-2030 WRMP: Final completion of this Plan.
2. Minor Plan Updates: Minor updates are contemplated annually for incorporation of new projects or programs to enhance grant eligibility. Other minor plan updates contemplated include incorporating strategies and projects from the forthcoming Fish and Pike Lake TMDLs. BWSR approval of a Plan amendment does not extend the life of the District's WRMP.
3. 5th Generation Plan: The PLSLWD's 5th Generation WRMP development process will begin in 2029 with completion in 2030.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. 2020-2030 WRMP											
2. Minor Plan Updates											
3. 5th Generation Plan											

Funding Sources

The funding for this Project will come from the District Levy.

4. FEASIBILITY REPORTS

10-Year Budget: $220,250

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Waterbodies	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lake* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake* • **WQ5:** *Improve water quality in Arctic Lake* • **WQ6:** *Improve water quality in Pike Lake* • **WQ10:** *Maintain no net loss of wetlands in the District* • **WQ11:** *Restore/enhance wetlands in the District* • **WQ12:** *Stabilize a minimum of ten bank erosion sites* • **WQ13:** *Improve stability of PLOC banks through maintenance* • **AIS2:** *Effectively manage common carp in Tier 1 lakes* • **AIS4:** *New management techniques for zebra mussels* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake* • **RF3:** *Eliminate/reduce the impact of development on flooding.*

IMPLEMENTATION ACTIONS PERFORMED:

All Implementation Actions

Background & Purpose

All capital projects will be preceded by a study, concept plan and/or cost-benefit analysis, if necessary, to determine their feasibility, either as part of a greater study (such as a TMDL study), or in the preceding year as a separate expenditure. The Board may choose not to fund planned capital expenditures if the outcome of the feasibility report is unfavorable.

Implementation Steps

1. Feasibility Studies: Complete feasibility studies, options analysis and/or concept plans to maximize cost-benefit for potential capital improvement projects. This will also include a subwatershed assessment for areas draining to Lower Prior Lake for the purpose of designating future retrofits for new BMPs.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Feasibility Studies											

Funding Sources

The funding for this Project will come from the District Levy and potentially from LGU partners.

5. GROUNDWATER PROTECTION PLAN

10-Year Budget: $16,800

WATERBODIES ADDRESSED:

- Groundwater

MANAGEMENT GOALS ADDRESSED:

- **WQ14:** *Active participation in groundwater planning efforts.*

IMPLEMENTATION ACTIONS PERFORMED:

58 Serve on wellhead protection planning teams to assist public water suppliers with planning and implementation activities to address land use planning concerns.

59 Develop a plan on how to better incorporate consideration of groundwater and drinking water protection when reviewing new permits and completing capital projects to incorporate the alignment with NFMP and GPR activities.

SUPPORTING IMPLEMENTATION ACTIONS:

60 *Continue to provide Cost Share funding for the sealing of decommissioned wells in partnership with the SWCD.*

61 *Develop new incentives for low-impact development practices and BMPs that reduce the need for irrigation, promote infiltration, and protect groundwater quality through the Cost Share Program.*

Background & Purpose

At the request of the PLSLWD's local partners, work with the Scott SWCD to provide funding for residential well-decommissioning (sealing unused wells) as a result of a public water supply expansion project. For individual requests, follow the current Scott County Cost Share Docket for the cost-sharing amount.

Implementation Steps

1. Incorporation of Groundwater Considerations: Develop and implement a plan to better consider groundwater protection when reviewing new permits and completing projects. The Groundwater Considerations Plan will be approved by the Board no later than 2024.
2. Groundwater Protection Planning: Assist public water suppliers with planning and implementation activities to address land use planning concerns, serving on wellhead protection planning teams as opportunities arise. If no opportunities present themselves, schedule a meeting with County and local officials to discuss groundwater planning.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Incorporation of Groundwater Considerations											
2. Groundwater Protection Planning											

Funding Sources

The funding for this Project will come from the District Levy.

6. LOWER PRIOR LAKE DIAGNOSTIC STUDY UPDATE

10-Year Budget: $35,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Lower Prior*	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.*

IMPLEMENTATION ACTIONS PERFORMED:

1 Review the Lower Prior Lake Diagnostic Study and set new goals as needed.

SUPPORTING IMPLEMENTATION ACTIONS:

2 *Implement stormwater retrofits in the Lower Prior Lake drainage area as opportunities arise.*

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

39 *Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.*

Background & Purpose

The 2013 Lower Prior Lake Diagnostic Study identified numerous best management practice (BMP) retrofit opportunities within direct discharge subwatersheds to Lower Prior Lake. The PLSLWD received a Clean Water Partnership Project grant from the MPCA in 2014 that resulted in the construction of five BMPs that made progress towards the goal listed in the 2013 Lower Prior Lake Diagnostic Study of a 10% reduction of phosphorus or 33 lbs/year. Those projects were completed in 2018: Watzl's Beach Shoreline Restoration; Fish Point Park Water Quality Improvements Project; Indian Ridge Biofiltration Basin; Fairlawn Shores Biofiltration Basin; and Sand Point Beach Park Water Quality Improvements Project. This update will quantitatively assess progress towards and set new goals, as needed, for further implementation of BMP retrofit opportunities in the direct drainage area to Lower Prior Lake.

Implementation Steps

1. Progress-to-Goals Assessment: Review monitoring data, direct-watershed loading assumptions and implemented BMP performance, and assess progress towards goals set in the 2013 Lower Prior Lake Diagnostic Study and relevancy of previous goals.
2. Consider Modification of Load Reduction Goal: Based on progress-to-goals assessment, determine if the stated load reduction goal should be revised.
3. BMP Identification. Re-evaluate BMP retrofit opportunities including previously identified locations in light of advances in water resource science and treatment methods.
4. Update Plan: Revise the Lower Prior Lake Diagnostic Study, including a new load reduction goal (as needed) and potential projects identified.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Progress-to-Goals Assessment											
2. Consider Modification of Load Reduction											
3. BMP Identification											
4. Update Plan											
5. Finalize Plan											

Funding Sources

The funding for this Project will come from the District Levy.

7. PLANNING AND PROGRAMMING

10-Year Budget: $410,750

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Waterbodies	• All Goals

IMPLEMENTATION ACTIONS PERFORMED:

All Implementation Actions

Background & Purpose

Providing training and education opportunities for staff and managers is essential to ensure that the PLSLWD is up-to-date regarding scientific trends, innovations and solution-oriented activities. This category includes: staff and manager training and education; general planning; attendance at partner or membership meetings; membership fees; subscriptions; staff and managers meetings and meeting materials; computer and software updates and other tools that are essential for the PLSLWD's administrative operations.

PLSLWD staff will continue to keep abreast of general watershed planning issues, including issues of local, regional, state, and national significance. Staff will assist the Board of Managers with periodic self-assessments, identify potential program revisions and maintain current operations. This will include funding for staff training, education, and attendance at conferences as appropriate.

Implementation Steps

1. Staff & Board Meetings: Staff will prepare materials for Board workshops, Board meetings, conferences and other meetings, as assigned by the Board.
2. Annual Programming: Staff will attend planning meetings that are directly related to the PLSLWD's programs and projects.
3. Board Training & Conferences: Annually, establish a workshop and conference budget for Managers. Managers will seek approval for attendance at these events at regular Board meetings.
4. Staff Training & Conferences: Annually, establish a training budget for staff. Staff will request attendance at workshops and conferences to the District Administrator.
5. Self-Assessments: Annually, staff will assist the Board with completing a self-assessment and identify tasks that need to be undertaken in the following year.
6. TMDL Progress-to-Goals Assessment: Staff will review the existing TMDL study and implementation plan for Spring Lake and Upper Prior Lake, determine how much progress has been made towards meeting the goals of the TMDL, and work with local stakeholders (including the City of Prior Lake) to develop strategies addressing TMDL goals.
7. Equipment & IT Needs: Staff will identify equipment and software needs and establish an equipment budget.
8. Memberships and Subscriptions: Staff will identify organizations and subscriptions the PLSLWD should sign-up for and identify a budget for those fees annually.
9. Regional and State Coordination: Managers and staff will be active in the MN Association of Watershed Districts and assist it to continue to be a valuable asset to watershed districts.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Staff & Board Meetings											
2. Annual Programming											
3. Board Training & Conferences											
4. Staff Training & Conferences											
5. Self-Assessments											
6. TMDL Progress-to-Goals Assessment											
7. Equipment & IT Needs											
8. Memberships & Subscriptions											
9. Regional and State Coordination											

Funding Sources

The funding for this Project will come from the District Levy.

8. REGIONAL STORMWATER PLANNING

10-Year Budget: $55,600

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*

IMPLEMENTATION ACTIONS PERFORMED:

16 Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.

SUPPORTING IMPLEMENTATION ACTIONS:

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

36 *Work with the developers to include enhanced water quality and habitat features in projects, providing cost-share as incentives.*

41 *Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*

Background & Purpose

Any unit of government may prepare a plan by which regional stormwater management facilities may be constructed in anticipation of, or concurrent with, land disturbing activity. The PLSLWD is in a position to facilitate advancement of regional stormwater management planning and seeks to develop concept plans in advance of development, including expansion within orderly annexation areas.

Implementation Steps

1. Identify Likely Expansion Area: Coordinate with the municipalities and Scott County to identify areas most likely to develop on an annual basis. Consider regional stormwater projects and development of a stormwater utility for future development areas.
2. Regional Concept Plan Development: Utilize existing databases, models and plans such the PLSLWD's wetland inventory, PCSWMM model and Upper Watershed Blueprint, develop concept plans for areas to be developed and engage the development community in advance of preliminary plat/PUD submittal.
3. Program Development: Consider development of a program or revisions to existing programs enabling PLSLWD to accept and maintain easements acquired through the Scott County PUD process. Also consider implementation of associated stormwater improvements and wetland restorations on the areas so acquired if they are not completed as part of the development process.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Identify Likely Expansion Areas											
2. Regional Concept Plan Development											

Funding Sources

The funding for this Project will come from the District Levy.

9. UPPER WATERSHED BLUEPRINT

10-Year Budget: $85,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes	• **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake* • **RF5:** *Assess progress on flood reduction goals*

IMPLEMENTATION ACTIONS PERFORMED:

65 Conduct an assessment of the upland storage sites identified in the Stormwater Management & Flood Mitigation Study, 2016 and the Upper Subwatershed Assessment to create a prioritized list of potential storage areas based on refined cost estimates, feasibility, and opportunity.

67 Develop a Detention Policy in coordination with LGU partners (which includes the Spring Lake Dam Policy) for each of the waterbodies in the District that identifies normal operating levels and ability to manage water levels for flood management.

74 Complete an assessment of progress towards flood reduction goals on year 9 of the plan along with an increased precipitation and intensity resiliency scenario analysis, and set new goals for the next 10-year plan.

75 Reassess feasibility of Buck Chemical Treatment System and implement if feasible.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

16 *Develop equitable regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

73 *Partner with the City of Prior Lake to set goals for and complete modeling updates that provide sufficient information to inform future flood reduction decisions.*

Background & Purpose

Building off activities such as the PCSWMM model update, Comprehensive Wetland Plan update, and County Ditch 13 visioning, the PLSLWD intends to update and prioritize its approach to pursuing upper watershed storage by prioritizing downstream water quality improvement in addition to flood damage reduction.

Identifying pollutant loading hotspots on the landscape is often an effective way to target projects for downstream water quality improvement. However, as the scale and complexity of a watershed increase, the usefulness of pollutant loading estimates alone is diminished. While it is relatively straightforward to estimate pollutant loading using lookup tables and well-established empirical formulae at the field or site scale, at the watershed scale there are complex phenomena that factor into whether pollutants contained in runoff actually reach a given downstream resource. Proximity is one part of that equation, but characteristics such as the slope and curvature of a given flow path or the presence of landlocked or semi-landlocked basins between a pollutant source and a downstream resource are significant determining

factors in the answer to the question: where are the optimal locations to place best management practices in order to protect or improve a given resource in a watershed?

Identifying opportunities for flood damage reduction at large scales presents a similar set of challenges. Flooding in larger watersheds *can* be caused by short duration, high intensity rainfall events lasting just a few hours, but this type of flooding is typically quite localized and can be dealt with, for the most part, by traditional stormwater management strategies.

A different type of flooding that has plagued the PLSLWD in recent years is caused not by intense rainfall, but by wet periods lasting for weeks or months. This type of flooding is driven by excess *volume* rather than high *rates* of runoff, and so presents a unique set of challenges that are often beyond the ability of traditional stormwater management to solve – at least at a feasible cost. Since time of concentration increases with increasing scale, traditional stormwater management practices designed to perform rate control through detention over typical periods (e.g. 24 hours) often have little benefit during flood events that last for days or weeks. Bioretention and other infiltration-based practices are one set of tools that can be used to address both rate- and volume-driven flooding, but their use is contingent upon site conditions and so a limited number of opportunities exists. To address volume-driven flooding at the watershed scale, a more comprehensive strategy may be required that promotes increased consumptive use of water. Consumptive use of water means the water cannot be recovered, usually because it is lost to evaporation or transpiration, or aquifer recharge. This can be accomplished through practices such as wetland and prairie restoration, as well as via household or industrial use in conjunction with practices like stormwater reuse and rainwater harvesting.

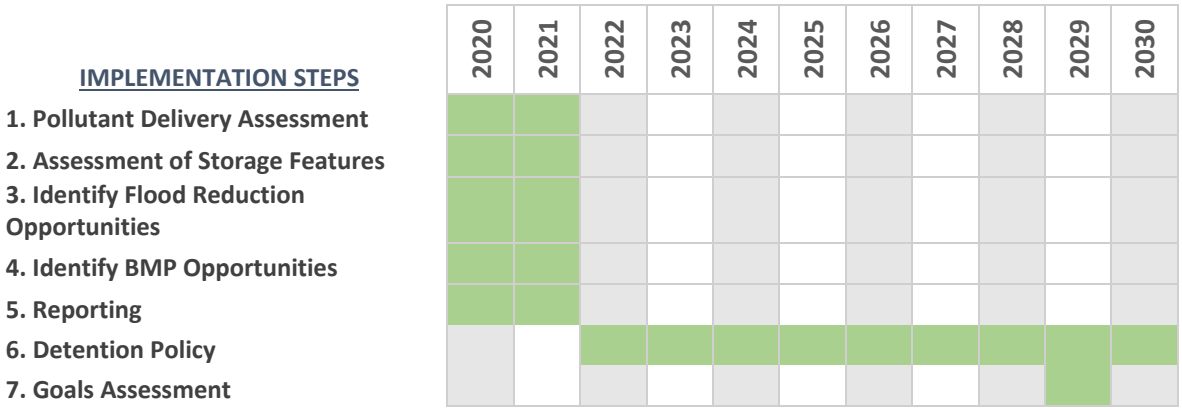
The Upper Watershed Blueprint will use a combination of GIS techniques to estimate both sediment and total phosphorus delivery from any point in the watershed to specific resources of interest. In contrast to previous work that was performed to estimate pollutant loads, the pollutant delivery estimates developed will to take into account these more complex phenomena, including both the travel time along a flow path and the extent of upstream-to-downstream disconnectedness due to the presence of landlocked and semi-landlocked basins. Additionally, the Blueprint will assess the upland storage sites identified in the Stormwater Management & Flood Mitigation Study and the Upper Subwatershed Assessment for their flood reduction potential, in addition to supplementary GIS analyses involving the identification of features like depressions, restorable wetlands, marginal farmland, and other storage and retention opportunities.

Implementation Steps

1. Perform Pollutant Delivery Assessment: This activity will involve a GIS-based assessment incorporating the Revised Universal Soil Loss Equation (RUSLE), Unit Area Loading of Total Phosphorus, Sediment Delivery Ratio (SDR), and an inter-subwatershed delivery metric developed using the PLSLWD's PCSWMM model. The deliverable will include a map of pollutant loading hotpots that can be used to prioritize implementation of water quality practices across the watershed.
2. Assess Previously Identified Storage Features: This activity will assess the flood reduction potential of the storage features identified in the Stormwater Management & Flood Mitigation Study and the Upper Subwatershed Assessment using the PLSLWD's PCSWMM model. Results will be put in historical context by evaluating the flood reduction that would have been realized had these features been in place during the spring of 2014.
3. Identify Additional Flood Reduction Opportunities: This activity will serve as a supplementary assessment to identify and evaluate storage opportunities that may have been missed in the

previous analyses, including opportunities for wetland and prairie restoration. Results will be put in historical context by evaluating the flood reduction that would have been realized had these features been in place during the spring of 2014.

4. Identification of BMP Opportunities: This activity will consist of two phases: first, a multi-criteria GIS desktop analysis will be performed using such datasets as lidar, soils, land cover, and aerial photography to identify potential locations for best-management practice (BMP) implementation; then, subwatershed reconnaissance will be conducted in coordination with the PLSLWD, Scott SWCD, other local stakeholders to field-validate the results of the desktop analysis. The deliverable will include a prioritized set of BMP opportunities targeting both flood reduction and water quality improvement, along with a preliminary cost-benefit ranking and a consideration of feasibility/opportunity. A subset of highly viable sites will also be selected for concept level design.
5. Reporting: This activity will include the documentation of the above activities and a compilation of all associated results and deliverables (maps, figures, and tables) into an Upper Watershed Blueprint report.
6. Detention Policy: In coordination with LGU partners, the PLSLWD will develop a Detention Policy for each of the waterbodies in the PLSLWD that identifies normal operating levels and the ability to manage those water levels for flood management (e.g. Spring Lake Dam Policy).
7. Goals Assessment: Conduct an analysis of flood resiliency for future precipitation and development conditions and assess the progress towards flood reduction goals in 2029, setting new goals for the next 10-year plan.



Funding Sources

The funding for this Project will come from the District Levy.

4. Education and Outreach Program

The best advocate for water resources is an engaged and informed citizenry. Educational programs are designed to improve the general understanding of water resources and the impact each citizen has upon them. Outreach programs seek to make connections and change behaviors.

1. CITIZENS ADVISORY COMMITTEE

10-Year Budget: $47,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Streams • Wetlands	*All Goals*

IMPLEMENTATION ACTIONS PERFORMED:

20 Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.

38 Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.

Background & Purpose

Watershed districts in Minnesota are required by state statute to maintain a Citizen Advisory Committee (CAC) to provide input to the Board on various actions of the district. The CAC holds bimonthly meetings and follows adopted bylaws. The CAC continues to provide a valuable role, informing the PLSLWD of water resource concerns around the District and providing feedback on proposed PLSLWD projects. The CAC is also encouraged to lead their own projects and initiatives and develop annual goals and project plans. PLSLWD staff will continue to support the CAC, ensuring that monthly meetings continue and providing opportunities for CAC members to become more involved in PLSLWD activities.

Implementation Steps

1. Bimonthly CAC meetings: The CAC will meet bimonthly to develop and implement research and educational projects which reflects the Board of Managers' Priority Concerns of Water Quality; Storage and Flood Reduction; and Aquatic Invasive Species (AIS). They will review draft reports and provide comments to the Board of Managers, in a timely manner.
2. CAC-led projects: The CAC will pursue projects which expand the PLSLWD's impact and help reach more community members. The Citizens Advisory Committee will identify research projects volunteers can undertake which reflects the Board of Managers' Priority Concerns of Water Quality; Storage and Flood Reduction; and Aquatic Invasive Species (AIS).

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Bimonthly CAC Meetings											
2. CAC-Led Projects											

Funding Sources

The funding for this Project will come from the District Levy.

2. COMMUNICATIONS & PUBLIC RELATIONS

10-Year Budget: $62,500

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

All Goals

IMPLEMENTATION ACTIONS PERFORMED:

6 Provide information to residents to encourage individual choices that benefit water quality and to increase participation in cost-share programs.

18 Continue to provide water resources information and project updates to residents through social media platforms, press releases, targeted mailings, email blasts, signage and the District's website.

38 Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.

Background & Purpose

The PLSLWD's Education & Outreach program's activities are outlined in the annual Education & Outreach Plan written each year. The PLSLWD is required to provide educational opportunities for their citizens because the PLSLWD holds a Municipal Separate Storm Sewer System (MS4) permit from the MPCA.

The PLSLWD will seek to keep residents up to date with District news, events, programs and projects and provide information about topics relating to water resources, ecology, natural systems, biodiversity and other relevant environmental topics. A number of mediums will be used to communicate information with the public including the PLSLWD website; social media; newspapers, including the Star Tribune and Scott County SCENE; and other publications, such as the Wavelength in the City of Prior Lake's utility bills and others. In addition to writing articles, the PLSLWD will publish an annual report of PLSLWD activities, factsheets, brochures, videos and other materials. The PLSLWD will also reach out to other local non-profit partners and local schools to identify other partnership opportunities.

Implementation Steps

1. Annually Update & Implement District Education & Outreach Plan: Update the PLSLWD's Education & Outreach Plan every year to meet strategic goals and implement the education and outreach actions highlighted in the Plan.
2. Website Updates: Keep website information on PLSLWD projects, programs and events up to date, adding updated reports and documents as needed. Provide relevant information regarding water resources and natural resources topics to serve as reference information for residents and partners.
3. Write articles for publication: Write at least seven articles per year covering PLSLWD projects, events, programs, PLSLWD news, success stories, tips for best management practices and other nature interest stories each year. Articles can be published on PLSLWD website, social media platforms, shared by partners and submitted for publication in local newspapers including the Star Tribune and the Scott County SCENE.
4. Social Media: Use relevant social media platforms to provide PLSLWD news, tips for residents, interesting nature information, project updates, etc.

5. Other outreach methods: Communications and public relations methods should also look for other opportunities to reach the public, including working with local partners like the City of Prior, creating videos, mailings, electronic billboards, etc.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Annually Update & Implement E&O Plan											
2. Website Updates											
3. Write Articles for Publication											
4. Social Media											
5. Other Outreach Methods											

Funding Sources

The funding for this Project will come from the District Levy.

3. PUBLIC ENGAGEMENT EVENTS

10-Year Budget: $115,350

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Streams • Wetlands	*All Goals*

IMPLEMENTATION ACTIONS PERFORMED:

19 Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.

22 Continue supporting SCWEP and partner with Scott SWCD and/or other LGUs in Scott County to hold a minimum of two training events for residents per year that helps provide information for projects that benefit water quality and/or flood reduction.

SUPPORTING IMPLEMENTATION ACTIONS:

38 *Provide equitable opportunities for communities to engage in and provide feedback for projects, programs, and District plans through neighborhood & public meetings, online surveys, direct mailings, District tours, presentations at local groups, etc.*

Background & Purpose

The PLSLWD will host events each year to engage and involve the public. Examples of events include PLSLWD tours of projects or resources in the District, clean-up events, etc. The PLSLWD will continue to partner with other local groups, such as cities and the Scott SWCD, to host workshops for residents on topics such as raingardens, shoreline restorations, prairie restorations and maintenance, winter maintenance and salt use, etc.

The PLSLWD's 50th Anniversary is in 2020 and special activities will be planned to engage the public and celebrate the District's anniversary.

Implementation Steps

1. Organize public events: Organize at least four public events each year, such as clean-up events, restoration plantings, neighborhood meetings, etc.
2. Organize 50th anniversary celebration events: Organize several public events to celebration the PLSLWD's 50th Anniversary in 2020. Events could include bike rides or hikes around the District to highlight PLSLWD projects or natural resources, a trivia night at a local brewery and a story corps project to record local resident's stories and knowledge of the PLSLWD and its lakes.
3. Participate in public events: Attend public events, such as Lakefront Days, farmers' markets or other community events, to engage the public and inform them on water resources and natural resources topics.
4. Host or partner to support workshops: Host or partner with other LGUs to host training events for residents, contractors and other relevant people to provide information for projects or practices that benefit water quality and other topics. Workshop examples including raingardens, prairie restoration, shoreline restoration, winter salt application use, property management, etc.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Organize Public Events											
2. Organize 50th Anniversary Events											
3. Participate in Public Events											
4. Host or Partner to Support Workshops											

Funding Sources

The funding for this Project will come from the District Levy, partner contributions (e.g. City of Prior Lake, Scott SWCD, etc.), and potential grants (e.g. BWSR Watershed-Based Funding Metro grant).

4. STRATEGIC OUTREACH PROGRAM

10-Year Budget: $36,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Streams • Wetlands	*All Goals*

IMPLEMENTATION ACTIONS PERFORMED:

- 23 Coordinate with other LGU partners at least once per year to provide targeted outreach to landowners to encourage them to use good water resource practices and/or participate in cost-share opportunities which not only fulfils MS4 education and outreach obligations but also supports all District projects & programs.
- 24 Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.
- 25 Develop a plan to conduct outreach to non-profit partners (e.g. Great River Greening, Freshwater Society, UMN, etc.) on an annually basis to assess potential opportunities to leverage funds and/or collaborate on projects.
- 36 Work with developers to include enhanced water quality features in projects, providing cost-share as incentives.
- 39 Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.
- 41 Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.

Background & Purpose

The Education Program underpins all the PLSLWD's other programs, projects and activities, helping build public support and understanding of water resources, ecosystems, biodiversity, ecology and other related environmental topics and issues. A knowledgeable public & informed partners can lead to a cultural shift with a community that takes action to improve local waters and ecosystems.

In order to avoid missed opportunities, the PLSLWD will conduct strategic outreach to LGU partners, non-profit organizations, and developers on a regular basis to identify partnership opportunities and ways that upcoming projects could be enhanced with water quality features. The PLSLWD will also conduct organized, strategic outreach to landowners where studies, research, and/or anecdotal evidence has shown that a potential project might prove beneficial to water quality and/or flood reduction.

Implementation Steps

1. Coordinate with LGU Partners: Meet annually with LGU partners to identify potential partnership opportunities and to coordinate on targeted outreach to landowners, including attendance at SCALE and other regional meetings. Engage local partners biennially to discuss upcoming projects, opportunities to collaborate, partnerships to increase efficiency and reduce overlap.
2. Strategic Outreach: Annually conduct strategic outreach to landowners to identify opportunities for future projects, focusing on those areas that provide the most phosphorus or flood reduction benefits. With assistance from the LGU partners, identify upcoming development projects,

conducting outreach to developers when there are opportunities for a water quality or flood reduction enhancement at the project site.

3. Non-Profit Organization Collaboration: Reach out to potential non-profit partners in January/February of each year to identify potential ways to collaborate on upcoming projects in order to stretch pubic dollars.
4. Partner with Scott Clean Water Education Program (SCWEP): Partner with the Scott SWCD and other SCWEP partners to hold workshops, training events, education events with local schools like Outdoor Education Days; disseminate outreach materials and tips for improving water quality and natural habitats; and implement other items in the annual SCWEP work plan.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Coordinate with LGU Partners											
2. Strategic Outreach											
3. Non-Profit Organization Collaboration											
4. Partner with SCWEP											

Funding Sources

The funding for this Project will come from the District Levy and local partners (e.g. City of Prior Lake).

5. Monitoring Program

Monitoring and research are needed to better understand watershed impacts, evaluate issues, and determine appropriate watershed management approaches within the watershed. In addition, long-term monitoring provides the PLSLWD with the information needed to demonstrate performance towards meeting the goals of the WRMP as well as the various TMDL Implementation Plans. The PLSLWD should also make sure that data collected are quality-assured and quality-checked (QA/QC'ed) and made available annually to the public and appropriate agencies. Updated water quality summaries are provided annually on the waterbodies tab. Otherwise, data can be found be searching the Water Quality Database.

To ensure that the PLSLWD monitors water quality on a time and cost efficient basis, a long-term monitoring plan (**Appendix H**) has been created. The long-term monitoring plan covers lakes, streams, best management practices (BMPs), precipitation, wetlands, and groundwater.

1. BUCK LAKE DIAGNOSTIC STUDY

10-Year Budget: $45,000

WATERBODIES ADDRESSED:

- Tier 2 Lakes: *Buck*

MANAGEMENT GOALS ADDRESSED:

- **WQ8:** *Assign water quality standard & goals for Buck Lake*

IMPLEMENTATION ACTIONS PERFORMED:

40 Conduct a lake diagnostic study for Buck Lake to determine phosphorus budget, including a sediment core analysis, and identify restoration strategies based on applicable standard.

SUPPORTING IMPLEMENTATION ACTIONS:

34 *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*

Background & Purpose

The Buck Lake drainage area was previously assessed primarily to estimate the cost-benefit of constructing another ferric chloride treatment system to manage stormwater runoff before discharge to Spring Lake. Public comment received during development of this management plan suggested the PLSLWD assess the quality of Buck Lake not only for its role in protection of downstream lakes, but for its inherent recreational and habitat value. The purpose of this Buck Lake study is to, for the first time, assess this resource by evaluating historic and current water quality trends; identify pollutant sources and loads; and assign numerical goals and quantify of pollutant reductions necessary to reach assigned PLSLWD goals for the resource as well as for the benefit of downstream water quality.

Implementation Steps

1. Prepare Diagnostic Study: Assess historic and current water quality trends, identify pollutant sources and loads (including sediment core collection and aquatic plant surveys), develop watershed and in-lake loading models, conduct public meetings, identify load reduction strategies and practices, assign PLSLWD goals, prioritize implementation activities, and prepare report.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Prepare Diagnostic Study											

Funding Sources

The funding for this Project will come from the District Levy.

2. LAKE MONITORING

10-Year Budget: $710,550

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lake* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake* • **WQ5:** *Improve water quality in Arctic Lake* • **WQ6:** *Improve water quality in Pike Lake* • **WQ7:** *Assess Sutton Lake & develop a management plan* • **WQ8:** *Assign water quality standard & goals for Buck Lake* • **WQ9:** *Assess quality of Tier 3 lakes* • **AIS1:** *Develop and implement AIS Plan* • **AIS3:** *Monitor curly-leaf pondweed growth*

IMPLEMENTATION ACTIONS PERFORMED:

7 Regularly and effectively monitor water quality on lakes and tributaries in order to inform District plans and projects.

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

SUPPORTING IMPLEMENTATION ACTIONS:

28 *Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*

29 *Annually assess curly-leaf pondweed on Tier 1 lakes, implementing chemical or physical controls as needed to reduce harmful growth.*

35 *Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic & Pike Lakes and partner with them as part of the IPM Plan for Common Carp.*

40 *Conduct a lake diagnostic study for Buck Lake to determine phosphorus budget, including a sediment core analysis, and identify restoration strategies based on applicable standard.*

Background & Purpose

The PLSLWD monitors multiple components of lake monitoring to supply information for the following purposes:

- Maintain baseline data
- Diagnose water quality problems
- Track progress and efficiency of projects
- Detect trends
- Compare to state water quality standards
- Enable best management decisions

In order to stay abreast of monitoring techniques, PLSLWD staff will attend trainings and workshops as well as keep good relationships and partnerships with other monitoring organizations. New and innovative monitoring equipment or methods may be tested by the PLSLWD when applicable.

Implementation Steps

1. Lake Water Quality Monitoring: Annual water quality monitoring (completed by Three Rivers Parks District as of 2019) on Lower Prior, Upper Prior, Spring, Fish, and Pike Lake. Arctic Lake is monitored by SMSC.
2. Citizen-Assisted Monitoring Program (CAMP): Citizen volunteers or staff collect a surface water sample for laboratory analysis and provide some user perception information about each lake's physical and recreational condition. Includes Swamp, Sutton, Crystal, Buck, Haas, Lower Prior (site 2), Cates, Jeffers, and Fish Lakes.
3. Lake Level Monitoring: Automatic level data loggers and staff gauges are used to monitor lake levels. Level loggers will transmit real-time data to the website.
4. Aquatic Plant Surveys: Plant surveys will assess the distribution, type, and growth density of all plants. Lakes with potential nuisance curly-leaf pondweed (CLP) will be surveyed just after ice out to determine the potential need for treatment. If CLP is treated, an assessment will be done post-treatment to determine effectiveness of treatment.
5. Vegetation Density Mapping: Annually map lakes on a rotating basis for lake plant biomass densities, bathymetry, and bottom hardness using sonar to capture long-term trends of lake plant density and growth in the PLSLWD's lakes.
6. Lake Ice Monitoring: Volunteer ice observers will inform the PLSLWD when the lake is at least 90% on and off each year for PLSLWD records for all lakes.
7. Zooplankton & Phytoplankton: Monitor zooplankton & phytoplankton every 3, 5, or 10 years based on lake tier.
8. Citizen AIS Monitoring: Organize and implement a citizen AIS monitoring program that includes such activities as zebra mussel plates and dock reporting, boat launch inspections, etc.

Additional detail about the above implementation steps can be found in the PLSLWD's Long-Term Monitoring Plan in **Appendix H**.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Lake Water Quality Monitoring											
2. Citizen-Assisted Monitoring Program											
3. Lake Level Monitoring											
4. Aquatic Plant Surveys											
5. Vegetation Density Mapping											
6. Lake Ice Monitoring											
7. Zooplankton & Phytoplankton											
8. Citizen AIS Monitoring											

Funding Sources

The funding for this Project will come from the District Levy.

3. STREAM & DITCH MONITORING

10-Year Budget: $390,370

WATERBODIES ADDRESSED:

- All District Lakes
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ6:** *Improve water quality in Pike Lake*
- **WQ9:** *Assess quality of Tier 3 lakes*
- **WQ12:** *Stabilize a minimum of ten bank erosion sites*

IMPLEMENTATION ACTIONS PERFORMED:

7 Regularly and effectively monitor water quality on lakes and tributaries in order to inform District plans and projects.

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

SUPPORTING IMPLEMENTATION ACTIONS:

52 *Develop a Streambank Restoration Program that strategically prioritizes sites for stabilization based on water quality & flooding benefits and implements a minimum of ten projects.*

53 *Complete bank erosion inventory project for streams and other tributaries in the upper watershed to establish baseline conditions and the number of sites that needing stabilization.*

Background & Purpose

Stream monitoring is prioritized by the amount of impact a stream may have on the District's lakes. The goal is to understand what is coming into and out of each lake, especially what is going into the Tier 1 lakes.

Characteristics that will prioritize stream monitoring include high flow, high pollution potential, inlets to a lake, and natural systems.

Implementation Steps

1. Macroinvertebrate and Habitat Assessments: With interns and volunteers (if available), the SHEP (Stream Health Evaluation Program) and/or Minnesota Pollution Control Agency (MPCA) Invertebrate Sampling Procedures (EMAP-SOP4, Rev. 0) will be used to collect macroinvertebrate samples which will help assess stream health.
2. Chemistry/Field Stream Sampling: PLSLWD conducts a stream water quality monitoring program to monitor the chemistry of its streams. Some sites are monitored every year and are considered "base" sites. Ferric sites are monitored every week, due to a requirement of the NPDES permit for the Ferric Chloride Treatment System. On occasion, special studies will arise and will be added to the sampling program (i.e. tile monitoring).
3. Flow Measurements: Flow and level monitoring are necessary for determining pollutant loads, assessing flood potential, and calibrating models.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Macroinvertebrate and Habitat Assessments											
2. Chemistry/Field Stream Sampling											
3. Flow Measurements											

Funding Sources

The funding for this Project will come from the District Levy.

4. EFFECTIVENESS/BMP MONITORING

10-Year Budget: $83,950

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ1:** *Maintain or Improve water quality in Lower Prior Lk.* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **WQ4:** *Improve water quality in Fish Lake*

IMPLEMENTATION ACTIONS PERFORMED:

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

SUPPORTING IMPLEMENTATION ACTIONS:

13 *Collaborate with LGUs and/or other partners on three or more retrofit water quality and volume management BMPs and/or water quality improvement research studies.*

Background & Purpose

Monitoring will be done to assess the effectiveness of projects completed within the District. When possible, monitoring will be done before the project has begun to get baseline data. Some potential projects for effectiveness monitoring include: Fish Point Park, Sand Point Park, CR 12-17 Wetland, Fairlawn Shores, and Indian Ridge.

Implementation Steps

1. Prioritize and Select Projects: Annually discuss projects that may be done in the future to start getting "before" data.
2. Set Monitoring Protocol: Annually review projects to be completed and determine monitoring protocol.
3. Monitor Project: Monitor project effectiveness.
4. Assess & Report Project Effectiveness: Report project effectiveness to staff, Board, LGU partners, and the public as appropriate.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Prioritize and Select Projects											
2. Set Monitoring Protocol											
3. Monitor Projects											
4. Assess & Report Project Effectiveness											

Funding Sources

The funding for this Project will come from the District Levy.

5. WETLAND MONITORING

10-Year Budget: $36,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Wetlands	• **WQ10:** *Maintain no net loss of wetlands in the District* • **WQ11:** *Restore/enhance wetlands in the District*

IMPLEMENTATION ACTIONS PERFORMED:

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

Background & Purpose

Trained volunteers and/or staff collect data on the macroinvertebrates (insects and other small animals without backbones) that live in the wetlands as well as the vegetation in the wetlands. The invertebrates and vegetation identified by the volunteers will then be used to calculate an Index of Biotic Integrity (IBI). This IBI can be used to estimate the health of each wetland.

Potential wetlands to be monitored may include: Trillium Cove, Rice Lake Park, Frog Farm (DU wetland), Sutton Lake, and CR 12/17. Wetlands that have been restored in the past may be good candidates as well, such as the Robling and Sandey wetlands. Whenever possible, wetlands will be monitored before a potential project, such as the Sutton Lake storage project. Wetlands that have little alteration or influence from humans would be good to have as an indicator wetland, or "best case" scenario.

Implementation Steps

1. Prioritize and Select Wetlands: Determine priority wetlands (especially ones that impact lakes or are high integrity).
2. Coordinate and Train Volunteers: Through social media, the CAC, and the website, solicit help from volunteers for the field season each March/April. Train the volunteers to monitor the wetlands in May (macroinvertebrates) and June (plants) according to WHEP protocols.
3. Complete Monitoring: Sample wetlands, utilizing trained volunteers as available.
4. Prepare Summary Reports: Summarize findings based on monitoring results in a report and present information to the Board, CAC, and other groups as requested.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Prioritize and Select Wetlands											
2. Coordinate and Train Volunteers											
3. Complete Monitoring											
4. Prepare Summary Reports											

Funding Sources

The funding for this Project will come from the District Levy.

6. PRECIPITATION AND WEATHER

10-Year Budget: $11,851

WATERBODIES ADDRESSED:

- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*
- **RF4:** *Complete updates to the PCSWMM model*
- **RF5:** *Assess progress on flood reduction goals*

IMPLEMENTATION ACTIONS PERFORMED:

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

SUPPORTING IMPLEMENTATION ACTIONS:

73 *Partner with the City of Prior Lake to set goals for and complete modeling updates that provide sufficient information to inform future flood reduction decisions.*

Background & Purpose

Volunteers, staff, and weather stations will be used to collect precipitation data. Precipitation data collected by volunteers and staff is submitted to the State Climatologist. Volunteers melt snow to provide melted precipitation amounts (snow depth not required).

A weather station was installed at the Spring Lake Townhall and is providing real time data on Weather Underground.

Implementation Steps

1. Annually Set Goals: Analyze need for more precipitation data and set monitoring plan for the year.
2. Engage Volunteers: Identify, recruit and train volunteers, if needed.
3. Maintain Spring Lake Town Hall Weather Station: Annually inspect and maintain the weather station at Spring Lake Town Hall.
4. Record Data: Record precipitation in database.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Annually Set Goals											
2. Engage Volunteers											
3. Maintain Weather Station											
4. Record Data											

Funding Sources

The funding for this Project will come from the District Levy.

7. GROUNDWATER

10-Year Budget: $30,000

WATERBODIES ADDRESSED:

- Groundwater

MANAGEMENT GOALS ADDRESSED:

- **WQ14:** *Actively participate in groundwater planning efforts.*

IMPLEMENTATION ACTIONS PERFORMED:

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

SUPPORTING IMPLEMENTATION ACTIONS:

59 *Develop a plan on how to better incorporate consideration of groundwater protection when reviewing new permits and completing capital projects.*

Background & Purpose

The original PCSWMM model calibration relied heavily on the groundwater component of SWMM to accurately mimic water levels on Spring and Prior Lakes during 2014, but little scientific evidence was available to back up the parameterization. Additional flow and level data to better characterize groundwater recharge/discharge for the parameterization of the PCSWMM model is recommended. This could include installation of level loggers in areas in need of more data. Furthermore, beyond the lifetime of this WRMP a groundwater recharge/discharge study may be warranted within the watershed.

Implementation Steps

1. *Assess Groundwater Data Needs:* ***Determine need for groundwater monitoring.***
2. *Purchase and Maintain Equipment:* ***Purchase necessary equipment for monitoring.***
3. *Record & Share Data:* ***Record data and share with partners.***

IMPLEMENTATION STEPS	***2020***	***2021***	***2022***	***2023***	***2024***	***2025***	***2026***	***2027***	***2028***	***2029***	***2030***
1. Assess Groundwater Data Needs											
2. Purchase and Maintain Equipment											
3. Record & Share Data											

Funding Sources

The funding for this Project will come from the District Levy.

8. REPORTING AND RECORDING

10-Year Budget: $222,750

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Streams	All Goals

IMPLEMENTATION ACTIONS PERFORMED:

34 Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.

Background & Purpose

The WISKI database can store continuous and discrete data. It is capable of processing large amounts of data in seconds, rather than something that could take staff weeks/months to complete. WISKI can analyze baseflow vs storm event samples, statistics, and loads. Quality assurance and coding is also included. The software can make the data visually appealing and available to the public with a mapping feature, allowing the public to click on a site and review any/all data that is associated with that site. (Mapping features would come later). An example of the WISKI database in use is the Capital Region Watershed District's database.

Complete lake monitoring report cards for all lakes (approximately three lakes per year until all lakes have report card) and update report cards annually. Complete the biennial monitoring report including FLUX model updates. Keep website up to date.

Implementation Steps

1. Implement WISKI Database Software: Acquire and implement WISKI database software.
2. Complete Data Entry: Enter all historic data into database.
3. Database Maintenance: Maintain database annually.
4. Effectively Utilize WISKI Software: Create visually appealing ways of displaying data (monitoring report cards, etc.).

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Implement WISKI Database Software	■										
2. Complete Data Entry	■	■									
3. Database Maintenance			■	■	■	■	■	■	■	■	■
4. Effectively Utilize WISKI Software			■	■	■	■	■	■	■	■	■

Funding Sources

The funding for this Project will come from the District Levy.

9. PCSWMM MODEL UPDATE & MAINTENANCE

10-Year Budget: $112,150

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **RF1:** *Achieve first-tier flood reduction goal on Prior Lake*
- **RF4:** *Complete updates to the PCSWMM model*
- **RF5:** *Assess progress on flood reduction goals*

IMPLEMENTATION ACTIONS PERFORMED:

73 Partner with the City of Prior Lake to set goals for and complete modeling updates that provide sufficient information to inform future flood reduction decisions.

SUPPORTING IMPLEMENTATION ACTIONS:

74 *Complete an assessment of progress towards flood reduction goals on year 9 of the plan along with an increased precipitation and intensity resiliency scenario analysis, and set new goals for the next 10-year plan.*

Background & Purpose

The PLSLWD's PCSWMM model for the Upper Watershed was developed in 2015 in partnership with the City of Prior Lake for the Prior Lake Stormwater Management & Flood Mitigation Study. Since then four crucial aspects of the model have been examined:

1. **Model accuracy**: How well does the model appear to represent watershed conditions?
2. **Model resolution**: Is the precision and scale of the model elements appropriate?
3. **Model calibration**: How well does the final set of model parameters reflect reality?
4. **Model usability**: Is the model "as-is" a useful and usable tool?

This assessment revealed that further updates are required to use the model for purposes beyond flood assessment.

Implementation Steps

1. Calibrate and Validate Model: This effort includes updating how storage is incorporated into the model to more accurately reflect retention versus detention, incorporating additional key hydraulic structure survey information and recalibrating and validating the model for two independent time periods that represent less atypical conditions to the 2014 wet period to which the model is currently calibrated.
2. Maintain Model: Model maintenance includes updates per development and changes to key hydraulic structures.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Calibrate and Validate Model	■										
2. Maintain Model		■	■	■	■	■	■	■	■	■	■

Funding Sources

The funding for this Project will come from the District Levy and the City of Prior Lake.

6. Regulatory Program

REGULATORY PROGRAM

The PLSLWD has established rules and standards for land disturbing activities to protect and prevent the degradation of the PLSLWD's water resources. District Rules were last revised and adopted on October 13, 2015. These Rules address water quality, rate control, and volume control requirements for new development and redevelopment, and are implemented through a permitting program.

Several components of the Regulation Program need updating and/or improvements:

- **MOAs:** Memorandums of Agreement (MOA) for administration of District Rules (through determination of equivalency with local ordinances) with the cities of Prior Lake and Savage and Scott County have been executed in the past but are now expired. These MOAs require updating with the PLSLWD's partners.
- **Proactive Approach with Developers:** Establishment and/or refinement of coordination procedures with PLSLWD partners is needed to engage the development community early in the planning process to better integrate effective and innovative stormwater management in the plan development process.
- **Regional Stormwater Planning:** There is also the need for the PLSLWD to synchronize PLSLWD activities with member community land use and regional stormwater management planning to either protect strategically important lands in advance of development or develop a regional stormwater management plan for the area.
- **Wetland Review:** Need to provide stronger feedback to wetland TEP and participate in on-site delineation reviews when possible.
- **Community Engagement:** Better engagement with the development community early on in planning will allow the PLSLWD to be a resource for developers to better understand their options to conduct site development in a more sustainable fashion, and to explore potential water quality improvements with cost-share dollars available.

1. PERMIT PROGRAM

10-Year Budget: $175,950

WATERBODIES ADDRESSED:

- All Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lake*
- **WQ2:** *Meet water quality standards for Spring Lake*
- **WQ3:** *Meet water quality standards for Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ6:** *Improve water quality in Pike Lake*
- **WQ10:** *Maintain no net loss of wetlands in the District*
- **RF3:** *Eliminate/reduce impact of development on flooding*

IMPLEMENTATION ACTIONS PERFORMED:

5 Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.

SUPPORTING IMPLEMENTATION ACTIONS:

16 *Develop regional stormwater management plans with municipalities that include a stormwater utility credit program for future development areas.*

24 *Coordinate effectively with LGU partners by meeting a minimum of biennially with each partner in the District to discuss upcoming projects, opportunities to collaborate, and partnerships to increase efficiency and reduce overlap, and through regular attendance at SCALE and other regional meetings by Board liaisons and staff.*

36 *Work with the developers to include enhanced water quality and habitat features in projects, providing cost-share as incentives.*

41 *Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*

42 *Protect wetlands and wetland buffers under PLSLWD conservation easements or other municipal control through District Rule J enforcement or other mechanisms.*

43 *Create a District wetland banking program to ensure no wetland loss when the use of wetland credits is necessary for a project within the District.*

59 *Develop a plan on how to better incorporate consideration of groundwater protection when reviewing new permits and completing capital projects.*

68 *Provide incentives through the Cost Share Program to member communities and the development community to promote the use of green infrastructure that contributes to flood reduction on Prior Lake.*

Background & Purpose

The PLSLWD will enforce District Rules (**Appendix D**) through an active permit program and will continue to issue permits for other government entities, including municipal, county and state projects. The PLSLWD will also issue permits when called for by District rules, agreements with other entities or watershed law; when requested by the local municipality; or for projects within PLSLWD easements, specifically easements on the Prior Lake Outlet Channel.

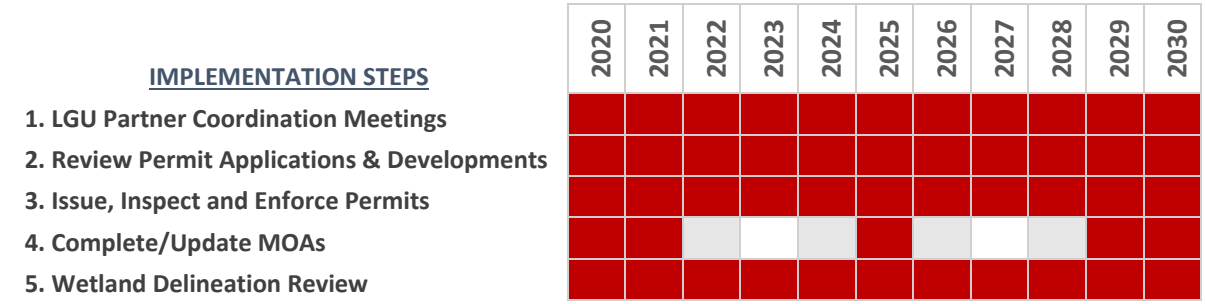
PLSLWD staff will participate in city Development Review Committees (DRC) and Scott County Development Review Team (DRT) meetings to incorporate water quality and quantity BMPs on new development and redevelopment.

The PLSLWD will continue to pursue MOA and equivalency determination with the City of Shakopee and will work with other local partners to update existing MOA agreements. The PLSLWD will continue to monitor construction sites for erosion and sediment control practices and coordinate reporting of those inspections with local entities.

The PLSLWD will serve as the LGU under the Wetland Conservation Act (WCA) when requested by local units of government. Presently other local and state authorities have LGU status under WCA for the entire watershed, including MnDOT on its right-of-way. The District may choose to implement standards more restrictive than those required by the Wetland Conservation Act as determined necessary to achieve wetland WRMP goals defined under MN Rule 8410.0080.

Implementation Steps

1. LGU Partner Coordination Meetings: Meet with LGUs each spring to determine if any of their projects, or development projects within their jurisdiction, will trigger the District Rules and identify any opportunities for water quality improvements may exist. PLSLWD staff will also participate in DRC and DRT meetings, as needed.
2. Review Permit Applications & Development Projects: Review permit applications as they are received and make recommendations to the Board for review and/or approval. Review development projects that are permitted by MOA authorities and provide comments.
3. Issue, Inspect, and Enforce Permits: As permits are issued, PLSLWD staff will conduct regular inspections, enforcing permits as necessary. Permits will be closed out as soon as possible once all conditional items are addressed.
4. Complete/Update MOAs: The PLSLWD will update MOAs with LGU partners and work with the City of Shakopee on a new MOA at their request.
5. Wetland Delineation Review: The PLSLWD will participate in wetland delineation reviews to ensure correct determinations of boundaries.



Funding Sources

The funding for this Project will come from the District Levy, permit fee deposit funds, and permit securities (as necessary for enforcement).

2. CONSERVATION EASEMENT PROGRAM

10-Year Budget: $118,600

WATERBODIES ADDRESSED:

- All Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lake*
- **WQ2:** *Meet water quality standards for Spring Lake*
- **WQ3:** *Meet water quality standards for Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ6:** *Improve water quality in Pike Lake*
- **WQ10:** *Maintain no net loss of wetlands in the District*
- **RF3:** *Eliminate/reduce impact of development on flooding*

IMPLEMENTATION ACTIONS PERFORMED:

42 Protect wetlands and wetland buffers under PLSLWD conservation easements or other municipal control through District Rule J enforcement or other mechanisms.

48 Coordinate with LGU partners to improve/protect buffers on public property through habitat improvement, signage, or regular inspections.

49 Monitor and enforce existing conservation easements.

SUPPORTING IMPLEMENTATION ACTIONS:

5 *Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*

Background & Purpose

The PLSLWD has issued Declaration of Conservation Easements since 2000. A conservation easement is a voluntary legally binding agreement between a landowner and a qualified land trust or government entity that permanently limits uses of the land in order to protect its conservation values. For any parcel created or redeveloped after the effective date of Rule J under the District Rules, a buffer strip is required to be maintained around the perimeter of all watercourses or wetlands, protected with a permanent, recorded conservation easement. This easement provides the District with the authority to enforce permanent protection of the buffer areas, but the District is not required to perform maintenance work in the easement. However, the District may choose to exercise the right to maintain native vegetation, if desired.

When an easement is established, the landowner retains ownership of the property and right to use the land, except for certain uses restricted under the easement. The landowner may sell the property or pass it along to their heirs, however, the easement restrictions will still be in place, as they run with the title to the property. PLSLWD retains the right of reasonable access to the easement property for inspection, monitoring, maintenance and enforcement purposes. The easement does not require the landowner to actively manage the easement. Instead, it works only to prohibit adverse use or activities in the buffer.

Occasionally, the terms of a conservation easement are violated by the landowner or a third party. When an easement is violated, PLSLWD's objective is to restore compliance with the terms of the easement and ensure the perpetual protection of the property's easement values with the greatest degree of cooperation from the landowner and the least expense to both the landowner and PLSLWD.

PLSLWD staff will monitor conservation easements on a regular basis, initially annually. Staff will communicate and build relationships with landowners through inspection letters, site visits, newsletters, etc. If easements are in compliance with the terms of the easement agreement they could be monitored less frequently, such as once every two or three years. Staff will work with landowners who are in violation of the easement to bring the conservation easement area back into compliance. An easement amendment may be requested by the landowner per the PLSLWD's Easement Amendment Request Policy in order to retain the conservation value of the easement area while helping the landowner achieve compliance. Additionally, new conservation easements should be pursued as new developments trigger Rule J and as other strategic opportunities present themselves.

In addition, the PLSLWD will complete an inventory of BMPs for which the PLSLWD has taken on maintenance responsibility. Once a BMP inventory is complete, monitoring of the BMP will occur every 1-3 years, depending on needs. The PLSLWD will work with the responsible partners to ensure any necessary maintenance is performed.

Many wetlands in the watershed are protected by city buffers and/or conservation easements which they acquired through the permitting process as a result of the District's permitting equivalency. However, the City of Prior Lake has indicated that they may not have the capacity to monitor these buffer areas as needed. As a result, staff from the City of Prior Lake and the PLSLWD have discussed having PLSLWD assist with the monitoring of City conservation easements located in the District. In 2021 the PLSLWD will work with the City to assess needs and will partner with the City to help monitor their easements as needed.

Implementation Steps

1. Regularly Monitor Easements: Conservation easements will be monitored regularly every 1-3 years, based on compliance status and risk of future violation for each easement.
2. Enforce Conservation Easements: The PLSLWD will take Board-directed action steps when an easement remains out of compliance for more than two years, per the PLSLWD's Easement Enforcement Policy.
3. Easement Amendments: The PLSLWD will process requests to change the easement per the PLSLWD's Easement Amendment Policy as they are received.
4. BMP Inventory & Monitoring: The PLSLWD will inventory historical BMPs that have existing, recorded agreements, and develop & implement a monitoring plan.
5. Assistance Inspections: The PLSLWD will work with the City of Prior to assess their needs for assisting with easement and/or BMP inspections in 2021. The PLSLWD and the City then would potentially implement a partnership plan approved by the Board to move forward with inspecting those areas as soon as 2022.

Funding Sources

The funding for this Project will come from the District Levy, easement amendment request fees, and invoiced enforcement costs to landowners.

3. DISTRICT RULES UPDATES

10-Year Budget: $59,500

WATERBODIES ADDRESSED:

- All Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve water quality in Lower Prior Lake*
- **WQ2:** *Meet water quality standards for Spring Lake*
- **WQ3:** *Meet water quality standards for Upper Prior Lake*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ5:** *Improve water quality in Arctic Lake*
- **WQ6:** *Improve water quality in Pike Lake*
- **WQ10:** *Maintain no net loss of wetlands in the District*
- **RF3:** *Eliminate/reduce impact of development on flooding*

IMPLEMENTATION ACTIONS PERFORMED:

5 Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.

Background & Purpose

The PLSLWD's Rules were last substantively revised in 2015 and are currently in the process of another revision with adoption of the revised rules anticipated in 2020. It is anticipated that one or two substantive rule revisions will occur during the lifetime of this plan in order to:

- Remain current with state guidance and advances in stormwater management science.
- Improve water quality while providing flexibility to developers to incorporate new techniques and technologies.

Implementation Steps

1. Conduct Meetings: Convene TAC meetings to discuss potential rule revisions, prepare draft redlines, convene public hearing and conduct public and agency review proceedings in accordance with Minnesota Statutes Section 103D.341.
2. Adopt Revised Rules: In accordance with Minnesota Statutes Section 103D, adopt revised Rules.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Conduct Meetings	■					■					■
2. Adopt Revised Rules	■					■					■

Funding Sources

The funding for this Project will come from the District Levy.

4. DISTRICT BOUNDARY REVISION

10-Year Budget: $17,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Wetlands • Streams	• **RF3:** *Eliminate/reduce impact of development on flooding*

IMPLEMENTATION ACTIONS PERFORMED:

72 Explore District boundary changes based on updated watershed information in order to capture more areas that are flowing to Tier 1 lakes and eliminate areas that are flowing to other watersheds.

Background & Purpose

The PLSLWD will work together with local governments, Scott County, and the BWSR to review for potential modification the District jurisdictional boundary. If all parties are willing and the legal foundation for boundary change is met, the PLSLWD will consider modifying the jurisdictional border to more closely match the hydrologic border, possibly including other areas such as those flowing to Tier 1 lakes and the Prior Lake Outlet Channel watershed as well as removing the Cates Lake subwatershed. The City of Savage is currently completing a feasibility study for a permanent outlet at Cate's Lake. The proposed permanent outlet would change Cate's Lake from a landlocked lake to a lake that discharges to the Credit River in Scott WMO, therefore it would make sense to remove this drainage area from the political boundary of the PLSLWD.

Implementation Steps

1. Review District Jurisdictional Border: Coordinate with partners to align political and jurisdictional borders.

IMPLEMENTATION STEPS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Review District Jurisdictional Border											

Funding Sources

The funding for this Project will come from the District Levy.

7. Administration Program

The PLSLWD administrative program is an integral part of the PLSLWD's Plan strategy to achieve its goals set by the Board of Managers. It is through the PLSLWD administrative program that the PLSLWD will manage its operations, provide fiscal management, and develop and implement methods and programs for measuring, tracking, and reporting progress towards meeting the goals of the 2020 Plan.

The District Administrator oversees the PLSLWD staff and acts at the direction of the PLSLWD Board of Managers in implementing the PLSLWD's mission, goals and priorities.

Program Budget

Administrative costs typically include salaries and per diems, such as: payroll taxes; Public Employees Retirement Association (PERA) employer contributions; employer contributions to health, short and long-term disability and life insurance and employee salaries and manager per diems.

The District hires an accountant to prepare monthly board reports and an auditor to complete an annual audit every two years, per state statute. Other office expenses include telephone and internet; office supplies; property insurance and bond payments and office equipment and maintenance. It is anticipated that the District will continue to lease space in the Prior Lake City Hall for a nominal rental fee.

Fiscal Management

PLSLWD will fund its operations and implementation program using four primary funding sources.

FUNDING SOURCES:

1) Property tax levy
2) Grant funds *(state, federal, local, private)*
3) Government Partners *(cities, townships, Scott SWCD, Scott County, state agencies and federal agencies)*
4) Local & Non-Profit Organization Contributions *(lake associations, school districts, landowners, businesses, community groups, volunteers, etc.)*

The majority of PLSLWD funds for implementing capital projects, programs, and other operations are raised through a property tax levy. This tax is an ad valorem tax which is a tax on all taxable parcels in the PLSLWD based on property value.

In the Twin Cities metropolitan area, watershed districts have the authority to levy an ad valorem tax to pay for the costs of implementing their watershed management plan. This includes costs related to the PLSLWD's operations (e.g., facilities and staff), programs, capital improvement projects, and maintenance. The PLSLWD also has the authority to finance large capital projects by selling bonds, securing loans, or by establishing water management tax districts (special taxing districts).

The PLSLWD legal boundary defines the area of land that comes under the PLSLWD's jurisdiction and the area upon which the ad valorem tax is applied. The legal boundary must follow property boundaries or other legally

definable boundaries (e.g., roads), and a single property cannot be in more than one watershed district. This can result in significant differences between the legal boundary and the hydrologic boundary. The PLSLWD will keep PLSLWD's legal boundary matched to its hydrologic boundary as accurately as possible, so that the land that drains to PLSLWD water resources is captured within the legal boundary to the maximum extent possible. This may involve including additional areas such as those flowing to Tier 1 lakes and the Prior Lake Outlet Channel watershed as well as removing the Cates Lake subwatershed.

Work Program and Budget Process

The following process provides a method for the development of each year's budget and assessing consistency with the 2020 Plan (e.g., goals, action items). The PLSLWD will develop a work plan annually. The process will incorporate program evaluation (evaluation of the "Outcomes & Measures"), track changes to the original plan content and projections, and determine if plan amendments are required.

I. Work Program Content

- **a.** Review of previous year's work program and accomplishments. *Did the PLSLWD complete tasks identified? What were the documented "Signs of Success"?*
- **b.** Discussion of studies, data, and public input that influences proposed projects, schedules, and budgets.
- **c.** Identification of new issues for potential inclusion in work program and budget. *What influence or effect does the new issue have on established priorities, programs, or projects?*
- **d.** Identification of funding issues presented by proposed work program – bonding needs, levy adjustments, budget/levy policy impacts, new funding approaches.
- **e.** Progress summary for each goal using the Outcomes & Measures Dashboards in **Appendix M** that identifies associated projects in the plan and any proposed adjustments (identifying completed efforts, ongoing efforts, and updated project schedules and budgets).
- **f.** Need for plan amendments – identify whether changes require amendments.
- **g.** Estimated annual budget by major program area. This budget table shall reference the applicable PLSLWD goals.

II. Work Program Development and Review Process

- **a.** Information identified above shall be collected and developed beginning in March of each year by staff beginning in 2021.
- **b.** The proposed work program, budget, and levy will be presented to the Board of Managers for discussion no later than the August Board meeting starting in 2021.
- **c.** The preliminary budget and levy shall be presented at a public hearing, deliberated by the Board, and approved at the September Board meeting, prior to September 30 of each year.
- **d.** The preliminary levy shall be certified to Scott County by September 30 of each year.
- **e.** Identified plan amendments shall be drafted and submitted to the Board of Managers for review and approval at the September Board meeting and to the agencies for review by September 30.
- **f.** Following local review of the proposed PLSLWD work program and budget, the Board of Managers shall revise, if necessary, and approve the final work program, budget, and levy. The levy shall be certified to Scott County by December 30 of each year.

III. Reporting

- **a.** Annual Reporting. As indicated, the PLSLWD annually evaluates its progress toward achieving its goals and performing those items listed in its Implementation Plan. Rule 8410.0150 Subpart 1 requires Watershed Districts to prepare an annual activity report which is due within the first 120 days of the calendar year. Rule 8410 specifies the content of the Annual Report.

b. Biennial Reporting. Rule 8410.0150 Subpart 3.E requires an evaluation of progress on goals and strategies, including the capital improvement program, at a minimum of every two years in order to determine if plan amendments are necessary. This evaluation must be included in the annual activity report.

Office Space and Equipment

PLSLWD moved its office headquarters to Prior Lake City Hall in 2014. The PLSLWD headquarters provide for staff offices, support facilities, and meeting facilities. The offices were configured to meet the needs of the PLSLWD into the foreseeable future.

The PLSLWD office is equipped with the necessary office equipment and program support equipment to perform required staff functions such as staff computing and communications, water quality monitoring, site maintenance activities, carp management activities, easement monitoring and permit site inspections. As of 2020, the PLSLWD has one truck which is housed at the office headquarters. The PLSLWD boat is stored at the ferric chloride facility during boating season and at the City maintenance department facilities in the winter months. The PLSLWD's kayak is stored at the City maintenance department facilities all year long.

It is the intent of the PLSLWD to provide necessary space, support services, vehicles, and equipment for PLSLWD staff to perform their required tasks in an efficient and cost-effective manner. The PLSLWD's budget will provide for routine equipment replacement to reduce maintenance costs and provide technology consistent with the current state of the practice.

Organizational Capacity and Partnerships

In 2014 when floods struck, the District had three staff members. Rather than relying heavily on consultants, the District hired project management, education and outreach and monitoring staff to support its rigorous programs and projects. The 2020 Plan will require more project management and it is anticipated that will be achieved by hiring more staff and/or relying more on partners and consultants to provide the necessary staff capacity.

The District will continue to look to its partners to help manage staff capacity on projects and programs. For joint ventures, staff from the participating organizations will be included in work plans. The District intends to continue hiring the Scott Soil and Water Conservation District (SWCD) to assist with its water quality and water quantity monitoring programs; updating the cost share docket and identifying and working with cost share applicants; assisting with permit compliance and coordinating the Farmer-led Council activities. It is anticipated there will be additional opportunities to hire SWCD staff on an as-needed basis.

Funding Source

The funding for the Administrative Program will come from the District Levy.

C. Implementation Table

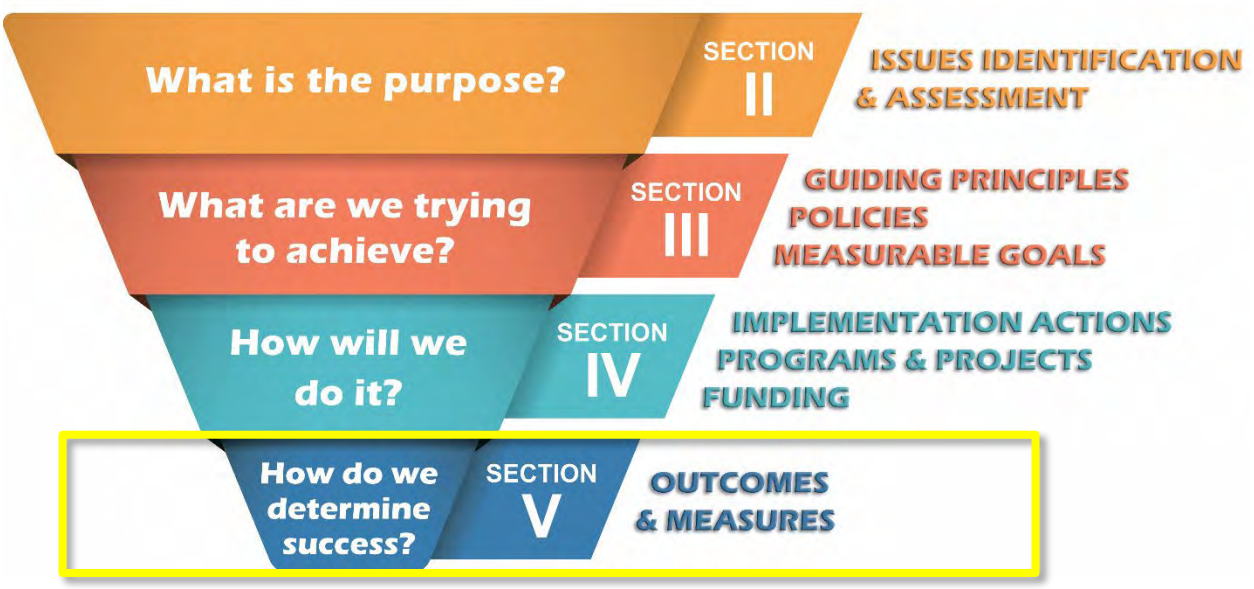
SECTION	PROGRAMS & PROJECTS	SCHEDULE & ESTIMATED COST												FUNDING OPTIONS*			
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	*1st half of* 2030	10.5-year TOTAL	Property tax levy	Grants	Government Partners	Local & Non-Profit Groups
IV.C.1	**Capital Improvement Program**	**$ 1,220,500**	**$ 1,085,000**	**$ 1,223,500**	**$ 769,800**	**$ 756,000**	**$ 777,700**	**$ 800,200**	**$ 845,700**	**$ 852,000**	**$ 876,500**	**$ 450,900**	**$ 9,657,800**				
IV.C.1.1	In-Lake Alum Treatments	$ 805,000	$ 385,000	$ 420,000	$ 200,000	$ 206,000	$ 212,200	$ 218,600	$ 225,200	$ 232,000	$ 239,000	$ 123,100	**$ 3,266,100**	X	X	X	
IV.C.1.2	County Ditch 13 Restoration	$ -	$ 15,000	$ 15,000	$ 30,000	$ 30,000	$ 30,000	$ 30,000	$ 35,000	$ 35,000	$ 35,000	$ 17,500	**$ 272,500**	X	X	X	
IV.C.1.3	Public Infrastructure Projects	$ 100,000	$ 50,000	$ 51,500	$ 53,000	$ 54,600	$ 56,200	$ 57,900	$ 59,600	$ 61,400	$ 63,200	$ 32,550	**$ 639,950**	X		X	
IV.C.1.4	Arctic Lake BMP Projects	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -	$ 17,500	$ -	$ -	$ -	**$ 32,500**	X			
IV.C.1.5	Fish Lake Watershed Projects	$ -	$ 20,000	$ 80,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 100,000**	X	X		
IV.C.1.6	Lower Prior Lake Subwatershed Project	$ -	$ 180,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 180,000**	X	X	X	
IV.C.1.7	Spring Lake Regional Park Project	$ -	$ -	$ -	$ 20,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 20,000**	X		X	
IV.C.1.8	Spring Lake West Subwatershed Project	$ -	$ 30,000	$ 200,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 230,000**	X	X	X	
IV.C.1.9	Storage & Infiltration Projects	$ -	$ 300,000	$ 309,000	$ 318,300	$ 327,800	$ 337,600	$ 347,700	$ 358,100	$ 368,800	$ 379,900	$ 195,650	**$ 3,242,850**	X	X	X	
IV.C.1.10	Streambank Restoration Program	$ 5,000	$ -	$ 25,000	$ 25,000	$ 25,800	$ 26,600	$ 27,400	$ 28,200	$ 29,000	$ 29,900	$ 15,400	**$ 237,300**	X	X	X	
IV.C.1.11	Sutton Lake Outlet Structure	$ 310,500	$ 5,000	$ 20,000	$ 2,500	$ 2,600	$ 2,700	$ 2,800	$ 2,900	$ 3,000	$ 3,100	$ 1,600	**$ 356,700**	X			
IV.C.1.12	Wetland Restoration & Enhancement	$ -	$ 50,000	$ 51,500	$ 53,000	$ 54,600	$ 56,200	$ 57,900	$ 59,600	$ 61,400	$ 63,200	$ 32,550	**$ 539,950**	X	X	X	
IV.C.1.13	Wetland Banking Program	$ -	$ 50,000	$ 51,500	$ 53,000	$ 54,600	$ 56,200	$ 57,900	$ 59,600	$ 61,400	$ 63,200	$ 32,550	**$ 539,950**	X	X	X	
IV.C.2	**Operation & Maintenance Program**	**$ 767,802**	**$ 569,678**	**$ 503,948**	**$ 762,906**	**$ 465,800**	**$ 501,500**	**$ 664,900**	**$ 478,800**	**$ 493,000**	**$ 507,600**	**$ 260,250**	**$ 5,976,184**				
IV.C.2.1	AIS Prevention & Management	$ 75,000	$ 77,300	$ 79,600	$ 82,000	$ 84,500	$ 87,000	$ 89,600	$ 92,300	$ 95,100	$ 98,000	$ 50,450	**$ 910,850**	X	X	X	X
IV.C.2.2	Carp Management Program	$ 323,727	$ 60,000	$ 61,800	$ 63,700	$ 65,600	$ 67,600	$ 69,600	$ 71,700	$ 73,900	$ 76,100	$ 39,200	**$ 972,927**	X	X	X	X
IV.C.2.3	Cost Share Program	$ 68,000	$ 60,000	$ 61,800	$ 63,700	$ 65,600	$ 67,600	$ 69,600	$ 71,700	$ 73,900	$ 76,100	$ 39,200	**$ 717,200**	X	X	X	X
IV.C.2.4	Farmer-Led Council Initiatives	$ 61,000	$ 65,000	$ 67,000	$ 69,000	$ 71,100	$ 73,200	$ 75,400	$ 77,700	$ 80,000	$ 82,400	$ 42,450	**$ 764,250**	X		X	
IV.C.2.5	Ferric-Chloride Treatment System	$ 70,000	$ 174,600	$ 129,200	$ 376,300	$ 105,900	$ 90,500	$ 82,600	$ 84,700	$ 86,800	$ 88,900	$ 44,450	**$ 1,333,950**	X			
IV.C.2.6	Highway 13 Wetland Restoration	$ -	$ -	$ -	$ -	$ -	$ 40,000	$ 200,000	$ -	$ -	$ -	$ -	**$ 240,000**	X			
IV.C.2.7	PLOC Bank Restoration	$ 105,875	$ 66,478	$ 36,048	$ 37,406	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 245,807**	X		X	
IV.C.2.8	PLOC Management	$ 58,200	$ 59,900	$ 61,700	$ 63,600	$ 65,500	$ 67,500	$ 69,500	$ 71,600	$ 73,700	$ 75,900	$ 39,100	**$ 706,200**	X		X	
IV.C.2.9	Project Maintenance	$ 6,000	$ 6,400	$ 6,800	$ 7,200	$ 7,600	$ 8,100	$ 8,600	$ 9,100	$ 9,600	$ 10,200	$ 5,400	**$ 85,000**	X			
IV.C.3	**Planning Program**	**$ 112,500**	**$ 194,000**	**$ 45,400**	**$ 88,900**	**$ 98,300**	**$ 94,300**	**$ 51,400**	**$ 100,500**	**$ 126,500**	**$ 203,100**	**$ 64,600**	**$ 1,179,500**				
IV.C.3.1	AIS Rapid Response & Prevention Plan	$ -	$ 40,000	$ -	$ 5,000	$ -	$ 5,000	$ -	$ 5,500	$ -	$ 5,500	$ -	**$ 61,000**	X		X	X
IV.C.3.2	Comprehensive Wetland Plan Update	$ 17,500	$ -	$ -	$ -	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	**$ 32,500**	X		X	
IV.C.3.3	District Plan Updates	$ 53,000	$ 2,500	$ 2,600	$ 2,700	$ 2,800	$ 2,900	$ 3,000	$ 3,100	$ 75,000	$ 100,000	$ 25,000	**$ 272,600**	X			
IV.C.3.4	Feasibility Reports	$ -	$ 35,000	$ -	$ 37,000	$ -	$ 39,500	$ -	$ 42,000	$ -	$ 44,500	$ 22,250	**$ 220,250**	X			
IV.C.3.5	Groundwater Protection Plan	$ -	$ 1,500	$ 1,500	$ 1,600	$ 1,600	$ 1,700	$ 1,800	$ 1,900	$ 2,000	$ 2,100	$ 1,100	**$ 16,800**	X		X	
IV.C.3.6	Lower Prior Lake Diagnostic Study Update	$ -	$ -	$ -	$ -	$ 35,000	$ -	$ -	$ -	$ -	$ -	$ -	**$ 35,000**	X			
IV.C.3.7	Planning & Programming	$ 32,000	$ 35,000	$ 36,100	$ 37,200	$ 38,300	$ 39,400	$ 40,600	$ 41,800	$ 43,100	$ 44,400	$ 22,850	**$ 410,750**	X			
IV.C.3.8	Regional Stormwater Planning	$ -	$ 5,000	$ 5,200	$ 5,400	$ 5,600	$ 5,800	$ 6,000	$ 6,200	$ 6,400	$ 6,600	$ 3,400	**$ 55,600**	X		X	
IV.C.3.9	Upper Watershed Blueprint	$ 10,000	$ 75,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 85,000**	X			

**Note Funding Options categories are further described in Section IV.C.7.*

		SCHEDULE & ESTIMATED COST												FUNDING OPTIONS*			
SECTION	PROGRAMS & PROJECTS	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	*1st half of* 2030	10.5-year TOTAL	Property tax levy	Grants	Government Partners	Local & Non-Profit Groups
IV.C.4	**Education & Outreach Program**	**$ 19,750**	**$ 22,400**	**$ 23,100**	**$ 23,800**	**$ 24,500**	**$ 25,200**	**$ 25,900**	**$ 26,600**	**$ 27,400**	**$ 28,200**	**$ 14,500**	**$ 261,350**				
IV.C.4.1	Citizens Advisory Committee	$ 4,000	$ 4,100	$ 4,200	$ 4,300	$ 4,400	$ 4,500	$ 4,600	$ 4,700	$ 4,800	$ 4,900	$ 2,500	**$ 47,000**	X			X
IV.C.4.2	Communications & Public Outreach	$ 5,000	$ 5,200	$ 5,400	$ 5,600	$ 5,800	$ 6,000	$ 6,200	$ 6,400	$ 6,600	$ 6,800	$ 3,500	**$ 62,500**	X			X
IV.C.4.3	Public Engagement Events	$ 7,750	$ 10,000	$ 10,300	$ 10,600	$ 10,900	$ 11,200	$ 11,500	$ 11,800	$ 12,200	$ 12,600	$ 6,500	**$ 115,350**	X			X
IV.C.4.4	Strategic Outreach	$ 3,000	$ 3,100	$ 3,200	$ 3,300	$ 3,400	$ 3,500	$ 3,600	$ 3,700	$ 3,800	$ 3,900	$ 2,000	**$ 36,500**	X			
IV.C.5	**Monitoring Program**	**$ 163,620**	**$ 127,200**	**$ 131,000**	**$ 135,000**	**$ 139,000**	**$ 213,100**	**$ 162,500**	**$ 157,100**	**$ 161,900**	**$ 166,800**	**$ 85,901**	**$ 1,643,121**				
IV.C.5.1	Buck Lake Diagnostic Study	$ -	$ -	$ -	$ -	$ -	$ 35,000	$ 10,000	$ -	$ -	$ -		**$ 45,000**	X			
IV.C.5.2	Lake Monitoring	$ 58,500	$ 60,300	$ 62,100	$ 64,000	$ 65,900	$ 67,900	$ 69,900	$ 72,000	$ 74,200	$ 76,400	$ 39,350	**$ 710,550**	X			X
IV.C.5.3	Stream & Ditch Monitoring	$ 32,120	$ 33,100	$ 34,100	$ 35,100	$ 36,200	$ 37,300	$ 38,400	$ 39,600	$ 40,800	$ 42,000	$ 21,650	**$ 390,370**	X			
IV.C.5.4	Effectiveness / BMP Monitoring	$ 7,000	$ 7,200	$ 7,400	$ 7,600	$ 7,800	$ 8,000	$ 8,200	$ 8,400	$ 8,700	$ 9,000	$ 4,650	**$ 83,950**	X		X	
IV.C.5.5	Wetland Monitoring	$ 3,000	$ 3,100	$ 3,200	$ 3,300	$ 3,400	$ 3,500	$ 3,600	$ 3,700	$ 3,800	$ 3,900	$ 2,000	**$ 36,500**	X			
IV.C.5.6	Precipitation & Weather	$ 1,000	$ 1,000	$ 1,000	$ 1,100	$ 1,100	$ 1,100	$ 1,200	$ 1,200	$ 1,200	$ 1,300	$ 651	**$ 11,851**	X			X
IV.C.5.7	Groundwater	$ -	$ -	$ -	$ -	$ -	$ 5,000	$ 5,200	$ 5,400	$ 5,600	$ 5,800	$ 3,000	**$ 30,000**	X			
IV.C.5.8	Reporting and Recording	$ 30,000	$ 15,000	$ 15,500	$ 16,000	$ 16,500	$ 47,000	$ 17,500	$ 18,000	$ 18,500	$ 19,000	$ 9,750	**$ 222,750**	X			
IV.C.5.9	PCSWMM Model Update & Maintenance	$ 32,000	$ 7,500	$ 7,700	$ 7,900	$ 8,100	$ 8,300	$ 8,500	$ 8,800	$ 9,100	$ 9,400	$ 4,850	**$ 112,150**	X		X	
IV.C.6	**Regulatory Program**	**$ 31,000**	**$ 40,000**	**$ 25,800**	**$ 26,600**	**$ 27,400**	**$ 53,200**	**$ 29,000**	**$ 29,800**	**$ 30,700**	**$ 60,450**	**$ 45,850**	**$ 399,800**				
IV.C.6.1	Permit Program	$ 13,000	$ 15,000	$ 15,500	$ 16,000	$ 16,500	$ 17,000	$ 17,500	$ 18,000	$ 18,500	$ 19,100	$ 9,850	**$ 175,950**	X			
IV.C.6.2	Conservation Easement Program	$ 11,000	$ 10,000	$ 10,300	$ 10,600	$ 10,900	$ 11,200	$ 11,500	$ 11,800	$ 12,200	$ 12,600	$ 6,500	**$ 118,600**	X			
IV.C.6.3	District Rules Updates	$ 5,000	$ -	$ -	$ -	$ -	$ 25,000	$ -	$ -	$ -	$ 28,750	$ 29,500	**$ 88,250**	X			
IV.C.6.4	District Boundary Revision	$ 2,000	$ 15,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	**$ 17,000**	X		X	
IV.C.7	**Administration Program**	**$ 565,941**	**$ 594,000**	**$ 623,000**	**$ 653,000**	**$ 685,000**	**$ 719,000**	**$ 754,000**	**$ 791,000**	**$ 830,000**	**$ 871,000**	**$ 457,000**	**$ 7,542,941**				
IV.C.7.1	Administration	$ 225,739	$ 237,000	$ 249,000	$ 261,000	$ 274,000	$ 288,000	$ 302,000	$ 317,000	$ 333,000	$ 350,000	$ 184,000	**$ 3,020,739**	X			
IV.C.7.2	Project Implementation (District Staff)	$ 310,202	$ 326,000	$ 342,000	$ 359,000	$ 377,000	$ 396,000	$ 416,000	$ 437,000	$ 459,000	$ 482,000	$ 253,000	**$ 4,157,202**	X			
IV.C.7.3	Project Implementation (District Engineer)	$ 30,000	$ 31,000	$ 32,000	$ 33,000	$ 34,000	$ 35,000	$ 36,000	$ 37,000	$ 38,000	$ 39,000	$ 20,000	**$ 365,000**	X			
	TOTAL:	**$2,881,113**	**$2,632,278**	**$2,575,748**	**$2,460,006**	**$2,196,000**	**$2,384,000**	**$2,487,900**	**$2,429,500**	**$2,521,500**	**$2,713,650**	**$ 1,379,001**	**26,660,696**				

**Note Funding Options categories are further described in Section IV.C.7.*

V. Outcomes and Measures



The desired outcomes of each goal identified in this plan are included in this section along with the measure that will be used to determine if that outcome was achieved. This information is included in **Table 6** and will be used, along with the goals dashboards (**Figure 7; Appendix M**), to track progress throughout the course of this 10-year WRMP. The implementation actions that will result in these goals being met are also included in this section.

Pursuant to Rule 8410, the PLSLWD will evaluate the actions within the Implementation Table with the annual activity report every two years. During this evaluation, the PLSLWD also plans to evaluate progress towards Plan goals. The PLSLWD's efforts from 2010 to 2016 have been well-characterized in BWSR's Level II Performance and Assistance Program (PRAP) report (**Appendix K**). The PRAP will continue to be used as a means of evaluating implementation progress.

Goal Dashboards

In this 2020-2030 WRMP, the PLSLWD intends to better measure and track progress towards goals to ensure adequate progression through the use of dashboards. **Appendix M** provides an Outcomes & Measures Dashboard for each goal for the PLSLWD to use internally to help better track and make adjustments as necessary. These dashboards will be updated every two years during the required evaluation period. As the Management Plan is amended, the Appendices will also be updated to provide the most current information on progress towards goals.

Below is an example of the dashboard for Goal WQ5 for Arctic Lake. Note that the dashboards include information not only on how to track progress, but what to consider if the PLSLWD is not meeting certain milestones during the 10-year plan. This dashboard also provides a quick reference for which projects are helping to achieve the goal.

Goal WQ5

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

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

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

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

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

Load Reduction Tracking		
Project	Year	lb/year

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

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

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

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

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

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

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

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

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

Figure 7. Goal Dashboard Example

See **Appendix M** for a complete compilation of dashboards for each of the PLSLWD's goals.

Outcomes & Measures Table

Periodically evaluating success provides the Board of Managers with a mechanism to evaluate progress and make the necessary adjustments needed for improvement. While the dashboards provide detail and information for each individual goal, the following table includes an overview of each water quality goal, listing the desired outcome and measure of success for each along with the appropriate programs that help achieve the goal. This table is used to provide a larger look at the PLSLWD's planned activities for each goal and a quick overview of what measures will be used to determine success.

Table 6. Measures and Outcomes of each Goal and their associated Projects and Programs

Goal#	Goals (Desired OUTCOMES)	MEASURES	Strategies
WQ1	Maintain or improve the 5-year average for TP, Chlorophyll-a and Secchi depth in Lower Prior Lake.	Every two years, evaluate water quality trends on a 5-year running average to ensure water quality is maintained or improved.	1-7
WQ2	Meet the state water quality standards for aquatic recreation on Spring Lake.	Use in-lake water quality monitoring results to assess progress every two years; request delisting to MPCA.	3, 5-30,75,76
WQ3	Meet the state water quality standards for aquatic recreation on Upper Prior Lake.	Use in-lake water quality monitoring results to assess progress every two years; request delisting to MPCA.	5-7, 9, 10, 12-14, 16, 18-25, 28-30
WQ4	Improve water quality in Fish Lake by reducing annual phosphorous load by 40 lbs/year (50% of Lower MN Watershed Restoration and Protection Strategy).	Every two years, assess water quality to measure improvements; reduce annual P load by 40 lbs/year by 2029.	5, 6, 7, 12, 21, 23, 28, 29, 31, 32, 77, 78
WQ5	Improve water quality in Arctic Lake by supporting SMSC's improvement efforts to reduce watershed phosphorus loading by 37 lbs/yr and by partnering with SMSC, the City of Prior Lake and the Three Rivers Park District on future projects as opportunities arise.	Every two years, assess water quality (TP and Secchi) to measure improvements; track load reductions associated with project implementation.	5, 33-35
WQ6	In partnership with SMSC and the City of Prior Lake, improve Pike Lake by achieving 10% percent improvement in TP concentrations to work toward the TMDL pollutant reduction requirements.	Every two years, assess TP concetrations to measure improvements; track load reductions associated with project implementation.	5, 6, 28, 34-36
WQ7	Assess the quality of Sutton Lake and develop a Lake Management Plan.	Assessment of lake quality and development of management plan.	34, 37-39
WQ8	Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.	Conduct a lake diagnostic study to identify water quality standard; set management goals for next 10-year plan.	34, 40
WQ9	Assess the quality of Tier 3 Lakes.	In-lake water quality monitoring.	34
WQ10	Maintain no net loss of wetlands in the District.	Every two years, track wetland impacts and mitigation measures.	5, 6, 23, 41-45

PROJECTS — CAPITAL PROJECTS

Goal#	In-Lake Alum Treatments	County Ditch 13 Restoration	Public Infrastructure Projects	Arctic Lake BMP Projects	Fish Lake Watershed Projects	Lower Prior Lake Subwatershed Project	Spring Lake Regional Park Project	Spring Lake West Subwatershed Project	Storage & Infiltration Projects	Streambank Restoration Program	Sutton Lake Outlet Structure	Wetland Restoration & Enhancement	Wetland Banking Program
WQ1			**X**			**X**			**X**	x			
WQ2	**X**	**X**	**X**		x		x	**X**	**X**	**X**		**X**	x
WQ3	**X**		**X**	x	x			x	**X**	**X**		**X**	x
WQ4					**X**					x		**X**	
WQ5				**X**									
WQ6													
WQ7											**X**		
WQ8													
WQ9													
WQ10													**X**

OPERATIONS & MAINTENANCE

Goal#	AIS Prevention & Management	Carp Management Program	Cost Share Program	Farmer-Led Council Initiatives	Ferric-Chloride Treatment System	Highway 13 Wetland Restoration	PLOC Bank Restoration	PLOC Management	Project Maintenance	AIS Rapid Response & Prevention Plan
WQ1	x		x						x	
WQ2	x	**X**	x	**X**	x	x			x	x
WQ3	x	**X**	x	**X**	x	x			x	x
WQ4	x	x	x	**X**						x
WQ5		**X**	x							
WQ6		**X**	x	**X**						
WQ7										
WQ8										
WQ9										
WQ10			x							

PLANNING

Goal#	Comprehensive Wetland Plan Update	District Plan Updates	Feasibility Reports	Groundwater Protection Plan	Lower Prior Lake Diagnostic Study Update	Planning & Programming	Regional Stormwater Planning	Upper Watershed Blueprint
WQ1			x		x	x	x	
WQ2			x			x	x	x
WQ3			x			x	x	x
WQ4		x	x			x		
WQ5		x	x			x		
WQ6		x	x			x		
WQ7		x	x			x		
WQ8		x	x			x		
WQ9		x	x			x		
WQ10	x	x	x			x		

E & O

Goal#	Citizens Advisory Committee	Communications & Public Outreach	Public Engagement Events	Strategic Outreach
WQ1	x	x	x	x
WQ2	x	x	x	x
WQ3	x	x	x	x
WQ4	x	x	x	x
WQ5	x	x	x	x
WQ6	x	x	x	x
WQ7	x	x	x	x
WQ8	x	x	x	x
WQ9	x	x	x	x
WQ10	x	x	x	x

MONITORING & RESEARCH

Goal#	Buck Lake Diagnostic Study	Lake Monitoring	Stream & Ditch Monitoring	Effectiveness / BMP Monitoring	Wetland Monitoring	Precipitation & Weather	Groundwater	Reporting and Recording	PCSWMM Model Update & Maintenance
WQ1		x	x	x	x			x	
WQ2	x	x	x	x	x			x	
WQ3		x	x	x	x			x	
WQ4		x	x	x	x			x	
WQ5		x						x	
WQ6		x						x	
WQ7		x						x	
WQ8	**X**	x						x	
WQ9		**X**						x	
WQ10					x			x	

REGULATION

Goal#	Permit Program	Conservation Easement Program	District Rules Updates	District Boundary Revision
WQ1	x	x	x	
WQ2	x	x	x	
WQ3	x	x	x	
WQ4	x	x	x	
WQ5	x	x	x	
WQ6	x	x	x	
WQ7				
WQ8				
WQ9				
WQ10	**X**	x	x	

Goal#	Goals (Desired **OUTCOMES**)	**MEASURES**	Strategies	PROJECTS: In-Lake Alum Treatments	County Ditch 13 Restoration	Public Infrastructure Projects	Arctic Lake BMP Projects	Fish Lake Watershed Projects	Lower Prior Lake Subwatershed Project	Spring Lake Regional Park Project	Spring Lake West Subwatershed Project	Storage & Infiltration Projects	Streambank Restoration Program	Sutton Lake Outlet Structure	Wetland Restoration & Enhancement	Wetland Banking Program	AIS Prevention & Management	Carp Management Program	Cost Share Program	Farmer-Led Council Initiatives	Ferric-Chloride Treatment System	Highway 13 Wetland Restoration	PLOC Bank Restoration	PLOC Management	Project Maintenance	AIS Rapid Response & Prevention Plan	Comprehensive Wetland Plan Update	District Plan Updates	Feasibility Reports	Groundwater Protection Plan	Lower Prior Lake Diagnostic Study Update	Planning & Programming	Regional Stormwater Planning	Upper Watershed Blueprint	Citizens Advisory Committee	Communications & Public Outreach	Public Engagement Events	Strategic Outreach	Buck Lake Diagnostic Study	Lake Monitoring	Stream & Ditch Monitoring	Effectiveness / BMP Monitoring	Wetland Monitoring	Precipitation & Weather	Groundwater	Reporting and Recording	PCSWMM Model Update & Maintenance	Permit Program	Conservation Easement Program	District Rules Updates	District Boundary Revision
WQ11	Restore or enhance 5% (24 of 482 acres) of the Restoration/Enhancement Management Class of wetlands (as identified in the Comprehensive Wetland Plan), focusing on those that work towards prioritized and/or multiple PLSLWD goals.	Track progress towards restored/enhanced wetland acres every two years.	6, 18, 20, 21, 23-25, 38, 39, 41, 45-51											**X**				x			x					x	x	x			x			x	x	x	x					x			x						
WQ12	Stabilize a minimum of ten bank erosion/slumping sites, prioritizing those in the watersheds of Tier 1 or Tier 2 lakes and/or meet multiple PLSLWD goals.	Track progress on bank stabilization projects implemented every two years, 10 completed by 2029.	6, 21-25, 27, 39, 52-54		**X**							**X**						x									x	x			x			x	x	x	x			x				x						
WQ13	Improve the stability of the Prior Lake Outlet Channel through annual maintenance and complete 10,000 linear feet of bank repair work (PLOC Master Plan, 2019).	Track progress towards 10,000 linear feet of bank repair work every two years.	55-57																			x	**X**				x	x			x			x	x	x	x							x						
WQ14	Actively participate in groundwater planning efforts to support municipal protection of highly vulnerable areas of DWSMA's or groundwater dependent natural resources.	Staff attendance at groundwater planning workshops/meetings.	39, 58-61																								x	x	**X**		x			x	x	x	x							x	x					
AIS1	Develop and implement an Aquatic Invasive Species (AIS) Response and Prevention Plan in coordination with Scott County to help prevent new AIS from entering Tier 1 lakes (lakes with public access).	Completed AIS Plan; regular monitoring for AIS and implementation according to plan.	6, 18, 20, 23-25, 39, 62-64													**X**									x		x	x			x			x	x	x	x		x					x						
AIS2	Effectively manage common carp in Tier 1 and Tier 2 lakes to 30 kg/ha or below.	Annually update IPM Plan for Carp; implement activities in the Plan.	28, 34, 35														**X**									x	x			x			x	x	x	x							x						
AIS3	Monitor curly-leaf pondweed growth on Tier 1 Lakes and treat as needed to prevent adverse effects on water quality.	Monitor curly-leaf pondweed; implement treatments of CLF as needed.	29													**X**										x	x			x			x	x	x	x		x					x						
AIS4	Implement new management techniques for zebra mussels as innovative, cost-effect methods are developed.	Monitor advances in management techniques; implement control methods as available.	64													**X**										x	x			x			x	x	x	x							x						

Goal#	Goals (Desired **OUTCOMES**)	**MEASURES**	Strategies
RF1	Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period (Source: Prior Lake Stormwater Management & Flood Mitigation Study, 2016).	Track storage created towards goal of 176 acre-feet on Prior Lake.	5, 6, 16, 21, 23-25, 27, 39, 65-70
RF2	Continue to operate the Prior Lake Outlet Structure according to the Prior Lake Outlet Control Structure Management Policy and Operating Procedures (last revised July 3, 2017).	Submit the Prior Lake Outlet System Annual Operations Report to MNDNR.	71
RF3	Eliminate/reduce the impact of new developments and redevelopment on flooding.	Revised rules are adopted; number of PIPP projects implemented.	5, 20, 22, 24, 41, 72
RF4	In partnership with the City of Prior Lake, complete updates to the PCSWMM model to refine and improve understanding of flooding in the watershed.	Updated PCSWMM model	73
RF5	Assess progress on flood reduction goals and establish an updated flood reduction goal for the next water resources management plan.	Track progress on development of Upper Watershed Storage Strategy.	39, 74

CAPITAL PROJECTS

Goal#	PROJECTS	In-Lake Alum Treatments	County Ditch 13 Restoration	Public Infrastructure Projects	Arctic Lake BMP Projects	Fish Lake Watershed Projects	Lower Prior Lake Subwatershed Project	Spring Lake Regional Park Project	Spring Lake West Subwatershed Project	Storage & Infiltration Projects	Streambank Restoration Program	Sutton Lake Outlet Structure	Wetland Restoration & Enhancement	Wetland Banking Program
RF1			x							**X**		**X**	x	x
RF2														
RF3														
RF4														
RF5														

OPERATIONS & MAINTENANCE

Goal#	AIS Prevention & Management	Carp Management Program	Cost Share Program	Farmer-Led Council Initiatives	Ferric-Chloride Treatment System	Highway 13 Wetland Restoration	PLOC Bank Restoration	PLOC Management	Project Maintenance
RF1			x						
RF2								**X**	
RF3									
RF4									
RF5									

PLANNING

Goal#	AIS Rapid Response & Prevention Plan	Comprehensive Wetland Plan Update	District Plan Updates	Feasibility Reports	Groundwater Protection Plan	Lower Prior Lake Diagnostic Study Update	Planning & Programming	Regional Stormwater Planning	Upper Watershed Blueprint
RF1		x	x	x			x	x	x
RF2			x	x			x		
RF3			x	x			x		
RF4			x	x			x		
RF5			x	x			x		**X**

E & O

Goal#	Citizens Advisory Committee	Communications & Public Outreach	Public Engagement Events	Strategic Outreach
RF1	x	x	x	x
RF2	x	x	x	x
RF3	x	x	x	x
RF4	x	x	x	x
RF5	x	x	x	x

MONITORING & RESEARCH

Goal#	Buck Lake Diagnostic Study	Lake Monitoring	Stream & Ditch Monitoring	Effectiveness / BMP Monitoring	Wetland Monitoring	Precipitation & Weather	Groundwater	Reporting and Recording	PCSWMM Model Update & Maintenance
RF1						x		x	x
RF2								x	
RF3								x	
RF4						x		x	**X**
RF5						x		x	x

REGULATION

Goal#	Permit Program	Conservation Easement Program	District Rules Updates	District Boundary Revision
RF1				
RF2				
RF3	**X**	x	x	x
RF4				
RF5				

VI. LAND AND WATER RESOURCES INVENTORY

This section of the WRMP outlines the hydrologic and geologic characteristics of the PLSLWD. This inventory provides supporting information to orient specific issues, goals, and strategies with locations throughout the watershed. Information in this section is not exhaustive, so links are included for more information and supporting information is included in **Appendix B** and **Appendix G**.

A. Existing and Future Conditions

This section of the Water Resource Management Plan is an inventory of existing conditions and proposed future development within the PLSLWD. This section is divided into three main subsections: Physical Environment, Biological Inventory, and Human Environment. The **Physical Environment** subsection provides a general physical description of the watershed and describes the geomorphology, geology, and soils. The **Biological Inventory** subsection summarizes the major biological communities and inventories important plant and animal species. The **Human Environment** subsection describes land use and growth patterns, recreational resources, and potential environmental hazards. All maps referenced in this section appear in **Appendix B**.

1. Physical Characteristics

The physical characteristics of a watershed include its physical setting, geology, geomorphology, soils, and water resources. Each of these topics is discussed in this section except for water resources which is the focus of Part B of this section.

a) Physical Setting

The PLSLWD includes approximately 42 square miles of land located entirely within Scott County, Minnesota. The Vicinity map and the District map show the PLSLWD boundaries; the surrounding area is shown for location reference (**Appendix B**). The District encompasses land in five local units of government and one tribe: the Cities of Prior Lake, Savage, and Shakopee, as well as Sand Creek and Spring Lake Townships the Shakopee Mdewakanton Sioux Community. The Municipalities map shows the boundaries of the District as well as the municipal boundaries of these five local governmental units. The City of Prior Lake and Spring Lake Township comprise most of the PLSLWD's area, while Sand Creek Township and the cities of Shakopee and Savage have relatively little land area within the District.

In 1983, an outlet channel was constructed beginning at the southwest end of Lower Prior Lake. With the outlet channel in place, drainage flows north under County Road 21, through Jeffers Pond, Pike Lake, Deans Lake, and Blue Lake before its eventual discharge to the Minnesota River near the Old Highway 18 Bridge.

The PLSLWD is bordered by the Lower Minnesota River Watershed on the north, and the Scott County Water Management Organization (WMO) on all other sides.

b) Geology and Geomorphology

The surficial geology of the PLSLWD is almost entirely comprised of glacial till deposits. The only surficial geological unit of any other origin is a few small regions of peat deposits. Glacial till and drift were brought to the region through a series of glaciations coming from the northeast and the northwest. The Superior lobe came from the northeast bringing reddish-brown drift, eroded from the bedrock of the Superior region. Glaciers coming from the northwest brought gray clayey, calcareous drift eroded from North Dakota, Manitoba, and northwestern Minnesota. The hills, ridges, and kettle lakes of the region were formed when the Des Moines Lobe began to stagnate and melt. This resulted in the creation of the irregular topography of the region. The Surface Geology map shows the surficial geology of the District.

The bedrock in the District consists of steep-walled valleys and rolling plateaus. These bedrock formations are now covered by as much as 500 feet of glacial till. A major feature of the bedrock in the District is a large valley running from southwest to northeast through the watershed. The bedrock formations in this valley are progressively older in origin as they move to the center of the valley. The Bedrock Geology map shows the bedrock geology of the District.

Additional and more detailed information may be found in the MN Geologic Atlas of Scott County.

c) Soils

Over time, the parent geologic material formed a variety of soil types within the watershed. Factors that influence soils formation include vegetation, parent material, age, topographic relief, and climate. Six major soil associations have been identified in the District. A small portion of Kilkenny-Hamel-Lerdal association is found in the southern portion of the District between Sutton and Fish Lakes. The Lester-Le Sueur-Cordova association is generally found around Lydia and Sutton Lake. The Lester-Hamel-Le Sueur association is generally found south of Spring Lake, west of the Buck Lake channel. The Lester-Hayden-Muskego association is located from County Road 42 west of County Road 21 south to Fish Lake. The Lester-Hawick-Terril association is found around Lower Prior and Pike Lakes. The Sparta-Estherville-Waukegan association is found at the far northern end of the District on a terrace above the Minnesota River. These soil associations are shown in the Soils map. Additional information on soil types within the District can be found in the Scott County Soils Survey (SCS 1959) and the Web Soil Survey, both available from the Natural Resources Conservation Service (NRCS).

2. Biological Inventory

This section describes the biological communities that are characteristic of the District. This section also highlights important, rare and endangered species and habitats which may be found in the District. Water resources management policies established in this plan are intended to give consideration to the protection of these rare and endangered species and habitats.

a) Pre-settlement Vegetation

The Prior Lake-Spring Lake watershed lies within the North Central Hardwood Forest Ecoregion, and the Big Woods sub-ecoregion. This region is defined by a single landform that was once dominated by oak woodlands and maple-basswood forests. Few remnants of the original vegetation remain as a result of agricultural and urban development. The pre-settlement vegetation for the watershed is presented in the Pre-settlement map. Though the Big Woods dominated the watershed vegetation, other communities such as prairie, wet prairie, aspen-oak land, and oak opening-barrens were present as well.

Aspen-Oak lands bordered the prairie to the south and ran nearly to Fish Lake. The vegetation community of Aspen-Oak lands was the first to invade prairie areas. The aspen invasion was followed by invasion of the Big Woods, which was comprised of oak, elm, maple, basswood, hornbeam, aspen, birch, wild cherry, hickory, butternut, and black walnut. Below the tree canopy, numerous shrubs often grew relatively dense. In areas where the tree canopy provided considerable shade, a wide variety of herbaceous plants replaced the shrub growth. Aspen areas were typically settled before the Big Woods because these areas were easier to clear.

A small region of Oak Openings and Barrens, also called Oak Savannah, was present near the northeast corner of the watershed. This community is characterized by isolated oak trees surrounded by low shrubs and grassy expanses.

Historical wet prairies, or wet meadows, were found in two bands running south from Spring Lake. These wet prairies generally followed major natural drainage features which still exist today: County Ditch 13 and the Buck Lake Channel. The aquatic wetland community within the wet prairie areas was one of the most complex and diverse communities in the region. Wetlands in these areas represented a variety of hydrologic regimes from seasonally inundated wet meadows (Type I Wetlands) to Lakes (Type V Wetlands). The variation in hydrologic regimes is mirrored in the plant community with wetland plants ranging from facultative wetland plants that grow near wetland boundaries, to obligate wetland plants such as cattails and floating and submerged aquatic vegetation. Wetlands will be further discussed in Part B, Hydrologic Systems, and are shown in the Wetlands map.

b) *Wildlife Areas*

There are no state-managed wildlife areas within the District. However, the Prior Lake Outlet Channel passes through a portion of the Minnesota Valley National Wildlife Refuge before ending at the Minnesota River. This area is managed by the US Fish and Wildlife Service according to its management plan.

c) *Rare and Endangered Species and Habitats*

The MNDNR's Natural Heritage Program was consulted to determine where areas potentially containing rare and endangered species and habitats may be located within the District. The Rare and Endangered Species map shows the general location of the rare and endangered species and habitats for the Prior Lake-Spring Lake watershed.

Two tracts of maple-basswood forests are located in Spring Lake Regional Park on the north side of Spring Lake. This forest cover type occurred over much of the Twin Cities Metropolitan Area prior to European settlement; however, due to subsequent agricultural and urban development few remnants of this community exist today. In addition to the two areas of maple-basswood forests in Spring Lake Regional Park, four other occurrences are listed for the watershed: one east of Mystic Lake, one just north of Haas Lake and two small locations near Sutton Lake.

Two other occurrences of rare species are listed as occurring near Spring Lake Regional Park. These species are *Desmodium cuspidatum* var. *Longifolium*, Big Tick-trefoil, a rare woodland legume and *Emboidea blandingii*, the Blanding's turtle. Habitat destruction has significantly affected the populations of these species throughout the region. *D. cuspidatum* is found in native woodland habitat, while the Blanding's turtle typically prefers shallow wetlands with adjacent uplands for nesting. It is likely that this species inhabits the marshes within or adjacent to the park and utilizes the forested uplands during the nesting season.

Other potential locations of endangered species include wetlands near the northeastern shore of Upper Prior Lake which may hold a population of Blanding's turtles and a red-shouldered hawk's nest located east of Prior Lake near Candy Cove. The red-shouldered hawk requires large forested tracts (about 500 acres) interspersed with small marshes and wet meadows for breeding. Conservation actions to minimize the disturbance of the remaining forest/wetland complex southeast of Prior Lake are recommended by MNDNR to protect the breeding habitat of this rare woodland hawk. There is also a small *Sphagnum* rich fen located west of Highway 13 between County Roads 16 and 42.

3. Human Environment

This section of the inventory is divided into three subsections: Land Use, Recreational Resources, and Potential Environmental Hazards. The **Land Use** subsection describes the historical background, current and future land uses, as well as the extent of metropolitan services. The **Recreational Resources** subsection discusses the regional parks, boat landings, regional trails, and other recreational facilities in the watershed. The **Potential**

Environmental Hazards subsection describes areas that have potential pollutant sources to surface or groundwater such as hazardous material handlers, landfills, feedlots, and other potential pollutant sources.

a) Land Use

Historical Background

The earliest European settlers in the Prior Lake-Spring Lake Watershed arrived in 1853. These early settlers resided south of Spring Lake in what was to become Spring Lake Township.

The first annual town meeting for Spring Lake was held May 11, 1858 at the house of W.H. Calkins. Spring Lake Village was originally surveyed and recorded in 1857. A considerable number of lots were sold as the town rapidly grew. A grist mill was built at the outlet of Spring Lake in 1859, the first store in Spring Lake Village was built in 1865 and there is also a cemetery which was laid out and recorded in 1863. Following the construction of the Hastings & Dakota Railway the town saw a general decline.

Prior Lake Village was surveyed and recorded in 1875 on land owned by C.H. Prior. The first building erected in Prior Lake was a store built in 1871. The Prior Lake post office was established in 1872, and by 1882, the Prior Lake business district had expanded to include one flour and feed mill, one general merchandise store, one wheat storehouse, one blacksmith shop, and two saloons. The Grainwood Resort opened on the lake in 1879, followed by several other smaller resorts; Fish Point (1907); Grainwood Landing (1906-1910); and Spranks Resort (1910-1940).

By 1940, Spring Lake had 59 cottages, 5 resorts, and more than 125 boats used for fishing, boating and other recreational purposes. Lower Prior Lake had 90 cottages and 2 resorts and more than 150 boats (Minnesota Department of Conservation 1940).

Present Land Use

Land use within the District reflects five basic location mechanisms: proximity to Minneapolis and St. Paul, proximity to transportation, proximity to Prior and Spring Lakes, availability of wastewater service, and local controls. The Existing Land Use map presents the existing land uses for the District.

Existing land uses within the District include both urban and rural land use types. Urban developments are primarily residential units located adjacent to the lakes with some commercial and industrial development primarily occurring along Highway 13 through the City of Prior Lake. The predominant residential land use is single family residential units. Commercial and industrial land use in the watershed is comprised of warehousing, residential services, and office space. Rural land use is primarily comprised of small to medium sized farms with the average farm size being about 150 acres. The major farming activities include row crop production of corn and soybeans along with a few farms with cattle grazing in pastures. The agricultural areas of the District are primarily located in the southern part of the District south of Prior and Spring Lakes and outside the Metropolitan Urban Service Area (MUSA).

The MUSA map, as shown in **Appendix B**, presents the current MUSA boundaries for the District. Metropolitan Council Environmental Services (MCES) operates all the regional wastewater treatment facilities for the Greater Twin Cities Metropolitan Area. As the wastewater authority, MCES establishes the limits of the MUSA boundary. Within this boundary residents and businesses receive municipal services. Outside this boundary, residents and businesses must rely on on-site wastewater treatment systems. As a result, the MUSA boundary determines in large part the extent of urban development. Comparing the MUSA boundary map to the existing land use map reveals the close connection between urban development and the availability of wastewater services.

Future Land Use

Under the Metropolitan Land Planning Act, the communities within the District were required to prepare and submit land management plans with projections of future land use. **Appendix B** shows the 2030 Land Use map, which is a compilation of proposed future land use by the municipalities within the District.

Recent trends in land use patterns for the District indicate that residential development is spreading out from the core area around Prior and Spring Lakes into adjacent areas. Population of the City of Prior Lake has doubled since 1995, with 2017 population estimates at 26,401. Population estimates for Scott County by the Metropolitan Council and State Demography Unit estimate 2017 populations at 145,827 people. Agriculture has experienced a modest decline in cropland acreage and in the number of farms. However, much of the soil within the District is classified by the Natural Resource Conservation Service as good farmland, with an area around Sutton Lake being classified as prime agricultural land. These agricultural areas are also the least affected by the most common type of development because they are furthest away from the metropolitan core cities and the highly desirable recreational lakes and are outside of the MUSA. Therefore, it is expected that agricultural land uses will continue to remain present within the District although pressure of urbanization is increasing dramatically. Commercial agriculture is becoming less viable as seen in the increase in cluster or large lot subdivisions.

Land use information for the District was obtained from land management plans prepared by the local municipalities and by the county. For more detailed information on land use, refer to the city land use plans prepared by the Cities of Prior Lake, Savage, and Shakopee. For areas outside of these municipalities, land use information is provided by Scott County. The county land use plan appears as a portion of the Scott County 2040 Comprehensive Water Resources Plan, adopted in June 2019.

b) *Recreational Resources*

Land and water-based recreational opportunities exist within the District. Water-based recreation in the District is primarily focused on Spring, Upper Prior, and Lower Prior Lakes. There are numerous parks within the District, the largest of which is Spring Lake Regional Park, located on the north shore of Spring Lake and covering about 400 acres. Lakefront Park is the second largest park and is located on the southeast shore of Lower Prior Lake within the City of Prior Lake; it hosts one of two public beaches on Lower Prior. Jeffers Pond Park is the third largest park facility, covering 147 acres and including both Upper and Lower Jeffers Ponds. Sand Point Beach Park is another important community park which hosts the other public beach on Prior Lake and is adjacent to the Lower Prior Lake boat launch. Locations of park and boat launch facilities in the District are shown on the Recreational Resources map.

Public boat landings within the District include one each on Fish, Spring, Upper and Lower Prior Lakes. These landings are maintained by the MNDNR. There is also one additional winter access point on both Spring and Lower Prior Lakes.

Spring, Upper Prior, and Lower Prior Lakes have a combined surface area of approximately 1,800 acres. These lakes receive intense recreational pressure year-round. Open water activities include fishing, boating, kayaking, canoeing, water skiing, jet skiing, sailing, wakeboarding, and swimming. During the winter when the lake is ice-covered, recreational activities include snowmobiling, ice fishing, skating, and cross-country skiing.

The few swimming beaches in the District are quite popular. According to the City of Prior Lake, annual visitors to Sand Point Beach on the north shore of Lower Prior Lake reach 30,000-48,000 each year and Watzl's Beach at Lakefront Park on the southeast end of Lower Prior Lake receives about 9,000-12,000 visitors each year A swimming beach also exists on Fish Lake within the Fish Lake campgrounds area.

c) Potential Environmental Hazards

This section will address potential environmental hazards, highlighting feedlots, septic systems, known industrial and hazardous waste sources and highly erodible soils. There are no sanitary landfills or open dumps within the District. Abandoned wells, permitted wastewater discharges, and storage tanks are not addressed here as they are covered in detail in the Scott County Water Resources Plan (2018).

Feedlots

All feedlot information was obtained from the Scott Soil and Water Conservation District (SWCD). Currently operating feedlots are subject to field inspections and given surface water pollution potential ratings of high, medium, or low relative to the number of animals present, current condition of the feedlot, land slope, and proximity to surface waterbodies. The number of feedlots in the District decreased from 18 feedlots in 1999 to 11 feedlots in 2008 and the number remained steady at 11 feedlots through 2017.

Septic Systems

The status of on-site septic systems is managed by Scott County. Most of the City of Prior Lake and Savage is connected to sanitary sewer, including the area around both Upper and Lower Prior Lakes and a portion of Spring Lake. Most of the area around Spring Lake is in the orderly annexation area for the City, thus services may be extended to the remaining unserved areas surrounding Spring Lake in the future.

Currently, most of the area south of Spring Lake is in Scott County's jurisdiction. Scott County inspects septic systems during installation and tracks the pumping frequency for each system in the county. If a system is pumped three times in one year, the county sends the owner a letter informing them that their system may be failing. The county currently does not have the staff to inspect for failing systems and generally identifies failing systems by complaints. It is estimated that 15 to 20 failing systems are found and corrected countywide each year.

The homes along Sunset Avenue on the west side of Spring Lake were required to hook up to city sewer and water, which greatly alleviated potential for septic system inputs along the west side of Spring Lake. There are a few homes still on septic systems within Spring Lake Township on the southwest side of the lake. However, only six homes are within 700 feet of shore and they were built no earlier than 1991, so the systems are not very old and should still be functioning properly.

Industrial and Hazardous Waste Sources

Many commercial and industrial sites may act as sources of a wide variety of pollutants including many hazardous pollutants such as heavy metals or organic chemical compounds. A search was conducted via the US EPA Enforcement and Compliance History online database and 75 sites were identified in the Prior Lake area. This search included auto salvage facilities, hazardous waste sites, medical facilities, and other facilities holding permits to generate, emit, discharge or handle pollutants. Auto salvage yards, machine shops, and medical facilities are the most common and are frequently sources of heavy metals such as lead, zinc, copper, and chromium as well as oil and grease.

Highly Erodible Soils

Highly erodible lands (HEL) are a potentially important pollutant source. A study of HEL soils was conducted by the watershed in cooperation with the Scott SWCD in 1993 as part of the Prior Lake-Spring Lake Diagnostic/Feasibility Study. Detailed information regarding HEL soils is available at the District office. Information used to assess the soils in the watershed included the Scott County Soil Survey, the HEL map unit list compiled by the Scott SWCD, and the Scott County section maps. Ten soils series in Scott County were identified as being potentially highly erodible, six of these soil series occur within the District. This

study focused on the southern part of the watershed, as this is where most of the agriculture land use is located. Soil erosion in the urban area of the watershed is expected to be minimal except during periods of construction.

This study found that approximately 3,410 acres of 14,550 acres evaluated were potentially highly erodible. This corresponds to approximately 23 percent of the southern watershed. The allowable soil loss, or T factor, as specified by the Scott SWCD is 5 tons/acre/year.

In addition to soil series and slope, soil loss rates are also dependent on the crop rotation and residue management implemented. The 2007 National Resource Inventory completed by the USDA-NRCS gives an average soil loss rate of 4.6 tons/acre/year for Minnesota and Wisconsin cropland. Soil loss rates on HEL soils, however, are often higher. For instance, soil loss rates for LcD2, a common HEL soil, can be approximately:

- 11 tons/acre/year for corn-soybean rotation with non-conservation tillage (conventional)
- 7 tons/acre/year for corn-soybean rotation with conservation tillage

Reducing the soil loss rates in the watershed will not only reduce sediment loading to the surface waters of the District, but also reduce associated particulate pollutants such as phosphorus and nitrogen that may be sorbed to the eroded soil. In 1994 the District purchased a no-till drill and in 1998 donated it to the Scott SWCD to rent to farmers in the watershed. In 2019, the SWCD rented out 4 different drills to farmers: two no-till drills, one Brillion seeder, and an interseeder for row crops. The District is also working with the Farmer-Led Council (FLC) and the SWCD to promote the use of cover crops to reduce erosion, prevent runoff and improve soil health. It is hoped that by promoting no-till farming, interseeding, and cover crops that soil losses in the watershed can be reduced.

B. Hydrologic Systems

This section is an inventory of basic hydrologic data for the PLSLWD. The inventory is divided into four subsections: Precipitation, Water Quantity, Water Quality, and Groundwater. All tables and figures for this section appear in **Appendix G**.

1. Precipitation and Drainage

Snow and rainfall data for the District is obtained from the State Climatology Office. Over 100 years of precipitation data has been collected in the Lower Minnesota River watershed and is summarized in Figure 2 of **Appendix G**. These stations are used by the District because of their proximity, their long period of record, and the high degree of confidence in the data. Additional precipitation records can be obtained from local sites through the state's volunteer precipitation monitoring network overseen by the state climatologist and the weather station that was installed by PLSLWD staff in 2018 at Spring Lake Townhall. Figure 1 of **Appendix G** presents the ten-year historical record of precipitation at the PLSLWD site.

a) Precipitation and Evaporation

The annual average rainfall for this area is approximately 31 inches of water per year. When rainfall is below average, lakes with small tributary areas can drop rapidly. In the absence of specific evaporation data, these values can be used to estimate future lake levels and recovery times for lakes when combined with observation well data and hydrology models.

b) Topography

The hydrologic system of the District is characterized by its drainage features including ditches, streams, floodplains, wetlands, and lakes. Topography and drainage patterns for the District are typical of glaciated areas. The terrain ranges from rolling hills to nearly level land with numerous basins of glacial origin, such as kettle lakes, scattered throughout the District. The Subwatershed Map, shown in **Appendix B**, shows the major drainage features of the watershed including subwatershed boundaries, lakes, streams, and drainage ditches. Discussion of wetlands and floodplains are presented later in this section.

The highest ground in the watershed is 1,100 feet above mean sea level (MSL). This high ground is located along the eastern boundary of the watershed in Spring Lake Township (S23, T114N, R22W). The lowest ground in the watershed is the end of the outlet channel at an elevation of approximately 880 feet above MSL. The shoreline of Prior Lake has varied historically depending upon the lake level. The elevation of Prior Lake has ranged from a recorded low of 883.6 in 1938 to a recorded high of 907.6 in 1906.

The major lakes of the District are Spring Lake, Upper Prior Lake, and Lower Prior Lake. In general, water flows from southwest to northeast through the watershed. The southwestern portion of the watershed includes Swamp Lake, Sutton Lake, Fish Lake and Buck Lake. This region is drained primarily by County Ditch 13 for Swamp and Sutton Lakes and by the Buck Lake channel for Fish and Buck Lakes. These channels discharge to Spring Lake, which discharges to Upper Prior Lake, which in turn flows into Lower Prior Lake.

There was no consistent outflow from the watershed until 1983, when an outlet channel was constructed beginning at the southwest shore of Lower Prior Lake. With the Prior Lake outlet channel in place, drainage flows north in a pipe under County Road 21, then the channel daylights and flows through Jeffers Pond, Pike Lake, Dean Lake and Blue Lake, before its eventual discharge to the Minnesota River.

c) Floodplain

The United States Army Corps of Engineers and the Federal Emergency Management Agency (FEMA) have mapped the District's floodplains. The Floodplain Map, found in **Appendix B**, shows an approximation of the floodplains delineated by these agencies. These floodplains represent the area that would be inundated

by a 100-year flood event. This map does not show all floodplains within the District and is in part, based on approximate hydrologic methods and limited topographical data. Refer to Flood Insurance Rate Maps (FIRM) for more detailed information. Flood Insurance Rate Maps (FIRM) and Flood Insurance Studies (FIS) are available online via FEMA's interactive website.

2. Waterbodies

a) Public Ditches

County Ditch 13 is the only public ditch in the District. This ditch follows the path of the original natural stream for most of its length. However, the original natural stream was widened and straightened into today's current Ditch 13 to increase its capacity to drain land for agricultural purposes. Scott County maintains maps of this system which differentiate the public ditch from private laterals/extensions, and natural drainage ways. The County controls the public ditches and is the ditch authority for the purpose of implementing M.S. 103E (Drainage Law).

b) Lakes

Approximately 8 percent of the District is covered by lakes. There are four lakes in the District that are greater than 100 acres in size and eight lakes with areas between 20 and 100 acres. The lakes that are greater than 100 acres and support fishing, swimming, and other body and non-body contact recreational uses are considered priority waterbodies. Lakes in the District are listed in Table 4 and Table 5 in **Appendix G**, with their major physical, chemical, and biological characteristics. Additional fishery and water quality data can be found in **Appendix C**.

c) Wetlands

MN Rule 8420 (the Wetland Conservation Act) states per MN Rule 8420.0105, "Wetlands must not be impacted unless replaced by restoring or creating wetland areas of at least equal public value. This chapter regulates the draining or filling of wetlands, wholly or partially, and excavation in the permanently and semipermanently flooded areas of type 3, 4, or 5 wetlands, and in all wetland types if the excavation results in filling, draining, or conversion to nonwetland."

MNDNR protected wetlands are defined in M.S. 105.37 as "all Type 3, 4, and 5 wetlands, as defined in United States Fish and Wildlife Service Circular No. 39 (1971 edition), not included within the definition of public waters, which are 10 or more acres in size in unincorporated areas or 2.5 or more acres in incorporated areas." Permits are required from the MNDNR for any alteration of protected wetlands or waters below the ordinary high-water elevation. A detailed map of MNDNR protected wetlands can be found on the MNDNR website.

The United States Fish and Wildlife Service (USFWS) has also compiled wetland maps through the National Wetland Inventory (NWI). The NWI maps identify wetland types 1-8, regardless of size, and therefore provide a more complete accounting of wetland areas. Detailed USFWS NWI maps can be found on the USFWS interactive Geospatial Wetlands Information website. The District has chosen to use this interactive mapping tool, as opposed to a hard copy map, as it is the most up to date and allows flexibility in selecting data sets.

In 1994, the Scott SWCD conducted a detailed wetland inventory for the southern half of the District. Under this effort, the SWCD reviewed maps from the MNDNR, the Metropolitan Mosquito Control District, the United States Department of Agriculture, the United States Fish and Wildlife Service, and the United States Geological Service to identify existing wetlands, drainage areas for these wetlands, and drainage channels. Tile records were reviewed to obtain information on drained wetlands. Historical aerial photographs dating

back to 1937 were also reviewed to identify original wetland areas. Field reconnaissance was used to complete the inventory by providing a field verification of the mapping results. The maps and records from this wetland inventory are not included in this plan because the extensive detail of this inventory would make this plan excessively cumbersome. However, the inventory records and maps can be viewed at the District office.

In 2012, Emmons and Olivier Resources (EOR) prepared a Comprehensive Wetland Plan for PLSLWD to accomplish goals and meet policies set forth in this WRMP. This plan was used to develop wetland management standards used to support water resource management activities in the Watershed District and an updated inventory was created, which can be found in the District files.

The Wetland map, found in **Appendix B**, shows the general location of MNDNR protected wetlands in the District as determined by the Scott SWCD.

3. Water Quantity

Water quantity has been identified as a priority issue for the District and will likely continue to be so in the future as development continues throughout the watershed. A thorough understanding of water quantity issues is a major component of the watershed management plan. Water quantity issues can be divided into two categories: issues relating to the quantity of water stored and issues relating to the quantity of water flowing through a given point. This section summarizes and discusses data on water storage in terms of lake levels and flow data.

To supplement the existing data on lake levels and flow, several hydrologic models have been developed for the District. These models serve as an important tool for analyzing the relative importance of various factors that influence water levels and flow rates. In addition, these models can be used to make predictions regarding future water levels and flow rates in the District. Various models have been used depending upon desired analysis parameters and include XP-SWMM, SWAT, HydroCAD, PCSWMM, and HEC-RAS. Details on modeling and model calibration can be found in individual project reports.

a) Lake Levels

The most comprehensive data on lake levels in the District are for Upper and Lower Prior Lakes. Because these two lakes are joined by a wide channel, water level readings for both lakes are essentially equal. Figure 6 of **Appendix G** shows the historic record of water level data for these lakes from 1906. This figure shows that lake levels are significantly influenced by long-term rainfall patterns, although this linkage has been dampened by the construction of the lake outlet which moderates high lake levels and decreases the odds of successive high-water years.

Lake levels for Upper and Lower Prior Lakes have historically been one of the most important issues in the District. Before 1983, Lower Prior Lake did not have an overland outlet. As a result, water levels in the lakes fluctuated widely depending upon rainfall patterns. Since the construction of the outlet channel, the lake levels have stabilized somewhat, but lake level issues still arise. When lake levels are high, water levels encroach on numerous dwellings, but when water levels are too low, water recedes from some shallow bays making boat access to the lake difficult.

In 2016, the Prior Lake Stormwater Management & Flood Mitigation Study was completed by Barr Engineering and jointly sponsored by the District and the City of Prior Lake in collaboration with Spring Lake Township. The study updated the watershed's hydrologic model, reviewed flood-related issues and projects, identified potential flood reduction strategies and developed an implementation plan to reduce future flooding and improve agency response to flooding. The number of dwellings that are potentially adversely affected at a given water level is documented on page 6 of that report.

Water level data are available for other lakes, including Fish, Spring, Cates, and Pike Lakes on the District website or MNDNR Lake Finder. Limited data is available for other waterbodies in the District, such as Haas, Crystal, Rice, Sutton, and Swamp Lakes.

Table 6 of **Appendix G** lists ordinary high water (OHW) levels for lakes in the District. The OHW is defined in M.S. 103G.005 as:

> *"An elevation delineating the highest water level that has been maintained for a sufficient period of time to leave evidence upon the landscape, commonly the point where the natural vegetation changes from predominantly aquatic to predominantly terrestrial; for watercourses, the ordinary high water level is the elevation of the top of the bank of the channel; and for reservoirs and flowages, the ordinary high water level is the operating elevation of the normal summer pool."*

The OHW is an important regulatory concept as it defines the extent of the MNDNR protected public waters and wetlands. Any change to the course, current or cross-section at or below the ordinary high water level of a public water requires a MNDNR Public Waters Work Permit.

b) Flow Gauging

District-wide

With assistance from the Scott SWCD, the District monitors flow at several locations around the watershed, ranging from the upper watershed, outlets of lakes, and along the Outlet Channel. Some of the flow data for the District have been collected as part of short-term special studies, such as the Upper Watershed Study from 2014-2016.

Stream flow data is used to calibrate and verify the District's various hydrologic models and calculate pollutant loads. Stream flow measurements will be completed as determined in the District's long-term monitoring plan. The Water Quality Monitoring map, found in **Appendix B**, shows the locations of monitoring stations from current and past water quantity and water quality studies.

Outlet Channel

Flow calculations for the outlet channel are integral for implementation of the PLOC MOA. Additional details on modeling for this project can be found in the document, which is available for review on the District website. Additional monitoring of flows in the outlet channel will be completed by the District in accordance with the District's monitoring plan.

4. Water Quality

Lakes within the District are monitored by Three Rivers Park District or by volunteers through the Metropolitan Council Citizen-Assisted Monitoring Program (CAMP). Data is stored in the District's Water Quality Database (WQDB) and summaries of lake water quality data is posted on the Waterbodies tab of the District's website. The monitoring program provides an assessment of water quality and identifies possible water quality trends in a timely manner so that prompt management action can be taken. The monitoring program also helps evaluate the effectiveness of District projects meant to improve water quality. The District currently operates its monitoring program based upon an annual and long-term monitoring plan.

a) Summary of Historical Lake Water Quality Data

Historic data includes information on phosphorus, nitrogen, chlorophyll-a, suspended solids, dissolved oxygen, and Secchi disk transparency. The District's website and **Appendix G** contain some of the most recent data collected.

Phosphorus

Phosphorus is an essential nutrient for algae growth and it is often the limiting nutrient. As a result, the concentration of phosphorus is of particular concern in aquatic systems as its concentration often determines the abundance of algae; the overabundance of algae results in numerous interrelated water quality problems that may adversely impact recreational, aesthetic, and fisheries uses of lakes. **Appendix G**, Section A shows the mean summer total phosphorus (TP) concentrations for Cates, Buck, Crystal, Sutton, Swamp, Arctic, Haas, Fish, Pike, Spring, Upper Prior, and Lower Prior Lakes from 2014-2017 (unless otherwise noted).

Chlorophyll-a

Chlorophyll-a is a photosynthetic pigment common to all plants including algae. The concentration of chlorophyll-a is used as a convenient surrogate measure of algae abundance. **Appendix G**, Section A presents the mean summer chlorophyll-a concentrations for Fish, Buck, Spring, Pike, Arctic, Upper Prior, and Lower Prior Lakes for the years each lake was sampled between 2004-2017. Chlorophyll-a concentrations over 30 µg/L are generally considered nuisance algae conditions and hypereutrophic.

b) Secchi Disk Transparency

Secchi disk transparency is a measure of water clarity. The Secchi depth is determined by lowering a black and white disk to the point where the disk disappears from view. The depth of disappearance is then recorded as the Secchi depth. Because of its ease of measurement, Secchi depth readings have been promoted through volunteer monitoring programs. **Appendix G,** Section A shows the mean summer Secchi depth readings for Cates, Fish, Spring, Pike, Upper Prior, and Lower Prior Lakes for all years available between 2005 and 2017. Secchi depth readings less than 1.0 m for shallow lakes, or 1.4 m for deep lakes, are generally considered poor water clarity conditions and hypereutrophic.

c) Stream Water Quality Data

Stream water quality data collection for the District has also focused on eutrophication related parameters and has primarily been directed at evaluating contributions to the eutrophication of lakes. These data include information on flow, nutrients, and suspended solids. This data can be found in the District's water quality database (www.plslwd.org/wqdb).

d) Impaired Waters and TMDLs

The District has several lakes that do not meet state and federal water quality requirements and have been included on the State of Minnesota List of Impaired Waters, also known as the 303(d) list after the relevant section of the federal Clean Water Act. Impairments are listed in Table 7 under **Appendix G**.

In 2008 and 2009 the District undertook a TMDL study for excess nutrients for both Spring and Upper Prior Lakes. A stakeholder group of local and agency representatives assisted the District in diagnosing the sources of excess nutrients to the lakes, establishing load reduction targets, and identifying Best Management Practices and activities to achieve load reduction and water quality goals. The final TMDL study was written by PLSLWD, MPCA, and Wenck Associates, Inc and approved in 2011. The TMDL Implementation Plan was finalized in 2012.

The TMDL determined that an estimated 83 percent reduction in phosphorus load to Spring Lake would be required to improve the lake to the state water quality standard of 40 µg/L of Total Phosphorus. However, soon after the TMDL was completed, studies indicated that historic evidence shows the water quality of Spring Lake never was as low as 40 µg/L. A site-specific standard was adopted and changed the water quality standard in Spring Lake from 40 to 60 µg/L. The Secchi depth standard remained the same at 1.4 meters, but

the chlorophyll-a standard was changed from 14.2 to 20 µg/L. A significant share of the phosphorus load to Spring Lake is from internal sources such as sediment release, nuisance aquatic vegetation such as curly-leaf pondweed, and a large population of bottom-feeding rough fish that exacerbate sediment release. Implementation activities identified in the TMDL for further consideration include not only reducing phosphorus inputs from the watershed but also managing the aquatic vegetation and fishery and considering some type of internal load management such as an alum treatment.

An alum treatment was approved and administered in three doses. In 2013, the first treatment with half of the total recommended dosage calculated by Barr Engineering. The second dose was set to be administered three years after the first dose or whenever the water quality started to creep above the standard. The second treatment was completed in Spring of 2018 and was one quarter of the total dose. A third treatment, also one quarter of the total dose (or more, if determined necessary), will be administered again when water quality starts to diminish.

The TMDL determined that an estimated 52 percent reduction in phosphorus load to Upper Prior Lake would be required to improve the lake to the state water quality standard of 40 µg/L of Total Phosphorus. The most significant source of excess phosphorus to Upper Prior Lake is the water load received from Spring Lake. Improving the water quality in Spring Lake will reduce the phosphorus load to Upper Prior Lake. Upper Prior Lake also experiences some of the same internal phosphorus load sources as Spring Lake, and the TMDL identifies the same type of implementation activities as those described for Spring Lake.

Fish and Pike Lakes were listed as impaired in 2002. The MPCA has a WRAPS and TMDL study in draft form (as of 2019) and is almost complete. Fish and Pike Lakes are both impaired for nutrients, however, Fish Lake is barely over the state deep-lake water quality phosphorus standard of 40 mg/L (42 mg/L) while Pike Lake is way over the shallow-lake phosphorus standard of 60 mg/L (203 mg/L). These lakes also do not meet the standards for chlorophyll-a or Secchi depth. Once these reports are finalized, the WRAPS implementation plan will be used to inform the approach to address these issues.

5. Groundwater Resources

The groundwater system within the PLSLWD is important to understand as land use decisions and activities have a direct effect on the quality and quantity of this important resource. Unlike the surface-water watershed, the groundwater watershed does not always follow the watershed district boundaries. Therefore, it is important to first understand the regional geology and hydrogeology before focusing on local groundwater resources. Basic information on the groundwater system is summarized in the following sections.

a) Geology and Aquifers

The geologic deposits and formations in the watershed include, from top to bottom (Minnesota Geological Survey, 2006):

- Unconsolidated deposits of mixed gravel, sand, silt, and clay left from glacial activity (glacial drift). The thickness of these deposits varies from greater than 200 feet in the southern and western portion of the watershed to 100-150 feet along the eastern and northern portion of the watershed.
- The uppermost bedrock throughout most of the watershed is the limestone and dolomite of the Prairie du Chien Group. Along the eastern edge of the watershed, the St. Peter Sandstone is the uppermost bedrock.
- A bedrock valley trends northeast under Spring Lake and west of Prior Lake and Lower Prior Lake to the Minnesota River. At one time, the valley exposed the lower bedrock units in the watershed; Jordan Sandstone, St. Lawrence Formation, and the Tunnel City Group. The bedrock valley has since been filled with glacial deposits.

The bedrock units are tilted slightly northeastward towards the Twin Cities Metropolitan Area, as part of the southwestern margin of a shallow structural depression called the Twin Cities basin.

Four principal aquifers underlie the PLSLWD. These aquifers include glacial drift (newest), Prairie du Chien-Jordan, Tunnel City Group, and Mt. Simon (oldest).

b) Groundwater Flow

The general direction of groundwater movement in the PLSLWD is in the northeast direction towards the Minnesota River (Minnesota Geological Survey, 2006, Plate 2 Bedrock Geology).

c) Groundwater Quality and Quantity

Drinking water quality is important to public health. Drinking water can be contaminated by man-made chemicals or by natural sources, like heavy metals in rock and soil. Residents of the PLSLWD get their drinking water from the groundwater system; either from a municipal water supply system or from private wells. While Scott County's assessment of groundwater monitoring data did not identify any major concerns related to groundwater contamination, the report identifies the need to better coordinate the collection and analysis of groundwater data. Scott County began participating in MDA's Township Testing Program in 2018. This program evaluates current nitrate-nitrogen concentrations in private wells, on a township scale. Of the four townships tested (all of which are west of the PLSLWD), 488 wells were tested, and one percent of the wells had nitrate concentrations in exceedance of the health standard (10 µg/L).

There are three Drinking Water Supply Management Areas (DWSMAs) which overlap with the PLSLWD: the Shakopee DWSMA which has low vulnerability, the Prior Lake East DWSMA which has portions of both low and moderate vulnerability and the Savage Central DWSMA which has high vulnerability. The Shakopee DWSMA covers the northwestern corner of the watershed while the Prior Lake East and the Savage Central DWSMA's cover the area east of Lower Prior Lake. The vulnerability of the DWSMA indicates how likely contamination in the area can reach the public water supply intake, so extra precautions are taken within the higher vulnerability areas.

The surface infiltration ratings for the watershed vary from Slow (several months) to Very Fast (hours to weeks) (Minnesota Geological Survey, 2006. Plate 6 – Subsurface Recharge and Surface Infiltration). Ratings are based on the time range required for water at or near the surface to travel vertically downward to an aquifer. The southwestern portion of the watershed can be characterized as having a Moderate infiltration rating (a month) with smaller pockets of Slow (several months) along the southern edge of Spring Lake. The western portion of the watershed can be characterized as having a Fast infiltration rating (weeks to a month) while the eastern portion has areas of Very Fast infiltration ratings (hours to weeks).

The pollution sensitivity of near-surface materials is based on the transmission time of water through 3 feet of soil and 7 feet of surficial geology, to a depth of 10 feet from the land surface (MN DNR, County Geologic Atlas Program, 2016). Portions of the watershed have moderate to high pollution sensitivity. Areas with moderate sensitivity can be found east of the chain-of-lakes, east of Fish Lake and north of Sutton Lake. The very northwestern corner of the watershed has high pollution sensitivity.

Most of the watershed is not considered a groundwater recharge area because thick confining layers of silt and clay overly the aquifers. An exception is found east of Upper Prior Lake where the thickness of the confining layer between the aquifer and the nearest overlying recharge surface is less than 10 feet.

d) Groundwater Dependent Natural Resources

As the Evaluation of Groundwater and Surface-Water Interaction: Guidance for Resource Assessment (June 2010) states, the majority of the surface water features in Scott County are classified as not vulnerable to

pumping. The low vulnerability of these resources is primarily due to thick and extensive sequences of low permeability till, particularly at the surface. However, many of the deeper lakes may be classified as being potentially vulnerable because the low permeability tills at the surface do not extend as deep as the lakes. Surface water features that may be vulnerable to groundwater pumping include Spring Lake, Upper Prior Lake, Lower Prior Lake and Fish Lake. This vulnerability classification is based on the separation between the bottom depth of the surface waterbody and the regional water table elevation. Information regarding surface water features was derived from the MN DNR Public Waters Inventory and the USFWS National Wetlands Inventory.

VII. LOCAL GOVERNMENT UNIT REQUIREMENTS

The WRMP includes a number of strategies and programs that the District may pursue in fulfilling its water resource mission. Many of these will involve local government participation. Virtually all of the programs identified in the Plan, however, do not compel local government involvement. In pursuing a specific activity under the WRMP, the District will in virtually every case seek to develop a partnership with affected local governments, allowing each entity to contribute as befits its interests and objectives that can be cost-effectively pursued.

A. Local Planning

After the PLSLWD WRMP has been approved and adopted, pursuant to M.S. 103B, local units of government having land use planning and regulatory responsibility are required to prepare a Local Water Management Plan or amend an existing Local Plan. Local plan content is driven primarily by M.R. 8410 and must include a capital improvement program and implementation plan to bring the local water management plan into conformance with the District's plan.

1. Local Plan Schedule

An amendment of MN Rules chapter 8410 became effective on July 13, 2015. The rules as revised continue to address local water management in the Twin Cities Metropolitan Area. One of the more significant changes of Chapter 8410 is the manner in which it sets the schedule for cities' and towns' local water management plan updates. Under the amended rule, local water management plans must be revised once every 10 years in alignment with the local comprehensive plan schedule. In addition, per M.S. 103B.235 Subd. 3a, municipalities are required to submit their local water management plan to the Metropolitan Council for review and comment by the council. The council shall have 45 days to review and comment upon the local plan or parts of the plan with respect to consistency with the council's comprehensive development guide for the metropolitan area. The council's 45-day review period shall run concurrently with the 60-day review period by the watershed management organization. And finally, LGUs shall complete necessary regulatory updates within one year of adoption of new Rules and Standards by the District.

2. Local Plan Content

The BWSR has adopted rules (M.R. 8410) regarding Local Plan content. Local Plans need to comply with M.R. 8410 and District requirements. In preparing a Local Plan update, unchanged information from the previous generation Local Plan may be adopted by reference. The District strongly encourages communities to develop the scope of their local plan with assistance of the District. At a minimum, Local Water Management Plans are required to:

1. Describe existing and proposed physical environment and land use.
2. Provide a narrative addressing stormwater infrastructure philosophy and which details who requires, constructs, and pays for it.
3. Define watershed areas and the volumes, rates, and paths of stormwater runoff.
4. Identify areas and elevations of stormwater storage adequate to meet performance standards established in the watershed plan.
5. Identify quality and quantity protection methods which meet standards.
6. Identify regulated areas and potential easements or land acquisition areas.
7. Outline procedure for submitting annual reports to agencies which document the Wetland Conservation Act and monitoring program data consistent with state compatibility guidelines.
8. Set forth an implementation program, including a description of official controls, inspection and program maintenance, and a capital improvement plan.

9. Describe official controls and the responsible unit of government in the following areas: wetlands, erosion control, shoreland, floodplain, grading, and drainage.

In addition, the District requires that the following topics MUST BE included in Local Plan updates:

10. The Local Plan must discuss how the LGU will reduce nutrient loading to Impaired Waters in the District whether or not a TMDL is in preparation or has been approved by the MPCA/EPA, including specific operating programs and capital improvements contemplated during the life of the Plan.
11. The Local Plan must address how the LGU will reduce runoff volume, including specific operating programs and capital improvements contemplated during the life of the Plan.
12. The Local Plan must identify potential capital projects for which District cost-share will be sought, and projects the LGU may petition the District to complete.
13. The Local Plan must recognize and incorporate District wetland priority areas identified via completion of functions and values assessments and the District's planned CWPMP.

3. Watershed District Review

Each local unit of government shall submit a water management plan to the District for review before adoption by its governing body. The District will review and approve or suggest changes to the local water management plan in total or in part. The District shall take no more than 60 days to complete its initial review after written receipt of the plan. If the District fails to complete its review within 60 days (or within the time period identified in any extensions agreed to by the local unit of government), the local water management plan shall be deemed approved and the local unit of government shall carry on all duties as prescribed in its plan. **Table 7** shows the current status of planning activities for the member communities.

Table 7. Status of Local Planning.

City or Township	Local Water Plan Received	Local Water Plan Approved	Equivalency MOA	Shoreland Ordinances	Floodplain Ordinances
Prior Lake	2018	Feb 2019	Expired	Yes	Yes
Savage	2020	Mar 2020	Expired	Yes	Yes
Shakopee	2018	Apr 2020	None	Yes	Yes
Scott County (including Sand Creek and Spring Lake Townships)	2018	Nov 2018	Expired	Yes	Yes

The Board of Managers recognizes the communities in the District range from primarily agricultural townships to developing suburban cities. As such, the level of detail required in local plans will also vary. The Board will consider phased planning efforts for approval provided the District is notified of the phased effort prior to the onset of planning activity. For example, townships anticipating minimal development activity or creation of impervious surfaces within very localized areas can provide sufficient detail to allow for stormwater planning as needed. Having detailed computer modeling performed for areas which are not being developed is of limited benefit to the townships and District.

4. Financial Impact

This updated management plan should pose minimal changes to the financial burden of the member communities as the programs described herein generally follow the implementation activity levels of the past several years. While certain costs are expected to be incurred to be in compliance with local water planning, the District anticipates these to be low to reasonable.

The largest identifiable cost to the municipalities is likely to be the local water planning update mandated by the State of Minnesota and the District. Cost to prepare a suitable local plan will range between $10,000 and $30,000 depending upon the level of activity anticipated by the community. Given the large amount of stormwater planning already conducted by the cities, the actual costs of additional planning to bring the plan into compliance is anticipated to be less than $20,000. The District has taken measures to minimize the cost to communities by conducting District-wide stormwater flood studies and water quality monitoring programs, as well as allowing for phased planning efforts as described earlier. The standards and regulatory program undertaken by the District can be adopted by reference by the communities which wish to further lessen their financial burden. It is estimated that administrative and legal costs of approximately $5,000 will be incurred by the local communities for each ordinance that must be updated. The number of ordinances that need to be updated varies by community.

5. Coordination

A principal problem in organizing and implementing effective plans for watershed management is the multiplicity of governmental agencies which have varying degrees of authority and responsibility with regard to drainage, flood and soil erosion control, water and land pollution, open space preservation and enhancement, land development and land use controls such as zoning and subdivision, and water resources conservation and development.

The problem confronting the District lies in harmonizing the requirements of state law, the administrative regulations of state agencies, the Metropolitan Council's development guidelines, and the planning objectives of individual county and municipal governments as well as the sovereignty of Shakopee Mdewakanton Sioux Community on tribal lands within the PLSLWD.

The District will strive for closer coordination and cooperation with all levels of government in the planning and administration of its policies and regulations. The District must abide by certain requirements and constraints in state law which provide for its establishment and operation. Furthermore, the District Managers must necessarily conform to regional, state, and federal policies and standards. Nevertheless, there is ample room for the District to be imaginative and innovative in the resolution of problems and the realization of opportunities specific to this watershed. For example, the District desires to serve as technical advisors to the municipalities in the preparation of local stormwater management plans and the review process for public and private projects prior to investment of significant public or private funds. To promote a coordinated review process between the District and the municipalities, the District has undertaken several additional inventory programs to provide advance notice to landowners and local/county officials of preservation areas desired by the District.

The District Managers intend to maintain an effective liaison with other governmental units in order to ensure that the watershed's policy, plan, and program are well understood and to propose improvements and other needed changes in associated water resource management programs at state and regional levels. Coordination efforts will be pursued through continued use of public information/education, project reviews, and general regulatory program assistance.

B. Regulatory Controls and Enforcement

The District intends to be active in the regulatory process to ensure that its water resources are managed in accordance with District goals and policies. Consistent with the Minnesota Watershed Act, the District will require permits for all developments and improvements taking place in the watershed. Municipalities have the option of assuming a more active role within the permitting process after adoption of local water management plans approved by the District and implementation of local ordinances consistent with the

approved plan. Additionally, the Shakopee Mdewakanton Sioux Community is exempt from PLSLWD rules on tribal lands.

1. Rules and Standards

The District's permitting program is based upon the District rules and standards, which are included in **Appendix D**. The Board of Managers updated its rules in 1996 with the assistance of member communities. The update included major revisions which reflected the philosophies of the Board of Managers. In addition to removing ambiguous text, the rules clarified regulatory roles of the cities, county, and District. They also addressed water quality issues in redeveloping areas and eliminated regulatory overlap by leaving wetland regulations to local governmental units who implement the Wetland Conservation Act. Another area of overlap was eliminated with the cessation of District permitting for dredging and shoreline improvements. This area is adequately addressed by the MNDNR, and in the case of larger projects, by the U.S. Army Corps of Engineers.

In 2001, the Board of Managers made significant additions to the rules by adopting general standards, a performance standard for infiltration, and buffer strip requirements for wetlands and watercourses. These additions reflected the District's goals of enhancing water quality and volume control within the watershed. The Board worked closely with the cities, county and other interested parties on this revision, which was adopted in February 2001. The rules underwent minor revisions in 2003 and again in 2015.

The rules and standards of the PLSLWD cover the topics of definitions, procedural requirements, general standards, stormwater management, erosion and sediment control, floodplain alteration, wetland alteration, bridge and culvert crossing, drainage alterations, buffer strips, enforcement, variances, appeals, and permitting fees and security. The District will rely on these rules while entertaining regulatory enforcement and variance actions.

The District is near completion of another round of rule revisions which is anticipated to be completed in 2020. Primary revisions contemplated are for linear road project and redevelopment standards, volume control standards, wetland bounce and inundation, and providing greater flexibility in demonstration of compliance with the stormwater rule including ability for stormwater banking/credits, off-site treatment, regional planning, municipal cost cap, and a stormwater impact fund.

2. Equivalency Agreements

If municipalities wish to provide full regulatory control, the District will cede permit authority only following completion of an approved local plan, adoption of the ordinances, and implementation of inspection and administrative procedures necessary to ensure the full regulatory standards of the District are met. Equivalency of local water management plans and official controls will be determined according to the process in MN Statute 103B and the PLSLWD 2020-2030 WRMP, as amended. To make a finding of equivalency, the Board must determine that:

- The local unit of government (LGU) having land use planning and regulatory responsibility has adopted a local water management plan and official controls that follow the policies and achieve the standards and objectives articulated in the PLSLWD 2020-2030 WRMP, as amended, and the District's rules, as amended.
- The LGU has developed and is implementing a program to permit land disturbing activities in accordance with its official controls and to inspect, monitor and enforce compliance with the official controls.
- The LGU has developed and is implementing a program for operating and maintaining the best management practices required by its official controls and procedures, either directly or through developers' or homeowners' agreements.

- The LGU incorporated public involvement and comment in the development of their local water management plan and official controls, including permit notice provisions that are equivalent to the District's requirements.
- The LGU's Local Water Management Plan coordinates with other Comprehensive Land Use Planning and official controls for managing growth within the LGU.

Once the Board of Managers finds that an LGU has adopted a Local Water Management Plan with official controls and procedures equivalent to the District's rules, the Board may, by resolution, cede all or part of the District's permitting authority to the LGU and suspend enforcement of specific District rule(s) within the LGU until such time as the Board may find that the LGU is no longer implementing official controls and procedures equivalent to the District's Rules. The Board resolution for transfer of permitting authority shall be accompanied by a MOA between the District and the LGU that includes the following:

- A description of the specific District rules that are the subject of the equivalency determination and the MOA.
- A list of any modifications to the Local Water Management Plan, official controls or procedures of the LGU that were required by the Board as a condition of the finding of equivalency and a time frame for completing the required modification(s).
- Provisions for notification of the District of permit applications, review and comment by the District, and District appeal of LGU permitting or enforcement decisions.
- Provisions for participation of District staff in any staff-level project review committee regularly convened by the LGU.
- Assurance that the LGU will not issue a variance for an activity that does not comply with the LGU's official controls or procedures that are applicable to the equivalency process until the District has approved the variance and any conditions it contains.
- Provision for District review and approval of LGU-sponsored projects, or county- or state-sponsored projects that are not regulated by the LGU but would be regulated by the District under its rules.
- An auditing procedure whereby the District can verify continued implementation by the LGU of official controls and procedures equivalent to the District's rules.
- General expectations of both the District and the LGU regarding the implementation of permitting, including enforcement of past permits, closeouts of open permits and provisions to dissolve the MOA and return permitting to the District if expectations are not being met and cannot be resolved.

Upon execution of the MOA and a resolution, the District shall no longer implement all or part of its permitting program within the LGU as specified in the MOA and resolution, until such time as the may Board find that the LGU is no longer in compliance with the MOA.

The District will periodically field inspect development projects and conduct annual operational audits of the local governmental unit's procedures and controls to ensure implementation in accordance with the plan. The District will exercise its right under M.S. 103B to resume regulatory authority and administration of programs if noncompliance with the approved water management plan is demonstrated. The current status of equivalency MOA with local municipalities can be seen above in **Table 7**. The District will also assess the adequacy of local governmental unit implementation of non-regulatory actions required by the District in local water plans during these annual operational audits and may consider these findings in consideration of cost-share funding approvals.

VIII. PLAN REVIEW AND AMENDMENT

This WRMP is intended to extend through June of 2030. The PLSLWD Board of Managers may initiate amendments to the plan at any time. Throughout the plan development process, it has been the intent of the Managers to provide a flexible framework for managing the dynamic watershed. As such, the Managers have outlined their vision for stormwater management based on current knowledge of the trends and forces shaping the watershed.

A. Plan Review

The Managers have realized that their vision for the watershed represents a departure from past practices in key areas while reinforcing ongoing programs which are working. Not all elements of this vision have had the opportunity to achieve the level of stakeholder involvement or "buy-in" which would allow the new programs to be immediately implemented. It is the intent of the Board of Managers, as found in their meeting minutes and documented in their goals and policies, to be committed to an ongoing process of public meetings to help revise the vision as necessary and implement the will of the watershed citizenry.

In developing the original M.S. 103B plan for the District, the Board of Managers utilized input from local elected officials, city staffs, and concerned citizens as part of two advisory committees: the Citizens 509 Task Force and Technical Advisory Committee (TAC). The Citizens 509 Task Force was comprised of local elected officials and interested citizens while the TAC included city staff members from each of the affected communities. The final plan was reviewed by the communities, counties, MPCA, Minnesota Department of Health , and the MNDNR prior to receiving the approval of the BWSR.

The process of review for the development and approval of this document is similar to the past plan. As part of the planning process the District utilized their existing Citizen Advisory Committee (CAC) which was made up of District residents and representatives of local organizations (i.e. Spring Lake Association and Prior Lake Association). The District also solicited comments from the Farmer-Led Council. The District also solicited comments and input from the general public via a posting on the District website, a priority areas identification survey administered both online and in person, as well as two news briefs posted in the *Prior Lake American* newspaper. A Technical Advisory Committee (TAC) was also a part of the planning process. TAC members included representatives from LGUs and other government organizations.

Prior to submitting the plan for final approval to BWSR, the District requested comments on a preliminary draft from representatives of local organizations, the District's TAC, LGUs and other government agencies as indicated by Minnesota Statue and as listed by BWSR as part of the Metro Plan Review.

Formal plan reviewers included representatives from the following:

- City of Prior Lake
- City of Savage
- City of Shakopee
- Sand Creek Township
- Spring Lake Township
- Scott County
- Scott County WMO
- Scott SWCD
- Shakopee Mdewakanton Sioux Community
- Lower Minnesota River WD
- MN Board of Water and Soil Resources
- Metropolitan Council
- MN Dept. of Agriculture
- MN Dept. of Health
- MN Dept. of Natural Resources
- MN Dept. of Transportation
- MN Pollution Control Agency

B. Amendment Procedures

This plan, as may be amended, will guide activities through 2026, when it will be superseded by approval and adoption of a subsequent plan pursuant to Minnesota Statutes chapter 103B and associating implementing rules. All amendments to the Plan, except minor amendments, shall adhere to the full plan review and process set forth in M.S. 103B.231, as it now exists or as subsequently amended. The PLSLWD Board of Managers shall adopt the proposed plan amendments upon their approval by BWSR in accordance with M.S. 103B.231, Subdivision 11, as amended. Significant changes to goals, policies, standards, administrative procedures, or capital improvements as described in the Plan will be undertaken in accordance with the process provided in MN Rules 8410.0140.

Unless the entire document is reprinted, all amendments adopted by the Board of Managers must be printed in the form of replacement pages for the Plan, each page of which must include:

1. On draft amendments being considered, show deleted text as ~~stricken~~ and new text underlined.
2. Be renumbered as appropriate.
3. Include the effective date of the amendment.

1. Local Plan Amendments

Local water management plans should be amended in accordance with Minnesota Statutes section 103B.235, subdivision 5, and MN Rules 8410.0160, subpart 4. Amendments will be timely reviewed and, in accordance with applicable requirements of state law, approved on a determination by PLSLWD that the amendment ensures that the local water plan remains consistent with PLSLWD's plan

2. Minor Plan Amendments

The District may make minor amendments to this plan if either minor change is required or if problems arise that are not adequately addressed in the plan. Plan amendments may be proposed by any person to the Board provided they are submitted in writing along with a statement of the need and purpose of the amendment, along with a cost estimate for the amendment. Only the Board may formally initiate the amendment process. The District anticipates that minor amendments will be necessary in order to maintain plan usefulness and accuracy.

A plan amendment will not be required in the following situations, unless expressly stated in Minnesota law or rules:

1. The updated cost of a project is not more than 20 percent greater nor 20 percent less than the cost shown in the capital improvement plan.
2. The Board deletes activities or projects from the strategic implementation plan or capital improvement plan or changes the year of implementation.

Amendments to the approved Implementation Plan may be considered to be minor plan amendments if the following conditions set forth in MN Rules 8410.0140, Subp. 3 are met:

1. The original plan set forth the capital improvements but not to the degree needed to meet the definition of "capital improvement program" as provided in Minnesota Statutes, section 103B.205, subdivision 3; and
2. The affected county or counties have approved the capital improvement in its revised, more detailed form.

The following examples of other minor plan amendments are given in MN Rules 8410.0020, Subp. 10:

> *"...recodification of the plan, revision of a procedure meant to streamline administration of the plan, clarification of the intent of a policy, the inclusion of additional data not requiring*

interpretation, or any other action that will not adversely affect a local unit of government or diminish a water management organization's ability to achieve its plan's goals or implementation program."

In addition, minor plan amendments will be required in the following situations:

1. Adjustments or revisions to the Plan completed as a result of the District's biennial review, except those that fall under the exceptions noted above.
2. The Board elects to fund a project identified as unfunded in Section IV.
3. The Board initiates a capital improvement project listed on the current Implementation Plan using a method of financing other than ad valorem levy, local cost share, grants or bonding.
4. Implementation of a project that is discussed in the plan, but not expressly listed in the strategic implementation plan.
5. Addition of new goals or actions that will require revision of the District's rules or directly affect the programs or budgets of LGUs within the District, if sufficient justification is currently in the Plan.

The amendment procedure for minor plan amendments, as defined in MN Rules 8410.0020, Sub. 10, and 8410.0140, Sub. 3 shall be in accordance with M.R. 8410.0140, Sub. 2 (A, B, and C), as such rules now exist or as subsequently amended, including:

- Submission of the amendment for review to PLSLWD citizen advisors, municipalities, Scott County, Scott County WMO, Scott SWCD, appropriate state review agencies, the Metropolitan Council and BWSR.
- The District must respond in writing to any concerns raised by reviewers.
- The District must hold a public hearing on the proposed amendment.
- Submission of the revised amendment to reviewers.
- Submission of final revised amendment to BWSR for approval.

3. Future Amendments

Several mandatory amendments are anticipated for metropolitan area watersheds in addition to the amendments that will occur as a result of management plan implementation. A brief amendment description is provided below to advise LGUs of these requirements and to stimulate stakeholder dialogue prior to their anticipated inclusion in this or future Plan revisions. This list, shown in **Table 8** is not a comprehensive summary of mandated revisions or amendments that might be contemplated or required.

Table 8. Actions potentially requiring future amendments to this Plan

Approximate Year	Initiating Agency	Description
As necessary	PLSLWD	Revisions to the management plan or capital improvement program.
As necessary	PLSLWD, various agencies, regulatory revisions	Various amendments based, for example, on new legislative requirements or policy initiatives, or technological advances.
As necessary	EPA/MPCA	Changing requirements for NPDES permitting for stormwater discharges may require revisions to this Plan.
As necessary	PLSLWD, EPA/MPCA	Completion and approval of TMDLs and TMDL Implementation Plans may result in the need to amend this Plan.

4. Plan Updates

This plan will guide the District and its activities through June 2030 or until superseded by adoption and approval of a subsequent plan or amended plan. Prior to the plan expiration, the District will begin the process of updating its plan in accordance with all applicable Minnesota laws and rules.