PRIOR LAKE - SPRING LAKE
WATERSHED DISTRICT

WATER RESOURCES MANAGEMENT PLAN

2020 to 2029

October 1, 2019 Draft

Prepared by: EOR
For the Prior Lake-Spring Lake Watershed District

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ACKNOWLEDGEMENTS

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ACRONYMS

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GLOSSARY

Issues – Problems, risks or opportunities for the watershed's priority resources that will be addressed in the Prior Lake – Spring Lake Water Resources Management Plan.

Management Goal –

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EXECUTIVE SUMMARY

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1. INTRODUCTION AND PLAN REQUIREMENTS

1.1. History

50th Anniversary of the PLSLWD in 2020

1.2. Accomplishments

1.3. General Purpose and Requirements of Watershed Districts

1.4. PLSLWD Vision and Mission

1.5. District Boundary (Jurisdictional Area)

1.6. Board of Managers

1.7. Summary of Issues, Goals and Implementation Activities (Strategies)

2. ISSUES IDENTIFICATION & ASSESSMENT

2.1. 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 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 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, Minnesota Board of Water and Soil Resources, Metropolitan Council, Scott County Environmental Services, and the City of Prior Lake. This information was compared to the issue statements contained in the PLSLWD's previous watershed management plan for consistency and discussed with the District'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		√			√	√

2.2. 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 the 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 Water Resources Management Plan. 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 describer below. The table summarizing all of the information collected during this stage of the plan development process can be found in Appendix B.

2.3. Application of Zonation Framework

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 Water Resources Management Plan) they took the opportunity to explore additional resource restoration and protection needs using the Zonation Framework.

The Zonation Framework utilizes 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 Zonation Framework. 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 the PLSLWD (e.g. wells with nitrate concentrations greater than 10 ppm, Scott County and Wetland Management Classifications, PLSLWD). 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 highlighting 10 potential focus areas was generated. This map, along with the top three layers most influential in determining the high Zonation score were reviewed with the Board of Managers, staff, the TAC and the CAC as the issues and focus areas were further vetted by the plan partners.

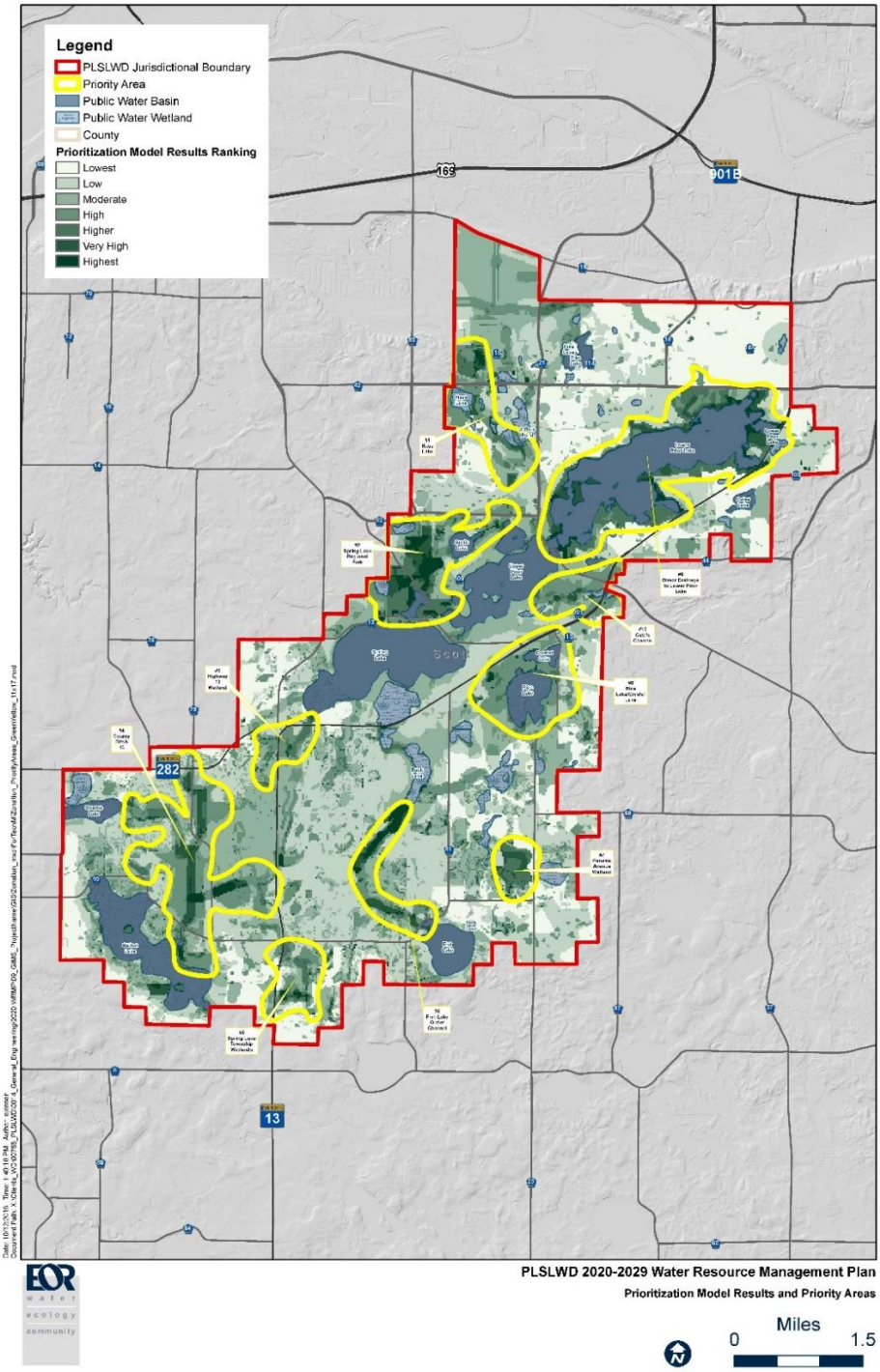

Figure 1. Zonation Framework Priority Areas

The following areas were identified as potential focus areas for the PLSLWD and were discussed in detail by the Board of Managers, staff, the Technical Advisory Committee, the Citizen Advisory Committee and the public.

Table 2. Summary of Focus Areas identified by Zonation Framework

Priority Area	Layers most influential in determining high Zonation score
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*

2.4. 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 C.

2.4.1. 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 activities over the 10-year timeframe of the Plan.

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 are summarized below:

- **Groundwater Management**: The PLSLWD Board of Managers were interested in better understanding the responsibility and authority that watershed districts have in managing groundwater.
- **District Boundary Change**: The PLSLWD Board of Managers were interested in assessing the interest of adjacent WMOs regarding pursuit of a boundary change during the watershed management plan update process: the boundary could either be enlarged to the PLOC drainage area or it could be contracted to the drainage area to the chain-of-lakes.
- **Wetland Management:** The PLSLWD Board of Managers were interested in revisiting the goals of the District's Comprehensive Wetland Plan to whether there would be benefit of adopting this plan as a BWSR-approved Comprehensive Wetland Protection and Management Plan. In addition, the Managers directed staff to initiate discussions with partners to identify strategies to overcome barriers to landowner participation in wetland restoration projects. Specifically, the Board expressed interest in exploring creative ways to address loss of density credit by easement encumbrance.
- **Flood Reduction:** The PLSLWD Board of Managers expressed the need to better understand the upper watershed, where runoff is coming from, and refining the District's approach and strategy for pursing upper watershed storage for stacked benefits – flood reduction and water quality. Given this need, the District accelerated a detailed review of the existing PCSWMM model to identify necessary model refinements.

2.4.2. Technical Advisory Committee

The PLSLWD's Technical Advisory Committee (TAC) included one staff representative from the Board of Water and Soil Resources (BWSR), Minnesota Department of Natural Resources (MNDNR), Minnesota Pollution Control Agency (MPCA), Metropolitan Council, Scott County Watershed Management Organization, Lower Minnesota River Watershed District, Scott County, City of Prior Lake, and Spring Lake Township.

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

2.4.3. Citizen Advisory Committee

The PLSLWD 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 the local citizens. There are currently fourteen citizen representatives on the CAC, all of which participated in the plan development process.

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

2.4.4. Farmer-Led Council

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

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

2.4.5. Stakeholders and the General Public

The 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 plant content. Information collected during the stakeholder and public engagement process is summarized in Appendix B.

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 District's resources was a big concern and priority for residents of the watershed. This need led to a discussion about all of the District's surface water resources (e.g. smaller, disconnected lakes and streams) and how they are being managed now and into the future.

2.5. Previous Plan Implementation

The BWSR conducted a Level II PRAP of the District in 2016 in which the District received 10 commendations, one special commendation and one action item. The following were BWSR's key recommendations:

- Consider setting measurable resource condition targets for District lakes.
- Consider how to engage with all District partners in both communication and collaboration to address District goals.
- Address action items regarding local water management plan updates. This action item was addressed via District approval of all municipal local water management plans.
    - [Insert municipalities and dates of approval]

2.6. Issues Identification Summary

Summarize issues identified by groups identified above and previous plans & LGU plans.

2.7. Priority Concerns

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 the TAC participated in the Zonation 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 of the issues and concerns identified during the plan development process were considered for incorporation in the 2020 Water Resources Management Plan, it was recognized that they could not all be addressed in the next 10 years. The PLSLWD Board of Managers took the following steps in prioritizing what could reasonably be accomplished within the 10-year timeframe of the 2020 Water Resources Management Plan:

- Identified and considered relevant plans and programs recognizing that the PLSLWD needs to coordinate its activities with its member communities, Scott County and surrounding watershed management organizations.
- Reviewed the results of early surveys taken by the Farmer Led Council, the Technical Advisory Committee, the Board of Managers and staff. The Agricultural Issues Survey 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. As Figure 2 demonstrates, the highest priority for participants of the zonation survey was protecting and/or improving water quality of the District's resources.

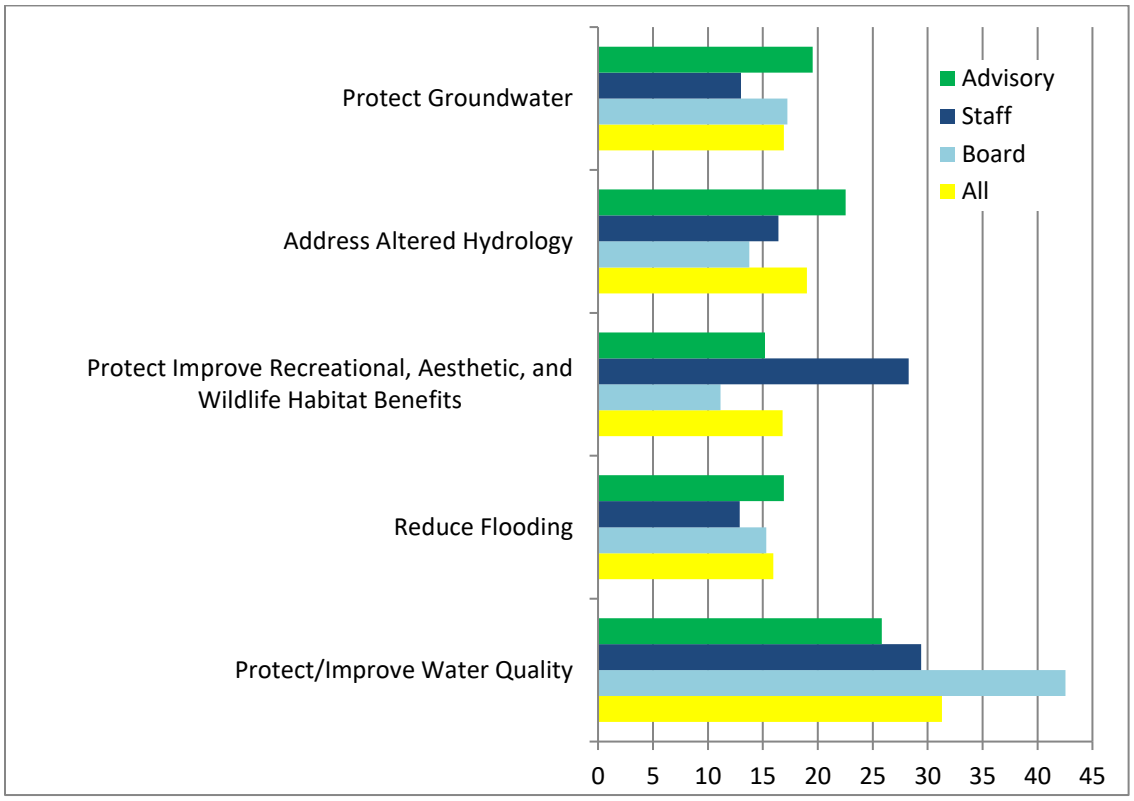

Figure 2. Results of Broad-Scale Zonation Survey

- Reviewed all of the comments collected for the priority areas identified by the Zonation Framework.

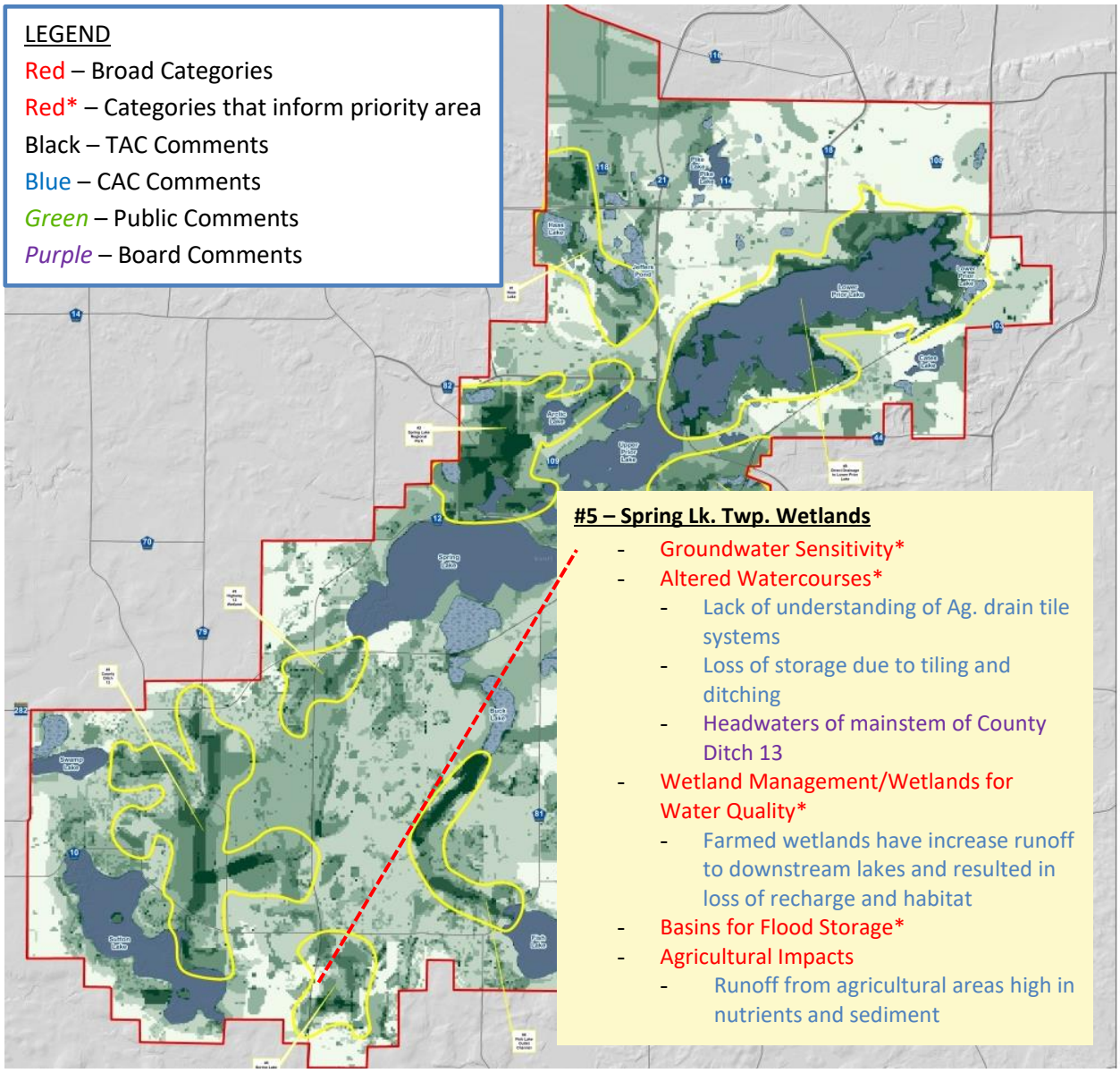

Figure 3. Example summary of comments received on individual priority areas identified using Zonation

- Evaluated whether or not 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 provide a water quality and/or flood reduction benefits to the downstream chain-of-lakes and/or groundwater system.

- Recognize that all of the projects and programs administered by the PLSLWD maintain, if not enhance the recreational, aesthetic, and wildlife habitat benefits associated with surface water and natural spaces in the District. Because the District strives to address these benefits in all of their work, they do not see the need to have an explicit goal related to recreation, aesthetics and wildlife habitat at this point in time.

2.8. 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 Water Resources Management Plan, along with their associated waterbodies. 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. On-going challenges in addressing water quality and flooding issues on these waterbodies continue to remain the focus of the watershed district.

Restoration of other waterbodies (wetlands, streams, ditches, etc.) and other potential projects that contribute to the improvement in water quality of a Tier 1 lakes will be given higher priority during the selection process. By prioritizing the lakes and associated projects in the following manner, the PLSLWD can make accelerated progress toward restoring the quality of these systems and providing the flood protection needed.

- 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/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

2.9. Adaptive Management Strategy

Text here.

3. GUIDING PRINCIPLES, POLICIES & MEASURABLE GOALS

The Prior Lake – Spring Lake Watershed District (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 Activities, which is provided in Section 4 of this Plan. The This format will make the Plan more of a working document, providing clear guidance for PLSLWD decision-making and an understandable description of direction for residents & partners.

FOUR GUIDING PRINCIPLES:

GUIDING PRINCIPLE #1: To maintain or improve surface water quality (WQ) — Maintain or improve water quality on lakes, stream and wetlands to support healthy ecosystems and provide the public with a wide range of water-based benefits.

GUIDING PRINCIPLE #2: To reduce flooding impacts (RF) — Manage and/or reduce the public's risk to life and property from flooding through programs and projects that address altered hydrology and protect public safety and economic well-being.

GUIDING PRINCIPLE #3: To support healthy, sustainable groundwater (GW) — Consider groundwater sustainability management and connections to surface waters in decisions and collaborate with others responsible for groundwater management and protection.

GUIDING PRINCIPLE #4: To inform and engage communities (IE) — Inform, engage and educate individuals, groups, governmental organizations, and companies within the watershed to become partners in improving and protecting the water resources through collaboration, and through their own efforts.

These four goals are further described below, and guiding policies have been developed for each component and subcomponents, as applicable. Objectives (specific, measurable goals) have been identified for each and are assigned an associated number (e.g. WQ12, RF4, GW1, IE3, etc.) in reference to one of the four main management goals above.

3.1. GUIDING PRINCIPLE #1: To Maintain or Improve Surface Water Quality (WQ)

3.1.1. LAKES

The Prior Lake – Spring Lake watershed has 14 lakes, some of which are meeting the state's water quality standards and some of them are not. Many of the District's lakes and waterbodies (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 greatest used water resources of the District, a three-tiered priority lake system will be implemented (see Section ___) 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 and ample amenities & recreational attributes.

3.1.1.1. Tier 1 Lakes

Tier 1 lakes provide important recreational, aesthetic, and ecological benefits to the District. 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) and make swimming undesirable, or produce toxins that are harmful to livestock, pets, and humans. The lakes are impaired because 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.

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 or slightly improve 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).***
- ***GOAL WQ5: Develop and implement an Aquatic Invasive Species (AIS) Plan to help prevent new AIS from entering Tier 1 lakes (lakes with public access).***

3.1.1.2. 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/planned investment into the water resource due to their unique attributes and 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 District.

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

- ***GOAL WQ6: Improve water quality in Arctic Lake by supporting SMSC's improvement efforts.***
- ***GOAL WQ7: Improve Pike Lake by achieving 10% percent improvement in TP concentrations.***
- ***GOAL WQ8: Assess the quality of Sutton Lake and develop a Lake Management Plan.***
- ***GOAL WQ9: Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.***

3.1.1.3. Tier 3 Lakes

There are a number of other lakes for which monitoring data exists but there is insufficient information to assess whether or not the resource meets the state's water quality standard. These lakes include: Crystal, Jeffers Pond, Rice, and Swamp. All but Jeffers Pond are contributing to the chain-of-lakes. None have public access, but they are however valued by the residents who live in close proximity to the resources which provide scenic, flood-reduction, water quality, and aesthetic benefits to the public.

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

- ***GOAL WQ10: Assess the quality of Haas Lake, Cates Lake, Jeffers Pond, Rice Lake, Crystal Lake & Swamp Lake and assign lake management classifications as needed.***

3.1.2. 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 a number of high-quality wetlands that need to be protected from adjacent land use changes. 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 District 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 District as part of its flood reduction strategies (needed to address the flood protection goal), have been limited in number. The District has identified high quality wetlands to protect and degraded wetlands to enhance as part of its Comprehensive Wetland Plan. 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 District itself.

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

- ***GOAL WQ11: Maintain no net loss of wetlands in the District.***
- ***GOAL WQ12: 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. What about the Upper SW Assessment as a reference?***

3.1.3. STREAMS

There are a number of 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.

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 District and its member communities. Issues related to these two systems are addressed under Section 3.2 – Reducing Flooding on Prior Lake.

That said, there are a number of smaller stream systems located in the watershed that residents who attended WRMP public meetings expressed interest in having the District 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 District intends to conduct assessment of these systems and potentially establish management goals for incorporation into a future plan amendment.

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

- ***GOAL WQ13: 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 District goals.***
- ***GOAL WQ14: Improve the stability of the Prior Lake Outlet Channel through annual maintenance and complete the remaining 10,000 linear feet of bank repair work.***

3.2. GUIDING PRINCIPLE #2: 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, specifically 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, to protect public utility infrastructure, to maintain traffic flow through the County Road 21 corridor, and to maintain access to private properties. The Stormwater Management & Flood Mitigation Study also identified a number of upland storage sites (10) to be further investigated for potential flood reduction (and water quality) benefits. The District is pursuing implementation of one of these sites with the construction of a managed outlet at Sutton Lake. The District will pursue additional flood reduction projects upon completion of the Upper Watershed Storage Strategy.

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 strategies 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 District 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 (Objectives WQ11 & WQ12).

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:** Establish through the Upper Watershed Storage Strategy an updated flood reduction goal for the next watershed management plan and identify potential projects to meet those goals.*

3.3. GUIDING PRINCIPLE #3: To Support Sustainable Groundwater Management

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 a number of 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 (Sand Lake Twp., Savage, Shakopee, Spring Lake Twp., Prior Lake).
- Potential for significant decline in aquifer water levels: regional groundwater modeling indicates significant aquifer decline under pumping rates that meet the projected range of 2040 demand (Shakopee, Spring Lake Twp., Prior Lake).
- Potential for impacts of groundwater pumping on surface water features and ecosystems; groundwater-dependent natural resources nearby and surface waters in the area may be directly connected to regional groundwater system (Savage, Shakopee, Spring Lake Twp., 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 all of the communities in the PLSLWD are located in areas vulnerable to groundwater contamination. Although watershed districts are not 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 pumping rates that meet the projected range of 2040 demand.

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

- ***GOAL GW1: Actively participate in groundwater planning efforts.***

3.4. GUIDING PRINCIPLE #4: To Inform and Engage Communities

The Education and Outreach Program is designed to be a resource to the District's citizens, jurisdictions and partners that provides science-based information and support for their efforts towards water resources improvements in the District. Its success hinges upon the District's relationships with its partners and its citizens and its ability to get information to the public about its mission and activities. The MPCA and BSWR both require the District to undertake educational activities in order to maintain its MS4 permit as well as to meet federal and state funding requirements.

Policy: PLSLWD is committed to providing science-based information about water resources to residents, local businesses and partners, and supporting them in actions they take that benefit the water resources of the District.

- ***GOAL IE1: Provide well-researched, current and science-based information and resources that help residents, partners, and businesses make informed decisions regarding actions and practices related to water quality & flooding.***
- ***GOAL IE2: Support external projects that benefit water resources by providing outreach and training opportunities with assistance from Scott SWCD.***
- ***GOAL IE3: Conduct outreach to identify opportunities to work on joint projects, develop regional projects and maintain partnerships with other jurisdictions and interest groups that share in the District's goals.***
- ***GOAL IE4: Engage the public & local partners to better inform District decision-making.***

4. STRATEGIES & IMPLEMENTATION ACTIVITIES

4.1. INTRODUCTION

The District identified 71 strategies (actions needed to achieve goals) to address the issues, goals and objectives above. Many of the strategies included in this iteration of this plan are a continuation of existing District practices to address ongoing District responsibilities (e.g., continued operation of the PLOC). Other strategies are new, reflecting emerging issues and changing priorities within the PLSLWD.

4.2. STRATEGIES

The strategies are organized by the objectives listed in Section 3 above. Note that some strategies address multiple objectives and may be listed more than once. The strategies that repeat are identified by *italicized text.* Each of the strategies later will be organized into District programs, keeping the same numbering system and color scheme as below:

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

- *Italicized text* = Strategy repeated from previous goal. Note that it keeps the same number.
- Strategies are number in order, 1-71, 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	STRATEGIES
External Loading	Stormwater Runoff	1 Review the Lower Prior Lake Diagnostic Study and set new goals as needed.
		2 Implement stormwater retrofits in the 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 2019 LPL 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 that encourages them to make individual choices that benefit water quality and to participate in District 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.

KEY: Capital Projects | Operations & Maintenance | Planning | Monitoring | Regulation | Education & Outreach

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

ISSUE	SOURCE		STRATEGIES
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 that encourages them to make individual choices that benefit water quality and to participate 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 the strategy identified in the Spring Lake West Feasibility Study (to be conducted in 2019).
		9	Implement one or more storage and infiltration projects identified in the Spring & Upper Prior Lake TMDL Implementation Plan.
		10	Update the District's Comprehensive Wetland Plan that identifies strategic wetlands that help towards achieving prioritized and/or multiple goals.
		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 improvement projects within the watershed, including Farmer-Led Council initiatives that reduce nutrient loading to lakes.
		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 Targeted Intensive Street Sweeping, and the Innovative P load reductions program.
		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 regional stormwater management plans with municipalities that includes a stormwater utility credit program for future developments.
		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.
	County Ditch 13 System	18	Operate and maintain the Ferric Chloride Treatment System, completing dredging of the desilt pond as necessary.
		19	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 and water quality in Ditch 13.
Internal Loading	AIS	20	Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.
		21	Annually assess curly-leaf pondweed on Tier 1 Lakes, implementing chemical or physical controls as needed to reduce harmful growth.
	Lake Sediment	22	Complete the third and final dose of aluminum sulfate on Spring Lake.

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

ISSUE	SOURCE	STRATEGIES

External Loading	Stormwater Runoff		*Implement activities that help reduce phosphorus in Spring Lake (see above strategies).*
		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 that encourages them to make individual choices that benefit water quality, including participation in District 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 the Spring & Upper Prior Lake TMDL Implementation Plan.*
		10	*Update the District's Comprehensive Wetland Plan that identifies strategic wetlands that help towards achieving prioritized and/or multiple goals.*
		12	*Continue to provide cost-share opportunities for residential & agricultural water quality improvement projects within the watershed, including Farmer-Led Council initiatives.*
		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 Targeted Intensive Street Sweeping, and the Innovative P load reductions program.*
		16	*Develop regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.*
Internal Loading	AIS	20	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*
		21	*Annually assess curly-leaf pondweed on Tier 1 Lakes, implementing chemical or physical controls as needed to reduce harmful growth.*
	Lake Sediment	23	Complete aluminum sulfate treatments on Upper Prior Lake as needed to achieve water quality standards after common carp have been brought down to non-detrimental management levels.

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	STRATEGIES	
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 that encourages them to make individual choices that benefit water quality, including participation in District 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 improvement projects within the watershed, including Farmer-Led Council initiatives.*
		24	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.
		25	Partner with the new owners of the former Fish Lake Acres Campground to implement wetland restoration and enhancement project.
Internal Loading	AIS	20	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*
		21	*Annually assess curly-leaf pondweed on Tier 1 Lakes, implementing chemical or physical controls as needed to reduce harmful growth.*

GOAL WQ5: Develop and implement an Aquatic Invasive Species (AIS) Plan to help prevent new AIS from entering Tier 1 lakes (lakes with public access).

ISSUE	SOURCE	STRATEGIES	
New AIS can reduce water quality	Infested boats entering lakes	6	*Provide information to residents that encourages them to make individual choices that benefit water quality.*
		26	Create and implement an AIS Rapid Response and Prevention Plan for Tier 1 Lakes in collaboration with local and state partners.
		27	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	28	As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Prior Lake.

GOAL WQ6: Improve water quality in Arctic Lake by supporting SMSC's improvement efforts.

ISSUE	SOURCE	STRATEGIES	
External Loading	Stormwater Runoff	5	*Enforce District Rules through active permit program and assess the need for rule updates on a five-year basis.*
		29	Support the SMSC with implementation of stabilization projects and installation of retrofit water quality BMPs as identified.
Internal Loading	Common Carp	30	Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic Lake and partner with them as part of the IPM Plan for Common Carp.

GOAL WQ7: Improve Pike Lake by achieving 10% percent improvement in TP concentrations.

ISSUE	SOURCE	STRATEGIES	
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 that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		31	Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.
		32	Work with the developers to include enhanced water quality features in projects, providing cost-share as incentives.
Internal Loading	Common Carp	20	*Annually update and implement the Integrated Pest Management (IPM) Plan for Common Carp.*

GOAL WQ8: Assess the quality of Sutton Lake and develop a Lake Management Plan.

ISSUE	SOURCE	STRATEGIES	
Low Diversity	Dominant Plant Species	31	*Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*
		33	Develop a lake management plan for Sutton Lake.

GOAL WQ9: Assign a District water quality standard for Buck Lake and set management goals for the next 10-year plan.

ISSUE	SOURCE	STRATEGIES	
	Internal loading	31	*Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*

KEY: Capital Projects | Operations & Maintenance | Planning | Monitoring | Regulation | Education & Outreach

ISSUE	SOURCE	STRATEGIES
High phosphorus levels		34 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 WQ10: Assess the quality of Tier 3 Lakes and assign lake management classifications.

ISSUE	SOURCE	STRATEGIES
Minimal information available	Limited historical monitoring	31 *Monitor and assess data for the District's waterbodies as prescribed in the District's Long-Term Monitoring Plan.*

GOAL WQ11: Maintain no net loss of wetlands in the District.

ISSUE	SOURCE	STRATEGIES
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 that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		35 Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.
		36 Protect wetlands and wetland buffers under PLSLWD conservation easement or other municipal control through District Rule J enforcement or other mechanism.
		37 Create a District wetland banking program to ensure no wetland loss when the use of wetland credits are necessary for a project within the District.
	Agricultural activities	38 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 to participate in cost-share opportunities.
		39 Identify opportunities to use other programs (e.g. CREP, non-profit organizations, etc.) to temporarily or permanently protect wetlands in the agricultural areas.
		40 Continue to provide cost-share opportunities for wetland restoration projects.

GOAL WQ12: 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	STRATEGIES
Loss of Wetland Quality	Insufficient targeting & outreach	6 *Provide information to residents that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		40 *Continue to provide cost-share opportunities for wetland restoration projects.*
		41 Update the Comprehensive Wetland Plan (CWP) to discretely characterize wetland storage capacity and downstream water quality functions.
		42 Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.
	Development	35 *Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*
		43 Coordinate with LGU partners to improve/protect buffers on public property through habitat improvement, signage, or regular inspections.
		44 Monitor and enforce existing conservation easements that protect wetlands.
	Upstream Waterbodies	45 Assess the storage capacity of the Hwy 13 wetland to maintain pretreatment function for the Ferric Chloride Treatment System and dredge/restore as recommended.
		46 Enhance the habitat and wetland functions of the Frog Farm Wetland.

GOAL WQ13: 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	STRATEGIES
Streambank erosion & slumping	Historical damage to banks	19 *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 and water quality in Ditch 13.*
		47 Develop a Streambank Restoration Program that strategically prioritizes sites for stabilization based on water quality & flooding benefits and implements a minimum of ten projects.
		48 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 that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		49 Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through the Cost Share Program.

KEY: Capital Projects | Operations & Maintenance | Planning | Monitoring | Regulation | Education & Outreach

***GOAL WQ14*: Improve the stability of the Prior Lake Outlet Channel through annual maintenance and 10,000 linear feet of bank repair work.**

ISSUE	SOURCE	STRATEGIES
Erosion along PLOC	Significant rain events & flooding	50 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. 51 Repair an additional 10,200 linear feet of eroded banks at locations identified in the PLOC Master Plan (EOR, 2019). 52 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 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	STRATEGIES
Flooding on Prior Lake	Insufficient upstream storage	*19 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 and water quality in Ditch 13.*
		53 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.
		54 Complete flood reduction projects in order to provide a total of 176 acre-feet of storage in the upper watershed (includes Sutton Lake project).
		55 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 that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		16 Develop regional stormwater management plans with municipalities that includes a stormwater utility credit program for future development areas.
		56 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.
		57 Provide financial incentives to residents and businesses in the District to implement BMPs that reduce flooding to the lakes through the Cost Share Program.
	Loss and degration of wetlands	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 that encourages them to make individual choices that benefit water quality, including participation in District cost-share programs.*
		58 Restore two or more wetlands that help contribute to flood reduction on Prior Lake.

KEY: Capital Projects | Operations & Maintenance | Planning | Monitoring | Regulation | Education & Outreach

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	STRATEGIES	
Historic flooding on Prior Lake	No natural outlet on Prior Lake	59	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	STRATEGIES	
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.*
		35	*Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.*
		60	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	STRATEGIES	
Insufficient information to inform projects	PCSWMM model	61	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 on year 9 and establish an updated flood reduction goal for the next watershed management plan.

ISSUE	SOURCE	STRATEGIES	
Need to update goals	2015 Flood reduction study	62	Complete an assessment of progress towards flood reduction goals on year 9 of the plan, setting new goals for the next 10-year plan.

GOAL GW1: Active participation in groundwater planning efforts

ISSUE	SOURCE	STRATEGIES

Groundwater overuse and/or contamination	Current and future land uses	63	Serve on wellhead protection planning teams to assist public water suppliers with planning and implementation activities to address land use planning concerns.
		64	Develop a plan on how to better incorporate consideration of groundwater protection when reviewing new permits and completing capital projects.
	Improperly sealed wells	65	Continue to provide Cost Share funding for the sealing of decommissioned wells in partnership with the SWCD.
	Overuse of groundwater	66	Develop new incentives for low-impact development practices and BMPs that reduce irrigation and increase infiltration through the Cost Share Program.

GOAL IE1: **Provide well-researched, current and science-based information and resources that help residents, partners, and businesses make informed decisions regarding actions and practices related to water quality & flooding.**

ISSUE	SOURCE		STRATEGIES
Residents need to be informed	Information sources are changing	67	Continue to update the District's website with new information, using innovative ways that better illustrates scientific information.
	Septic Systems	68	Continue to provide water resources information to residents through social media platforms on a regular basis (minimum of once per week).
	Agricultural Runoff	69	Submit a minimum of twelve press releases each year to highlight programs, projects, or public participation events.
		70	Organize public participation/information events (e.g. Clean Water Clean-Up or District Tours) at least four times per year.
Need public support & participation	Requires relationship building	71	Continue to help support, organize and facilitate a Citizens Advisory Committee and its projects.
		72	Continue to help support, organize and facilitate a Farmer-Led Council and its initiatives.

GOAL IE2: Support external projects that benefit water resources by providing outreach and training opportunities with assistance from Scott SWCD.

ISSUE	SOURCE	STRATEGIES	
Residents' lack of expertise	Limited training resources	73	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 (e.g. shoreline restorations).
		74	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 to participate in cost-share opportunities.

GOAL IE3: Identify opportunities to work on joint projects, develop regional projects and maintain partnerships with other jurisdictions & interest groups that share in the District's goals.

ISSUE	SOURCE	STRATEGIES	
Unknown opportunities	Local partners	75	Continue to have District staff &/or Board liaison regularly attend SCALE meetings and other regional group meetings.
		76	Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.
		77	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.

GOAL IE4: Engage the public & local partners to better inform District decision-making.

ISSUE	SOURCE	STRATEGIES	
Lack of community feedback	Public & local partners	78	Provide 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.
		79	Solicit feedback and direction on projects & programs from the District's FLC and CAC.
		80	Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.

4.3. IMPLEMENTATION ACTIVITIES

The last element is implementation. The District has a wide range of programs and services that work together to make progress toward the District's goals and provide value to its communities. These services include:

- **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

This section of the management plan details the specific activities the District expects to undertake to work toward achieving the goals enumerated in Section 3 and implementing the strategies in Section 4.2 above. These activities include capital projects, operating and management programs, planning, and regulatory activities as well as monitoring activities to help measure & monitor water resources & measure success. These activities are discussed below and tabulated in Table 4.1 along with their estimated cost and staff time commitment.

The District'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 District'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 District 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 Plan implementation as needed. The District also has a Citizens Advisory Committee and the Farmer-Led Council that is utilized to obtain comments and advice from community stakeholders for relevant programs and projects. The Board will continue that practice as this Plan 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 previously completed by the District.

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

For purposes of presenting the management strategies and highlighting their effectiveness for particular areas of the watershed, each project has been identified with which waterbody name/type it benefits and the Strategy from Section 4.2 that it implements.

The need for each project and the scope of the project is discussed in the narrative section. The box on the right summarizes the planned expenditures in thousands of dollars, the sources of funding (which may include the District's ad valorem 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, and alternative sources including loans and cost sharing from other sources), and the watersheds affected by the project.

4.3.1. CAPITAL IMPROVEMENT PROGRAM

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 District will seek to implement these projects in partnership with local entities where possible, and seek grant funding, again where possible. The District 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 District.

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 4.3.3.4 – Feasibility Reports). The Board may choose not to fund planned capital expenditures if the outcome of the feasibility report is unfavorable.

4.3.1.1. IN-LAKE ALUM TREATMENTS

10-Year Budget: $3,143,000

WATERBODIES ADDRESSED:

- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

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

STRATEGIES IMPLEMENTED:

22 Complete the third and final dose of aluminum sulfate on Spring Lake.

23 Complete aluminum sulfate treatments on Upper Prior Lake as needed to achieve water quality standards after common carp have been brought down to non-detrimental management levels.

Program 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 load is necessary to improve water quality and clarity in Spring Lake and Upper Prior Lake.

As of 2019, Spring Lake has been dosed with two of three phased aluminum sulfate applications. The District will continue to monitor Spring Lake to determine when to apply the third application.

As of 2019, no aluminum sulfate treatments have occurred on Upper Prior Lake. The Upper Prior Lake Alum Treatment Feasibility Study (2019) prescribes a two-phased treatment approach tentatively scheduled for 2020 and 2022, depending on success of the District's Carp Management Program and grant applications.

Legacy phosphorus loading is also anticipated to be an issue on Fish Lake. This phosphorus will continue to build over time, but release 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.

Action Items

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 District 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 District 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.

4.3.1.2. COUNTY DITCH 13 RESTORATION

10-Year Budget: $255,000

WATERBODIES ADDRESSED:

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

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ14:** *Stabilize ten bank erosion/slumping sites*
- **RF1:** *Achieve first-tier flood reduction goal*

STRATEGIES IMPLEMENTED:

19 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 and water quality in Ditch 13.

38 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 to participate in cost-share opportunities.

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

48 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.

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

Program 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 including flood reduction, water quality improvements, wildlife habitat, stream improvements, and aesthetics.

Action Items

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 Water Resources Management Plan will be revised/updated to include specific undertakings for this project.

1. Gathering Information: Activities completed in other projects such as the H&H update (See Section 4.3.5.9), Comprehensive Wetland Plan update (See Section 4.3.3.2), Upper Watershed Storage Strategy development (See Section 4.3.3.9) 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.
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. Update the Water Resource Management Plan: Update the WRMP to include specific projects for the County Ditch 13 Restoration.
4. Agreements: Work with landowners, farming operators, Scott County, and LGUs to draft and execute agreements for work along County Ditch 13.
5. Implement Projects: Complete implementation projects to restore County Ditch 13.

4.3.1.3. PUBLIC INFRASTRUCTURE PROJECTS

10-Year Budget: $607,400

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

STRATEGIES IMPLEMENTED:

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.
14	Collaborate with the City of Prior Lake to promote efforts for the Targeted Intensive Street Sweeping, and the Innovative P load reductions program.
76	Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.

Program 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 District 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.

Action Items

1. Identify Projects: The District will annually solicit potential projects from partners each spring for consideration in the following year's budget.
2. Annually Select Projects: As opportunities become available, the District 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 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 District has funded?
   d) ADDITIONAL GOALS: To what degree does the project address other goals of the District, 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. Implementation: The District will annually implement projects that were selected. 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.

4.3.1.4. ARCTIC LAKE BMP PROJECTS

10-Year Budget: $32,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Upper Prior* • Tier 2 Lakes: *Arctic*	• **WQ6:** *Improve water quality in Arctic Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake*

STRATEGIES IMPLEMENTED:

29 Support the SMSC with implementation of stabilization projects and installation of retrofit water quality BMPs as identified.

30 Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic Lake (e.g., internal loading) and partner with them as part of the IPM Plan for Common Carp.

76 Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.

Program Purpose

In 2017, the District 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 District 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.

Action Items

1. Identify Projects: The District will meet annually with SMSC and the City of Prior Lake to discuss the status of Arctic Lake and to identify potential projects for consideration in the following year's budget.
2. Carp Management: The District will partner with SMSC as lead on carp management activities for Arctic Lake. This could include such activities as tracking, removals, or education (See Section 4.3.3.2).
3. Project Implementation: The District 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.

4.3.1.5. 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*

STRATEGIES IMPLEMENTED:

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

74 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 to participate in cost-share opportunities.

Program 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 Water Restoration and Protection Strategy (WRAPS) and Total Maximum Daily Load (TMDL) study will be completed by MPCA in 2019/2020.

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, we hope we can reach that goal solely by addressing external sources.

Action Items

1. Targeted Outreach: The District 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.
2. Feasibility Studies: The District will complete a feasibility study for both the north and west tributaries that have been identified as nutrient sources, as well as any potential projects identified in the upcoming TMDL Implementation Plan. The District will work with the landowners to identify their goals and concerns.
3. Update the Water Resource Management Plan: Update the WRMP to include specific projects for the Fish Lake Watershed Project.
4. Implement Projects: Based on Board direction, the District will implement cost-effective projects that improve the water quality of Fish Lake.

4.3.1.6. 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 L.*

STRATEGIES IMPLEMENTED:

4 Implement activity identified in the 2019 LPL Subwatershed Feasibility Study.

Program 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 District 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

feasibility study completed in 2019 identifies potential retrofit water quality BMP(s) in Subwatersheds 6 and 36 which demonstrate high pollutant loads.

Action Items

1. Engineering Design: Working in coordination with landowners and the City of Prior Lake, the District will complete feasibility and design work for the project.
2. Construction: The District will implement the project in the following year and acquire grants for the projects, as applicable and available.

4.3.1.7. SPRING LAKE REGIONAL PARK PROJECT

10-Year Budget: $20,000

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

STRATEGIES IMPLEMENTED:

15 Collaborate with Scott County to incorporate water quality improvement components at Spring Lake Regional Park (Source: Scott County Local Water Resources Plan, Page 3-3).

Program Purpose

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 and entrance road, fishing pier and platform.

Action Items

1. Concept Plan: Coordinate and partner with Scott County on a water quality practice that complements the lakefront area. 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.

4.3.1.8. SPRING LAKE WEST SUBWATERSHED PROJECT

10-Year Budget: $230,000

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

STRATEGIES IMPLEMENTED:

8 Implement the strategy identified in the Spring Lake West Watershed-Based Funding Grant Feasibility Study (to be conducted in 2019).

Program 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 District has monitored. The feasibility study completed in 2019 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.

Action Items

1. Engineering and Construction Plan: Coordinate with landowners and LGUs to complete design plans for the project. Agreements will be acquired as needed.
2. Construction: The District will acquire grants as available and complete construction of the project.

4.3.1.9. STORAGE & INFILTRATION PROJECTS

10-Year Budget: $3,047,200

WATERBODIES ADDRESSED:

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

MANAGEMENT GOALS ADDRESSED:

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

STRATEGIES IMPLEMENTED:

9	Implement one or more storage and infiltration projects identified in the Spring & Upper Prior Lake TMDL Implementation Plan.
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.
54	Complete flood reduction projects in order to provide a total of 176 acre-feet of storage in the upper watershed (includes Sutton Lake project).
74	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 to participate in cost-share opportunities.

Program 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 for the 25-year return period. In addition, in order to meet a second-tier flood level goal, the Study recommended that the District 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.

Action Items

1. Develop Comprehensive Storage Plan: The District will first develop a comprehensive plan to identify all potential storage areas in the District. The plan will target the remaining upland detention sites identified by the Flood Study; wetland restoration areas identified in the Subwatershed Analysis as well as basing in the PLSLWD Comprehensive Wetland Plan that identifies high or top priority sites for restoration and enhancement. In addition, the 2004 Prior Lake-Spring Lake Watershed Storage and Infiltration Study identified sites and should also be incorporated into the Upper Watershed Storage Strategy. Additional opportunities will also be explored during development of this plan. For instance, the District will explore the possibility of a storage project at the intersection of TH13 and County Road 17 in conjunction with MnDOT's construction of an interchange.
2. Prioritize Potential Projects: The District 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.
3. Engineering & Design: The District will complete engineering and design for one or more storage and infiltration projects.
4. Construction: The District will implement one or more storage and infiltration projects.

4.3.1.10. STREAMBANK RESTORATION PROGRAM

10-Year Budget: $221,900

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes • Tier 2 Lakes • Streams	• **WQ1:** Maintain or Improve 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:** Prevent new AIS from entering Tier 1 Lakes • **WQ14:** Stabilize ten bank erosion/slumping sites

STRATEGIES IMPLEMENTED:

45

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.

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

Program 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 District can gain access to with assistance from Scott SWCD, the 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, and its downstream water resources & residents. Based on this inventory, the District will implement, on average, 1 bank restoration project per year over the course of this plan.

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 District 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 District will consider conducting additional assessment through its monitoring program (see Section 4.3.5.3) of these systems and potentially establish management goals for incorporation into a future plan amendment.

Action Items

1. Conduct Field Assessment: The District 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.
2. Strategic Outreach: The District 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 District 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 District has funded?
    c. ADDITIONAL GOALS: To what degree does the project address other goals of the District, 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 District will work with the landowners to complete engineering and design for a minimum of ten streambank restoration projects.
5. Construction: The District 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.

4.3.1.11. SUTTON LAKE OUTLET STRUCTURE

10-Year Budget: $355,100

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Spring, Upper Prior* • Tier 2 Lakes: *Sutton* • Streams: *Ditch 13*	• **WQ8:** *Assess Sutton Lake & develop a Management Plan.* • **WQ3:** *Meet water quality standards on Upper Prior Lake*

STRATEGIES IMPLEMENTED:

33 Develop a lake management plan for Sutton Lake.

Program Purpose

A DNR Public Waters Work Permit was issued on February 8, 2019 for the Sutton Outlet Control Structure based on the 60% Draft Plan Set (see attached Permit 2018-3741). This permit is conditioned on final construction plan set and operating plan approval by the DNR Area Hydrologist and Wildlife Manager prior to construction. In response to these conditions EOR submitted to DNR on April 4, 2019 a draft operating plan for review and comment. On April 18, 2019 the District was informed that the operating plan triggered additional statute and rule requirements that were not considered by the DNR when the permit was issued. The District resubmitted the operating plan with conditioned drawdown and developed final plans for construction.

Action Items

1. Complete Construction: Construction 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 District intends to pursue drawdown below the existing control elevation of Sutton Lake.

4.3.1.12. WETLAND RESTORATION & ENHANCEMENT

10-Year Budget: $507,400

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Wetlands • 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* • **WQ13:** *Restore or enhance 5% of restoration class wetlands*

STRATEGIES IMPLEMENTED:

6 Provide information to residents that encourages them to make individual choices that benefit water quality and to participate in District cost-share programs.

10	Update the District's Comprehensive Wetland Plan that identifies strategic wetlands that help towards achieving prioritized and/or multiple goals.
11	Strategically target and implement a minimum of one wetland restoration in the Spring Lake Watershed identified in Comprehensive Wetland Plan.
25	Partner with the new owners of the former Fish Lake Acres Campground to implement wetland restoration and enhancement project.
39	Identify opportunities to use other programs (e.g. CREP, non-profit organizations, etc.) to temporarily or permanently protect wetlands in the agricultural areas.
40	Continue to provide cost-share opportunities for wetland restoration projects.
42	Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.
46	Enhance the habitat and wetland functions of the Frog Farm Wetland.
58	Restore two or more wetlands that help contribute to flood reduction on Prior Lake.

Program Purpose

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

Action Items

1. Establish Reserve Fund: Similar to in-lake Alum treatment, the District intends to establish a reserve fund for wetland restoration.
2. Identification & Outreach: The District will identify potential sites and conduct strategic outreach to landowners based on the District's updated Comprehensive Wetland Plan (see Section 4.3.3.2). 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 District 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 District has funded?
   d) ADDITIONAL GOALS: To what degree does the project address other goals of the District, such as education or ecosystem restoration?
4. Engineering & Agreements: The District will complete design work for a minimum of two wetland restorations and will establish agreements with landowners.

5. Construction: The District will implement a minimum of three wetland restoration projects (including wetland banking project below).

4.3.1.13. WETLAND BANKING PROGRAM

10-Year Budget: $507,400

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes • Wetlands	• **WQ12:** *Maintain no net loss of wetlands in the District.*

STRATEGIES IMPLEMENTED:

35 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.

Program Purpose

In many instances, the limitations of site conditions for development and road construction projects in the District 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 District. 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 District.

Action Items

1. Initial Program Establishment: The SWCD, Scott WMO and BWSR 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 District will contact the Scott SWCD to discuss potential partnership on another banking project that will provide significant storage in the upper watershed. The District will research and identify other local wetland bank programs in the area and region. The District 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 District intends to establish a reserve fund for wetland restoration.
3. Construction: The District 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.

4.3.2. OPERATION & MAINTENANCE PROGRAM

PLSLWD owns and operates the Highway 13 Wetland Weir, Ferric Chloride Injection System, and downstream Desiltation Pond, all of which need on-going operation and maintenance. In addition, the PLSLWD is an MS4 for the Prior Lake Outlet Channel and operates the Prior Lake Outlet Structure. It should be noted that the PLSLWD holds insurance policies for these structures. Through an MOA with 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, in implementing its cost-share programs, the District 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 District's budgeting process. This is an open process that occurs in August and early September each year, and includes a public hearing required by statute at which all parties can review and address the Board of Managers on the District's proposed program budget.
2) The District 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 District 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 District review and selection of proposals for funding; b) direct District 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 District 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.

4.3.2.1. AIS PREVENTION & MANAGEMENT

10-Year Budget: $860,400

WATERBODIES ADDRESSED:

- Tier 1 Lakes
- Other waterbodies as identified

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve 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:** *Prevent new AIS from entering Tier 1 Lakes*

STRATEGIES IMPLEMENTED:

6 Provide information to residents that encourages them to make individual choices that benefit water quality and to participate in District 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.

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

27 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.

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

Program Purpose

AIS Prevention. AIS can be detrimental to water quality, recreation, fish populations and wildlife habitat. In order to both help prevent the introduction of ***new*** AIS, a robust AIS prevention program.

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

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

- EWM can be detrimental to some lakes, overtaking habitat and outcompeting native plants. Currently, EWM has not posed to nuisance levels and has not been treated, but is being monitored through regular aquatic plant surveys.
- CLP 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 from spreading throughout the lakes, efforts will be taken to reduce its growth in each lake as needed. The District 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 by outcompeting 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 its disruptive feeding habitats. As this AIS is managed comprehensively throughout the watershed, common carp management is contained in a separate section in Operations & Maintenance (See Section 4.3.2.2).

The District may consider AIS management on waterbodies other than Tier 1 Lakes based on Board direction. Specifically, the Buck Lake Assessment (See Section 4.3.5.1) 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 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 Action Items

1. Training and Education: District staff will attend a minimum of one AIS conference, workshop, or training each year to ensure that the District stays abreast of the latest techniques and methods to reduce, control, or eliminate AIS. The District will also educate residents on the spread of AIS through signs, mailings, social media, and local events.
2. Monitor and Assess New AIS: The District will create an AIS monitoring program (See Section 4.3.3.1) 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 District will develop and annually update an AIS Rapid Response Plan (See Section 4.3.3.1), implementing activities as necessary.
4. Boat Inspections: The District will support actions by the MnDNR and Scott County to conduct watercraft inspections both in and out of these three lakes, as well as AIS washing stations, during the months of May-September. The District will augment hours provided by both entities as needed to provide sufficient inspections to protect the lakes.

5. Dock Removal Inspections: The District 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 District will work with the University of Minnesota and/or other organizations to implement one or more projects that will help prevent future AIS establishment.

AIS Management Action Items

1. Annual Curlyleaf Pondweed Assessments: The District will complete aquatic plant surveys each spring on Spring and Prior Lakes, as well as Fish Lake as needed, in order to assess whether or not a CLP treatment is required.
2. Curlyleaf Pondweed Treatments: As funding is available, the District 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.

4.3.2.2. CARP MANAGEMENT PROGRAM

10-Year Budget: $933,727

WATERBODIES ADDRESSED:

- Tier 1 Lakes
- Tier 2 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*
- **WQ6:** *Improve water quality in Arctic Lake*
- **WQ7:** *Improve water quality in Pike Lake*

STRATEGIES IMPLEMENTED:

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

59 Support SMSC's monitoring program by sharing information and resources to better understand nutrient dynamics within Arctic Lake (e.g., internal loading) and partner with them as part of the IPM Plan for Common Carp.

Program 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 District 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.

Action Items

1. Update the Integrated Pest Management Plan for Common Carp (IPM Plan): The District'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 District will implement the components of the IPM Plan to control/reduce the carp population which includes:
    a. Data Collection
    b. Physical Removal
    c. Biological Controls
    d. Carp Barriers
    e. Education

4.3.2.3. COST SHARE PROGRAM

10-Year Budget: $678,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All District Lakes • Wetlands • Streams	• **WQ1:** *Maintain/improve water quality on 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* • **WQ6:** *Improve water quality in Arctic Lake* • **WQ7:** *Improve water quality in Pike Lake* • **WQ12:** *Maintain no net loss of wetlands* • **WQ13:** *Restore or enhance 5% of restoration class wetlands* • **WQ14:** *Stabilize ten bank erosion/slumping sites*

- **RF1:** *Achieve first-tier priority flood reduction goal*
- **GW1:** *Incorporating groundwater considerations into projects and programs*
- **IE1:** *Provide resources for informed decision-making*
- **IE2:** *Provide outreach & training opportunities*

STRATEGIES IMPLEMENTED:

3	Continue to provide assistance to the City for its Targeted Intensive Street Sweeping program.
12	Continue to provide cost-share opportunities for residential & agricultural water quality improvement projects within the watershed, including Farmer-Led Council initiatives that reduce phosphorus.
32	Work with the developers to include enhanced water quality features in projects, providing cost-share as incentives.
38	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 to participate in cost-share opportunities.
40	Continue to provide cost-share opportunities for wetland restoration projects.
49	Provide increased incentives for establishment of buffers and filter strips along private ditches and streams through Cost Share Program.
56	Provide incentives through the Cost Share Program to member communities and the development community to promote the use of green infrastructure.
57	Provide financial incentives to residents and businesses in the District to implement BMPs that reduce flooding to the lakes through the Cost Share Program.
65	Continue to provide Cost Share funding for the sealing of decommissioned wells in partnership with the SWCD.
66	Develop new incentives for low-impact development practices and BMPs that reduce irrigation and increase infiltration through the Cost Share Program.
73	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 (e.g. shoreline restorations).
74	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 to participate in cost-share opportunities.

Program Purpose

The District 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 District will initiate projects with partners and recipients. Where possible, the District 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."

Action Items

1. Annually Update Cost Share Docket: The District will annually update its partnership agreement with Scott SWCD to implement the Cost Share Program.

2. Prioritized Project Selection: The District will meet with Scott SWCD twice per calendar year to assess potential projects and prioritize project selection based on project funding, feasibility, and cost-benefit. The District 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 District 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. Implement Projects: Scott SWCD will implement projects based on the above selection process.

4.3.2.4. FARMER-LED COUNCIL INITIATIVES

10-Year Budget: $721,800

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*
- **WQ7:** *Improve water quality in Pike Lake*
- **IE1:** *Provide resources for informed decision-making*

STRATEGIES IMPLEMENTED:

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.

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.

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

79 Solicit feedback and direction on projects & programs from the District's FLC and CAC.

Program Purpose

To help the District reach its nutrient reduction goals for its water resources, the 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 are needed to overcome them

The FLC has focused its efforts on win-win programming for the PLSLWD and farmers. This includes soil health initiatives such as cover crops, nutrient management, 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.

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 Prior Lake Spring Lake Watershed District. 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 our water resources.

Action Items

1. Conduct Regular Meetings: The District 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.
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 our 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.

4.3.2.5. FERRIC CHLORIDE TREATMENT SYSTEM

10-Year Budget: $1,289,500

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*

STRATEGIES IMPLEMENTED:

18 Operate and maintain the Ferric Chloride Treatment System, completing scheduled dredging of the desilt pond as necessary.

Program Purpose

The ferric chloride system installed on the County Ditch 13 channel immediately south of Highway 13 was constructed in 1998. The structure and ferric chloride feed system will 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 per week per the MPCA permit. 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 District projects and was designed to decrease sedimentation occurring in the western end of Spring Lake. The basin has been maintained on several occasions over the years and enhanced to serve a flocculation basin for the Ferric Chloride Chemical 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.

Action Items

1. Desiltation Pond Survey: Survey basin storage capacity every 3 years to establish typical maintenance frequency and schedule next maintenance excavation project. [$2,500]
2. 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. [$45,000 in 2022; $200,000 in 2023]
3. 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. [$100,000 in 2023]
4. Assess FeCl3 Dosing Curve: Consider flow and season conditioned dosing curve refinements to enhance performance. [$25,000 in 2024]
5. 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 tank itself is about $12,000, but the shed was not designed with replacement in mind. The shed will need to be rebuilt or modified in order to replace the tank. That may cost up to $100,000 21. [$100,000 in 2021]
6. 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, which will reduce the number of visits at the treatment site from 3x/week to 1x/week. [$10,000 in 2022]

4.3.2.6. HIGHWAY 13 WETLAND RESTORATION

10-Year Budget: $240,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes: *Spring* • Wetlands	**WQ13:** *Restore/enhance 5% of restoration class wetlands.* **WQ2:** *Meet water quality standards on Spring Lake*

STRATEGIES IMPLEMENTED:

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

Program 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.

Action Items

1. Survey Wetland: Survey basin storage capacity every 5 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.

10-Year Budget: $245,807

4.3.2.7. PLOC BANK RESTORATION

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 2 Lakes: *Pike* • Streams: *PLOC*	• **WQ15:** *Improve stability of the PLOC*

STRATEGIES IMPLEMENTED:

50 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.

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

Program Purpose

The outlet channel is an artificial and potentially unstable conveyance. The District is the entity principally charged with monitoring the channel, and all partners share the costs of resolving issues per the terms of the JPA/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 JPA/MOA partners, including the District, have committed to maintaining the channel in a functional state. This program will deal with repairs to the channel as needed.

Action Items

1. Annual Repair Plan and Construction RFP: Annual inspection of channel conditions to prepare construction RFP for non-FEMA bank repairs identified by the PLOC Master Plan.
2. Bank Repairs: Conduct three bank repair project by 2023 to stabilize 10,000 linear feet of PLOC banks identified by the PLOC Master Plan. Cost are prorated per the approved PLOC MOA cost-share formula.

4.3.2.8. PLOC MANAGEMENT

10-Year Budget: $667,100

WATERBODIES ADDRESSED:

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

MANAGEMENT GOALS ADDRESSED:

- **WQ15:** *Improve stability of the PLOC*
- **RF2:** *Continue to operate the PLOC*

STRATEGIES IMPLEMENTED:

52 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.

59 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).

Program Purpose

The Prior Lake Outlet Channel (PLOC) is funded by a Memorandum of Agreement between the "Cooperators:" the District, the Shakopee Mdewakanton Sioux Community and the cities of Shakopee and Prior Lake. In 2019, the Cooperators revised a Memorandum of Agreement (MOA) and developed on 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.

District activities for PLOC include administration and Cooperator meeting coordination, invasive plant management, culvert inspections, channel repair, XPSWMM model maintenance, water quantity monitoring, and outlet structure and pipe maintenance.

4.3.2.9. PROJECT MAINTENANCE

10-Year Budget: $79,600

WATERBODIES ADDRESSED:

- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

- **WQ2:** *Maintain/improve water quality on Lower Prior Lake*
- **WQ2:** *Meet water quality standards on Spring Lake*
- **WQ3:** *Meet water quality standards on Upper Prior Lake*

STRATEGIES IMPLEMENTED:

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.

76 Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.

Program Purpose

After the construction of Public Infrastructure Partnership Projects is completed, there is typically a vegetation maintenance period before the District officially hands the project over to the respective LGU partner. As of 2019, there are the following projects that require maintenance until accepted by the 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 District has acquired fee title or easement to lands that it has restored and/or maintains the vegetation on. As of 2019, the District has the following maintenance lands:

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

Action Items

1. Annually develop maintenance plans for the following year for incorporation into the budget each August.
2. Complete necessary maintenance work through staff or consultants.
3. Acquire project acceptance letters from respective LGU partner as vegetation maintenance obligations are met.

4.3.3. PLANNING PROGRAM

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

4.3.3.1. AIS RAPID RESPONSE & PREVENTION PLAN

10-Year Budget: $61,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ5:** *Develop & implement an AIS Plan*

STRATEGIES IMPLEMENTED:

26	Create and implement an AIS Rapid Response and Prevention Plan for Tier 1 Lakes in collaboration with local and state partners.
27	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.
28	As new research allows, implement strategies to better manage the spread and population of zebra mussels in and out of Prior Lake.
78	Provide 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.
80	Engage local government partners, elected & appointed officials, state agencies, non-profits, and experts in planning efforts for District projects & programs, as appropriate.

Program 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 District 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.

Action Items

1. Gather Information: Research other AIS prevention plans across Minnesota and consult with MPCA, MnDNR, and the 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 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.

4.3.3.2. COMPREHENSIVE WETLAND PLAN UPDATE

10-Year Budget: $32,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All District Lakes • Wetlands	• **WQ11:** *Maintain no net loss of wetlands in the District* • **WQ12:** *Restore/enhance 5% of restoration wetlands*

STRATEGIES IMPLEMENTED:

10 Update the District's Comprehensive Wetland Plan that identifies strategic wetlands that help towards achieving prioritized and/or multiple goals.

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

Program Purpose

The District'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 Water Resources Management Plan and was modeled after the Comprehensive Wetland Protection and Management Plan (CWPMP) process developed under 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 Watershed District.

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 District have the best information available for its outreach efforts to potential partners and landowners for wetland restorations and upper watershed storage sites.

Action Items

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 of based on preliminary estimate of probable cost to restore wetlands versus the flood storage and water quality benefit they could provide.
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 District with the goals of the WCA to achieve a no-net loss of wetland and associated ecological function.

4.3.3.3. DISTRICT PLAN UPDATES

10-Year Budget: $272,600

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

Program Purpose

This plan will guide the District and its activities through 2029 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.

Action Items

1. 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.
2. 5th Generation Plan: The District's 5th Generation Plan development process will begin in 2028 with completion in 2029.

4.3.3.4. FEASIBILITY REPORTS

10-Year Budget: $198,000

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

Program Purpose

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. The Board may choose not to fund planned capital expenditures if the outcome of the feasibility report is unfavorable.

Action Items

1. Feasibility Studies: Complete feasibility studies, options analysis and/or concept plans to maximize cost-benefit for potential capital improvement projects.

4.3.3.5. GROUNDWATER PROTECTION PLAN

10-Year Budget: $15,700

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Groundwater	• **GW1:** *Active participation in groundwater planning efforts*

STRATEGIES IMPLEMENTED:

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

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

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

Program Purpose

At the request of the District's local partners, work with the Scott SWCD to provide funding for residential well-decommissioning (unused well sealing) 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.

Action Items

1. Fund Cost Share Program: (see Section 4.3.2.3)
2. Wellhead Protection Planning: Assist public water suppliers with planning and implementation activities to address land use planning concerns.

4.3.3.6. 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 Lower Prior Lake*

STRATEGIES IMPLEMENTED:

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

Program Purpose

The 2013 Lower Prior Lake Diagnostic Study identified numerous BMP retrofit opportunities within direct discharge subwatersheds to Lower Prior Lake. The District 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.

Action Items

1. Progress-to-Goals Assessment: Review monitoring data, direct-watershed loading assumptions and implemented BMP performance.
2. Consider Modification of Load Reduction Goal: In light of Action Item #1, determine if the stated load reduction goal should be revised.
3. BMP Identification. Reevaluate BMP retrofit opportunities including previously identified locations in light of advances in water resource science and treatment methods.
4. Update Plan: Revise Diagnostic Study per Action Items #1-3.

4.3.3.7. PLANNING AND PROGRAMMING

10-Year Budget: $387,900

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

Program Purpose

Providing training and education opportunities for staff and managers is essential to ensure that the District is current 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 District's administrative operations.

District 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.

Action Items

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 District'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. Equipment & IT Needs: Staff will identify equipment and software needs and establish an equipment budget.
7. Memberships and Subscriptions: Staff will identify organizations and subscriptions the District should sign-up for and identify a budget for those fees annually.
8. 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.

10-Year Budget: $52,200

4.3.3.8. REGIONAL STORMWATER PLANNING

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **WQ1:** *Maintain or Improve Lower Prior Lake* • **WQ2:** *Meet water quality standards on Spring Lake* • **WQ3:** *Meet water quality standards on Upper Prior Lake* • **IE1:** *Provide resources for informed decision-making*

STRATEGIES IMPLEMENTED:

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

76 Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.

Program Purpose

A 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 District is in a position to facilitate advancement of regional stormwater management planning and seeks to develop concept plans in advance of development, whether it be expansion within orderly annexation areas or within in-fill areas in incorporated areas.

Action Items

1. Identify Likely Expansion Area: Coordinate with the municipalities and Scott County to identify areas most likely to develop on an annual basis.
2. Regional Concept Plan Development: Utilize existing databases, models and plans such the District's wetland inventory, PCSWMM model and Upper Watershed Storage Strategy, develop concept plans for areas to be developed and engage the development community in advance of preliminary plat/PUD submittal.

4.3.3.9. UPPER WATERSHED STORAGE STRATEGY

10-Year Budget: $85,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes	• **RF1:** *Achieve first-tier priority flood reduction goal*

STRATEGIES IMPLEMENTED:

53 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.

55 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.

Program Purpose

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

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, pollutant loading estimates alone become decreasingly useful. While it is relatively straightforward to estimate pollutant loading using lookup tables and well-established empirical formulae, there are complex phenomena that factor into whether or not pollutants contained in runoff actually reach a given downstream resource. Proximity is one part of that equation, but such characteristics 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?

The upper watershed storage strategy will use a combination of several GIS techniques in 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.

Action Items

1. Develop RUSLE model: Describe action item.
2. Develop P-Load model: Describe action item.
3. Develop Delivery Ratios: Describe action item.
4. Determine Pollutant Delivery Hotspots: Describe action item.
5. Desktop Analysis to ID BMPs: Describe action item.
6. Subwatershed Reconnaissance: Describe action item.
7. BMP Cost-Benefit Analysis and Ranking: Describe action item.
8. Concept Design for Priority Sites: Describe action item.

9. Reporting: Describe action item.

4.3.4. EDUCATION & 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.

4.3.4.1. CITIZENS ADVISORY COMMITTEE

10-Year Budget: $44,500

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **IE1:** *Inform residents, partners, businesses*
- **IE2:** *Support external projects w/ outreach support & training*
- **IE3:** *Identify partnership opportunities*
- **IE4:** *Solicit feedback from the community*
- **Note:** *Almost all District projects & programs are supported by the E&O Program components.*

STRATEGIES IMPLEMENTED:

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

79 Solicit feedback and direction on projects & programs from the District's FLC and CAC.

Program 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 monthly meetings and follows adopted bylaws. The CAC continues to provide a valuable role, informing the District of water resource concerns around the District and providing feedback on proposed District projects. The CAC is also encouraged to lead their own projects and initiatives and develop annual goals and project plans. District staff will continue to support the CAC, ensuring that monthly meetings continue and providing opportunities for CAC members to become more involved in District activities.

Action Items

1. Monthly CAC meetings: The CAC will meet monthly to develop and implement research and educational projects which reflects the Board of Managers' goals of Water Quality; Storage and Infiltration 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 District'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' goals of Water Quality; Storage and Infiltration and Aquatic Invasive Species (AIS).

4.3.4.2. COMMUNICATIONS & PUBLIC RELATIONS

10-Year Budget: $59,000

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **IE1:** *Inform residents, partners, businesses*
- **IE2:** *Support external projects w/ outreach support & training*
- **IE3:** *Identify partnership opportunities*
- ***Note:*** *Almost all District projects & programs are supported by the E&O Program components.*

STRATEGIES IMPLEMENTED:

67 Continue to update the District's website with new information, using innovative ways that better illustrates scientific information.

68 Continue to provide water resources information to residents through social media platforms on a regular basis (minimum of once per week).

69 Submit a minimum of twelve press releases each year to highlight programs, projects, or public participation events.

Program Purpose

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

The District 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 could be used to communicate information with the public including the District website; social media; newspapers, including the Prior Lake American and Scott County SCENE; and other publications, such as the Wavelength in the City of Prior Lake's utility bills, etc. In addition to writing articles, the District will publish an annual report of District activities, factsheets, brochures, videos and other materials. The District will also reach out to other local non-profit partners and local schools to identify other partnership opportunities.

Action Items

1. Annually Update & Implement District Education & Outreach Plan: Update the District'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 District 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 twelve articles per year covering District projects, events, programs, District news, success stories, tips for best management practices and other nature interest stories each year. Articles can be published on District website, social media platforms, shared by partners and submitted for publication in local newspapers including the Prior Lake American and the Scott County SCENE.
4. Social Media: Use relevant social media platforms to provide District 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, etc.

4.3.4.3. PUBLIC ENGAGEMENT EVENTS

10-Year Budget: $108,850

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **IE1:** *Inform residents, partners, businesses*
- **IE2:** *Support external projects w/ outreach support & training*
- **IE3:** *Identify partnership opportunities*
- **Note:** *Almost all District projects & programs are supported by the E&O Program components.*

STRATEGIES IMPLEMENTED:

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

73 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 (e.g. shoreline restorations).

Program Purpose

The District will host events each year to engage and involve the public. Examples of events include District tours of projects or resources in the District, clean-up events, etc. The District 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 District's 50th Anniversary is in 2020 and special activities will be planned to engage the public and celebrate the District's anniversary.

Action Items

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 District's 50th Anniversary in 2020. Events could include bike rides or

hikes around the District to highlight District 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 District and its lakes.

3. Attend 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.

4.3.4.4. STRATEGIC OUTREACH PROGRAM

10-Year Budget: $34,500

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **IE1:** *Inform residents, partners, businesses*
- **IE2:** *Support external projects w/ outreach support and training opportunities*
- **IE3:** *Identify partnership opportunities*
- **RF3:** *Eliminate/reduce impact of development on flooding*
- **WQ11:** *Maintain no net loss of wetlands in the District*
- **WQ12:** *Restore/enhance 5% of restoration wetlands*

STRATEGIES IMPLEMENTED:

35	Conduct outreach to new developments early in the planning process to identify areas of opportunity for water quality improvements.
38	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 to participate in cost-share opportunities.
42	Use CWP information to strategically target wetland restorations through outreach & implementation of a wetland acquisition program.
73	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 (e.g. shoreline restorations).
77	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.

Program Purpose

The Education Program underpins all of the District'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 and 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 District 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 District 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.

Action Items

1. Coordinate with LGU Partners: Meet annually with LGU partners to identify potential partnership opportunities and to coordinate on targeted outreach to landowners.
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 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.

4.3.5. 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 District with the information needed to demonstrate performance towards meeting the goals and objectives of the Water Resources Management Plan as well as the various TMDL Implementation Plans. The Prior Lake-Spring Lake Watershed District should also make sure that data collected, and the assessments performed, are made available to the public in an easy-to-understand format.

To ensure that the District monitors water quality on a time and cost basis, a long-term monitoring plan (See Appendix ___) has been created. The long-term monitoring plan covers lakes, streams, Best Management Practices (BMPs), precipitation, wetlands, and groundwater.

4.3.5.1. BUCK LAKE DIAGNOSTIC STUDY

10-Year Budget: $45,000

WATERBODIES ADDRESSED:

- Tier 2 Lakes: *Buck*

MANAGEMENT GOALS ADDRESSED:

- **WQ11:** *Assign water quality standard & goals for Buck Lake*

STRATEGIES IMPLEMENTED:

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

34 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.

Program Purpose

The Buck Lake drainage area was previously assessed primarily to estimate the cost-benefit of constructing another chemical treatment ($FeCl_3$) system to manage stormwater runoff before discharge to Spring Lake. This project was shelved as it was deemed cost-prohibitive. Public comment received during development of this plan suggested the District 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 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 District goals for the resource (and for downstream water quality benefit).

Action Items

1. Prepare Diagnostic Study: Assess historic and current water quality trends, identify pollutant sources and loads (including sediment collection and aquatic plant surveys), develop watershed and in-lake loading models, conduct public meetings, identify load

reduction strategies and practices, assign District goals, prioritize implementation activities, and prepare report.

2. Reclassify the Waterbody: The District may also pursue designation of Buck Lake as a Public Wetland versus Public Water to avoid potential listing of the waterbody as impaired.

4.3.5.2. LAKE MONITORING

10-Year Budget: $671,200

WATERBODIES ADDRESSED:

- All Lakes

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve 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:** *Prevent new AIS from entering Tier 1 Lakes*
- **WQ6:** *Improve water quality in Arctic Lake*
- **WQ7:** *Improve Pike Lake by 10% reduction in TP*
- **WQ8:** *Assess Sutton Lake & develop a management plan*
- **WQ9:** *Assign water quality standard & goals for Buck Lake*
- **WQ10:** *Assess the quality of Tier 3 Lakes & assign lake management classifications*

STRATEGIES IMPLEMENTED:

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

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

31 Monitor and assess District lakes as prescribed in the District's Long-Term Monitoring Plan.

Program Purpose

The District 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, the PLSLWD 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 at the PLSLWD when applicable.

Action Items

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. ($20k/yr)
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. ($5k/yr)
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. ($3k/yr)
4. Aquatic Plant Surveys: Plant surveys will assess the distribution, type, and growth density of all plants. Lakes with potential nuisance Curlyleaf 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. ($20k/yr)
5. Vegetation Density Mapping: Annually map lakes on a rotating basis for lake plant biomass densities, bathymetry, and bottom hardness using sonar to capture a long-term trends on lake plant density and growth on the District's lakes. ($2k/yr)
6. Lake Ice Monitoring: Volunteer ice observers will inform the District when the lake is at least 90% on or off each year for District records for all lakes. ($0/yr)
7. Zooplankton & Phytoplankton: Monitoring zooplankton & phytoplankton every 3, 5, or 10 years based on lake tier. ($6k/yr)
8. Citizen AIS Monitoring: Organize and implement a citizen AIS monitoring program that would include such activities as zebra mussel plates and dock reporting, boat launch inspections, etc.

Additional detail about the above Action Items can be found in the District's Long-Term Monitoring Plan in Appendix ____.

4.3.5.3. STREAM & DITCH MONITORING

10-Year Budget: $368,720

WATERBODIES ADDRESSED:

- All District Lakes
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ13:** *Stabilize ten bank erosion/slumping sites*
- **WQ14:** *Improve stability of the Prior Lake Outlet Channel*

STRATEGIES IMPLEMENTED:

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

48 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.

Program Purpose

Stream monitoring is prioritized by the amount of impact a stream may have on our 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.

Action Items

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: The 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 by the NPDES permit for the Ferric Chloride Treatment System. On occasion, special studies will arise and will be added to the matrix (i.e., tile monitoring).
3. Flow Measurements: The District conducts a stream water quality monitoring program to monitor the chemistry of its streams, along with flow and level monitoring which are important in determining pollutant loads.

4.3.5.4. EFFECTIVENESS/BMP MONITORING

10-Year Budget: $79,300

WATERBODIES ADDRESSED:

- Tier 1 Lakes

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain or Improve 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*

STRATEGIES IMPLEMENTED:

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

Program 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 include: Fish Point Park, Sand Point Park, CR 12-17 Wetland, Fairlawn Shores, and Indian Ridge.

Action Items

1. Annually discuss projects that may be done in the future to start getting "before" data
2. Annually review projects to be completed and determine monitoring protocol
3. Monitor project effectiveness
4. Assess project effectiveness
5. Report project effectiveness

4.3.5.5. WETLAND MONITORING

10-Year Budget: $34,500

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Wetlands	• **WQ11:** *Maintain no net loss of wetlands in the District* • **WQ12:** *Restore/enhance 5% of restoration wetlands*

STRATEGIES IMPLEMENTED:

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

Program 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), Sutton Lake, and CR 12/17. Wetlands that have been restored in the past may be good candidates as well, such as 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.

Action Items

1. Determine priority wetlands (especially ones that impact lakes or are high integrity)
2. Find volunteers
3. Sample wetlands, utilizing trained volunteers as available
4. Report findings

4.3.5.6. PRECIPITATION AND WEATHER

10-Year Budget: $11,200

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• Tier 1 Lakes	• **RF1:** *Achieve first-tier flood reduction goal on Prior Lake* • **RF2:** *Continue to operate the PLOC*

STRATEGIES IMPLEMENTED:

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

Program Purpose

Volunteers, staff, and weather stations will be used to collect precipitation. 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.

Action Items

1. Analyze need for more precipitation data
2. Find volunteers, if needed
3. Maintain weather station at Spring Lake Townhall
4. Record precipitation in database

4.3.5.7. GROUNDWATER

10-Year Budget: $27,000

WATERBODIES ADDRESSED:

- Groundwater

MANAGEMENT GOALS ADDRESSED:

- **GW1:** *Active participation in groundwater planning efforts*

STRATEGIES IMPLEMENTED:

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

Program Purpose

Additional flow and level data to better characterize groundwater recharge/discharge per PCSWMM model recommendation. Install level loggers in areas in need of more data.

Action Items

1. Determine need for groundwater monitoring
2. Purchase necessary equipment for monitoring
3. Record data and share with partners

4.3.5.8. REPORTING AND RECORDING

10-Year Budget: $213,000

WATERBODIES ADDRESSED:

- All Lakes
- Streams

MANAGEMENT GOALS ADDRESSED:

- **IE1:** *Inform residents, partners, businesses*
- **IE1:** *Engage the public & partners in decision-making*

STRATEGIES IMPLEMENTED:

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

Program 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) http://waterdata.capitolregionwd.org/applications/login.html?publicuser=Guest#waterdata/stationoverview

Complete lake monitoring report cards for all lakes (approximately three lakes per year until all have template). Update them all annually. Biennial Monitoring Report including FLUX model updates. Keep website up to date.

Action Items

1. Acquire and implement WISKI database software
2. Enter all historic data into database
3. Maintain database annually
4. Create visually appealing ways of displaying data (monitoring report cards, etc.)

4.3.5.9. PCSWMM MODEL UPDATE & MAINTENANCE

10-Year Budget: $107,300

WATERBODIES ADDRESSED:

- All Lakes
- Streams
- Wetlands

MANAGEMENT GOALS ADDRESSED:

- **List GOALS**

STRATEGIES IMPLEMENTED:

31 List STRATEGIES

Program Purpose

The District'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 (i.e. how well does the model appear to represent watershed conditions?)
2. Model resolution (i.e. is the precision and scale of the model elements appropriate?)
3. Model calibration (i.e. how well does the final set of model parameters reflect reality?)

4. Model usability (i.e. 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.

Action Items

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 validation the model for two independent period of time that represent less atypical conditions to the 2014 wet period to which it is currently calibrated.
2. Maintain Model: Model maintenance includes updates per development and changes to key hydraulic structures.

4.3.6. REGULATORY PROGRAM

The District has established rules and standards for land disturbing activities. District Rules were last revised and adopted on October 13, 2015. These Rules address water quality, rate control, and volume control requirements for new and redevelopment, and are implemented through a permitting program.

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

- **MOAs:** Memorandums of Agreement 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 District's partners.
- **Proactive Approach with Developers:** Establishment and/or refinement of coordination procedures with District partners is needed to engage the development community early in the planning process to better integrate effective stormwater management in the plan development process.
- **Regional Stormwater Planning:** There is also the need for the District to synchronize District 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.
- **Community Engagement:** Better engagement with the development community early on in planning will allow the District 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.

4.3.6.1. PERMIT PROGRAM

10-Year Budget: $166,100

WATERBODIES ADDRESSED:

- All Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain water quality in Lower Prior*
- **WQ2:** *Meet water quality standards for Spring*
- **WQ3:** *Meet water quality standards for Upper Prior*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ6:** *Improve water quality in Arctic Lake*
- **WQ7:** *Improve Pike Lake total phosphorus levels*
- **WQ12:** *Maintain no net loss of wetlands*
- **RF3:** *Eliminate/reduce impact of development on flooding*

STRATEGIES IMPLEMENTED:

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

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

36 Protect wetlands and wetland buffers under PLSLWD conservation easement or other municipal control through District Rule J enforcement or other mechanism.

56 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.

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

76 Meet a minimum of biennially with each LGU partner in the District to discuss upcoming projects and to coordinate work on areas of opportunity.

Program Purpose

The District will enforce District Rules through an active permit program and will continue to issue permits for other government entities, including municipal, county and state projects. The District 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 District easements, specifically easements on the Prior Lake Outlet channel.

District 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 District 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 District will continue to monitor construction sites for erosion and sediment control practices and coordinate reporting of those inspections with local entities.

The District will continue to allow local units of government to decide whether they would prefer to serve as the LGU under the Wetland Conservation Act; the District will serve as the LGU 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.

Action Items

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. District 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 &/or approval. Review development projects that are permitted by MOA authorities and provide comments.
3. Issue, Inspect, and Enforce Permits: As permits are issued, District 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 District will update MOAs with LGU partners and work with the City of Shakopee on a new MOA at their request.

5. Wetland Delineation Review: As available, the District will participate in wetland delineation reviews to ensure correct determinations of boundaries.

4.3.6.2. CONSERVATION EASEMENT PROGRAM

10-Year Budget: $112,100

WATERBODIES ADDRESSED:

- All Lakes
- Wetlands
- Streams

MANAGEMENT GOALS ADDRESSED:

- **WQ1:** *Maintain water quality in Lower Prior*
- **WQ2:** *Meet water quality standards for Spring*
- **WQ3:** *Meet water quality standards for Upper Prior*
- **WQ4:** *Improve water quality in Fish Lake*
- **WQ6:** *Improve water quality in Arctic Lake*
- **WQ7:** *Improve Pike Lake total phosphorus levels*
- **WQ12:** *Maintain no net loss of wetlands*
- **RF3:** *Eliminate/reduce impact of development on flooding*

STRATEGIES IMPLEMENTED:

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

36 Protect wetlands and wetland buffers under PLSLWD conservation easement or other municipal control through District Rule J enforcement or other mechanism.

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

44 Monitor and enforce existing conservation easements that protect wetlands.

Program Purpose

District 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 District'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.

Additionally, the District will complete an inventory of BMPs for which the District 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 District will work with 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 our 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 and the District have discussed having District assisting with the monitoring of City conservation easements in the PLSLWD. In 2020 the District will work with the City to assess needs. Then, in 2021 the District will partner with the City to help monitor the city easements.

Action Items

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. Enforcement: The District will take Board-directed action steps when an easement remains out of compliance for more than two years, per the District's Easement Enforcement Policy.
3. Easement Amendments: The District will process requests to change the easement per the District's Easement Amendment Policy as they are received.
4. BMP Inventory & Monitoring: The District will inventory historical BMPs that have existing, recorded agreements, and develop & implement a monitoring plan.
5. Assistance Inspections: The District will work with the City of Prior to assess their needs for assisting with easement and/or BMP inspections in 2020. The District and the City then would potentially implement a partnership plan approved by the Board to move forward with inspecting those areas as soon as 2021.

4.3.6.3. DISTRICT RULES UPDATES

10-Year Budget: $58,750

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Wetlands • Streams	• **WQ1:** *Maintain water quality in Lower Prior* • **WQ2:** *Meet water quality standards for Spring* • **WQ3:** *Meet water quality standards for Upper Prior* • **WQ4:** *Improve water quality in Fish Lake* • **WQ6:** *Improve water quality in Arctic Lake* • **WQ7:** *Improve Pike Lake total phosphorus levels* • **WQ12:** *Maintain no net loss of wetlands* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake* • **RF3:** *Eliminate/reduce impact of development on flooding*

STRATEGIES IMPLEMENTED:

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

Program Purpose

The District's Rules were last substantively revised in 2019. It is anticipate that one or two substantive rule revisions will occur during the lifetime of this plan in order to:

- Maintain current with state guidance and advances in stormwater management science.

- Improve water quality while providing flexibility to developers to incorporate new techniques and technologies.

Action Items

1. Adopt Revised Rules: 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.

4.3.6.4. DISTRICT BOUNDARY REVISION

10-Year Budget: $17,000

WATERBODIES ADDRESSED:	MANAGEMENT GOALS ADDRESSED:
• All Lakes • Wetlands • Streams	• **WQ1:** *Maintain water quality in Lower Prior* • **WQ2:** *Meet water quality standards for Spring* • **WQ3:** *Meet water quality standards for Upper Prior* • **WQ4:** *Improve water quality in Fish Lake* • **WQ6:** *Improve water quality in Arctic Lake* • **WQ7:** *Improve Pike Lake total phosphorus levels* • **WQ12:** *Maintain no net loss of wetlands* • **RF1:** *Achieve first-tier flood reduction goal on Prior Lake* • **RF3:** *Eliminate/reduce impact of development on flooding*

STRATEGIES IMPLEMENTED:

Program Purpose

The District will work together with local governments, Scott County, and the Board of Water and Soil Resources to review for potential modification the District jurisdictional boundary. If all parties are willing and the legal foundation for boundary change is met, the District will consider modifying the jurisdictional border to more closely match the hydrologic border, possibly including the Cates Lake and Prior Lake Outlet Channel areas.

Action Items

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

4.3.7. ADMINISTRATION & OPERATIONS

Incorporate and update Section 5 of District 3rd Generation Plan

4.3.7.1. Decision-making and Staffing

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

4.3.7.2. Advisory Committees

The District has three ongoing advisory committees: The Citizens Advisory Committee (CAC), Technical Advisory Committee (TAC) and Farmer-Led Council (FLC).

- **Citizens Advisory Committee:** A CAC is required in Minnesota Statutes section 103D.331 and it is tasked with "assisting the managers on all matters affecting the interests of the watershed district and make recommendations to the managers on all contemplated projects and improvements in the watershed district." The District's CAC has 10 active members and meets monthly. They develop an annual work plan and implement projects, with the assistance of District staff. There are two projects they annually assist with: Clean Water Clean-Up (spring and fall leaf raking and buckthorn removal) and the District's Lakefront Days booth. The CAC is invited to attend Districts tours that District projects. The CAC participated in this update of the Plan. Interested parties may visit the District website to find information on the current CAC and how to become a member of the CAC: information is available on the "Get Involved" tab on the home page.
- **Technical Advisory Committee**: A TAC is required in Minnesota Statutes section 103D.337. The District's TAC consists of representatives of cities within the District, Scott County, state and federal agencies, the Shakopee Mdewakanton Sioux Community and the Scott County Soil and Water Conservation District. The entire TAC met to discuss the District's rule update from 2017-2019 and to review the 2020 Water Resources Management Plan drafts. The District works with individual members of the TAC regarding permitting, project coordination, monitoring and funding and maintenance of joint projects.
- **Farmer Led Council:** The FLC was created by the District in 2013 with a goal to help develop and guide the implementation strategies the District will use to reduce nutrient loading to its lakes from agricultural sources in the watershed. The FLC: informs decision-makers and the general public about practical issues and opportunities related to soil and water conservation on agricultural lands; identifies base-level and site-tailored practices that are available and needed; defines the approach for engaging with and assisting farmers to implement practices; establishes a schedule with reasonable milestones and timelines for progress and identifies potential barriers to implementation, along with tools and resources to overcome them. The benefits to the farmers are: changing public perception of farmers' contribution to nutrient loading in lakes; proactively addressing nutrient loading concerns (preventing regulation); local networking and educational opportunities and potential financial benefits from win-win programming. The benefits to the District are: reduced nutrient loading to Spring Lake; positive

relationship with the farming community and the ability to seek guidance from farmers on agricultural programming and policies. The FLC developed five-year goals which will be updated annually.

4.3.7.3. Work Planning

The PLSLWD sets an annual budget and reviews the prior year's performance against the budget and adjusts the priorities in accordance with the Water Resources Management Plan. District staff follow a Master Calendar which identifies key deadlines for reports and ongoing projects and activities.

4.3.7.4. Assessment and Evaluation

- Annual Reporting: The District 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.
- Biennial Evaluation: Rule 8410.0150 Subp.3. E. requires an evaluation of progress on goals and implementation actions, 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.

4.4. Impacts on Local Government

This Plan includes strategies and programs that require local government involvement, such as: review of local land use ordinances for water resource impacts; education and outreach programs; monitoring and data acquisition programs and inventory of local stormwater control standards. The District will seek to develop partnerships with the affected local governments on projects, staffing and using consultants so that its efforts can be as effective and efficient as possible. The Board of Managers assigns each manager as a liaison to local governments and that manager attends meetings and has a significant role to play in these coordination efforts. Rule 8410.0110 requires the Plan to assess the financial and administrative impacts of the Plan on local units of government. Under Rule 8410, municipalities are required to receive approval of their local water plans by the District and to update these plans when the District amends its Plan.

4.5. Plan Revision and Amendment

This Plan, as may be amended, will guide PLSLWD activities through 2029, when it will be superseded by approval and adoption of a subsequent plan according to Minnesota Statutes Chapter 103B and associated implementing rules. Any significant changes to goals, policies, standards, administrative procedures or capital improvements as described in the Plan will comply with the process indicated in Rule 8410.0140.

APPENDIX A. LAND AND WATER RESOURCE INVENTORY

Appendix A.1. Appendix Heading 2

Appendix A.1.1. Appendix Heading 3

APPENDIX B. IDENTIFICATION OF POTENTIAL WATERSHED CONCERNS

Appendix B.2. Appendix Heading 2

Appendix B.2.2. Appendix Heading 3

APPENDIX C. CIVIC ENGAGEMENT MEETINGS

Meeting Date	Plan Partners	Meeting Objective
4/10/18	Board Workshop	Introduction to plan update and new 8410 requirements. Reviewed existing plan goals, 60-day Notification comments. Discussed proposed process and public engagement plan.
5/14/18	BWSR	Review plan goals and requirements
8/1/18	Board Workshop	Discussed groundwater management authority and potential PLSLWD boundary change. Discussed how the Zonation Framework would be used for issue identification and prioritization and conducted survey with Managers.
8/16/18	TAC	Zonation survey
9/27/18	CAC	Introduction to plan development process and identification of issues and concerns (i.e. review zonation map).
10/4/18	Public Kick-Off Meeting	Introduction to plan development process and identification of issues and concerns (i.e. review zonation map).
10/18/18	TAC	Feedback on priority areas identified on the zonation map as well as the five broad-scale category maps (Protect or Improve Water Quality, Reduce Flooding, Protect or Improve Recreation, Aesthetic and Wildlife Benefits, Focus BMPs in Land uses of Concern, and Protect Groundwater).
10/30/18	Board Workshop	Discussed rule revisions. Reviewed zonation results and feedback received from the Public, CAC and TAC.
12/6/2018	FLC	
12/13/2018	CAC	Review Draft Issues and Goals
12/14/18	TAC	Review Draft Issues and Goals
12/19/18	Board Workshop	
	City of Shakopee	
1/10/2019	City of Prior Lake	

Meeting Date	Plan Partners	Meeting Objective
1/18/2019	City of Prior lake	
2/27/2019	Board Workshop	
3/27/2019	Board Workshop	