

MEMORANDUM

Comfort Lake-Forest Lake Watershed District

To: Board of Managers

Date: May 4, 2017

From: Emily Heinz

Subject: Watershed Management Plan Amendment Draft

Background/Discussion

The purpose of this agenda item is to discuss the first draft of the 2017 Watershed Management Plan (WMP or Plan) amendment, with the overarching aim of reaching a consensus on both formatting and content for all items presented. Managers are encouraged to bring their copies of the WMP to the meeting. Additional hard copies of the plan will be available at the office as needed.

Revisions and additions to the Plan are prioritized into two tiers. Tier 1 takes the highest priority and includes major upcoming capital improvement projects within the 5000 series. The Board of Water and Soil Resources (BWSR) requires that such projects be included in the Plan in order for the District to spend funds on them. The items within Tier 1 are the impetus of the amendment.

Revisions within the 3000 series, waterbody goals, and sections 8 and 9 comprise the second priority tier. Through the annual budgeting process, the District has created new programs and reformatted existing activities into the Programs category. Additionally, through the progress evaluation process, the District has identified areas for improvement in the Progress Evaluation Metrics sections of several programs. Water quality goals for some waterbodies have also been revisited after receiving input from interest groups. Information gathered through the progress evaluation process will inform the incorporation of these changes. Legal counsel has recommended that the District take this opportunity to revise parts of Section 8 – Intergovernmental Coordination and Impact and Section 9 – Amendments to this Plan.

The following outline is recommended for guiding discussion. Staff recommends that the amendment discussion follow the priority tiers, with Tier 1 being discussed first. As such, this outline will not follow the numerical order of how the Plan is formatted, but by order of priority as items relate to the amendment. The outline below contains each activity that is either being revised or added as part of the amendment. A brief explanation for the addition/revision, discussion points, and other pertinent information is provided under each item. Actual proposed language is provided in the attached document. Activity identifier codes will follow the proposed amendment. For example, several activities are proposed to be deleted from the 5221 Moody Lake project category. Proposed lettering takes these deletions into account.

Tier 1 – 5000 Projects

5200 Lakes

- 5221 Moody Lake
 - B. (CIP) Moody Lake Diagnostic Study Implementation
 - This item includes activities outside of the Moody wetlands, such as the Lofton pond alum treatment

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- C. Alum Treatment
 - Minor addition regarding Diagnostic Study Implementation
- 5222 Bone Lake
 - F. (CIP) Bone Lake Diagnostic Study Implementation
 - Allows for implementation of activities identified through Diagnostic Study
- 5225 Little Comfort Lake
 - D. (CIP) Little Comfort Lake Phosphorus Source Assessment Implementation
 - Allows for implementation of activities identified through Phosphorus source Assessment
- 5226 Shields Lake
 - C. Shields Lake Diagnostic Study and Implementation Plan
 - Retroactively incorporate completed Diagnostic Study
 - D. (CIP) Shields Lake Diagnostic Study Implementation
 - Allows for implementation of activities identified through the Shields Diagnostic Study, such as the Stormwater Harvest and Irrigation Reuse System and Alum Treatment Project. The CWF grant for this project was applied for under WMP item 5228B Forest Lake Diagnostic Study Implementation.
- 5228 Forest Lake
 - B. (CIP) Forest Lake Diagnostic Study Implementation
 - More detail added per EOR input from experience with ongoing study.
 - K. Washington Judicial Ditch 6 Assessment and Implementation Plan
 - Added to incorporate upcoming acquisition of ditch authority
 - L. (CIP) Washington Judicial Ditch 6 Improvements Implementation
 - Allows for implementation of activities identified through WDJ 6 Assessment and Implementation Plan

5400 Wetlands

- 5422 Bone Lake
 - G. Wetland Restoration Feasibility & Design (all SBL subwatersheds)
 - More accurately represents necessary feasibility and design components of upcoming Bone Lake Partially Drained Wetland Restorations project
 - H. (CIP) Wetland Restoration Implementation (all SBL subwatersheds)
 - Implementation portion of Bone Lake Partially Drained Wetland Restorations project. Language also allows for implementation of other potential projects down the line.

CIP Implementation Schedule and Cost Table

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A draft implementation schedule and cost table showing proposed formatting is attached. Specific timeframes and costs will be brought to the next board workshop.

Tier 2 – 3000 Programs, Water Resource Goals, and Plan Amendment Section

Progress Evaluation Metrics (Only proposed revised metrics are listed here. Some metrics are proposed to remain as is. New metrics for new programs may be discussed under each specific program, following discussion of the revised metrics.)

- 3002 Permitting
 - Incorporate feedback from progress evaluation/progress report drafting process
- 3004 Non-Point Source Pollution Abatement Program
 - Recommend moving away from the mentality of measuring progress based on how much money is spent. Spending money doesn't necessarily mean that goals are being reached. Other metrics for evaluating program effectiveness are proposed.
- 3005 Education and Outreach
 - Recommend adding more specific guidelines for measuring progress in the program. Initial metric is open to interpretation, which can be a good thing, but doesn't provide much structure for evaluation. Suggested metric aims to provide more structure, but still leave room for other ideas.

3009 Grant Research and Preparation

- New program added through iterative annual budget process.

3010 Operations and Maintenance

- New program added through iterative annual budget process.

3011 Aquatic Invasive Species Prevention and Management

- Semi-new program added through combination of modifying existing activities included in 5000 series and iterative annual budget process.
- 20A. (District-Wide) Comprehensive Plan and Policy Development
 - Over the past three years the AIS Prevention and Management Program has grown exponentially, and has largely taken shape through the adaptive management feedback loop. The development of a comprehensive plan and policy will allow this program to take a more formal shape, while still allowing room for adaptive changes over time. This activity would develop a clear policy, targeted goals, and specific procedures for implementing this complex and multi-faceted program.
- 20B. (District-Wide) Watercraft Inspections

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- This activity would replace the existing “Summer Boat Launch Monitoring.” Proposed language is based on three main sources: other organizations’ AIS plans (e.g. DNR’s State Management Plan for Invasive Species), the District’s experiences with the program since its conception, and public input received in late 2016/early 2017.
- 20C. (District-Wide) AIS Prevention at Boat Launch Sites
 - Modified from recent budget line item, Boat Launch Site Upgrades. This will be an ongoing activity for the District to keep track of. There is always room for improvement on educational signage and resources at public boat launches, especially considering the ever-changing climate of AIS in Minnesota.
- 20D. (District-Wide) AIS Early Detection and Rapid Response
 - This activity would incorporate two recent budget line items: Rapid Response Fund and Zebra Mussel Monitoring. By combining these two closely-related line items into a single activity, the District can address them in a comprehensive way while leaving room for additional related activities such as the drafting of early detection rapid response planning documents.
- 20E. (District-Wide) Invasive Species Pilot Control Projects
 - This is an existing activity in the Plan. One minor revision is proposed with regard to Forest Lake and zebra mussels/starry stonewort.
- 20F. (District-Wide) Point-Intercept Macrophyte Survey
 - Modified version of the existing “Macrophyte and Invasives Survey” with specific mention of invasive species taken out. The thought here is to move the “invasives survey” piece into the next line item, “Aquatic Invasive Species Management”. The purpose of this activity will be to focus on performing periodic point-intercept surveys on lakes that include all macrophytes. Invasives won’t be the focus of these surveys, but they would still be part of them.
- 20G. (District-Wide) Aquatic Invasive Species Management
 - Language for this activity comes from multiple sources including the current Plan, Minnehaha Creek Watershed District’s long-term AIS plan, and the District’s experience with AIS management activities over the past few years. This section is kept relatively broad, with the plan of establishing more detailed specifics under activity 3011-20A Comprehensive Plan and Policy Development.
- 20H. (District-Wide) Rough Fish Management
 - This activity includes all of the same language that currently exists within the plan, plus some additional details on fish surveys that seem particularly relevant to this activity.

Section 8 – Intergovernmental Coordination and Impact

Section 9 – Amendments to this Plan

Legal counsel has provided some proposed text for replacing parts of this section. The first two paragraphs of this section would remain the same, while the remainder would be replaced with the red underlined text provided in the attachment.

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Water Resource Goals

Lake Water Quality Goals Table

This table has been modified from the existing table in several ways:

- Reformatted to more clearly show which values are being shown
- Removed TP loads, per EOR recommendation. We're ultimately tracking by in-lake TP concentration – and the loads may be refined by future modeling/monitoring efforts.
- Using five-year average concentrations instead of average over entire monitoring history. Five-year averages compare directly to how goals are defined.
- Recommend removing Heims Lake from this table, as it is not monitored on a regular basis and it does not have a lake summary page in Volume II.

Bone Lake

- The Bone Lake Association has requested the following changes to Bone Lake's 2020 water quality goals
 - Maintain a water quality rating of B instead of C
 - Achieve a five-year mean summer phosphorus concentration at or below 30 µg/L instead of 40 µg/L.
 - Maintain a mean summer Secchi depth no less than 7 feet instead of 4 feet.
- In response to this, EOR recommends that reducing the 2020 goal to 30 µg/L is too short of a timeframe. There needs to be time for projects to be implemented in the watershed, and then additional lag time for the lake to respond. However, a goal of 30 µg/L by 2030 is reasonable given the level of implementation currently going on in the watershed, the planned improvements to upstream Moody Lake, and the fact that the current 5-year average is at 40 µg/L. Proposed revisions to the 2030 goals are provided in the attached document.

Forest Lake

- Manager Schmaltz, along with other members of the Forest Lake Lake Association, have requested that the water quality goals for Forest Lake be reconsidered and made more aggressive. EOR recommends that the 2030 goals can be made more aggressive while remaining achievable. Modeling suggests that implementation of the Shields Lake Stormwater Harvest project, 3rd Lake Pond project, and enhanced street sweeping is predicted to achieve an in-lake phosphorus concentration of 32.6 µg/L. Additional implementation of projects in WJD6, Hayward and Castlewood East is predicted to achieve 30.1 µg/L. Additionally, the residence time for the whole lake is just over 2 years. Therefore, phosphorus reductions to the lake will take at least 2 years before we see a response in in-lake TP concentration. Proposed revisions to the 2030 goals are provided in the attached document.

Next Steps

Staff recommends that the Board discuss potential dates for a follow-up workshop to discuss any additional revisions resulting from the May 11th meeting, as well as the final CIP implementation schedule and cost table. Late May or early June is recommended. Staff hopes to reach a final consensus on the amendment at this next workshop, then begin the process of BWSR and other agency review. After the agency review period, a public hearing will need to be held to allow for public comment on the final amendment.

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Attached: CLFLWD Watershed Management Plan 2017 Amendment – Draft Language, Draft CIP Implementation Schedule and Cost Table

CLFLWD Watershed Management Plan 2017 Amendment – Draft Language

Text shown in red and underlined is proposed new language for plan. Text in black exists in current plan. May be moved/reformatted from existing plan, but remains the same otherwise. ~~Text in black and strikethrough is proposed deletion from existing plan.~~

Note that Progress Evaluation Metrics for all existing and proposed programs are included for review purposes. May not recommend changing current metrics for all programs.

Volume I

Section 4 – IMPLEMENTATION

Projects (5000 Series)

Some existing unchanged activities are included below to provide reference for proposed formatting/numbering.

4.6.2 Lakes (5200 Series)

District-Wide (5220)

- A. Volume Control Facility Planning & Design: The District has identified the management of runoff volume as a key method to move toward pre-development hydrology and reduce phosphorus loads and flooding concerns. The District Rules allow the use of banked volume credits in cases where volume control has been maximized on site. Implementing a successful volume control banking facility requires an understanding of the watershed in terms of the nutrient reduction needs, flooding issues caused by excessive runoff volume and the physical constraints of the system. The volume control facility siting and feasibility evaluation process will include a needs-based assessment of subwatersheds throughout the District. Once priority watersheds are selected, site evaluations will be required to determine suitability for regional stormwater volume banking projects. Ultimately, a feasible volume control facility location will be identified. Identified facilities may be used as volume control banks or to provide needed volume control and water quality benefits for the District.
- B. (CIP) Volume Control Facility Implementation: The District Rules allow the use of banked volume credits in cases where volume control has been maximized on site, however no bank sites have been constructed at this time. The District will construct a volume control facility to be used as a volume bank for properties that cannot provide volume control under District Rules due to unfavorable site conditions. Construction will be based on findings of the volume control feasibility study (5220A).
- ~~C. Invasive Species Control Pilot Projects: Lead or partner on pilot projects and studies needed to control and minimize the entry of invasive species into District lakes. The District will lead or actively partner to implement pilot projects and~~

~~studies to test innovative methods to limit and control the entry and spread of invasive species in the District's lakes. An example of an invasive species control and risk management study that may be pursued is the evaluation of the susceptibility of Forest Lake to zebra mussels or the addition of iron to the lake bed to manage curly leaf pondweed. Methods found to be effective will be implemented as appropriate throughout the District.~~

- D. **C.** Chemical Treatment of Inflows: A method to be considered through adaptive management after completion of planned projects for each lake is the chemical treatment of inflows. If, through adaptive management evaluation, it is identified that lake water quality is not trending toward improvement and no additional “on the ground” water quality practices, including innovative practices, are found to be effective in the lake’s watershed, then chemical treatment of inflows is an option that should be considered. This method treats lake inflow with chemicals that bind to phosphorus, causing it to settle out and be collected.

Moody Lake (5221)

- A. (CIP) Moody Lake Inlet Fish Barrier: Rough fish disturb the bottom sediments of lakes and can cause increases in the internal load of phosphorus in the lake when the fish are overly abundant. Moody Lake was identified as a lake with overabundant rough fish. To address the movement of rough fish into Moody Lake the District will install a fish barrier at the inlet to Moody Lake. The barrier at the lake inlet will limit the movement of rough fish into habitat areas in the wetland north of Moody Lake. The fish barrier is planned to use an innovative design that prevents fish passage upstream and downstream. The method is appropriate for low-gradient sites and includes the installation of draintile on the upstream side of a culvert. The project is expected to be funded through grants and supported by District funds.
- ~~B. Curly Leaf Pondweed Management: Manage curly leaf pondweed in Moody Lake to reduce the internal phosphorus load. Curly leaf pondweed will be managed, as allowed by DNR, through herbicide or harvesting treatments annually to limit the growth and decomposition of vegetation that results in an increase in the phosphorus load to the lake.~~
- ~~C.~~ **B.** (CIP) Moody Lake Diagnostic Study Implementation: The CLFLWD will implement the phosphorus reduction activities as identified in the Moody Lake Phosphorus Source Assessment. The Moody Lake Diagnostic Study was completed by the District to identify additional sources of watershed phosphorus sources to Moody Lake. Measures implemented may include sedimentation basins, wetland and pond alum treatments, wetland restorations, and filtration features.
- D. **C.** Alum Treatment: Conduct alum or other in-lake treatment to reduce the internal load of phosphorus to Moody Lake. First, the rough fish population likely would be stabilized through harvesting (previously completed project and 5221D) and installation of fish barriers (5221A), **and watershed loads reduced through the Moody Lake Diagnostic Study Implementation.** Then the lake would be treated with alum or other in-lake treatment to reduce the release of phosphorus from lake bottom sediments.

~~E. Rough Fish Management: Remove rough fish to limit resuspension of lake bottom materials and reduce internal phosphorus load in Moody Lake. Rough fish harvests will be conducted on the lake to decrease the rough fish population to a level that does not detrimentally impact the lake water quality.~~

~~E. Macrophyte & Invasives Survey: A survey of aquatic macrophytes will be conducted periodically on Moody Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct an aquatic macrophyte survey every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~

Bone Lake (5222)

- A. (CIP) Bone Lake Inlet and Outlet Fish Barriers: Rough fish disturb the bottom sediments of lakes and can cause increases in the internal load of phosphorus in the lake when the fish are overly abundant. Bone Lake was identified as a lake with overabundant rough fish. To address the movement of rough fish into Bone Lake the District will install a fish barrier at the outlet of Bone Lake and at the inlet to Bone Lake from Moody Lake in order to limit the movement of carp within the Bone Lake system. The barrier at the lake outlet will limit the possibility of fish moving into the lake from the outlet stream and the barrier at the inlet from Moody Lake will limit the movement of carp into habitat areas in the wetland between Bone and Moody Lakes. The fish barriers are planned to use an innovative design that prevents fish passage upstream and downstream. The method is appropriate for low-gradient sites and includes the installation of draintile on the upstream side of a culvert. The project is expected to be funded through grants and supported by District funds.
- B. Bone Lake Infiltration Basin Planning and Design (SBL07 subwatershed): Plan and design an infiltration basin to provide volume reduction and water quality improvement for drainage through subwatershed SBL07. The likely site is east of the creek and along Oakhill Road North. The project would include diversion of flow to a constructed infiltration or water quality treatment basin.
- C. (CIP) Bone Lake Infiltration Basin Implementation (SBL07 subwatershed): Construct an infiltration basin to provide volume reduction and water quality improvement for drainage through Bone Lake subwatershed SBL07 based on the design developed (5222B). The facility will likely need to be located with private landowner participation. .
- D. Shoreline Survey: Conduct a shoreline survey to identify areas for improvements in shoreline buffers and lakescaping and to provide a means for documentation of changes in shoreline condition. The shoreline survey is planned to include photographs of the entire shoreline of the lake. The shoreline survey could also

include more detailed analysis of shoreline properties including parcel specific soils and erosion evaluation or identification of key areas for protection or restoration.

- ~~E. Curly Leaf Pondweed Management: Manage curly leaf pondweed in Bone Lake to reduce the internal phosphorus load. Curly leaf pondweed will be managed, as allowed by DNR, through herbicide or harvesting treatments to limit the growth and decomposition of vegetation that results in an increase in the phosphorus load to the lake.~~
- F. **E. Alum Treatment:** Conduct alum or other in-lake treatment to reduce the internal load of Bone Lake. After stabilization of the rough fish (carp) population through harvesting (previously completed project and 5222G) and installation of fish barriers (5222A), the lake would be treated with alum or other in-lake treatment to reduce the release of phosphorus from lake bottom sediments.
- ~~G. Macrophyte & Invasives Survey: A survey of aquatic macrophytes will be conducted periodically on Bone Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct aquatic macrophyte surveys will be conducted every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~
- ~~H. Rough Fish Management: Remove rough fish (carp) to limit resuspension of lake bottom materials and reduce internal phosphorus load in Bone Lake. Carp harvests will be conducted on the lake to decrease the carp population to a level that does not detrimentally impact the lake water quality. Carp management activities may be supported by the installation of a fish barrier through a separate project.~~
- I. **F. (CIP) Bone Lake Diagnostic Study Implementation:** The CLFLWD will implement the phosphorus reduction activities as identified in the Bone Lake Diagnostic Study. The Bone Lake Diagnostic Study included targeting tributary monitoring and watershed modeling to identify additional sources of watershed phosphorus loads to Bone Lake and target phosphorus reduction activities in the watershed. Measures implemented may include wetland restorations, buffers, agricultural land management practices, and infiltration/filtration facilities.

Birch Lake (5223)

~~A. Phosphorus Source Assessment & Implementation Plan: Identify timing and location of any identified elevated phosphorus load to Birch Lake based on data collected in the tributary and wetlands between Bone Lake and Birch Lake (2003D). Identify sources of elevated phosphorus load in order to inform future implementation activities. [See 5225D.](#)~~

School Lake (5224)

~~A. No projects planned for School Lake drainage area at this time. [See 5225D.](#)~~

Little Comfort Lake (5225)

- A. Phosphorus Source Assessment & Implementation Plan: Evaluate the change in phosphorus load between the School Lake outlet and the Little Comfort Lake inlet to identify the source of an estimated 200 pound increase in phosphorus load and identify methods to reduce the load. Analyze synoptic monitoring data collected along the stream between School Lake and Little Comfort Lake to identify phosphorus sources and sinks.
- B. Shoreline Survey: Conduct a shoreline survey to identify areas for improvements in shoreline buffers and lakescaping and to provide a means for documentation of future changes in shoreline condition. The shoreline survey is intended to include photographs of the entire shoreline of the lake. The shoreline survey could also include more detailed analysis of shoreline properties including parcel specific soils and erosion evaluation or identification of key areas for protection or restoration.
- ~~C. Curly Leaf Pondweed Management: Manage curly leaf pondweed in Little Comfort Lake to reduce the internal phosphorus load. Curly leaf pondweed will be managed, as allowed by DNR, through herbicide or harvesting treatments or other methods to limit the growth and decomposition of vegetation that results in an increase in the phosphorus load to the lake.~~
- ~~D. Rough Fish Management: Remove rough fish to limit resuspension of lake bottom materials and reduce internal phosphorus load in Little Comfort Lake. Rough fish harvests will be conducted on the lake to decrease the rough fish population to a level that does not detrimentally impact the lake water quality.~~
- E. **C. Alum Treatment:** Conduct alum or other in-lake treatment to reduce the internal load of Little Comfort Lake. First, the carp population likely would be stabilized through harvesting, then the lake would be treated with alum or other in-lake to reduce the release of phosphorus from lake bottom sediments.
- ~~F. Macrophyte & Invasives Survey: A survey of aquatic macrophytes will be conducted periodically on Little Comfort Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct aquatic macrophyte surveys every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~
- G. **[D. \(CIP\) Little Comfort Lake Phosphorus Source Assessment Implementation: The CLFLWD will implement the phosphorus reduction activities as identified in the Little Comfort Lake Phosphorus Source Assessment & Implementation Plan \(5225A\) to address the protection and improvement of water quality in Little](#)**

Comfort Lake. Measures implemented are likely to be located in the Little Comfort Lake drainage area, downstream of Bone Lake and include a wide range of BMPs including buffers, agricultural land management practices, bioretention facilities, infiltration/filtration facilities, wetland restorations, and carp barriers. Measures implemented may also include in-lake management practices in Birch and School Lakes, such as aquatic plant management and sediment alum treatment.

Shields Lake (5226)

- A. Feasibility Study – Biomanipulation: Conduct a feasibility study on the biomanipulation (manipulation of the balance between resident biological species, typically through modifications to the fish community) of Shields Lake to shift the shallow lake from the turbid water state to the clear water state. The feasibility study entails background data collection, analysis of data and some limited monitoring (samples and surveys). A final report will identify the need and approach for biomanipulation activities. The load reduction due to biomanipulation is anticipated to have the potential to reduce approximately 70% of the calibrated internal load, or approximately 600 pounds.

Interactions between fish and zooplankton can have direct effects on algal density, which is connected to in-lake phosphorus levels. Biomanipulation includes lake management procedures that either alter the food web to favor grazing on algae by zooplankton, or that eliminate fish species that recycle nutrients, helping to shift the lake towards a clear water state. The stocking of sport fish is a common example of biomanipulation. Biomanipulation activities would be conducted in close cooperation with the Department of Natural Resources to ensure that fish population, water quality, and fishing concerns are addressed in a manner that best benefits the lake and its users.

- ~~B. Rough Fish Management: Remove rough fish to limit resuspension of lake bottom materials and reduce internal phosphorus load in Shields Lake. Rough fish harvests will be conducted on the lake to decrease the rough fish population to a level that does not detrimentally impact the lake water quality.~~
- ~~C. Curly Leaf Pondweed Management: Manage curly leaf pondweed in Shields Lake to reduce the internal phosphorus load. Curly leaf pondweed will be managed, as allowed by DNR, through herbicide or harvesting treatments to limit the growth and decomposition of vegetation that results in an increase in the phosphorus load to the lake.~~
- D. **B.** Shoreline Survey: Conduct a shoreline survey to identify areas in need of improvements to shoreline buffers and lakescaping and to provide a means for documentation of future changes in shoreline condition. The shoreline survey is intended to include photographs of the entire shoreline of the lake. The shoreline survey could also include more detailed analysis of shoreline properties including parcel specific soils and erosion evaluation or identification of key areas for protection or restoration.
- ~~E. Macrophyte & Invasives Survey: A survey of aquatic macrophytes will be conducted periodically on Shields Lake to track the balance of aquatic vegetation.~~

~~Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct aquatic macrophyte surveys every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~

- F. C. Shields Lake Diagnostic Study and Implementation Plan: Conduct diagnostic monitoring and computer modeling for Shields Lake and its watershed to identify cost-effective BMPs for water quality improvement and in-lake restoration.
- G. D. (CIP) Shields Lake Diagnostic Study Implementation: The CLFLWD will implement the management activities as identified in the Shields Lake Diagnostic Study and Implementation Plan (5226C). Measures implemented will include a range of activities that address both the watershed and internal phosphorus loads and may include stormwater harvest and reuse, a whole-lake alum treatment, and management of the in-lake biological community. Subsequent phases of this project may include additional BMPs, such as buffers, agricultural land management practices, bioretention facilities, and filtration features.

Sylvan Lake (5227)

- A. Stormwater and Shoreline BMP Planning: Target the Sylvan Lake watershed for implementation of stormwater and shoreline best management practices. Site and design raingardens, biofiltration basins, shoreline restoration and other best management practices to protect the high quality lake.
- B. (CIP) Stormwater and Shoreline BMP Implementation: Sylvan Lake is a high quality resource identified for protection of water quality. To protect water quality in Sylvan Lake, the CLFLWD plans installation of distributed stormwater best management practices in the Sylvan Lake watershed. The project would include the installation of raingardens, biofiltration, shoreline restoration and other practices in the Sylvan Lake watershed to provide stormwater treatment and encourage groundwater recharge to protect the high quality lake.
- C. Shoreline Survey: Conduct a shoreline survey to identify areas for improvements in shoreline buffers and lakescaping and to provide a means for documentation of changes in shoreline condition. The shoreline survey is intended to include photographs of the entire shoreline of the lake. The shoreline survey could also include more detailed analysis of shoreline properties including parcel specific soils, groundwater seeps, and/or erosion evaluation or identification of key areas for protection or restoration.
- ~~D. Macrophyte & Invasives Surveys: A survey of aquatic macrophytes will be conducted periodically on Sylvan Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. Aquatic macrophyte surveys will be conducted every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the~~

~~presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~

Forest Lake (5228)

- A. Diagnostic Study and Implementation Plan: Conduct a diagnostic study or submit current studies to be approved as a Diagnostic Study equivalent for the Forest Lake watershed and develop a detailed implementation plan for water quality protection. Funding can be sought through the MPCA's Clean Water Partnership program.
- B. (CIP) Forest Lake Diagnostic Study Implementation: Forest Lake has the third highest water quality of the monitored lakes within the District, however, phosphorus concentrations have been hovering near impairment for many years. The lake is impacted by activities and land management in its contributing watershed. The CLFLWD will implement the water quality protection measures as identified in the Forest Lake Diagnostic Study and Implementation Plan (5228A) to address the protection and improvement of water quality in Forest Lake. Measures implemented are likely to include a wide range of BMPs including buffers, agricultural land management practices, wetland restorations, enhanced street sweeping, stormwater harvest and reuse, bioretention facilities, infiltration facilities, and filtration features. Priority subwatersheds identified in the Forest Lake Diagnostic Study include WJD-6, Shields Lake, Castlewood East, Hayward Avenue, 3rd Lake Pond, and the Direct Drainage area. Additional BMPs may be implemented that were identified as part of the Forest Lake North and South Stormwater Retrofit Assessments, and referenced in the Forest Lake Diagnostic Study Implementation Plan.
- C. Urban Stormwater Retrofit Planning and Design (FL01 and FL81 subwatersheds): The more urbanized areas of the City of Forest Lake primarily developed at a time prior to the widespread installation of stormwater management features. Therefore, the drainage from these areas enters Forest Lake with little pre-treatment. This project will prepare a plan identifying locations for installation of a retrofit project that address untreated runoff entering Forest Lake from the urban portions of the City of Forest Lake. Retrofit projects will be evaluated in the subwatersheds FL01 and FL81, which include the most urbanized areas draining to Forest Lake. Due to the nature of retrofits, private landowner participation may be necessary to implement some identified projects. Potential projects that are deemed feasible because of landowner cooperation and technical implementation potential will be designed for construction.
- D. (CIP) Urban Stormwater Retrofit Implementation (FL01 and FL81 subwatersheds): Projects designed under the Urban Stormwater Retrofits Planning and Design Project (5228C) will be constructed. Retrofits may include a wide range of BMPs to improve water quality prior to entering Forest Lake, including raingardens, bioretention facilities, infiltration trenches, iron-enhanced filtration, biofiltration, tree boxes, stormwater capture and reuse, proprietary devices and a variety of other practices.
- E. Shoreline Survey: Conduct a shoreline survey to identify areas for improvements in shoreline buffers and lakescaping and to provide a means for documentation of

future changes in shoreline condition. The shoreline survey is intended to include photographs of the entire shoreline of the lake. The shoreline survey could also include more detailed analysis of shoreline properties including parcel specific soils, groundwater seep locations, and/or erosion evaluation or identification of key areas for protection or restoration.

- ~~F. **Macrophyte & Invasives Survey:** A survey of aquatic macrophytes will be conducted periodically on Forest Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct aquatic macrophyte surveys every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources. Due to the size of Forest Lake, the macrophyte and invasives survey may have to be completed separately for each basin. Lakes 1 and 3 (west and east basins) where the public accesses are located are of higher priority than Lake 2 (center basin).~~
- ~~G. **Aquatic Macrophyte and Invasive Species Management:** The CLFLWD will assist the City of Forest Lake and the Forest Lake Lake Association in developing a plan for the management of aquatic macrophytes and invasive species in Forest Lake. The lake's aquatic vegetation is currently managed based on landowner interest in aquatic macrophyte management. This plan would ensure that vegetation is managed holistically with a view toward the overall health of the entire lake. The District also will assist the City of Forest Lake and the Forest Lake Lake Association in the implementation of the developed management plan.~~
- H. **F. Imperial Avenue Area BMP Design (FL44 subwatershed):** The FL44 Wetland Assessment and Feasibility Study (CLFLWD, 2010d) identified a number of projects that can be implemented to improve water quality in the FL44 subwatershed wetland contributing to Forest Lake. This project will design buffers, biofiltration, and other practices within the Imperial Avenue area of the Forest Lake FL44 subwatershed in areas where the shoreline has been disturbed or is maintained as lawn and where drainage is not currently treated prior to entering the wetland. This project will focus on untreated roadways, untreated residential areas, and low quality buffers and provide treatment for this high quality wetland in subwatershed FL44 and for the un-impaired Forest Lake.
- I. **G. (CIP) Imperial Avenue Area BMP Implementation (FL44 subwatershed):** Implement buffers, biofiltration, and other practices within the Imperial Avenue area of the Forest Lake FL44 subwatershed as identified in the project design.
- J. **H. North Shore Trail BMP Design (FL44 subwatershed):** The FL44 Wetland Assessment and Feasibility Study (CLFLWD, 2010d) identified a number of projects that can be implemented to improve water quality in the FL44 subwatershed wetland contributing to Forest Lake. This project will design a biofiltration feature or other suitable feature to capture runoff from North Shore Trail and treat it prior to discharge to the Forest Lake subwatershed FL44 wetland.

The project would provide treatment to an untreated area entering this high quality wetland in subwatershed FL44 and for the un-impaired Forest Lake.

- K. **I.** (CIP) North Shore Trail BMP Implementation (FL44 subwatershed): Implement biofiltration basin or other designed feature to capture runoff from North Shore Trail & treat it prior to discharge to the Forest Lake subwatershed FL44 wetland. The project would provide treatment from an untreated area entering this high quality wetland in subwatershed FL44 & for the un-impaired Forest Lake.
- L. **J.** In-Lake Treatment – Conduct alum or other in-lake treatment as appropriate to reduce the internal load of Forest Lake, if determined to be necessary for improving in-lake water quality and/or for Comfort Lake water quality. In-lake treatments are likely to be targeted to Lakes 2 and 3 (the central and east basins of Forest Lake), as these areas were identified in past studies as having higher internal loads.
- M. **K.** Washington Judicial Ditch 6 Assessment and Implementation Plan: Washington Judicial Ditch 6 (WJD-6) is located at the southern end of the CLFLWD. It flows through MN Department of Natural Resources protected waters and the Hardwood Creek Wildlife Management Area before discharging into Forest Lake’s east basin. In 2016 the process of transferring the ditch authority from Rice Creek Watershed District to the CLFLWD began. At the time of the ditch authority transfer, large portions of the WJD-6 system were in disrepair. This project will include an assessment of the ditch system, including lateral tributary branches, and its contributing area, in order to determine the current state of the ditch and identify opportunities for improvement with the goal of protecting and improving water quality in Forest Lake consistent with the District’s responsibilities as drainage authority.
- N. **L.** (CIP) Washington Judicial Ditch 6 Improvements Implementation: The CLFLWD will implement water quality protection measures as identified in the Washington Judicial Ditch 6 Assessment and Implementation Plan (5228K). Measures implemented are likely to include practices such as channel stabilization, managed livestock grazing, and vegetation management.

Comfort Lake (5229)

- A. Sunrise River Water Quality/Quantity Regional Stormwater Project Feasibility and Design: Evaluate feasible project options and design a project in the Sunrise River drainage area to reduce phosphorus loads to Comfort Lake. This project was initiated by petition of Chisago County (Appendix B). The project may include urban retrofits, wetland restoration, ponding, filtration, biofiltration, or other methods to reduce phosphorus loads.
- B. (CIP) Sunrise River Water Quality/Quantity Regional Stormwater Project: Implement the project designed under the Sunrise River Water Quality/Quantity Regional Stormwater Project Feasibility and Design project (5229A) to reduce phosphorus loads to Comfort Lake from the Sunrise River subwatershed.
- C. Shoreline Survey: Conduct an updated shoreline survey of Comfort Lake and compare it to the 1998 shoreline survey to evaluate the amount of change that has

occurred and to identify areas for improvements in shoreline buffers and lakescaping. The shoreline survey could also include more detailed analysis of shoreline properties including parcel specific soils and erosion evaluation or identification of key areas for protection or restoration.

- D. BMP Feasibility Study for District's Tax Forfeited Land: Comfort Lake requires a phosphorus load reduction from the contributing watershed in order to meet CLFLWD and state water quality goals. This project will conduct a feasibility study for an infiltration, filtration, or wetland treatment system on the District's tax forfeited land to provide nutrient reduction to Comfort Lake.
- E. (CIP) BMP Implementation on District's Tax Forfeited Land: Complete an infiltration, filtration, or wetland treatment project on the District's tax forfeited property to provide water quality benefits for Comfort Lake based on findings from the feasibility study.
- F. Bixby Park Stormwater Pond Design: Balancing wetland impact with water quality benefit, design stormwater management features in Bixby Park to manage drainage to Comfort Lake from the more urban portions of the City of Forest Lake that developed prior to the incorporation of comprehensive stormwater management facilities. The primary objective is to reduce sediment and phosphorus loads from developed and commercial areas of the city around 35W and US 8 to the Sunrise River. A site in the Bixby Park area is likely because it has a large drainage area but is upstream of the inflow from Forest Lake. The drainage from Forest Lake, while often amounting to a fairly large phosphorus load, is of low concentration and is difficult to treat in a stormwater pond. The features would be intended to provide water quality treatment for areas that have already developed with inadequate water quality treatment as well as undeveloped areas draining through Bixby Park.
- G. (CIP) Bixby Park Stormwater Treatment Implementation: Construct stormwater management features in Bixby Park or area identified in 5229F. These facilities are intended to manage drainage to Comfort Lake from the more urban portions of the City of Forest Lake that developed prior to the incorporation of comprehensive stormwater management facilities. Construction would likely occur in winter when frost makes it possible to drive on wetland soils.
- ~~H. Macrophyte & Invasives Survey: A survey of aquatic macrophytes and aquatic invasive species will be conducted periodically on Comfort Lake to track the balance of aquatic vegetation. Aquatic macrophytes provide a metric of lake health that supports the water quality data collected by the District. The intent is to conduct aquatic macrophyte surveys every five years for the active recreation lakes of the District. The macrophyte survey will document the aquatic vegetation of the lake. In addition, an evaluation of the presence and extent of any invasive aquatic species will be conducted more frequently to be able to proactively manage invasive species and to track the effect of any aquatic invasive management conducted. Macrophyte surveys will be coordinated with the Department of Natural Resources.~~

4.6.4 Wetlands (5400 Series)

Bone Lake (5422)

[No changes to 5422A-F]

G. Wetland Restoration Feasibility & Design (all SBL subwatersheds): In 2016 the CLFLWD used past diagnostic work and assessment studies to identify phosphorus loading sources and potential wetland restorations within the Bone Lake watershed. This project will include feasibility assessment and design of several wetland restorations that were identified in the 2015 Bone Lake Diagnostic Study and 2014 Partially Drained Wetland Assessment.

H. (CIP) Wetland Restoration Implementation (all SBL subwatersheds): The CLFLWD will implement wetland restorations in the Bone Lake watershed, as identified in the Wetland Restoration Feasibility & Design (5422G).

Programs (3000 Series)

4.5.01 District Rules and Rulemaking (3001)

Progress Evaluation Metric

Success in the District Rules and Rulemaking Program will be measured by the continued implementation of the District's Rules and by the periodic reviews of rule effectiveness.

4.5.02 Permitting (3002)

Progress Evaluation Metric

Success in the Permitting Program will be measured by the number of permits issued which are inspected in compliance with the District Rules. Completion of inspections in compliance with the District Rules on 90% – 100% of active permits is measured as "Excellent", 80% - 89% is measured as "Good", 60% - 79% is measured as "Fair" and completion of inspections on less than 60% of active permits is measured as "Poor". Additionally, metrics for evaluating program activity levels will be assessed on an annual basis including, but not limited to: number of permit applications received, number of permits issued, number of permits closed out, number of site inspections performed, total amount of permit financial deposits received, and numbers of permitted best management practice annual reports received, inspections performed, and compliance with maintenance agreements and declarations.

4.5.03 Monitoring and Data Assessment (3003)

Progress Evaluation Metric

Success in the Monitoring and Data Assessment Program will be measured by the completion of monitoring and data evaluation needed to support the District's activities and evaluate progress toward water quality and resource goals and the quality and consistency of data collected.

4.5.04 Non-Point Source Pollution Abatement Program (3004)

Progress Evaluation Metric

~~Success in the Non-Point Source Pollution Abatement Grant Program will be measured by the portion of allocated funding directed toward the completion of projects meeting program standards in each program area. Completion of 80–100% of the goal is measured as “Excellent”, 50%–79% is measured as “Good”, and completion of less than half is measured as “Fair” and no completion is measured as “Poor”.~~ Success in the Non-Point Source Abatement Grant Program will be measured by the level of public participation in each program area and levels of pollutant reductions achieved by projects. Specific metrics for evaluation may include, but are not limited to: number of site visits performed, number of practices installed, number of grant applications received, and number of applications approved for funding. Target pollutant reductions include, but are not limited to total phosphorus and total suspended solids.

4.5.05 Education and Outreach (3005)

Progress Evaluation Metric

Success in the Education and Outreach Program will be measured by the level of participation and exposure to the District’s education and outreach efforts. Metrics for measuring participation and exposure may include, but are not limited to number of users reached by social media posts, number of new email addresses added to the District’s notification list, and attendance numbers for District-sponsored meetings and events (e.g. workshops, classroom visits, open house events). Measuring participation and exposure to many education and outreach efforts may be impractical or infeasible. Therefore, success in the Education and Outreach Program may also be measured by the level of outgoing communications. Outgoing communications may include publications in print media, posts on social media, and staff and board attendance at non-District sponsored meetings such as lake associations, schools, and nature centers. Gross total of outgoing messages will be considered as well as number of different types of media avenues.

4.5.06 Technical Resource Sharing and Interagency Communication (3006)

Progress Evaluation Metric

Success in the Technical Resource Sharing and Interagency Communication Program is measured in two ways. Success in the Technical Resource Sharing aspect of the program is measured by the use of District data and information by other parties. Success in the Interagency Communication aspect of the Program will be measured by the percent of District initiatives and projects that are conducted in partnership or cooperation with another agency ~~and the distribution.~~ Completion of 70 – 100% of the District projects in cooperation with other agencies is measured as “Excellent”, 50% - 69% is measured as “Good”, 30% - 49% is measured as “Fair” and less than 30% is measured as “Poor”.

4.5.08 Measurement of Progress (3008)

Progress Evaluation Metric

Success in the Measurement of Progress Program will be based on completion of the annual progress report.

4.5.09 Grant Research and Preparation (3009)

Program Description

A. Ongoing Initiatives: The Grant Research and Preparation Program focuses on supplementing the District's tax levy with grant income. Obtaining outside funding from federal, state and local agencies is imperative to the implementation of capital improvement projects and certain District programs.

Progress Evaluation Metric

Success in the Grant Research and Preparation Program will be measured by the number of grant applications submitted, number of grants awarded, total grant dollars requested, and total grant dollars awarded per year.

Potential Partners

The primary partners, or grant awarding agencies for implementation of the Grant Research and Preparation Program are federal, state and local agencies as well as foundations including, but not limited to: Board of Water and Soil Resources, Department of Natural Resources, Pollution Control Agency, Environmental Protection Agency, and counties.

Potential Funding Sources

Funding for grant research and application preparation is expected to be primarily through the District's annual levy. Funding for grant tracking and reporting is expected to be primarily through the grants themselves.

4.5.10 Operations and Maintenance (3010)

Program Description

A. Ongoing Initiatives: The Operations and Maintenance Program performs the necessary ongoing operations and maintenance of District-owned equipment and facilities. The District will create detailed operations & maintenance plans for new equipment and facilities as necessary.

Progress Evaluation Metric

Success in the Operations and Maintenance Program will be measured by the successful implementation of activities included in operations and maintenance plans for District facilities. A summary of inspections and maintenance activities will be developed each year.

Potential Partners

The primary partners for implementation of the Operations and Maintenance Program are local municipalities and soil and water conservation districts.

Potential Funding Sources

Funding is expected to be primarily through the District's annual levy with additional support from partner organizations and grants.

4.5.11 Aquatic Invasive Species Prevention and Management (3011)

Program Description

A. (District-Wide) Comprehensive Plan and Policy Development: While the Watershed Management Plan outlines broad components of the Aquatic Invasive Species (AIS) Prevention and Management Program, a more detailed comprehensive plan will be developed in order to address specific policies and procedures. Several resources will be available to assist with plan development including comprehensive plans from the St. Croix River Association, Minnesota Department of Natural Resources, soil and water conservation districts, and other watershed districts. Input from state and local partners will be sought during the plan development process. The primary objective of the comprehensive plan and policy will be to develop consistent standards for AIS prevention and management that are consistent with the District's mission and goals.

B. ~~Summer Boat Launch Monitoring~~ (District-Wide) Watercraft Inspections: A specific initiative of the District's Education and Outreach program supports efforts to provide enthusiastic, engaged and knowledgeable summer staff or others (e.g. intern, lake resident) at boat launches to offer education and supervision of actions to limit the spread of invasive species. It is generally recognized that the most effective strategy against invasive species is to prevent their introduction and establishment. Therefore, preventing the spread of invasive species is the primary objective of the Aquatic Invasive Species Prevention and Management Program. Watercraft inspectors offer education to boaters and supervision of actions to limit the spread of invasive species. Watercraft inspection surveys also provide valuable information about boat traffic and boater compliance with invasive species laws. While the main priority for watercraft inspectors will be to educate boaters, secondary priorities will include inspecting incoming and outgoing watercraft for presence of invasive hitchhikers, decontaminating watercraft if necessary/possible, and collecting survey data.

C. (District-Wide) AIS Prevention at Boat Launch Sites: In addition to providing watercraft inspectors at District accesses, it is a priority of the District to improve signage and resources at public accesses so that boaters can effectively prevent the spread of invasive species on their own. The District will work with a variety of local and state partners to assess the needs and opportunities for implementing effective boat launch site upgrades.

D. (District-Wide) AIS Early Detection and Rapid Response: Early detection and rapid response (EDRR) is sometimes considered the "second line of defense" after prevention. A standard format will be used to develop early detection rapid response plans for all of the active recreation lakes within the District and others as appropriate.

E. (District-Wide) Invasive Species Pilot Control Projects: Lead or partner on pilot projects and studies needed to control and minimize the entry of invasive species into District lakes. The District will lead or actively partner to implement pilot projects and studies to test innovative methods to limit and control the entry and spread of invasive species in the District's lakes. An example of an invasive species pilot control project study and risk management study that may be pursued is the evaluation of the susceptibility of Forest Lake to zebra mussels starry stonewort or the addition of iron to the lake bed to manage curly-leaf pondweed. Methods found to be effective will be implemented as appropriate throughout the District.

F. (District-Wide) Point-Intercept Macrophyte Surveys: A survey of aquatic macrophytes will be conducted every five years in District lakes to track the composition and distribution of aquatic vegetation. Aquatic macrophyte surveys provide another metric of lake health, in addition to the water quality data collected by the District. Macrophyte surveys will be coordinated with the Department of Natural Resources.

G. (District-Wide) Aquatic Invasive Species Management: Holistically manage aquatic invasive species in District lakes with a view toward the overall health of the lake. Policies and goals in the CLFLWD Watershed Management Plan are designed around the ecological integrity of water resources within the District. Accordingly, the District's involvement in the long-term management of AIS present will be based on the benefit to ecological systems. On an annual basis the District will consider ecological benefit, treatment feasibility, recommendations from the DNR, and public input before pursuing management activities. Specific procedures and priorities for implementing this complex and multi-faceted activity will be detailed under activity 3011-20A Comprehensive Plan and Policy Development.

H. (District-Wide) Rough Fish Management: Remove rough fish to limit resuspension of lake bottom materials and reduce internal phosphorus load in District lakes. Rough fish harvests will be conducted on the lake to decrease the rough fish population to a level that does not detrimentally impact the lake water quality. In order to accurately assess the biomass of rough fish in District lakes, fish population surveys and/or assessments will be performed as needed. Several different fish surveying techniques will be considered based on specific needs including but not limited to standard fyke net, mini-fyke net, seining, and electrofishing. The District will coordinate with the MN Department of Natural Resources' timeline for conducting fish surveys in order to prevent duplication of efforts.

Progress Evaluation Metric

Success in the Aquatic Invasive Species Prevention and Management Program will be measured by metrics including, but not limited to, the annual reduction in coverage and density of invasive species in District lakes and the number of watercraft inspections performed at District accesses. Additional metrics may be developed each year as appropriate.

Potential Partners

The primary partners for implementation of the Aquatic Invasive Species Prevention and Management Program are local municipalities, counties, soil and water conservation districts, and lake associations.

Potential Funding Sources

A large portion of funding is expected to be through grants and partner organizations, with the remainder through the District's annual levy.

Section 8 – INTERGOVERNMENTAL COORDINATION AND IMPACT

Table 7. Local Plan Adoption Deadlines

Municipality	Watersheds within Municipality	Date of Watershed Plan Update	Required Date for Local Plan Adoption	Recommended Date for Local Plan Adoption*	Plan Approval by CLFLWD Board
Chisago City	CLFLWD	Nov. 2011	Nov. 2013	Nov. 2013	Not yet submitted for CLFLWD review and approval
Chisago Lake Twp	CLFLWD	Nov. 2011	Nov. 2013	Nov. 2013	Not yet submitted for CLFLWD review and approval
Forest Lake	CLFLWD RCWD	Nov. 2011 Jan. 2010	Nov. 2013 Jan. 2012	Nov. 2013	Not yet submitted for CLFLWD review and approval
Franconia Twp	CLFLWD	Nov. 2011	Nov. 2013	Nov. 2013	Not yet submitted for CLFLWD review and approval
Scandia	CLFLWD CMSCWD RCWD	Nov. 2011 Aug. 2010 Jan. 2010	Nov. 2013 Aug. 2012 Jan. 2012	Nov. 2013	Jul. 2012
Wyoming	CLFLWD	Nov. 2011	Nov. 2013	Nov. 2013	Not yet submitted for CLFLWD review and approval

Section 9 – AMENDMENTS TO THIS PLAN

The Comfort Lake-Forest Lake Watershed District (CLFLWD) Board of Managers intends that this Plan extend through 2021. The CLFLWD may need to revise this Plan prior to the next update for it to remain a useful long-term planning tool. Plan amendments will be needed if significant changes are required involving goals, policies, administrative procedures, funding or the capital improvement program, or if problems arise that are not addressed in the Plan. This Plan will remain in full effect through 2021 unless an updated plan is approved by BWSR prior to that date. Plan amendments may be proposed to the CLFLWD Board by any agency, person, county, city or township, but only the CLFLWD Board may initiate the amendment process. All proposed plan amendments must be submitted to the Board in writing, along with a statement of the problem, rationale for the amendment and an estimate of associated costs.

Technical information (i.e. from District initiated studies and monitoring and new data from District partners) will require frequent updating. The CLFLWD intends to post this updated information on the District website. Technical information that results in new action items will be incorporated into District operations through implementation of the District’s programs, projects and watershed management strategies as appropriate. Generally, these technical updates and studies are considered part of the normal District operations consistent with the intent of the 2010 Plan and will not trigger a Plan amendment. This includes implementation projects resulting from “Focused” and “Impaired” watershed management activities that include a public input process. However, when the new technical information or study findings result in a significant policy change, or the District intends to initiate a program or construct a capital improvement not sufficiently identified in the 2010 Plan, a plan amendment is required.

This plan provides the framework to implement this work by identifying issues, goals, policies and action items. A plan amendment is not required for changes such as:

- Formatting or reorganizing the plan;

- Revising a procedure meant to streamline administration of the plan;
- Clarifying existing plan goals or policies;
- Including additional data not requiring interpretation;
- Expanding public process; or
- Adjusting how the CLFLWD will carry out program activities within its discretion.

All changes not requiring an amendment will be distributed in accordance with Minnesota Rules 8410.0140, subpart 5. The CLFLWD will maintain a distribution list of agencies and individuals who have received copies of the plan and will distribute copies of the changes to all on the distribution list and post the changes on the CLFLWD website within 30 days of adoption.

All amendments to a plan must adhere to the review process provided in Minnesota Statutes §103B.231, subdivision 11, except when all of the following have occurred:

- The CLFLWD has sent copies of the amendments to the plan review authorities (defined at Minn. Rules 8410.0020, subp. 16) for review and comment, has identified that the minor amendment procedure is being followed, has directed that comments be sent to the CLFLWD and the board, and has allowed at least 30 days for receipt of comments;
- No county board has filed an objection to the amendments with the CLFLWD and the board within the comment period, or within such longer period as is mutually agreed on by the county and the CLFLWD;
- The board has either agreed that the amendments are minor or failed to act within five working days of the end of the comment period, or within such longer period as is mutually agreed to with the CLFLWD;
- The CLFLWD has held a public meeting to explain the amendments and published a legal notice of the meeting twice, at least seven days and 14 days before the date of the meeting; and
- The amendments are not necessary to make the plan consistent with an approved and adopted county groundwater plan.

The CLFLWD will prepare a plan amendment in a format consistent with Minnesota Rules 8410.0140 (as revised). Draft and final amendments will be sent electronically. A receiving entity may request to receive an amendment in paper format. The rule requires that unless the entire document is redone, all final amendments adopted by the CLFLWD must be in the form of replacement pages for the plan, each page of which must:

- Show deleted text as stricken and new text as underlined for draft amendments being considered;
- Be renumbered as appropriate; and
- Include the effective date of the amendment.

The CLFLWD will maintain a distribution list for copies of the plan. Within 30 days of adopting an amendment, it will distribute copies of the amendment to the distribution list. Generally, the CLFLWD will provide electronic copies of the amendment or make the documents available for public access on the

website. Printed copies will be made available on written request, and printed at the cost of the requester.

Should the CLFLWD or BWSR decide that a general plan amendment is needed, the District will follow the general plan amendment process described in Rule 8410.0140, Subp.2 and MS 103B.231, Subd. 11. The general plan amendment process is the same review process as the process followed for the review of a plan update. The following are examples of situations where a general plan amendment might be required:

- The addition of a capital improvement project that is not included in the 2012 Plan.
- The establishment of a water management district(s) to collect revenues and pay for projects initiated through MS 103B.231, MS 103D.601, 605, 611 or 730.
- The addition of new District programs or initiatives that are inconsistent with District objectives and policies or have the potential to create significant financial impact.

Unless the entire document is reprinted, all amendments adopted by the District will be printed in the form of replacement pages for the plan, each page of which will:

- A. Show deleted text as stricken and new text as underlined on draft amendments being considered; and
- B. Be renumbered as appropriate; and
- C. Include the effective date of the amendment.

The District will maintain a distribution list of agencies and individuals who have received a copy of the plan and will distribute copies of amendments within 30 days of adoption. The District will consider sending drafts of proposal amendments to all plan review authorities to seek their comments before establishing a hearing date or commencing the formal review process.

Minor amendments to this plan may also be needed periodically as new data is collected and resource evaluations are conducted in the District. Minor plan amendments include plan revisions such as clarification or recodification of the Plan and its policies, inclusion of additional data, and other revisions to planned actions that will not adversely affect a local unit of government or diminish the CLFLWD's ability to achieve its plan goals or implementation program.

The CLFLWD will follow the following process for minor plan amendments:

- The District will send copies of the proposed minor plan amendments to the affected cities and townships, Metropolitan Council, Washington County, the state review agencies, and BWSR for review and comment at least 30 days before a holding a public meeting. The deadline for receipt of review comments will be the date of public meeting.
- The District will hold a public meeting to explain the proposed amendments and publish a legal notice of the meeting twice, at least 7 days and 14 days before the date of the meeting.
- The District will adopt and distribute the amendment after BWSR has either agreed it is a minor amendment or failed to act within 45 days of receipt of the amendment.
- The following are examples of situations when the District would seek a minor plan amendment:

- When the share of project cost to be funded through District levy, at any time up until the project is ordered by the Board of Managers, exceeds the amount identified in the Capital Improvement Program (CIP) by more than 25%, adjusted for inflation.
- When District completes an implementation plan or a study that results in projects that are not specifically described in the District's CIP.

Goals Table (found in Vol I, pages 13 and 82)

Table 3. Lake water quality goals.

Lake	Measured Water Quality (as of 2016)		2020 In-Lake Total Phosphorus Goal	2030 In-Lake Total Phosphorus Goal	2040 In-Lake Total Phosphorus Goal
	5-Year Average Concentration	Years of Data	5-Year Average Concentration at or below:	5-Year Average Concentration at or below:	5-Year Average Concentration at or below:
Moody*	116 µg/l TP	5	60 µg/l TP	40 µg/l TP	40 µg/l TP
Bone*	40 µg/l TP	5	40 µg/l TP	40 30 µg/l TP	30 µg/l TP
Birch	n/a	0	60 µg/l TP	60 µg/l TP	60 µg/l TP
School*	n/a	0	50 µg/l TP	40 µg/l TP	40 µg/l TP
Little Comfort*	67 µg/l TP	5	40 µg/l TP	40 µg/l TP	30 µg/l TP
Shields*	240 µg/l TP	5	100 µg/l TP	60 µg/l TP	60 µg/l TP
Sylvan	16 µg/l TP	5	20 µg/l TP	20 µg/l TP	20 µg/l TP
Forest	36 µg/l TP	5	37 µg/l TP	37 33 µg/l TP	30 µg/l TP
Heims	43 µg/l TP	2	40 µg/l TP	40 µg/l TP	40 µg/l TP
Comfort*	36 µg/l TP	5	40 µg/l TP	40 µg/l TP	30 µg/l TP

* Included in the Comfort Lake- Forest Lake Watershed District Six Lakes Total Maximum Daily Load Study (MPCA, 2010).

⁶The 20-year In-Lake Total Phosphorus Goal is equivalent to the state standards for in-lake water quality established by the Minnesota Pollution Control Agency.

⁷For Moody, Bone, School, Little Comfort, Shields, Comfort Lakes from: Lake Total Phosphorus Assimilative Capacity from Comfort Lake- Forest Lake Watershed District Six Lakes Total Maximum Daily Load Study (MPCA, 2010). For all other lakes from: Comfort Lake- Forest Lake

Watershed District (CLFLWD). 2007a. Watershed and Lake Water Quality Modeling Investigation for the Development of a Watershed Capital Improvement Plan. Prepared by Wenck Associates, Inc.

⁸The Long-Term In-Lake Total Phosphorus Goal was established by the CLFLWD Board of Managers and exceeds state standards for lakes defined by the District as active recreation lakes.

Volume II

11.6.4 Active Recreation Lakes

BONE LAKE WATERSHED SUMMARY

Resource Goals

Long Range Goals - Year 2030

- Maintain a water quality rating of ~~C~~ **B**.
- Achieve a five-year mean summer phosphorus concentration at or below ~~40~~ **30** $\mu\text{g/L} \pm 4\%$.
- Maintain a mean summer secchi depth no less than ~~4~~ **7** ft.

FOREST LAKE WATERSHED SUMMARY

Resource Goals

Plan ~~Short Term~~ Goals— Year 2020

- Maintain a water quality rating of C.
- Maintain a five-year mean summer phosphorus concentration below ~~37~~ **33** $\mu\text{g/L} \pm 4\%$.
- Maintain a mean summer secchi depth no less than 5 ft.

Long Term Goals - Year 2030

- Maintain a water quality rating of at least ~~C~~ **C+**.
- Maintain a five-year mean summer phosphorus concentration below ~~37~~ **33** $\mu\text{g/L} \pm 4\%$.
- Maintain a mean summer secchi depth no less than ~~5~~ **6** ft.

Implementation Initiatives		Issue Areas							CIP	One-Time/	Annual	Timeframe	COSTS											
		Floodplain	Lakes	Streams	Wetlands	Upland Resources	Groundwater	Public Education					Interagency Communication	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PROJECTS										\$16,987,000	\$228,000		\$544,009	\$2,023,229	\$2,363,155	\$2,313,412	\$2,793,738	\$2,119,153	\$2,307,745	\$933,966	\$1,025,070	\$808,453	\$1,610,351	\$18,842,281
5100	Floodplain									0	0		-	-	-	-	-	-	-	-	-	-	-	-
5140A	Sunrise River Water Quality/Quantity Regional Stormwater Project	x	x	x	x	x			YES	see 5228H	see 5229A	2012-2016	-	-	-	-	-	-	-	-	-	-	-	-
5200	Lakes									\$14,074,000	\$224,000		\$441,000	\$1,549,635	\$2,256,216	\$2,057,933	\$1,634,914	\$1,791,542	\$2,209,116	\$930,769	\$914,101	\$95,768	\$1,606,959	\$15,487,952
5220A	Volume Control Facility Planning & Design		x							\$70,000		2018	-	-	-	-	-	-	-	\$86,091	-	-	-	\$86,091
5220B	Volume Control Facility Implementation		x						YES	\$700,000		2019	-	-	-	-	-	-	-	-	\$886,739	-	-	\$886,739
5220C	Invasive Species Control Pilot Projects		x							\$40,000		2017	-	-	-	-	-	\$47,762	-	-	-	-	-	\$47,762
5220D	Chemical Treatment of Inflows		x						YES	\$1,000,000	\$200,000	unscheduled	-	-	-	-	-	-	-	-	-	-	-	-
5221A	(Moody) Moody Lake Inlet Fish Barrier		x						YES	\$75,000		2011	\$75,000	\$77,250	-	-	-	-	-	-	-	-	-	\$152,250
5221B	(Moody) Moody Lake Diagnostic Study Implementation		x																					
5221C	(Moody) Alum Treatment		x							\$54,000		2011	\$37,000	-	-	-	-	-	-	-	-	-	-	\$37,000
5222A	(Bone) Bone Lake Inlet and Outlet Fish Barriers		x						YES	\$210,000		2012	-	\$216,300	-	-	-	-	-	-	-	-	-	\$216,300
5222B	(Bone) Bone Lake Infiltration Basin Planning and Design (SBL07)		x							\$65,000		2012	-	\$66,950	-	-	-	-	-	-	-	-	-	\$66,950
5222C	(Bone) Bone Lake Infiltration Basin Implementation (SBL07)		x						YES	\$425,000		2013	-	-	\$450,883	-	-	-	-	-	-	-	-	\$450,883
5222D	(Bone) Shoreline Survey		x							\$8,700		2014	-	-	\$9,507	-	-	-	-	-	-	-	-	\$9,507
5222E	(Bone) Alum Treatment		x							\$260,000		2013	-	-	\$275,834	-	-	-	-	-	-	-	-	\$275,834
5222F	(Bone) Bone Lake Diagnostic Study Implementation		x																					
5225A	(Little Comfort) Phos. Source Assessment & Implementation Plan		x							-	\$22,500	2012, 2017	-	\$23,175	-	-	-	\$26,866	-	-	-	-	-	-
5225B	(Little Comfort) Shoreline Survey		x							\$5,200		2013	-	-	\$5,517	-	-	-	-	-	-	-	-	\$5,517
5225C	(Little Comfort) Alum Treatment		x							\$54,000		2020	-	-	-	-	-	-	-	-	\$68,406	-	-	\$68,406
5225D	(Little Comfort) Little Comfort L. Phosphorus Source Assess. Impl.		x																					
5226A	(Shields) Feasibility Study - Biomanipulation		x							\$34,000		2017	-	-	-	-	-	\$40,598	-	-	-	-	-	\$40,598
5226B	(Shields) Shoreline Survey		x							\$5,200		2018	-	-	-	-	-	-	\$6,395	-	-	-	-	\$6,395
5226C	(Shields) Shields Lake Diagnostic Study and Implementation Plan		x																					
5226D	(Shields) Shields Lake Diagnostic Study Implementation		x																					
5227A	(Sylvan) Stormwater and Shoreline BMP Planning		x							\$15,000		2014	-	-	\$16,391	-	-	-	-	-	-	-	-	\$16,391
5227B	(Sylvan) Stormwater and Shoreline BMP Implementation		x						YES	\$80,000		2015	-	-	-	\$90,041	-	-	-	-	-	-	-	\$90,041
5227C	(Sylvan) Shoreline Survey		x							\$5,800		2016	-	-	-	-	\$6,724	-	-	-	-	-	-	\$6,724
5228A	(Forest) Diagnostic Study and Implementation Plan		x							\$120,000		2016	-	-	-	-	\$139,113	-	-	-	-	-	-	\$139,113
5228B	(Forest) Forest Lake Diagnostic Study Implementation		x						YES	\$800,000		2018-2020	-	-	-	-	-	-	-	-	-	-	-	-
5228C	(Forest) Urban Stormwater Retrofit Planning & Design (FL01, FL81)		x							\$50,000		2017	-	\$51,500	-	-	-	-	-	-	-	-	-	\$51,500
5228D	(Forest) Urban Stormwater Retrofit Implementation (FL01, FL81)		x						YES	\$600,000		2018	-	\$618,000	-	-	-	\$716,431	\$737,924	-	-	-	-	\$2,072,356
5228E	(Forest) Shoreline Survey		x							\$13,000		2015	-	-	-	\$14,632	-	-	-	-	-	-	-	\$14,632
5228F	(Forest) Imperial Ave Area BMP Design (FL44)		x							\$12,000		2017	-	-	-	-	-	\$14,329	-	-	-	-	-	\$14,329
5228G	(Forest) Imperial Ave Area BMP Implementation (FL44)		x						YES	\$60,000		2018	-	-	-	-	-	\$73,792	-	-	-	-	-	\$73,792
5228H	(Forest) North Shore Trail BMP Design (FL44)		x							\$20,000		2015	-	-	-	\$22,510	-	-	-	-	-	-	-	\$22,510
5228I	(Forest) North Shore Trail BMP Implementation (FL44)		x						YES	\$80,000		2016	-	-	-	-	\$92,742	-	-	-	-	-	-	\$92,742
5228J	(Forest) In-Lake Treatment		x							\$1,230,000		2021	-	-	-	-	-	-	-	-	-	-	\$1,604,871	\$1,604,871
5228K	(Forest) WJD 6 Assessment and Implementation Plan		x							-			-	-	-	-	-	-	-	-	-	-	-	-
5228L	(Forest) WJD 6 Improvements Implementation		x						YES	-			-	-	-	-	-	-	-	-	-	-	-	-
5229A	(Comfort) Sunrise Regional Stormwater Project Feasibility & Design		x							\$330,000		2011	\$329,000	-	-	-	-	-	-	-	-	-	-	\$329,000
5229B	(Comfort) Sunrise Regional Stormwater Project Implementation		x						YES	\$990,000		2012-2016	-	\$203,940	\$210,058	\$216,360	\$222,851	\$229,536	-	-	-	-	-	\$1,082,745
5229C	(Comfort) Shoreline Survey		x							\$8,500		2013	-	-	\$9,018	-	-	-	-	-	-	-	-	\$9,018
5229D	(Comfort) BMP Feasibility Study for District's Tax Forfeited Land		x							\$50,000		2013	-	-	\$53,045	-	-	-	-	-	-	-	-	\$53,045
5229E	(Comfort) BMP Implementation on District's Tax Forfeited Land		x						YES	\$500,000		2014	-	-	\$546,364	-	-	-	-	-	-	-	-	\$546,364
5229F	(Comfort) Bixby Park Stormwater Ponds Design		x							\$264,000		2012	-	\$271,920	-	-	-	-	-	-	-	-	-	\$271,920
5229G	(Comfort) Bixby Park Stormwater Treatment Implementation		x						YES	\$5,600,000	\$1,600	2013-2017	-	-	\$1,188,208	\$1,225,603	\$1,262,371	\$1,300,242	\$1,339,249	\$1,968	\$2,027	\$2,027	\$2,088	\$6,323,781
5299A	(Heims) Lake Water Quality Study		x							\$20,000		2012	-	\$20,600	-	-	-	-	-	-	-	-	-	\$20,600
5299B	(First) Lake Water Quality Study		x							\$20,000		2013	-	-	\$21,218	-	-	-	-	-	-	-	-	\$21,218
5299C	(Second) Lake Water Quality Study		x							\$20,000		2013	-	-	\$21,218	-	-	-	-	-	-	-	-	\$21,218
5299D	(Third) Lake Water Quality Study		x							\$20,000		2013	-	-	\$21,218	-	-	-	-	-	-	-	-	\$21,218
5299E	(Fourth) Lake Water Quality Study		x							\$20,000		2014	-	-	-	\$21,855	-	-	-	-	-	-	-	\$21,855
5299F	(Sea) Lake Water Quality Study		x							\$20,000		2014	-	-	\$21,855	-	-	-	-	-	-	-	-	\$21,855
5299G	(Nielsen) Lake Water Quality Study		x							\$20,000		2015	-	-	-	\$22,510	-	-	-	-	-	-	-	\$22,510
5299H	(Clear) Lake Water Quality Study		x							\$20,000		2016	-	-	-	-	\$23,185	-	-	-	-	-	-	\$23,185
5299I	(Twin) Lake Water Quality Study		x							\$20,000		2017	-	-	-	-	-	\$23,881	-	-	-	-	-	\$23,881
5299J	(Cranberry) Lake Water Quality Study		x							\$20,000		2018	-	-	-	-	-	-	\$24,597	-	-	-	-	\$24,597
5299K	(Elwell) Lake Water Quality Study		x							\$20,000		2019	-	-	-	-	-	-	-	-	\$25,335	-	-	\$25,335
5299L	(Lendt) Lake Water Quality Study		x							\$20,000		2020	-	-	-	-	-	-	-	-	\$25,335	-	-	\$25,335
5300	Streams									\$464,000	\$2,400		-	\$50,264	\$849	\$51,140	\$62,803	\$308,135	\$955	\$984	\$1,013	\$1,013	\$1,044	\$478,201
5340A	(Sunrise) Stream Assessment			x						\$48,000		2012	-	\$49,440	-	-	-	-	-	-	-	-	-	\$49,440
5340B	(Sunrise) E. coli Source Assessment & Implementation Plan			x						\$10,000		2015	-	-	-	\$11,255	-	-	-	-	-	-	-	\$11,255
5340C	(Sunrise) Forest Lake Outlet Channel Design and Restoration			x					YES	\$50,000		2016	-	-	-	-	-	-	-	-	-	-	-	-
5341A	(BBSLC Tributary) Stream Assessment			x						\$38,000		2014	-	-	\$41,524	-	-	-	-	-	-	-	-	\$41,524
5341B	(BBSLC Tributary) School-Little Comfort Tributary Stream Restoration Design			x						\$30,000		2015	-	-	\$16,883	\$17,389	-	-	-	-	-	-	-	\$34,272
5341C	(BBSLC Tributary) School-Little Comfort Tributary Stream Restoration			x					YES	\$250,000	\$800	2016	-	\$824	\$849	\$874	\$900	\$290,746	\$955	\$984	\$1,013	\$1,013	\$1,044	\$299,203
5341D	(BBSLC Tributary) E. coli & DO Source Assessment & Imp. Plan																							

Implementation Initiatives		Issue Areas							CIP	One-Time/	Annual	Timeframe	COSTS													
													2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	10-Year Total		
		Floodplain	Lakes	Streams	Wetlands	Upland Resources	Groundwater	Public Education	Interagency Communication				(current year, for comparison)													
5400	Wetlands										\$2,147,000	\$800			\$102,009	\$383,160	\$83,811	\$162,816	\$968,838	\$927	\$955	\$984	\$108,689	\$634,398	\$1,044	\$2,447,632
5420A	Wetland Inventory				x						\$145,000		2012-2014	-	\$89,610	\$30,766	\$31,689	-	-	-	-	-	-	-	-	\$152,065
5420B	Wetland Restoration/Bank Feasibility Study				x						\$85,000		2019	-	-	-	-	-	-	-	-	-	\$107,675	-	-	\$107,675
5420C	Wetland Restoration/Bank Implementation				x				YES		\$500,000		2020	-	-	-	-	-	-	-	-	-	-	-	-	\$633,385
5421A	(Moody) Wetland Restoration and Cattle Exclusion (NBL12)		x		x				YES		\$62,009		2011	\$62,009	-	-	-	-	-	-	-	-	-	-	-	\$62,009
5422A	(Bone) Phosphorus Source Assessment (NBL17)		x		x						\$25,000		2012	-	\$25,750	-	-	-	-	-	-	-	-	-	-	\$25,750
5422B	(Bone) Wetland Restoration Feasibility & Design (NBL17)		x		x						\$25,000		2013	-	-	\$26,523	-	-	-	-	-	-	-	-	-	\$26,523
5422C	(Bone) Wetland Restoration (NBL17)		x		x				YES		\$260,000		2012	-	\$267,800	-	-	-	-	-	-	-	-	-	-	\$267,800
5422D	(Bone) Phosphorus Source Assessment (SBL38)		x		x						\$25,000		2013	-	-	\$26,523	-	-	-	-	-	-	-	-	-	\$26,523
5422E	(Bone) Wetland Restoration Planning & Design (SBL38)		x		x						\$25,000		2014	-	-	-	\$27,318	-	-	-	-	-	-	-	-	\$27,318
5422F	(Bone) Wetland Restoration (SBL38)		x		x				YES		\$240,000		2015	-	-	-	-	\$270,122	-	-	-	-	-	-	-	\$270,122
5422G	(Bone) Wetland Restoration Feasibility & Design (all subsheds)		x		x						-			-	-	-	-	-	-	-	-	-	-	-	-	-
5422H	(Bone) Wetland Restoration Implementation (all subwatersheds)		x		x				YES		-			-	-	-	-	-	-	-	-	-	-	-	-	-
5423A	(Birch) Wetland Phosphorus Source Assessment (LCL20)		x		x						\$30,000		2014	-	-	-	\$32,782	-	-	-	-	-	-	-	-	\$32,782
5423B	(Birch) Wetland Restoration Design (LCL20)		x		x						\$65,000		2014	-	-	-	\$71,027	-	-	-	-	-	-	-	-	\$71,027
5423C	(Birch) Wetland Restoration (LCL20)		x		x				YES		\$620,000	\$800	2015	-	-	-	-	\$698,716	\$927	\$955	\$984	\$1,013	\$1,013	\$1,044	\$704,653	
5428A	(Forest) Wetland Restoration & Cattle Exclusion (FL44)		x		x				YES		\$40,000		2011	\$40,000	-	-	-	-	-	-	-	-	-	-	-	\$40,000
5500	Upland Resources										\$79,000	-			\$30,900	\$21,218	\$24,040	\$7,879	-	-	-	-	-	-	-	\$84,037
5520A	Invasive Species Management Plan					x					\$7,000		2015	-	-	-	-	\$7,879	-	-	-	-	-	-	-	\$7,879
5520B	MLCCS Update					x					\$50,000		2012-2013	-	\$30,900	\$21,218	-	-	-	-	-	-	-	-	-	\$52,118
5520C	Natural Resources Inventory and Prioritization					x					\$22,000		2014	-	\$22,000	-	\$24,040	-	-	-	-	-	-	-	-	\$24,040
5600	Groundwater										\$163,000	\$1,000		\$1,000	\$9,270	\$1,061	\$17,484	\$51,773	\$18,548	\$96,718	\$1,230	\$1,267	\$1,267	\$1,305	\$1,305	\$200,923
5620A	GW-Dependent Natural Resource Inventory and Review					x					\$8,000		2012	-	\$8,240	-	-	-	-	-	-	-	-	-	-	\$8,240
5620B	GW-Dependent Natural Resource Action Plan					x					\$20,000		2014	-	-	-	\$21,855	-	-	-	-	-	-	-	-	\$21,855
5620C	Provide Comments on Water Appropriation Permit Applications					x					\$1,000		Annual	\$1,000	\$1,030	\$1,061	\$1,126	\$1,159	\$1,194	\$1,230	\$1,267	\$1,267	\$1,305	\$1,305	\$12,731	
5227A	(Sylvan) Groundwater Protection Feasibility Study		x			x					\$15,000		2014	-	-	-	\$16,391	-	-	-	-	-	-	-	-	\$16,391
5227B	(Sylvan) Groundwater Protection Implementation		x			x			YES		\$45,000		2015	-	-	-	\$50,648	-	-	-	-	-	-	-	-	\$50,648
5628A	(Forest) GW-Dep. Natural Resource Interpretive Feature Feasibility (FL44)					x					\$15,000		2016	-	-	-	-	\$17,389	-	-	-	-	-	-	-	\$17,389
5628B	(Forest) GW-Dep. Natural Resource Interpretive Feature Implementation (FL44)					x					\$80,000		2017	-	-	-	-	-	\$95,524	-	-	-	-	-	-	\$95,524
5700	Public Education										\$60,000	-			-	-	-	\$67,531	-	-	-	-	-	\$76,006	-	\$143,537
5720A	Education in Public Parks – Land/Water Connection and District Resd	x	x	x	x	x	x	x			\$60,000		2015, 2020	-	-	-	-	\$67,531	-	-	-	-	-	\$76,006	-	\$143,537