



PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

AGENDA

Tuesday, April 11, 2023

6:00 PM

Council Chambers
Prior Lake City Hall

BOARD OF MANAGERS:

**Bruce Loney, President; Frank Boyles, Vice President;
Christian Morkeberg, Treasurer; Ben Burnett, Secretary; Matt Tofanelli, Manager**

Note: Individuals with items on the agenda or who wish to speak to the Board are encouraged to be in attendance when the meeting is called to order.

Closed Board Meeting 3:30 PM – *Parkview Conference Room*

- Wetland Enhancement Project Negotiation Discussion (Closed Meeting)

Board Workshop 4:00 PM – *Parkview Conference Room*

For this workshop (not board meeting), there will be an option for attendance via Interactive Technology

[Click here to join the meeting](#)

One PLSLWD manager will be participating at the *workshop only* using interactive technology from Northwest Regional Library, 16089 N Bullard Ave, Surprise, AZ that is open and accessible to the public:

- Board Expectations of CAC Contributions (Matt Tofanelli)
- Revised Aquatic Vegetation Policy - Status Update (Matt Tofanelli)
- Fish Lake Management Plan Update – Status Update (Emily Dick)
- Evaluation of Progress on Water Resources Management Plan Goals (Emily Dick)
- Minnesota Watersheds Membership (Joni Giese)
- Staffing Update (Joni Giese)
- Liaison Updates

6:00 – 6:02 PM 1.0 **BOARD MEETING CALL TO ORDER & PLEDGE OF ALLEGIANCE**

6:02 – 6:07 PM 2.0 **PUBLIC COMMENT**

If anyone wishes to address the Board of Managers on an item not on the agenda or on the consent agenda, please come forward at this time. Go up to the podium, turn on the microphone and state your name and address. (The Chair may limit your time for commenting.)

6:07 – 6:10 PM 3.0 **APPROVAL OF AGENDA** (Additions/Corrections/Deletions)

6:10 – 7:10 PM 4.0 **OTHER OLD/NEW BUSINESS**

- 4.1 Programs & Projects Update (Discussion Only)
- 4.2 Permit Application 23.01 Fish Point Road Phase 2, City of Prior Lake - Nick Monserud, PE (Vote)
- 4.3 Sutton Lake Management Plan Approval (Vote)
- 4.4 Buck Wetland Enhancement Feasibility Study Approval (Vote)
- 4.5 2022 Annual Report Approval (Vote)

- 4.6 Resolution 23-368: Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648-Permitting and Compliance (Vote)
Resolution 23-369: Amending the 2023 Budget, 611-Fish Management, Rough Fish Removal Budget Line Item (Vote)

7:10 – 7:15 PM 5.0 **TREASURER’S REPORT**

5.1 Monthly Financial Reports (Discussion Only)

- Financial Report
- Treasurers Report
- Cash Flow Projections

5.2 Quarterly Financial Reports

- Balance Sheet
- Cost Analysis

7:15 – 7:20 PM 6.0 **CONSENT AGENDA**

The consent agenda is considered as one item of business. It consists of routine administrative items or items not requiring discussion. Items can be removed from the consent agenda at the request of the Board member, staff member, or a member of the audience. Please state which item or items you wish to remove for separate discussion.

- 6.1 Meeting Minutes – March 14, 2023, Board Workshop
- 6.2 Meeting Minutes – March 14, 2023, Board Meeting
- 6.3 Meeting Minutes – January 26, 2023, CAC Meeting
- 6.4 Claims List & Visa Expenditures Summary
- 6.5 League of Minnesota Cities Liability Coverage Waiver
- 6.6 Blue Water Science Aquatic Plant Survey Contract
- 6.7 Three Rivers Park District Water Quality Monitoring Contract
- 6.8 PLSLWD Website Redesign Request for Proposals
- 6.9 Ferric Chloride System Assessment Request for Proposals

7:20 – 7:25 PM 7.0 **UPCOMING MEETING/EVENT SCHEDULE:**

- CAC Meeting, Thursday, April 27, 2023, 6:00 pm (Prior Lake City Hall – Wagon Bridge Conference Room)
- Board of Managers Workshop, Tuesday, May 9, 2023, 4:00 pm (Prior Lake City Hall – Parkview Conference Room)
- Board of Managers Meeting, Tuesday, May 9, 2023, 6:00 pm (Prior Lake City Hall – Council Chambers)

7:25 PM 8.0 **ADJOURNMENT**



PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

APRIL 2023 PROGRAMS AND PROJECTS UPDATE

PROGRAM OR PROJECT	LAST MONTH'S STAFF ACTIVITIES	NEXT STEPS
Sutton Lake Outlet and Lake Management Plan <i>Project Lead: Emily</i>	Lake Management Plan <ul style="list-style-type: none"> Received MNDNR comments on draft plan. Confirmed MNDNR opinion on drawdown requirements, and applicable aquatic plant management guidelines. Worked with EOR to prepare final draft based on MNDNR comments. 	Lake Management Plan <ul style="list-style-type: none"> Monitor effects of recent drought conditions to inform future drawdown.
Carp Management <i>Rough Fish Management (Class 611)</i> <i>Project Lead: Jeff</i>	<ul style="list-style-type: none"> Tracking & Removals: Tracked radio tagged carp on Spring and Upper Prior Lakes. Radio tracking results showed that carp were not aggregated. Barriers: Checked that carp barriers are free of debris and operational. 	<ul style="list-style-type: none"> Continue to track tagged carp Remove fish in open water with commercial netters before May 13. Prepare equipment for in-stream spawning removals. Plan for bluegill stocking in springtime.
Ferric Chloride System Operations <i>Project Lead: Jeff</i>	<ul style="list-style-type: none"> Drafted a RFP for a system update and lifetime assessment. Dewinterized system and resumed dosing operations. Submitted quarterly reporting. Received positive 2022 compliance summary. Updated contact information. 	<ul style="list-style-type: none"> If RFP is approved by Board, solicit proposals. Begin weekly required monitoring.

APRIL 2023 PROGRAMS AND PROJECTS UPDATE

PROGRAM OR PROJECT	LAST MONTH'S STAFF ACTIVITIES	NEXT STEPS
<p>Upper Watershed Projects <i>Buck Wetland, Sutton IESF, Swamp IESF, Buck Chemical Treatment, Ditch 13 Chemical Treatment, Spring Lake West IESF</i></p> <p><i>Project Lead: Emily</i></p>	<p>Buck Wetland Enhancements</p> <ul style="list-style-type: none"> Received comments on draft feasibility study from DNR and worked with DNR to clarify comments. Updated draft feasibility study to address DNR comments. Conducted follow-up work related to landowner meeting. <p>Spring Lake West IESF/Wetland</p> <ul style="list-style-type: none"> Conducted follow-up work related to landowner meeting. <p>Sutton Lake IESF</p> <ul style="list-style-type: none"> Conducted follow-up work related to landowner meeting. Began preliminary work on alternate sites. Met with landowner to follow up on existing concerns. <p>2023 WBIF Studies</p> <ul style="list-style-type: none"> Held kick-off coordination meetings with both contractors. Began developing a stakeholder engagement schedule for Fish Lake Management Plan Update. <p>Potential Flood Storage Projects</p> <ul style="list-style-type: none"> Received notice grant application to MPCA, for two flood storage feasibility studies, was unsuccessful. Sought feedback on application. Met with one landowner and continued to try and reach other landowners. Developed project budget estimates for Project 5 for Board consideration. 	<p>Buck Wetland Enhancements</p> <ul style="list-style-type: none"> Plan a follow-up meeting with landowner. Conduct water quality monitoring to inform project development. <p>Spring Lake West IESF/Wetland</p> <ul style="list-style-type: none"> Monitor progress on comprehensive plan amendment request to determine cost effectiveness of wetland project development. Continue IESF landowner outreach and follow-up. Coordinate with Scott County on road right of ways. <p>Sutton Lake IESF</p> <ul style="list-style-type: none"> Assess landowner willingness and site feasibility in determining next steps. <p>2023 WBIF Studies</p> <ul style="list-style-type: none"> Begin field work as soon as conditions are amenable. Distribute Fish Lake Management Plan Update (FLMPU) engagement schedule to landowners and stakeholders. Present FLMPU project introduction at April 13th Spring Lake Township meeting. <p>Potential Flood Storage Projects</p> <ul style="list-style-type: none"> Continue outreach to landowners of Project 6 and follow up on remaining questions for Project 1 landowners. Continue to coordinate with SWCD on the potential development of Flood Storage Project 5 if approved by Board.

APRIL 2023 PROGRAMS AND PROJECTS UPDATE

PROGRAM OR PROJECT	LAST MONTH'S STAFF ACTIVITIES	NEXT STEPS
Farmer-Led Council <i>Project Lead: Emily</i>	<ul style="list-style-type: none"> Held Lake Friendly Farm awards and FLC meeting on March 15th 12-3 pm. Met with Scott SWCD to discuss Lake Friendly Farm incentives. 	<ul style="list-style-type: none"> Plan next FLC meeting for August. Continue to support and review FLC projects.
Cost Share Incentives <i>Project Lead: Emily</i>	<ul style="list-style-type: none"> Met with SWCD on upcoming cost share projects. 	<ul style="list-style-type: none"> Review cost share applications with Scott SWCD as needed. Present non-traditional cost share project types for Board approval as applicable.
Website and Media <i>Project Lead: Emily</i>	<ul style="list-style-type: none"> Social Media – posted on all social channels about: Lake Friendly Farm event, carp removal from Upper Prior Lake, Specialist position hiring, and ice out. 	<ul style="list-style-type: none"> Consider submitting article for the Summer SCENE issue Continue writing posts and updates about projects on the website Continue updating Facebook, and Instagram about projects & news
Citizen Advisory Committee <i>Project Lead: Emily</i>	<ul style="list-style-type: none"> March CAC meeting had discussion on role of CAC, bylaws, and election of Chair. 	<ul style="list-style-type: none"> Prepare for April 27th CAC meeting. Continue discussion on desired role of CAC with CAC members and Board and adjust bylaws and operation to best suit. Recruit CAC members. Elect CAC Vice Chair, if desired.
Education Program <i>Project Lead: Emily</i>	<ul style="list-style-type: none"> Coordinated with SCWEP staff. See Website and Media section Presented at Spring Lake Township annual meeting on March 14th 	<ul style="list-style-type: none"> Prepare presentation for Spring Lake Association annual meeting (April 23rd)
Monitoring Program <i>Project Lead: Jeff</i>	<ul style="list-style-type: none"> Completed 3 of 3 winter dissolved oxygen (DO) and chloride monitoring events. Shallow lakes are experiencing very low DO levels leading to winterkill conditions and observations. Completed contracting documents for TRPD lake monitoring and SWCD stream flow monitoring. Coordinated with Met Council and District volunteers to continue Citizen-Assisted- Monitoring-Program (CAMP). A total of 9 lakes are projected to be monitored through this program this year. Began installing lake and stream level loggers as conditions allow. 	<ul style="list-style-type: none"> Complete lake and stream equipment installations. Conduct bi-weekly stream chemistry monitoring. Continue working on solution to connect telemetry loggers, WISKI database, and website. Complete Lake Report cards for Tier 2 and 3 lakes based on 3-year rotations. Work on 2022 lake and stream reporting. Continue WISKI database data migration.
Aquatic Vegetation Management and Surveys <i>Project Lead: Jeff</i>	<ul style="list-style-type: none"> Finalize contracts for 2023. Posted Biobase report on website. Worked on aquatic plant management policy guidelines. 	<ul style="list-style-type: none"> Confirm availability with contractors on DNR AIS control grants. Work through CLP treatment process.

APRIL 2023 PROGRAMS AND PROJECTS UPDATE

PROGRAM OR PROJECT	LAST MONTH'S STAFF ACTIVITIES	NEXT STEPS
AIS <i>Project Lead: Shauna</i>	<ul style="list-style-type: none"> Renewed 2023 boat inspection contract with Waterfront Restoration. 	<ul style="list-style-type: none"> Post article on County AIS Plans and post to social media.
Rules Revisions <i>Project Lead: Joni</i>	<ul style="list-style-type: none"> Continue to revising draft equivalency agreements based on legal counsel review comments. Met with City of Savage about status of City's rules update process. 	<ul style="list-style-type: none"> Continue to consult with other LGUs regarding process to bring their rules to be equivalent with District rules. Forward draft equivalency agreements to LGUs for review. Manager approval of cost cap and stormwater implementation fund rates.
BMPs & Easements <i>Project Lead: Joni</i>	<ul style="list-style-type: none"> Prepared conservation easement amendment for a property owner. Met with Scott SWCD to transition conservation easement inspection and establishment activities to SWCD. 	<ul style="list-style-type: none"> Finalize outstanding in-progress easement amendments and send to landowners for review. Continue transition meetings with Scott SWCD. Hold field training session regarding easement inspections.
Permitting <i>Project Lead: Joni</i>	<ul style="list-style-type: none"> Worked with Scott County to secure all remaining conditional approval materials associated with Spring Lake Regional Park required to issue of permit (22.02) for District Rules C and E. Provided permit review comments to City of Prior Lake for two proposed developments. Performed permit application review for City of Prior Lake Fish Lake Road Phase 2 project (23.01). Attended preconstruction meeting for City of Prior Lake Fish Lake Road Phase 2 project. Held permit task transition meetings with Scott SWCD. 	<ul style="list-style-type: none"> Issue permit for Spring Lake Regional Park for rules C and E. Secure and review soil samples test results before issuing permit for Rule D. Attend preconstruction meeting for Spring Lake Regional Park project. Contingent on board approval and receipt of all conditional approval materials, issue permit for City of Prior Lake Fish Lake Road Phase 2 project (23.01). Continue permit task transition to Scott SWCD.
Planning Activities <i>Project Lead: Joni</i>	<ul style="list-style-type: none"> Finished preparation of PLSLWD 2022 Annual Report. 	<ul style="list-style-type: none"> Initiate SCALE Water Committee convening. Continue participation in Lower MN East 1W1P Advisory Committee. Contingent on board approval, submit 2022 Annual report to BWSR and DNR.

APRIL 2023 PROGRAMS AND PROJECTS UPDATE

PROGRAM OR PROJECT	LAST MONTH'S STAFF ACTIVITIES	NEXT STEPS
Outlet Channel Projects and Administration <i>Project Lead: Emily/Jeff</i>	<ul style="list-style-type: none"> Received approval notice for Prior Lake Outlet Control Structure Management Policy and Operating Procedures (MPOP) permit amendments and renewal. Continued work on outlet structure monitoring equipment telemetry connections. WSB's proposal was selected for pipe lining work and Cooperators approved entering into an agreement at a Special Meeting March 21st. Held a kick off meeting with WSB to discuss project schedule and priorities. Conducted pre-melt channel inspections. Coordinated with EOR for seasonal channel surveys to identify invasive vegetation and stability concerns. Sent RFQ for invasive vegetation management. 	<ul style="list-style-type: none"> Continue to work with WSB to complete design and engineering reports. Present draft/preliminary budget estimates and design for Board consideration May 9th. Present engineer reports and design at May 18th PLOC Cooperators meeting to seek approval to solicit bids for contractor. Complete contracting for invasive vegetation management. Survey pond depths in segment 5. Complete level logger installs.
General Administration <i>Project Lead: Joni</i>	<ul style="list-style-type: none"> Annual audit (March 16 and 17). Interviewed and made offers to two seasonal interns. Posted job notice to fill Water Resources Specialist I position. Prepared RFP for District Website Redesign. Prepared proposed budget revisions for April meeting. 	<ul style="list-style-type: none"> Review draft audit materials in preparation of presentation of audit results at May board meeting. Issue RFP for District Website Redesign. Continue file archiving process. Transfer District credit card to new account. Renew commercial and workers compensation insurance.

PLSLWD Board Staff Report

March 31, 2023


**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT**

Subject | Permit Application No. 23.01
Fish Point Road Phase 2- City of Prior Lake

Board Meeting Date | April 11, 2023

Item No: 4.2

Prepared By | Joe Hale, Scott Soil and Water Conservation District

Attachments |

- a) Project Location Map
- b) Permit Application and Staff Review Comments
- c) DRAFT Memorandum of Agreement – Stormwater Volume Management

Note: Construction plan sheets for the project can be found at:
<https://tinyurl.com/24tsnyef>

Proposed Action | Staff Recommends Board approval of the permit application for Phase 2 subject to conditions noted in the Permit Application and Staff Review Comments.

Introduction

The proposed project area is within the existing road right of way of Fish Point Road, starting from the southern project limit at County Road 44 (160th Street SE) heading north to the northern project limit at the intersection of Omega Trail.

The City of Prior Lake (the “City”) is leading the project that will include the complete reconstruction of Fish Point Road within the project area described above. The total area of disturbance will be 5.7 acres. The following District rules apply to the project: Rule C- General Standards, Rule D- Stormwater Management, and Rule E- Erosion and Sediment Control.

As referenced in the staff review comments, compliance with District Rule D – Stormwater management is subject to the City of Prior Lake amending the current Memorandum of Agreement with PLSLWD to include the additional stormwater credit deficit required for this project.

While the attached application states the project is for Fish Point Road Phase 2 & 3, only Phase 2 materials were submitted for PLSLWD review. Therefore, application approval is being recommended for Phase 2 only.

Note to Permit Applicant

This report is not a permit. If the District Board approves the project, the applicant must then obtain a permit through District Staff.

Watershed District Board Decision

The complete permit application was received March 7, 2023. To meet the procedural requirements of Rule B and Minnesota Statutes Section 15.99 regarding time deadlines for Board action, the Board must decide to either:

- 1) Approve or deny the permit application by May 6, 2023 (60-day period)
- or-
- 2) Provide written notice to the applicant of an extension of the 60-day period and state the reasons for the extension and its anticipated length, which may not exceed 60 days unless approved by the applicant.

Options for Action

- 1) Approve the application for Phase 2 subject to conditions noted in the Permit Application and Staff Review Comments.
- 2) Table the item, extend the application until a future specified date, and provide the applicant with direction on the issues that have been discussed.
- 3) Deny the application, stating the reasons for denial.

Staff Recommendation

Staff recommends Option 1, Board approval of the permit application for Phase 2, subject to conditions noted in the Permit Application and Staff Review Comments.

Attachment A: Permit 23.01: Fish Point Road Location Map





Prior Lake - Spring Lake Watershed District (PLSLWD)

4646 Dakota Street SE, Prior Lake, MN 55372, 952-447-4166

PERMIT APPLICATION, PAGE 1 OF 2

Note to Applicant: use this as the cover sheet for your application materials.

PROJECT NAME Fish Point Rd Phase 2 & 3		APPLICATION #: (to be assigned)
Name of Owner - Applicant City of Prior Lake	Phone #: 952-447-9834 Fax #:	Owner's Agent/Engineer: Name Nick Monserud Phone 952-447-9834 E-mail nmonserud@priorlakemn.gov
Address of Owner - Applicant (Street, City, State, Zip Code) 4646 Dakota St SE, Prior Lake, MN 55372		
Project Location (Township, Range, Section), PIDs, and Address Fish Pt Rd from TH13 to CR 44		Owner's Contact: Name City of Prior Lake Phone 952-447-9834 E-mail nmonserud@priorlakemn.gov
Project size (acres) 2.		
PERMIT CATEGORY (check applicable type(s)) <input checked="" type="checkbox"/> Land Disturbance (C) <input type="checkbox"/> Floodplain Alteration (F) <input type="checkbox"/> Drainage Alteration (I) <input checked="" type="checkbox"/> Stormwater Mgt (D) <input type="checkbox"/> Wetland Alteration (G) <input type="checkbox"/> Buffer Strips (J) <input checked="" type="checkbox"/> Erosion & Sediment Ctrl (E) <input type="checkbox"/> Bridge & Culvert Crossings (H) <input type="checkbox"/> Other: _____		
PROJECT DESCRIPTION Fish Point Rd. is to be fully reconstructed from TH13 to CR 44. As part of this project the City will need to go into additional stormwater credit deficit and amend the current agreement between the City and PLSLWD.		
GENERAL CONDITIONS <ol style="list-style-type: none"> 1. The Permittee grants to the District, and its agents, employees, officers and contractors, a license to enter the Project to perform any inspections or work authorized by the Permit or any applicable law. This license shall expire after acceptance of the work by the District and issuance of a Certificate of Completion. 2. The Permittee shall indemnify, defend and hold the District and its agents, employees and officers harmless for all claims made by itself and third parties for damages or loss sustained or costs incurred, including engineering and attorneys' fees, as a result of issuance of the Permit or construction of the Project. 3. The Permittee shall provide the District with a Permit Fee Deposit in accordance with District requirements (see page 2). The Permit Fee Deposit will be held in escrow and used by the District to pay the actual costs incurred by the District, including engineering and legal fees, to process and review the Permit Application, to inspect and monitor the activities authorized by the Permit, and to ensure compliance with the District's rules. The Permittee shall fully pay all bills submitted to it by the District within seven days of receipt. Bills not so paid shall accrue interest at the rate of 8% per year. 4. The Permittee shall obtain such easements as may be required for construction of the Project and provide in the final plat for the Project utility and drainage easements acceptable to the District to protect all hydrologic features within the Project and to provide access for the maintenance of the stormwater management facilities to be constructed pursuant to the Permit. 5. To assure full compliance with the terms of the Permit, the Permittee shall deposit with the District a cash security or irrevocable letter of credit in a form and from a surety satisfactory to the District, in the amount specified under the Special Conditions of the Permit, once issued. 6. By acceptance of the Permit, Permittee acknowledges and agrees to perform and be bound by all general and special terms and conditions of the Permit. 		
<u>CONTINUED ON NEXT PAGE</u>		

**PERMIT APPLICATION, PAGE 2 OF 2**

Prior Lake - Spring Lake Watershed District (PLSLWD)

4646 Dakota Street SE, Prior Lake, MN 55372, 952-447-4166

PROJECT NAME

Fish Point Rd Phase 2 & 3

APPLICATION #: (to be assigned)

23.01

Permit Fee Deposit - to be paid with your application:

Instructions: Calculate the required Permit Fee Deposit by totaling the amounts from items A through D below (as applicable). Include the Permit Fee Deposit with your application. Checks may be payable to the Prior Lake-Spring Lake Watershed District.

Fill in amount here:

A) Grading or Alteration:

less than one acre	\$500	
1.0 to 4.99 acres	\$1,000	
5.0 to 19.9 acres	\$1,500	
20 acres or more	\$2,000	

B) Projects with Wetland or Flood Plain Areas

\$1,000

+

C) Bridge or Culvert Crossing of a Waterbody or Ditch

\$1,500 per crossing

+

D) Drainage Alterations

\$1,500

+

Total Permit Fee Deposit due with application**= \$ 0.00**Permit Fee Deposit information and conditions:

1. The Permit Fee Deposit will be held in escrow and used to pay the District's costs for reviewing the application and administering the permit (if approved), including staff costs, and engineering and legal fees.
2. If at any time the Permit Fee Deposit falls below 25% of the original amount, the District shall notify the applicant to replenish the fee deposit to the original amount.
3. Upon application approval, a separate permit security escrow shall be required from the applicant prior to permit issuance.
4. Upon final completion of the project and the issuance of a Certificate of Completion by the District, the District shall return any unspent balance in the Permit Fee Deposit to the applicant, less a \$10 application fee. The District does not pay interest on escrow deposits.

I hereby apply under District Rule B for a permit to complete the proposed project in accordance with the information submitted with this Application and the District's Rules, and I agree to the conditions on page one and two of this application.

Signature of Owner - Applicant

Your Name - please print

Nick Monserud

Date Submitted

3/7/2023

Application Received

Permit Fee Deposit Amt

Received (y/n)

District Representative

Prior Lake Spring Lake Watershed District Permit Application Number 23.01

Applicant:	Nick Monserud City of Prior Lake 952-447-9834 nmonserud@priorlakemn.gov	Agent:	Monica Heil WSB 612-247-9225 mheil@wsbeng.com
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Purpose: 0.63+/- miles of reconstruction of Fish Point Road SE.

Location: Fish Point Road SE from CSAH 44 (160th Street SE) north to TH 13.

District Rule: C, D & E

Recommendation: **Conditional Approval** pending receipt of the following items:

Stormwater Management

1. Map of existing subwatersheds, identification of stormsewer discharge locations, and assessment of downstream stormsewer capacity and changes to receiving waterbody (wetland) elevations if the project stormsewer capacity is increased or if impervious area is increased.
2. Clarification of the amount of new and reconstructed impervious surface proposed. The SWPPP (Sheet 70) indicates 3.5 acres whereas the WSB credit deficit memorandum indicates 4.32 acres.
3. Revised credit deficit memorandum and supporting calculations documenting volume control requirements for this project, and outstanding credit deficits from Permit 21.01 (1,905 CF) and Permit 22.01 (8,554 CF).
4. Update from the City of Prior Lake on the progress of the feasibility study for volume management practice(s) being investigated to address outstanding volume credit deficits.
5. Memorandum of Agreement between PLSLWD and the City of Prior Lake tallying the volume management credit deficit resulting from Permits 21.01, 22.01 and 23.01.

Administrative

6. Documentation of the status of the NPDES permit.

7. Performance security from the construction contractor in the amount of \$11,400 (\$2,000/acre x 5.7 acres of land disturbance).

- Conditions:
1. The permittee shall provide contact information for the responsible erosion and sediment control contractor prior to initiating work.
 2. The permittee shall invite District permit inspector to the preconstruction meeting and weekly progress meetings.
 3. The permittee shall obtain all other required permits and approvals.
 4. The permittee is responsible for the stabilization and maintenance of the adjacent areas disturbed by the construction.
 5. The permittee shall supply an as-built survey of stormwater management BMPs within 60 days of project substantial completion. The District shall review this survey as a part of the certificate of completion for the project.

- Exhibits:
1. Signed Permit Application dated 3/7/23, received 3/7/23.
 2. Credit Deficit memorandum prepared by WSB, dated 12/27/22, received 3/7/22.
 3. Construction Plans (89 sheets) prepared by WSB, last revised 1/30/23, received 3/7/23.
 4. PLSLWD Permit Files 21.01 and 22.01.
 5. Memorandum of Agreement for PLSLWD Permit Nos. 21.01 and 22.01, dated 6/20/22.

- Findings:
1. Description – The project includes reconstruction of 0.63 miles of Fish Point Road between CSAH 44 and TH 13 along with corresponding utilities, curb, and gutter. According to the SWPPP, the project disturbs 5.7 acres and results in a decrease of 0.10 acres of impervious for a total new/reconstructed impervious of 3.5 acres. According to the submitted volume credit deficit memorandum, 4.32 acres of new/reconstructed impervious is proposed. Clarification is required.

Permit Application No. 23.01

Fish Point Road Reconstruction (Phases 2)

2. Stormwater – Runoff from the project discharges to three outfalls including: 1) a wetland southeast of Glory Circle, 2) a wetland south of Hidden Oaks Circle, and 3) 160th Street SE stormsewer. Comparison of existing and proposed street profiles indicates there is no change to subcatchment divides or outfall locations. Given the discrepancy reported for new/reconstructed impervious surface, it is unclear if rate control is a concern. Clarification of existing and proposed impervious surface, by outfall location, is required to assess rate control and potential receiving waterbody water level changes.

Clarification of new and reconstructed impervious surface is required to assess volume control requirements. Also note that the WSB credit deficit memorandum is inaccurate in that it does not account for the credit deficits from Permit 22.01. Current credit deficit totals 10,459 CF (1,905 CF from Permit 21.01 and 8,554 from Permit 22.01).

3. Erosion & Sediment Control – An acceptable SWPPP and erosion control plan have been submitted. The plan includes existing and proposed stormsewer inlet protection, sediment control log where right-of-way slopes away from the road profile, rock construction entrances, riprap at the reconstructed stormsewer outfall, revegetation specifications and construction sequencing notes.
4. Wetlands – The project drains to two wetlands, which are not within the construction limits and will not be physically altered by the proposed project (except for riprap stormsewer outfall stabilization).
5. Floodplain – There is no floodplain onsite.

MEMORANDUM of AGREEMENT
Prior Lake-Spring Lake Watershed District and City of Prior Lake

**Stormwater Volume Management for Fish Point Road Reconstruction
and Prior Lake Downtown South Roadway Reconstruction Projects
(PLSLWD Permit Nos. 21.01, 22.01, 23.01)**

This Memorandum of Agreement (MOA) is entered into by the Prior Lake-Spring Lake Watershed District, a Minnesota political subdivision with purposes and powers set forth at Minnesota Statutes chapters 103B and 103D (PLSLWD) and the City of Prior Lake, a Minnesota municipal corporation ("Prior Lake") (together, the "Parties").

A. For the protection of water resources within its boundaries, pursuant to Minnesota Statutes §§103D.341 and 103D.345, the PLSLWD has adopted and implements rules requiring permits for land disturbing activities. The rules require, among other things, that the permittee provide for and maintain stormwater volume management practices to prevent impact from increased stormwater volume resulting from hard surface construction.

B. Prior Lake has received PLSLWD permits for the Fish Point Road Reconstruction Project (Permit No. 21.01), the Prior Lake Downtown South Roadway Reconstruction Project (Permit No. 22.01) and Fish Point Road Phase 2 (Permit No. 23.01). In each case, Prior Lake has determined, and the PLSLWD has concurred, that volume management practices could not feasibly be incorporated into the work, and Prior Lake has assumed the obligation to provide such practices independently.

C. On June 20, 2022, the Parties entered into a memorandum of agreement by which Prior Lake committed to provide 10,459 cubic feet of stormwater volume management practices associated with Permit No. 21.01 ("Fish Point MOA") and Permit No. 22.01. Its outstanding obligation under Permit No. 21.01 is 1,905 cubic feet of volume management and its outstanding obligation under Permit No. 22.01 is 8,554 cubic feet of volume management. On April 11, 2023, the PLSLWD Board of Managers approved Permit No. 23.01, conditioned on the Parties' entering into a new, superseding memorandum of agreement by which Prior Lake would provide for the 10,459 cubic feet of stormwater volume associated with Permit No. 21.01 and 22.01 and an additional 7,841 cubic feet of stormwater volume associated with Permit No. 23.01. This MOA is for the purpose of fulfilling this condition of Permit No. 23.01.

WHEREFORE the Parties agree as follows, intending to be legally bound:

1. Within 20 months from the effective date of this MOA, at its cost, Prior Lake will provide for one or more volume management practices affording a total of 18,300 cubic feet of stormwater volume management to be substantially complete and functional. Prior Lake will complete the practice or practices promptly thereafter. The practice or practices will:

- a. Capture stormwater within the direct drainage area to Prior Lake-Spring Lake.
- b. Provide for stormwater abstraction, or otherwise supply excess volume conforming to the volume conversion factor set forth in the current PLSLWD stormwater management rule.

- c. Conform to sound engineering design principles and, specifically, to design and freeboard requirements set forth in the current PLSLWD stormwater management rule.
- d. Be sited so that Prior Lake, by fee interest or easement of record, has perpetual access for inspection and maintenance staging.

The "current" rule, as used here, means the rule in effect at the time Prior Lake completes the 60 percent design.

2. With respect to each practice, Prior Lake will supply the PLSLWD with the feasibility assessment, 60 percent design and 90 percent design for the review and concurrence of the PLSLWD Administrator at each stage. Within three months after a practice is substantially complete, Prior Lake will provide to the PLSLWD record drawings prepared by a professional engineer.

3. Prior Lake will maintain the practice in perpetuity in accordance with the inspection and maintenance requirements of Prior Lake's NPDES MS4 permit. The PLSLWD may enforce those requirements with respect to the practice or practices subject to this MOA.

4. Prior Lake may be credited for any volume resulting from the practice or practices installed or constructed under this MOA that exceeds the volume required by this MOA. The amount to be credited will be as determined by the PLSLWD on the basis of the submitted record drawings. Credit use will be as the PLSLWD stormwater rule provides at the time that Prior Lake seeks to use the credit.

5. If Prior Lake has not met its obligation under paragraph 1, above, it will, or at any time before the indicated deadline it may, in place of that obligation pay into the stormwater impact fund maintained by the PLSLWD under its stormwater rule, in the amount specified by the schedule in place at the time of payment.

6. PLSLWD concurrence in the design of a practice under this MOA is solely for the purpose of determining, in its judgment and discretion, that the practice will allow Prior Lake to meet the requirements of the PLSLWD rule. In performing this role, the PLSLWD makes no representation or warranty to Prior Lake or any third party as to the adequacy or fitness of the design. Nothing in this agreement waives or limits any immunity, defense or liability limit that Prior Lake or the PLSLWD enjoys as a matter of law, with respect to the other party and any third party.

7. The effective date of this MOA is the date it was signed by the Parties. The MOA terminates when the PLSLWD has confirmed, in writing, the volume provided by Prior Lake to meet paragraph 1, above, and any volume credit under paragraph 4, or when Prior Lake has made payment under paragraph 5. Paragraphs 3, 4 and 6 will survive termination. The Fish Point MOA hereby is superseded and no longer of effect.

8. The above recitals are incorporated into this MOA, which incorporates and supersedes all prior negotiations, representations or agreements between the Parties, oral or written, concerning Prior Lake's obligation to provide volume management practices under Permit Nos. 21.01, 22.01, and 23.01.

***IN WITNESS THEREOF**, the Parties, intending to be legally bound, have caused this Agreement to be executed by their duly authorized officials.*

PRIOR LAKE-SPRING LAKE WATERSHED DISTRICT

Bruce Loney, President

Date

CITY OF PRIOR LAKE

Kirt Briggs, Mayor

Date



Subject | Sutton Lake Management Plan Approval

Board Meeting Date | April 11, 2023

Meeting Item: 4.3

Prepared By | Emily Dick, Project Manager

Attachments | Sutton Lake Management Plan

Action | Vote to approve Sutton Lake Management Plan

Background

After the construction of the Sutton Lake Outlet, PLSLWD began work to prepare a lake management plan for Sutton Lake. Based on landowner feedback, Board review, and consultations with Minnesota Department of Natural Resources (DNR) staff, various lake management approaches were prepared and analyzed in a final draft of the Sutton Lake Management Plan.

Overview

Staff will present the Sutton Lake Management Plan and proposed management actions based on updated DNR comments, for board review and comment.

Action Requested

Staff recommends board approval of the Sutton Lake Management Plan.

Prepared by: EOR

For the Prior Lake-Spring Lake Watershed District, April 2023

Sutton Lake Management Plan



Cover Image

Trumpeter Swans on Sutton Lake - April, 2019

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1. INTRODUCTION

Sutton Lake is a shallow lake (max depth 3 feet) at the headwaters of the Ditch 13 channel that drains a portion of the Prior Lake-Spring Lake watershed. A low diversity, high density aquatic plant community dominates the open water portion of the lake. The emergent fringe is dominated by a vast floating mat of invasive cattail. Though the lake is in a clear water state, limited monitoring data suggests high internal loading with downstream impacts.

A controlled outlet structure was installed at Sutton Lake in 2021 with the intent of providing flood storage benefit while allowing for habitat enhancement. The outlet is currently maintained at 939.0 feet and has capacity for drawdown to 937.0 feet. Drawdown is currently not included in the Public Waters Work Permit (2018-3741). This management plan develops a framework for active management at Sutton Lake for the purpose of habitat enhancement, with secondary benefits that may include flood storage. This plan includes a review of general lake information, plant community, wildlife habitat, and water quality of Sutton Lake, and sets goals and objectives for lake management. Plan development included multiple meetings and reviews with riparian landowners, DNR, and the PLSLWD Board (Table 1).

Table 1. Project consultation and review

Date	Activity
2/15/22	DNR Meeting 1
3/1/22	Landowner Meeting 1
3/17/22	DNR Meeting 2
5/10/22	Board Workshop 1: Project Introduction
6/14/22	Board Workshop 2: Status Update
7/14/22	DNR Meeting 3
10/11/22	Board Workshop 3: Status Update
11/2/22	Draft LMP sent to DNR for Review & Comment
11/15/22	Board Workshop 4: Draft LMP
11/16/22	Landowner Meeting 2
2/24/23	Final Comments Received from DNR

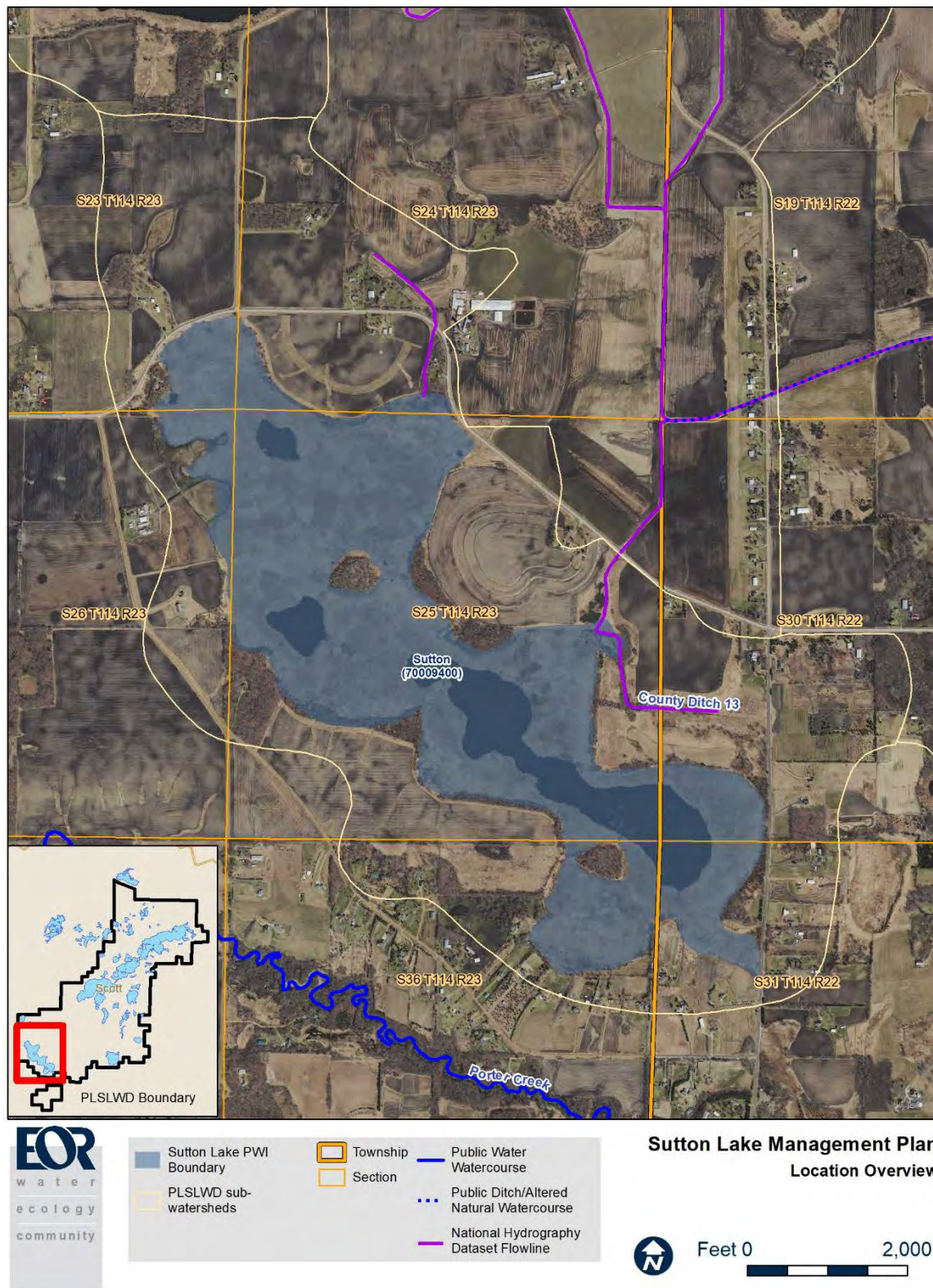


Figure 1. Overview of Sutton Lake

2. GENERAL LAKE INFORMATION

2.1. Location

Sutton Lake is located approximately 6.5 miles southwest of the City of Prior Lake, Scott County, Minnesota (Figure 1). The legal description is T114N, R22/23W, Sections 23, 24, 25, 26, 30, 31, 36.

2.2. Lake Dimensions

Sutton Lake is a public water basin approximately 490 acres in size with an open water area of approximately 64 acres. The remaining area is dominated by an emergent wetland fringe, primarily comprised of a floating mat. The maximum depth is 3 feet. Bathymetry transects beneath the floating mat suggest over 2 feet of free water is common beneath the mat consistent with the lake bottom across the open water portion of the lake (Figure 2).

2.3. Shoreline

The shoreline around the perimeter of the entire basin is 7.2 miles.

2.4. Access

No public boat access exists for Sutton Lake. The basin is entirely surrounded by private property with the exception of public roads.

2.5. Watershed

Sutton Lake's watershed encompasses 1,379 acres. The watershed to lake ratio is 2.8:1. Downstream of the lake, drainage is northeast to County Ditch 13, and then into Spring Lake and Prior Lake.

2.6. Inlets

There are no significant inlets to the basin, primary inflow is via overland flow from the surrounding upland.

2.7. Land Use

Land use in Sutton Lake's watershed is primarily row crop agriculture with hay/pasture, low-density residential, forest, and wetland.

2.8. Outlet

The outlet from Sutton Lake is located in the wetland complex along the east-central shoreline of Sutton Lake (as defined by the public water boundary). A controlled outlet structure was installed at Sutton Lake in 2021. The structure consists of two 10" storm sewer inlets with Clemson Levelers at 936.0, a 48" diameter storm manhole with stop logs, and a 24" outlet at 937.0. There are eight 6-inch PVC stop logs within the structure. The top of the stop logs are at 939.0. The bottom of the stop logs are at 935.0. All elevations are in NAVD 88 unless otherwise noted.

2.9. Runout Elevation

During normal operation, all eight stop logs remain in place to manage base-flow at 939.0 (same elevation as runout elevation prior to constructed outlet).

2.10. Ordinary High Water Level (OHWL)

The lake's OHWL is 940.5 feet (NGVD 29).

2.11. DNR Shoreland Management Classification

Sutton Lake is classified as a natural environment lake.

2.12. Historical Imagery

Historical aerial imagery is provided in Appendix A. The extent of open water and emergent fringe appears to have been relatively stable dating back to 1937.

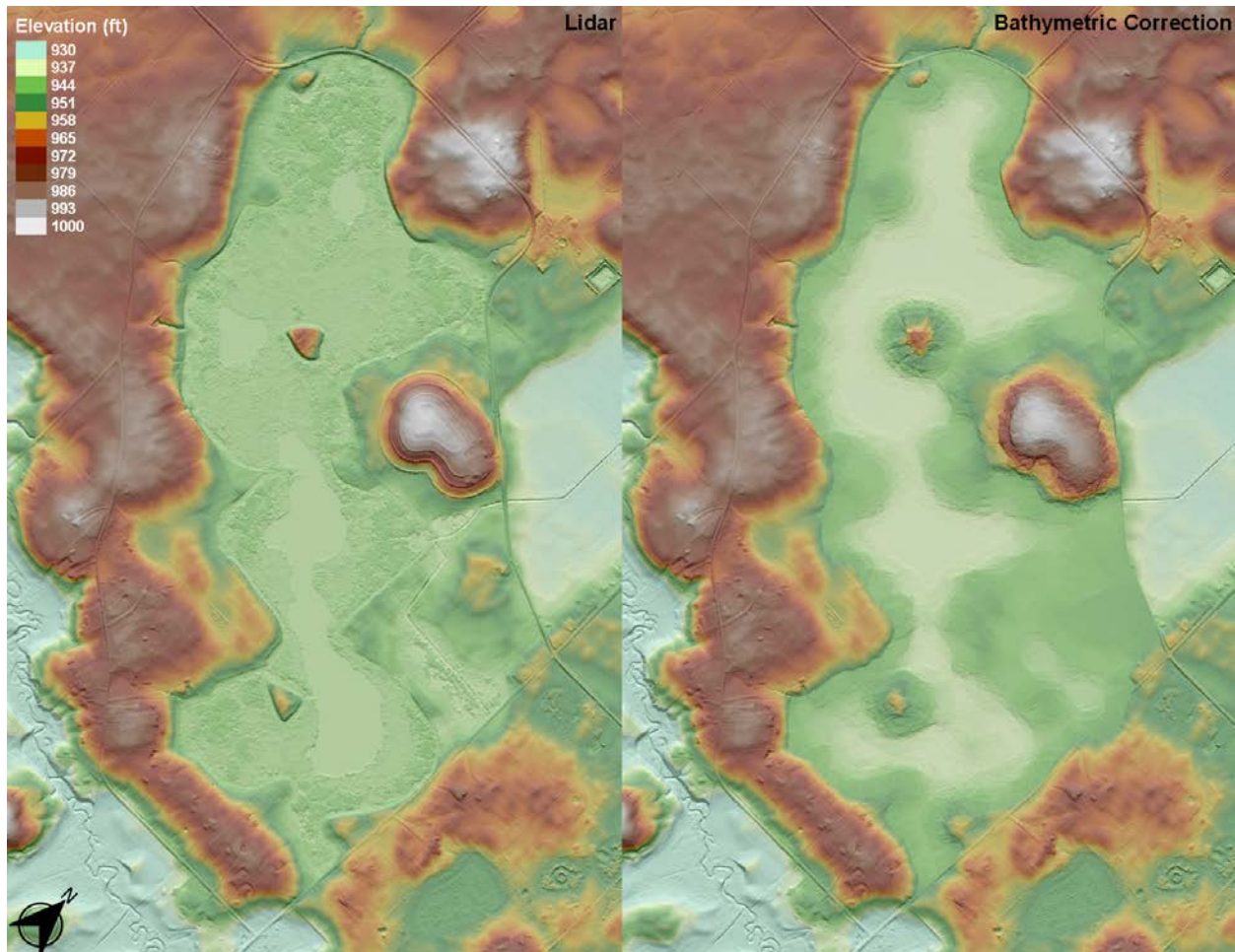


Figure 2. Left image is Lidar-derived digital elevation model (DEM). Right image is the corrected DEM with surveyed bathymetry data from open water areas and beneath the floating mat. Comparison of these two images illustrates the large area of cattail mat that is floating and the large volume of free water beneath the mat.

3. PLANT COMMUNITY

3.1. Existing Vegetation

The plant communities of Sutton Lake primarily consist of shallow open water communities in the center of the basin with a large emergent fringe of floating shallow marsh and small areas of wet meadow.

3.1.1. Shallow Open Water

The shallow open water community is dominated by dense cover of aquatic vegetation (~100% cover), primarily coontail (*Ceratophyllum demersum*) and white water lily (*Nymphaea odorata*) (Appendix B). The floristic quality index (FQI) for the plant community is 16.3 which is below the ecoregion average of 23.7 ± 8 and median of 22.5 (Table 2; Radomski and Perleberg, 2012). That said, the score is within the standard deviation and diversity might be considered moderate for a basin of such small size. Floating mud mats provide habitat for emergent species like bur-marigold (*Bidens cernua*) and wild rice (*Zizania palustris*). The wild rice was likely planted and is not abundant. The dense aquatic plant community is likely helping maintain the lake in a clear water state. No invasive aquatic plants were observed in shallow open water.

Table 2. FQI of Sutton Lake based on 2018 survey by Blue Water Science. Calculations performed by EOR.

Common Name	Scientific Name	C-Value
Bur marigold	<i>Bidens cernua</i>	3
Coontail	<i>Ceratophyllum demersum</i>	2
Flat-stem pondweed	<i>Potamogeton zosteriformis</i>	6
Unknown bladderwort*	<i>Utricularia</i> sp.	8
Unknown duckweed**	<i>Lemna</i> sp.	5
Star duckweed	<i>Lemna trisulca</i>	5
White water lily	<i>Nymphaea odorata</i>	6
Wild rice	<i>Zizania palustris</i>	8
Yellow pond lily	<i>Nuphar lutea</i> ssp. <i>variegata</i>	6
Summary Table		
FQI = $C \times \sqrt{S}$		Average C-Value 5.4
C= Mean coefficient of conservatism value	Number of species	9
S= Number of species in sample	FQI	16.3

* C-value assigned by EOR based on *Utricularia intermedia*.

** C-value assigned by EOR based on *Lemna minor*.

3.1.2. Emergent Fringe

The emergent fringe was surveyed as part of the Sutton Lake Natural Resource Inventory (Appendix C). The emergent fringe largely consists of low-diversity floating shallow marsh dominated by invasive/hybrid cattail (*Typha x glauca*/*Typha angustifolia*) (Figure 3). Pockets of floating sedge meadow with higher species diversity are scattered throughout and are threatened by cattail invasion. Based on Google Earth aerial imagery, cattail has expanded significantly at Sutton Lake since 1992. The sedge meadow pockets are likely representative of historical conditions prior to cattail invasion.

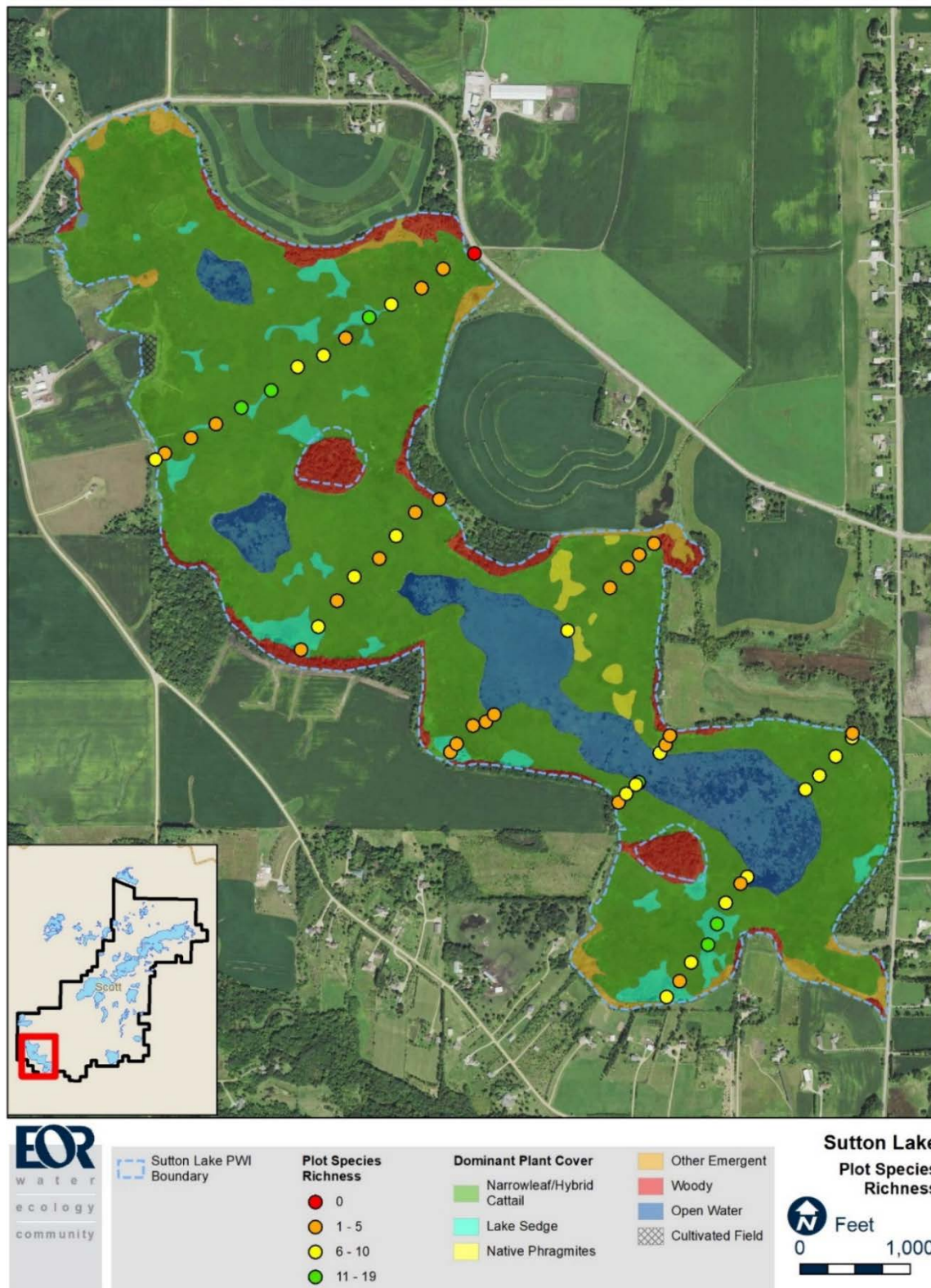


Figure 3. Vegetation sample plot locations from 2019 survey by EOR, with species richness for each plot.

3.2. Seed Bank

EOR used surface sediment cores to investigate the seed bank of Sutton Lake within both open water and shallow marsh plant communities (Appendix C). In general, seeds of submerged species were most abundant in cores from open water locations and seeds of emergent species were most abundant in cores from shallow marsh locations. Results also indicated that cattail propagules are abundant in both open water and shallow marsh sediments. Abundant propagules of native submerged plants muskgrass (*Chara* sp.) and naiad (*Najas* sp.) were observed in the seed bank. Although both these species produce many propagules and therefore are often common in seed banks, their presence is notable as they have not been observed in the existing open water plant community.

4. WILDLIFE HABITAT AND USE

Wildlife habitat at Sutton Lake primarily consists of shallow lake and cattail marsh. Shallow lakes provided excellent habitat for zooplankton, insects, waterfowl and other wildlife. They serve as especially important breeding areas for waterfowl and other waterbirds. Dense cattail marshes serve as important habitat for a few species such as the least bittern. However, the large dense monocultures present at Sutton Lake generally are poor habitat, as even species reliant on dense emergent cover require a more varied habitat structure not present in cattail stands (Bansal et al. 2019). Other species that benefit from dense cattail include ring-necked pheasant, muskrat and white-tailed deer.

A wildlife assessment was completed by EOR consisting of a fall 2019 and spring 2020 avian survey and incidental wildlife observations completed during all field work related to the natural resource inventory (Appendix C). EOR observed a total of 32 bird species, including one Species in Greatest Conservation Need (SGCN), the trumpeter swan. The survey also detected two frog species (leopard frog and wood frog) and two abundant invertebrate taxa (amphipods and dragonfly larvae). Anecdotal sightings by area landowners included trumpeter swan, scaup, blue-winged teal, and hooded merganser among other common bird and mammal species.

A search of the DNR Natural Heritage Information System (NHIS) database detected one rare species occurring within a 1-mile buffer of Sutton Lake. The species is a jumping spider designated as special concern. According to the DNR, insufficient information is available to make specific management recommendations for this species. The jumping spider is typically found in prairie and savanna habitat, neither of which are present nor immediately adjacent to Sutton Lake basin.

5. WATER QUALITY

Lakes are considered shallow when most (>80%) of the lake area is less than 15 feet deep. Maximum depth at Sutton Lake is 3 feet and the water is classified as a shallow lake. A summary of shallow lake ecology and implications for water quality is provided in Appendix D.

5.1. Water Quality Data

5.1.1. 2020

Water quality data at Sutton Lake was collected in 2020 by Citizen-Assisted Monitoring Program (CAMP) volunteers. Extremely high total phosphorus (TP) concentrations were observed, well above the 60 µg/L TP concentration standard for lakes in the North Central Hardwood Forest (NCHF) ecoregion. Further, chlorophyll-a (measurement of algae growth) concentrations far exceeded the 20 µg/L Chlorophyll-a standard (Figure 4). This information would seem to suggest that Sutton Lake is not in the ecologically preferred, clear water state. However, observers noted the physical condition of the water column as being crystal clear in four of the seven sampling events, with “some algae present” during three of the sampling events (Figure 5). This finding, coupled with the results from the 2018 aquatic plant survey, which found aquatic plants present at 100% of sampling locations, would suggest that aquatic plants are helping to maintain the preferred clear water state. Field observations by EOR during the 2019 natural resources inventory also suggest Sutton Lake is in a clear water state. Water quality data obtained in 2020 was likely to have been improperly collected.

5.1.2. 2021

Water quality data at Sutton Lake was collected in 2021 by District staff in May and June. Elevated but reasonable TP concentrations were observed (Figure 6). Only two of the five samples were within the growing season of June through September. Both of the TP concentrations were above the shallow lake water quality standard, however, the chlorophyll-a concentrations were at or below the standard and the Secchi depth was uncertain. All the Secchi depth data were noted as being obstructed by dense vegetation. With uncertainty surrounding the response variables the state of the lake (i.e. turbid vs. clear) remains uncertain. More chlorophyll-a sampling (a measure of how much algae is present) is needed to determine the overall health of the lake with respect to water quality. Given the lake is so shallow, it is also recommended that Secchi disk measurements be substituted with physical, qualitative descriptions of the water column (e.g., clear, turbid, stained, etc.) to validate that the lake remains in the ecologically preferred, clear-water state.

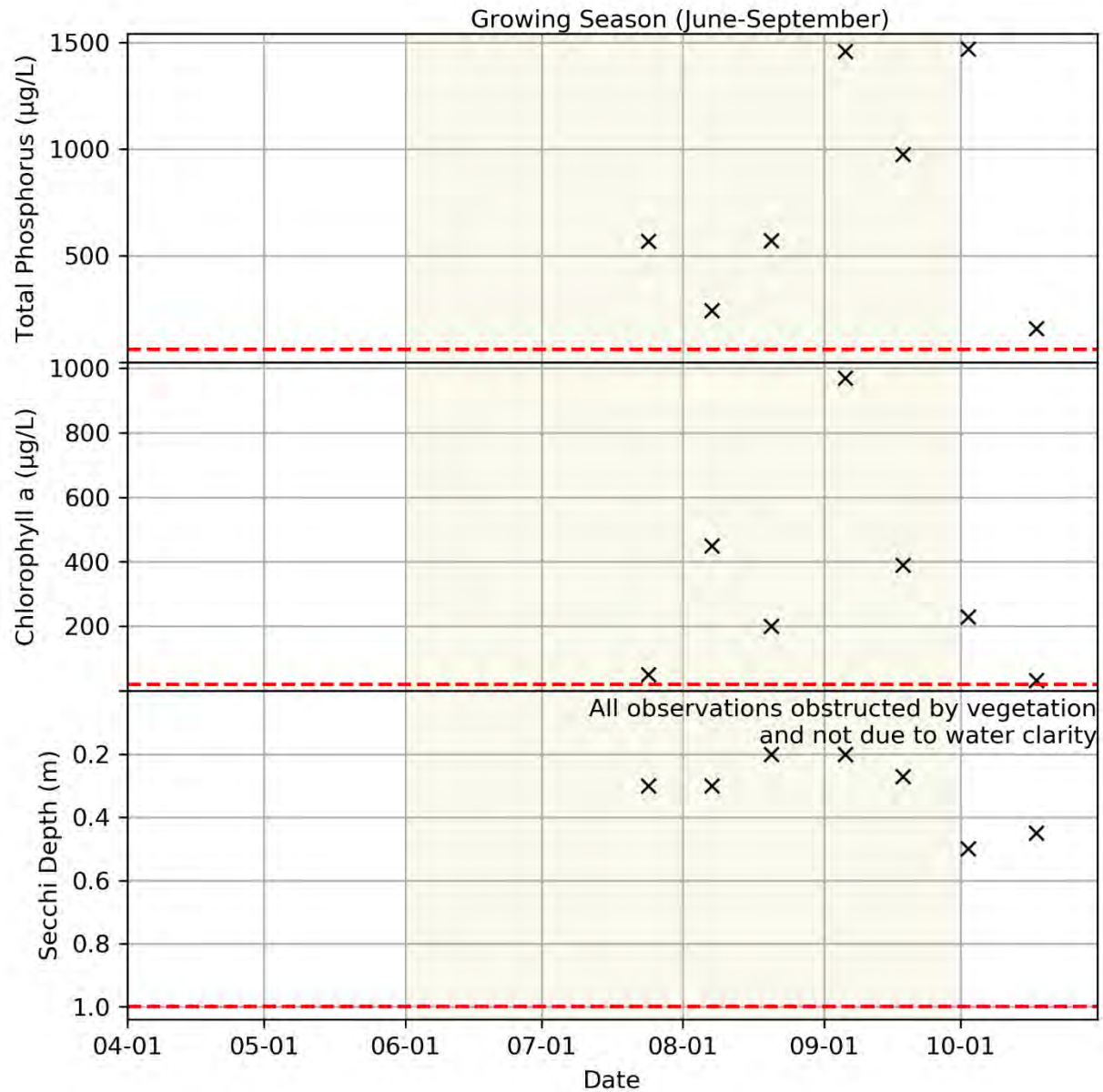


Figure 4. Sutton Lake 2020 Lake water quality observations. Red dashed lines are the water quality standards for shallow lakes in the North Central Hardwoods Ecoregion.



Figure 5. Sutton Lake 2020 physical condition. During each monitoring visit, the lake's physical condition, and was ranked on a 1-to-5 scale. 1 = Crystal Clear, 2 = Some Algae Present, 3 = Definite Algal Presence, 4 = High Algal Color, 5 = Severe Algal Bloom.

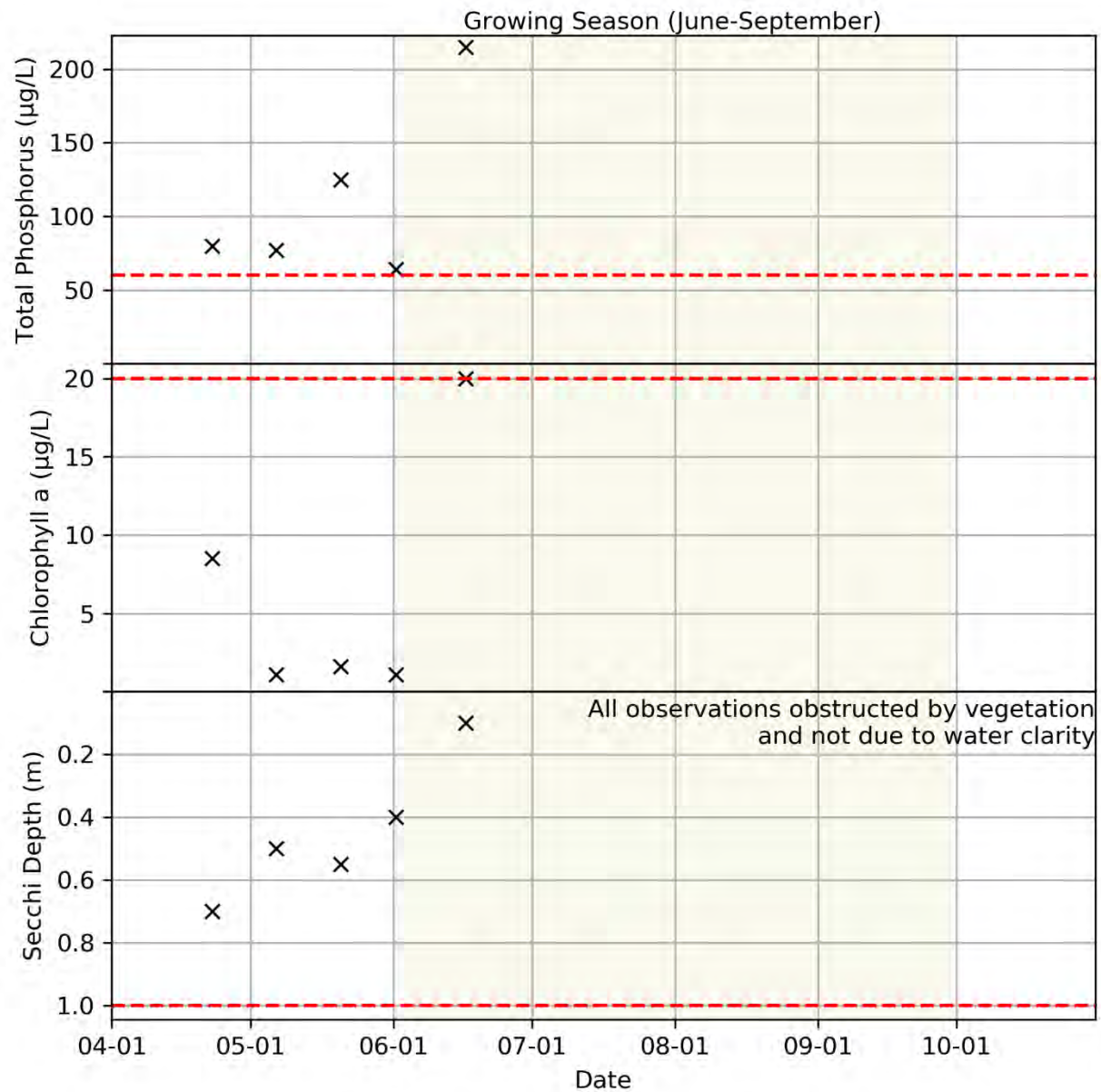


Figure 6. Sutton Lake 2021 Lake water quality observations. Red dashed lines are the water quality standards for shallow lakes in the North Central Hardwoods Ecoregion.

6. MANAGEMENT APPROACH

The management plan relies on adaptive management to achieve goals and objectives. Adaptive management is an iterative approach of implementation, evaluation, and course corrections that allows for implementation to proceed while accounting for uncertainty. The following sections outline the goals, critical permitting considerations, and the objectives to achieve the goals.

6.1. Goals

Goal: Enhance plant communities and wildlife habitat

Aquatic plant surveys conducted in 2018 found only four species of submerged aquatic plants in Sutton Lake. Additionally, the Sutton Lake Natural Resource Inventory (Appendix C) documented that the emergent vegetation along the fringe of Sutton Lake is currently dominated by a dense floating mat of invasive cattail. Invasive cattail reduces plant diversity and structural complexity that provides preferred habitat for a variety of breeding birds, pollinators, aquatic invertebrates, and other wildlife.

Desired Future Conditions:

Establishing desired future conditions helps set targets for management. Desired future conditions at Sutton Lake include.

- Increased frequency of occurrence and average density of native emergent plant species, specifically wild rice and bulrush, in the open water area of Sutton Lake.
- Submerged aquatic plant species richness increased from 4 to 6.
- Reduced density of invasive cattail in the floating mat.

6.1.1. Secondary Benefits

Secondary benefits are not goals of the lake management plan, but may provide other watershed benefits coinciding with habitat management. Realization of secondary benefits may be variable and subject to specific management actions and environmental conditions (e.g. climate).

Improve upper watershed storage capacity

Hydrologic and hydraulic modeling identified the Sutton Lake Outlet Retrofit Project as having relatively high flood damage reduction potential with relatively low implementation cost. The new controlled outlet constructed in 2021 is already providing significant flood reduction benefit. The structure provides approximately 0.35-feet of flood reduction on Prior Lake for the 100-yr, 30-day storm event through passive management alone (no drawdown). Drawdown under specific and infrequent conditions could provide an additional 0.15-feet of flood reduction. These infrequent conditions are when a winter drawdown is conducted for vegetation management purposes and there is large snow melt the following spring. Any proposed drawdown at Sutton Lake would be implemented based on achieving habitat enhancement goals, but drawdown could also have benefits for flood storage.

6.2. Permitting Considerations

Implementing the lake management plan will require multiple ongoing permits and significant coordination with DNR and riparian landowners. Cattail management within a public water requires a DNR Aquatic Plant Management (APM) permit. Each drawdown for vegetation management would require a DNR Public Waters permit amendment request. Each of these processes as well as other permits are described below.

6.2.1. DNR Aquatic Plant Management Permit

An APM permit is required from DNR to remove cattails at Sutton Lake. Specific permit requirements are subject to coordination and project review with DNR APM staff. Initial consultation with APM staff indicated that herbicide use is prohibited for natural environment lakes and would require justification for a permit variance. Cattail removal may be permitted using mechanical or physical methods such as floating mat removal, aboveground cutting, or burning. Up to 50% of the littoral area may be treated using mechanical methods (245 acres at Sutton Lake). Riparian landowners may request that control not occur adjacent to their properties (meaning within 150 feet of their shoreline).

6.2.2. DNR Public Waters Work Permit

Each lake drawdown would require a DNR permit amendment request of the existing permit for the Sutton Lake outlet structure.

The need for DNR permit amendments prior to drawdown is integrated into the adaptive management decision matrix (Figure 7). Amendment requests prior to each drawdown would require:

- Approval from DNR staff supporting that drawdown would benefit the ecology of Sutton Lake
- 75% riparian landowner permission
- Public hearing

Conditions of the permit amendment for drawdown are in addition to the frequency and duration constraints on drawdown outlined in Objective 2.

6.2.3. Other Permits

Burn permits from local authorities would be needed for any prescribed burn activity. If physical removal offsite is considered, no material should be placed in wetlands or other aquatic environments and disposal should adhere to local regulations.

6.3. Objectives

Two objectives were established to address the goals.

Objective 1: A) Assess effects of 2021/22 natural low water levels; B) if DNR permit amendment is approved and drawdown is supported by adaptive management, conduct a periodic winter drawdown (~September-March) to enhance the aquatic plant community

Historically, shallow lakes intermittently experienced droughts that would lower water levels and expose sediments. A warmer and wetter climate in recent decades has resulted in higher water levels in shallow lakes with fewer natural drawdowns (Hansel-Welch 2020). Hydrologic stabilization has also been identified as a driver of cattail invasion in the Laurentian Great Lakes Region and Prairie Pothole Region (Bansal et al. 2019).

Periodic winter drawdown may enhance the submerged aquatic plant community. Drawdown consolidates sediments and stimulates aquatic plant seed banks. Following winter drawdown, aquatic plant diversity would be expected to increase at Sutton Lake. For example, abundant seeds of two aquatic plants, slender naiad and muskgrass, are present in the Sutton Lake seed bank but not observed in the existing plant community (Appendix C: Sutton Lake Natural Resource Inventory). These two species are well-adapted to drawdown and provide good waterfowl forage (Turner et al. 2005, Wagner and Falter 2002, Knapton and Petrie 1999). A desired outcome of drawdown management would be the presence of these two species, which would increase submerged aquatic species richness at Sutton Lake from 4 to 6. Based on DNR comments, winter drawdown may freeze rhizomes of white water lily. Reduction of water lily density via freezing could open niches for other plant species. DNR comment also suggested the most benefit to submerged aquatic vegetation would be realized by extending drawdown into the early growing season. Proposed drawdowns at Sutton Lake could consider extending the drawdown into early summer. However, this scenario would require additional consultation with DNR staff to ensure impacts to nesting birds are avoided.

A secondary benefit of ~September to March drawdown is increased flood storage under specific and infrequent conditions. In years that drawdown occurs for vegetation management, the flood storage on Sutton Lake would be temporarily increased. If an event similar to the 2014 flood were to occur while Sutton Lake was drawn down, the additional downstream flood reduction benefit on Prior Lake would be a 0.13-foot reduction in high water elevation (for the 100-year, 30-day event). Note that environmental conditions where this benefit would be realized are uncommon. Drawdowns for vegetation management would need to coincide with large snow melts the following spring.

As described in Section 6.2, drawdowns are not permitted under the existing DNR permit. Any drawdown would require a DNR permit amendment request. DNR indicated drawdown could be a beneficial management practice based on review of the draft version of this lake management plan. However, any proposed drawdown would be subject to additional review.

Understanding the effects of drawdown at Sutton Lake would inform adaptive management and determine if it is a beneficial management strategy to pursue. Drought during 2021 and 2022 caused naturally low water levels at Sutton Lake. Landowners reported that by late summer, much of the open water areas of Sutton Lake were exposed mudflat. The extent and duration of the drawdown was not documented at the

time, but a logger was installed at the outlet recording water elevation data. The drought conditions may have been similar to proposed conditions under periodic drawdown management. Therefore, a better understanding of drought conditions and the subsequent response of vegetation, water quality, and other parameters would be useful for guiding the lake management plan. Results from this objective would be integrated into adaptive management.

Assessment of drought conditions would include analysis of 2021 and 2022 level logger and climate data to assess lake elevations and time to drawdown/refill along with a review of aerial imagery. Assessment of vegetation response would include aquatic plant point-intercept surveys one, three, and six years following drawdown. Point-intercept surveys should also include qualitative observations of floating mud flats, sediment consolidation, water levels, and floating mat condition (i.e. Is mat breaking up or losing buoyancy in response? Has it rooted?). Additionally, drone footage and aerial imagery of the open water areas should be obtained annually, or at least in concurrent years with point-intercept surveys. Aerial imagery from drone footage helps quantify areal cover of dominant vegetation and surface water. Drone footage vegetation signatures should be ground-truthed at least once to confirm dominant vegetation; further ground-truthing could be needed if new vegetation signatures are identified. Drone footage will help document expansion or colonization of invasive cattail and/or native species, and is especially important should environmental conditions prohibit access for point-intercept surveys. Ideally, two drone flights would be completed: once during mid-late summer to capture white water lily growth and once during the fall for direct comparison with vegetation signatures and open water extent documented by a drone flight in fall 2022. Finally, annual water quality monitoring should continue at Sutton Lake to assess potential effects of low-water conditions. Survey data and observations should be compared relative to the goals and desired future conditions stated in Section 6.1. Progress toward goals should be assessed after 5 years to determine if managed drawdown could benefit the lake.

Drawdown would only be implemented under conditions that support management goals to enhance the plant community and wildlife habitat. Though drawdowns replicate a natural disturbance for shallow lakes, they are a significant disturbance and need to be managed carefully according to specific management goals. In addition to DNR permitting constraints, the following guidelines would be applied at Sutton Lake to dictate if drawdown management is appropriate in a given year.

- Drawdowns would strive to mimic natural patterns of winter drought that historically occurred in shallow lakes.
- Drawdown would be conducted not more than once every 4 years.
- Timing of drawdown would adhere to MNDNR Wetland Management Minutes #17 and #18 for avoiding impacts to reptiles and amphibians (Appendix E).
 - o Drawdowns should reach their lowest level by September 15 and should stay dewatered through at least December 1.

Objective 2: Reduce monotypic-dominated cattail mat to enhance habitat.

Intensive management to reduce the cattail mat would enhance habitat for waterfowl and shorebirds. The fringe of Sutton Lake is dominated by a dense floating mat of invasive cattail with low plant diversity. The habitat value of invasive cattail is low compared to other emergent and open water wetland types or a more even mix of emergent vegetation and open water (Bansal et al. 2019). Waterbird and shorebird habitat in particular would be enhanced by restoration to emergent or shallow open water plant communities and a more even mix of emergent and open water habitat.

At this time, there do not appear to be any feasible management strategies to actively manage for Objective 2. Permitting and site access constraints restrict strategies at Sutton Lake. However, reduction of the cattail mat remains a worthwhile objective to consider for future management at Sutton Lake should constraints change or new strategies emerge. Existing cattail management strategies and their applicability to Sutton Lake are discussed below. Multiple years of treatment would likely be required with any management strategy, and combinations of management strategies should be considered.

Chemical control: Chemical treatment of cattails with herbicide can be effective as a standalone treatment or when combined with other management strategies such as cutting, burning, and flooding. Typical herbicides include aquatic-safe 2, 4-D, glyphosate, imazapyr, and imazamox (Bansal et al. 2019). All of these herbicides are considered non-selective, meaning they will kill or damage all plants. However, imazamox at low rates can achieve selective control. Chemical can be drone-applied and such application is likely the most cost-effective means of management at Sutton Lake. A 2022 contractor estimate for a 10-acre treatment area at Sutton Lake was \$4,000.

Disadvantages of herbicide include potential non-target species damage and elevated soil phosphorus (Bansal et al. 2019). Using imazamox at low rates and avoiding remnant sedge patches via drone application would help avoid non-target impacts. Increased phosphorus would likely be temporary or minimal based on the relatively small scale of a 10-acre proposed treatment and assuming the treatment area becomes vegetated.

Chemical treatment of cattail is prohibited by DNR at Sutton Lake due to its classification as a natural environment lake. An APM permit variance would be required to apply herbicide. Initial consultation with DNR APM staff indicated that other strategies would need to be attempted prior to discussion of a variance request.

Cutting and/or prescribed fire: Cutting (mowing or other methods) and prescribed burning are both methods that remove cattail biomass. Short-term reductions in cattail cover can be achieved, but effects to the belowground plant structures are limited. Neither cutting nor prescribed burning are viable long-term treatments on their own, but may be effective if combined with flooding or chemical treatment.

Cutting in fall followed by flooding in spring is a common approach to cattail control, but is challenging at Sutton Lake due to the floating mat. Accessibility for equipment to cut cattail on a floating mat is not possible without highly specialized equipment, and mat buoyancy likely prevents flooding. If cutting were possible, this strategy may boost effectiveness of chemical treatments by reducing standing biomass and allowing for better herbicide application to cattail re-sprouts. Equipment that shreds or

crushes cattail is preferable so that thickness of the litter layer is reduced and decomposition is accelerated.

Prescribed fire provides similar benefits to cutting with the added benefit of removing litter. Removal of dense litter may allow for better herbicide application and opens up light for the native seed bank. Additional light may also facilitate re-invasion by cattail given their abundance in the seed bank. Prescribed burns at Sutton Lake would likely be extremely challenging based on consultation with burn professionals.

Nutrients are tied up within cattail biomass. If cattail are cut, biomass could be removed from the lake. Removal of the biomass would potentially harvest phosphorus and provide water quality benefit, but biomass removal and disposal are typically expensive. Costs would likely be less than floating mat removal (see below), but many of the same costly equipment and disposal challenges would be similar. Conversely, both cutting and prescribed fire could cause pulses in bioavailable phosphorous, but impacts would likely be temporary (Liu et al. 2010).

Flooding: As discussed above, flooding cattail in combination with other methods is an effective treatment in most situations but is a limited strategy at Sutton Lake due to the buoyancy of the floating mat. Floating mat buoyancy is primarily driven by cattail rhizomes and cattail mats are at their least buoyant during early spring (Hogg and Wein 1988). Methane production under anoxic conditions also contributes to floating mat buoyancy to a lesser extent and would be at lowest production outside of the growing season (Azza et al. 2006). Drawdown could also reduce anoxic conditions conducive to methane production. Though spring conditions would provide the best opportunity for flooding cattail, it is unknown if the mat would flood sufficiently to reduce the cattail mat. Additional coordination with landowners may be needed prior to any flooding attempts.

Mechanical removal of the floating mat: This approach would use specialized equipment to cut, harvest, and remove the floating mat. Mechanical removal is a reliable technique to remove floating mats and cattail management. This technique has been used at several locations in Minnesota, such as at [Voyageurs National Park](#) and [wild rice lakes](#) managed by the Fond du Lac Band. Advantages of mechanical removal include complete removal of cattail mat, which would create additional open water area. Removal of the mat would also remove phosphorous tied up within the mat and cattail biomass.

Disadvantages primarily include high costs per acre associated with equipment and disposal. A 2022 contractor estimate for a 10-acre treatment area at Sutton Lake was \$220,000. There are also potential water quality impacts. The mechanical removal process carries some risk of disturbing bottom substrate and re-suspending phosphorous-containing sediment. Based on DNR comments, Sutton Lake would be inaccessible to the equipment necessary for mechanical removal.

The removal of the floating mat would represent a deviation from the historical condition of Sutton Lake dating back to 1937. The mat was likely dominated in the past by a floating sedge mat, remnants of which are still present scattered throughout the basin. Sedge mat remnants should be preserved.

Native plant revegetation: Poor colonization of native vegetation and subsequent reinvasion of cattail is a risk following cattail removal. Native plant revegetation would establish plants to compete with cattail if the native seed bank is not sufficient. Potential outcomes of cattail management where

revegetation might be necessary include a partially denuded mat following chemical treatment. Ideally, the mat would break up or sink under these conditions. Alternatively, the mat could remain relatively intact. If the mat remains intact and native vegetation does not establish naturally, cattail could reinvade the mat due to the dominance of cattail in the remnant seed bank and surrounding wetland (Appendix C). Results should be monitored and overseeding into the mat should be considered under adaptive management.

Summary of strategies and constraints:

- Chemical application provides the best combination of effectiveness and feasibility, but is prohibited by APM in natural environment lakes.
- Cutting and prescribed fire could be effective, especially in combination with other strategies, but are prohibited by access constraints and environmental conditions.
- Flooding is unlikely to be effective due to floating mat buoyancy.
- Mechanical removal would be effective, but is not feasible due to site constraints (shallow, unconsolidated bottom) that restrict equipment from accessing the lake. Additionally, mechanical removal is prohibited by high costs associated with equipment and biomass disposal.
- Native plant revegetation is a complementary tool, and would not be used as a standalone strategy.

Recommendation: Re-assess feasibility of cattail management if managed drawdown is determined to not be a viable option to achieve LMP goals after 5 years of monitoring the effects of the 2021/22 natural low water levels.

6.4. Adaptive Management at Sutton Lake

The implementation strategies, including recommended timelines and best management practices, provided in this lake management plan are the result of watershed and hydrologic/hydraulic modeling efforts, the latest science regarding lake management and aquatic plant management, and professional judgment. Multiple meetings and reviews were also completed with riparian landowners and DNR staff (Table 1). The proposed actions outlined are subject to adaptive management—an iterative approach of implementation, evaluation, and course correction that allows for implementation to proceed while accounting for uncertainty. The management approach to achieving the goals and objectives should be adapted as new monitoring data is collected and evaluated. Continued monitoring will inform and prioritize specific actions responding to hydrological, biological, and water quality monitoring conditions both within Sutton Lake and further downstream in the watershed. Management activities will be changed or refined to efficiently meet goals and objectives as identified in Sections 6.1 and 6.3. An adaptive management decision matrix is provided for Sutton Lake in Figure 7.

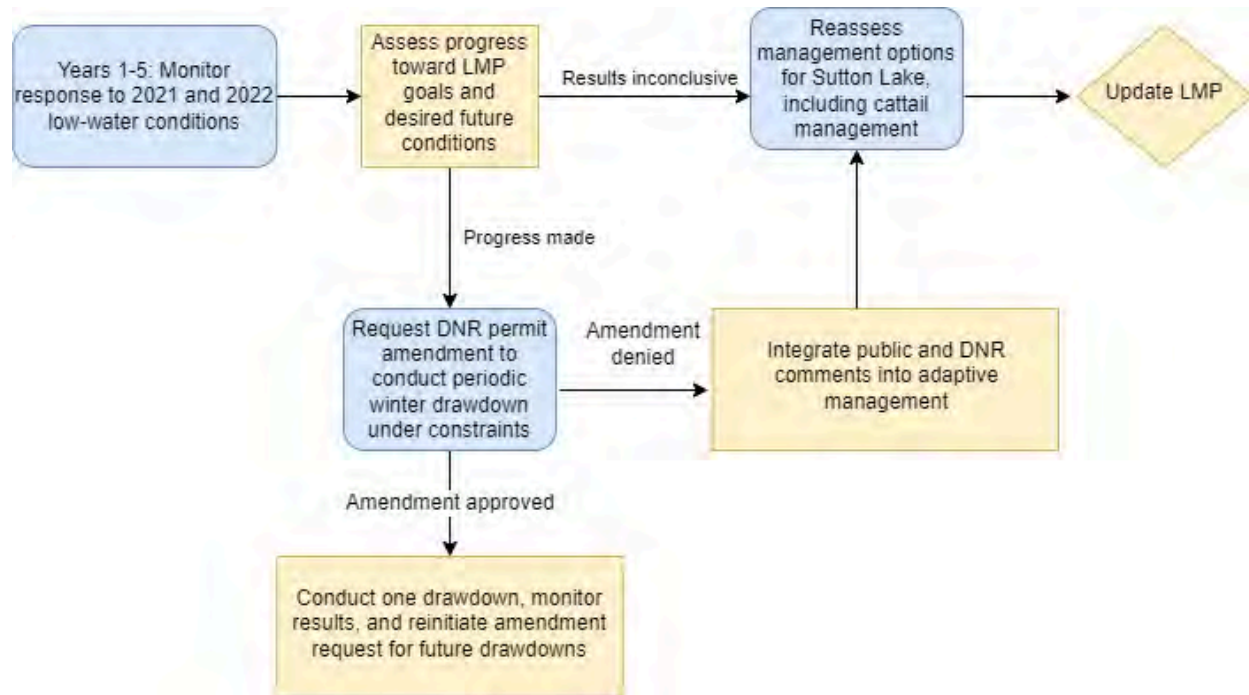
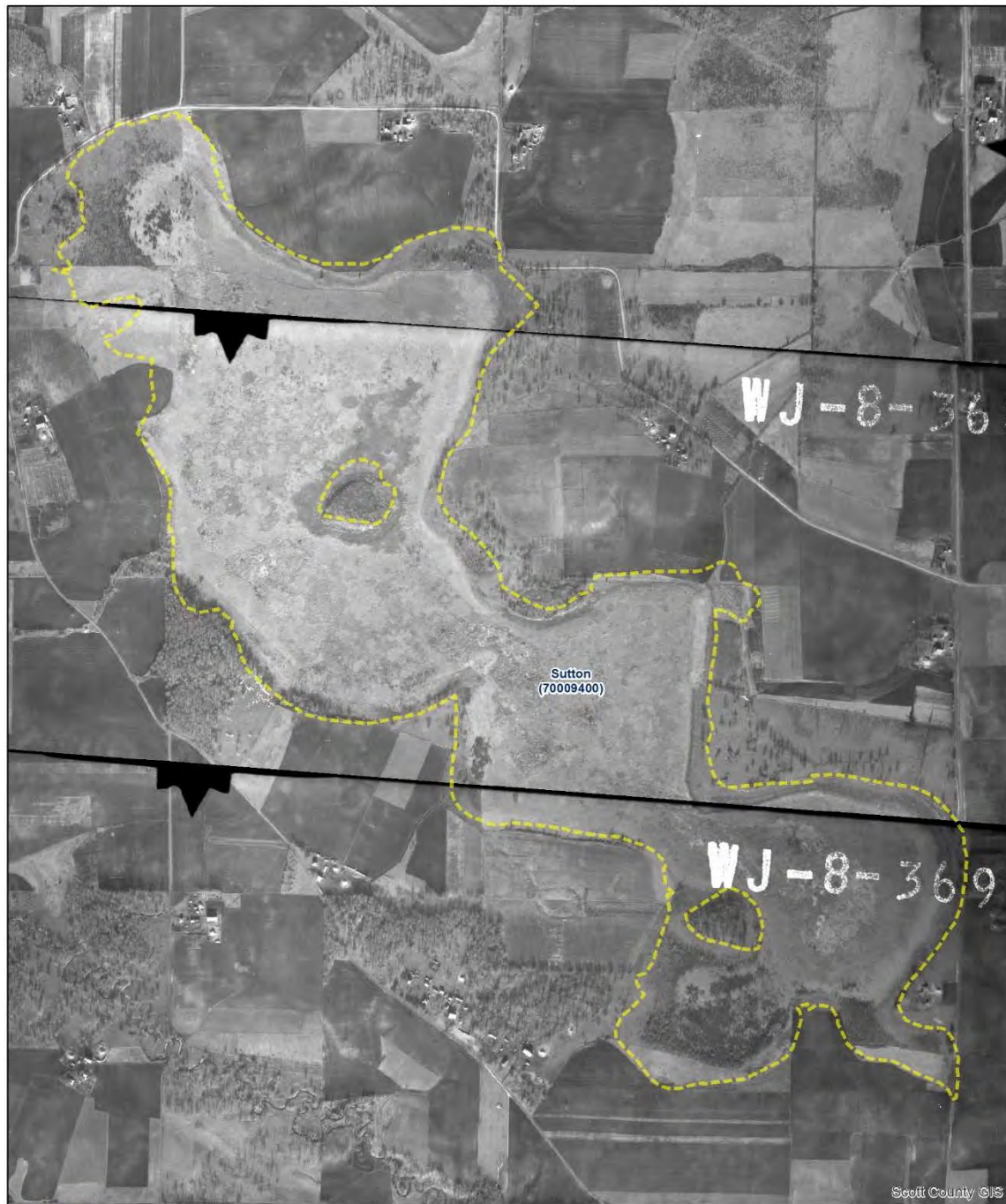


Figure 7. Sutton Lake Adaptive Management and Permitting Decision Matrix.

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APPENDIX A: HISTORICAL AERIAL IMAGERY



Sutton Lake PWI
Boundary

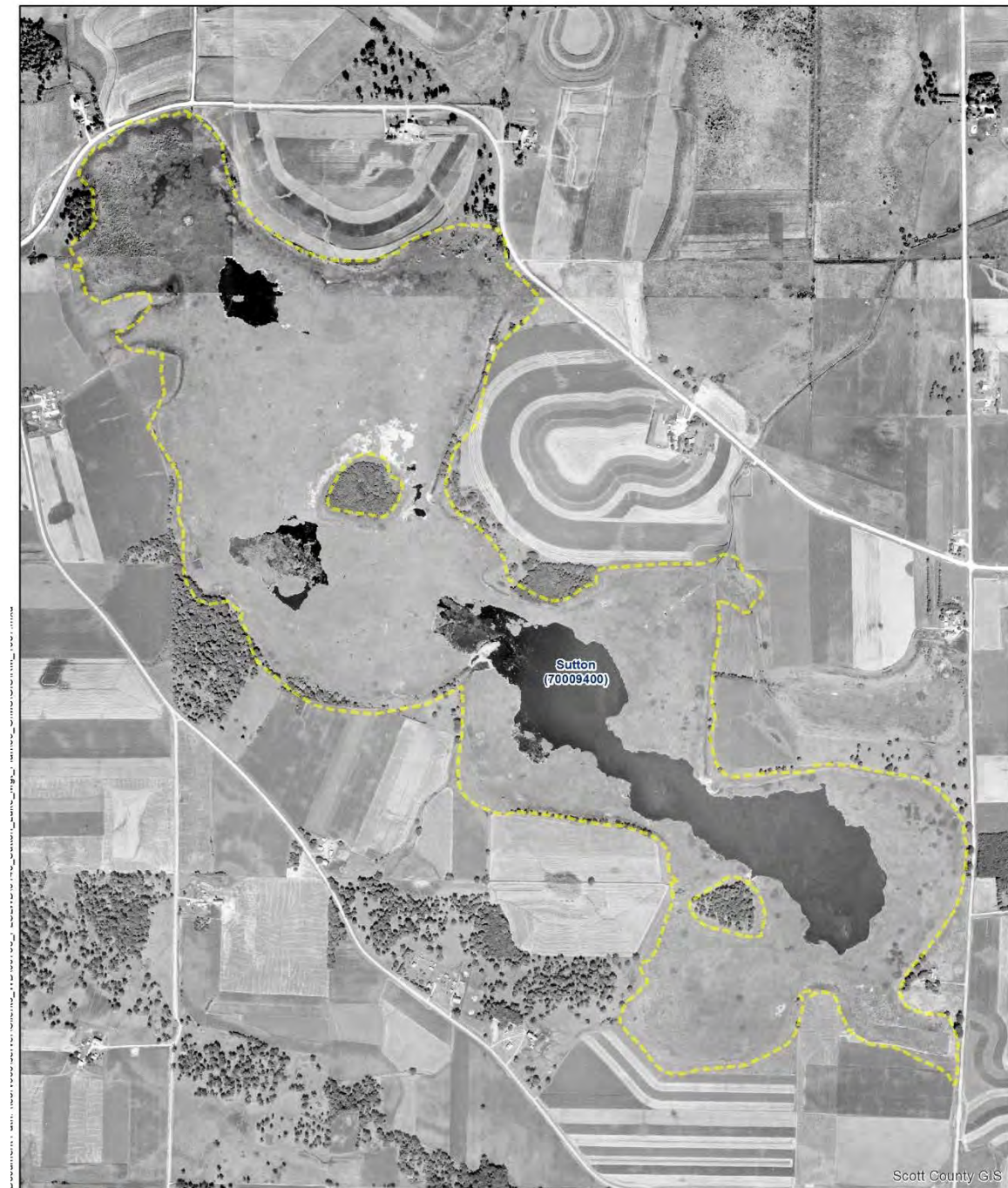
Sutton Lake Management Plan
1937 Imagery



Feet 0

2,000





Sutton Lake PWI Boundary

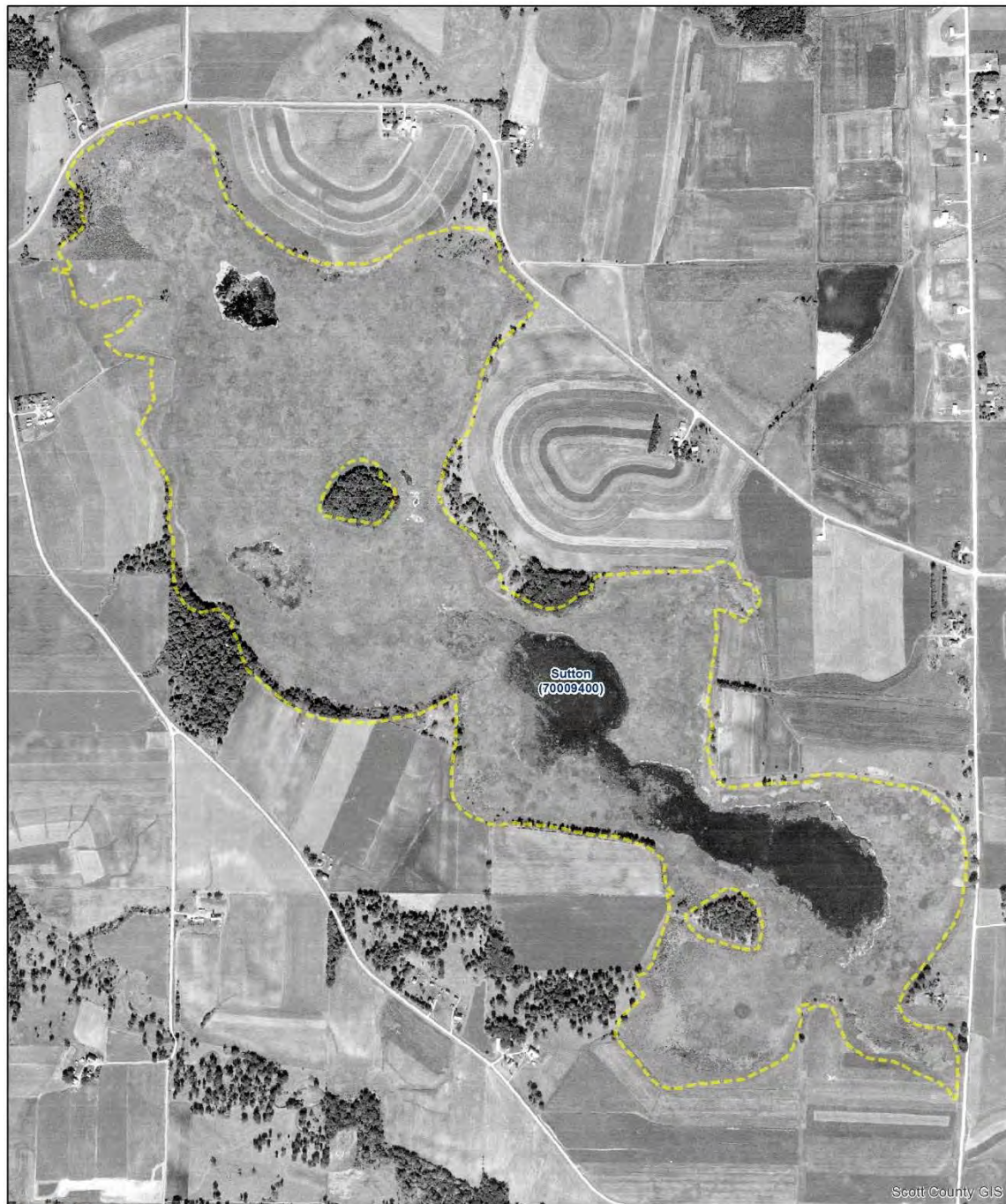
Sutton Lake Management Plan
1957 Imagery



Feet 0



2,000



Sutton Lake PWI
Boundary

Sutton Lake Management Plan
1970 Imagery



Feet 0



2,000



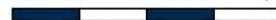
Sutton Lake PWI
Boundary

Sutton Lake Management Plan
1997 Imagery



Feet 0

2,000



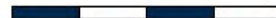


Sutton Lake PWI
Boundary

Sutton Lake Management Plan
2020 Imagery



Feet 0



2,000

APPENDIX B: 2018 SUTTON LAKE AQUATIC PLANT SURVEY



Water Lilies were Abundant in Sutton Lake, September 2018

Aquatic Plant Point Intercept Survey for Sutton Lake, Scott County, Minnesota, 2018

Point Intercept Survey: September 11, 2018

Prepared for:
Prior Lake-Spring Lake
Watershed District



Prepared by:
Steve McComas
Jo Stuckert
Blue Water Science
St. Paul, MN 55116

February 2019

Aquatic Plant Point Intercept Survey for Sutton Lake, Scott County, Minnesota in 2018

Summary

On September 11, 2018, a summer point intercept survey was conducted on Sutton Lake, Scott County. The most common submerged aquatic plant was coontail (Figure S1). Plant growth was found to a depth of 3 feet which is about the maximum depth in Sutton Lake. The aquatic plant community in 2018 had 4 species of submerged plants, 3 floatingleaf species, and 2 emergent species which is a moderate plant diversity condition for a lake in this ecoregion setting.

No non-native submerged aquatic plants were found in the September 11, 2018 survey on Sutton Lake. Plant coverage was roughly 100% of the lake bottom. Maps of aquatic plant distribution are shown in Figure S2.



Figure S1. An Old Duck Blind out in Sutton Lake, September 2018

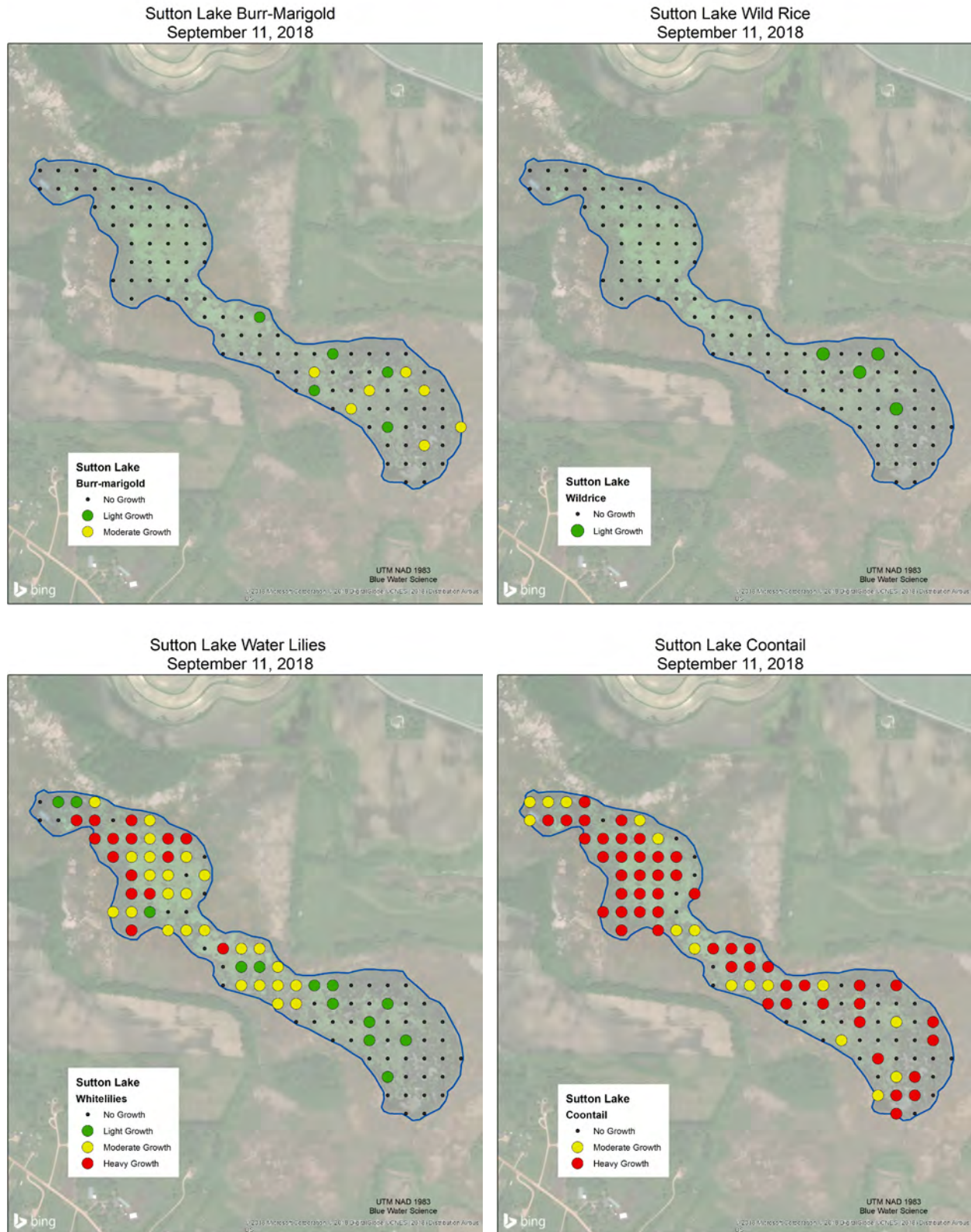


Figure S2. [top-left] Bur-marigold, an emergent rare plant in Minnesota was found in Sutton Lake on September 11, 2018. [top-right] Wild rice was found in a few locations in Sutton Lake on September 11, 2018. [bottom-left] White water lilies were abundant in Sutton Lake on September 11, 2018. [bottom-right] Coontail was the most abundance submerged plant in Sutton Lake on September 11, 2018. Key: green = light growth, yellow = moderate growth, and red = heavy growth.

Aquatic Plant Point Intercept Survey for Sutton Lake, Scott County, Minnesota, 2018

Lake ID: 70-009400

Size: 64 acres

Littoral area: 64 acres

Maximum depth: 3 ft

Introduction

Sutton Lake is located within in Scott County. An aquatic plant point intercept survey was conducted on the 64-acre lake on September 11, 2018. A sampling grid is shown in Figure 1.

Sutton Lake 50m Grid 102Pts

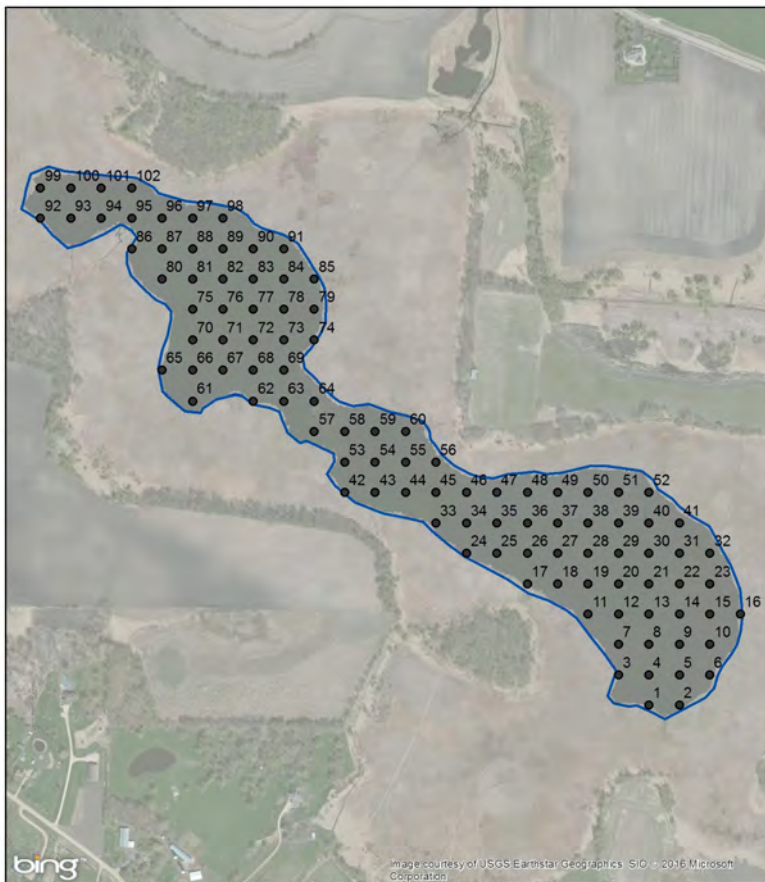


Figure 1. Sample locations for the point-intercept aquatic plant survey.

Methods - Aquatic Plant Point Intercept Survey

Point Intercept Survey: An aquatic plant survey of Sutton Lake using a point intercept sampling method was conducted by Blue Water Science on September 11, 2018. A map and sampling grid were prepared by Blue Water Science and consisted of a total of 102 points that were distributed throughout the lake (Figure 1). Points were spaced 50 meters apart and each point represented about 0.6 acres. At each sample point, plants were sampled with a fixed-head rake sampler and were sampled to depth of 3 feet. A plant density rating was assigned to each plant species on a scale from 1 to 3 (Figure 2). A density of a "1" indicated sparse growth and a "3" rating indicated heavy plant growth (Figure 2).

Chart of Aquatic Plant Density Ratings

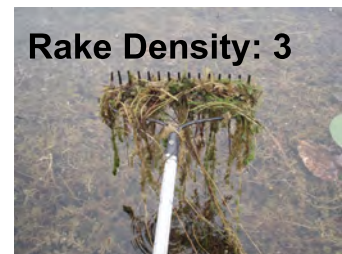
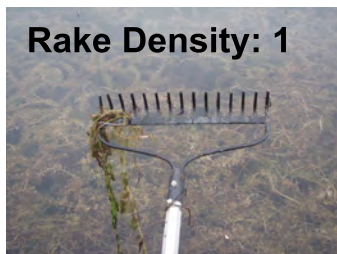


Figure 2. Aquatic plant density ratings from 1 to 3.

Point Intercept Survey -- September 11, 2018

Aquatic plants were abundant in Sutton Lake for the September 2018 point intercept plant survey. Coontail was the dominant plant in Sutton Lake. Bur-marigold, which is relatively rare in lakes, was found in Sutton Lake as well (Figure 3). A total of 4 submerged aquatic plants, 3 floatingleaf plants, and 2 emergent plants were identified (Figure 4 and Table 1).

A summary of plant density and occurrence is shown in Table 1. Maps of the distribution of 4 selected plant species are shown in Figure 4.

Table 1. Sutton Lake aquatic plant occurrences and densities for the September 11, 2018 survey based on 102 sites in water depths from 0 to 3 feet. Density ratings are 1-3 with 1 being low and 3 being most dense.

	All Stations (n=102)		
	Occurrence	% Occur	Density
Emergents			
Wild rice (<i>Zizania aquatica</i>)	4	4	1.0
Bur-marigold (<i>Bidens cernua</i>)	12	12	1.7
Floatingleafs			
Duckweed (<i>Lemna sp</i>)	6	6	1.0
Spatterdock (<i>Nuphar variegata</i>)	11	11	1.4
White water lilies (<i>Nymphaea odorata</i>)	53	52	2.0
Submergents			
Coontail (<i>Ceratophyllum demersum</i>)	67	66	2.7
Star duckweed (<i>Lemna trisulca</i>)	8	8	1.0
Flatstem pondweed (<i>Potamogeton zosteriformis</i>)	1	1	1.0
Bladderwort (<i>Utricularia sp</i>)	1	1	1.0
Number of submerged species	4		



Figure 3. Bur-marigold in Sutton Lake in September 2018.

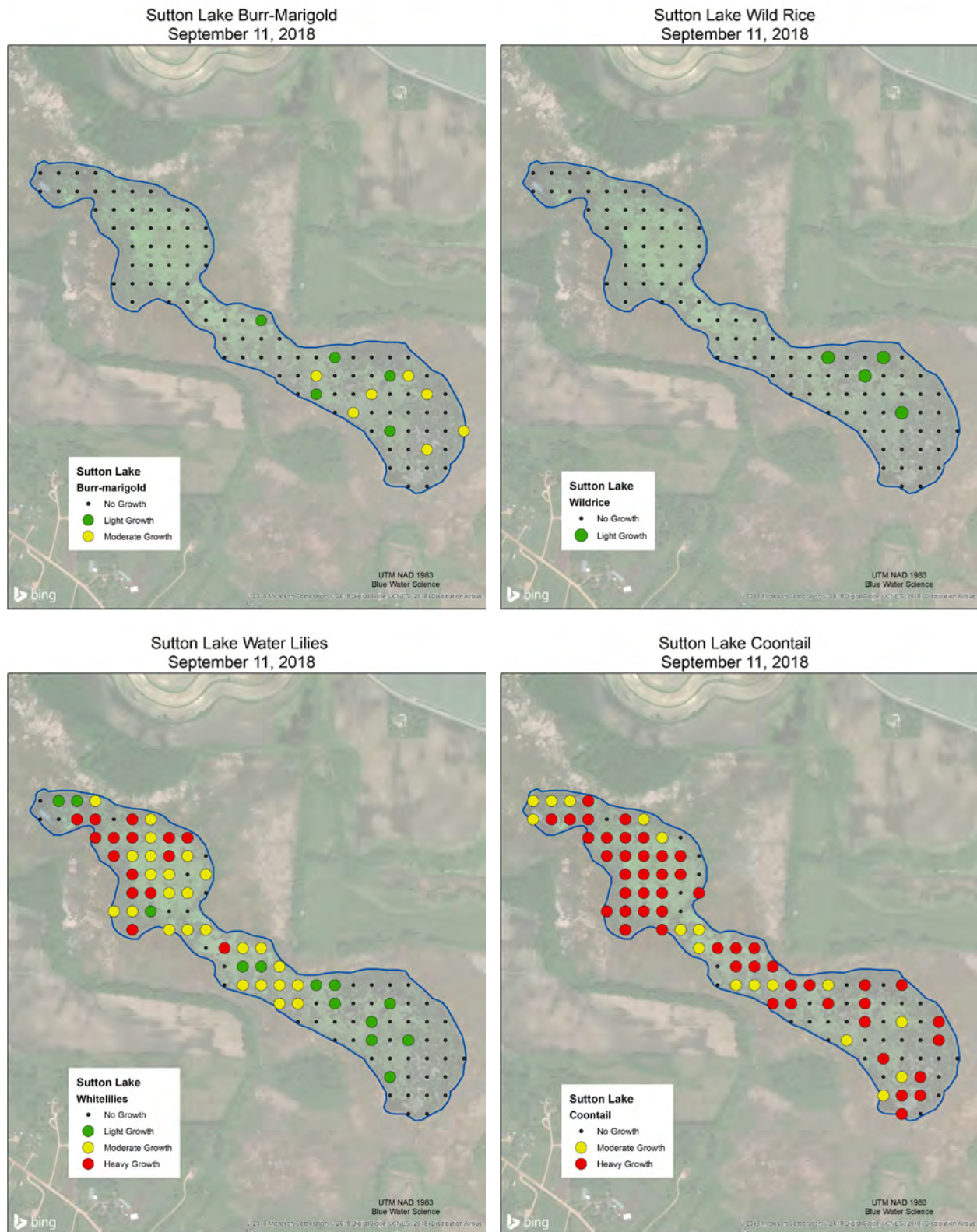


Figure 4. Distribution and abundance maps for September 11, 2018.
 [top-left] Bur-marigold. [top-right] Wild rice. [bottom-left] White water lilies. [bottom-right] Coontail.
 Key: green = light growth, yellow = moderate growth, and red = heavy growth.

Sutton Lake Point Intercept Survey Statistics

A summary of plant statistics from the point intercept survey is shown in Tables 2 and 3 and Figure 5. A total of 102 points were sampled. Plant occurrence and abundance for individual sites are shown in Table 4.

Table 2. MnDNR Template Statistics

Total # Points Sampled	102
Depth Range of Vegetation	1-3 feet
Maximum Depth of Growth (95%) in feet	3.0
# Points in Max Depth Range	102
# Points in Littoral Zone (0-15 feet)	102
% Points w/Submersed Native Taxa	69
Mean Native Submersed Taxa/Point	0.8
Mean Density of Native Submersed Taxa	1.4
# Submersed Native Taxa	4

Table 3. Aquatic plants sampled by depth.

Depth (feet)	Number of Points Sampled	Percent Sampling Points with Submerged Species Observed
0	0	0
1	8	100
2	82	61
3	12	100

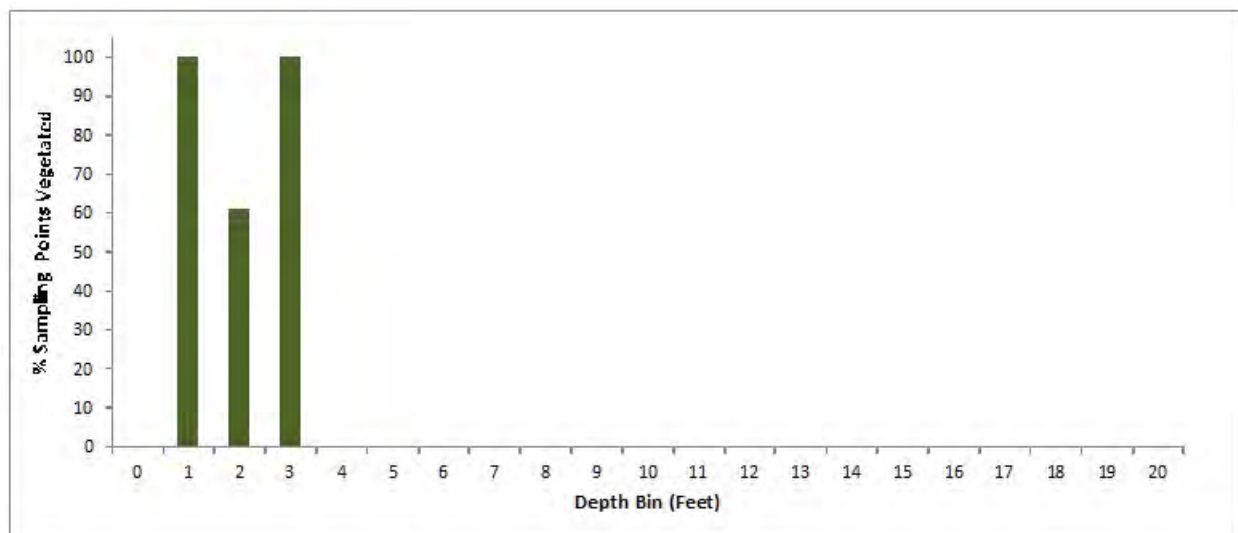


Figure 5. Depth of plant colonization (in feet).

Table 4. Individual site data for September 11, 2018. Numbers indicate plant density.

Site	Depth (ft)	Wild rice	Duckweed	Spatterdock	White lilies	Bladderwort	Bur-marigold	Coontail	Flatstem	Star duckweed	No Plants
1	2							3			
2	2										1
3	2							2			
4	2							3			
5	2							3			
6	2										1
7	2				1						
8	2							2			
9	2						2	3			
10	2										1
11	2										1
12	2						1	3			
13	2										1
14	2										1
15	2										1
16	2						2				
17	2										1
18	2						2	2			
19	2				1						
20	2										1
21	2	1			1						
22	2										1
23	2							3			
24	2										1
25	2						1				
26	2										1
27	2										1
28	2				1		2	3			
29	2										1
30	2							2			
31	2						2				
32	2							3			
33	2			1	2			3		1	
34	2				2			3			
35	2						2				
36	1				1			3			
37	2										1
38	2	1						3			
39	2				1		1				
40	2						2				
41	2										1
42	2										1
43	2			1	2			2			
44	2			1	2			2			
45	2			1	2			2		1	
46	2				2			3			
47	1				1			3			
48	1	1			1		1	2			
49	2									1	
50	2							3		1	
51	2	1								1	
52	2							3		1	
53	2									1	
54	1				1			3		1	
55	1				1			3			
56	2			1	2			3			
57	2			3				2			
58	3		1	1	3			3			
59	2				2			3			

Table 4. Individual site data for September 11, 2018. Numbers indicate plant density.

Site	Depth (ft)	Wild rice	Duckweed	Spatterdock	White lilies	Bladderwort	Bur-marigold	Coontail	Flatstem	Star duckweed	No Plants
60	2			1	2		2	3			
61	3				3			3			
62	2			2	2			3			
63	2		1	1	2			2			
64	2		1	2	2			2			
65	2				2			3			
66	2				2			3			
67	1				1			3			
68	2							3			
69	2										1
70	3				3			3			
71	3				3			3			
72	2				2			3			
73	2				2						
74	2							3			
75	3				3			3			
76	2				2			3			
77	2				2			3			
78	2							3			
79	2				2						
80	3				3			3			
81	2				2			3			
82	2				2			3			
83	2				3			3			
84	2				2			3			
85	2										1
86	3				3			3			
87	3				3			3			
88	3				3			3			
89	2				2			3			
90	2				3			2			
91	2				3						
92	2							2			
93	2							3			
94	3				3			3			
95	3				3			3			
96	2										1
97	3				3			3			
98	2				2			2			
99	2		1					2			
100	1		1		1	1		2	1		
101	1				1			2			
102	2		1		2			3			
Average		1.0	1.0	1.4	2.0	1.0	1.7	2.7	1.0	1.0	
Occur (102 sites)		4	6	11	53	1	12	67	1	8	20
% occur		4	6	11	52	1	12	66	1	8	

Representative Aquatic Plants in Sutton Lake



Coontail



Water lilies



Bur-marigold



Wild rice

APPENDIX C: SUTTON LAKE NATURAL RESOURCE INVENTORY

memo



Project Name | Sutton Lake Management Plan

To | Joni Giese, District Administrator

Cc | Carl Almer, EOR

From | Jimmy Marty and Mike Majeski, EOR

Regarding | Sutton Lake Natural Resource Inventory

Date | 8/9/2021

Background

A Natural Resources Inventory (NRI) was conducted to document the existing wildlife and vegetation communities of Sutton Lake in order to consider potential effects of lake drawdown activities that may be contemplated as part of a Lake Management Plan. The NRI included the following tasks:

1. Spring and fall avian surveys (October 2019 and April 2020)
2. A review of DNR records of rare species (December 2020)
3. Vegetation survey (September 2019)
4. Seed bank investigation (samples collected September 2019 and analyzed summer/fall 2020).
5. Incidental wildlife observations (all field visits)

Wildlife Assessment

The wildlife assessment consisted of a fall 2019 and spring 2020 avian survey, a review of DNR records of rare species, and incidental wildlife observations during all field visits. A total of 32 bird species were observed, including one Species of Greatest Conservation Need (SGCN), the trumpeter swan (**Table 1** and **Table 2**). For the purposes of documenting species that could be directly impacted by potential lake drawdown activities, bird surveys were focused on the open water zone and wetland fringe of Sutton Lake and did not include adjacent land uses (hayfield, forest patches, agricultural land, shrub wetland, etc.). Incidental observations included two frog species and abundant amphipods and dragonfly larvae. Anecdotal wildlife sightings by landowners around Sutton Lake are provided in **Table 3**.

A search of the DNR Natural Heritage Information System (NHIS) database detected one rare species occurring within a 1-mile buffer of Sutton Lake. The species is a jumping spider designated as special concern. According to the DNR, insufficient information is available to make specific management recommendations for this species. The jumping spider is typically found in prairie and savanna habitat, neither of which are present nor immediately adjacent to Sutton Lake basin.

Vegetation Survey

In September 2019, vegetation was surveyed along five transects with plots every 100 to 200 feet (**Figure 1**). At each plot, all plant species within a 5-foot radius were identified and assigned percent cover. Open water areas were not surveyed. Following the field survey, dominant plant cover was mapped for Sutton Lake using aerial imagery and field observations.

Plot species richness is depicted on **Figure 1**. Three dominant emergent wetland cover types were identified and include narrowleaf/hybrid cattail (**Figure 2**), lake sedge (**Figure 3**), and native *Phragmites* (**Figure 4**). Other cover types included other emergent species (likely grasses), woody vegetation, open water, and cultivated field. A complete species list from the field survey is provided in **Table 4**.

Results

Results from the vegetation survey suggest that the majority of Sutton Lake is dominated by the invasives narrowleaf or hybrid cattail (*Typha angustifolia* T. x *glaucia*) (**Photograph 1**). Where cattail is dominant, its cover is typically greater than 75% and species richness is less than 11 (**Figure 1** and **Figure 2**). The native broadleaf cattail (*Typha latifolia*) was also observed but was rare.

Small patches of lake sedge (*Carex lacustris*) dominated communities were scattered throughout Sutton Lake (**Figure 3** and **Photograph 2**). Wiregrass sedge (*Carex lasiocarpa*) was also intermixed as an occasional dominant. The sedge-dominated communities had higher species richness than other areas, typically exceeding 10 species.

Historically, the emergent wetland fringe of Sutton Lake was likely dominated by a floating sedge mat akin to the Sedge Meadow (Sedge Mat Subtype) Eggers and Reed wetland plant community type. Based on Google Earth aerial imagery, cattail has expanded significantly at Sutton Lake since 1992.

Seed Bank Investigation

Concurrent with the September 2019 vegetation survey, sediment cores were collected along two transects spanning the largest open water area of Sutton Lake. Six sediment cores were collected along each transect: three in open water and three from the floating mat (**Figure 5**). Samples were collected from both the floating mat and lake bottom at locations 1C and 2C. The top 6 inches of the cores were reserved as seed bank samples.

Seed bank composition of surface sediments was investigated via two complementary methods:

- 1) *Seedling grow-out*: Sediment samples were planted and maintained under moist to saturated conditions. Seedlings were identified upon emergence over three-months. These data indicate the identity of viable seeds in the seed bank that may germinate under moist/saturated conditions.
- 2) *Seed identification*: Seeds were extracted from samples following the end of the seedling grow-out by sieving remaining soils. Seeds were identified to finest taxonomic resolution feasible. These data indicate the identity of remaining seeds that did not germinate, due to non-viability or unsuitability of germination conditions (e.g., submerged aquatic plant species).

For the seedling grow-out, samples were kept in cold storage following collection so they could be planted outdoors during the growing season and to allow for cold stratification (i.e., dormancy break treatment required for many plant species). Samples were divided into two replicate trays each and placed outdoors from 6/25/20 until 9/29/20 (**Photograph 3** and **Photograph 4**). Two control trays filled with potting soil were also included to assess ambient colonization. A timed drip irrigation system kept samples saturated. Samples were haphazardly rotated to different locations every two-weeks to account for locational growing condition bias. Seedlings were identified approximately every two weeks and removed from trays following identification. Results are compiled in **Figure 6** and **Figure 7**.

Seed identification was initiated upon completion of the seedling grow-out. Only sample locations 1A, 1C, 1D, 2A, 2C, and 2D were analyzed due to the labor intensity of seed identification. Soils were sieved through 2 mm, 1 mm, 0.5 mm, 0.25 mm, 0.125 mm, and 0.063 mm screens and kept in separate containers. Only the 2 mm, 1mm, and 0.5 mm were assessed as initial analyses indicate that small size fractions were duplicative of 0.5 mm and highly labor intensive. Seeds were identified under a stereo microscope to the highest taxonomic resolution feasible (**Photograph 5** and **Photograph 6**).

Results

Results from the seed bank investigation suggest two trends across both study methods. First, emergent wetland species were most abundant in samples collected from the floating mat and submerged aquatic species were most abundant in samples collected in open water (**Figure 8**). Under drawdown conditions, slow establishment of emergent species in former open-water areas could result in abundant open niches for invasive species to establish.

The second trend was that cattail was present and abundant in nearly all sample locations from both the floating mat and open water locations. Invasive cattail and native cattail cannot be distinguished from seeds or seedlings. However, based on the field survey results, it is reasonable to assume that most of the seeds and seedlings observed were of invasive cattail. The abundance of cattail seeds and seedlings suggest cattail can be expected as a primary component colonization following drawdown.

Results from the seed bank studies should be interpreted with caution. Sample sizes were not sufficient to draw lake-wide conclusions. Seed identification did not assess viability of the seeds and is heavily biased toward vegetation with life history strategies that produce abundant seed production (e.g., cattail, muskgrass, flexuous naiad). Results should be assessed as snapshots of local seed bank conditions. Ultimately, colonization following disturbance will depend on numerous factors including but not limited to establishment conditions, vegetative reproduction, and competitive dynamics.

Table 1. Results of October 2019 and April 2020 avian surveys.

Date	Species	Count	Note
2019-10-04	American Crow	1	
2019-10-04	Blue Jay	1	
2019-10-04	Mallard	4	
2019-10-04	Northern Flicker	1	
2019-10-04	Red-winged Blackbird	8	
2019-10-04	Rock Pigeon	2	
2019-10-04	Swamp Sparrow	1	
2019-10-04	White-throated Sparrow	3	
2019-10-04	Wood Duck	4	
2020-04-09	American Coot	1	
2020-04-09	American Robin	8	
2020-04-09	Bald Eagle	1	Adult
2020-04-09	Black-capped Chickadee	2	
2020-04-09	Blue-winged Teal	6	3 pairs
2020-04-09	Bufflehead	5	
2020-04-09	Canada Goose	6	
2020-04-09	Cedar Waxwing	25	
2020-04-09	Eastern Bluebird	2	
2020-04-09	Green-winged Teal	2	Pair
2020-04-09	Killdeer	1	
2020-04-09	Mallard	6	
2020-04-09	Northern Cardinal	1	
2020-04-09	Northern Flicker	1	
2020-04-09	Northern Harrier	1	Female
2020-04-09	Red-winged Blackbird	8	
2020-04-09	Ring-billed Gull	4	
2020-04-09	Ring-necked Duck	58	Good mix of males & females
2020-04-09	Ring-necked Pheasant	2	
2020-04-09	Rusty Blackbird	2	Foraging in a flooded wooded area
2020-04-09	Song Sparrow	4	
2020-04-09	Turkey Vulture	1	
2020-04-09	Wood Duck	2	

Table 2. Incidental wildlife observations from the September 2019 vegetation survey.

Species	Count
Avian	
American Coot	2
Blue-winged Teal	8
Canada Goose	4
Great Blue Heron	1
Green Heron	1
Killdeer	2
Mallard	6
Red-winged Blackbird	50
Sora Rail	2
Trumpeter Swan	2
Turkey Vulture	2
Wood Duck	6
Amphibian	
Leopard Frog	1
Wood Frog	1
Invertebrate	
Amphipods	Abundant
Dragonfly Larvae	Abundant

Table 3. Anecdotal wildlife sightings by landowners around Sutton Lake.

Species
Trumpeter Swan
Canada Goose
Blue-winged Teal
Scaup spp. (Greater/Lesser)
Wood Duck
Mallard
Hooded Merganser
Northern Shoveler
Sandhill Crane
Ring-necked Pheasant
White-tailed Deer
American Beaver
Muskrat
River Otter
Coyote

Table 4. Plant list compiled from field survey, seedling grow-out, and seed identification studies.

Common Name	Scientific Name	Field Survey	Seedling Grow-out		Seed Identification	
			Open Water	Floating Mat	Open Water	Floating Mat
boxelder	<i>Acer negundo</i>	x				
purple false foxglove	<i>Agalinis purpurea</i>	x				
marsh milkweed	<i>Asclepias incarnata</i>	x		x		
bog birch	<i>Betula pumila</i>	x				
nodding bur-marigold	<i>Bidens cernua</i>	x				
devil's beggarticks	<i>Bidens frondosa</i>	x				
cf. beggarticks/bur-marigold	<i>Bidens</i> sp.	x			x	x
bluejoint	<i>Calamagrostis canadensis</i>	x				
marsh bellflower	<i>Campanula aparinoides</i>	x				
slough sedge	<i>Carex atherodes</i>	x				
cf. bristly sedge	<i>Carex</i> cf. <i>comosa</i>	x			x	
cf. wiregrass sedge	<i>Carex</i> cf. <i>lasiocarpa</i>	x			x	
bristly sedge	<i>Carex comosa</i>	x	x	x		
lake sedge	<i>Carex lacustris</i>	x	x	x		
wiregrass sedge	<i>Carex lasiocarpa</i>	x	x	x		
bristle-stalked sedge	<i>Carex leptalea</i>			x		
sedge	<i>Carex</i> sp.	x			x	x
coontail	<i>Ceratophyllum demersum</i>				x	
cf. marsh cinquefoil	cf. <i>Potentilla palustris</i>	x				x
cf. aster	cf. <i>Symphyotrichum</i> sp.	x			x	x
muskgrass	<i>Chara</i> sp.				x	x
bulbet-bearing hemlock	<i>Cicuta bulbifera</i>	x				
red-osier dogwood	<i>Cornus sericea</i>	x				
swamp dodder	<i>Cuscuta gronovii</i>	x				
Engelmann's flatsedge	<i>Cyperus engelmanni</i>		x			
common spikerush	<i>Eleocharis palustris</i>	x				

Common Name	Scientific Name	Field Survey	Seedling Grow-out		Seed Identification	
			Open Water	Floating Mat	Open Water	Floating Mat
spikerush	<i>Eleocharis</i> sp.	x			x	x
marsh willowherb	<i>Epilobium palustre</i>	x		x		
water horsetail	<i>Equisetum fluviatile</i>	x				
common boneset	<i>Eupatorium perfoliatum</i>	x				
spotted Joe-pye weed	<i>Eutrochium maculatum</i>	x				
black ash	<i>Fraxinus nigra</i>	x				
stiff marsh bedstraw	<i>Galium tinctorium</i>	x				
fowl manna grass	<i>Glyceria striata</i>	x				
jewelweed	<i>Impatiens capensis</i>	x			x	x
rush	<i>Juncus</i> sp.				x	
rice cutgrass	<i>Leersia oryzoides</i>	x		x	x	x
lesser duckweed	<i>Lemna minor</i>	x				
bugleweed	<i>Lycopus</i> sp.	x			x	x
northern bugleweed	<i>Lycopus uniflorus</i>	x		x		
tufted loosestrife	<i>Lysimachia thyrsiflora</i>	x		x		
clustered muhly grass	<i>Muhlenbergia glomerata</i>	x				
cf. flexuous naiad	<i>Najas</i> cf. <i>flexilis</i>				x	
water or pond lily	<i>Nymphaeaceae</i> sp.				x	
sensitive fern	<i>Onoclea sensibilis</i>	x				
cf. nodding smartweed	<i>Persicaria</i> cf. <i>lapathifolia</i>				x	x
cf. arrow-leaved tearthumb	<i>Persicaria</i> cf. <i>sagittata</i>	x			x	x
dotted smartweed	<i>Persicaria punctata</i>	x		x		
reed canary grass	<i>Phalaris arundinacea</i>	x				
native common reed	<i>Phragmites australis</i>	x				
black-fruited clearweed	<i>Pilea fontana</i>	x		x	x	x
eastern cottonwood	<i>Populus deltoides</i>		x	x		
pondweed	<i>Potamogeton</i> sp.				x	x

Common Name	Scientific Name	Field Survey	Seedling Grow-out		Seed Identification	
			Open Water	Floating Mat	Open Water	Floating Mat
cursed crowfoot	<i>Ranunculus sceleratus</i>			x		
great water dock	<i>Rumex britannica</i>	x				
broad-leaf arrowhead	<i>Sagittaria latifolia</i>	x			x	x
black willow	<i>Salix cf. nigra</i>	x				
pussy willow	<i>Salix discolor</i>	x				
meadow willow	<i>Salix petiolaris</i>	x				
hardstem bulrush	<i>Schoenoplectus acutus</i>	x				
river bulrush	<i>Schoenoplectus fluviatilis</i>	x				
hardstem or softstem bulrush	<i>Schoenoplectus sp.</i>		x	x	x	x
marsh skullcap	<i>Scutellaria galericulata</i>	x		x		
giant goldenrod	<i>Solidago gigantea</i>	x				
Sphagnum moss	<i>Sphagnum sp.</i>	x				
white meadowsweet	<i>Spiraea alba</i>	x				
greater duckweed	<i>Spirodela macrorhiza</i>	x				
long-leaved chickweed	<i>Stellaria longifolia</i>	x				
northern bog aster	<i>Symphyotrichum boreale</i>	x				
panicled aster	<i>Symphyotrichum lanceolatum</i>	x		x		
purple-stemmed aster	<i>Symphyotrichum puniceum</i>	x		x		
marsh fern	<i>Thelypteris palustris</i>	x		x		
marsh st. john's wort	<i>Triadenum fraseri</i>	x		x		x
narrowleaf cattail	<i>Typha angustifolia</i> or <i>x glauca</i>	x				
broadleaf cattail	<i>Typha latifolia</i>	x				
cattail	<i>Typha sp.</i>	x	x	x	x	x
small white violet	<i>Viola macloskeyi</i>			x		
northern wild rice	<i>Zizania palustris</i>	x				

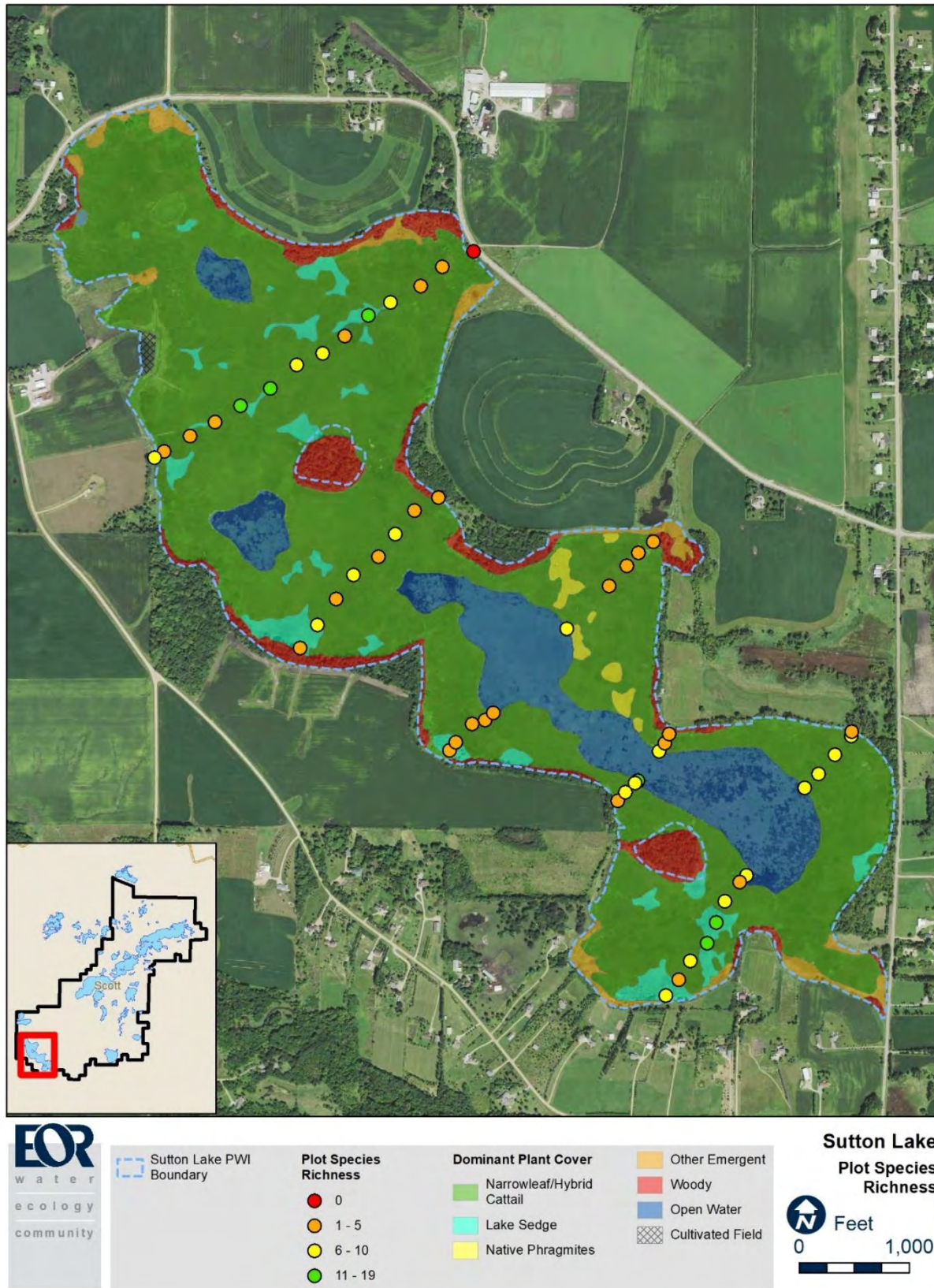


Figure 1. Vegetation sample plot locations with species richness for each plot.

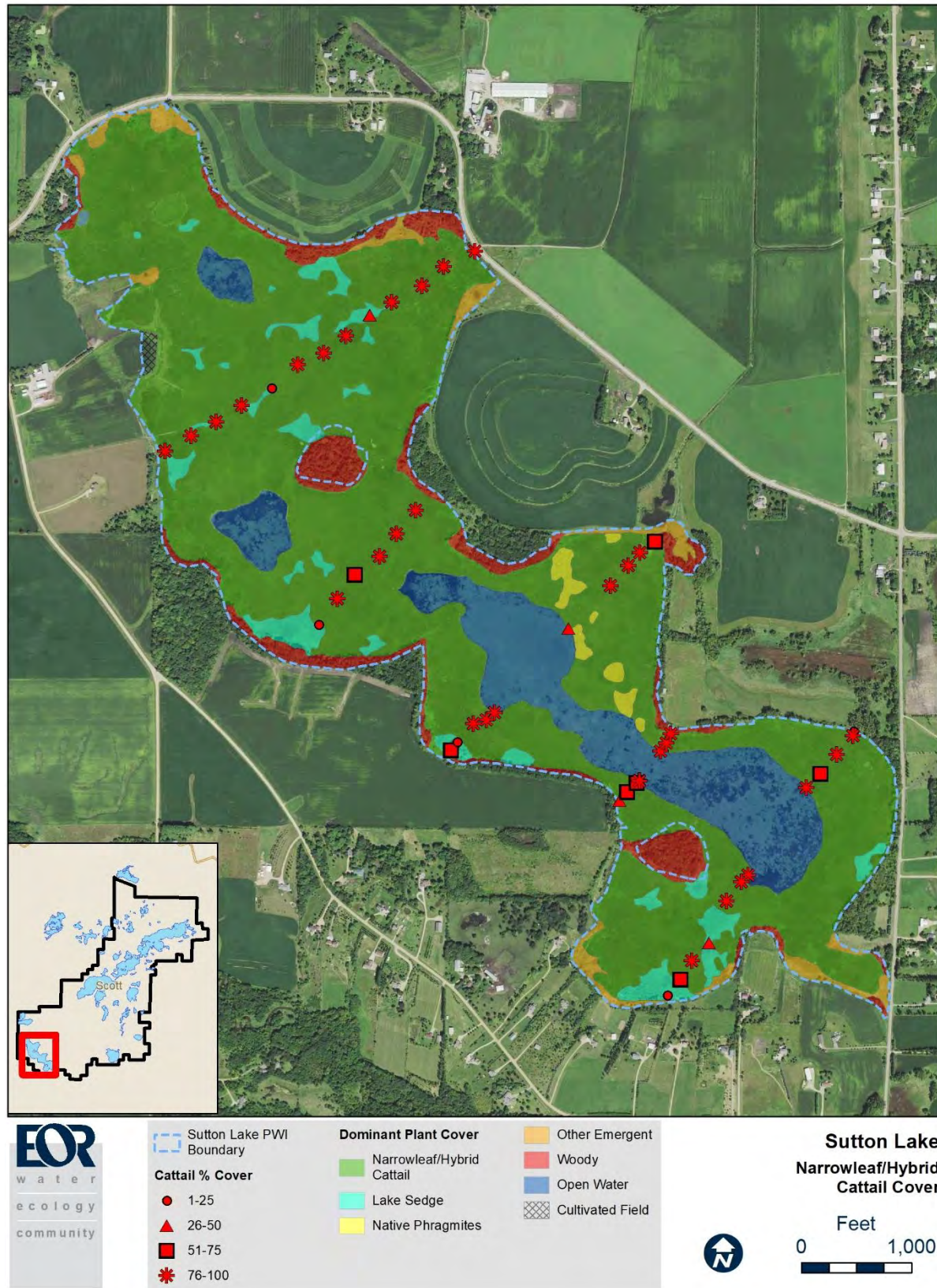


Figure 2. Narrowleaf/hybrid cattail cover at Sutton Lake.

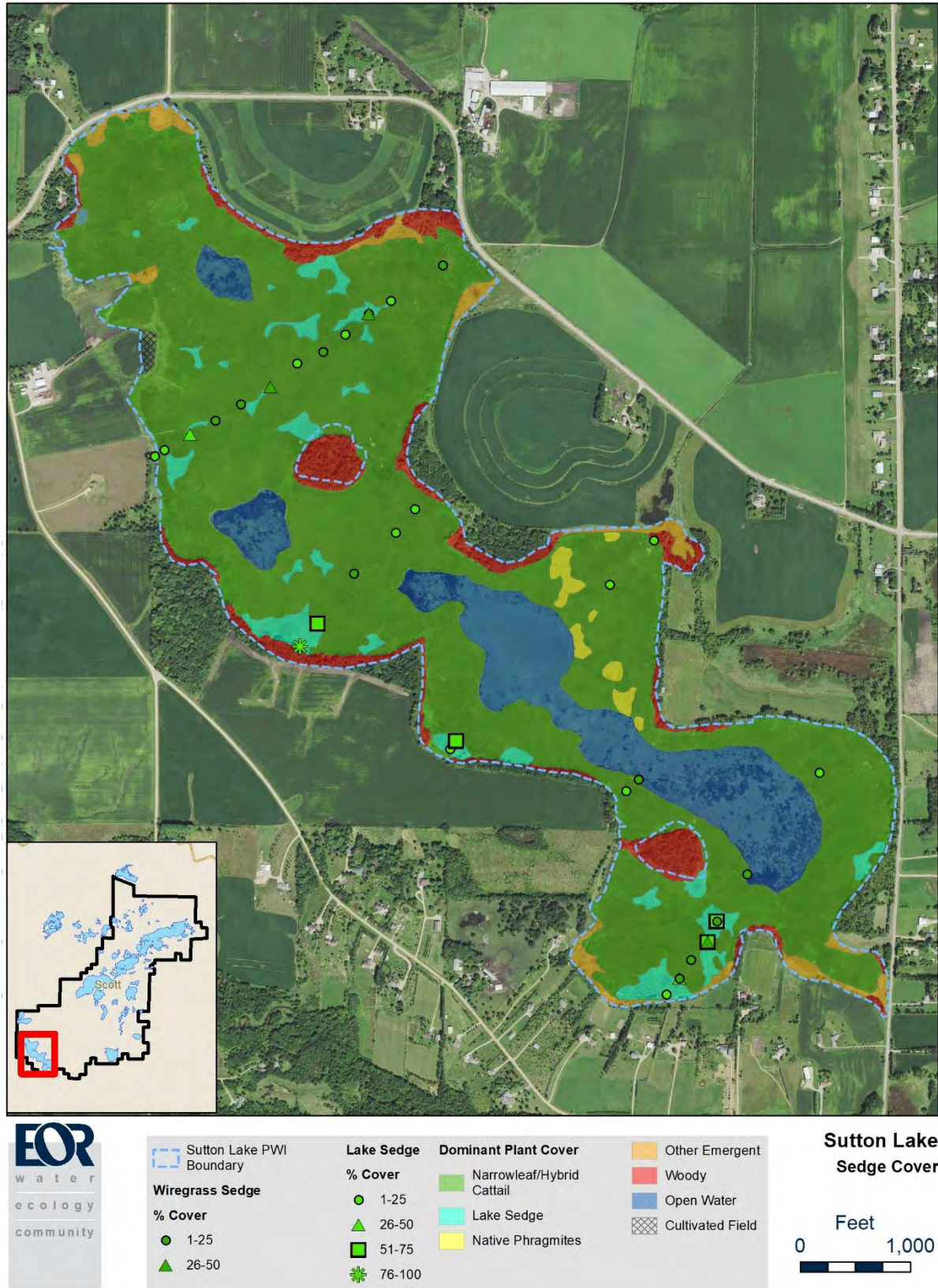


Figure 3. Lake sedge and wiregrass sedge cover at Sutton Lake.

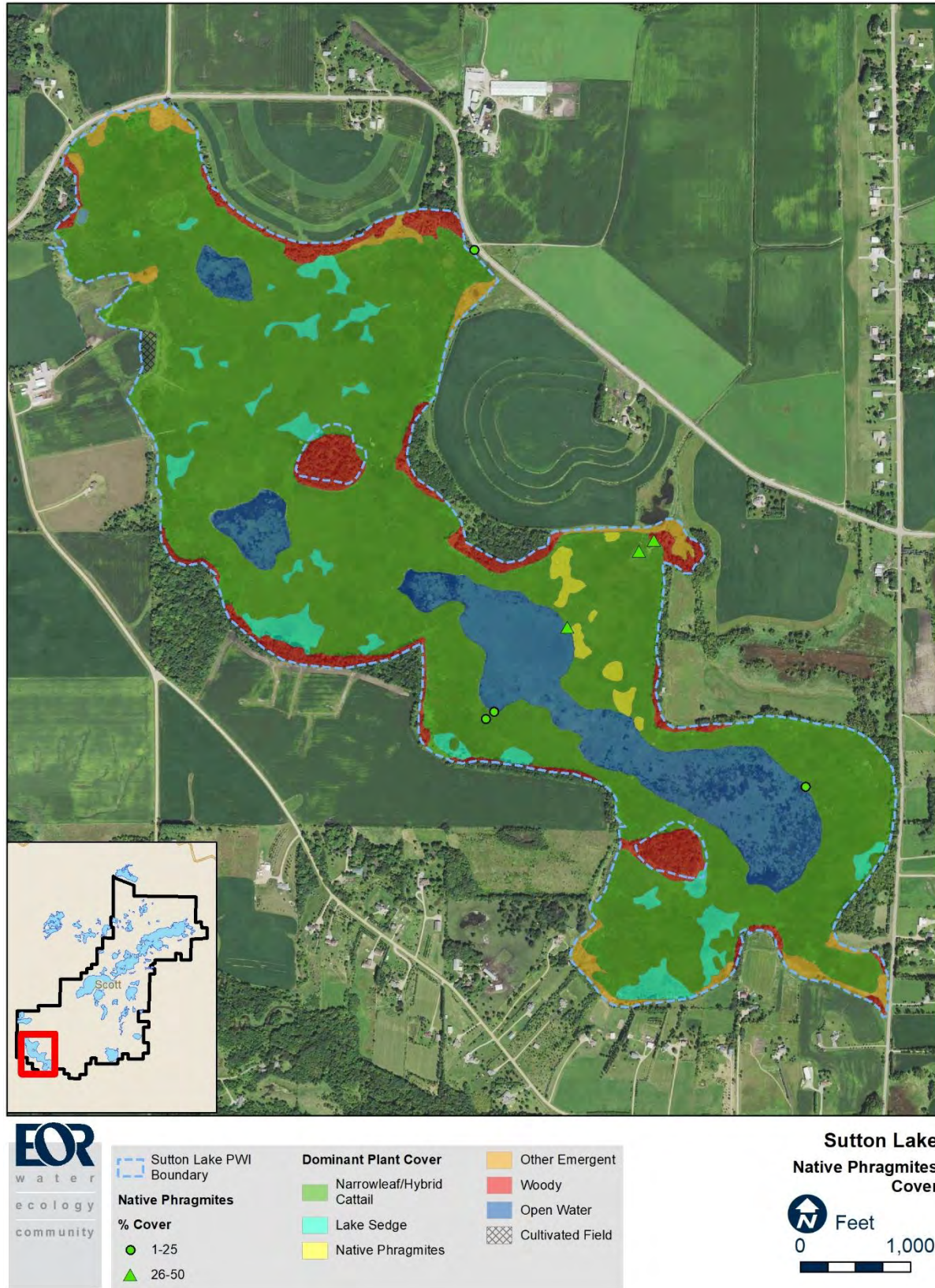


Figure 4. Native Phragmites cover at Sutton Lake.

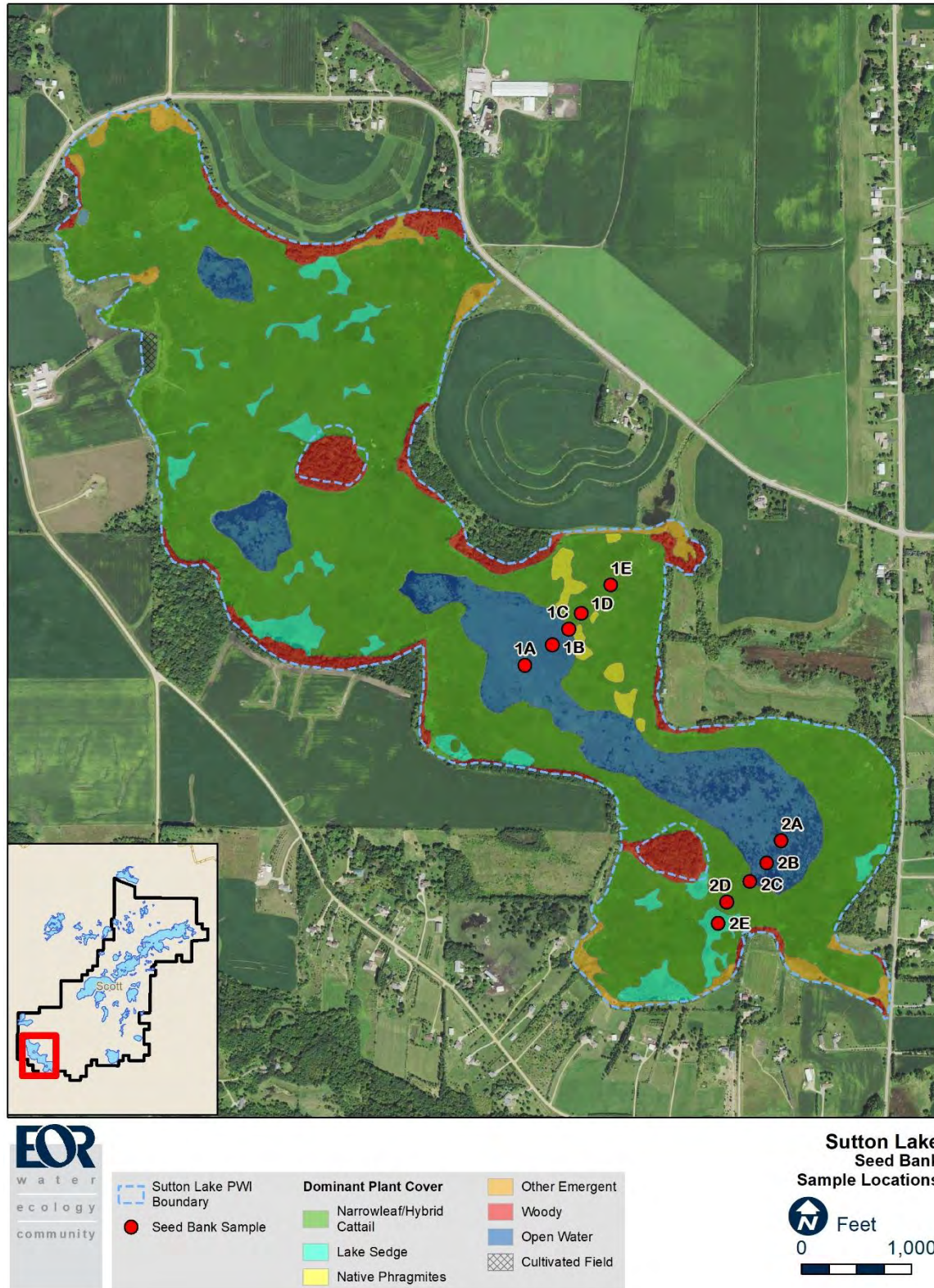


Figure 5. Seed bank sample locations.

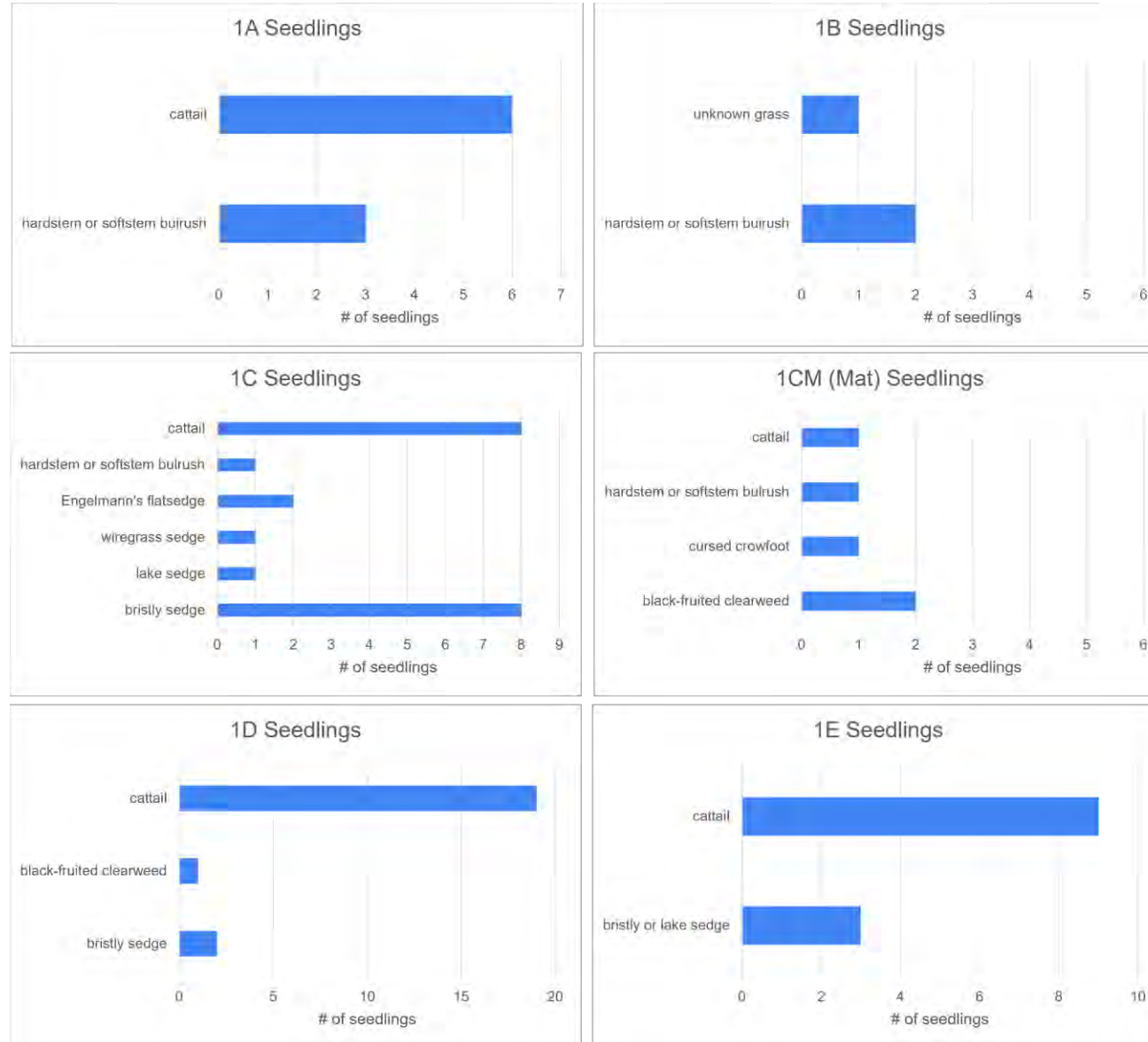


Figure 6. Number of seedlings germinated in seedling grow-out study for Transect 1 samples.

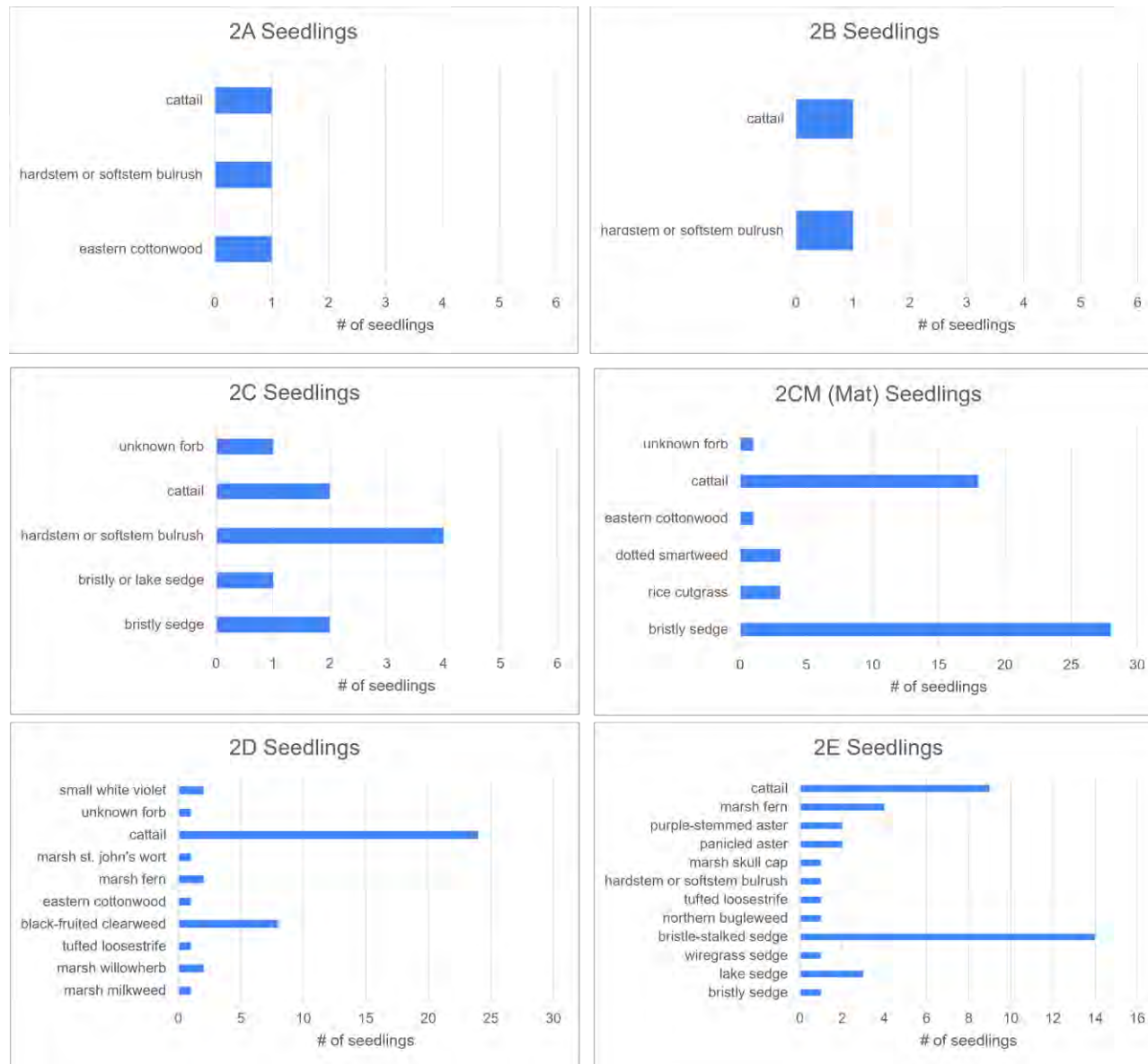


Figure 7. Number of seedlings germinated in seedling grow-out study for Transect 2 samples.

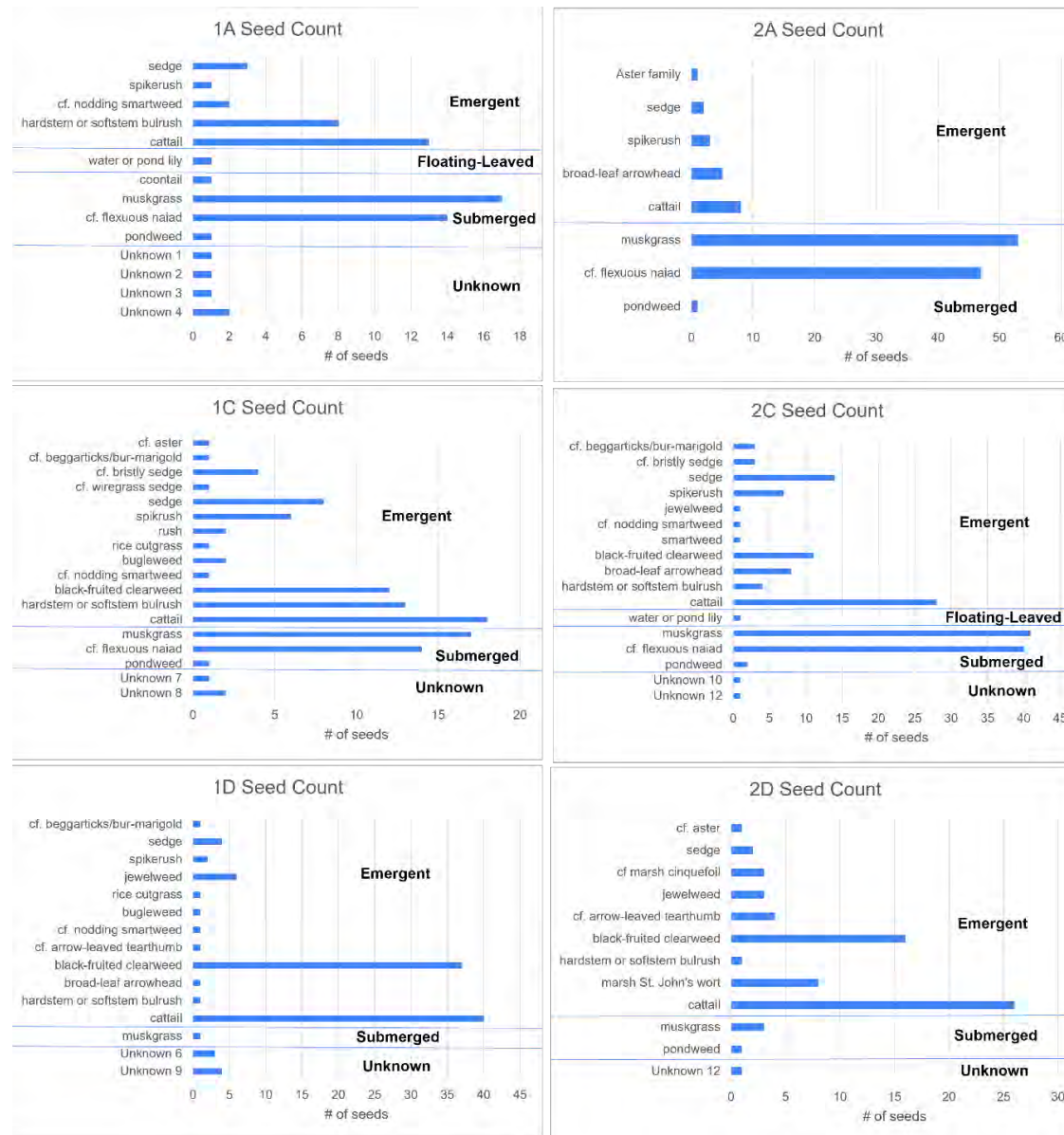


Figure 8. Seeds identified in selected samples, separated by emergent, floating-leaved, and submerged growth habits.



Photograph 1. Typical dense narrowleaf/hybrid cattail at interior of Sutton Lake wetland fringe.



Photograph 2. Patch of sedge meadow floating mat within Sutton Lake wetland fringe.



Photograph 3. Seedling grow-out study setup.



Photograph 4. Small cattail seedlings among larger tufted loosestrife and marsh fern seedlings.



Photograph 5. Hardstem or softstem bulrush seed under stereo microscope.



Photograph 6. Coontail seed extracted from Sutton Lake sediments.

APPENDIX D: SHALLOW LAKE ECOLOGY AND WATER QUALITY

Lakes are considered shallow when most (>80%) of the lake area is less than 15 feet deep. Maximum depth at Sutton Lake is 3 feet and the water is classified as a shallow lake. In shallow lakes, sunlight can penetrate to the lake bottom and support aquatic plant growth. In addition, all the living organisms in shallow lakes are concentrated in a smaller volume than in deeper lakes. Consequently, the relationship between the total phosphorus (limiting nutrient) concentration and the amount of algae growth (measured by chlorophyll-a pigments and water transparency) is often different in shallow lakes as compared to deeper lakes. In deeper lakes, algae abundance is often controlled by physical and chemical factors such as light availability, temperature, and nutrient concentrations. The biological components of the lake (such as microbes, algae, aquatic plants, zooplankton and other invertebrates, and fish) are distributed throughout the lake, along the shoreline, and on the bottom sediments. In shallow lakes, the biological components are more concentrated into less volume and exert a stronger influence on the ecological interactions within the lake. There is a denser biological community at the bottom of shallow lakes than in deeper lakes because oxygen is replenished in the bottom waters and light can often penetrate to the bottom. These biological components can control the relationship between phosphorus and the response factors.

The result of this impact of biological components on the ecological interactions is that shallow lakes normally exhibit one of two ecologically alternative stable states (Figure 8): the turbid water, algae-dominated state, and the clear water, aquatic plant-dominated state. The clear state is the most preferred, since algae communities are held in check by diverse and healthy zooplankton and fish communities. In addition, rooted plants stabilize the sediments, lessening the amount of sediment stirred up by the wind.



Figure 8. Clear and turbid water states in shallow lakes.

As shown in Figure 9, the transition in water quality of shallow lakes from clear to turbid is often abrupt. When shallow lakes have historically been in the clear water state and dominated by submerged aquatic

vegetation, they are capable of assimilating large amounts of phosphorus loading without becoming dominated by algae. That is to say, they are stable in a clear-water state. They may experience some periods of turbid water conditions, but tend to revert to clear water conditions. However, as phosphorus loading increases, the stability of the clear-water state declines until the lake is stable in a turbid-water state. Consequently, drastic reductions in nutrients or changes in the biological community of a shallow lake are needed to promote a clear-water state (Figure 10).

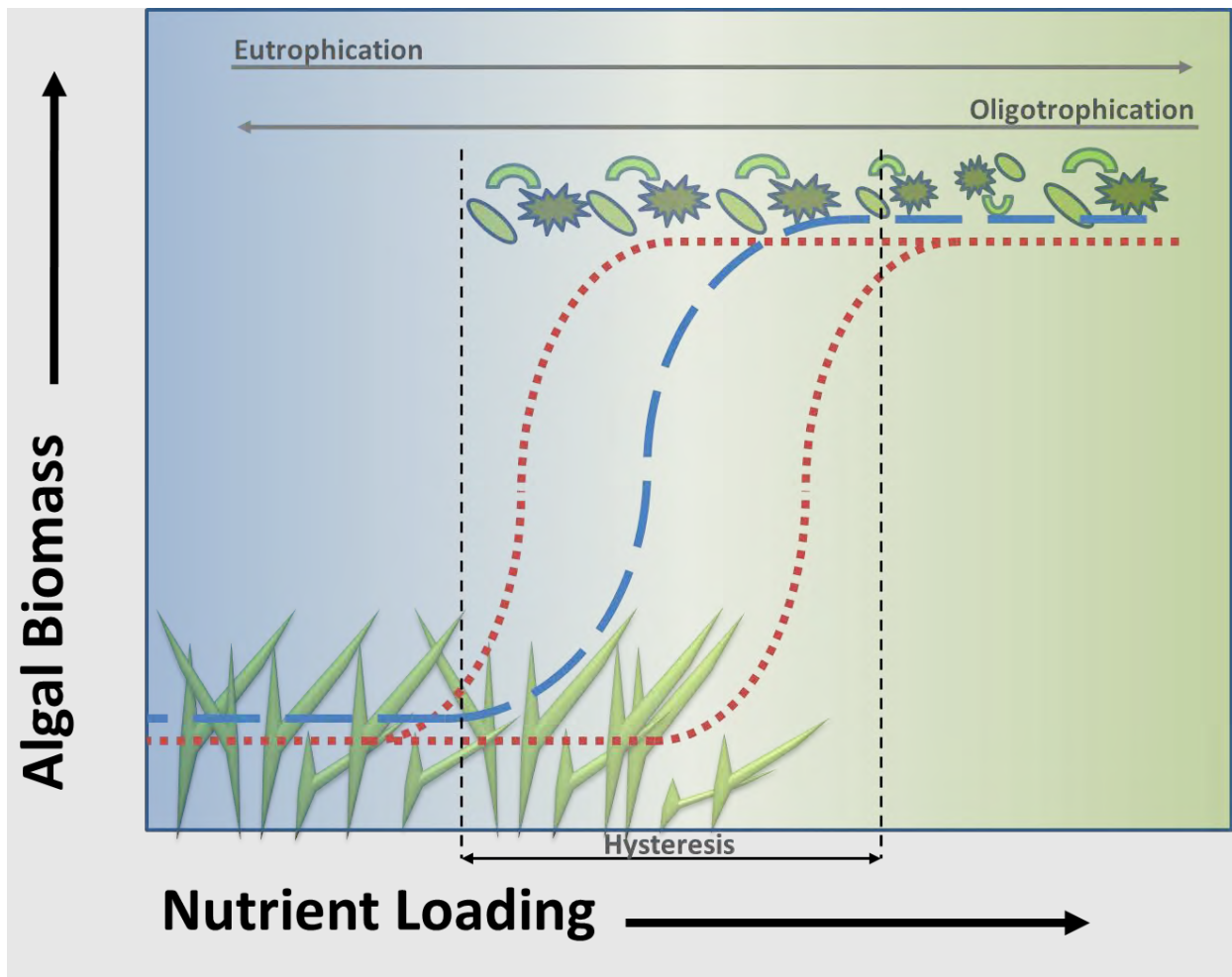


Figure 9. Trophic state shifts in shallow lakes in response to changes in nutrient loading



Figure 10. Cascading biological communities in shallow lakes under clear and turbid water states

Shallow Lake Dissolved Oxygen Dynamics

Dense aquatic canopies, that occupy at least 50% of the water column (e.g. Figure 11) can trigger diurnal fluxes in dissolved oxygen concentration in lakes. Recent research conducted on shallow lakes shows that when aquatic plants occupy more than 50% of the water depth, anoxia manifested before sunset and lasted until night-time surface cooling induced vertical mixing of the water column (Vilas et al. 2017).



Figure 11. Sutton Lake September 2018 photo showing abundant water lilies and submergent aquatic vegetation exceeding 50% of the water column.

The major sources of dissolved oxygen in shallow lakes includes diffusion from the atmosphere, wind mixing (wave action), and photosynthesis from aquatic plants. The major uses of dissolved oxygen include respiration and decomposition. Shallow lakes can become anoxic (without oxygen) whenever the rate of oxygen consuming activities (respiration and decomposition) exceed the rate of oxygen production. This phenomenon is most pronounced in lakes containing stands of aquatic plants that are dense enough to prevent wind mixing and subsequent reoxygenation of the water column.

A study of 70 Minnesota Lakes found that the mean anoxic phosphorus release rate under anoxic conditions was higher in lakes in the turbid water state versus the healthy plant state (Figure 12; Bischoff and James 2012). This figure suggests that lakes with a healthy aquatic plant community have a lower release rate under anoxic conditions in comparison with lakes that are in the turbid water state with little or no aquatic

plants. The implications of Sutton Lake going anoxic include the potential release of “redox sensitive” phosphorus from lake sediments. Redox sensitive phosphorus is phosphorus that becomes soluble and available for biological uptake following the reduction of ferric iron to ferrous iron under anoxic conditions. Solu Internal loading in clear water, aquatic plant dominated shallow lakes is poorly understood. However, it seems likely the shallow nature of Sutton Lake makes any phosphorus released readily available for uptake by algae due to increased ecological interaction with the water column (see Appendix D).

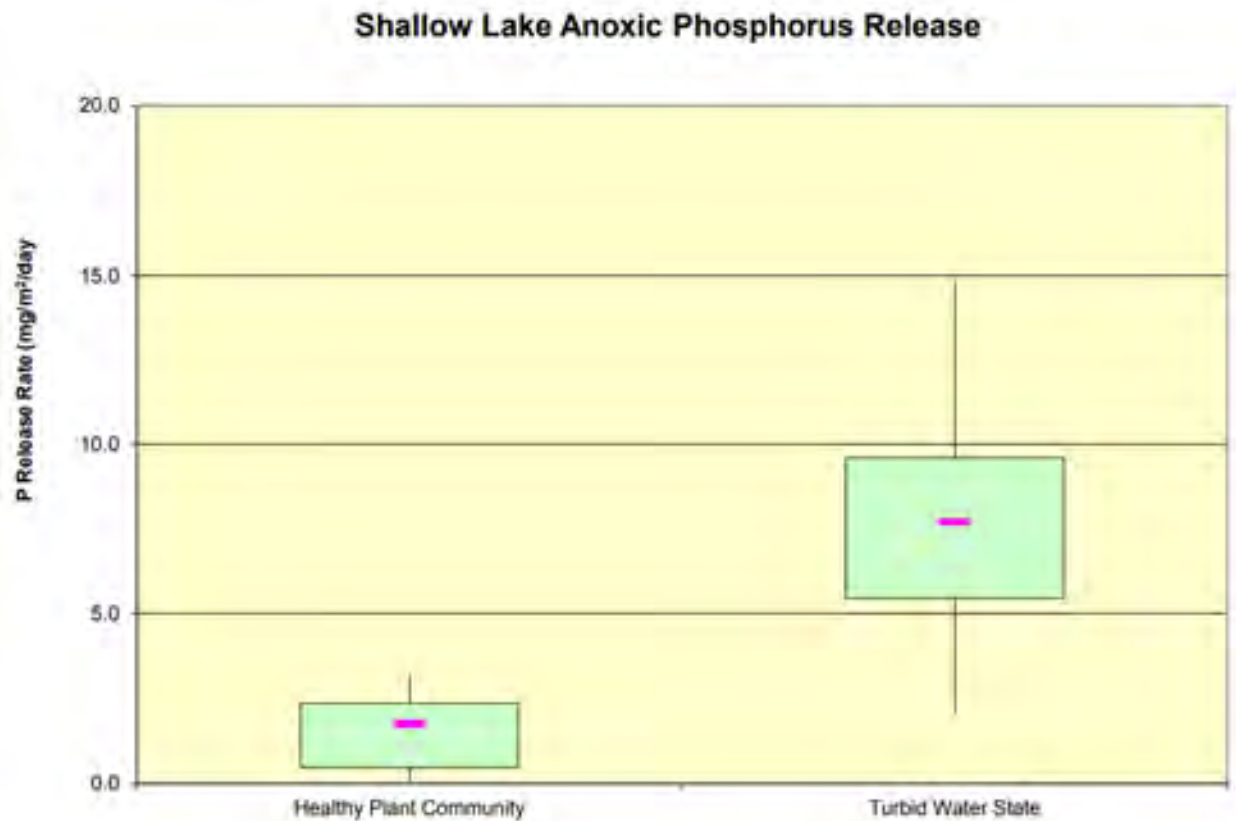


Figure 12. Comparison of anoxic phosphorus release rates in shallow lakes in the healthy aquatic plant dominated state versus the turbid water state. Red lines indicate the mean.

APPENDIX E: MNDNR WETLAND MANAGEMENT MINUTES #17 AND #18

Wetland Management Minute #17 - Drawdowns for Amphibian Management

While managers may not conduct drawdowns specifically to benefit amphibians, this common management practice can both benefit and hurt these species. Desirable outcomes of drawdowns include improved and diverse plant communities, increased invertebrate abundance, reduction of invasive plants, and removal of fish. However, the timing of drawdowns and habitat connectivity to nearby wetlands are important considerations to reduce negative impacts.

Amphibians, generally frogs, toads and salamanders, have relatively unique characteristics compared to wetland birds and mammals. They are relatively secretive. They are cold-blooded (ectothermic). They mature quickly but are relatively short-lived. Due to their small size and mode of travel their ability to disperse is much more limited. And they have extended periods of dormancy to survive cold temperatures.

As planktivores and insectivores amphibians are major links in the flow of energy within aquatic and terrestrial systems. They make up a high portion of biomass in fishless wetlands, in particular, so they are an important food source for many nongame and game species.

The best wetland habitats for amphibians feature vegetation for concealment, foraging and egg-laying; and locations for hibernacula. While breeding requirements tend to vary, most amphibians lay their eggs in fishless aquatic habitats ranging from vernal pools to more permanent wetlands. Juveniles are usually aquatic. Some adults are terrestrial during parts of the year yet need to have access to water or moist soil to prevent desiccation because of their permeable skin.

Most amphibians hibernate during Minnesota's winters. Species like northern leopard frog seek permanent waters to overwinter. Others like wood frog and gray treefrog burrow into leaf litter and rely on cryoprotectants to prevent their cells from rupturing when frozen. Still others like the American toad burrow in soft soils to get below the frost line.

Approximately 20 species of amphibians are native to Minnesota (see Moriarty and Hall 2014). Five (one endangered, four special concern) are listed on [Minnesota's list of endangered, threatened and special concern species](#). Additional species have been identified as species of greatest conservation need in the [State Wildlife Action Plan](#) (2015 revision pending approval by U.S. Fish and Wildlife Service).

The limited ability of amphibians to disperse makes it is easier for localized extinctions to occur with changes in available wetland habitat. Populations in basins that are isolated from other wetlands or waterways, or face significant barriers such as roads, are particularly susceptible to the introduction of fish or dramatic changes in water levels. For some of these species, such changes may pose a threat to the continued persistence of local populations. When a nearby source population is unavailable or there are barriers to movements, extinctions can be permanent.

Recommendations to minimize negative impacts to amphibians:

Avoid conducting dramatic drawdowns when egg and larval stages will be affected. Drawdowns during the active breeding season may strand amphibian eggs, larvae, and adults or lead to desiccation. Consider designing wetlands or encouraging flow toward small pools to prevent animals from being trapped in areas that will become dry. Gradual drawdowns over 30 days are preferred over rapid drawdowns.

Initiate fall drawdowns earlier. The ideal timing for fall drawdowns is after metamorphosis has occurred but before these animals are seeking overwintering sites. Reducing water levels in late fall can lead to direct mortality when animals freeze over winter due to a lack of refugia under ice, or winterkill because of a lack of oxygen with lowered

water levels. Most should have metamorphosed by late summer. Drawdowns should reach their lowest level by 1 September for northern Minnesota and 15 September southern Minnesota and should stay dewatered through at least 1 December. This timing gives animals an opportunity to relocate to a suitable area for hibernation.

Avoid winter drawdowns. Winter drawdowns expose hibernating amphibians to freezing temperatures and make them susceptible to desiccation and freezing during a time when they are unable to escape. Late summer/early fall drawdowns are preferred, particularly if rare species are found in the vicinity.

Consider the status of nearby wetlands. When you plan a drawdown, consider whether the target wetland is the only suitable wetland for amphibians in the area. One or more satellite wetlands should have adequate winter water levels that extend into the next spring and summer to allow amphibians an alternate place to take refuge. Amphibians can then recolonize the drawdown wetland when water levels return. Depending on the objectives of the drawdown, also consider a partial drawdown to maintain some aquatic habitat in the area.

Be cognizant of indirect causes of mortality. During and immediately following a drawdown, many amphibians attempt to escape the area, increasing their vulnerability particularly when crossing roadways. Silt fencing (or other barriers) can be used to redirect amphibians toward more suitable habitat.

If you have Blanchard' Cricket Frog (endangered) or any other rare species in the area or want more specific information for your site, contact a Nongame Wildlife Specialist or Carol Hall, Minnesota Biological Survey Herpetologist.

Authored by Christine Herwig – MN DNR Nongame Wildlife Program and Christopher E. Smith – MnDOT Office of Environmental Stewardship (formerly with Nongame Wildlife Program)

Moriarty, John J. and Carol D. Hall. 2014. *Amphibians and Reptiles in Minnesota*. University of Minnesota Press, Suite 290 111 Third Avenue South, Minneapolis, MN, USA, 55401. 372 pages.

Drawdowns for Reptile Management

Wetland Management Minute #17 discussed drawdowns for amphibian management. While many considerations are similar for reptiles, life history traits of reptiles differ significantly and so do some of the recommendations for water level management.

Minnesota has 31 reptile species of which 11 (one endangered, four threatened, six special concern) are listed on [Minnesota's list of endangered, threatened and special concern species](#). Additional species have been identified as species of greatest conservation need in the [Minnesota Wildlife Action Plan](#). In addition, both [Blanding's turtles](#) and [wood turtles](#) are under review for federal listing under the Endangered Species Act.

Reptiles are ectothermic, secretive, and poor dispersers because of their small size and limited mobility. They have extended periods of dormancy and are susceptible to mortality through freezing in northern climates. General habitat requirements include features to allow thermoregulation such as basking structures and underwater or underground locations for shelter. Other necessary features include foraging areas, hibernacula, and egg laying sites. Distance, terrain, and other potential obstacles, such as roadways, negatively impact the use of these habitat complexes and consequently survival. All reptiles are inactive during Minnesota's winters. Species like Blanding's turtle seek permanent waters to overwinter; whereas others like the eastern hog-nosed snake burrow in soft soils to get below the frost line.

Among Minnesota's reptiles, turtles are the most affected by drawdowns. Although they tend to be long-lived, they are slow to mature, with many remaining in wetlands for more than one year as juveniles. Minnesota's adult turtles primarily live in aquatic environments but travel into uplands for summer foraging and to lay eggs.

Turtles have very high adult survivorship to compensate for naturally high levels of nest and hatchling mortality. Recent studies suggest that even seemingly slight increases in adult mortality, especially among females, can drive localized populations to extinction. Adult survival is susceptible to changes in wetlands such as the introduction of fish, dredging, and dramatic or poorly timed changes to water levels. Permanent wetlands and flowing water (e.g., rivers and streams, groundwater fed springs) are particularly critical for providing safe hibernacula. Desiccation or freezing can be the result of ill-timed changes in water levels. While wetland complexes featuring a variety of wetland types is beneficial, the ability of turtles to move between these habitats can be compromised by distance, terrain and other obstacles. Roadways, collection by people, and exposure to predators are direct causes of mortality that could limit repopulation of wetlands. When a nearby source population is unavailable due to distance or barriers, extinctions can be the result.

Recommendations:

Avoid artificially elevating water levels during active nesting season. Dramatic increases to water levels then (see figure below) may flood nearby turtle eggs resulting in nest failure. If elevating water levels is desired, do so before turtle nesting season begins (late May in much of Minnesota). Additionally, land managers may consider creating more desirable nesting conditions away from wetland edges. Please consult with Nongame Wildlife Program staff for details.

Initiate fall drawdowns earlier. The ideal timing is after animals breed but before they seek overwintering sites. Drawdowns in late summer/early fall provide an opportunity for turtles to relocate to a suitable area to overwinter. Reducing water levels in late fall can lead to direct mortality when animals freeze or winterkill because of lack of oxygen under ice with lowered water levels. Drawdowns should reach their lowest level by 1 September for northern Minnesota and 15 September southern Minnesota and should stay dewatered through at least 1 December. Water should be drawdown to $\leq 14"$ to discourage reptile overwintering. Depths to 24" might be acceptable if no listed reptile species are likely to be present and if there is some flow to prevent deep ice formation, but monitor closely for winterkill and practice adaptive management as necessary.

Avoid winter drawdowns. Winter drawdowns expose overwintering reptiles to freezing temperatures and make them susceptible to desiccation and freezing during a time when they are unable to escape. Although managers may prefer to dewater a basin in November after the close of duck hunting season, this would put resident turtles at risk and could decimate entire populations. Late summer/early fall drawdowns are preferred, particularly if rare species are found in the vicinity. If winter drawdowns are required, Blanding's and/or wood turtle surveys may need to be conducted during the prior field season to assess species presence. Please consult with Nongame Wildlife Program staff.

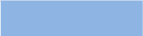

Assess landscape context and alternate refugia. Are alternate wetlands suitable for turtles (e.g., type, depth, substrate, vegetation) nearby and safely accessible? Manage wetland complexes with habitat corridors between basins to allow reptiles an alternate place to take refuge. Partial (vs. full) drawdowns may provide some aquatic habitat while still achieving some or all management objectives, depending on the objectives of the drawdown and landscape context of the site.

Reduce indirect causes of mortality. During and immediately following a drawdown, many reptiles attempt to escape the area, and may end up crossing roadways resulting in high mortality. Silt fencing (or other barriers) to direct reptiles away from roadways and toward more suitable habitat may be advised or required if endangered or threatened species are in the area. Directing reptiles through or under existing crossing structures such as culverts, bridges, and wildlife tunnels not only reduces wildlife mortality, but enhances public safety. In some instances, land managers may consider temporarily closing DNR roads that fall under their jurisdiction, and/or approach local road authorities about temporarily closing adjacent public roadways. Turtle crossing sightings, including both living and deceased turtles, can be reported to the [Minnesota Turtle Crossing Tally & Count Project](#).

If you have rare species in the area or want more specific information for your site, contact a [Nongame Wildlife Specialist](#) or [Carol Hall](#), Minnesota Biological Survey Herpetologist.

Approximate active season, breeding and overwintering timing for amphibians and reptiles.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Amphibian and Reptile Active Season												
North												
South												
Amphibian Egg Laying												
North												
South												
Turtle Nesting												
North												
South												
Seeking Overwintering Sites												
North												
South												
Recommendations - Drawdown Timing												
North												
South												

 Preferred
  Acceptable if SGCN amphibians not present, consult nongame

Authored by Christine Herwig – Nongame Wildlife Program, and Christopher E. Smith – MnDOT Office of Environmental Stewardship



Subject | Buck Wetland Enhancement Feasibility Study Approval

Board Meeting Date | April 11, 2023

Meeting Item: 4.4

Prepared By | Emily Dick

Attachments | Draft Buck Wetland Enhancement Feasibility Study

Proposed Action | Vote to approve.

Background

As identified in the 2020 Water Resources Management Plan and Upper Watershed Blueprint, it is the intent of PLSLWD to pursue projects to improve water quality and flood reduction. In July 2021, the Board of Managers selected six projects from the Upper Watershed Blueprint for near term implementation. The Buck Wetland project was one of the selected projects, and a feasibility study was conducted to inform further project development.

PLSLWD received FY20-21 Metro Watershed-Based Implementation Funding program grant that covers a portion of the cost to prepare the Buck Lake East Wetland Feasibility Study. Landowner meetings, Board discussion, water monitoring, soil analysis, and consultations with MnDNR South Metro Area Hydrologist were conducted to inform the feasibility study.

Overview

Staff will present the Buck Wetland Enhancement feasibility study and proposed next steps based on updated DNR comments, for board review and comment.

Action Requested

Staff recommends board approval of the Buck Wetland Enhancement feasibility study.

Prepared by: EOR, April 2023

For the Prior Lake-Spring Lake Watershed District

Sponsored by the Board of Water and Soil Resources

Buck Wetland Enhancement Feasibility Study



Cover Image

Buck Wetland July 2021

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1. BACKGROUND AND PROJECT PURPOSE

1.1. Introduction

The Prior Lake-Spring Lake Watershed District (PLSLWD) authorized the Buck Wetland Enhancement Feasibility Study to develop design alternatives and costs to complete a wetland enhancement project. Potential project goals examined as part of this feasibility study included enhancing the existing wetland area, reducing the phosphorus load from the watershed, and providing downstream flood reduction.

The Buck Wetland Enhancement Project Area is shown in Figure 1. There are two wetlands within the project area, referred to during this study as the east wetland and west wetland. The east and west wetlands are connected by an existing ditch. The east wetland flows into the west wetland, which then discharges into Buck Lake, and ultimately to Lower Prior Lake. The west wetland is highly altered by past ditching and excavation.

The total area draining to the project area is approximately 1,180 acres. The land use within the watershed upstream of the project area is primarily rural and agricultural. Figure 1 shows the contributing watershed in relation to the project area.

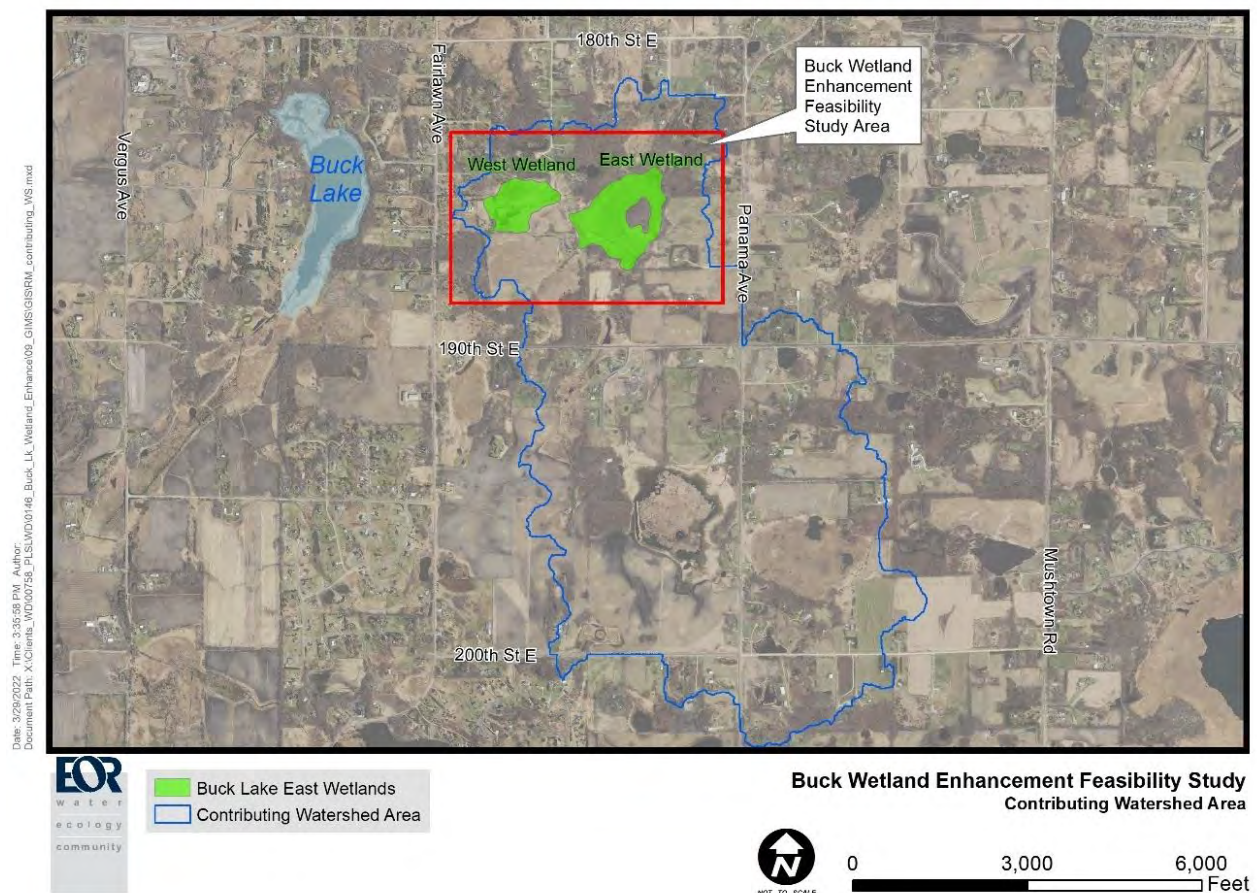


Figure 1. Buck Wetland Enhancement Feasibility Study Project Area

Using information collected during the field survey and the existing calibrated PCSWMM model for the watershed, design concepts were developed to meet three objectives for the project. In this study, the design concepts are reviewed and compared, and the next steps of the project are discussed.

1.2. Background and Previous Studies

1.2.1. Flood Reduction

The Buck Wetland Enhancement Project was originally identified as a flood reduction concept in the Prior Lake Stormwater Management and Flood Mitigation Study completed by Barr Engineering in 2016 (2016 Flood Study). One of the scenarios identified in the 2016 Flood Study proposed a restrictive outlet and overflow structure at the west wetland to decrease the discharge rate from the wetland, increase detention time in the wetland, and reduce flood levels in the downstream waterbodies of Spring Lake and Upper and Lower Prior Lake.

The Upper Watershed Blueprint Study (UWB), completed in March 2021, identified programs, projects, and policies to reduce phosphorus and reduce flooding in the PLSLWD. The UWB acknowledges the challenge that often projects that are most beneficial to water quality provide little flood mitigation, and projects that are most efficient for flood reduction offer minimal water quality benefit. Therefore, the UWB sorted projects into two categories: flood reduction and water quality. The Buck Wetland Enhancement Project was listed primarily as a water quality project. The study indicated a high total phosphorus (TP) load within the watershed, up to 500 lbs/yr. The Buck Wetland Enhancement Project scored high in the project scoring matrix from the UWB due to its low estimated cost per estimated pound of phosphorus removed.

1.2.2. Water Quality

Upper Prior Lake was listed on the Minnesota Pollution Control Agency's list of impaired waters in 2002. Its impaired use is aquatic recreation, and the pollutant is for excess nutrients, primarily total phosphorus. A Total Maximum Daily Load was developed for Spring and Upper Prior Lake in 2012 and requires a TP reduction of 2,959 lbs/yr to Spring Lake. The Buck Wetland Enhancement Project is within the Upper Prior Lake Watershed; therefore, water quality benefits are being explored and considered as a part of the design objectives and will be evaluated in the project scenarios.

1.2.3. Existing Wetland Designation

Figure 2 shows the existing Minnesota Department of Natural Resources (MnDNR) designations for the waterbodies within the project area. The east wetland is considered a public water basin, and the ditch flowing through the west wetland is considered a public water watercourse. These regulatory designations have an impact on the design objectives and scenarios that are considered for this study, as there are limitations for the work that can be completed within these public waters.

The east wetland was assessed by PLSLWD for the 2012 Comprehensive Wetland Plan. The wetland was classified as a Basic Protection wetland with moderate vegetation and wildlife quality. No data was collected for the west wetland.

Lake & Flood Elevations Online

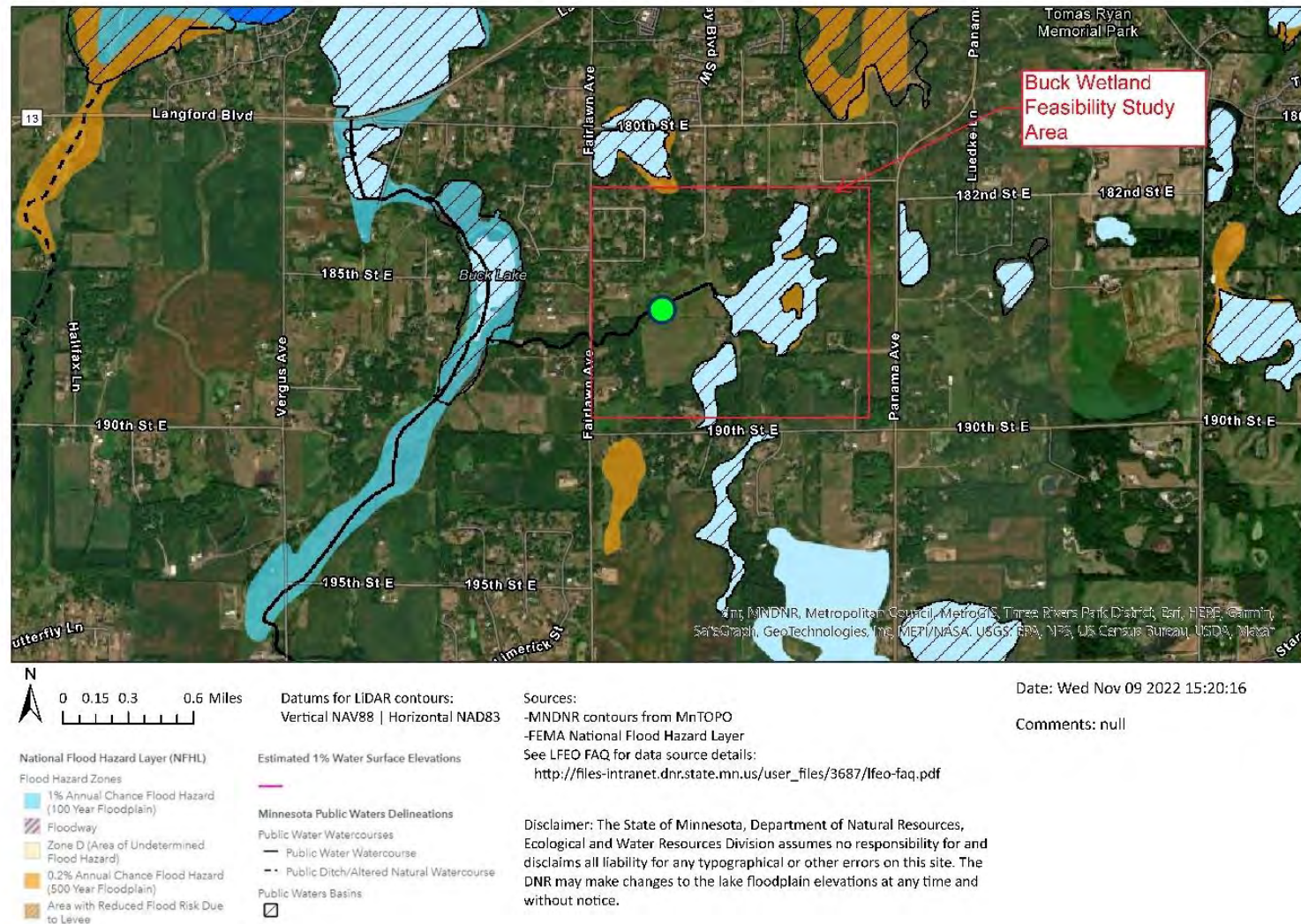


Figure 2. MnDNR Existing Designations for Waterbodies within the Project Area

1.3. Design Objectives

Based on the information gathered from previous studies and the information known about the watershed area and the project location, the following primary design objectives for the project have been established:

- Enhance the existing wetland functions via restored hydrology and vegetation
- Provide water quality benefit (i.e., reduce TP loading to Spring Lake)
- Reduce flood levels (on Spring and Prior Lakes)

To achieve these design objectives, multiple scenarios were reviewed with varying levels of change from existing conditions. The scenarios and their quantified benefits are discussed in Section 3 of this report.

2. METHODS

2.1. Data Collection

Assessment of this project area prior to this study was completed from a desktop review using LiDAR, aerial imagery, and reports completed for the entire Upper Watershed (the portion of PLSLWD tributary to Spring Lake). This study included the collection of additional data to assess existing conditions of the project area in more detail. The additional data collected has been considered when designing the concept scenarios for this study and may be used during the final design and permitting process if this project is selected for implementation by the Board.

2.1.1. Topographic Survey and Field Assessment of Wetland Quality

During the field survey, topographic information of the main flow paths for water through the wetland area as well as active land uses/structures within the wetland area were surveyed. To assess wetland condition, an MPCA Rapid Floristic Quality Assessment (RFQA) was completed for the east and west wetlands in July 2021. The RFQA is a vegetation-based, ecological condition assessment that assigns wetland condition categories of poor, fair, good, or exceptional (MPCA 2014).

The plant community types and RFQA condition scores for each wetland can be seen in Figure 3. The RFQA results indicated the east wetland is in fair quality floristic condition and the west wetland is in poor quality floristic condition. The east wetland's fair quality is due to areas of remnant fresh meadow and shrub-carr (shrub-dominated wetland) that are dominated by native vegetation. The west wetland's poor quality is due to dominance of almost exclusively invasive species. Invasive cattail dominates the shallow marsh in the west wetland and only two other species were observed in this area. Reed canary grass dominates fresh meadow in the west wetland with cover ranging from 75-95%. Areas of shallow open water are also present in the west wetland but were excluded from the RFQA because insufficient quantity of vegetation was present for analysis.

2.1.2. Rare Species and Wildlife

EOR reviewed the MnDNR Natural Heritage Information System for records of rare species within a 1-mile buffer of the wetland basins. No records were identified. Observations made during the field assessment identified no rare species or obvious critical habitat.

Landowners identified a portion of the west wetland as an annual nesting area for sandhill cranes (Figure 4). Sandhill cranes are protected by the federal Migratory Bird Treaty Act, which prohibits the taking (including killing, capturing, selling, trading, and transport) of protected migratory bird species. The nesting season typically begins in April and extends through August. Permitting for project implementation will need to take this into consideration.

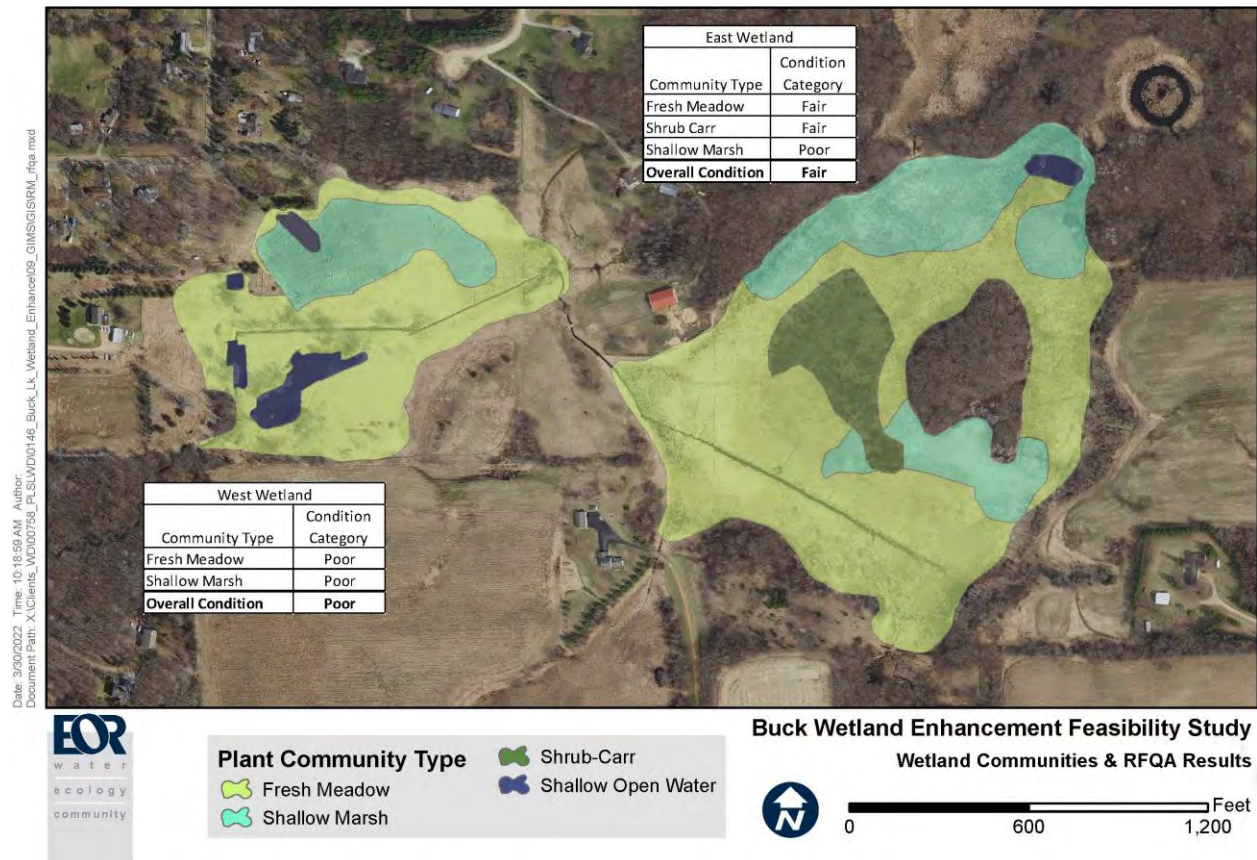


Figure 3. Wetland Communities and RFQA Results



Figure 4. Approximate sandhill crane nesting area location provided by landowner.

2.1.3. Wetland Sediment Core Phosphorus Analysis

Wetlands can either be a phosphorus sink (i.e., absorbs phosphorus from the water that passes through it) or a phosphorus source (i.e., contributes additional phosphorus to the water that passes through it). For a wetland to be able to remove phosphorus, the wetland soils must not already have high levels of phosphorus (also known as legacy loads of phosphorus), which typically occurs downstream of tilled agricultural lands and/or historic animal feeding operations prior to the advancement of runoff controls. In addition, for a wetland to be able to remove phosphorus, the chemical nature of the wetland soils must have the capacity to bind phosphorus. Before assuming the water quality benefits and phosphorus removal benefits as a result of increased inundation within a wetland storage area, it is necessary to complete an investigation of the wetland soils. If the soils are found to be high in phosphorus or do not have a high phosphorus binding capacity, it would be recommended that the wetland soils be scraped to improve the phosphorus binding capacity prior to construction.

In July 2022, EOR staff collected twenty soil samples from 15 sampling locations distributed throughout the project area. Analysis of the sediment cores collected provides evidence to suggest that wetland soils are not overly saturated with phosphorus. Furthermore, the wetland soils have a relatively high capacity for retaining phosphorus. The full report regarding this phosphorus analysis is included in Appendix A.

2.2. Modeling

The PLSLWD existing PCSWMM model of the Upper Watershed was used to analyze water level changes related to the concept scenarios for this project, both at the study area and at Spring and Prior Lakes. The model was updated to simulate 2-, 10-, and 100-year, 24-hour storm events, as well as a 100-year 30-day storm event. Details within the east and west wetland flow path were also reviewed and updated to match the topographic survey. As a result, an updated "Existing Conditions" model was used specifically for this project to compare existing conditions more accurately to proposed scenarios. The modeling results for concept scenarios are discussed in Section 3.1.

3. CONCEPT SCENARIOS

Based on landowner input at the April 5, 2022 meeting and given the relatively higher quality of the east wetland as compared to the west wetland, it was determined that this feasibility study and concept scenarios should focus on the west wetland, with no alteration of the east wetland (physically or hydrologically). As such, four (4) concept scenarios were developed for the west wetland. The focus, description, and goal of each concept scenario is included in Table 1. Concept Scenarios 1-3 are illustrated in Figures 5 through 7. Concept plans (typically defined as 30% complete construction plans) for all scenarios are contained in Appendix B.

Table 1. Concept Scenario Descriptions

Scenario	Focus	Description	Goals
1	Wetland Enhancement	Excavation to increase open water, ditch filling and ditch blocks to restore wetland hydrology by reconnecting runoff to wetland soils and vegetation, and removal of reed canary grass via ~1-ft deep wetland scrape to restore native vegetation.	Increase water levels for events less than the 2-year, 24-hour event to filter particulate phosphorus, increase phosphorus uptake by vegetation, and reduce invasive species cover.
2	Water Quality	Scenario 1 + an Iron-Enhanced Sand Filter (IESF) to filter more particulate phosphorus and capture soluble phosphorus.	Maximize phosphorus load reduction by detaining and filtering as much of the annual runoff volume as possible without negatively impacting wetland enhancement activities.
3	Flood Reduction	Scenario 1 + an earthen berm and gated outlet structure to maximize detention of runoff.	Maximize flood reduction on Prior Lake and Spring Lake.
4	Hybrid	Scenarios 1 + 2 + 3	Maximize benefits of Scenarios 1-3.

3.1. Modeling Results

3.1.1. Hydrologic and Hydraulic Results

The concept scenarios were modeled in PCSWMM to compare the effects each scenario would have on water levels within the wetland area for the estimated 2-, 10-, and 100-year, 24-hour storm events based on National Oceanic and Atmospheric Administration (NOAA) data. Table 2 outlines the change in water surface elevation of the west wetland for each scenario. The east wetland within the project area will not experience any change in water levels as a result of the concept scenarios.

Table 2. PCSWMM Model Results 2-, 10-, and 100-year 24-hour Storm Events

	2-year, 24-hour event		10-year, 24-hour event		100-year, 24-hour event	
Scenario	West Wetland Peak Water Surface Elevation	Increase from Existing Conditions (ft)	West Wetland Peak Water Surface Elevation	Increase from Existing Conditions (ft)	West Wetland Peak Water Surface Elevation	Increase from Existing Conditions (ft)
Existing	956.3	-	957.7	-	959.6	-
1	956.3	0.0	957.7	0.0	959.6	0.0
2	958.1	1.8	958.5	0.8	959.8	0.2
3	958.9	2.6	959.6	1.9	960.7	1.1
4	958.9	2.6	959.6	1.9	960.7	1.1

Figures were developed to show the extent of the increased inundation to the west wetland as a result of the scenarios. The additional inundation shown on the figures is temporary inundation that occurs at the peak of the modeled storm event.

- Figure 5 shows the estimated inundation area in comparison to the existing inundation area for the 2-year, 24-hour storm for Scenario 1, where no changes to the inundation area are expected for the 2-year, 24-hour storm. Based on data from NOAA, the 2-year, 24-hour storm represents a rainfall quantity over a 24-hour period that has a 50 percent probability of occurring during the year. There are also no changes to the inundation area for the 10- and 100-yr, 24-hour storm events for Scenario 1.
- Figure 6 shows the estimated inundation area in comparison to the existing inundation area for the 2-year, 24-hour storm event for Scenario 2. Scenario 2 is also expected to have an increase in inundation area for the 10- and 100-year, 24-hour storm events (Table 2). The slight increase in the 100-year, 24-hour storm event for Scenario 2 may be optimized during final design to show no change in water surface elevation. The modeling for this scenario assumes a permanent pool at elevation 954.1 would be established. During final design, it is possible that the outlet structure could be modified to include active management of the permanent pool so that the permanent pool could be lowered when storm events are not occurring. If this is desired, the final design

would include a recommendation for how to manage the outlet structure before and after storm events.

- Figure 7 shows the estimated inundation area in comparison to the existing inundation area for the 100-year, 24-hour storm event for Scenarios 3 and 4. These scenarios show the largest change in inundation for the 100-year, 24-hour storm event, however, they also show an increase in water surface elevation for the more frequent storm events (Table 2). The modeling assumes a permanent pool at elevation 958.0 would be established. During final design, it is possible that the outlet structure could be modified to include active management of the permanent pool so that the permanent pool could be lowered when storm events are not occurring. If this is desired, the final design would include a recommendation for how to manage the outlet structure before and after storm events.

Table 3 shows the expected flood reduction on Upper Prior Lake and Spring Lake for the 100-year, 30-day storm event for the modeled scenarios. Note that there are minimal expected flood improvements for Scenarios 1 and 2, which is expected because the focus of those scenarios is on wetland enhancement and water quality, however the increased inundation does show to have some impact on Upper Prior Lake and Spring Lake

Table 3. Flood Reductions Prior Lake and Spring Lake for the 100-yr 30-day storm event.

Scenario	Flood Reduction on Upper Prior Lake (ft)	Flood Reduction on Spring Lake (ft)
Existing	-	-
Scenario 1	-0.01	0.00
Scenario 2	-0.04	-0.04
Scenario 3	-0.13	-0.07
Scenario 4	-0.13	-0.07

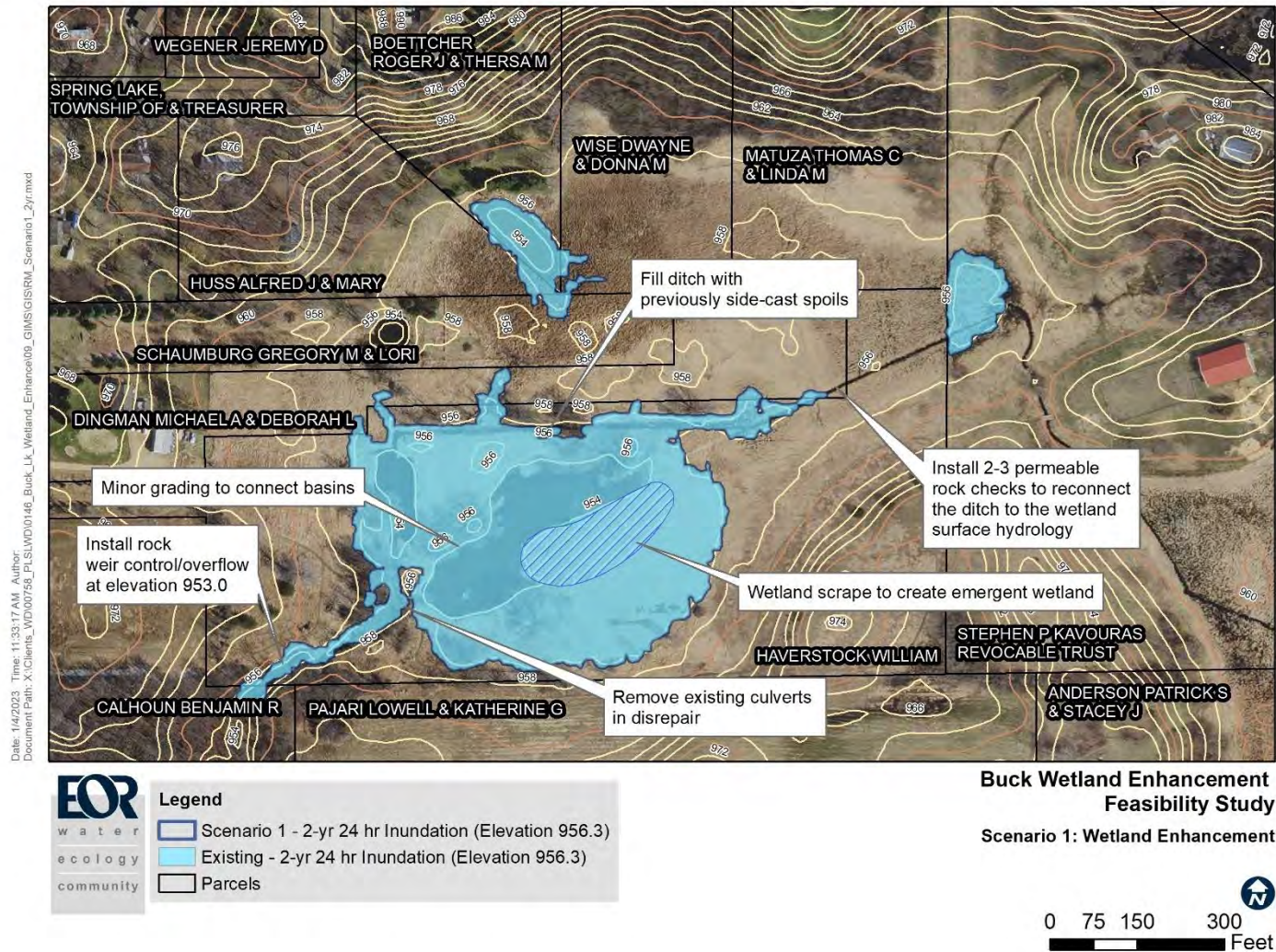


Figure 5. Scenario 1: Existing and Proposed 2-year Inundation Comparison

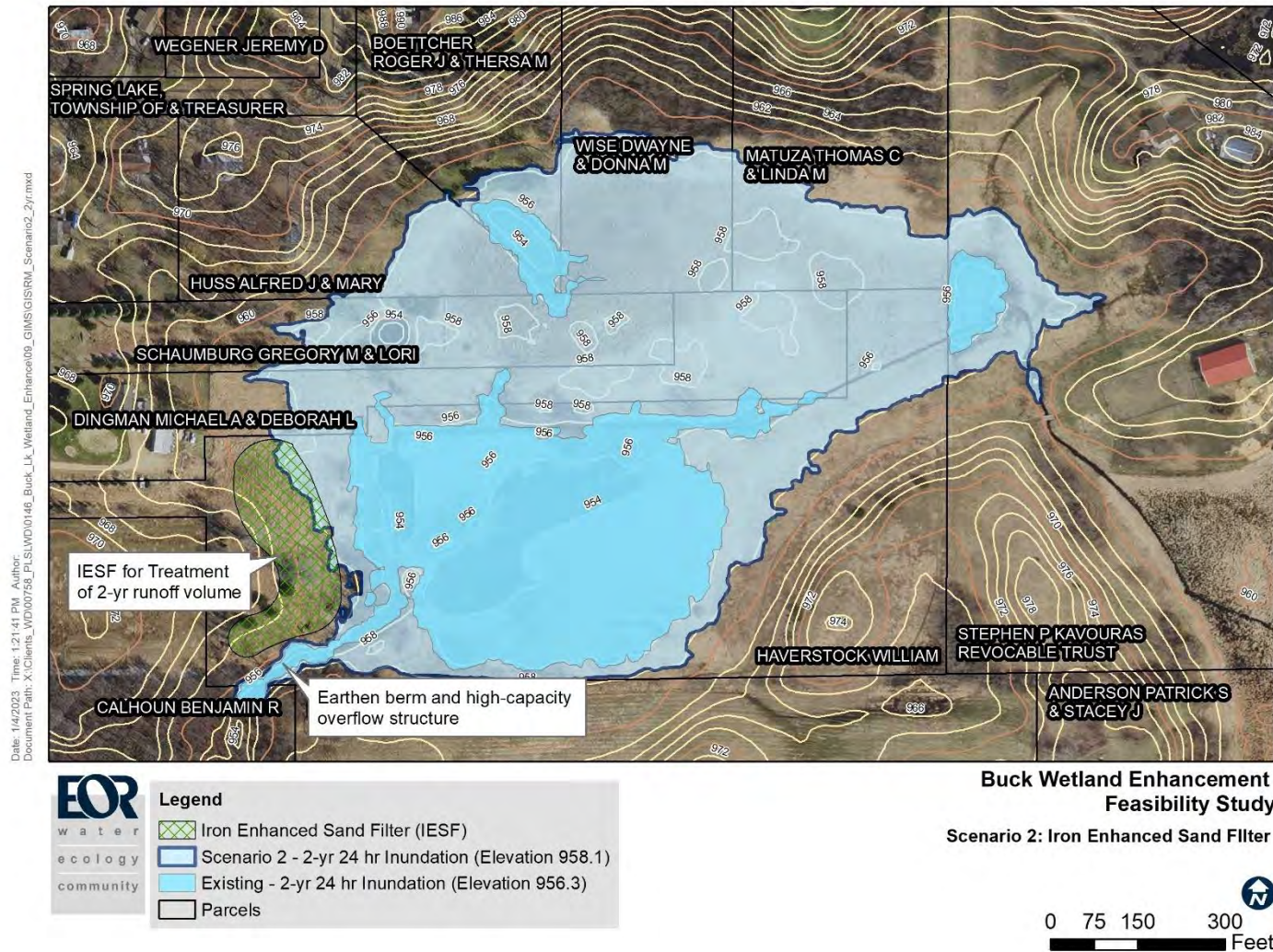


Figure 6. Scenario 2: Existing and Proposed 2-year Inundation Comparison

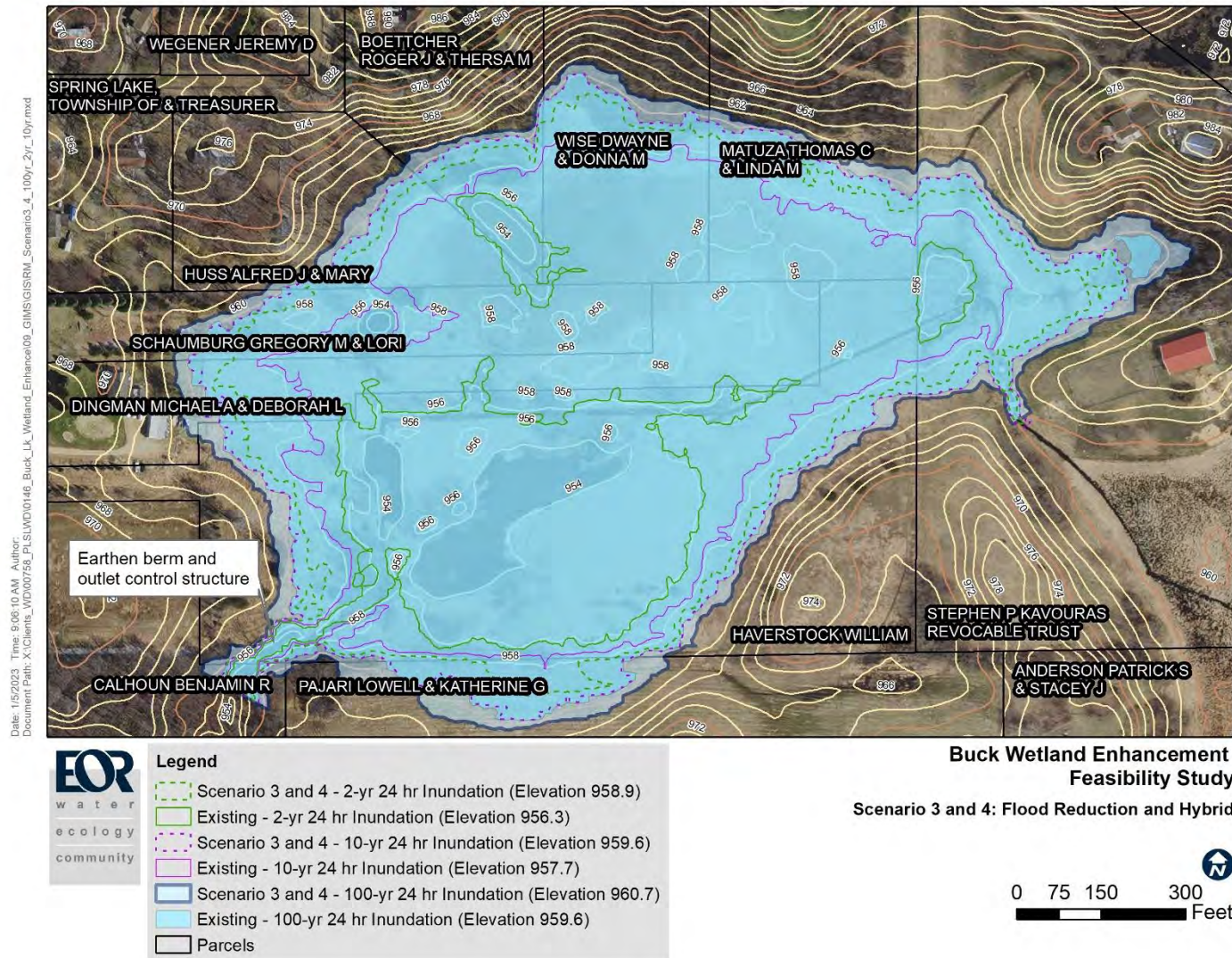


Figure 7. Scenario 3 and 4: Existing and Proposed 100-year Inundation Comparison

3.1.2. Water Quality Results

As previously noted, the Upper Watershed Blueprint estimated that this watershed has a high TP load of up to 500 lbs/yr (Upper Watershed Blueprint, 2021). However, review of District monitoring data from Site ST-11 (watercourse downstream of this wetland at Fairlawn Avenue) suggests that TP loading is high, but not necessarily as high as the Upper Watershed Blueprint estimate.

Based on the average phosphorus concentrations from monitoring years 2011-2013, it is estimated that the TP load to the west wetland is 360 lbs/yr. This alternate estimate factors that the west wetland is upstream of the monitoring station and only receives 86% of the flow volume (and TP load) as compared to Site ST-11 (see Figure 8). The monitoring data also suggests that, on average, the majority (53%) of TP is Soluble Reactive Phosphorus (SRP). SRP is the soluble, filterable fraction of phosphorus, and because one of the goals of this project is to address water quality, a scenario that includes a water quality filtering mechanism, such as an Iron Enhanced Sand Filter, is considered in order to maximize the water quality improvements.

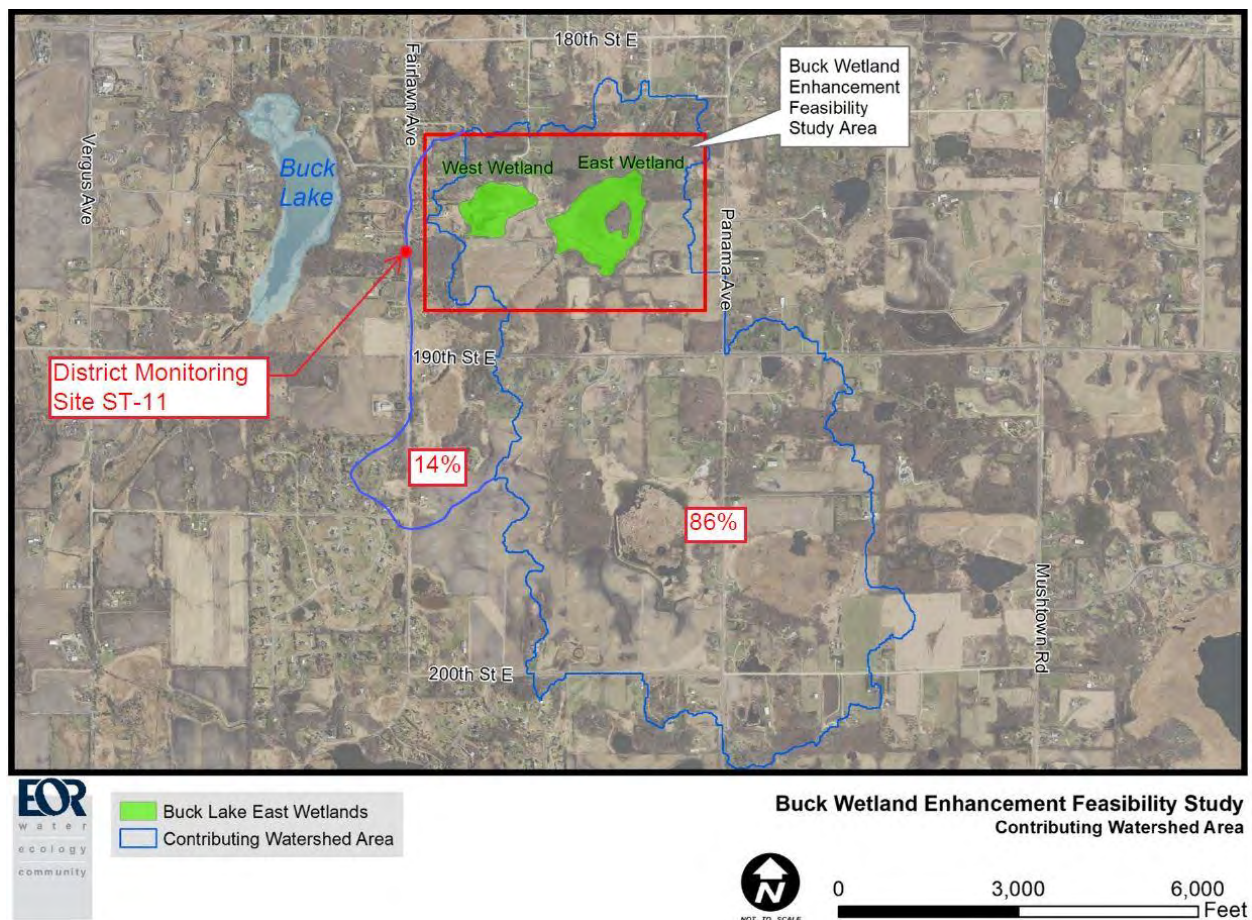


Figure 8. Monitoring Site ST-11 Contributing Watershed Percentages

This range in estimated annual TP loading (360-500 lbs/yr) is reflected in the reporting of water quality load reduction efficacy reported in Table 4. The predicted range of annual TP load reduction for Scenarios 1 & 3 is 55-75 lbs. The predicted range of annual TP load reduction for Scenarios 2 and 4 (both of which include the IESF) is 175-240 lbs.

The predicted lifespan of the IESF is 20 years at the low end of the range of TP loading (360 lbs/yr) and is related to the SRP concentration in the stream and the mass of iron in the IESF. On average the IESF is predicted to treat approximately 67% of the flow based on the filter footprint. Of the water that gets treated, 60% of the SRP and 85% of the particulate phosphorus is captured according to literature values in the Minnesota Stormwater Manual which equates to approximately 72% TP captured given the monitored SRP to TP ratio of Site ST-11. This means that the system is predicted to capture 48% of the average annual TP load. Based on the estimated 20-year lifespan, TP removal is predicted to be 3,500 lbs. This project would address the required TMDL TP reduction of 2,959 lb/yr by approximately 2% to 8% depending on the scenario.

3.2. Engineer's Opinion of Probable Cost

Table 4 shows the flood reduction and water quality benefits for each scenario, and the associated engineering and construction costs. The detailed Engineer's Opinion of Probable Cost for each scenario are included in Appendix C.

Table 4. Summary of Scenario Costs and Benefits

Scenario	TP Load Reduction (lb/yr)	Flood Reduction on Upper Prior Lake (ft) ²	Flood Reduction on Spring Lake (ft) ²	Engineering & Permitting Cost	Construction Cost (w/20% Contingency)	Total Cost ³	20-yr Lifecycle Cost Benefit (\$/lb TP)
Scenario 1	55-75 ¹	-0.01-ft	0.00-ft	\$24,000	\$95,000	\$119,000	\$80-110
Scenario 2	175-240	-0.04-ft	-0.04-ft	\$170,000	\$681,000	\$851,000	\$180-240
Scenario 3	55-75 ¹	-0.13-ft	-0.07-ft	\$39,000	\$156,000	\$195,000	\$130-180
Scenario 4	175-240	-0.13-ft	-0.07-ft	\$185,000	\$740,000	\$925,000	\$190-265

¹ The Minnesota Stormwater Manual suggest the efficacy of Stormwater Ponds and Wetlands is a 38% TP load reduction, however, Scenarios 1 and 3 have significantly less permanent pool than design guidance therefore efficacy is conservatively estimated to be much lower at 15%.

² Based on the 100-year, 30-day storm event.

³ Cost does not include any needed easement acquisition costs.

4. ENGAGEMENT

4.1. Permitting

Per coordination with MnDNR during this study, it is known that permanent flowage easements will be required for increasing existing water levels of the public watercourse (ditch) within the west wetland (per Minnesota Statute 103G.407). All scenarios will require further coordination and permitting with MnDNR, the Local Government Unit for the Wetland Conservation Act (WCA), and the United States Army Corps of Engineers (USACE) for work within the wetland and MnDNR public watercourse. These costs are accounted for in the engineer's Opinion of Probable Cost. Once a scenario has been chosen, MnDNR identified several considerations and recommendations to aid in permitting discussions for the preferred scenario such as:

- Provide examples of a similar project in public waters.
- Agency determination is needed to confirm what is currently a public watercourse due to historical alteration.
- An Environmental Assessment Worksheet (EAW) would be required for any projects that will change or diminish the course, current, or cross-section of one acre or more of any public water or public waters wetland except for those to be drained without a permit according to Minnesota Statutes, chapter 103G, the DNR or local governmental unit is the RGU.
- Ensure the project is included in the District's current Water Resources Management Plan.
- Outline how the outlet will be managed, and how it will affect the Ordinary High Water Level (OHWL).
- Based on Minnesota Statute 103G.407, flowage easements would be required for those properties abutting the OHWL of the public watercourse. However, MnDNR encourages the District to also obtain flowage easements on land which will be inundated even if it is not directly abutting the OHWL.
- Public waters rules that may apply to this project are: fill, excavation, water level control structure rules/statutes. Determine fill/excavation once public waters have been clarified.
- Restoration rules may also apply.

Additionally, as noted above, sand hill cranes have been reported to nest in a small portion of the west wetland. Construction and permitting will involve special consideration, practices, and timing (outside of April to August) to accommodate the sand hill cranes.

4.2. Public Engagement

Two meetings were conducted with riparian landowners during the course of this study. The purpose of the first meeting, convened on April 5, 2022, was to introduce the background and goals of the study, report on the wetland conditions assessment, discuss potential outcomes and next steps, and receive input from residents regarding what they value most about the wetland. Generally speaking, the residents reported that they most value the nature and wildlife viewing the wetland affords and well as the open space / natural viewshed, thus their preferred interest in restoring the more-degraded west wetland. Comments were mixed with respect to the potential goals of the District, but at a high level, residents were generally

supportive of potential project elements that enhance the wetland but opposed to elements that would raise the wetland flood elevation.

The purpose of the second meeting, convened on November 1, 2022, was to revisit the goals of the study, present finding regarding monitoring data and phosphorus loading, present findings from the sediment core testing, and present and receive feedback on the concept scenarios. Residents were supportive of wetland enhancement (Scenario 1) including filling the ditch, creating more shallow open water, and vegetative enhancements. Residents also seemed open to further exploration of improving water quality (Scenario 2) if water levels didn't change too much or if actively used low areas could be raised above the inundation level using fill. An increase in the flood elevation to the extents as shown in Scenarios 3 and 4 was generally not supported by residents.

5. NEXT STEPS

The following are the recommended next steps:

- Acceptance by the Board of the feasibility study
- Continued landowner engagement
- With landowner interest, Board selection of a concept scenario for final design
- Authorize final design and wetland permitting
- Pursue landowner agreements and easements
- MnDNR, WCA, and USACE permit coordination

6. REFERENCES

Minnesota Pollution Control Agency (MPCA). 2014. Rapid Floristic Quality Assessment Manual. wq-bwm2-02b. Minnesota Pollution Control Agency, St. Paul, MN

Prior Lake Spring Lake Watershed District (PLSLWD). 2016. Prior Lake Stormwater Management & Flood Mitigation Study. Barr Engineering, Minneapolis, MN

Prior Lake Spring Lake Watershed District (PLSLWD). 2021. Upper Watershed Blueprint. Wenck Associates, Inc. Maple Plain, MN

APPENDIX A. PHOSPHORUS TESTING ANALYSIS

technical memo



Project Name	Buck Wetland Enhancement Feasibility Study	Date	08/22/2022 1/5/2023
To	Joni Giese, District Administrator		
Cc			
From	Pat Conrad, Joe Pallardy		
Regarding	Wetland Sediment Core Bray Phosphorus Concentrations		

Project Background

Prior Lake experienced record precipitation and a historic flooding event in the spring of 2014. The Buck East Wetland Enhancement Project was originally identified as a flood reduction concept in the Prior Lake Stormwater Management and Flood Mitigation Study completed by Barr Engineering in 2016 (2016 Flood Study). The Prior Lake Spring Lake Watershed District (PLSLWD) has been actively studying ways to reduce flood levels of Spring and Prior Lakes.

One of the scenarios identified in the 2016 Flood Study proposed a restrictive outlet and overflow structure at the wetland east of Buck Lake. In addition to providing flood reduction benefits, the project was envisioned to provide water quality improvement through enhancement of the wetland. This wetland enhancement was also identified in the Upper Watershed Blueprint study as having a potential 100 lb/yr Total Phosphorus (TP) reduction to Spring Lake and also having a positive impact on the water quality of Buck Lake. The TP removal estimate in the Upper Watershed Blueprint study was based the very general assumption that the wetland enhancement would achieve a 40% reduction.

It has been shown that there is considerable variation in the ability for wetlands to remove phosphorus. In certain situations, wetlands can actually serve as a source of phosphorus. This occurs when wetland soils have become saturated in phosphorus, typically associated with past loading from land uses. Due to the historic agricultural use of the areas immediately adjacent to and upstream of the site, a more thorough investigation was performed on the existing phosphorus content of the wetland soils and their ability to bind additional phosphorus.

Methods

On July 8, 2022, EOR staff collected twenty (20) soil samples from 15 sampling locations distributed throughout the Buck wetland project area. Soil samples from the top 18" of soil were collected at all sampling locations. A second sample was collected at four of the sampling locations (S1, S4, S10, and S13) at a depth of 18-36" to determine if there were significant differences in phosphorus concentrations with increasing soil depth.

Soil samples were analyzed by the University of Minnesota [Research Analytical Laboratory](#) for extractable phosphorus (P) using the Bray-1 method along with a suite of related soil chemical properties. Extractable P is the amount of phosphorus that can be extracted, or removed, from the soil by using one of a number of different types of chemical extractants. These extractants have been developed to remove certain forms of P from the soil and are considered to be a more accurate index of what might be actually available for uptake by plants or algae.

Lab Results

Typical Bray phosphorus (P) concentrations for wetland soils range from 10 to 200 ppm with a mean value of 30 ppm (Carbonell et al., 1998; Khalid et al., 1979). Eighteen (18) of the 20 sediment cores had Bray-P concentrations below 30 ppm, providing evidence to suggest that this wetland basin does not contain phosphorus enriched legacy sediments. For reference, a value of 25-30 ppm is considered optimal for agricultural crop production, therefore Bray-P measurements approaching and exceeding 100 ppm are considered quite high. EOR has observed Bray-P concentrations in wetland soils that exceed 100 ppm, these locations are most often directly adjacent to pollution sources (e.g., feedlots).

Sample results are presented in **Table 1**. Sample Location 15 had the highest observed Bray phosphorus concentration at 35 ppm. The remainder of the locations had extractable phosphorus concentrations below 30 ppm, apart from Sample Location 10 which had a Bray Phosphorus (P) concentration of 31 ppm in the top 18 inches. Anecdotal evidence collected during the site visit suggests there was fill material placed near Sampling Location 10. Further, Bray P concentrations observed in the 18-36" profile at Sample Location 10 were only 16 ppm.

Table 1. Soil Sample Results

Sample ID	Location	Bray- P (ppm)	Iron (ppm)	Calcium (ppm)	Texture	Organic Matter %
S1 (0-18")	1	9	300+	3456	Medium	21.7
S1 (18-36")	2	9	144	2785	Medium	6.7
S2	3	11	300+	3414	Peat	39.9
S3	4	7	300+	3808	Medium	16.2
S4 (0-18")	5	16	300+	3910	Medium	25.8
S4 (18-36")	6	12	300+	3046	Medium	23.4
S5	7	4	204	4446	Medium	31.1
S6	8	10	86	3096	Medium	8.7
S7	9	4	153	4222	Medium	34.4
S8	10	7	257	4077	Peat	41.8
S9	11	17	72	2917	Medium	5.6
S10 (0-18")	12	31	300+	3755	Medium	25.4
S10 (18-36")	13	16	265	3319	Medium	13.6
S11	14	3	43	3584	Medium	3.1
S12	15	22	251	3178	Medium	12.4
S13 (0-18")	16	4	35	3131	Medium	3.4
S13 (18-36")	17	4	15	2844	Medium	1.2
Sp1	18	14	300+	3644	Peat	37.7
Sp2	19	7	300+	3916	Course	14.1
S15	20	35	300+	3016	Medium	13.4

According to a [study](#) conducted on the phosphorus sorption capacity of wetland soils, significant correlations were observed (under both aerobic and anaerobic conditions) between phosphorus sorption (the ability of wetland soils to bind phosphorus) and related soil properties, especially extractable iron, aluminum, and calcium. Soils with high P concentrations and low iron concentrations are more likely to export P. All sample locations had low Bray-P concentrations and high iron and/or high calcium concentrations, so it could be inferred that the Buck wetland soils have relatively high phosphorus-retaining capacities. **Figure 1** shows phosphorus concentrations plotted alongside iron concentrations for the samples collected.

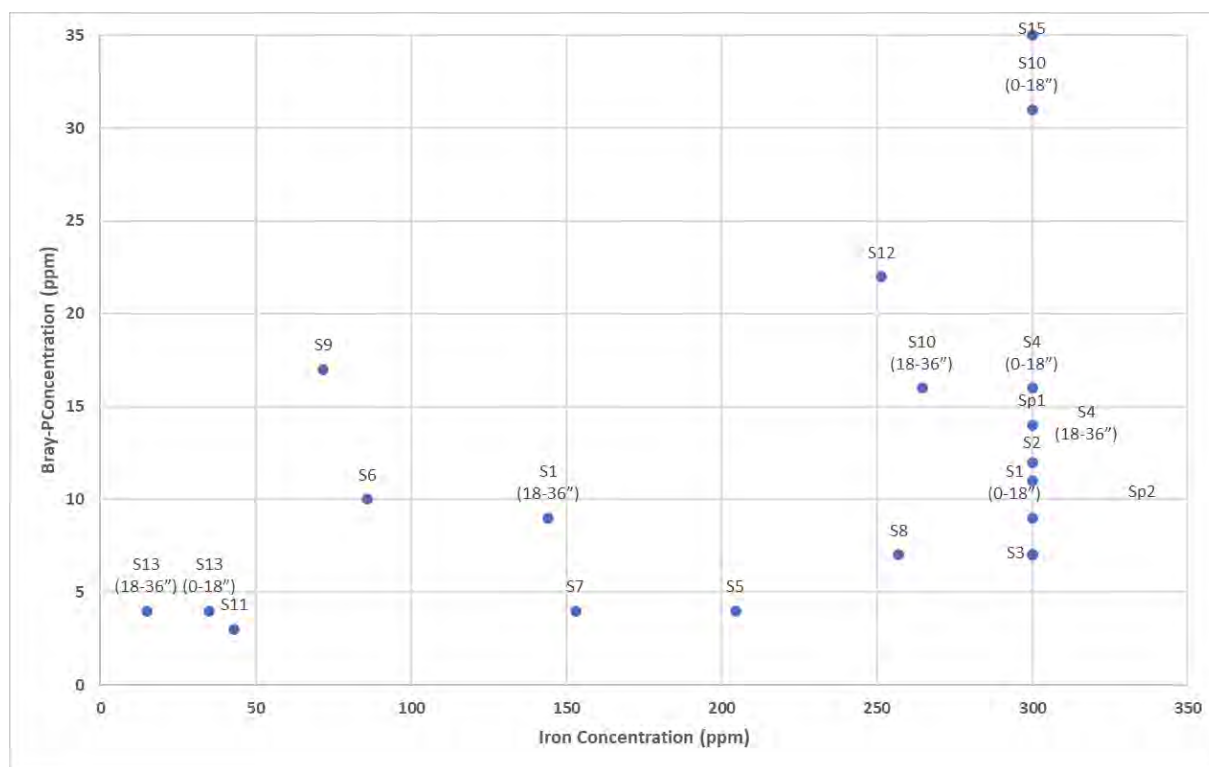


Figure 1. Soil Sample Results as Iron v. Phosphorus Concentrations

Conclusion

Analysis of sediment cores collected from the Buck wetland provide evidence to suggest that wetland soils are not currently overly saturated with phosphorus. Furthermore, the wetland soils have a relatively high capacity for retaining phosphorus. As a result of these findings, restoration of this wetland can be assumed to provide phosphorus reduction with no additional excavation of soils. The general assumption of a 40% reduction in phosphorus loading is appropriate.

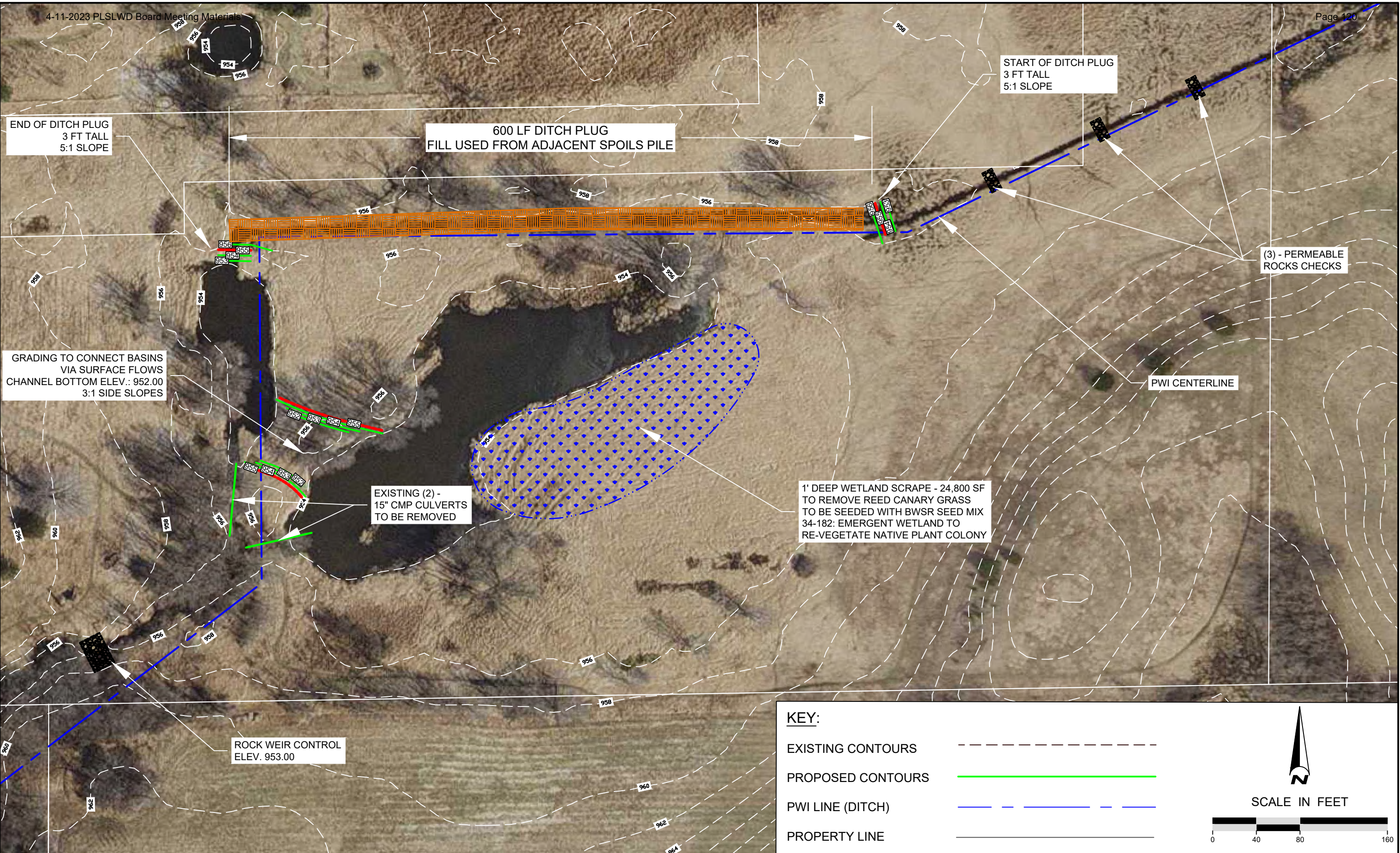
Literature Cited

Carbonell, A. A., Aarabi, M. A., DeLaune, R. D., Gambrell, R. P., & Patrick Jr, W. H. (1998). Arsenic in wetland vegetation: availability, phytotoxicity, uptake and effects on plant growth and nutrition. *Science of the Total Environment*, 217(3), 189-199.

Khalid, R. A., Patrick Jr, W. H., & Peterson, F. J. (1979). Relationship between rice yield and soil phosphorus evaluated under aerobic and anaerobic conditions. *Soil science and Plant nutrition*, 25(2), 155-164.


Reddy, K. R., O Connor, G. A., & Gale, P. M. (1998). *Phosphorus sorption capacities of wetland soils and stream sediments impacted by dairy effluent* (Vol. 27, No. 2, pp. 438-447). American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America.

APPENDIX B. CONCEPT SCENARIO PLANS

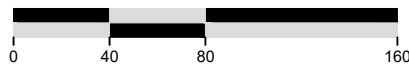


KEY:

EXISTING CONTOURS	-----
PROPOSED CONTOURS	—————
PWI LINE (DITCH)	- - - - -
PROPERTY LINE	=====



SCALE IN FEET



6			
5			
4			
3			
2			
1	01/03/2022	DEM	FEASIBILITY STUDY
NO	DATE	BY	REVISION



DRAFT

SUBMISSION DATE:
01/03/2022

DESIGN BY: DRAWN BY: CHECKED BY:
EOR DEM XXX

EOR PROJECT NO.
0758-0146



**Emmons & Olivier
Resources, Inc.**

1919 University Ave W,
Suite 300, St Paul, MN 55104

Tele: 651.770.8448
www.eorinc.com

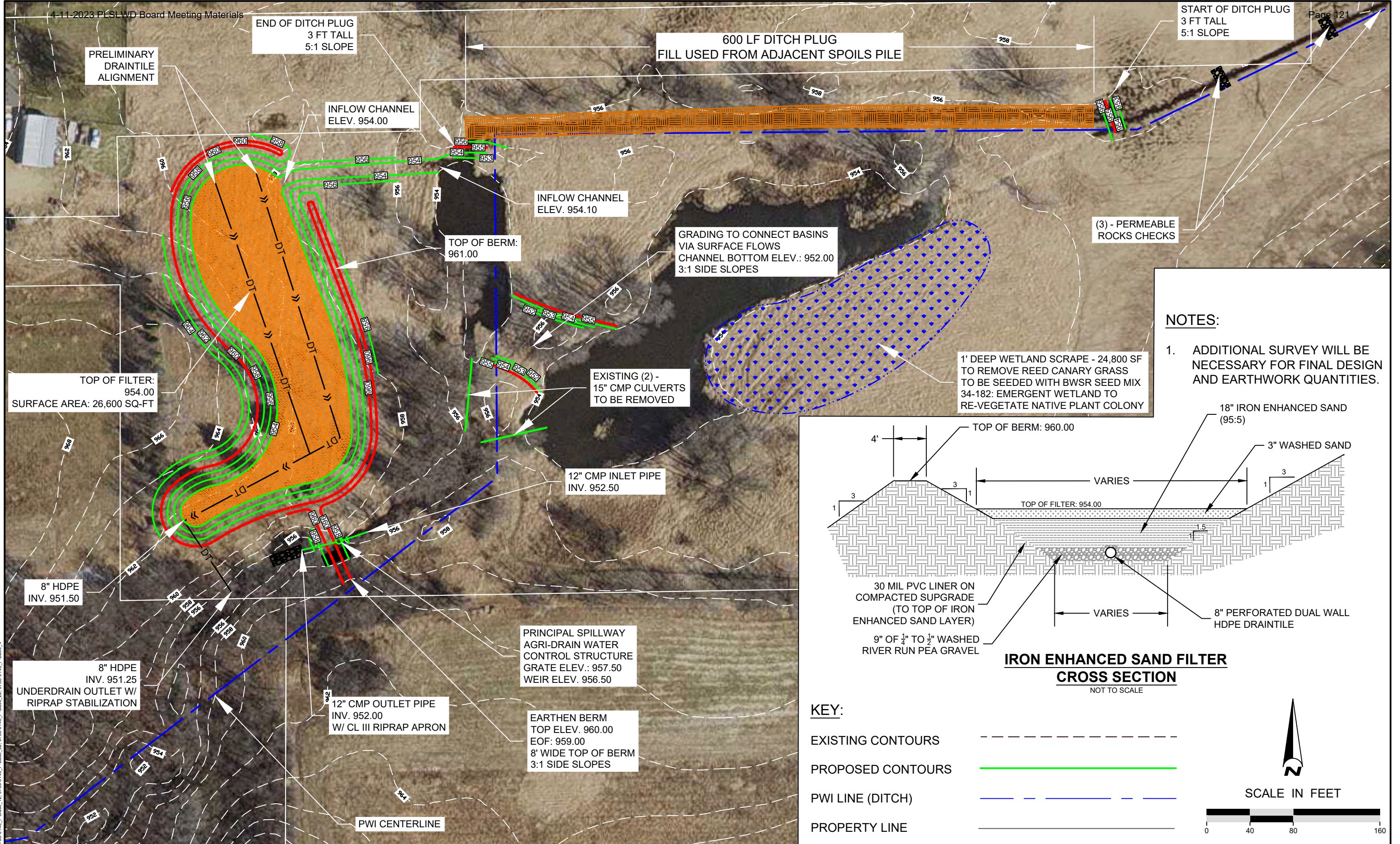


BUCK WETLAND ENHANCEMENT
FEASIBILITY STUDY
SPRING LAKE TOWNSHIP, SCOTT COUNTY,
MINNESOTA

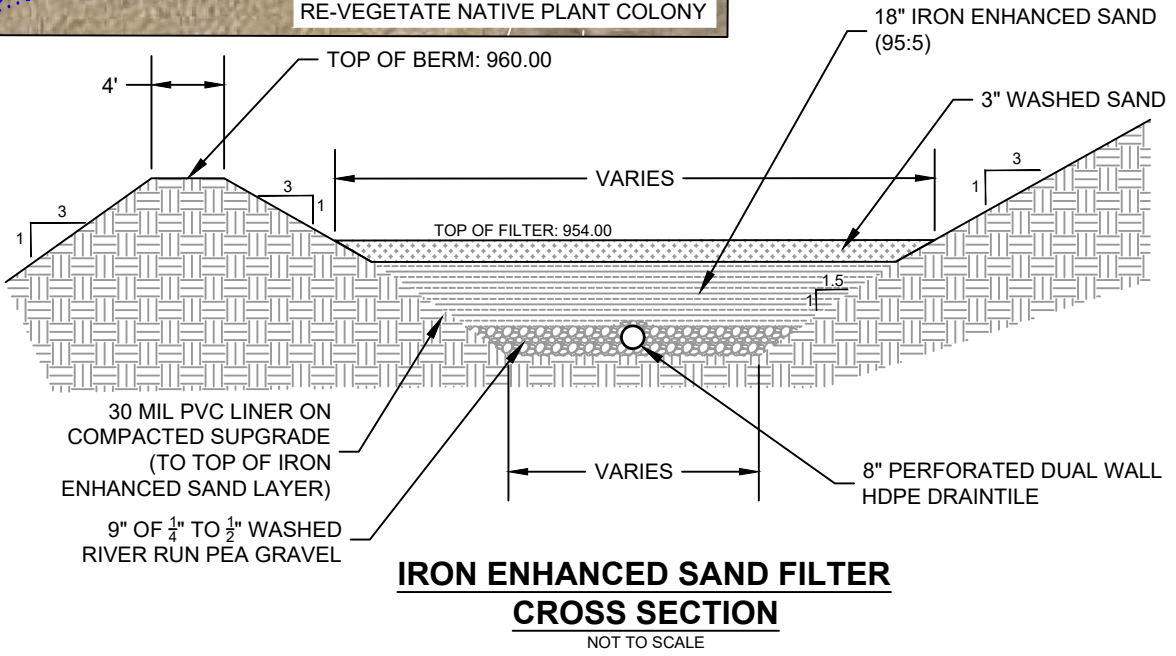
STATE PROJECT NO. --- CITY PROJECT NO. ---

WETLAND ENHANCEMENT OPTION
SCENARIO 1

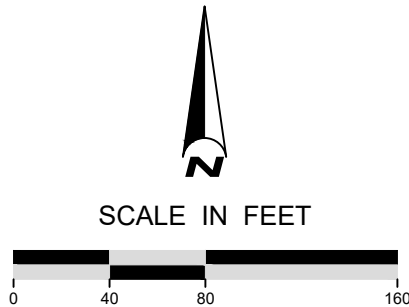
SHEET 01 OF 04 SHEETS



- NOTES:**
1. ADDITIONAL SURVEY WILL BE NECESSARY FOR FINAL DESIGN AND EARTHWORK QUANTITIES.



- KEY:**
- EXISTING CONTOURS
 - PROPOSED CONTOURS
 - PWI LINE (DITCH)
 - PROPERTY LINE



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1	01/03/2022	DEM	FEASIBILITY STUDY
NO	DATE	BY	REVISION



SUBMISSION DATE: 01/03/2022

DESIGN BY: DEM DRAWN BY: DEM CHECKED BY: XXX

EOR PROJECT NO. 0758-0146



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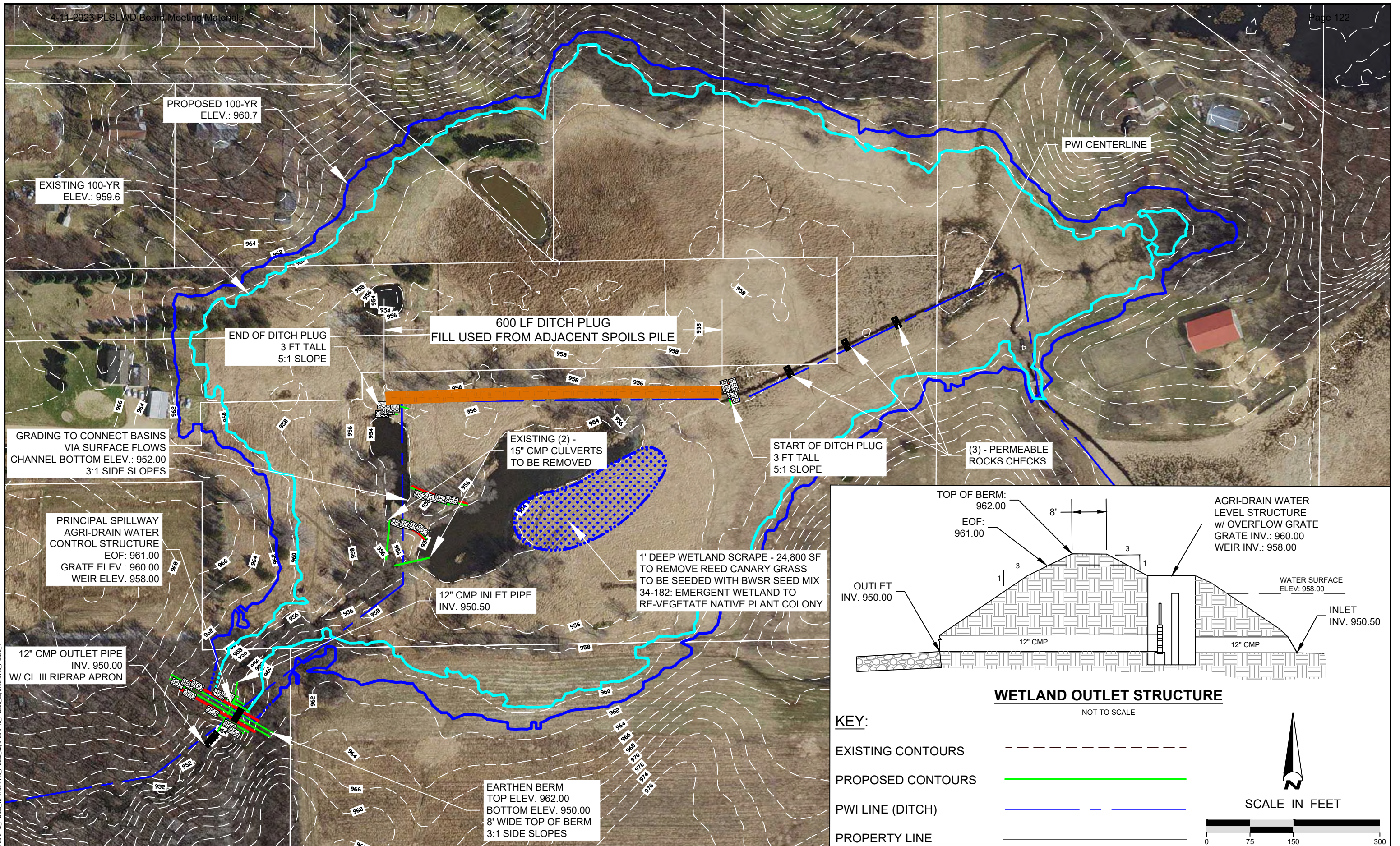


**BUCK WETLAND ENHANCEMENT
FEASIBILITY STUDY
SPRING LAKE TOWNSHIP, SCOTT COUNTY,
MINNESOTA**

STATE PROJECT NO. --- CITY PROJECT NO. ---

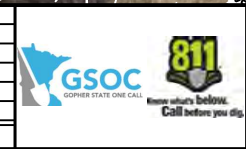
**WATER QUALITY OPTION
SCENARIO 2**

SHEET 02 OF 04 SHEETS



Plot Date: 01/03/2023
Drawn By: J. Smith
Checked By: J. Smith
Scale: 1" = 100'
Sheet: 03 of 04
Project: Buck Wetland Enhancement Feasibility Study
Date: 01/03/2023
By: J. Smith
Check: J. Smith
Scale: 1" = 100'
Sheet: 03 of 04
Project: Buck Wetland Enhancement Feasibility Study

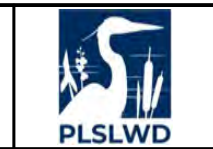
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NO	DATE	BY	REVISION



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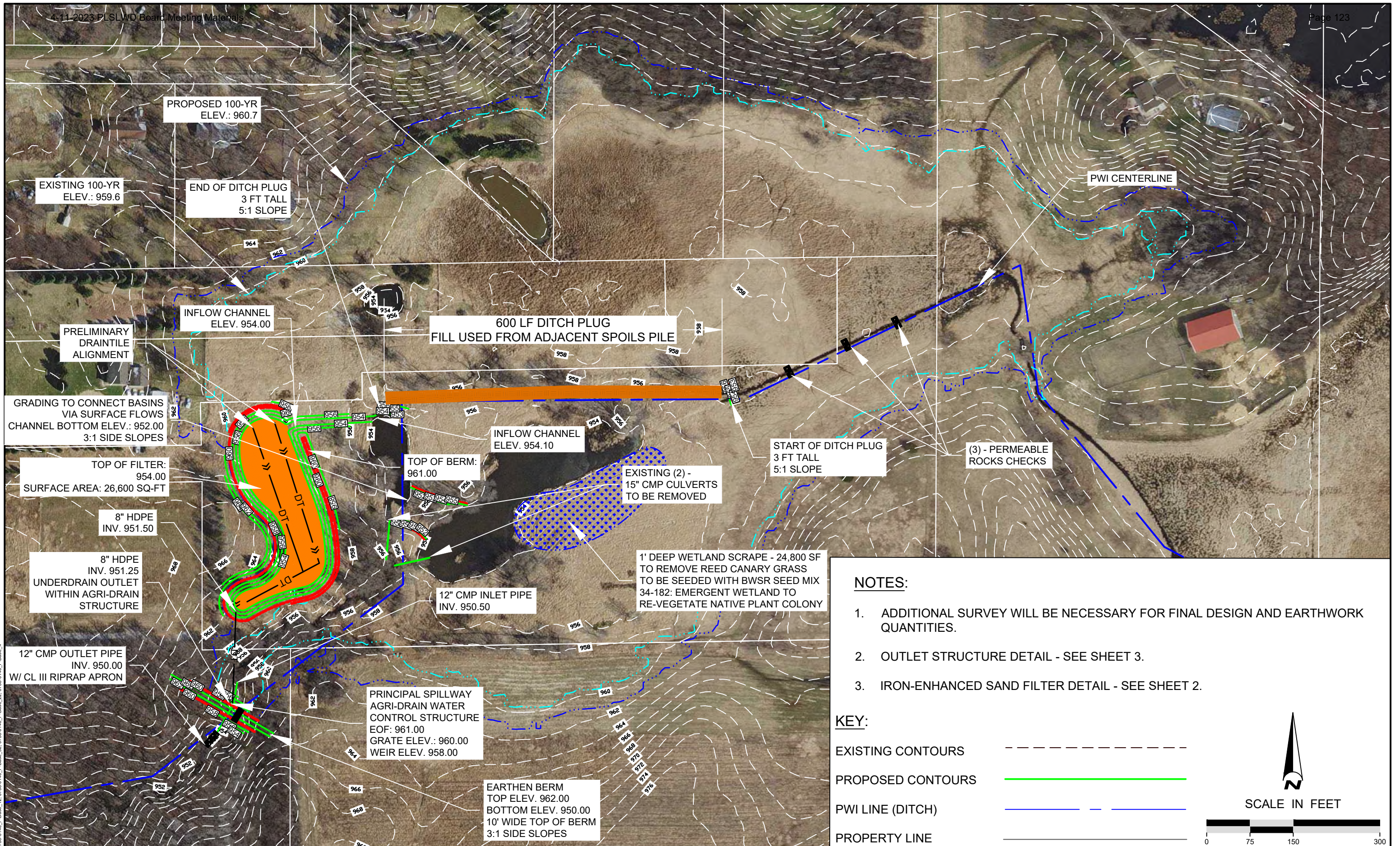
SUBMISSION DATE:
01/03/2023
DESIGN BY: J. Smith
DRAWN BY: J. Smith
CHECKED BY: J. Smith
EOR PROJECT NO.
0758-0146

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BUCK WETLAND ENHANCEMENT
FEASIBILITY STUDY
SPRING LAKE TOWNSHIP, SCOTT COUNTY,
MINNESOTA
STATE PROJECT NO. --- CITY PROJECT NO. ---

FLOOD REDUCTION OPTION
SCENARIO 3
SHEET 03 OF 04 SHEETS

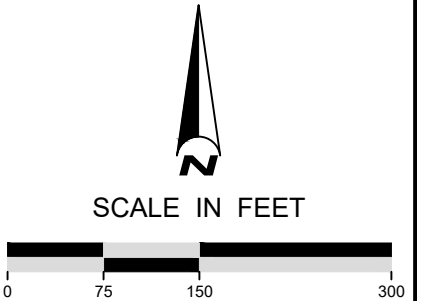


NOTES:

1. ADDITIONAL SURVEY WILL BE NECESSARY FOR FINAL DESIGN AND EARTHWORK QUANTITIES.
2. OUTLET STRUCTURE DETAIL - SEE SHEET 3.
3. IRON-ENHANCED SAND FILTER DETAIL - SEE SHEET 2.

KEY:

- EXISTING CONTOURS -----
- PROPOSED CONTOURS -----
- PWI LINE (DITCH) -----
- PROPERTY LINE -----



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1	01/03/2022	DEM	FEASIBILITY STUDY
NO	DATE	BY	REVISION



DRAFT

SUBMISSION DATE: 01/03/2022		
DESIGN BY EOR	DRAWN BY DEM	CHECKED BY XXX
EOR PROJECT NO. 0758-0146		

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BUCK WETLAND ENHANCEMENT
FEASIBILITY STUDY
SPRING LAKE TOWNSHIP, SCOTT COUNTY,
MINNESOTA


HYBRID OPTION
SCENARIO 4

SHEET 04 OF 04 SHEETS


APPENDIX C. ENGINEER'S OPINION OF PROBABLE COST

ENGINEER'S OPINION OF PROBABLE COST (EOPC) - Capital Improvement					
BUCK WETLAND ENHANCEMENT FEASIBILITY STUDY - WETLAND ENHANCEMENT - SCENARIO 1					
PREPARED BY EMMONS & OLIVIER RESOURCES, INC.					
EOR JOB NO.	00758-0146				
DATE PREPARED	1/3/2022				
Item	MnDOT Reference #	Unit	Estimated	Estimated Unit Cost	Extended Cost
Mobilization	2021.501	LS	1.00	8,000.00	\$ 8,000.00
Clearing and Grubbing	2101.501	LS	1.00	5,000.00	\$ 5,000.00
Remove 15" CMP Culverts	2104.502	EA	2.00	800.00	\$ 1,600.00
Common Excavation	2106.507	CY	1,500.00	30.00	\$ 45,000.00
Random Riprap, Class III	2511.507	CY	100.00	150.00	\$ 15,000.00
BWSR Seed Mix 34-182 - Emergent Wetland (5.2lbs/AC)	2575.508	LB	5.00	80.00	\$ 400.00
Temporary Erosion and Sediment Control	SP	LS	1.00	2,000.00	\$ 2,000.00
Seeding and Restoration	SP	LS	1.00	2,000.00	\$ 2,000.00
Construction Totals				Refined Total	\$ 79,000.00
Construction Contingency				20.00%	\$ 15,800.00
Final Construction Total					\$ 94,800.00


EOR Professional Fees		
PLANNING AND ENGINEERING	15.00%	\$ 14,220.00
PERMITTING AND APPROVALS	4.00%	\$ 3,792.00
BIDDING AND CONSTRUCTION ADMIN	6.00%	\$ 5,688.00
PROFESSIONAL FEES TOTAL		\$ 23,700.00
TOTAL PROJECT COST		\$ 118,500.00
ESTIMATED ACCURACY RANGE***	-10.0%	\$ 106,650.00
	15.0%	\$ 136,275.00

ENGINEER'S OPINION OF PROBABLE COST (EOPC) - Capital Improvement					
BUCK WETLAND ENHANCEMENT FEASIBILITY STUDY - WATER QUALITY - SCENARIO 2					
PREPARED BY EMMONS & OLIVIER RESOURCES, INC.					
EOR JOB NO.	00758-0146				
DATE PREPARED	1/3/2022				
Item	MnDOT Reference #	Unit	Estimated	Estimated Unit Cost	Extended Cost
Mobilization	2021.501	LS	1.00	28,000.00	\$ 28,000.00
Clearing and Grubbing	2101.501	LS	1.00	5,000.00	\$ 5,000.00
Remove 15" CMP Culverts	2104.502	EA	2.00	800.00	\$ 1,600.00
Common Excavation	2106.507	CY	12,500.00	15.00	\$ 187,500.00
Storm Sewer, HDPE 8"	2503.503	LF	570.00	55.00	\$ 31,350.00
Storm Sewer, CMP 12"	2503.503	LF	60.00	80.00	\$ 4,800.00
Agri-Drain Outlet Control Structure	2506.502	EA	1.00	10,000.00	\$ 10,000.00
Random Riprap, Class III	2511.507	CY	100.00	160.00	\$ 16,000.00
Turf Reinforcement Mat	2575.504	SY	25.00	35.00	\$ 875.00
BWSR Seed Mix 34-182 - Emergent Wetland (5.2lbs/AC)	2575.508	LB	5.00	80.00	\$ 400.00
Washed Sand (P)	2105.507	CY	250.00	45.00	\$ 11,250.00
Washed Aggregate - River Run Pea Stone (P)	2105.507	CY	650.00	70.00	\$ 45,500.00
IESF Mixture (Iron Filings - 5% by Weight)	2106.507	CY	1,400.00	140.00	\$ 196,000.00
EPDM Liner, 45 mil	2511.504	SY	3,000.00	1.50	\$ 4,500.00
Temporary Erosion and Sediment Control	SP	LS	1.00	10,000.00	\$ 10,000.00
Seeding and Restoration	SP	LS	1.00	15,000.00	\$ 15,000.00
Construction Totals				Refined Total	\$ 567,775.00
Construction Contingency				20.00%	\$ 113,555.00
Final Construction Total					\$ 681,330.00

EOR Professional Fees			
PLANNING AND ENGINEERING	15.00%	\$	102,199.50
PERMITTING AND APPROVALS	4.00%	\$	27,253.20
BIDDING AND CONSTRUCTION ADMIN	6.00%	\$	40,879.80
PROFESSIONAL FEES TOTAL		\$	170,332.50
TOTAL PROJECT COST		\$	851,662.50
ESTIMATED ACCURACY RANGE***		-10.0%	\$ 766,496.25
		15.0%	\$ 979,411.88

ENGINEER'S OPINION OF PROBABLE COST (EOPC) - Capital Improvement					
BUCK WETLAND ENHANCEMENT FEASIBILITY STUDY - FLOOD REDUCTION - SCENARIO 3					
PREPARED BY EMMONS & OLIVIER RESOURCES, INC.					
EOR JOB NO.	00758-0146				
DATE PREPARED	1/3/2022				
Item	MnDOT Reference #	Unit	Estimated	Estimated Unit Cost	Extended Cost
Mobilization	2021.501	LS	1.00	16,000.00	\$ 16,000.00
Clearing and Grubbing	2101.501	LS	1.00	5,000.00	\$ 5,000.00
Remove 15" CMP Culverts	2104.502	EA	2.00	800.00	\$ 1,600.00
Common Borrow	2105.507	CY	700.00	30.00	\$ 21,000.00
Common Excavation	2106.507	CY	1,400.00	30.00	\$ 42,000.00
Storm Sewer, CMP 12"	2503.503	LF	80.00	80.00	\$ 6,400.00
Agri-Drain Outlet Control Structure	2506.502	EA	1.00	15,000.00	\$ 15,000.00
Random Riprap, Class III	2511.507	CY	100.00	150.00	\$ 15,000.00
Turf Reinforcement Mat	2575.504	SY	25.00	35.00	\$ 875.00
BWSR Seed Mix 34-182 - Emergent Wetland (5.2lbs/AC)	2575.508	LB	5.00	80.00	\$ 400.00
Temporary Erosion and Sediment Control	SP	LS	1.00	3,000.00	\$ 3,000.00
Seeding and Restoration	SP	LS	1.00	4,000.00	\$ 4,000.00
Construction Totals				Refined Total	\$ 130,275.00
Construction Contingency				20.00%	\$ 26,055.00
Final Construction Total					\$ 156,330.00

EOR Professional Fees			
PLANNING AND ENGINEERING	15.00%	\$	23,449.50
PERMITTING AND APPROVALS	4.00%	\$	6,253.20
BIDDING AND CONSTRUCTION ADMIN	6.00%	\$	9,379.80
PROFESSIONAL FEES TOTAL		\$	39,082.50
TOTAL PROJECT COST		\$	195,412.50
ESTIMATED ACCURACY RANGE***	-10.0%	\$	175,871.25
	15.0%	\$	224,724.38

ENGINEER'S OPINION OF PROBABLE COST (EOPC) - Capital Improvement					
BUCK WETLAND ENHANCEMENT FEASIBILITY STUDY - HYBRID - SCENARIO 4					
PREPARED BY EMMONS & OLIVIER RESOURCES, INC.					
EOR JOB NO.	00758-0146				
DATE PREPARED	1/3/2022				
Item	MnDOT Reference #	Unit	Estimated	Estimated Unit Cost	Extended Cost
Mobilization	2021.501	LS	1.00	30,000.00	\$ 30,000.00
Clearing and Grubbing	2101.501	LS	1.00	5,000.00	\$ 5,000.00
Remove 15" CMP Culverts	2104.502	EA	2.00	800.00	\$ 1,600.00
Common Borrow	2105.507	CY	700.00	30.00	\$ 21,000.00
Common Excavation	2106.507	CY	12,500.00	15.00	\$ 187,500.00
Storm Sewer, HDPE 8"	2503.503	LF	850.00	55.00	\$ 46,750.00
Storm Sewer, CMP 12"	2503.503	LF	80.00	80.00	\$ 6,400.00
Agri-Drain Outlet Control Structure	2506.502	EA	1.00	15,000.00	\$ 15,000.00
Random Riprap, Class III	2511.507	CY	100.00	150.00	\$ 15,000.00
Turf Reinforcement Mat	2575.504	SY	25.00	35.00	\$ 875.00
BWSR Seed Mix 34-182 - Emergent Wetland (5.2lbs/AC)	2575.508	LB	5.00	80.00	\$ 400.00
Washed Sand (P)	2105.507	CY	250.00	45.00	\$ 11,250.00
Washed Aggregate - River Run Pea Stone (P)	2105.507	CY	650.00	70.00	\$ 45,500.00
IESF Mixture (Iron Filings - 5% by Weight)	2106.507	CY	1,400.00	140.00	\$ 196,000.00
EPDM Liner, 45 mil	2511.504	SY	3,000.00	1.50	\$ 4,500.00
Temporary Erosion and Sediment Control	SP	LS	1.00	13,000.00	\$ 13,000.00
Seeding and Restoration	SP	LS	1.00	17,000.00	\$ 17,000.00
Construction Totals				Refined Total	\$ 616,775.00
Construction Contingency				20.00%	\$ 123,355.00
Final Construction Total					\$ 740,130.00

EOR Professional Fees			
PLANNING AND ENGINEERING	15.00%	\$	111,019.50
PERMITTING AND APPROVALS	4.00%	\$	29,605.20
BIDDING AND CONSTRUCTION ADMIN	6.00%	\$	44,407.80
PROFESSIONAL FEES TOTAL		\$	185,032.50
TOTAL PROJECT COST		\$	925,162.50
ESTIMATED ACCURACY RANGE***		-10.0%	\$ 832,646.25
		15.0%	\$ 1,063,936.88

PLSLWD Board Staff Report

March 28, 2023

**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT****Subject |** 2022 Annual Report Approval**Board Meeting Date |** April 11, 2023**Item No:** 4.5**Prepared By |** Emily Dick, Project Manager**Attachment |** Prior Lake-Spring Lake Watershed District 2022 Annual Report**Proposed Motion |** Approve the PLSLWD 2022 Annual Report and authorize its release to the Board of Water and Soil Resources and Department of Natural Resources**Background**

Minnesota Statutes Chapter 103D.351 states that managers must prepare a yearly report of the financial conditions of the watershed district, the status of all projects, the business transacted by the watershed district, other matters affecting the interests of the watershed district, and a discussion of the manager's plans for the succeeding year. The report must be submitted to the Board of Water and Soil Resources (BWSR) and Department of Natural Resources (DNR).

Minnesota Rules 8410.0150 require metro watershed districts to provide additional specified content in the annual report. The rules also require organizations to submit the report for the previous calendar year within 120 days of the end of the calendar year. BWSR requires that the activities report must be submitted by April 30th of each year.

Discussion

Staff prepared the Prior Lake-Spring Lake Watershed District 2022 Annual Report with the intent of meeting the requirements of Minnesota Statutes Chapter 103D.351 and Minnesota Rules 8410.0150.

Recommendation

Approve the PLSLWD 2022 Annual Report and authorize its release to BWSR and the DNR.



Prior Lake- Spring Lake Watershed District

Annual Report

2022



PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT

Mission: To manage & preserve the water resources of the Prior Lake-Spring Lake Watershed District to the best of our ability using input from our communities, sound engineering practices, and our ability to efficiently fund beneficial projects which transcend political jurisdictions.

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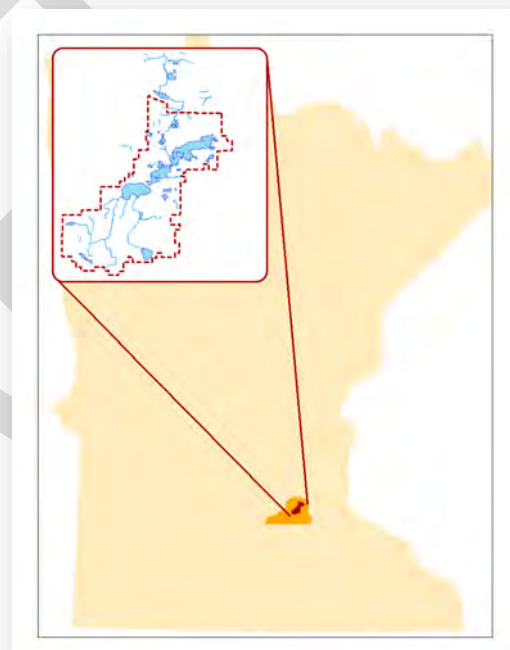
INTRODUCTION

This report has been prepared by the Prior Lake-Spring Lake Watershed District (PLSLWD, or District) and details the activities of the District through the calendar year 2022. The report will focus on the District's program and project accomplishments relative to the approved Capital Improvement Plan established in the 2020 PLSLWD Water Resources Management Plan and annual work plan. Annual reporting requirements listed in Minnesota Rules Chapter 8410.0150, Subpart 3 will also be included in this report.

ABOUT THE DISTRICT

The Prior Lake-Spring Lake Watershed District was established on March 4, 1970 by order of the Minnesota Water Resources Board (MWRB) under the authority of the Minnesota Watershed Act (Minnesota Statutes, Chapter 112). The order was in response to a petition filed by resident landowners within the watershed on June 24, 1969. This citizen petition sought establishment of the District for the purposes of wisely managing and conserving the waters and natural resources of the watershed.

The PLSLWD is approximately 42 square miles in size and located in north central Scott County, Minnesota, encompassing parts of the cities of Prior Lake, Shakopee, and Savage and parts of Sand Creek and Spring Lake Townships. In addition, a portion of the Shakopee Mdewakanton Sioux Community (SMSC) tribal lands are located within the District.



Location of PLSWD

BOARD OF MANAGERS

PLSLWD is administered by a five-person Board of Managers (Board) appointed by the Scott County Commissioners. All the District's policies, goals, and accomplishments are directed by the citizens who serve on the Board. The Board of Managers meets the second Tuesday of the month at 6:00 PM at the Prior Lake City Hall, located at 4646 Dakota St. SE, Prior Lake, MN 55372. Meeting notices, agendas and approved minutes are available on the District website at www.plslwd.org/meetings.

Board members serving during the calendar year 2022 are listed below.

<u>Bruce Loney</u> President from 7/12/22 Vice President 3/8/22 – 7/12/22 Treasurer until 3/8/22/22 Terms: 3/3/22-3/2/25 3/3/19-3/2/22 Resides in Prior Lake 5870 Shannon Circle SE Prior Lake, MN 55372 952-769-7408 bruceloney1972@gmail.com	<u>Frank Boyles</u> Vice President from 7/12/22 Term: 7/26/20 - 7/25/23 Resides in Prior Lake 5153 Hope Street Prior Lake, MN 55372 952-292-0400 frank10350@mchsi.com	<u>Christian Morkeberg</u> Treasurer from 7/12/22 Term: 3/3/22-3/2/25 Resides in Spring Lake Township 17556 Vergus Ave Jordan, MN 55352 952-412-2600 cmorkeberg@me.com
<u>Ben Burnett</u> Secretary from 8/18/22 Term: 6/7/22 – 3/4/24 Resides in Prior Lake 3040 Creekview Circle SW Prior Lake, MN 55372 952-491-3786 Burnettb317@gmail.com	<u>Matt Tofanelli</u> Manager Term: 6/12/22 – 6/11/25 Resides in Prior Lake 15742 West Avenue SE Prior Lake, MN 55372 952-239-9287 mtofanelli@emtengineering.com	<u>Mike Myser</u> President Term: 3/4/21 – 6/6/22 Resides in Prior Lake 3857 Island View Cir NW Prior Lake, MN 55372 651-341-5932 m.myser@mchsi.com
<u>Curt Hennes</u> Vice President Term: 6/12/19-6/11/22 Resides in Prior Lake 17286 Sunset Trail SW Prior Lake, MN 55372 952-440-7443 clphennes@gmail.com	<u>Steve Pany</u> Secretary Term: 7/14/20-3/2/22 Resided in Prior Lake	

CITIZEN ADVISORY COMMITTEE

The Prior Lake-Spring Lake Watershed District formalized its Citizen Advisory Committee (CAC) in 2011. The CAC consists of residents who provide input and recommendations to the Board on projects, reports, prioritization, and act as the primary interface for the Board to integrate the current issues of concern of the local citizens.

The CAC meets monthly on the last Thursday of the month at 6:30 PM at the Prior Lake City Hall, located at 4646 Dakota St. SE, Prior Lake, MN 55372. As a result of the coronavirus pandemic, a portion of the 2022 CAC meetings were conducted in a hybrid format where some of the members met in person and some members participated virtually.

Citizen Advisory Committee members that served during the calendar year 2022 are listed below.

Matt Newman
Resides in Spring Lake Township
Term: 06/2020 – 03/2023

Christopher Crowhurst
Resides in Spring Lake Township
Term: 05/2020 – 03/2023

Woody Spitzmueller
Resides in Prior Lake
Term: 03/2022 – 03/2025
04/2019 – 03/2022

Loren Hanson
Resides in Spring Lake Township
Term: 04/2021 – 03/2024

Maureen Reeder
Resides in Spring Lake Township
Term: 05/2021 – 03/2024

Ron Hoffmeyer
Resides in Prior Lake
Term: 05/2022 – 03/2025

Curtis Witt
Resides in Prior Lake
Term: 05/2022 – 03/2025

David Hagen
Resides in Prior Lake
Term: 07/2021 – 01/2022

Jim Weninger
Resides in Prior Lake
Term: 01/2020 – 03/2022

Christian Morkeberg
Resides in Spring Lake Township
Term: 07/2019 – 03/2022

Ben Burnett
Resides in Prior Lake
Term: 09/2020 – 06/2022

Matt Tofanelli
Resides in Prior Lake
Term: 04/2021 – 06/2022

STAFF

Day-to-day operations of the Prior Lake-Spring Lake Watershed District are managed by a District Administrator and staff. All staff can be contacted through the main District phone number, 952-447-4166, or at the District Office, 4646 Dakota Street SE, Prior Lake, MN 55372.

Joni Giese
District Administrator
jgiese@plslwd.org

Emily Dick
Water Resources Project Manager
(as of 11/7/22)
edick@plslwd.org

Jeff Anderson
Water Resources Coordinator
janderson@plslwd.org

Shauna Capron
Water Resources Technician
(as of 7/14/22)
Water Resources Specialist
(until 7/13/22)
scapron@plslwd.org

Elizabeth Frödén
Water Resources Specialist
(as of 7/14/22)
Water Resources Assistant
(until 7/13/22)
efroden@plslwd.org

Patty Dronen
Administrative Assistant
pdronen@plslwd.org

Paul Nelson
Manager of Special Projects
(as of 10/17/22)
pnelson@plslwd.org

Jaime Rockney
Water Resources Project Manager
(until 5/11/22)

Allison Weyer
Permitting Coordinator
(3/1/22 - 8/23/22)

Kendra Held
Summer Intern
(6/1/22 – 8/19/22)

Sydney Jones
Summer Intern
(6/1/22 – 8/12/22)

CONSULTING SERVICES

The following are the consulting firms selected in 2021 for 2022/23 consulting services:

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

Smith Partners, PLLP
Legal Services
Charles Holtman
Phone: 612-344-1400
www.smithpartners.com

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

The following consulting firm was selected in 2020 for 2021/22 consulting services:

CliftonLarsonAllen (CLA)
Accounting Services
Christopher Knopik
Phone: 612-376-4500
www.claconnect.com

WATER RESOURCES MANAGEMENT PLAN

The Minnesota Board of Water and Soil Resources (BWSR) approved the District's fourth generation Water Resources Management Plan (WRMP) on June 24, 2020, and the District Board adopted the plan at its July 14, 2020 meeting. A copy of the WRMP is available on the District website or by request, or in hard copy format at the District office.

THREE PRIORITY CONCERN AREAS

During discussions and meetings for the WRMP, three recurring priority concerns were identified. PLSLWD used these three priority concerns to develop three guiding principles with nine underlying policies and 23 measurable goals.



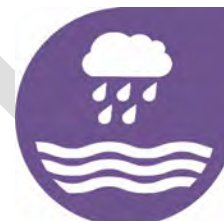
WATER QUALITY

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



AQUATIC INVASIVE SPECIES

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



REDUCE FLOODING

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

PRIMARY ISSUES

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

WATER QUALITY ISSUES:

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

AQUATIC INVASIVE SPECIES ISSUES:

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

REDUCE FLOODING ISSUES:

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

PRIORITY GOALS

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

WATER QUALITY MAIN GOALS:

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

AQUATIC INVASIVE SPECIES MAIN GOALS:

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

REDUCE FLOODING MAIN GOALS:

- **GOAL RF1:** Achieve the first-tier priority flood reduction goal to reduce the flood level on Prior Lake (from 905.62) to 905.5 feet for the 25-year return period.

ASSESSMENT OF THE 2022 WORK PLAN

The following is a summary of the activities completed in 2022 organized by District's 2020 WRMP.

- | | |
|-------------------------------|------------------------------|
| 1. Capital Projects | 5. Regulation |
| 2. Operations and Maintenance | 6. Education and Outreach |
| 3. Planning | 7. Prior Lake Outlet Channel |
| 4. Monitoring and Research | 8. Administration |

CAPITAL PROJECTS

FISH LAKE SHORELINE & PRAIRIE RESTORATION PROJECT

Fish Lake Park is located on the northwest corner of Fish Lake at Spring Lake Town Hall and is owned by Spring Lake Township. The project enhanced a section of shoreline along Fish Lake behind the town hall and created a prairie restoration on the north side of the property.

The restorations will improve habitat for wildlife and pollinators and act as a demonstration site for landowners interested in completing restorations on their own properties, giving them an opportunity to view an example of a rain garden (existing project), prairie and shoreline restoration all in one, easily accessible location. This project is a frequent site for events and is home to Spring Lake Township's main park. This project is a partnership between Spring Lake Township and the Prior Lake-Spring Lake Watershed District.



The initial site restoration was completed in 2019. Invasive species, including reed canary grass and buckthorn, along shoreline were controlled; existing turf grass in the prairie restoration area was terminated and the prairie and shoreline areas were seeded with native plant species in fall 2019. Additional vegetation maintenance occurred at the site in 2020 and 2021. In 2022, select final seeding was performed, and plant plugs installed. Design began on interpretative signs explaining the restoration project in 2021, with sign installation occurring in 2022. Spring Lake Township accepted the project and assumed all maintenance responsibilities in 2022.

OPERATIONS AND MAINTENANCE

CARP MANAGEMENT

In 2022 the District moved into its eighth year with its Carp Management Program in Spring and Prior Lakes. In 2020 the District received the Minnesota Association of Watershed District's Program of the Year award for the program, and in 2022, District staff presented at the Minnesota Water Resources Conference about the success of the carp program. The District's carp management work was partially funded through a 319 grant from the Minnesota Pollution Control Agency (MPCA) and a Watershed-based Implementation Funding grant from BWSR. 2021 was the third and final year of the grant funding provided through both funding sources. Final grant reporting was submitted in 2022.

The District continued its Accelerated Carp Management Strategies (ACMS) in 2022, which were created in 2020 to accelerate the removals of carp in Spring and Upper Prior Lakes. A major component in the ACMS was to increase removal efforts and diversify methods. Some of those methods included a migration trap called a "Push Trap" and the use of underwater speakers to train and move carp into seining areas.

The management program as a whole aims to improve the water quality of Spring and Upper Prior Lakes by decreasing total phosphorus concentrations using an Integrated Pest Management Plan (IPM). The program has several different components, including tracking movement and population of carp, removing seine obstructions, completing carp removals, installing carp barriers at strategic locations, and engaging local community through outreach materials and events.

In 2022 the District continued to actively track the movement of 21 carp that were implanted with radio-tags in Spring Lake and Upper Prior Lake using a Yagi antenna. 10 tags were installed in 2021 and 11 more in 2022. Radio-tags have a lifespan of around 18 to 24 months, and not all tags implanted in 2021 are still active. The District does its best to keep up a manageable radio-tag count, taking into account older radio-tags becoming unresponsive; the plan for 2023 is to add 10 to 14 new radio tags. Carp location maps were developed based on the tracking data, which were posted occasionally on the District's social media pages so that the public could see their locations.



The District also continued to track carp through Passive Integrate Transponder (PIT) tags that are implanted into the carp. By the end of 2022, approximately 456 PIT tagged carp remain in the waterbodies. PIT tags are used to track movement of carp through a specific channel where a receiver is installed. This is a more economical way of tracking carp but has its limitations as the carp can only passively be tracked when they pass through a specific location.

In 2022 the District installed six receiver devices to study the movement of PIT tagged carp throughout different waterbodies, which helped document movement and determine the effectiveness of installed carp barriers. The receivers were installed at the Pike Lake inlet, Jeffers Daylight Pond outlet, Arctic Lake East channel, Tadpole Pond outlet, Spring Lake outlet, and downstream of the ferric chloride weir.

Telemetry surveys were conducted on Spring Lake and Prior Lakes to determine aggregation areas and migration routes. These surveys guided timing and location of carp removal events.

The District worked with its consultants to complete removal events utilizing a variety of methods, which resulted in the following:

REMOVAL METHOD:	<u>Spring Lake (2022)</u>		<u>Upper Prior Lake (2022)</u>	
	# OF CARP:	WEIGHT (lbs):	# OF CARP:	WEIGHT (lbs):
Seines	158	1110		
Electrofishing	249	1164	306	2165
Stream Removals			804	5231
Gill Netting	30	150		
Push Trap	20	112		
TOTAL:	457	2536	1110	7396

In 2022 Upper Prior Lake's overall carp biomass decreased from approximately 211 kg/ha to 190 kg/ha, while Spring Lake's overall carp biomass decreased from approximately 227 kg/ha to 224 kg/ha.

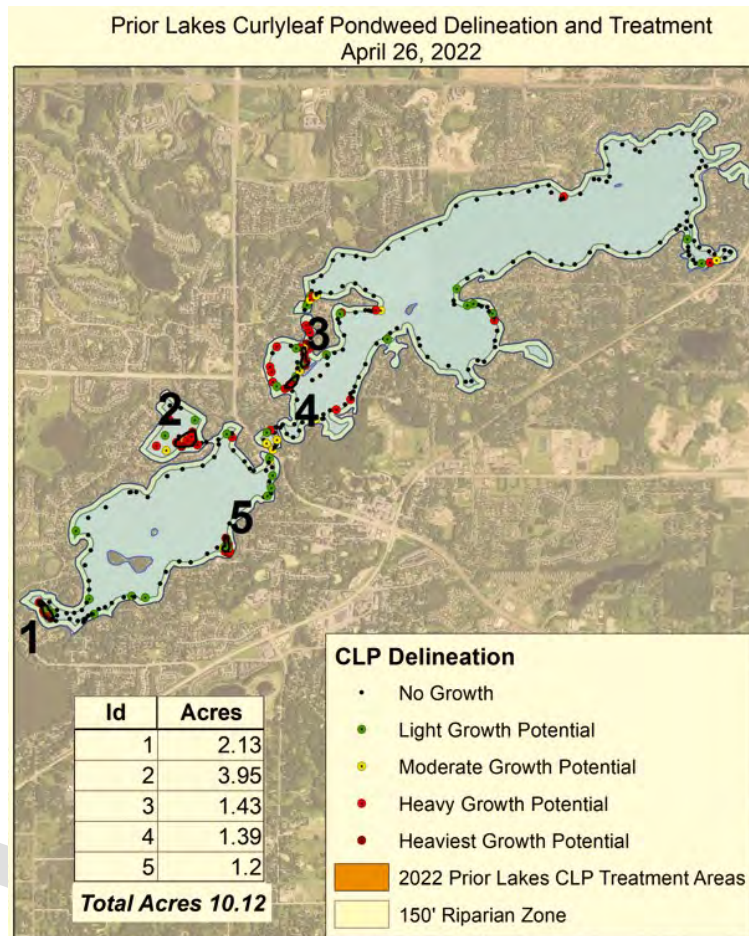
In 2022 there were six carp barriers: 12/17 Wetland, Desilt Pond, FeCl Weir, Arctic Lake outlet, and Northwoods Pond. Carp migration spawning activity will be monitored to see if any additional barriers are needed moving forward.

The District's goal in 2023 is to continue effective carp management by following the Integrated Pest Management Plan for Common Carp and incorporating techniques developed through the Accelerated Carp Management Strategies.

AQUATIC VEGETATION MANAGEMENT

Aquatic vegetation management for curly-leaf pondweed (CLP) occurred on Spring, Upper Prior, and Lower Prior Lakes in 2022. 2.82 acres on Lower Prior, 7.281cres on Upper Prior, and 8.14 acres on Spring Lake were treated by PLM Lake and Land Management Corporation with Diquat, an herbicide. Treatment on Upper Prior Lake was funded by a Minnesota Department of Natural Resources (DNR) AIS Control Grant. Treatment on Spring Lake and Lower Prior Lake was funded by Scott County's AIS

Prevention funds from the Minnesota Legislature. The image below shows the delineation and treatment map for Upper and Lower Prior Lakes. In addition to CLP treatments, the District supported Spring Lake Association actions to manage Eurasian Watermilfoil (EWM) found in Spring Lake through aquatic plant delineations.



COST SHARE

The District has a cost share incentive program for residents and agricultural producers coordinated with the Scott Soil and Water Conservation District (SWCD). Scott SWCD received requests and provided follow-up assistance to 85 landowners in the watershed, 60 of which were new requests for conservation assistance. There were 19 projects approved and 22 cost share projects completed. Cost share projects completed in 2022 include 4.3 acres of native prairie restoration, 145 feet of waterway stabilization, 0.6 acres of filter strips, 138.4 acres of conservation tilling/no-till practices, 2 wells decommissioned, and 147.8 acres of cover crops.



FARMER-LED COUNCIL

The Farmer-Led Council (FLC) was created in 2013 to help the District reduce nutrient loading to Spring Lake to levels that meet or exceed state water quality standards. Agricultural lands make up the majority of the landscape in the Spring Lake 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.

Represented by local leaders in the farming community, the role of the FLC is to develop and guide the implementation of strategies that PLSLWD will use to accomplish agriculture's share of the nutrient reduction goal. Specifically, the FLC aims to:

- Inform decision makers and the general public about practical issues and opportunities related to soil and water conservation on agricultural lands.
- Identify sustainable agriculture practices for both standard and site-specific applications.
- 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 that are needed to overcome them.

The District held two FLC meetings in 2022 where a variety of agricultural topics related to water quality were discussed. The District and Scott SWCD also held a two-session "Growing Healthy Soils Workshop" in partnership with the FLC, reaching a total of 111 attendees.

In 2022 the FLC continued with its inlet protection program which included offering free Agri-Drain water quality inlets to farmers.

The Lake-Friendly Farm program was first piloted by two FLC members in 2017. Since then, over a dozen farms have been certified into this program aimed at targeting phosphorus reduction in the upper watershed. In 2022, no additional farms were certified through the Lake-Friendly Farm program, with certification delayed to early 2023. However, planning for certification was initiated on two farms totaling 64 acres, which will likely be certified in 2023. In total, 784 acres have been certified through the Lake Friendly Farm program. Approximately 13.6% of cropland in the District has been certified as "Lake-Friendly."

Nearly 321 acres were enrolled in the Cover Crop Initiative Program in 2022. Scott SWCD helped to coordinate the aerial seeding on 7 fields. The remaining were planted by renting the SWCD no-till drills which were provided free of charge to five landowners to aid in implementation. Significant additional acreage was initially enrolled in the cover crop program but was not seeded due to drought conditions experienced in 2022. The program is anticipated to continue and grow in 2023 with the hopes of getting additional farmers incorporating cover crops in the upper watershed.

FERRIC CHLORIDE TREATMENT FACILITY

A desiltation pond was built in 1978 to capture phosphorus before the stormwater from County Ditch 13 reaches Spring Lake. In 1998 a ferric chloride plant was constructed to use this chemical upstream of the desiltation pond to bind with phosphorus and preventing it from entering the lake.

In 2013, the system was redesigned to release the ferric chloride (FeCl_3) solution into a desiltation basin, rather than the stream, per a MPCA permit requirement. The initial targets for design parameters, with input and agreement by regulatory agencies, was to allow flows up to approximately 30 cubic feet per second (cfs) into the desiltation pond for normal operations. High flows were to overtop a high flow bypass weir east of the existing pond which flows directly to Spring Lake to prevent possible resuspension and flushing within the desiltation pond.

In September 2018 the pump was programmed to dose ferric chloride based on a relationship with stream height. The maximum treatment dose rate is 4 gallons per hour when the depth over the ferric chloride weir is 0.50 feet. Once the depth is greater than 0.50 feet, the pump will continue dosing at 4 gallons per hour based on the maximum flow calculations of the desilt pond diversion culvert.

In 2022 the desiltation pond treated water with ferric chloride from March 18 to June 30. The pump was shut off earlier than usual due to dry conditions and no water flow in the stream. Samples were taken weekly during treatment to analyze efficiency of the treatment system. On average, the treated water decreased the concentration of total phosphorus by 9% and dissolved phosphorus by 50%. The Annual Ferric Chloride Report, which include the results of the 2022 sampling, will be posted to the District website by June 1, 2023.

RESTORATION PROJECTS MAINTENANCE

The District conducted vegetation maintenance on a Spring Lake shoreline restoration project that was previously installed.

PLANNING

2020 WATER RESOURCES MANAGEMENT PLAN

In 2020 the District completed its Water Resources Management Plan, meeting with stakeholders, conducting public meetings and adding final revisions before its approval. The updated ten-year management plan laying out the District's goals and activities for 2020 - 2029 was successfully completed and approved in 2020. The plan served as a framework for District activities in 2022 and will continue to do so in 2023.

SUTTON LAKE MANAGEMENT PLAN

In 2021 the District completed the construction of the Sutton Lake Outlet Structure. Sutton Lake is at the headwaters of County Ditch 13 (CD13), which outlets into Spring Lake. The primary purpose of the outlet structure is to increase storage and slow the flow of water downstream. This will decrease the likelihood of flooding along CD 13.

The Sutton Lake Outlet Structure was originally identified in the Prior Lake Stormwater Management & Flood Mitigation Study as a possible project with high flood damage reduction potential. In 2022 the District prepared a lake management plan for the purpose of enhancing wildlife habitat through operation of the outlet structure on Sutton Lake. The lake management plan will be finalized upon receipt of DNR review comments and brought forward for acceptance by the Board of Managers in 2023.



UPPER WATERSHED BLUEPRINT

The Upper Watershed is a 12,760-acre area that drains to Spring Lake, Upper Prior Lake and Lower Prior Lake and represents approximately 67 percent of the total tributary to these lakes. In 2021 the District managers approved the Upper Watershed Blueprint study, which provides a stormwater management and implementation approach for PLSLWD and local partners to improve water quality conditions and reduce flooding in the Upper Watershed over the next ten years.

The Upper Watershed Blueprint resulted in the identification of 14 potential water quality projects and three potential flood reduction projects that could help the District meet its 10-year goals. These projects will help the District meet the annual phosphorus reduction goal of 2,959 pounds set in the Total Maximum Daily Load (TMDL) study for Spring and Upper Prior Lakes to improve water quality in the lakes.

Subsequent to the study approval, the Board of Managers selected six projects from the study to focus on for near-term implementation:

- Sutton Lake Iron-Enhanced Sand Filter (IESF) – 735 lbs/yr estimated phosphorous reduction
- Swamp Lake Iron-Enhanced Sand Filter (IESF) – 223 lbs/yr estimated phosphorous reduction
- Buck Lake East Wetland Enhancement – 100 lbs/yr estimated phosphorous reduction
- Spring West Iron-Enhanced Sand Filter (IESF) – 249 lbs/yr estimated phosphorous reduction
- Buck Lake Chemical Treatment System – 793 lbs/yr estimated phosphorous reduction
- County Ditch 13 Chemical Treatment System – 1,062 lbs/yr estimated phosphorous reduction

The amount of phosphorus reduction may be different if multiple projects are completed in series because an upstream capture of phosphorus will mean less phosphorus is available to be captured

downstream. If all six projects listed above are completed, the total annual phosphorous reduction would be approximately 2,712 pounds.

The District completed feasibility studies for two of the water quality projects identified in the Upper Watershed Blueprint in 2022: Spring West Iron Enhanced Sand Filter (IESF) and Sutton Lake IESF. The District also completed a draft feasibility study for the Buck Lake Wetland Enhancement, which will be finalized in 2023 upon receipt of DNR review comments. Based upon the convening process for the BWSR Watershed Based Implementation Funding 22/23, the District plans to complete the Swamp Lake IESF using a portion of the allotted funds. The Swamp Lake IESF budget request was submitted to BWSR in 2022. The District plans to submit project work tasks and contracting with BWSR in 2023, along with initiating the associated feasibility study.

MONITORING AND RESEARCH

Monitoring was conducted in accordance with the Prior Lake-Spring Lake Watershed District Long Term Monitoring Plan and included a mix of staff, volunteer, and contract work, which incorporated in-lake monitoring, stream water quality & flow measurements, precipitation, and aquatic vegetation monitoring. Partners included Metropolitan Council Environmental Services, Three Rivers Park District, Shakopee Mdewakanton Sioux Community (SMSC), Scott Soil and Water Conservation District (SWCD), Blue Water Science, and Emmons and Oliver Resources (EOR). District seasonal interns also assisted with monitoring activities.

WISKI DATABASE

In 2022 the District initiated the transition from its access database to a WISKI database, which is a product of Kisters North America. The new database was set up and the importation of historical data began. This new database has capabilities and features that will enable staff to manage and analyze data more efficiently and consistently. In 2023 historical data importation will be completed and new pathways, calibration procedures, and analysis methods will be in place for incoming data.

STREAM MONITORING DATA

STREAM CHEMISTRY SAMPLING

Stream chemistry samples were collected at 12 locations around the watershed by PLSLWD staff. Samples were collected biweekly as long as there was sufficient flow. Water temperature, conductivity, pH, turbidity, and dissolved oxygen were also measured at these locations using a YSI EXO1 multi-parameter sonde:

- Three sites were sampled weekly to fulfill the MPCA permit requirements for the Ferric Chloride site (FC_CD1, FC_CD2, FC_CD3).
- The District Monitoring Program included eight sites (ST_11, ST_14, ST_19, ST_40, ST_5C, ST_5D, ST_5E, and DLO). These sites were monitored biweekly.

- One agricultural monitoring site was monitored biweekly for the Farmer-Led Council program (B3). B3 is a tributary of Fish Lake and located approximately 100 feet before entering Fish Lake.

STAGE AND FLOW MONITORING

Continuous stage and flow were monitored using level loggers in conjunction with the stream chemistry and lake monitoring. By combining chemistry and stage/flow monitoring results, loads can be calculated using the FLUX modeling software. The sites mentioned in the stream chemistry section above all had level loggers. In addition to those sites, stage and flow were monitored on the outlets of Fish, Sutton, Crystal, and Prior Lakes (sites ST_o8, Sutton, CRY_OUT, and PL_OUT respectively). Stage and flow were also monitored at ST_26A, which is along the channel that flows into Pike Lake.



Stream Monitoring

Flow measurements were collected by PLSLWD and Scott SWCD. The flow meter used was a Sontek Flowtracker2. Continuous stage was recorded using level loggers, including pressure transducers, an ultrasonic distance sensor and an area velocity meter.

LAKE MONITORING DATA

LEVEL LOGGERS

Three telemetry level loggers were installed to monitor the lake levels on Spring, Prior, and Pike Lakes. The loggers were programmed to log the lake level every 15 minutes and then transmit the data to the PLSLWD website once per hour, which was accessible to the public. Additionally, two non-telemetry loggers were used in Fish and Buck Lakes, which required manual data download, similar to the loggers used for all stream sites.

DNR STAFF GAGES

Five staff gages were monitored for the DNR on Buck, Fish, Pike, Spring and Lower Prior Lakes. Staff gages are surveyed in every year by the DNR to tie the results to Mean Sea Elevation.

THREE RIVERS PARK DISTRICT

Three Rivers Park District monitored five lakes in 2022: Fish, Pike, Upper Prior, Lower Prior and Spring Lakes. These lakes are monitored 13 times per year, and where possible, profile samples are collected.

CAMP VOLUNTEER LAKE MONITORING

The Citizen Assisted Monitoring Program (CAMP) program was coordinated by Metropolitan Council, and locally coordinated by PLSLWD. Volunteers collected samples on seven lakes through the CAMP program in 2022.

Lake	Volunteer(s)
Lower Prior (site 2)	Amy Card
Haas	Tom Chaklos
Buck Lake	Steve Beckey
Cates	Paula Thomsen
Little Prior	PLSLWD staff
Fish	Jon Haferman
Crystal	Scott Thulien

Samples are typically collected every other week during ice-free conditions. Sampling includes parameters such as Secchi depth, phosphorus, and chlorophyll-a.

AQUATIC VEGETATION SURVEYS

Using a point-intercept survey (evenly-spaced sampling locations around the lake), Blue Water Science conducted summer aquatic vegetation surveys on six lakes – Arctic Lake, Sutton Lake, Haas Lake, Rice Lake, Fish Lake, and Lower Prior Lake. These surveys include the type and abundance of vegetation at predetermined sampling locations throughout the lakes during summer, which is the time most vegetation is present.

Curly-leaf pondweed (CLP) surveys were completed in springtime on Fish Lake, Upper Prior Lake, Lower Prior Lake, and Spring Lake to determine if treatment was needed. Aquatic vegetation management for curly-leaf pondweed occurred on Spring, Lower Prior and Upper Prior Lakes in 2022, and aquatic vegetation management for Eurasian watermilfoil was managed by the Spring Lake Association on Spring Lake.

AQUATIC VEGETATION DENSITY MAPPING

The density of aquatic vegetation in District lakes was mapped using BioBase software. BioBase creates whole-lake maps of aquatic vegetation density, bathymetry, and bottom hardness, connecting the points collected in the aquatic vegetation surveys. BioBase mapping is used to fill in the gaps and complement the work of the vegetation surveys.

Staff and interns mapped all or parts of ten lakes and ponds in the District in 2022. This includes Arctic Lake, Buck Lake, Cates Lake, Crystal Lake, Desilt Pond, Fish Lake, Lower Jeffers Pond and Wildlife Pond, Lower Prior Lake, Pike Lake, Spring Lake, and Upper Prior Lake.

The benefits of this project include:

- More accurate bathymetric maps

- A better understanding of density of vegetation in lakes and plant area coverage (percentage of lake bottom growing plants)
- Lake bottom sediment composition maps
- Improved implementation and analysis of curly-leaf pondweed treatments
- Greater understanding of lake ecology and sediment deposition rates
- Better management of fisheries including for sports fishing

Lake	Plant Area Coverage %	Year
Arctic	14	2022
Buck	73.4	2022
Cates	88.1	2022
Crystal	33.2	2022
Desilt Pond	29.5	2022
Fish	24.4	2022
Upper Jeffers Fish Pond	82.9	2020
Lower Jeffers Fish Pond	97.6	2022
Little Prior	50	2016
Lower Prior	41.7	2022
Pike East	88.7	2022
Spring	28.3	2022
Upper Prior	36	2022

PRECIPITATION

District staff recorded daily precipitation at the office precipitation station location. The District also has a weather station at Spring Lake Town Hall, which logged and transmitted data to Weather Underground. The District may seek out a volunteer for an additional station in 2023.

BOAT INSPECTIONS (AIS)

IN-PERSON INSPECTIONS

In-person boat inspections were conducted within the District by Waterfront Restoration at the launches of Upper Prior, Lower Prior, Spring, and Fish Lakes. A total of 3,550 inspections occurred between the four lakes between May 13 and October 2, 2022.

A total of 48 entering violations were identified, the majority of which were plants removable by hand. There were findings of significance on 334 exiting watercrafts, but because they were found and resolved before exiting the launch, they were not classified as violations.

INTERNET LANDING INSTALLED DEVICE SYSTEM (I-LIDS)

An I-LIDS station was installed at the Spring Lake boat launch in 2021 as a pilot project. I-LIDS is a motion-activated recording system that monitors boats as they enter and leave the water. It also issues an automatic audio reminder to people to check the boat and trailer for invasive species. The goal of the system is to increase awareness of Minnesota aquatic invasive species law and encourage compliance.

In 2022 I-LIDS recorded 2,150 launches and captured five possible violations. The District decided to discontinue the pilot project at the end of the 2022 season.



REGULATION

EASEMENT INSPECTIONS

The District holds many conservation easements and development agreements over wetland and watercourse buffer strips that were acquired through permit activity or capital project construction. These buffer strips and associated easement and agreement restrictions provide water quality benefits by protecting District water resources. The District's conservation easement program contains three components to ensure protection of its investments: yearly monitoring inspections, effective communication with landowners and an enforcement policy.

In 2022 staff inspected the District's 51 conservation easements. The District's conservation easements are on property owned by 188 landowners. In 2022, 72% of properties were in compliance, which is an increase from the 2021 compliance rate. yet, there is still a need for on-going annual inspections. Numerous easement boundary signs were found missing but were not noticed to landowner as violations. The District will be researching and developing an approach to improve sign placement longevity and/or efficient replacement in 2023. Of those sites with violations, most of the easements had only minor violations of the easement terms, such as mowing, yard waste, storage (wood etc.), dumping/trash, landscaping, and planting non-natives. Staff are working with landowners that have larger violations to resolve the violations and bring their easement area into compliance. Many landowners with violations have made improvements, correcting some, if not yet all, of the easement violations on their property.

PERMIT ACTIVITY

- The District inspected active permits to ensure that conditions of the permit were being met. The District issued one new permit in 2022 (22.01 Prior Lake Downtown South) and conditionally approved a second permit (22.02 Spring Lake Regional Park).

No variances to District rules were applied for in 2022.

Inspections were performed on active construction projects for District open permits. The District continued to close out permits (17.01, 20.01, 20.03) as the projects met requirements.

DISTRICT RULES UPDATE

In 2017, Prior Lake-Spring Lake Watershed District (PLSLWD) initiated a process to update the District's rules, which had not been substantively revised since 2003. Over the course of the rule revision process, the following meetings and activities were held to facilitate discussion and receive comments from District partners on proposed rule revisions:

- Five TAC Meetings
- Three Road Authority Meetings
- Three Board of Managers Workshops
- Public Hearing (October 8, 2019)
- 45-day Review Period (comment period closed on October 29, 2019)
- One Local Government Unit (LGU) Workshop (February 5, 2020)
- Courtesy Review on draft rule redlines, dated November 24, 2021

Comments from District partners and legal counsel were incorporated into an updated version of the District's rules, which was approved by the Board of Managers in May 2022, effective June 1, 2022.

EDUCATION AND OUTREACH

CITIZEN ADVISORY COMMITTEE

PLSLWD staff facilitates and attends monthly Citizen Advisory Committee (CAC) meetings. CAC meeting minutes were included in monthly Board meeting packets. Manager Loney was the assigned Board of Managers liaison to the CAC from January through June 2022. The role was transferred to Manager Tofanelli starting in July for the remainder of the year. In this role, Managers Loney and Tofanelli helped develop CAC meeting agendas and attended the CAC meetings. On June 30, 2022, the District hosted a joint Board of Managers and CAC meeting, which provided an opportunity for the managers and CAC members to share thoughts on District priorities. The joint meeting was deemed a success and will be held on an annual basis.

The CAC researched and provided advisory recommendations to the Board of Managers on several topics in 2022, including a budget request for potential flood storage project feasibility studies and whether to continue to the I-LIDS pilot project. CAC members also participated in a community outreach event at the local farmers market and storm drain stenciling. The CAC also focused on a wide variety of topics within its three subcommittees: Shoreline Restoration; Lake Life and Water Quality, AIS, Fish Stocking; and Storage and Flooding.

COMMUNITY INVOLVEMENT

The District partnered with the Scott SWCD through the Scott County Clean Water Education Program (SCWEP) to provide public outreach and education opportunities. The District and the Scott

SWCD hosted a “Growing Healthy Soils” workshop, a native prairie workshop, and made a shoreline workshop digitally available in 2022.

The District hosted an informational booth at a City of Prior Lake Farmer’s Market.

The District and the City of Prior Lake typically coordinate Clean Water Clean-Up events. In 2022, a second year of stormwater drain stenciling was coordinated. The intent of the stenciling is to remind people that stormwater eventually ends up in local lakes and to keep litter and fluids other than stormwater out of the stormwater drains. The District assembled stormwater drain stenciling kits and the City of Prior Lake identified storm drains to be stenciled. District staff coordinated with resident stenciling teams to facilitate the stenciling. There were approximately 56 stormwater drains stenciled in 2022.

In 2022, the District made presentations at the annual meetings of Spring Lake Township, Prior Lake Association and Spring Lake Association. The District also hosted a vegetation identification workshop with Spring Lake Association. Eighty members attended the vegetation workshop. Finally, the District led educational activities at a Fishing Clinic for children held by City of Prior Lake. Over 50 children were taught about a wide variety of aquatic plants and their importance to lake health.

The District has a strong network of volunteers that aim to involve community members in efforts to improve local water resources. Along with volunteers already mentioned (CAMP, precipitation readings), the District runs several volunteer programs to report carp sightings (Carp Espionage), ice observations, and starry stonewort sightings (Starry Trek).

A full report of the Education and Outreach completed in 2022 can be found on the District website detailed in the 2023 Education and Outreach plan.

PRESS AND SOCIAL MEDIA

The District submitted four articles to be published in the Scott County SCENE, a quarterly government publication sent to all county residents. Several articles and updates were posted to the District’s website on topics such as bluegill stocking and the Hike the Watershed challenge. In addition, other media outlets and newsletters were used to publicize District programs, projects and educational initiatives, including the Prior Lake American newspaper, and newsletters for the Prior Lake Association and Spring Lake Association.

Lake levels for Prior, Spring, and Pike Lakes were updated automatically on the website during the growing season. Facebook and Instagram posts were made on a wide variety of topics. Video recordings of the District’s 2022 Board of Managers meetings were published on the District’s YouTube channel.

PRIOR LAKE OUTLET CHANNEL

OUTLET STRUCTURE

The Prior Lake Outlet Structure was constructed in 1983 to address high lake level issues on Prior Lake, which does not have a natural outlet. The structure received a major update in 2010 to incorporate an improved design.

PRIOR LAKE OUTLET CHANNEL (PLOC)

The Prior Lake Outlet Channel (PLOC) is utilized by the District and other partners in managing lake levels on Prior Lake as well as providing a 7-mile stormwater conveyance system for the surrounding communities. There is a Memorandum of Agreement between the Cities of Prior Lake, Shakopee, the Shakopee Mdewakanton Sioux Community and the District that specifies operation and maintenance as well as cost-sharing.

The PLOC is considered an MS4 municipal stormwater conveyance system and the District must secure permits and submit annual reports. The 2022 annual report is available on the [PLSLWD website](#), which includes a summary of all activities that were completed along the channel.

Some of the recurring annual activities included channel inspections, flow and chemistry monitoring, and invasive terrestrial vegetation management.



CHANNEL MAINTENANCE AND REPAIR

In 2022, construction was completed on two channel repair projects. The first project entailed the removal of accumulated sediment from a widened section of the channel just upstream from Dean Lake in the City of Shakopee. This channel segment was intentionally designed to collect sediment prior to water entering Dean Lake. An assessment of the channel determined the sediment collection area was full and that it was time for sediment removal maintenance activities.

The second project included the enhancement of approximately 1,100 linear feet of stream corridor via bank stabilization, revegetation, and reconnection to floodplain. Stabilization activity was split between four locations within the cities of Prior Lake and Shakopee.

WETLAND BANKING PROGRAM

The Prior Lake-Spring Lake Watershed District does not have a locally adopted wetland banking program within its jurisdiction.

STATUS OF LOCAL PLAN ADOPTION AND IMPLEMENTATION

Minnesota Rule 8410 required that local units of government complete their Surface Water Management Plans and Comprehensive Plans by December 31, 2018. The District has previously reviewed and/or approved: the Scott WMO's Comprehensive Water Resources Management Plan; Lower MN River Watershed District's Watershed Management Plan; the City of Savage's Local Water Plan; the City of Shakopee's Surface Water Management Plan and Prior Lake's Local Surface Water Management Plan. In 2022, no local plans were submitted to PLSLWD for review.

EVALUATION OF PROGRESS

The District's Water Resources Management Plan adopted July 14, 2020, for the years 2020 through 2030, includes the following Outcome and Measures Dashboards to serve as a tool for evaluating progress on watershed goals and to assess whether adjustments are needed. The Water Resources Management Plan states the dashboards will be updated every two years. The dashboards have been updated to reflect progress made by the District related to the Water Resources Management Plan's stated goals.

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

Performance Measures:	Every two years, evaluate water quality trends on a 5-year running average to ensure water quality is maintained or improved.
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Benchmark Measures:	
Total Phosphorus (TP)	24 µg/l
Chlorophyll-a (Chl-a)	6.9 µg/l
Secchi depth	4.43 m

5-Year Average Tracking:	
Total Phosphorus (TP)	
2021	21.61
2023	
2025	
2027	
2029	
Chlorophyll-a (Chl-a)	
2021	7.45
2023	
2025	
2027	
2029	
Secchi depth	
2021	4.15
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lower Prior Lake Subwatershed Project*		✓									
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program				✓	✓	✓		✓	✓	✓	

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

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Lower Prior Lake Diagnostic Study Update					✓						
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

* Projects in **bold** have the greatest potential to achieve water quality improvement results.**If one or more of the three water quality measures begins to show downward trends, the following should be explored:**

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

Goal WQ2*Meet the state water quality standards for aquatic recreation on Spring Lake.*

Performance Measures:	Use in-lake water quality monitoring results for TP, Chl-a and Secchi depth to assess progress every two years; request delisting to MPCA
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Benchmark Measures:	
Total Phosphorus (TP)	60 µg/l
Chlorophyll-a (Chl-a)	20 µg/l
Secchi depth	1.4 m

Outcome: Request state delisting to MPCA by 2029

2-Year Average Tracking:		
Total Phosphorus (TP)		
2021	20.04	
2023		
2025		
2027		
2029		
Chlorophyll-a (Chl-a)		
2021	12.41	
2023		
2025		
2027		
2029		
Secchi depth		
2021	2.24	
2023		
2025		
2027		
2029		

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
In-Lake Alum Treatments*	✓										
County Ditch 13 Restoration*							✓	✓	✓	✓	✓
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fish Lake Watershed Projects			✓								
Spring Lake Regional Park Project				✓	✓						
Spring Lake West Subwatershed Project*		✓	✓								
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*				✓	✓	✓		✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program				✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ferric Chloride Treatment System	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Wetland Restoration						✓	✓				
Project Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Regional Stormwater Planning			✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Blueprint	✓	✓									

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

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

If at least two of the water quality measures are not meeting benchmarks by 2025, the following should be explored:

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

Goal WQ3*Meet the state water quality standards for aquatic recreation on Upper Prior Lake.*

Performance Measures:	Use in-lake water quality monitoring results for TP, Chl-a and Secchi depth to assess progress every two years; request delisting to MPCA.
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Benchmark Measures:	
Total Phosphorus (TP)	40 µg/l
Chlorophyll-a (Chl-a)	14 µg/l
Secchi depth	1.4 m

Outcome: Request state delisting to MPCA by 2029

2-Year Average Tracking:		
Total Phosphorus (TP)		
2021	19.53	
2023		
2025		
2027		
2029		
Chlorophyll-a (Chl-a)		
2021	13.6	
2023		
2025		
2027		
2029		
Secchi depth		
2021	1.95	
2023		
2025		
2027		
2029		

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
In-Lake Alum Treatments*	✓	✓			✓	✓	✓				
Public Infrastructure Projects*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Arctic Lake BMP Projects				✓				✓			
Fish Lake Watershed Projects		✓	✓								
Spring Lake West Subwatershed Project		✓	✓								
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FeCl Treatment System	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Restoration						✓	✓				
Project Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Blueprint	✓	✓									

Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Effectiveness/BMP Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

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

If at least two of the water quality measures are not meeting benchmarks by 2025, the following should be explored:

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

Goal WQ4**Improve water quality in Fish Lake by reducing annual phosphorus load by 40 lbs/year.**

Performance Measures:	Every two years, assess water quality to measure improvements in TP, Chl-a and Secchi depth; reduce annual P load by 40 lbs/year by 2029.
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Baseline Measures (2005-2014):	
Total Phosphorus (TP)	42 µg/l
Chlorophyll-a (Chl-a)	20 µg/l
Secchi depth	1.3 m

Outcome: Implement projects to reduce annual P load by 40 lbs/yr, resulting in improved water quality in one or more measures by 2029.

2-Year Average Tracking:			
	TP	Chl-a	Secchi
2021	32	20.5	1.27
2023			
2025			
2027			
2029			

Annual P Load Reductions:	
Projects Implemented (lbs/year)	
2021	None
2022	None

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Fish Lake Watershed Projects*		✓	✓								
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Carp Management Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Farmer-Led Council Initiatives*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

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

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

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

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

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

Goal WQ5

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

Performance Measures:	Every two years, assess water quality (TP, Chl-a and Secchi) to measure improvements; track load reductions associated with project implementation.
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Baseline Measures (2008-2017):	
Total Phosphorus (TP)	127.5 µg/l
Chlorophyll-a (Chl-a)	40 µg/l
Secchi depth	0.43 m

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

2-Year Average Tracking:			
	TP	Chl-a	Secchi
2021	94.11	33.74	0.42
2023			
2025			
2027			
2029			

Load Reduction Tracking		
Project	Year	lb/year

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

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

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

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

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

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

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

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

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

Goal WQ6

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

Performance Measures:	Every two years, assess TP concentrations to measure improvements; track load reductions associated with project implementation.
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Baseline Measures (2012-2017):		
	West Side	East Side
Total Phosphorus (TP)	102 µg/l	170 µg/l

10% Improvement GOAL:		
	West Side	East Side
Total Phosphorus (TP)	92 µg/l	153 µg/l

2-Year Average Tracking:		
	West Side	East Side
Total Phosphorus (TP)		
2021	53.23	192
2023		
2025		
2027		
2029		

Load Reduction Tracking		
Project	Year	lb/year

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

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

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

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

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

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

If there is not a documented decrease in TP concentrations by 2025, the following should be explored:

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

Goal WQ7*Assess the quality of Sutton Lake and develop a Lake Management Plan.*

Performance Measures:	Assessment of lake quality and development of management plan.
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Performance Tracking:	
Step	Status
Install Outlet (2020)	Completed 2021
Complete Lake Management Plan (2020)	In Progress
Manage Outlet (2021)	Complete
Manage Outlet (2022)	Complete
Manage Outlet (2023)	
Manage Outlet (2024)	
Manage Outlet (2025)	
Manage Outlet (2026)	
Manage Outlet (2027)	
Manage Outlet (2028)	
Manage Outlet (2029)	
Manage Outlet (2030)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Capital Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Sutton Lake Outlet Structure*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Projects in **bold** have the greatest potential to achieve the goal.**Outcome:** Lake Management Plan and effectively managed outlet structure.**If there is no progress by 2022, the following should be explored:**

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

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

Performance Measures:	Conduct a lake diagnostic study to identify water quality standard; set management goals for next 10-year plan.
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Performance Tracking:	
Step	Status
Diagnostic Study (2026)	
Water Quality Standard (2026)	
Management Goals Set (2029)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Monitoring Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Buck Lake Diagnostic Study							✓	✓				
Lake Monitoring		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

If there is no progress by 2026, the following should be explored:

- 1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
- 2) Is there an unexpected, external factor slowing the progress? *If so, consider a study to explore solutions.*

Goal WQ9*Assess the quality of Tier 3 Lakes and assign lake management classifications.*

Performance Measures:	In-lake water quality monitoring; assign lake classifications.
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Performance Tracking:	
Lake	Management Classification
Haas Lake	Unclassified
Crystal Lake	Unclassified
Rice Lake	Unclassified
Cates Lake	Grade A for Chl-a, Secchi, and P
Jeffers Pond	Unclassified
Swamp Lake	Unclassified

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Monitoring Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

If there is no progress by 2028, the following should be explored:

- 1) Have all scheduled projects above been completed according to the timeline? *If not, consider implementing them.*
- 2) Is there an unexpected, external factor slowing the progress? *If so, consider a study to explore solutions.*

Goal WQ10*Maintain no net loss of wetland in the District.*

Performance Measures:	Every two years track and assess wetland impacts; fully establish wetland banking program.
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Outcome: Biennial wetland loss assessments and successful establishment of wetland banking program.

Performance Tracking:		
Biennial Permit / LGU Review		Status
	2021	Incomplete
	2023	
	2025	
	2027	
	2029	
Wetland Banking Program Steps		Status
Program Establishment (2021)		Incomplete
Reserve Fund Created (2022)		Incomplete
First Project Completed (2025)		

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Banking Program*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

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

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

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

* Projects in **bold** have the greatest potential to achieve goals.

If wetland loss is occurring and/or wetland banking program has not reached the above milestones, the following should be explored:

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

Goal WQ11

Restore or enhance 5% (24 of 482 acres) of the restoration/enhancement management class of wetlands (as identified in the Comprehensive Wetland Plan), focusing on those that work towards prioritized and/or multiple District goals.

Performance Measures:	Track progress towards restored/enhanced wetland acres every two years.
-----------------------	---

Performance Tracking:		
Project Milestones		Status
CWP Plan Update 2020		Incomplete
Create Wetland Reserve Fund (2021)		Incomplete
CWP Plan Update 2024		
Restoration Milestones		Acres
Wetland Restoration 1 (by 2025)		
Wetland Restoration 2 (by 2027)		
Wetland Restoration 3 (by 2029)		
Wetland Restoration 4		
Wetland Restoration 5		

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Wetland Restoration & Enhancement*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Highway 13 Wetland Restoration		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

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

* Projects in **bold** have the greatest potential to achieve goals.

If there is no progress in meeting wetland restoration acreage goals by 2025, the following should be explored:

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

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

Performance Measures:	Track progress on bank stabilization projects implemented every two years, 10 completed by 2029.
-----------------------	--

Performance Tracking:	
Project Milestones	Status
Conduct Field Assessment (2021)	Incomplete
Strategic Outreach (2022)	Ongoing
Stabilization Milestones	Status
Streambank Restoration 1 (by 2023)	Smith Lined Waterway Complete 2020
Streambank Restoration 2 (by 2025)	Moen Lined Waterway Completed 2022
Streambank Restoration 3 (by 2025)	
Streambank Restoration 4 (by 2025)	
Streambank Restoration 5 (by 2027)	
Streambank Restoration 6 (by 2027)	
Streambank Restoration 7 (by 2027)	
Streambank Restoration 8 (by 2029)	
Streambank Restoration 9 (by 2029)	
Streambank Restoration 10 (by 2029)	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:											
Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
County Ditch 13 Restoration*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Streambank Restoration Program*	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	
Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Stream & Ditch Monitoring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Projects in **bold** have the greatest potential to achieve goals.**If no streambank stabilization projects have been completed by 2025, the following should be explored:**

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

Goal WQ13*Improve the stability of the Prior Lake Outlet Channel through annual maintenance and 10,000 linear feet of bank repair work*

Performance Measures:	Track progress towards 10,000 linear feet of bank repair work every two years.
-----------------------	--

Performance Tracking:	
Project Milestones	Status
Develop Bank Repair Plan (2021)	Complete
Complete Bank Repairs (2023)	
Inspection + Maintenance Review	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:											
Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PLOC Bank Restoration	✓	✓	✓	✓							
PLOC Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports		✓		✓		✓		✓		✓	

If 10,000 linear feet of bank repair work has not been completed by 2025, the following should be explored:

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

Goal WQ14

Active participation in groundwater planning efforts and prioritize projects, programs and priority areas (e.g. DWSMA's) that include groundwater benefits".

Performance Measures:	Staff attendance at groundwater planning workshops/meetings and incorporation of groundwater considerations into project selection process.
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Performance Tracking:	
Groundwater Protection Planning	
YEAR	MEETINGS ATTENDED
2021	0
2023	
2025	
2027	
2029	
Groundwater Considerations in Projects	
YEAR	PROJECT UPDATES
2021	9 decommissioned wells
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Planning Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports			✓		✓		✓		✓		✓	
Groundwater Protection Plan			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Groundwater							✓	✓	✓	✓	✓	✓

Goal AIS1

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

Performance Measures:	Completed AIS Plan; regular monitoring for AIS and implementation according to plan.
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Performance Tracking:	
Project Milestones	Status
Create AIS Response Plan (2021)	Complete
Biennially review implementation of:	
- CLP assessment & treatment	
- AIS Response Plan implementation	
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Operations & Maintenance Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Feasibility Reports			✓		✓		✓		✓		✓	
AIS Rapid Response Plan			✓		✓		✓		✓		✓	
Monitoring Projects		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Lake Monitoring		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Projects in **bold** have the greatest potential to achieve goals.

If new AIS is discovered in the District or an existing AIS has rebounded, the following should be explored:

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

Goal AIS2**Effectively manage common carp in Tier 1 Lakes to 30 kg/ha or below.**

Performance Measures:	Annually update IPM Plan for Carp; implement activities in the Plan to achieve carp populations of 30 kg/ha or below in Tier 1 Lakes.
-----------------------	---

Performance Tracking:						
	2019	2021	2023	2025	2027	2029
Lake	Carp (kg/ha)	Carp (kg/ha)	Carp (kg/ha)	Carp (kg/ha)	Carp (kg/ha)	Carp (kg/ha)
Lower Prior	9.4	Incomplete				
Upper Prior	304.8	211				
Spring	266.2	226.9				
Fish	85.7	Incomplete				

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

O & M Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Carp Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

If carp populations are not making significant progress towards meeting goals by 2025, the following should be explored:

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

Goal AIS3**Monitor curly-leaf pondweed growth on Tier 1 Lakes and treat as needed to prevent adverse effects on water quality.**

Performance Measures:	Monitor curly-leaf pondweed; implement treatments of curly-leaf pondweed as needed.
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Performance Measures:					
	2021	2023	2025	2027	2029
Lake	Status	Status	Status	Status	Status
Lower Prior	Complete				
Upper Prior	Complete				
Spring	Complete				
Fish	Complete				

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

Goal AIS4**Implement new management techniques for zebra mussels as innovative, cost-effective methods are developed.**

Performance Measures:	Monitor advances in management techniques; implement control methods as available.
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Performance Measures:	
Research Review	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:

Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
AIS Prevention & Management*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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

Outcome: Regular coordination with UMN and other research labs; feasibility study for new methods of zebra mussel management, if developed.**If no new research is discovered by 2027, the District may consider the following:**

- 1) Exploring new approaches to existing treatment methods.
- 2) Reaching out to international groups for more ideas.

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.

Performance Measures:	Track storage created towards goal of 176 acre-feet on Prior Lake.										
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Flood Levels (25-Year Return Period)	
Existing	905.62 ft
GOAL	905.50 ft

Upstream Storage	
GOAL:	176 ac-ft

Performance Tracking:	
Project	Status
Sutton Lake Outlet (2021)	Complete
Upstream Storage Status	Acre-feet
2023	
2025	
2027	
2029	
Flood Level Status	feet
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:											
Capital Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
County Ditch 13 Restoration		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Storage & Infiltration Projects*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sutton Lake Outlet Structure*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Restoration & Enhancement		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wetland Banking Program		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cost Share Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Comprehensive Wetland Plan Update	✓				✓						
Feasibility Reports		✓		✓		✓		✓			✓
Regional Stormwater Planning		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Upper Watershed Storage Strategy	✓	✓									
Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Projects in **bold** have the greatest potential to make progress towards achieving the goal.

If the goal has not been achieved by 2027, the following should be explored:

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

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).

Performance Measures:	Submit the Prior Lake Outlet System Annual Operations Report to MNDNR.										
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Biennial Performance Tracking:	
Annual Reports Submitted	Status
2021	Submitted
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:											
Operations & Maintenance Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
PLOC Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Goal RF3*Eliminate/reduce the impact of new development and redevelopment on flooding.*

Performance Measures:	Revised rules are adopted; District Rules effectively enforced
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Biennial Performance Tracking:	
Assess Permit Program	Status
2021	Complete
2023	
2025	
2027	
2029	
Projects	Status
Revised Rules Adopted	Adopted 2022

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Regulation Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Permit Program*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Conservation Easement Program	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
District Rules Updates	✓					✓						✓
District Boundary Revisions	✓	✓										

* Projects in **bold** have the greatest potential to make progress towards achieving the goal.**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.*

Performance Measures:	Updated PCSWMM model.
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Biennial Performance Tracking:	
PCSWMM Updates	Status
2021	Complete
2023	
2025	
2027	
2029	

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

* Projects in **bold** have the greatest potential to make progress towards achieving the goal.**Goal RF5***Assess progress on flood reduction goals and establish an updated flood reduction goal for the next water resources management plan.*

Performance Measures:	Track progress on development of Upper Watershed Storage Strategy; updated flood reduction goal by 2029.
-----------------------	--

Performance Tracking:	
Updated Goals	Status
2029	In Progress

PROJECTS THAT WILL HELP ACHIEVE THE GOAL:												
Planning Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Feasibility Reports		✓		✓		✓		✓		✓		
Upper Watershed Blueprint	✓	✓										
Monitoring Projects	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	
Precipitation & Weather	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PCSWMM Model Update & Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

FINANCIAL REPORT

The 2022 PLSLWD Audit was completed by Abdo and will include both the District's Annual Financial Report and the Independent Auditor's Report on Compliance with Minnesota Legal Compliance Guide for Local Governments for the year ended December 31, 2022. A copy of the 2022 Annual Audit will be available for review on the District website and at the District office after May 9, 2023, when it is scheduled to be approved by the Board of Managers.

2022 FINANCIAL SUMMARY

Values presented in the chart and graph below are unaudited. Please refer to the 2022 Annual Audit for more details, which can be found at www.plslwd.org

2022 Project Expenditures

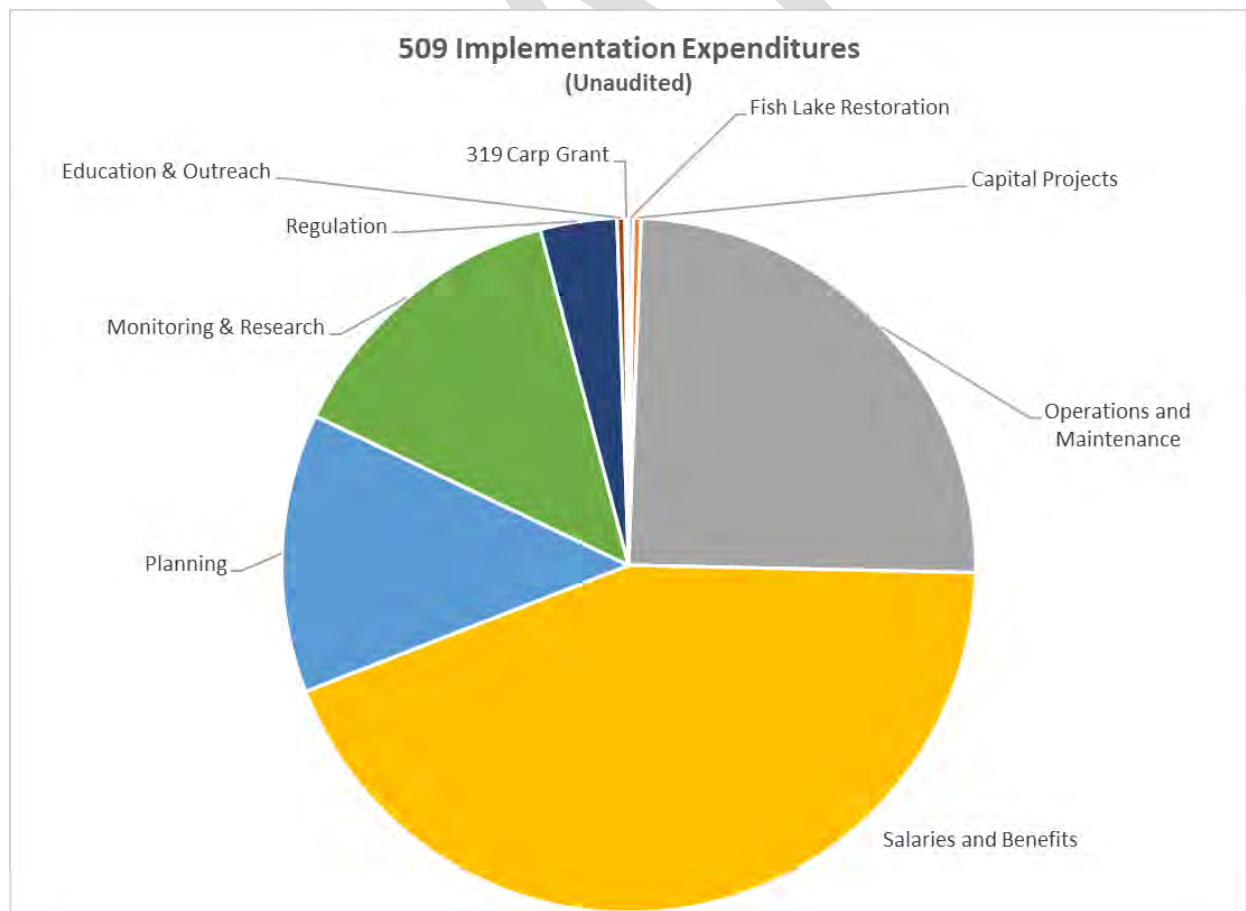
2022 FINANCIAL SUMMARY

Fund	Starting Balance	Approved Budget	Tax Levy Revenue*	Additional Revenue **	Transfers To/(From)	Expenditures	Ending Balance ***
General	\$ 273,746	\$ 246,200	\$ 244,146	\$ 5,854	\$ -	\$ 218,102	\$ 305,644
509 Implementation	1,272,082	1,707,735	1,598,157	118,463	(19,148)	917,149	2,052,405
MOA/JPA Funds	371,656	-	-	216,082	19,148	379,987	226,899
Bond Debt Services	-	-	-	-	-	-	-
Total	\$ 1,917,484	\$1,953,935	\$1,842,303	\$ 340,399	\$ -	\$ 1,515,238	\$2,584,948

* Tax levy revenues shown are actual tax levy dollars collected. The 2022 tax levy was \$1,848,935.

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

*** Ending balance is not audited, and subject to change with year end adjustments and accruals.



GRANTS

Grants obtained by the District that were active in 2022 were as follows:

- *Metro Watershed Based Implementation Funding – Lower Minnesota River South Watershed Area*
Goal: Conduct two feasibility studies to determine suitability for possible future projects.
Funding Source: BWSR
Total Grant Amount: \$39,575
Effective: April 14, 2021 to December 31, 2023
- *Watershed-based Implementation Funding grant*
Goal: Utilize integrated pest management principles to effectively manage the common carp population and aquatic vegetation to reduce the levels of phosphorus in several District lakes and wetlands including Spring Lake, Prior Lake, Pike Lake, the Geis wetland and the Northwoods wetland. The District's Farmer-Led Council held two meetings for the District's agricultural community to discuss new and innovative conservation practices within Scott County. Two feasibility studies were conducted to determine suitability for possible future projects.
Funding Source: BWSR
Total Grant Amount: \$185,000
Effective: May 15, 2019 to December 31, 2022
- *Fish Lake Shoreline & Prairie Restoration Project grant*
Goal: Enhance the shoreline and reconstruct a prairie on Fish Lake at Spring Lake Town Hall.
Funding Source: Conservation Legacy Partners through the DNR
Total Grant Amount: \$13,800
Effective: April 4, 2019 to June 30, 2022
- *Sutton Lake Outlet Structure Project grant*
Goal: Install outlet structure on Sutton Lake to control high flows and reduce downstream flooding.
Funding Source: DNR – Flood Damage Reduction grant
Total Grant Amount: \$207,000
Effective: July 1, 2020 to December 30, 2022

2023 WORK PLAN

The following is a summary of implementation activities planned to be completed in 2023 and the amount budgeted for that activity.

Implementation Fund	\$2,220,900
General Fund	\$252,200

CAPITAL PROJECTS

In 2023 the District does not have any capital projects slated.

OPERATIONS AND MAINTENANCE

The Cost Share program and Farmer-Led Council will be continued. Operation and maintenance of the ferric chloride facility will continue. The District will be performing a study to solicit a consultant to evaluate the lifespan of the existing ferric chloride tank and to better plan for its replacement. Ideally, work on the ferric chloride plant would begin in 2023. Aquatic vegetation treatment may occur in Fish, Prior, and Spring Lakes, depending upon the survey reports. Aquatic point intercept vegetation surveys will be performed on three District lakes and ponds in 2023. Vegetation maintenance will continue at the District's Spring Lake parcel restoration site. The District will continue to perform AIS inspections at boat launches on Spring, Upper Prior, Lower Prior and Fish Lakes.

The Carp Management Program will continue with its three main components: track, block, and remove. The carp will be tracked using PIT tags, radio tags, and visual observations. The District plans to stock bluegills in two wetlands where carp are known to spawn to reduce carp reproductive success. The District will attempt to remove a significant population of carp from Spring and Upper Prior Lakes in 2023.

PLANNING

The District will move forward with projects identified in the Upper Watershed, including finishing up feasibility studies for one water quality project (Swamp IESF), and two flood storage projects. Pending landowner agreement, two feasibility studies (Sutton IESF, and Spring Lake West IESF and Wetland Bank) for water quality will be carried forward to design and permitting. Additionally, a lake management plan (Fish Lake) will be updated to confirm the source of phosphorus loading and inform future management.

MONITORING AND RESEARCH

The District will continue its monitoring program in 2023, which includes stream chemistry monitoring, flow monitoring, lake quality, lake level, plant surveys, and plant density monitoring. The

District will also continue the migration of its water quality database to the new WISKI database. This will increase reliability of the database and efficiency in the data pipeline.

REGULATION

Annual conservation easement inspections will be performed. New conservation easements will be established through permitting activity. The District will track and compile MS4 data to include in the 2023 Annual Report. Construction inspections for existing and new permits will continue to occur.

The District will seek to establish equivalency MOAs with partnering LGUs to reduce permitting burden on the District and permittees.

EDUCATION AND OUTREACH

The District will continue its education and outreach program to meet the requirements of its MS4 permit and improve understanding of local water resources and practices among all stakeholders in the District. The District will continue working with the Scott County Clean Water Education Program and will be participating in public outreach and education opportunities. Updating the website and writing articles for submittal to local newspapers will continue. The full 2023 Education and Outreach plan is available on the District website.

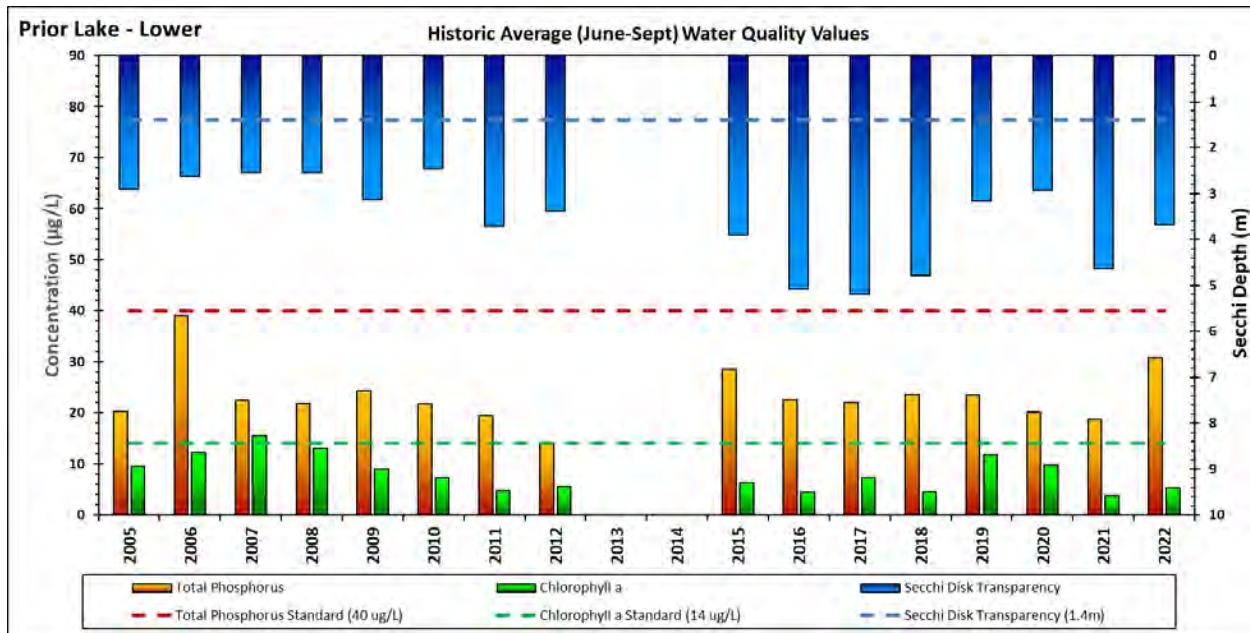
PRIOR LAKE OUTLET CHANNEL

Recurring annual operations such as inspections and vegetation management will continue in 2023. The District will proceed with soliciting bids for consultants to prepare construction documents in 2023 and potentially solicit construction bids. Projects and other maintenance will be discussed and decided upon by the Technical Advisory Committee and the Cooperators (Memorandum of Agreement) members.

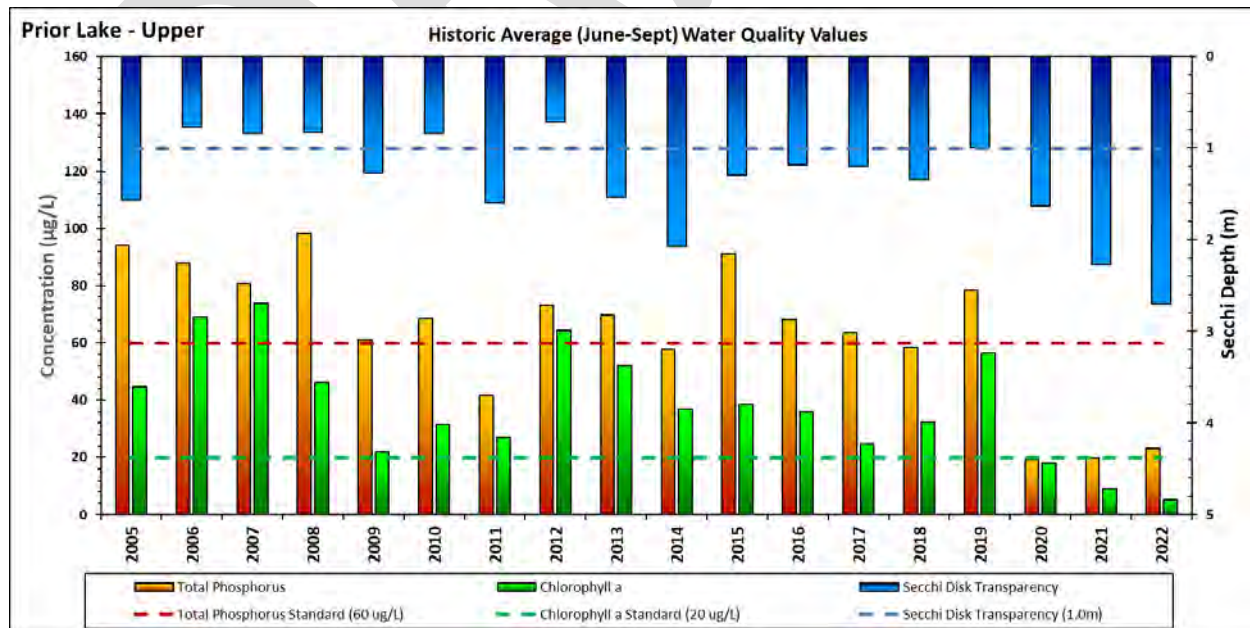
WATER QUALITY GRAPHS

The following graphs indicate the status of the District's monitoring efforts on District lakes since 2004.

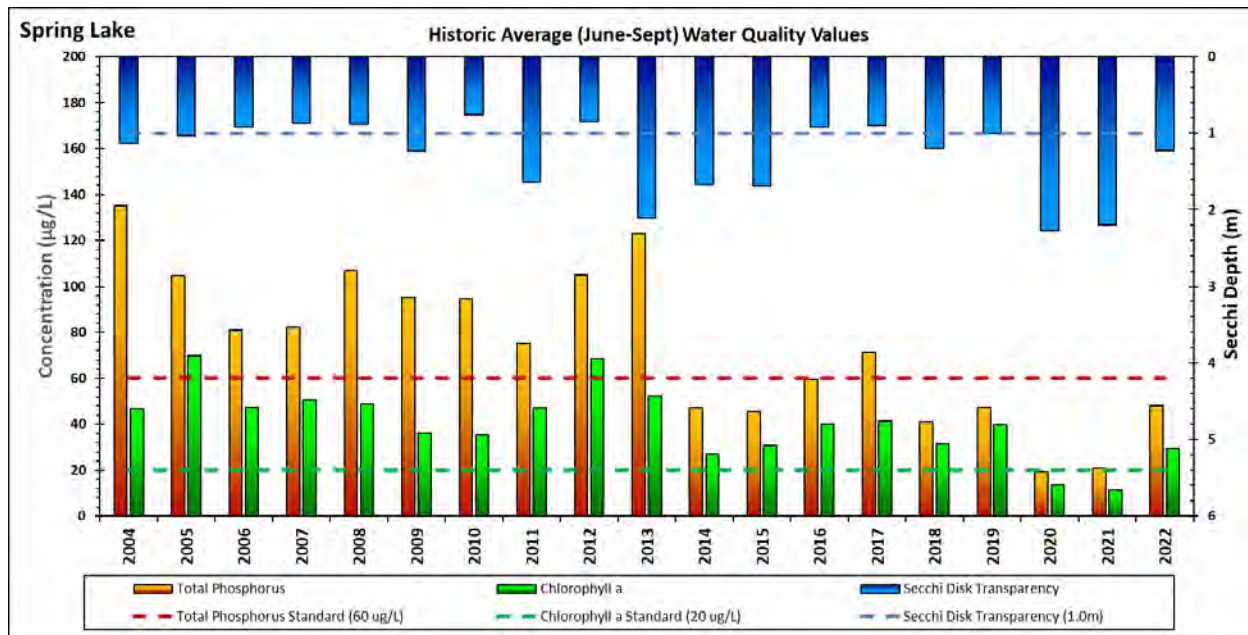
Lower Prior Lake



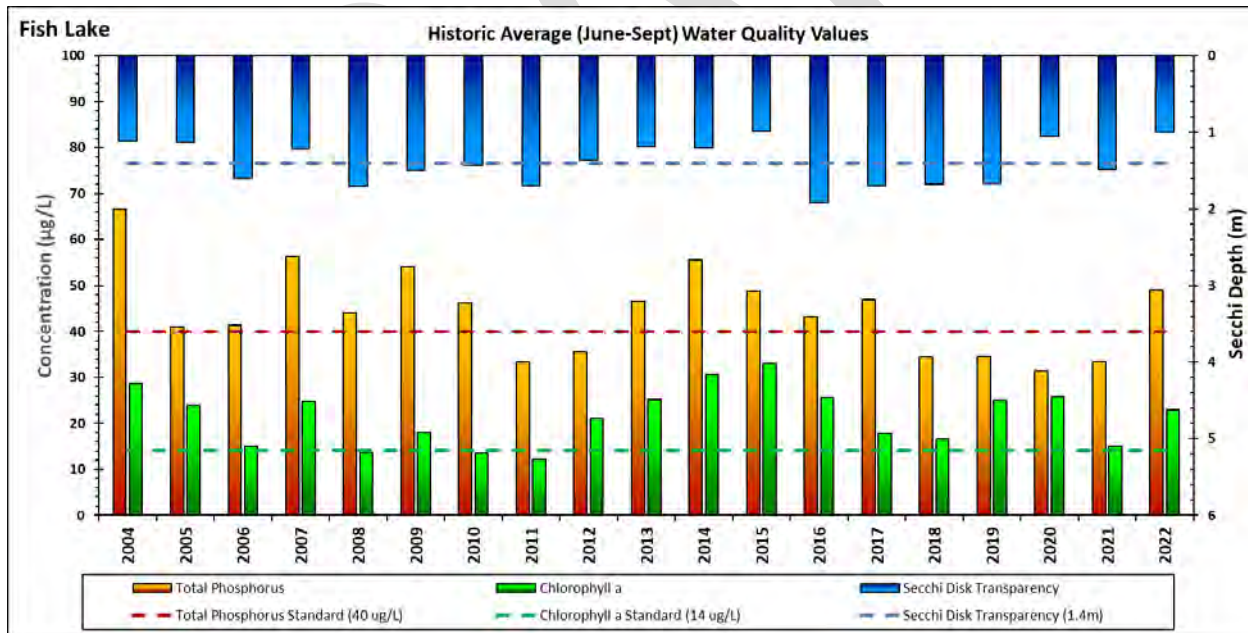
Upper Prior Lake



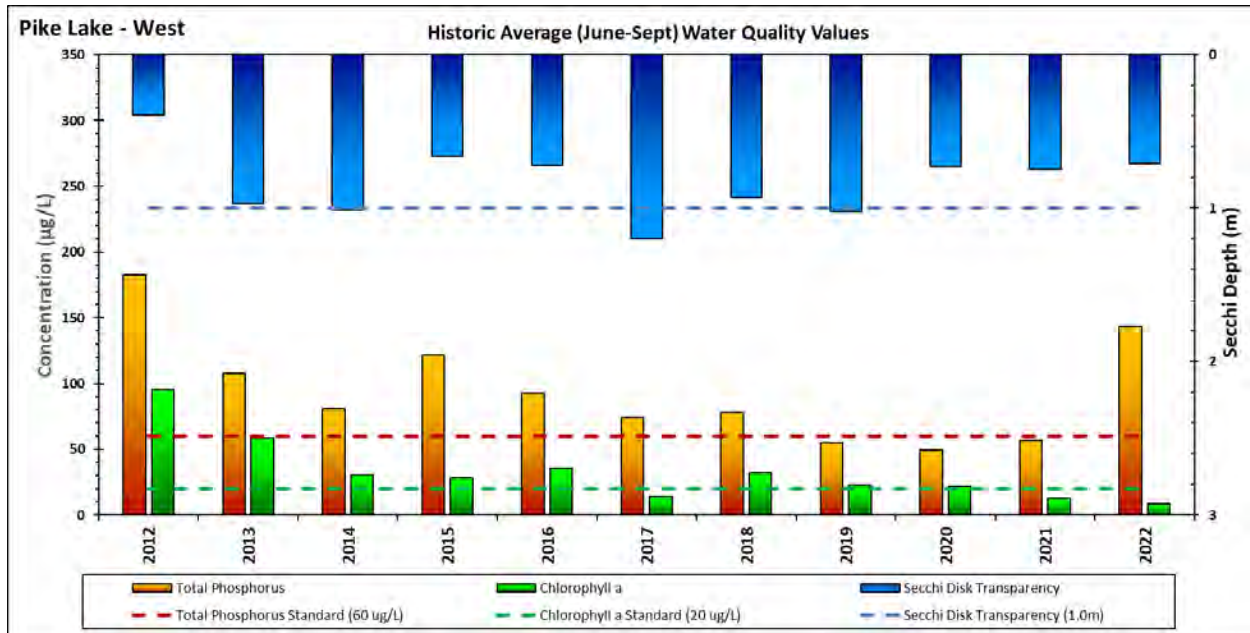
Spring Lake



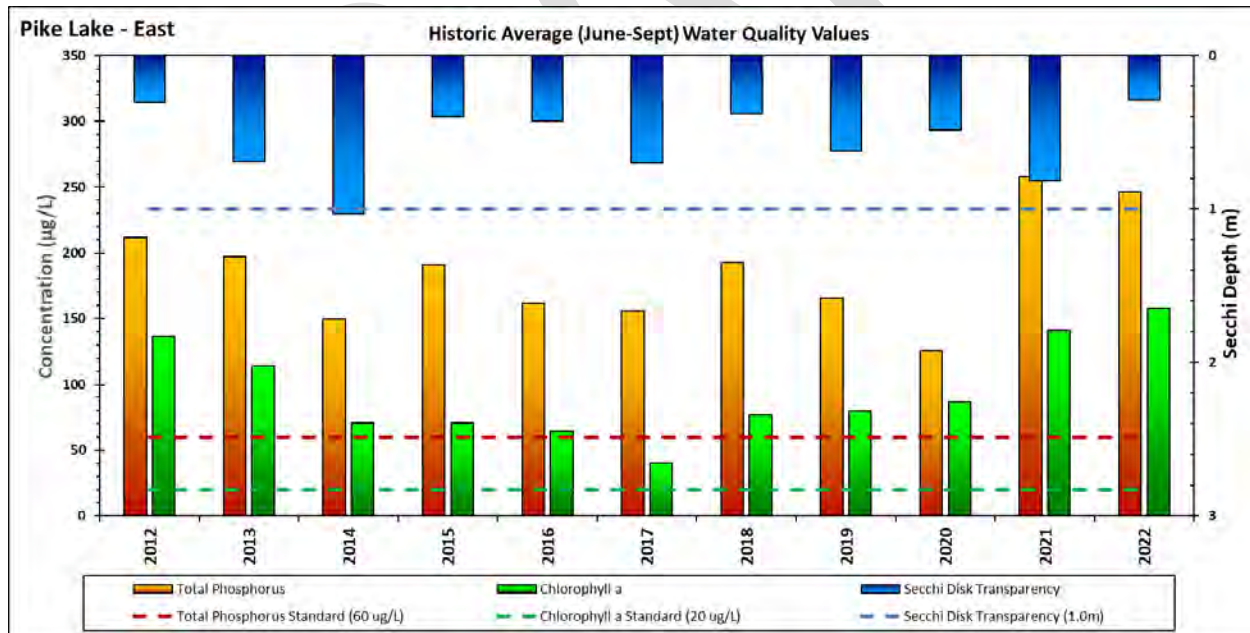
Fish Lake



Pike Lake - West



Pike Lake - East



PLSLWD Board Staff Report

April 5, 2023


**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT**

Subject | Resolution 23-368: Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648-Permitting and Compliance, and
Resolution 23-369: Amending the 2023 Budget, 611-Fish Management, Rough Fish Removal Budget Line Item

Board Meeting Date | April 11, 2023

Item No: 4.6

Prepared By | Joni Giese, District Administrator

Attachments | 1) Resolution 23-368: Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648-Permitting and Compliance
2) Resolution 23-369: Amending the 2023 Budget, 611-Fish Management, Rough Fish Removal Budget Line Item
3) 2023 Budget with Resolution Adjustments

Proposed Action | Approval of Resolution 23-368: Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648-Permitting and Compliance, and
Approval of Resolution 23-369: Amending the 2023 Budget, 611-Fish Management, Rough Fish Removal Budget Line Item

Background

The Board of Managers adopted the Prior Lake-Spring Lake Watershed District 2023 budget on December 13, 2022.

Discussion

Within the 2023 budget adopted by the Board of Managers on December 13, 2022, the 509 Implementation Fund, 570 – 573 Program Salaries and Benefits budget item included funds to cover the salaries and benefits of a Permit Coordinator position. The District no longer intends to hire a Permit Coordinator, but rather has contracted with Scott SWCD to perform permitting activities for the District. Resolution 23-368: Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648-Permitting and Compliance will reallocate funds from the Salaries and Benefits budget line item to the 648- Permitting and Compliance budget item to cover the cost of Scott SWCD permitting services.

The approved 2022 Budget included \$12,000 for a backpack electrofishing unit under the 611-Fish Management, Rough Fish Removal budget line item. The purchase of the unit was delayed from 2022 and the 2023 budget for 611-Fish Management, Rough Fish Removal does not have adequate funds available to cover the cost of the backpack unit. Given the backpack electrofishing unit is an important piece of equipment to advance the District's carp management goals, the Board of Managers on February 14, 2023, authorized the purchase of the backpack electrofishing unit using District reserve funds. Resolution 23-369 Amending the 2023 Budget, 611 – Fish Management, Rough Fish Removal Budget Line Item increases the budget for 611 – Fish Management, Rough Fish Removal to cover the cost of the backpack electrofishing unit.

Recommendation

Staff recommends the Board of Managers approve of Resolution 23-368 and Resolution 23-369.



Resolution 23-368

Amending the 2023 Budget to Reclass Funds from 509-Implementation Fund, 570 – 573 Program Salaries and Benefits to 648 – Permitting and Compliance

WHEREAS, Within the 2023 budget adopted by the Board of Managers on December 13, 2022, the 509 Implementation Fund, 570 – 573 Program Salaries and Benefits budget item included funds to cover the salaries and benefits of a Permit Coordinator position; AND

WHEREAS, the Board of Managers on February 14, 2023, approved the District entering into professional services agreement with Scott SCWD that included fees in the amount of \$49,000 to assist the District with permitting activities; AND

WHEREAS, the District does not intend to hire a Permit Coordinator, but rather have Scott SWCD perform permitting activities for the District and the fees associated with Scott SWCD contract are less than were budgeted for the Permit Coordinator position in the 2023 budget;

THEREFORE, BE IT RESOLVED the 509 Implementation Fund, 570 – 573 Program Salaries and Benefits budget line item be reduced by \$49,000, resulting in an amended 509 Implementation Fund, 570 – 573 Program Salaries and Benefits budget line item of \$492,900, and correspondingly, the 648 – Permitting and Compliance budget line item be increased by \$49,000, resulting in an amended 648 – Permitting and Compliance budget line item of \$79,000.

The question was called on the adoption of the Resolution and there were ___ yeas and ___ nays as follows:

	<u>Yea</u>	<u>Nay</u>	<u>Absent</u>
Boyles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burnett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Morkeberg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tofanelli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Upon vote, the chair declared the resolution adopted.

It is hereby certified that the Board of the Prior Lake-Spring Lake Watershed District adopted this Resolution at a duly convened meeting of the Board held on the 10th day of May 2022, and that such Resolution is in full force and effect on this date, and that such Resolution has not been modified, amended, or rescinded since its adoption.

Ben Burnett, Secretary

Dated: April 11, 2023

Res. 23-368
April 2023



Resolution 23-369

Amending the 2023 Budget, 611 – Fish Management, Rough Fish Removal Budget Line Item

WHEREAS, the approved 2022 Budget included \$12,000 for a backpack electrofishing unit under the 611-Fish Management, Rough Fish Removal budget line item; AND

WHEREAS, District staff found a suitable unit at an estimated cost of \$8,400, but the unit purchase was delayed from 2022 as staff attempted to secure grant funding to assist in the purchase; AND

WHEREAS, the 2023 Budget for 611-Fish Management, Rough Fish Removal does not have adequate funds available to cover the cost of the backpack unit; AND

WHEREAS, the unit is a valuable piece of equipment to advance the District's carp management goals, the Board of Managers on February 14, 2023, authorized the purchase of the backpack electrofishing unit using District reserve funds.

THEREFORE, BE IT RESOLVED the 611-Fish Management, Rough Fish Removal budget line item be increased by \$8,900 for the final cost of the unit, funded by District reserve funds, resulting in an amended 611-Fish Management, Rough Fish Removal budget line item of \$102,900.

The question was called on the adoption of the Resolution and there were __ yeas and __ nays as follows:

	<u>Yea</u>	<u>Nay</u>	<u>Absent</u>
Boyles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Burnett	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loney	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Morkeberg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tofanelli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Upon vote, the chair declared the resolution adopted.

It is hereby certified that the Board of the Prior Lake-Spring Lake Watershed District adopted this Resolution at a duly convened meeting of the Board held on the 10th day of May 2022, and that such Resolution is in full force and effect on this date, and that such Resolution has not been modified, amended, or rescinded since its adoption.

Ben Burnett, Secretary

Dated: April 11, 2023

Res. 23-369
April 2023

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT
2023 Budget- Board Adopted (12-13-2022)

[illegible]

2023 Budget with Resolution Adjustments

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT
2023 Budget - Board Adopted (12-13-2022)

Program Element		2023 Source of Funds				Adjustments		2023 Budget (as ammended)
						#1	#2	
		2023 Levy	Budget Reserve	Funds/Fees	2023 Budget	Resolution 23-368	Resolution 23-369	
	Implementation Fund							
	Revenues							
	Property Taxes	\$ 1,670,736	-	-	\$ 1,670,736	\$ -	\$ -	\$ 1,670,736
	Grants/Fees	-	-	\$ 120,664	120,664	-	-	120,664
	Interest	-	-	67,200	67,200	-	-	67,200
	Budget Reserves	-	\$ 362,300	-	362,300	-	8,900	371,200
	Total Revenues	\$ 1,670,736	\$ 362,300	\$ 187,864	\$ 2,220,900	\$ -	\$ 8,900	\$ 2,229,800
	Expenditures							
	Program Salaries and Benefits (not JPA/MOA)	\$ 541,900	\$ -	\$ -	\$ 541,900	\$ (49,000)	\$ -	\$ 492,900
Water Qual	611 Farmer-led Council	\$ 54,000	\$ -	\$ -	\$ 54,000	\$ -	\$ -	\$ 54,000
Water Qual	611 Cost-Share Incentives	58,000	-	-	58,000	-	-	58,000
Water Qual	611 Highway 13 Wetland, FeCl system & Desilt, O&M	30,800	-	67,200	98,000	-	-	98,000
Water Qual	611 Fish Management, Rough Fish Removal	94,000	-	-	94,000	-	8,900	102,900
Water Qual	611 Spring Lake Demonstration Project Maintenance	1,200	-	-	1,200	-	-	1,200
Water Qual	611 Alum Internal Loading Reserve	220,000	-	-	220,000	-	-	220,000
Water Qual	611 Fish Stocking	3,000	-	-	3,000	-	-	3,000
Water Qual	637 District Monitoring Program	81,000	-	-	81,000	-	-	81,000
Water Qual	626 Planning and Program Development	17,500	-	-	17,500	-	-	17,500
Water Qual	626 Fish Lake Management Plan Update	30,404	-	50,896	81,300	-	-	81,300
Water Qual	626 LGU Plan Review	4,000	-	-	4,000	-	-	4,000
Water Qual	626 Engineering not for programs	15,000	-	-	15,000	-	-	15,000
Water Qual	626 Debt Issuance Planning	10,000	-	-	10,000	-	-	10,000
Water Qual	648 Permitting and Compliance	25,000	-	5,000	30,000	49,000	-	79,000
Water Qual	648 Update MOAs with cities & county	10,000	-	-	10,000	-	-	10,000
Water Qual	648 BMP and Easement Inventory & Inspections	9,500	-	500	10,000	-	-	10,000
Water Qual	626 Upper Watershed Blueprint	122,332	362,300	39,868	524,500	-	-	524,500
Water Qual	626 District Plan Update	2,500	-	-	2,500	-	-	2,500
	WQ TOTAL	788,236	362,300	163,464	1,314,000	49,000	8,900	1,371,900
Water Storage	550 District-wide Hydraulic & Hydrologic model	5,000	-	-	5,000	-	-	5,000
	WS TOTAL	5,000	-	-	5,000	-	-	5,000
AIS	611 Aquatic Vegetation Mgmt	5,600	-	9,400	15,000	-	-	15,000
AIS	637 Automated Vegetation Monitoring (BioBase)	2,000	-	-	2,000	-	-	2,000
AIS	637 Aquatic Vegetation Surveys	5,500	-	-	5,500	-	-	5,500
AIS	637 Boat inspections on Spring, Upper & Lower Prior	17,000	-	15,000	32,000	-	-	32,000
	AIS TOTAL	30,100	-	24,400	54,500	-	-	54,500
Ed & Out	652 Education and Outreach Program	40,000	-	-	40,000	-	-	40,000
	E&O TOTAL	40,000	-	-	40,000	-	-	40,000
	PLOC Contribution	185,500	-	-	185,500	-	-	185,500
	Debt Payment Reserve	80,000	-	-	80,000	-	-	80,000
	Total Implementation Fund	\$ 1,670,736	\$ 362,300	\$ 187,864	\$ 2,220,900	\$ -	\$ 8,900	\$ 2,229,800
	Net Change in Fund Balance Implementation Fund	-	-	-	-	-	-	-

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT
Financial Report - Cash Basis
March 1, 2023 Through March 31, 2023

Reflects bills paid through March 31, 2023

Program Element	2023 Source of Funds				2023 Actual Results		
	2023 Levy	Budget Reserve	Grant Funds/Fees	2023 Budget	March 2023	YTD	YTD % of Budget
	General Fund (Administration)						
	Revenues						
Property Taxes	\$ 249,200	\$ -	\$ -	\$ 249,200	\$ -		0%
Grants	-	-	-	-	-	-	#DIV/0!
Interest	-	-	3,000	3,000	2,562	2,562	85%
Other	-	-	-	-	-	-	#DIV/0!
Total Revenues	\$ 249,200	\$ -	\$ 3,000	\$ 252,200	2,562	2,562	1%
	Expenditures						
Administrative Salaries and Benefits	\$ 138,000	\$ -	\$ -	\$ 138,000	22,809	33,778	24%
703 - Telephone, Internet & IT Support	13,200	-	3,000	16,200	1,274	3,588	22%
702 - Rent	28,300	-	-	28,300	2,318	9,270	33%
706 - Office Supplies	9,000	-	-	9,000	110	854	9%
709 - Insurance and Bonds	14,200	-	-	14,200	-	6,470	46%
670 - Accounting	31,000	-	-	31,000	3,039	6,014	19%
671 - Audit	9,000	-	-	9,000	-	-	0%
903 - Fees, Dues, and Subscriptions	1,500	-	-	1,500	259	297	20%
660 - Legal (not for projects)	5,000	-	-	5,000	1,295	1,295	26%
General Fund (Administration) Expenditures	\$ 249,200	\$ -	\$ 3,000	\$ 252,200	31,104	61,566	24%
Net Change in General Fund	-	-	-	-	(28,541)	(59,004)	

PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

2023 Budget

March 1, 2023 Through March 31, 2023

Program Element		2023 Source of Funds			
		2023 Levy	Budget Reserve	Funds/Fees	2023 Budget
	Implementation Fund				
	Revenues				
	Property Taxes	\$ 1,670,736	\$ -	\$ -	\$ 1,670,736
	Grants/Fees	-	-	120,664	120,664
	Interest	-	-	67,200	67,200
	Sales/Other	-	-	-	-
	Budget Reserves	-	\$ 362,300	-	362,300
	Total Revenues	\$ 1,670,736	\$ 362,300	\$ 187,864	\$ 2,220,900
	Expenditures				
	Program Salaries and Benefits (not JPA/MOA)	\$ 541,900	\$ -	\$ -	\$ 541,900
Water Qual	550 Public Infrastructure Partnership Projects	\$ -	\$ -	\$ -	\$ -
Water Qual	611 Farmer-led Council	54,000	-	-	54,000
Water Qual	611 Cost-Share Incentives	58,000	-	-	58,000
Water Qual	611 Highway 13 Wetland, FeCl system & Desilt, O&M	30,800	-	67,200	98,000
Water Qual	611 Fish Management, Rough Fish Removal	94,000	-	-	94,000
Water Qual	611 Spring Lake Demonstration Project Maintenance	1,200	-	-	1,200
Water Qual	611 Alum Internal Loading Reserve	220,000	-	-	220,000
Water Qual	611 Fish Stocking	3,000	-	-	3,000
Water Qual	637 District Monitoring Program	81,000	-	-	81,000
Water Qual	626 Planning and Program Development	17,500	-	-	17,500
Water Qual	626 Fish Lake Management Plan Update	30,404	-	50,896	81,300
Water Qual	626 LGU Plan Review	4,000	-	-	4,000
Water Qual	626 Engineering not for programs	15,000	-	-	15,000
Water Qual	626 Debt Issuance Planning	10,000	-	-	10,000
Water Qual	648 Permitting and Compliance	25,000	-	5,000	30,000
Water Qual	648 Update MOAs with cities & county	10,000	-	-	10,000
Water Qual	648 BMP and easement inventory & inspections	9,500	-	500	10,000
Water Qual	626 Upper Watershed Blueprint	122,332	362,300	39,868	524,500
Water Qual	626 District Plan Update	2,500	-	-	2,500
	WQ TOTAL	\$ 788,236	\$ 362,300	\$ 163,464	\$ 1,314,000
Water Storage	550 District-wide Hydraulic & Hydrologic model	\$ 5,000	\$ -	\$ -	\$ 5,000
	WS TOTAL	\$ 5,000	\$ -	\$ -	\$ 5,000
AIS	611 Aquatic Vegetation Mgmt	5,600	-	\$ 9,400	\$ 15,000
AIS	637 Automated Vegetation Monitoring (BioBase)	\$ 2,000	-	-	2,000
AIS	637 Aquatic Vegetation Surveys	5,500	-	-	5,500
AIS	637 Boat inspections on Spring, Upper & Lower Prior	17,000	-	15,000	32,000
	AIS TOTAL	30,100	-	24,400	54,500
Ed & Out	652 Education and Outreach Program	\$ 40,000	\$ -	\$ -	\$ 40,000
	E&O TOTAL	\$ 40,000	\$ -	\$ -	\$ 40,000
	PLOC Contribution	\$ 185,500	\$ -	\$ -	\$ 185,500
	Debt Payment Reserve	80,000	-	-	80,000
	Total Implementation Fund	\$ 1,670,736	\$ 362,300	\$ 187,864	\$ 2,220,900
	Net Change in Fund Balance Implementation Fund	-	-	-	-

Reflects bills paid through March 31, 2023

2023 Actual Results		
March 2023	YTD	YTD % of Budget
-	-	0%
41,403	41,403	34%
(354)	10,386	15%
2,000	2,346	#DIV/0!
-	-	0%
43,049	54,135	2%
37,992	90,337	17%
-	-	#DIV/0!
954	973	2%
-	-	0%
41	106	0%
11,267	11,502	12%
-	-	0%
-	-	0%
-	-	0%
1,042	1,271	2%
2,670	3,424	20%
-	-	0%
-	-	0%
693	3,860	26%
-	-	0%
863	2,868	10%
674	674	7%
-	-	0%
263	1,554	0%
-	-	0%
18,467	26,231	2%
-	-	0%
-	-	0%
-	-	0%
-	-	0%
-	-	0%
-	-	0%
15	15	0%
\$ 15	\$ 15	0%
185,421	185,421	100%
-	-	0%
241,896	302,005	14%
(198,846)	(247,870)	

	Grant Funds/Fees Anticipated				
Water Qual	611 Farmer-led Council (SWCD)			-	-
Water Qual	611 Farmer-led Council (BWSR Grant)			\$ -	\$ -
	Interest Income (general fund & Implementation fund)			\$ 70,200	\$ 70,200
	648 New Easement Acquisition Fees			5,000	5,000
Water Qual	648 Easement Amendment/violations fees			500	500
	626 UWB (BWSR Lower MN River South (WBIF-grant)			3,958	3,958
	Fish Lake Mgmt Plan & Swamp IESF Feas. ('23 WBIF Grant)			82,806	82,806
	Spring Lake Twship Contribution (Fish Lake Mgmt Plan)			4,000	4,000
	550 S&I Sutton Lake Outlet (DNR Flood Hazard Grant)			-	-
	AIS Grant for Upper Prior Lake (DNR Grant)			4,335	4,335
AIS	611 Aquatic Vegetation Mgmt. (Scott County)			20,065	20,065
	Total Grant Funds/Fees Anticipated			\$ 190,864	\$ 190,864

PLSLWD Monthly Treasurers Report

Treasurer: Christian Morkeberg

Account balances as of 03/31/2023

4M Fund (Checking Account)	\$	1,494,891
4M Plus Account	\$	1,172,957
Total Uncleared Transactions	\$	-
SUBTOTAL	\$	2,667,848

RESTRICTED/COMMITTED FUNDS

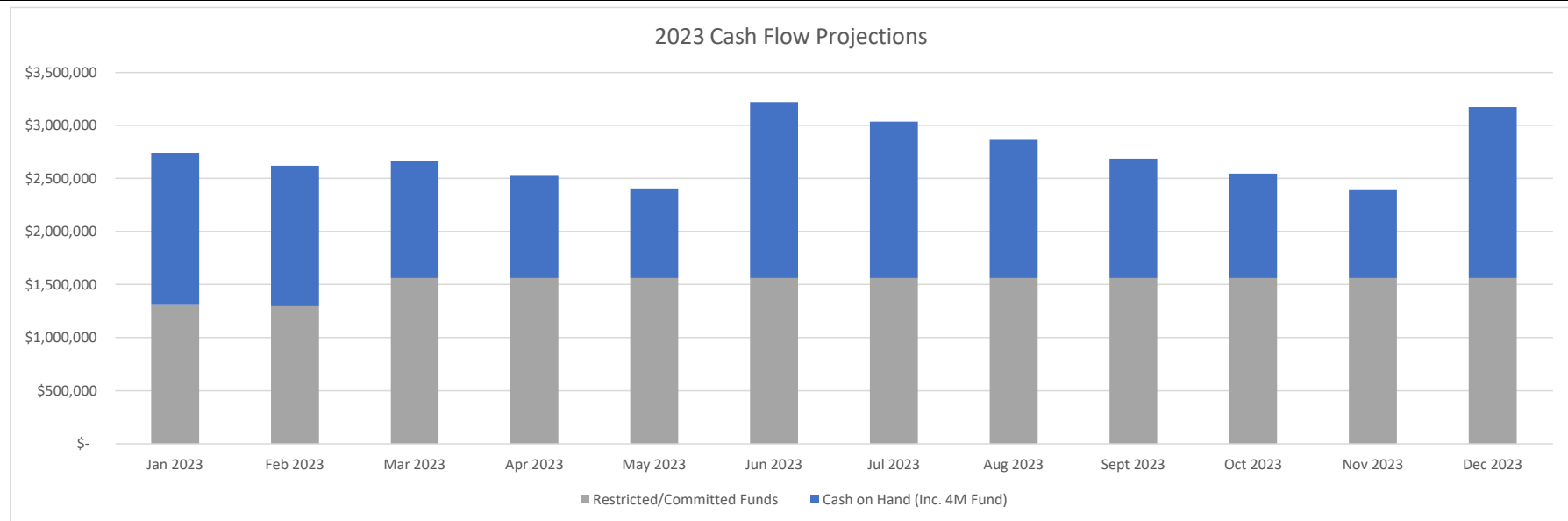
Restricted - Permit Deposits, etc. (350 & 360)	\$	125,493
Restricted - PLOC Contingency Reserve (850)	\$	260,000
Restricted - PLOC O&M Funds (830)	\$	232,765
Committed - Alum Internal Loading Reserve	\$	480,000
Committed - Upper Watershed Blueprint Fund Balance	\$	362,300
Committed - Debt Payment	\$	100,000
TOTAL DISTRICT/PLOC RESTRICTED OBLIGATIONS	\$	1,560,558

Available cash at end of March 2023	\$	1,107,290
--	-----------	------------------

44.8% of 2023 Budget

Cash Flow Chart

Month (End of Month)	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sept 2023	Oct 2023	Nov 2023	Dec 2023
Cash on Hand (Inc. 4M Fund)	\$1,431,758	\$1,320,069	\$1,107,290	\$ 963,392	\$ 844,249	\$1,659,314	\$1,475,187	\$1,303,337	\$1,125,450	\$ 984,343	\$ 829,223	\$1,612,750
Restricted/Committed Funds	\$1,308,754	\$1,298,440	\$1,560,558	\$1,560,558	\$ 1,560,558	\$1,560,558	\$1,560,558	\$1,560,558	\$1,560,558	\$1,560,558	\$1,560,558	\$1,560,558
Total Cash on Hand	\$2,740,512	\$2,618,509	\$2,667,848	\$2,523,950	\$ 2,404,807	\$3,219,872	\$3,035,745	\$2,863,895	\$2,686,008	\$2,544,901	\$2,389,781	\$3,173,308



PLSL Watershed District

Starting cash on hand

Cash Minimum Balance Alert \$ 150,000

	Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sept 2023	Oct 2023	Nov 2023	Dec 2023	Total
Cash on hand (beginning of month)	\$ 2,822,334	\$ 2,740,512	\$ 2,618,509	\$ 2,667,848	\$ 2,523,950	\$ 2,404,807	\$ 3,219,872	\$ 3,035,745	\$ 2,863,895	\$ 2,686,008	\$ 2,544,901	\$ 2,389,781	

Cash Receipts

Property Tax Levy	\$ 15,415	\$ -	\$ -	\$ -	\$ -	\$ 959,968	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 959,968	\$ 1,935,351
BWSR WBIF	-	-	41,403	-	-	-	-	-	-	33,122	-	-	74,525
BWSR BWF - Lower MN River South	-	-	-	-	-	-	-	-	-	-	-	-	-
DNR Flood Hazard Mitigation Grant	-	-	-	-	-	-	-	-	-	-	-	-	-
Grants - Other	-	-	-	-	-	-	-	4,335	-	-	20,065	-	24,400
PLOC Contributions	-	-	287,598	-	33,717	-	-	-	-	-	-	-	321,315
Interest Income	5,631	5,108	5,749	5,850	5,850	5,850	5,850	5,850	5,850	5,850	5,850	5,850	69,138
Other Receipts	-	-	2,000	-	500	1,000	1,000	1,000	1,000	1,000	-	4,000	11,500
Total Cash Receipts	\$ 21,046	\$ 5,108	\$ 336,750	\$ 5,850	\$ 40,067	\$ 966,818	\$ 6,850	\$ 11,185	\$ 6,850	\$ 39,972	\$ 25,915	\$ 969,818	\$ 2,436,229
Total Cash Available	\$ 2,843,380	\$ 2,745,620	\$ 2,955,259	\$ 2,673,698	\$ 2,564,017	\$ 3,371,625	\$ 3,226,722	\$ 3,046,930	\$ 2,870,745	\$ 2,725,980	\$ 2,570,816	\$ 3,359,599	

Cash Paid Out

Salaries and Per Diems	\$ 28,453	\$ 38,504	\$ 60,801	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 56,658	\$ 637,683
Office Expense, Audit, Accounting	7,787	3,932	7,957	9,738	19,199	11,743	15,967	8,024	9,727	6,069	6,024	11,274	117,441
PLSLWSD Program Costs	66,307	74,361	24,771	70,100	70,100	70,100	105,100	105,100	105,100	105,100	105,100	105,100	1,006,339
PLOC Contribution	-	-	185,421	-	-	-	-	-	-	-	-	-	185,421
PLOC Operations	321	10,314	8,461	13,252	13,252	13,252	13,252	13,252	13,252	13,252	13,252	13,259	138,371
Debt Service	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal	\$ 102,868	\$ 127,111	\$ 287,411	\$ 149,748	\$ 159,209	\$ 151,753	\$ 190,977	\$ 183,034	\$ 184,737	\$ 181,079	\$ 181,034	\$ 186,291	\$ 2,085,255
Cash on Hand (end of month)	\$ 2,740,512	\$ 2,618,509	\$ 2,667,848	\$ 2,523,950	\$ 2,404,807	\$ 3,219,872	\$ 3,035,745	\$ 2,863,895	\$ 2,686,008	\$ 2,544,901	\$ 2,389,781	\$ 3,173,308	

Prior Lake-Spring Lake Watershed District Balance Sheet

	3/31/2023 Balance
Cash/Investments	
4M Fund/US Bank	\$ 2,667,848
	<u>\$ 2,667,848</u>
Receivables	
PLOC - Contributions	33,717
Other Receivables	-
	<u> </u>
Total Assets	<u><u>\$ 2,667,848</u></u>
Liabilities	
Permit Security	\$ 122,666
Permit Deposits	2,827
	<u>125,493</u>
Fund Balance	
Restricted	492,765
Committed	942,300
Unassigned	1,107,290
	<u>2,542,355</u>
Total Liabilities and Fund Balance	<u><u>\$ 2,667,848</u></u>

PLSLWD
Cost Analysis
Year to Date 03/31/2023

	Year to Date 03/31/2023	
	Amount	% of total
<u>Program staff costs</u>	<u>90,337</u>	<u>24.8%</u>
<u>Consultants</u>		
EOR	7,458	
WSB & Associates	2,525	
	<u>9,983</u>	<u>2.7%</u>
Hard costs, exclusive of prog staff & consultant costs	16,263	
Permitting Revenue	-	
	<u>16,263</u>	<u>4.5%</u>
<u>Overhead and Administration</u>		
Staff costs	33,778	
Audit/Accounting/Legal	7,309	
Other admin overhead	20,479	
	<u>61,566</u>	<u>16.9%</u>
<u>Bonds payments</u>	<u>-</u>	<u>0.0%</u>
<u>PLOC Contribution</u>	<u>185,421</u>	<u>51.0%</u>
Expenses excluding PLOC expenses per manager report	<u>363,571</u>	<u>100.0%</u>

No assurance is provided on this statement.

This statement omits required disclosures.

This statement is prepared on the cash basis of accounting.



PRIOR LAKE SPRING LAKE WATERSHED DISTRICT

WORKSHOP MEETING MINUTES

Tuesday, March 14, 2023

Prior Lake City Hall

4:00 PM

Members Present:

Frank Boyles, Christian Morkeberg, Ben Burnett, (Virtual attendance: Bruce Loney, Matt Tofanelli)

Two PLSLWD managers used interactive technology from the following remote locations that were open and accessible to the public:

Village Watch, Building 4, 6th Floor Lobby
792 Stratton Mountain Access Road
Stratton Mountain, VT

Northwest Regional Library
16089 N Bullard Ave
Surprise, AZ

Staff & Consultants Present:

Joni Giese, District Administrator
Emily Dick, Water Resources Project Manager
Elizabeth Froden, Water Resources Specialist
Paul Nelson, Project Manager – Special Projects
Carl Almer, District Engineer, EOR

Others Present:

Loren Hansen, PLSLWD Citizen Advisory Committee
Jim Fitzsimmons, SWCD
Willie Peters, SWCD
Jody Brennan, Scott County Commissioner
Zach Braid, City of Prior Lake
Maureen Reeder, PLSLWD Citizen Advisory Committee
Christopher Crowhurst, Citizen (Remote)
Lisa Quinn, Spring Lake Township
Wesley Steffens, Spring Lake Association

The meeting was called to order at 4:00 PM. Motion to approve the agenda with change to move “SWCD Potential Partnerships” to third agenda item. Motion to approve by Ben Burnett, Christian Morkeberg- second. All ayes. Motion passes 3-0.

Service to PLSLWD Acknowledgement

District Administrator announced that Water Resources Specialist, Elizabeth Froden has submitted her resignation and will serve her last day this Friday before moving to Capitol Region Watershed District. District Administrator shared her key accomplishments in establishing the WISKI database, carp management efforts, CAC leadership and social media management. Board members shared their appreciation for Elizabeth's employment.

Rules Equivalency MOAs- Status Update

Paul Nelson is assisting the District in the initiative to establish rules equivalency with other LGUs to avoid permitting duplication where rules are equivalent. Old equivalency agreements with LGUs expired with the new Watershed Plan in 2020. Paul has been meeting with City of Prior Lake, city of Savage, and Scott County to establish where there can be rules equivalency agreements. Paul reviewed the ordinances from the other LGUs to see where there are differences. Paul found that City of Prior Lake rules are equivalent, with a few minor differences in Savage and Scott County.

As the rules are equivalent, an equivalency agreement with City of Prior Lake is expected to be presented to the Board for approval in the coming months.

Scott County rules are very close to equivalent but have some areas that differ due to the District's new rules passed in June 2022, such as high value resource areas and wetlands which have additional requirements. It is suspected to be fairly easy to adopt the necessary changes to become equivalent.

City of Savage rules are also fairly close but are missing some of the new additions passed in the District's latest rules relating to developments. Additionally, City of Savage's ordinances are currently being revamped to be more clearly organized and clearly stated, which will be a yearlong process. During this revamp, the District may want to manage its own rules in Savage. If so, before taking back permitting the District should discuss with Savage to maintain collaboration. It is expected that in Savage the District would see 2-3 permits per year or ~\$5,000 of expense. Currently the District is working with Scott SWCD to help assist with managing the District's permits. Additionally, if the District permitted in Savage, it would be able to collect permitting fees to offset the costs of that work.

The District has prepared a draft Memorandum of Agreement (MOA) for reaching and renewing equivalency with LGUs. In the draft MOA, the District recommends restructuring the MOA to be clearer that PLSLWD is not giving up authority to permit but are electing to not exercise permitting authority if the LGUs are effectively permitting their equivalent rules. The MOA also covers MS4 requirements, which are already included in most LGUs rules. The draft MOA also states that LGUs will review and manage their own projects, as agreed in the February Board Workshop. The MOA also states that equivalent LGUs will invite PLSLWD to development review meeting if within the District. The notification process with each LGU is an area that is being clarified and institutionalized.

Currently the draft MOA outlines four points in which the District would choose to act on its authority:

1. When a subdivision has a wetland or watercourse, in order to arrange the conservation easement. Timing nuance: Conservation easement cannot be recorded until after the final plat. The desired approach is to have the signing of the final plat is contingent upon the

District securing all materials needed to record the conservation easement. Mortgage consent can hold up permitting, the District will follow up with legal counsel to see if the development agreement can potentially fill the function of a mortgage consent.

2. If a permit requires a variance. Related discussion: If equivalent LGU is not following rules, PLSLWD would have authority to step in. The District would review permitting activity being performed by the LGU for projects within the District on a quarterly basis.
3. When there is a “public linear project”, essentially a cost cap if the cost is above a reasonable amount for a public project.
4. If someone cannot meet the requirements of stormwater on their project and has to pay into the stormwater impact fund. PLSLWD manages this program, and volume control credits- a program that if a developer builds bigger stormwater management on one development, it can bank credits to use for a future development.
5. Additional item for consideration: Should the District permit or review developments that affect prior lake outlet channel (PLOC)? Initial thoughts are that it is not needed because a portion of the PLOC is in City of Prior Lake who also has an interest in the PLOC, the PLOC MOA may already cover it, additionally the District also has drainage and flowage easements over a majority of the PLOC.

Scott SWCD Potential Partnership Projects- Status Update

Project Manager Emily Dick reviewed two potential projects that the District could partner with Scott SWCD on. One project is a flood storage project with a footprint similar to the Flood Storage Project 5 in the flood storage matrix presented to the Board. The flood storage project will likely require a closed meeting to discuss negotiation terms if the project is selected to move forward. Scott SWCD has Clean Water funding that is available for construction this year. The amounts are still being clarified but at least \$22,000 is available for construction this year. Staff will bring forward more information and a preliminary total budget for consideration in future meetings.

The second project is a stream restoration project which is outlined in the Upper Watershed Blueprint. More details are needed to understand cost sharing with SWCD and projected benefits, and those details will come back to the Board in future meetings as they are developed.

Another potential project partnership was presented by a citizen group that is proposing a pedestrian bridge over the outlet from Ducks Unlimited Wetland to link neighborhoods and improve access to Raymond Park, which overlaps with Flood Storage Project 9. The citizen group would like to understand the District’s willingness to place a bridge footing or a foot trail on the District’s property in that location. The Board expressed general willingness. Additionally, there is potential that a bridge could be built in a manner that supports future retrofit or initial design of a dam to create flood storage at Ducks Unlimited wetland as expressed in the Flood Storage Project 9 concept. Board mentioned it would be worth considering building the bridge for emergency vehicle access to diversify benefits and funding available.

Citizen Advisory Committee (CAC) Board Resolution Request Follow-Up

Board Manager Morkeberg re-presented a request by the Citizen Advisory Committee (CAC) for resolution to support regulation which protects against the ecological impacts of large wakes which was presented at the last Board workshop.

The CAC had outlined the ecological impacts which overlap PLSLWD mission to be broadly classified in three areas: turbidity/erosion, plant and fish life, and aquatic invasive species.

Christian presented information on the DNR “Own your Wake” campaign, which recommends wakes at least 200’ from shoreline and to go slow in shallow water. Locally, the City of Prior Lake, Scott County, State, and DNR regulate on the lakes. Eight years ago, a local committee recommended a no wake zone for 150’ from the shoreline that subsequently was adopted by the City of Prior Lake and Spring Lake Township. Christian expressed that since that discussion, traffic has increased, and boats have become more powerful. Wake boat energy has a longer wave and greater height, with water column impacts descending 16’. It was reported that boat weight, size, and speed affect wake and wave action. Related to the District’s interests, wave action can resuspend phosphorus, pollutants, pesticides, along with “prop wash.” Michigan DNR states that wake boats can negatively affect fisheries and recommends wake boats operate 500’ from docks and shoreline, at least 15’ deep, ballast tanks drained, and community education. It was expressed that ballast tanks increase the risk for the transport of aquatic invasive species.

Spring Lake Association is developing educational materials, focused on existing regulations associated with boat operations.

Christian Morkeberg made a motion to learn about potential degradation of lake water quality and introduction of AIS caused by boating activity. Based on what is learned, PLSLWD will develop, evaluate, and act on options that PLSLWD can perform within the District’s authority and resources. The District will work with agencies and organizations that have expressed interest in working with the PLSLWD to address any identified issues. Ben Burnett seconded motion. Discussion included a potential interest in Paul Nelson, the District’s Special Projects employee investigating this topic. The board wants to be intentional with impacts on staff capacity, and some expressed a scope that wouldn’t have an impact on staff. Board members expressed interest in understanding the impact of boat wakes on alum treatments. It was expressed that any policy should be effective for all power boats. Board members had lots of interest in education, on all lakes. Based on discussion a substitute motion was proposed: “Prior Lake - Spring Lake will continue to monitor research findings associated with power boat activity in relation to lake health. PLSLWD is supportive of preparing an educational piece on the topic of how power boat operations can reduce impacts to lake health.” Christian Morkeberg moved this motion, Ben Burnett seconded. Roll call was conducted for virtual attendees. All ayes.

Citizen Advisory Committee (CAC) Bylaws Follow-Up

The CAC did not meet in February and intends to have a general discussion at their March meeting covering the role and intent of the CAC, as well as identify the ideal cadence and focus of meetings and bylaws. Following this discussion, bylaws review will be continued and informed.

Sutton Lake Management Plan- Status Update

Emily Dick, District Project Manager presented a brief update on the Sutton Lake Management Plan, which received DNR comments. Initially, DNR direction stated the District would need to make “significant cattail removal progress” in order to consider permitting a drawdown. Drawdown would be intended as a tool for revitalizing native submergent plant diversity. However, the most recent comments indicate that the DNR does not see feasible methods for cattail removal, and would consider drawdown without cattail removal. The District and EOR will

work to update the plan accordingly and expect to present for Board approval at the next Board meeting.

PLOC Pipe Lining Funding Request

This agenda item was removed due to time constraints.

Liaison Updates

This agenda item was removed due to time constraints.

Respectfully Submitted,
Emily Dick
4/4/2023

DRAFT



REGULAR MEETING MINUTES

Tuesday, Mar 13th, 2022

Prior Lake City Hall

6:00 PM

Members Present: Frank Boyles, Christian Morkeberg, Ben Burnett

Members Absent: Bruce Loney, Matt Tofanelli

Staff & Consultants Present: Joni Giese, District Administrator
Jeff Anderson, Water Resources Coordinator
Emily Dick, Water Resources Project Manager
Carl Almer, EOR, District Engineer

Others Present: Jody Brennan, Scott County Commissioner
Wesley Steffen, Spring Lake Association
Steve McComas, Blue Water Science
Connor McComas, Blue Water Science
Maureen Reeder, CAC
Lisa Quinn, Spring Lake Township

1.0 CALL TO ORDER & PLEDGE OF ALLEGIANCE:

Meeting was called to order by President Loney at 6:07 pm with everyone present. Everyone recited the Pledge of Allegiance.

2.0 PUBLIC COMMENT

None

3.0 APPROVAL OF AGENDA

Agenda changes:

- Added 4.5 PLOC Pipe Lining Funding Request

Motion to approve amended agenda by Manager Burnett; second by Manager Morkeberg

Motion passed 3-0.

4.0 OTHER OLD/NEW BUSINESS

4.1 Programs & Projects Update

- Jeff Anderson and Emily Dick provided a report of the many staff activities the preceding month, and some upcoming events.

4.2 2022 Aquatic Plant Survey Results Presentation:

- Steve McComas and Connor McComas presented their report.

4.3 AIS Boat Inspections and Waterfront Restoration, LLC Contract

- Two options for the 2022 boat inspection plan were presented by staff:
 - **Option A:** Total budget toward contract boat inspections = \$28,500
 - Number of boat inspection hours = 900 hours (contract value allows maximum of 901 hours)
 - **Option B:** Total budget toward contract boat inspection = \$32,000
 - (\$28,500 boat inspection budget + \$3,500 I-LIDS budget)
 - I-LIDS was canceled, reallocate funds
 - Number of boat inspection hours = 1,000 hours (contract value allows maximum of 1,012 hours)
- Motion to approve Option B by Manager Burnett; seconded by Manager Morkeberg; motion passed 3-0.

4.4 Resolution 23-367: Authorization to Transfer Funds to the JPA/MOA Fund

- Motion to approve Resolution 23-367 by Manager Morkeberg; seconded by Manager Burnett; motion passed 3-0.

4.5 PLOC Pipe Lining Funding Request

- Manager Boyles and Administrator Giese presented an update on a PLOC lining funding request to MN legislators (Bakeberg and Pratt): 2023 funding is unlikely; there is a higher chance for securing funding in future legislative sessions.

5.0 TREASURER'S REPORT

5.1 Treasurer Morkeberg summarized the financial information contained in the packet including:

- Monthly Financial Reports
 - Financial Report
 - Treasurers Report
 - Cash Flow Projections
- Draft Year End 2022 Financial Report

6.0 CONSENT AGENDA

- 6.1 Meeting Minutes – February 14, 2023, Board Workshop
- 6.2 Meeting Minutes – February 14, 2023, Board Meeting
- 6.3 Claims List & Visa Expenditures Summary
- 6.4 CLA Master Service Agreement and Statements of Work
- 6.5 Letter of Support for Scott SWCD Grant Application

Motion to approve the consent agenda by Manager Morkeberg; second by Manager Burnett. Motion passed 3-0.

7.0 UPCOMING MEETING/EVENT SCHEDULE:

- Lake Friendly Farm Certification Award Event, Wednesday, March 15, 2023, 12:00 pm (Ridges at Sand Creek)
- CAC Meeting, Thursday, March 30, 2023, 6:30 pm (Prior Lake City Hall – Wagon Bridge Conference Room)
- Board of Managers Workshop, Tuesday, April 11, 2023, 4:00 pm (Prior Lake City Hall – Parkview Conference Room)
- Board of Managers Meeting, Tuesday, April 11, 2023, 6:00 pm (Prior Lake City Hall – Council Chambers)

8.0 ADJOURNMENT

- **Motion to approve by Manager Morkeberg; second by Manager Burnett.**
Motion carried: 3-0.
Meeting adjourned at 7:20 PM.

Respectfully Submitted,
Ben Burnett, PLSLWD Secretary, 4/1/23



CAC Meeting Minutes

Thursday January 26, 2023
6:30-8:00 PM

Attendees:

CAC Members: 6 of 7 members present = X% (≥50%)
☒ Christopher Crowhurst (Chair) ☒ Woody Spitzmueller
☒ Matt Newman ☒ Loren Hanson (Vice Chair)
☒ Maureen Reeder ☐ Curtis Witt
☒ Ron Hoffmeyer
 Staff: Elizabeth Frödén, Emily Dick
 Board members: Christian Morkeberg

Subcommittee Meetings 6:00 to 6:30

Subcommittee Report Backs 6:30

- Water Storage and Flooding
 - Maureen reported
 - Completed year end report, which includes different goals set in the last year such as advocating for a flood study, pushing for particular flood projects, research and forest preservation incentives, research regulations for comparative watershed districts, prioritizing funding opportunities.
- Lake Life and Water Quality
 - Matt reported
 - Options for phosphorus removal: ~\$480/lb of phosphorus removal for alum. Aquatic harvesting removal ~\$550/lb of phosphorus removal for the first cutting, ~\$275/lb of phosphorus for the second cutting. Efficiency gets better with more cuttings because grows back more densely.
 - Cattail harvesting is an easy way to keep phosphorus out of the lake. Potential for setting a lottery for farmers to get the cut cattail on their land.
- Shoreline Restoration
 - Loren reported
 - Focused on education element. Ideas included simplifying DNR language to a one-pager and providing plant recommendations.

CAC Business 6:45

- Motion to add to agenda- to discuss subcommittee structure, and staffing
- Approval of the agenda: motion Matt / second Woody / passed
- Approval of December CAC meeting minutes: motion Matt / second Woody / passed
- Review of Board Meetings (December & January)
 - Flood Storage projects were prioritized. Based on feedback from CAC and Staff Project 6 and 1 were the first selected. Will start with landowner outreach.
 - We are pursuing work to request bids to line the pipe of the outlet structure so the pipe can get closer to the full capacity of the pipe.
 - Working with Paul Nelson to arrange equivalency with the Cities for permitting regulations, we can have a streamlined process.
 - Focus on relationships and partnerships with agencies and townships and SWCD. Woody mentioned- Shannon Lothammer- old District Administrator, is now

Executive Director at DNR

Maureen mentioned- Board could have legislative efforts to increase funding to staffing at DNR

- Vote on CAC Chair, Vice Chair, and Secretary for 2023
 - Christopher as CAC Chair, Loren as Vice Chair, Ron as Secretary: motion Matt / second Woody / passed
- Discuss amendments to CAC bylaws
 - Added a minimum of 3 members to form a subcommittee
 - Term limits- two 3-year terms and then take a year off
 - Small wording updates
 - Adds language on criteria for selection of members
 - Adds language to add conduct language and conflict of interest
 - Adds language with attendance guidelines
 - Motion to approve: Ron / second Woody / passed
- Staff Project Updates
 - Waiting for DNR comments on Buck Wetland and Sutton Lake Management Plan
 - WBIF workplans were approved for Fish Lake Management Plan and Swamp IESF
 - Carp are starting to aggregate, but not quite in place to seine yet
 - Flood storage projects 1 and 6, outreach is beginning.
- Actions to discuss next meeting:
 - Legislative action discussion
 - Subcommittee structure
 - Staffing

Motion to adjourn at 8:00pm – motion Matt / second Loren / approved

4/11/2023

4-11-2023 PLSLWD Board Meeting Materials

Prior Lake Spring Lake Watershed District Claims list for Invoice Payments due for the prior month

Page 197

Managers will consider approving this claims list - Staff payroll and Manager per diems have already been paid via ADP. After the managers vote, two Managers will sign checks within three days of the meeting for approve claims. Then, staff will US mail checks (written on the Sterling State Bank) to the claims list parties. Staff will request that all vendors provide information on their invoices to fit into the categories below

Vendor	Invoice Link	Description	Amount
1. Watershed District Projects (excluding staff payroll)			
Minnesota Pollution Control Agency	X	Wastewater Individual Annual Permit Fee	\$ 1,230.00
Matt Tiffany	X	FLC speaker fees	\$ 408.73
Halltech Aquatic Research Inc.	X	Electro-Fisher Backpack - pymt installment 1	\$ 8,305.50
Halltech Aquatic Research Inc.	X	Electro-Fisher Backpack - pymt installment 2	\$ 516.03
WSB	X	Carp Management	\$ 7,100.96
ESRI	X	ArcGIS Desktop Maintenance	\$ 1,010.00
Smith Partners	X	Permitting	\$ 336.70
EOR	X	FeCl Site & Desilt Pond Monitoring	\$ 445.50
		General Engineering	\$ 1,027.00
		Buck Lake East Wetland Enhancement Feasibility	\$ 180.03
		Fish Lake Management Plan Update	\$ 1,429.25
		Sutton Lake IESF Follow-up Assessment	\$ 3,750.44
		Flood Mitigation Engagement Assistance	\$ 1,910.25
		Permitting	\$ 3,019.50
		Subtotal	\$ 30,669.89
2. Outlet Channel - JPA/MOA (excluding staff payroll)			
EOR		PLOC Engineering Assistance - segment 1 PLOC lining	\$ 351.75
		PLOC Engineering Assistance - seg 4 whisp waters	\$ 396.00
		PLOC Engineering Assistance - MPOP and drainage	\$ 247.50
		PLOC Sediment pond survey	\$ 86.50
		PLOC Vegetation/Stability Inspections	\$ 259.50
Smith Partners		PLOC Lining WSB contract language	\$ 310.80
		Subtotal	\$ 1,652.05
3. Payroll, Office and Overhead			
ADP Manager Per Diems			\$ 380.22
ADP Staff Payroll			\$ 33,428.21
ADP Taxes & Benefits			\$ 22,224.96
Fidelity Investments			\$ 223.07
Lively JSA			\$ 173.07
NCPERS	X	Life Insurance Premiums - April	\$ 80.00
Reliance Standard	X	April LTD and STD Premiums	\$ 706.14
HealthPartners	X	Health Insurance Premiums	\$ 9,600.57
City of Prior Lake	X	Rent (May 2023)	\$ 2,317.50
CLA	X	Monthly Accounting - 11 hours	\$ 1,350.00
		Technology and Client Support Fee	\$ 221.53
		Audit Preparation - 15.5 hours	\$ 2,502.50
		Census Form - 1 hour	\$ 250.00
		Monthly Payroll processing	\$ 328.00
Smith Partners		Contract language review (CLA) and Open Mtg guidance	\$ 621.60
Abdo	X	Audit	\$ 8,500.00
Rymark	X	March Billing (10 workstations)	\$ 986.25
Metro Sales	X	Contract base rate 3/8-4/7/2023	\$ 155.00
Metro Sales	X	Contract usage 12/30-3/29	\$ 459.37
VISA	X	February - March Billing	\$ 3,053.81
		Subtotal	\$ 87,561.80
		TOTAL	\$ 119,883.74

Prior Lake-Spring Lake Watershed District
VISA Transactions 2/24/2023-3/23/2023

Trans Date	Merchant Name	Amount	Receipt Link	Staff Approval	Class	Customer	Expense	Description
2/24/2023	AMAZON Prime	\$139.00	x	Patty Dronen	405 General Fund		903 Dues/Fees/Subscriptions	Yearly subscription
2/26/2023	ADOBE	\$110.54	x	Patty Dronen	626 Planning	Planning and Program Development	903 Dues/Fees/Subscriptions	Software
2/27/2023	HARVEST	\$864.00	x	Patty Dronen	626 Planning	Planning and Program Development	903 Dues/Fees/Subscriptions	Software
2/28/2023	Ironclad Storage	\$220.00	x	Jeff Anderson	611 Operations & Maintenance	Fish Mgmt - Equipment, Storage & Maintenance	876 Field Equipment & Maintenance	Equipment Storage
3/1/2023	Charlie's On Prior	\$33.76	x	Joni Giese	626 Planning	Planning and Program Development	902 Meals and Lodging	Staff review/lunch
3/1/2023	North American Lake Management	\$40.00	x	Emily Dick	626 Planning	Training	904 Staff & Board Training	Conference on drawdown for shallow lake r
3/3/2023	Dashlane	\$540.00	x	Patty Dronen	626 Planning	Planning and Program Development	903 Dues/Fees/Subscriptions	Software
3/5/2023	OFFICE MAX	\$27.87	x	Emily Dick	405 General Fund		706 Office Supplies	Pens & Notebooks
3/5/2023	OFFICE MAX	\$38.86	x	Emily Dick	611 Operations & Maintenance	Farmer-led Council	901 Mailings	Postcards
3/5/2023	VERIZON	\$28.08	x	Jeff Anderson	648 Regulation	LGU Permit & Inspections	876 Field Equipment & Maintenance	Cell data
		\$30.16		Jeff Anderson	PLOC 839	PLOC Equipment & Maintenance	876 Field Equipment & Maintenance	Cell data
		\$25.08		Jeff Anderson	611 Operations & Maintenance	Fish Mgmt - Equipment, Storage & Maintenance	876 Field Equipment & Maintenance	Cell data
3/9/2023	Charlie's On Prior	\$42.52	x	Joni Giese	626 Planning	Planning and Program Development	902 Meals and Lodging	Staff review/lunch
3/12/2023	MICROSOFT AZURE	\$4.50	x	Patty Dronen	626 Planning	Planning and Program Development	903 Dues/Fees/Subscriptions	
3/13/2023	WAL-MART	\$3.83	x	Patty Dronen	405 General Fund		710 Office Expense Other	5th Anniversary card - Jeff
3/13/2023	AMAZON	\$51.84	x	Emily Dick	626 Planning	Planning and Program Development	876 Field Equipment & Maintenance	Boots for field work- other pair was wrong s
3/14/2023	JIMMY JOHNS	\$68.20	x	Patty Dronen	626 Planning	Planning and Program Development	902 Meals and Lodging	
3/16/2023	CARLSON HDWE	\$26.36	x	Jeff Anderson	PLOC 831	PLOC Equipment & Maintenance	876 Field Equipment & Maintenance	Hardware for level monitoring
3/14/2023	AMAZON	\$6.99	x	Patty Dronen	405 General Fund		710 Office Expense Other	Gift for Elizabeth that was returned
3/20/2023	HOLIDAY	\$73.12	x	Shauna Capron	637 Monitoring & Research	Equipment Storage & Maintenance	801 Gas, Mileage	Truck gas
3/21/2023	AMAZON	\$53.69	x	Shauna Capron	637 Monitoring & Research	Lake Chemistry Monitoring	876 Field Equipment & Maintenance	Batteries and standards for sonde
3/20/2023	AMAZON	\$138.98	x	Shauna Capron	637 Monitoring & Research	Lake Chemistry Monitoring	876 Field Equipment & Maintenance	pH standard
3/20/2023	XYLEM	\$438.37	x	Shauna Capron	637 Monitoring & Research	Lake Chemistry Monitoring	876 Field Equipment & Maintenance	Turbidity standard
	Finance charge	\$48.06		Patty Dronen	405 General Fund		903 Dues/Fees/Subscriptions	Finance Charge
	TOTAL	\$3,053.81						



Subject | League of Minnesota Cities Liability Coverage Waiver

Board Meeting Date | April 11, 2022

Item No. 6.5

Prepared By | Joni Giese, District Administrator

Attachments | League of Minnesota Cities Liability Coverage – Waiver Form

Action | Vote to not waive monetary limits on municipal tort liability

Background

As a requirement of League of Minnesota Cities Insurance Trust coverage, PLSLWD must annually sign and submit a liability coverage waiver form. In 2020, 2021 and 2022, PLSLWD chose not to waive the monetary limits on municipal tort liability.

Recommendation

Staff recommends that the managers vote to select “The member **DOES NOT WAIVE** the monetary limits on municipal tort liability established by Minn. Stat. § 466.04” on the waiver form.



LIABILITY COVERAGE WAIVER FORM

Members who obtain liability coverage through the League of Minnesota Cities Insurance Trust (LMCIT) must complete and return this form to LMCIT before their effective date of coverage. Email completed form to your city's underwriter, to psstech@lmc.org, or fax to 651.281.1298.

The decision to waive or not waive the statutory tort limits must be made annually by the member's governing body, in consultation with its attorney if necessary.

Members who obtain liability coverage from LMCIT must decide whether to waive the statutory tort liability limits to the extent of the coverage purchased. The decision has the following effects:

- *If the member does not waive the statutory tort limits*, an individual claimant could recover no more than \$500,000 on any claim to which the statutory tort limits apply. The total all claimants could recover for a single occurrence to which the statutory tort limits apply would be limited to \$1,500,000. These statutory tort limits would apply regardless of whether the member purchases the optional LMCIT excess liability coverage.
- *If the member waives the statutory tort limits and does not purchase excess liability coverage*, a single claimant could recover up to \$2,000,000 for a single occurrence (under the waive option, the tort cap liability limits are only waived to the extent of the member's liability coverage limits, and the LMCIT per occurrence limit is \$2,000,000). The total all claimants could recover for a single occurrence to which the statutory tort limits apply would also be limited to \$2,000,000, regardless of the number of claimants.
- *If the member waives the statutory tort limits and purchases excess liability coverage*, a single claimant could potentially recover an amount up to the limit of the coverage purchased. The total all claimants could recover for a single occurrence to which the statutory tort limits apply would also be limited to the amount of coverage purchased, regardless of the number of claimants.

Claims to which the statutory municipal tort limits do not apply are not affected by this decision.

LMCIT Member Name: Prior Lake-Spring Lake Wat

Check one:

☒ The member **DOES NOT WAIVE** the monetary limits on municipal tort liability established by [Minn. Stat. § 466.04](#).

☐ The member **WAIVES** the monetary limits on municipal tort liability established by [Minn. Stat. § 466.04](#), to the extent of the limits of the liability coverage obtained from LMCIT.

Date of member's governing body meeting: 4/11/23

Signature: _____

Position: Vice President

PLSLWD Board Staff Report

April 5, 2023


**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT**
Subject | Blue Water Science Aquatic Plan Survey Contract

Board Meeting Date | April 11, 2023

Item No: 6.6

Prepared By | Jeff Anderson, Water Resources Coordinator

Attachments | 2023 BWS Aquatic Plant Surveys Contract

Action | Motion to approve the 2023 BWS Aquatic Plant Surveys Contract

Background

Steve McComas with Blue Water Science (BWS) has worked with PLSLWD since approximately 2004 conducting aquatic invasive vegetation assessments and surveys. Curlyleaf Pondweed (CLP) surveys are conducted on Tier 1 Lakes including Fish, Spring, Upper Prior, and Lower Prior Lakes to delineate the projected growth for prospective treatments. Post treatment assessments are later conducted to determine effectiveness and at the same time survey the early growth of Eurasian Watermilfoil (EWM). Summer point intercept surveys (PI) are used to track native plant population on lakes which often coincides with lake health. In 2023, PIs are planned for Spring, Upper Prior, and Sutton Lakes, all of which have had significant projects in recent years leading to transformed plant communities. Survey (delineation), assessment, and PI work are requirements to be submitted for the Upper Prior and Spring Lake (Spring Lake Association-EWM) DNR AIS Control Grants.

Discussion

The District will be over budget on aquatic vegetation surveys due contracting with BWS to perform a point intercept survey for Sutton Lake, but staff believes it is important to research and understand how drought conditions (natural drawdown) impacted Sutton Lake's vegetation response, which could inform future drawdown activities associated with the Sutton Lake Management Plan. While the District will be over budget on aquatic vegetation surveys, the District will be under budget for aquatic vegetation management. The overall cost associated with the two budget items associated with the proposed contract (611 Aquatic Plant Management and 637-Aquatic Plant Surveys) will remain below the approved 2023 levy.

Action Requested

District staff is requesting that the Board of Managers approve the attached 2022 BWS Aquatic Plant Surveys Contract written not to exceed \$14,500.

**AGREEMENT BETWEEN
PRIOR LAKE - SPRING LAKE WATERSHED DISTRICT and
Blue Water Science**

2023 Aquatic Plant Surveys for PLSLWD

This agreement is entered into by the Prior Lake - Spring Lake Watershed District, a public body with powers set forth at Minnesota Statutes chapters 103B and 103D (PLSLWD), and Blue Water Science, a Minnesota corporation (CONSULTANT). In consideration of the terms and conditions set forth herein and the mutual exchange of consideration, the sufficiency of which hereby is acknowledged, PLSLWD and CONSULTANT agree as follows:

1. Scope of Work

CONSULTANT will perform the work described in the March 3, 2023 Scope of Services attached as Exhibit A (the "Services"). Exhibit A is incorporated into this agreement and its terms and schedules are binding on CONSULTANT as a term hereof. PLSLWD, at its discretion, in writing may at any time suspend work or amend the Services to delete any task or portion thereof. Authorized work by CONSULTANT on a task deleted or modified by PLSLWD will be compensated in accordance with paragraphs 5 and 6. Time is of the essence in the performance of the Services.

2. Independent Contractor

CONSULTANT is an independent contractor under this agreement. CONSULTANT will select the means, method and manner of performing the Services. Nothing herein contained is intended or is to be construed to constitute CONSULTANT as the agent, representative or employee of PLSLWD in any manner. Personnel performing the Services on behalf of CONSULTANT or a subcontractor will not be considered employees of PLSLWD and will not be entitled to any compensation, rights or benefits of any kind from PLSLWD.

3. Subcontract and Assignment

CONSULTANT will not assign, subcontract or transfer any obligation or interest in this agreement or any of the Services without the written consent of PLSLWD and pursuant to any conditions included in that consent. PLSLWD consent to any subcontracting does not relieve CONSULTANT of its responsibility to perform the Services or any part thereof, nor in any respect its duty of care, insurance obligations, or duty to hold harmless, defend and indemnify under this agreement.

4. Duty of Care; Indemnification

CONSULTANT will perform the Services with due care and in accordance with national standards of professional care. CONSULTANT will defend PLSLWD, its board members, employees and agents from any and all actions, costs, damages and liabilities of any nature arising from; and hold each such party harmless, and indemnify it, to the extent due to: (a) CONSULTANT's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CONSULTANT to PLSLWD. For any claim subject to this paragraph by an employee of CONSULTANT or a subcontractor, the indemnification obligation is not limited by

a limitation on the amount or type of damages, compensation or benefits payable by or for CONSULTANT or a subcontractor under workers' compensation acts, disability acts or other employee benefit acts.

5. Compensation

PLSLWD will compensate CONSULTANT for the Services on a hourly basis and reimburse for direct costs in accordance with Exhibit A. Invoices will be submitted monthly for work performed during the preceding month. Payment for undisputed work will be due within 30 days of receipt of invoice. Direct costs not specified in Exhibit A will not be reimbursed except with prior written approval of the PLSLWD administrator. Subcontractor fees and subcontractor direct costs, as incurred by CONSULTANT, will be reimbursed by PLSLWD at the rate specified in PLSLWD's written approval of the subcontract.

The total payment for each task will not exceed the amount specified for that task in Exhibit A. The total payment for the Services will not exceed \$14,500. Total payment in each respect means all sums to be paid whatsoever, including but not limited to fees and reimbursement of direct costs and subcontract costs, whether specified in this agreement or subsequently authorized by the administrator.

CONSULTANT will maintain all records pertaining to fees or costs incurred in connection with the Services for six years from the date of completion of the Services. CONSULTANT agrees that any authorized PLSLWD representative or the state auditor may have access to and the right to examine, audit and copy any such records during normal business hours.

6. Termination; Continuation of Obligations

This agreement is effective when fully executed by the parties and will remain in force until 3/31/2024 unless earlier terminated as set forth herein.

PLSLWD may terminate this agreement at its convenience, by a written termination notice stating specifically what prior authorized or additional tasks or services it requires CONSULTANT to complete. CONSULTANT will receive full compensation for all authorized work performed, except that CONSULTANT will not be compensated for any part performance of a specified task or service if termination is due to CONSULTANT's breach of this agreement.

Insurance obligations; duty of care; obligations to defend, indemnify and hold harmless; and document-retention requirements will survive the completion of the Services and the term of this agreement.

7. No Waiver

The failure of either party to insist on the strict performance by the other party of any provision or obligation under this agreement, or to exercise any option, remedy or right herein, will not waive or relinquish such party's rights in the future to insist on strict performance of any provision, condition or obligation, all of which will remain in full force and affect. The waiver of either party on one or more occasion of any provision or obligation of this agreement will not be construed as a waiver of any subsequent breach of the same provision or obligation, and the consent or

approval by either party to or of any act by the other requiring consent or approval will not render unnecessary such party's consent or approval to any subsequent similar act by the other.

Notwithstanding any other term of this agreement, PLSLWD waives no immunity in tort. This agreement creates no right in and waives no immunity, defense or liability limit with respect to any third party.

8. Insurance

At all times during the term of this Agreement, CONSULTANT will have and keep in force the following insurance coverages:

- A. General: \$1.5 million, each occurrence and aggregate, covering CONSULTANT's ongoing and completed operations on an occurrence basis and including contractual liability.
- B. Professional liability: \$1.5 million each claim and aggregate. Any deductible will be CONSULTANT's sole responsibility and may not exceed \$50,000. Coverage may be on a claims-made basis, in which case CONSULTANT must maintain the policy for, or obtain extended reporting period coverage extending, at least three (3) years from completion of the Services.
- C. Automobile liability: \$1.5 million combined single limit each occurrence coverage for bodily injury and property damage covering all vehicles on an occurrence basis.
- D. Workers' compensation: in accordance with legal requirements applicable to CONSULTANT.

CONSULTANT will not commence work until it has filed with PLSLWD a certificate of insurance documenting the required coverages and naming PLSLWD as an additional insured for general liability, along with a copy of the additional insured endorsement establishing coverage for CONSULTANT's ongoing and completed operations as primary coverage on a noncontributory basis. The certificate will name PLSLWD as a holder and will state that PLSLWD will receive written notice before cancellation, nonrenewal or a change in the limit of any described policy under the same terms as CONSULTANT.

9. Compliance With Laws

CONSULTANT will comply with all applicable laws and requirements of federal, state, local and other governmental units in connection with performing the Services and will procure all licenses, permits and other rights necessary to perform the Services.

In performing the Services, CONSULTANT will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status or national origin; and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

10. Data and Information

All data and information obtained or generated by CONSULTANT in performing the Services, including documents in hard and electronic copy, software, and all other forms in which the data and information are contained, documented or memorialized, are the property of PLSLWD. CONSULTANT hereby assigns and transfers to PLSLWD all right, title and interest in: (a) its copyright, if any, in the materials; any registrations and copyright applications relating to the materials; and any copyright renewals and extensions; (b) all works based on, derived from or incorporating the materials; and (c) all income, royalties, damages, claims and payments now or hereafter due or payable with respect thereto, and all causes of action in law or equity for past, present or future infringement based on the copyrights. CONSULTANT agrees to execute all papers and to perform such other proper acts as PLSLWD may deem necessary to secure for PLSLWD or its assignee the rights herein assigned.

PLSLWD may immediately inspect, copy or take possession of any materials on written request to CONSULTANT. On termination of the agreement, CONSULTANT may maintain a copy of some or all of the materials except for any materials designated by PLSLWD as confidential or non-public under applicable law, a copy of which may be maintained by CONSULTANT only pursuant to written agreement with PLSLWD specifying terms.

11. Data Practices; Confidentiality

If CONSULTANT receives a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) CONSULTANT possesses or has created as a result of this agreement, it will inform PLSLWD immediately and transmit a copy of the request. If the request is addressed to PLSLWD, CONSULTANT will not provide any information or documents, but will direct the inquiry to PLSLWD. If the request is addressed to CONSULTANT, CONSULTANT will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with PLSLWD and its legal counsel before replying. Nothing in the preceding sentence supersedes CONSULTANT's obligations under this agreement with respect to protection of PLSLWD data, property rights in data or confidentiality. Nothing in this section constitutes a determination that CONSULTANT is performing a governmental function within the meaning of Minnesota Statutes section 13.05, subdivision 11, or otherwise expands the applicability of the DPA beyond its scope under governing law.

CONSULTANT agrees that it will not disclose and will hold in confidence any and all proprietary materials owned or possessed by PLSLWD and so denominated by PLSLWD. CONSULTANT will not use any such materials for any purpose other than performance of the Services without PLSLWD written consent. This restriction does not apply to materials already possessed by CONSULTANT or that CONSULTANT received on a non-confidential basis from PLSLWD or another party. Consistent with the terms of this section 11 regarding use and protection of confidential and proprietary information, CONSULTANT retains a nonexclusive license to use the materials and may publish or use the materials in its professional activities. Any CONSULTANT duty of care under this agreement does not extend to any party other than PLSLWD or to any use of the materials by PLSLWD other than for the purpose(s) for which CONSULTANT is compensated under this agreement.

12. PLSLWD Property

All property furnished to or for the use of CONSULTANT or a subcontractor by PLSLWD and not fully used in the performance of the Services, including but not limited to equipment, supplies, materials and data, both hard copy and electronic, will remain the property of PLSLWD and returned to PLSLWD at the conclusion of the performance of the Services, or sooner if requested by PLSLWD. CONSULTANT further agrees that any proprietary materials are the exclusive property of PLSLWD and will assert no right, title or interest in the materials. CONSULTANT will not disseminate, transfer or dispose of any proprietary materials to any other person or entity unless specifically authorized in writing by PLSLWD.

Any property including but not limited to materials supplied to CONSULTANT by PLSLWD or deriving from PLSLWD is supplied to and accepted by CONSULTANT as without representation or warranty including but not limited to a warranty of fitness, merchantability, accuracy or completeness. However, CONSULTANT's duty of professional care under paragraph 4, above, does not extend to materials provided to CONSULTANT by PLSLWD or any portion of the Services that is inaccurate or incomplete as the result of CONSULTANT's reasonable reliance on those materials.

13. Notices

Any written communication required under this agreement to be provided in writing will be directed to the other party as follows:

To PLSLWD:

Administrator
Prior Lake - Spring Lake Watershed District
4646 Dakota Street SE
Prior Lake MN 55372

To CONSULTANT:

Steve McComas
Blue Water Science
550 South Snelling Ave
St. Paul, MN 55116

Either of the above individuals may in writing designate another individual to receive communications under this agreement.

14. Choice of Law; Venue

This agreement will be construed under and governed by the laws of the State of Minnesota. Venue for any action will lie in Scott County.

15. Whole Agreement

The entire agreement between the two parties is contained herein and this agreement supersedes all oral agreements and negotiations relating to the subject matter hereof. Any modification of this agreement is valid only when reduced to writing as an amendment to the agreement and signed by the parties hereto. PLSLWD may amend this agreement only by action of the Board of Managers acting as a body.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this agreement.

CONSULTANT

By _____

Date: _____

Its _____

PRIOR LAKE -SPRING LAKE WATERSHED DISTRICT

By _____

Date: _____

Its _____

Exhibit A
Scope of Services

550 South Snelling Ave
St. Paul, MN 55116



651.690.9602
mccomas@pclink.com

Q U O T E

Aquatic Plant Surveys for Lakes in the Spring Lake/Prior Lake Watershed District for 2023

Date: March 3, 2023
To: Jeff Anderson and District Managers, PLSLWD
From: Steve McComas, Blue Water Science

For Professional Services for 2023

Lake	Survey Type / Task	Budget
CLP Assessments and a Spring Lake EWM Delineation		
Fish Lake (173 acres)	CLP meandered delineation survey.	\$800
	CLP meandered assessment survey.	\$800
Spring Lake (592 acres)	CLP meandered delineation survey.	\$1,100
	CLP assessment, EWM delineation, and report. The assessment will be a transect survey to allow comparison to previous transect surveys.	\$1,100
Lower Prior Lake (956 acres)	CLP meandered delineation survey.	\$1,000
	CLP meandered assessment survey and EWM delineation.	\$900
Upper Prior Lake (386 acres)	CLP meandered delineation survey.	\$800
	CLP meandered assessment survey and EWM delineation.	\$700
Summer Point Intercept Surveys		
Sutton Lake (~58 acres)	Point intercept summer survey (50 m spacing between points)	\$1,900
Spring Lake (592 acres)	Point intercept summer survey (50 m spacing between points)	\$2,700
Upper Prior Lake (386 acres)	Point intercept summer survey (100 m spacing between points)	\$2,300
Board Meeting Presentation		
	Presentation at Board Meeting (in 2024)	\$400
Total Quote:		\$14,500

Total Quote: \$14,500

PLSLWD Board Staff Report

March 23, 2023


**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT**
Subject | 2023 Three Rivers Parks District Water Quality Monitoring Contract

Board Meeting Date | April 11, 2023

Item No: 6.7

Prepared By | Jeff Anderson, Water Resources Coordinator

Attachments | 2023 TRPD Contract Agreement

Action | Request approval of contract agreement

Background

Since around 2004, Three Rivers Parks District (TRPD) has been monitoring the water quality on District Lakes. The data collected is used to create trends, assess project and program goals, as well as drive management decisions.

Project Overview

The cost of the project is not to exceed \$20,662.00 and is covered by the 637 – District Monitoring Program budget item. Monitoring includes one sample in March and/or April, bi-weekly sampling from May through September, and one sample in October. All physical measurements and water samples for chemical analyses are obtained from points in either the deepest or centric part of the lake. A multiprobe sonde is used to record temperature, pH, conductivity, and dissolved oxygen profiles at 1-meter intervals. Secchi disk transparency is determined with a black and white 20-cm diameter disk on the shady side of the boat. Total phosphorus (TP), soluble reactive phosphorus (SRP), total nitrogen (TN), Chloride (Cl), and chlorophyll-*a* (Chl-A) concentrations are determined from the surface composite sample for all sampling events. Additional sampling for deep lakes includes TP and SRP collected in the “middle” of the water column directly above the thermocline and a “bottom” sample is collected for TP, SRP, and Cl below the thermocline while remaining above the bottom 0.5 meters to prevent disturbing the sediment. All samples collected except plankton samples are analyzed in house by the TRPD certified laboratory accredited by the Minnesota Pollution Control Agency. Plankton samples will be collected on Upper Prior Lake in 2023.

Action Requested

District staff is requesting that the Board of Managers approve the attached contract agreement for execution by the District Administrator.

**AGREEMENT BETWEEN
PRIOR LAKE - SPRING LAKE WATERSHED DISTRICT and
Three Rivers Park District**

Water Quality Monitoring Services Agreement - 2023

This agreement is entered into by the Prior Lake - Spring Lake Watershed District, a public body with powers set forth at Minnesota Statutes chapters 103B and 103D (PLSLWD), and Three Rivers Park District, a Minnesota corporation (CONSULTANT). In consideration of the terms and conditions set forth herein and the mutual exchange of consideration, the sufficiency of which hereby is acknowledged, PLSLWD and CONSULTANT agree as follows:

1. Scope of Work

CONSULTANT will perform the work described in the Scope of Services attached as Exhibit A (the "Services"). Exhibit A is incorporated into this agreement and its terms and schedules are binding on CONSULTANT as a term hereof. PLSLWD, at its discretion, in writing may at any time suspend work or amend the Services to delete any task or portion thereof. Authorized work by CONSULTANT on a task deleted or modified by PLSLWD will be compensated in accordance with paragraphs 5 and 6. Time is of the essence in the performance of the Services.

2. Independent Contractor

CONSULTANT is an independent contractor under this agreement. CONSULTANT will select the means, method and manner of performing the Services. Nothing herein contained is intended or is to be construed to constitute CONSULTANT as the agent, representative or employee of PLSLWD in any manner. Personnel performing the Services on behalf of CONSULTANT or a subcontractor will not be considered employees of PLSLWD and will not be entitled to any compensation, rights or benefits of any kind from PLSLWD.

3. Subcontract and Assignment

CONSULTANT will not assign, subcontract or transfer any obligation or interest in this agreement or any of the Services without the written consent of PLSLWD and pursuant to any conditions included in that consent. PLSLWD consent to any subcontracting does not relieve CONSULTANT of its responsibility to perform the Services or any part thereof, nor in any respect its duty of care, insurance obligations, or duty to hold harmless, defend and indemnify under this agreement.

4. Duty of Care; Indemnification

CONSULTANT will perform the Services with due care and in accordance with national standards of professional care. CONSULTANT will defend PLSLWD, its board members, employees and agents from any and all actions, costs, damages and liabilities of any nature arising from; and hold each such party harmless, and indemnify it, to the extent due to: (a) CONSULTANT's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CONSULTANT to PLSLWD. For any claim subject to this paragraph by an employee of CONSULTANT or a subcontractor, the indemnification obligation is not limited by a limitation on the amount or type of damages, compensation or benefits payable by or for

CONSULTANT or a subcontractor under workers' compensation acts, disability acts or other employee benefit acts.

5. Compensation

PLSLWD will compensate CONSULTANT for the Services on an hourly basis and reimburse for direct costs in accordance with Exhibit A. Invoices will be submitted annually for work performed during the preceding year. Payment for undisputed work will be due within 60 days of receipt of invoice. Direct costs not specified in Exhibit A will not be reimbursed except with prior written approval of the PLSLWD administrator. Subcontractor fees and subcontractor direct costs, as incurred by CONSULTANT, will be reimbursed by PLSLWD at the rate specified in PLSLWD's written approval of the subcontract.

The total payment for the Services will not exceed \$20,662.00. Total payment in each respect means all sums to be paid whatsoever, including but not limited to fees and reimbursement of direct costs and subcontract costs, whether specified in this agreement or subsequently authorized by the administrator.

CONSULTANT will maintain all records pertaining to fees or costs incurred in connection with the Services for six years from the date of completion of the Services. CONSULTANT agrees that any authorized PLSLWD representative or the state auditor may have access to and the right to examine, audit and copy any such records during normal business hours.

6. Termination; Continuation of Obligations

This agreement is effective when fully executed by the parties and will remain in force until 12/31/2023 unless earlier terminated as set forth herein.

Either party may terminate this agreement for any reason by providing 90 days written notice to the other party. CONSULTANT will receive full compensation for all authorized work performed, except that CONSULTANT will not be compensated for any part performance of a specified task or service if termination is due to CONSULTANT's breach of this agreement.

Insurance obligations; duty of care; obligations to defend, indemnify and hold harmless; and document-retention requirements will survive the completion of the Services and the term of this agreement.

7. No Waiver

The failure of either party to insist on the strict performance by the other party of any provision or obligation under this agreement, or to exercise any option, remedy or right herein, will not waive or relinquish such party's rights in the future to insist on strict performance of any provision, condition or obligation, all of which will remain in full force and affect. The waiver of either party on one or more occasion of any provision or obligation of this agreement will not be construed as a waiver of any subsequent breach of the same provision or obligation, and the consent or approval by either party to or of any act by the other requiring consent or approval will not render unnecessary such party's consent or approval to any subsequent similar act by the other.

Notwithstanding any other term of this agreement, PLSLWD waives no immunity in tort. This agreement creates no right in and waives no immunity, defense or liability limit with respect to any third party.

8. Insurance

At all times during the term of this Agreement, CONSULTANT will have and keep in force the following insurance coverages:

- A. General: \$1.5 million, each occurrence and aggregate, covering CONSULTANT's ongoing and completed operations on an occurrence basis and including contractual liability.
- B. Professional liability: \$1.5 million each claim and aggregate. Any deductible will be CONSULTANT's sole responsibility and may not exceed \$50,000. Coverage may be on a claims-made basis, in which case CONSULTANT must maintain the policy for, or obtain extended reporting period coverage extending, at least three (3) years from completion of the Services.
- C. Automobile liability: \$1.5 million combined single limit each occurrence coverage for bodily injury and property damage covering all vehicles on an occurrence basis.
- D. Workers' compensation: in accordance with legal requirements applicable to CONSULTANT.

CONSULTANT will not commence work until it has filed with PLSLWD a certificate of insurance documenting the required coverages and naming PLSLWD as an additional insured for general liability, along with a copy of the additional insured endorsement establishing coverage for CONSULTANT's ongoing and completed operations as primary coverage on a noncontributory basis. The certificate will name PLSLWD as a holder and will state that PLSLWD will receive written notice before cancellation, nonrenewal or a change in the limit of any described policy under the same terms as CONSULTANT.

9. Compliance With Laws

CONSULTANT will comply with all applicable laws and requirements of federal, state, local and other governmental units in connection with performing the Services and will procure all licenses, permits and other rights necessary to perform the Services.

In performing the Services, CONSULTANT will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status or national origin; and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

10. Data and Information

All data and information obtained or generated by CONSULTANT in performing the Services, including documents in hard and electronic copy, software, and all other forms in which the data and information are contained, documented or memorialized, are the property of PLSLWD. CONSULTANT hereby assigns and transfers to PLSLWD all right, title and interest in: (a) its copyright, if any, in the materials; any registrations and copyright applications relating to the materials; and any copyright renewals and extensions; (b) all works based on, derived from or incorporating the materials; and (c) all income, royalties, damages, claims and payments now or hereafter due or payable with respect thereto, and all causes of action in law or equity for past, present or future infringement based on the copyrights. CONSULTANT agrees to execute all papers and to perform such other proper acts as PLSLWD may deem necessary to secure for PLSLWD or its assignee the rights herein assigned.

PLSLWD may immediately inspect, copy or take possession of any materials on written request to CONSULTANT. On termination of the agreement, CONSULTANT may maintain a copy of some or all of the materials except for any materials designated by PLSLWD as confidential or non-public under applicable law, a copy of which may be maintained by CONSULTANT only pursuant to written agreement with PLSLWD specifying terms.

11. Data Practices; Confidentiality

If CONSULTANT receives a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) CONSULTANT possesses or has created as a result of this agreement, it will inform PLSLWD immediately and transmit a copy of the request. If the request is addressed to PLSLWD, CONSULTANT will not provide any information or documents, but will direct the inquiry to PLSLWD. If the request is addressed to CONSULTANT, CONSULTANT will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with PLSLWD and its legal counsel before replying. Nothing in the preceding sentence supersedes CONSULTANT's obligations under this agreement with respect to protection of PLSLWD data, property rights in data or confidentiality. Nothing in this section constitutes a determination that CONSULTANT is performing a governmental function within the meaning of Minnesota Statutes section 13.05, subdivision 11, or otherwise expands the applicability of the DPA beyond its scope under governing law.

CONSULTANT agrees that it will not disclose and will hold in confidence any and all proprietary materials owned or possessed by PLSLWD and so denominated by PLSLWD. CONSULTANT will not use any such materials for any purpose other than performance of the Services without PLSLWD written consent. This restriction does not apply to materials already possessed by CONSULTANT or that CONSULTANT received on a non-confidential basis from PLSLWD or another party. Consistent with the terms of this section 11 regarding use and protection of confidential and proprietary information, CONSULTANT retains a nonexclusive license to use the materials and may publish or use the materials in its professional activities. Any CONSULTANT duty of care under this agreement does not extend to any party other than PLSLWD or to any use of the materials by PLSLWD other than for the purpose(s) for which CONSULTANT is compensated under this agreement.

12. PLSLWD Property

All property furnished to or for the use of CONSULTANT or a subcontractor by PLSLWD and not fully used in the performance of the Services, including but not limited to equipment, supplies, materials and data, both hard copy and electronic, will remain the property of PLSLWD and returned to PLSLWD at the conclusion of the performance of the Services, or sooner if requested by PLSLWD. CONSULTANT further agrees that any proprietary materials are the exclusive property of PLSLWD and will assert no right, title or interest in the materials. CONSULTANT will not disseminate, transfer or dispose of any proprietary materials to any other person or entity unless specifically authorized in writing by PLSLWD.

Any property including but not limited to materials supplied to CONSULTANT by PLSLWD or deriving from PLSLWD is supplied to and accepted by CONSULTANT as without representation or warranty including but not limited to a warranty of fitness, merchantability, accuracy or completeness. However, CONSULTANT's duty of professional care under paragraph 4, above, does not extend to materials provided to CONSULTANT by PLSLWD or any portion of the Services that is inaccurate or incomplete as the result of CONSULTANT's reasonable reliance on those materials.

13. Notices

Any written communication required under this agreement to be provided in writing will be directed to the other party as follows:

To PLSLWD:

Joni Giese
District Administrator
Prior Lake - Spring Lake Watershed District
4646 Dakota Street SE
Prior Lake MN 55372

To CONSULTANT:

Brian Vlach
Senior Manager of Water Resources
Three Rivers Park District
12615 Rockford Road
Plymouth, MN 55428

Either of the above individuals may in writing designate another individual to receive communications under this agreement.

14. Choice of Law; Venue

This agreement will be construed under and governed by the laws of the State of Minnesota. Venue for any action will lie in Scott County.

15. Whole Agreement

The entire agreement between the two parties is contained herein and this agreement supersedes all oral agreements and negotiations relating to the subject matter hereof. Any modification of this agreement is valid only when reduced to writing as an amendment to the agreement and signed by the parties hereto.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this agreement.

CONSULTANT

By _____
Date: _____
Its _____

PRIOR LAKE -SPRING LAKE WATERSHED DISTRICT

By _____
Date: _____
Its _____

Exhibit A
Scope of Services

Exhibit A

2023 Scope of Services

Three Rivers Park District will be responsible for:

1.0 Monitoring the water quality from five different lakes in accordance with standard methodology and protocols.

1.1 Fish Lake, Spring Lake, Upper Prior Lake, Lower Prior Lake, and Pike Lake

2.0 Lake sampling will occur bi-weekly

2.1 From ice out (April) through the completion of fall turnover (October).

3.0 Physical water quality parameters will be collected for each lake

3.1 Temperature, dissolved oxygen, conductivity, and pH at 1-meter intervals from surface to bottom

3.2 Water clarity will be measured using a Secchi disk

4.0 Surface water samples will be collected for each lake and lakes deep enough for development of stratification will have middle and bottom samples

4.1 Surface sample: 2-meter composite tube sample

4.2 Middle samples: collected with Kemmerer bottle at the top of the hypolimnion

4.3 Bottom sample: collected with Kemmerer bottle 1-meter from the bottom

4.4 Field duplicates will be collected for 10% of the samples.

5.0 All water samples will be stored on ice until delivered to the Three Rivers Park District certified laboratory

5.1 Bottles will be labeled with: site identification, date of collection, sample depth collected, and constituent parameters to be analyzed in the laboratory

5.2 A Summary of the analysis is in Table 1

Table 1 Summary of parameters collected for each lake

Lakes	Site ID	Sample Codes	Water Quality In-Lake Sampling						Plankton
			Sampling Interval	Water Quality Parameters					
				TP	SRP	TN	Chl-a	CI*	
Fish-SL	70006900	FSH-SL	Bi-weekly	SMB	SMB	S	S	SB ^M	
Spring	70005400	SPG	Bi-weekly	SMB	SMB	S	S	SB ^M	
Prior-Upper	70007200	PRI-UP	Bi-weekly	SMB	SMB	S	S	SB ^M	X
Prior-Lower	70007200	PRI-LO	Bi-weekly	SMB	SMB	S	S	SB ^M	
Pike E	70007600	PIK-E	Bi-weekly	S	S	S	S	S ^M	
Pike W	70007600	PIK-W	Bi-weekly	S	S	S	S	S ^M	

Summary of Estimated Contract Expenses 2023				
Monitoring				
Lake Monitoring	Sites	Units	Unit Cost	
Regular Employee (2 hours/lake/day)	6	26	\$38.00	\$5,928.00
Seasonal Employee (2 hours/lake/day)	6	26	\$20.00	\$3,120.00
Plankton collection and equipment use	1	7	\$75.00	\$525.00
				Total \$9,573.00
Lake Laboratory Analysis				
Parameter	Sites	Units	Unit Cost	Total Cost
Surface Sample Lake				
Total Phosphorus (S)	2	13	\$13.00	\$338.00
Soluble Reactive Phosphorus (S)	2	13	\$13.00	\$338.00
Total Nitrogen (S)	2	13	\$13.00	\$338.00
Chlorophyll-a (S)	2	13	\$13.00	\$338.00
Chloride (S) (monthly)	2	7	\$13.00	\$182.00
				Sub-total \$1,534.00
Surface, Middle, Bottom Lakes				
Total Phosphorus (S,M,B)	4	39	\$13.00	\$2,028.00
Soluble Reactive Phosphorus (S,M,B)	4	39	\$13.00	\$2,028.00
Total Nitrogen (S)	4	13	\$13.00	\$676.00
Chlorophyll-a (S)	4	13	\$13.00	\$676.00
Chloride (S,B) (monthly)	4	14	\$13.00	\$728.00
				Sub-total \$6,136.00
QA/QC Samples (10% of Total Samples)				
Total Phosphorus (S,M,B)	1	19	\$13.00	\$247.00
Soluble Reactive Phosphorus (S,M,B)	1	19	\$13.00	\$247.00
Total Nitrogen (S)	1	8	\$13.00	\$104.00
Chlorophyll-a (S)	1	8	\$13.00	\$104.00
Chloride (S,B)	1	7	\$13.00	\$91.00
				Sub-total \$793.00
Total Lake Lab Expenses				Total \$8,463.00
Plankton Analyses (BSA - subcontractor)				
Phytoplankton analyses	1	7	\$165.00	\$1,155.00
Zooplankton Analyses	1	7	\$145.00	\$1,015.00
				Sub-total \$2,170.00
Data Analysis and Reporting				
Parameter	Sites	Units	Unit Cost	Total Cost
Lake Data Analysis (hours)	6	1	\$38.00	\$228.00
Report Writing/Preparation-1 year (hours)	6	1	\$38.00	\$228.00
				Total \$456.00
Total Expenses				\$20,662.00

PLSLWD Board Staff Report

April 5, 2023

**PRIOR LAKE
SPRING LAKE
WATERSHED DISTRICT****Subject |** PLSLWD Website Redesign Request for Proposals (RFP)**Board Meeting Date |** April 11, 2023**Meeting Item:** 6.8**Prepared By |** Patty Dronen, Administrative Assistant**Attachments |** Prior Lake-Spring Lake Watershed District Website Redesign RFP (Draft)**Action |** Vote to approve issuance of request for proposals for the redesign of the District's website**Background**

The District's website is a key information resource regarding District programs and projects for District residents and partner agencies. The current website was created approximately 10 years ago and needs to be refreshed to provide a positive impression of the District to those who visit the site and to better serve users information needs.

Discussion

Staff has prepared a draft RFP for the redesign of the District's website and are ready to release it. Funds for the website redesign project are included in the District's 2023 Education and Outreach Program budget line item.

Action Requested

Staff recommends board approval to issue a request for proposals for the redesign of the District's website.



April 2023

Prior Lake-Spring Lake Watershed District Website Redesign RFP

Prepared by
PLSLWD

plslwd.org

4646 Dakota Street, Prior Lake MN 55372

Project Overview

The Prior Lake-Spring Lake Watershed District wants to redesign its website (plslwd.org). This website was originally built in 2013 and has not changed much since that time.

Our organization needs a fresh, modern look where people who need/want information can find it easily. We want our site to be a resource for the public that lives in the 42 square mile area of the watershed district.

Much of the information on the existing site can be migrated to the new site, however, the organization, look and functionality of the new website is imperative



Watershed District Background

The Prior Lake-Spring Lake Watershed District (PLSLWD) was formed on March 4, 1970 at the request of local residents through a citizen's petition. The District covers about 42 square miles in Scott County, MN. Water in the PLSLWD primarily flows from the southwest to the northeast through Spring, Upper Prior and Lower Prior Lakes, and then north through the Prior Lake Outlet Channel to the Minnesota River near Valley Fair amusement park.

Our mission is to manage and preserve the water resources of the Prior Lake-Spring Lake Watershed District to the best of our ability using input from our communities, sound engineering practices, and our ability to efficiently fund beneficial projects which transcend political jurisdictions.



The District is administered by a five-person Board of Managers who are appointed by the Scott County Commissioners. Monthly board meetings are open to the public and meeting materials can be found [HERE](#)

The District also receives guidance from citizen representatives on the CAC (Citizens Advisory Committee), who provide input and recommendations to the Board of Managers on projects, reports and prioritization. Meeting materials and minutes from monthly CAC meetings can be found [HERE](#)

The District employs 6 permanent staff members:

Joni Giese, District Administrator
Patty Dronen, Administrative Assistant
Emily Dick, Water Resources Project Manager
Jeff Anderson, Water Resources Coordinator
Shauna Capron, Water Resources Technician
Paul Nelson, Manager - Special Projects

All of our employees will be responsible for website content.

Day-to-day contact will be Patty Dronen



Goals We'd Like to Achieve

- Create a more modern looking website where our website readers can easily find information they're interested in
- Increase our online presence
- Build public awareness for the programs the Watershed District works on



Our Audience

Our audience is the residents who live with the 42 square mile Watershed District. While many people are aware of our larger lakes (Spring, Upper Prior and Lower Prior Lakes), there are many other lakes and wetlands within the watershed.

There are also many Watershed District programs and projects, such as aquatic species prevention and management, regulations, monitoring, and capital project implementation that affect the health of the District's water resources.



Challenges

- Maximize the site layout to make accessing information easy for all users
- Make the site more enticing for visitors - make people enjoy going to our website
- Make updating the website easy for current PLSLWD employees



Website Content Requirements

- Lake Level data (this is very important to those that live on the area lakes)
- Lake water quality data
- Prior Lake Outlet Channel (PLOC) – incorporate story maps
- Carp Management information needs to be more appealing and interesting
- Highlight current activity, but still be able to search and retrieve older reports
- A better illustration of the overall watershed
- Better images of the overall watershed
- Permit and Easement documents should be easier to find
- More Video/Movement
- An easy way to look at current projects the district is working on
- “Are you in the watershed” mapping
- Some documentation will be required due to grant agreements with our partners



Examples of Websites We Like

MWMO.org

Planning & Projects page:

<https://www.mwmo.org/projects>

Rpbcwd.org

Document filter:

<https://rpbcwd.org/explore/library>

Calendar: <https://rpbcwd.org/calendar>

Ninemilecreek.org

Resource library:

<https://www.ninemilecreek.org/resource-library>

Social media links are prominent

Do not like their font choices

Capitolregionwd.org

Their home page: <https://www.capitolregionwd.org>



Submission Instructions

Please send your completed proposal in PDF format to Patty Dronen, Administrative Assistant, at pdronen@plslwd.org

All proposals should include the following details on your company background and project estimates:

- Company Name, address, email, phone, website
- Number of years in operation
- Top clients and when you partnered with them
- 3-5 client references
- 3-4 relevant projects, who worked on each project, link to website URL
- Number of individuals that will work on the website project, their roles and responsibilities
- Team size, bios, years of experience for each, and any awards and/or certifications
- Project management approach
- General overview of website build process end-to-end
- Proposed project schedule from start to completion including work tasks and hours of effort



Submission Instructions

Continued

- Total Vendor Cost
 - The cost should be broken out as follows:
 - Proposed costs for each work task for the project
 - Hourly rates for all consultant employees who are expected to work on this project. These rates shall be the agreed upon costs for any additional services requested by the District above what is detailed in the scope of this RFP
 - Reimbursable costs including detail of service or item and applicable charge per unit
 - Not to Exceed cost for the project



General Project Schedule

Monday, May 8, 2023 , 4:30 PM – Proposals due

May 8 - May 15 – PLSLWD staff will discuss the submitted proposals and ask prospective vendors to prepare a presentation

Week of May 22 - Meet with Prospective Vendors

June 13 – Selection of preferred vendor by PLSLWD Board of Managers

June 14 - 23 - Contract negotiations with preferred vendor

July 1 - Start project



Vendor Selection

Proposals will be reviewed and evaluated by a team of District staff on the basis of the following criteria:

1. Vendor firm and key project staff experience with similar projects
2. Proven successful management of projects of this nature is required
3. Proven track record in successfully completing similar projects on time and within budget. Successful experience of both the firm itself and the individual team members will be considered.
4. Proposed approach to completing the project
5. Proposed vendor cost



Vendor Selection

Following review of the proposals, the project team may ask vendors to make a presentation. Upon conclusion of the evaluation process, the Project Team will make a recommendation to the PLSLWD Board of Managers regarding the selection of a vendor to negotiate a contract with the District as follows:

1. If, for any reason, a firm is not able to commence the services in that firm's Proposal within 30 days of the award, the District reserves the right to contract with another qualified firm
2. The District shall not be liable for any expenses incurred by the vendor prior to the signing of a contract including, but not limited to, the proposal preparation, attendance at interviews or final contract negotiations.
3. The Proposal must be signed in ink by an official authorized to bind the Vendor to its provisions that will be included as part of an eventual contract. The Proposal must include a statement as to the period during which the Proposal remains valid. This period must be at least 90 days from the date of the submittal.
4. The District reserves the right to reject any and all Proposals or to request additional information from any or all of the proposing firms.



Contract Terms and Conditions

Upon selection of the vendor, an Agreement shall be entered into by the District and the Vendor. It is expected that the Agreement will provide for compensation for actual work completed on a not to exceed basis and the following conditions:

- Deletions of specific itemized work tasks will be at the discretion of the District. Payment or reimbursement shall be made based on tasks that have been satisfactorily completed. Billing that exceeds the not to exceed amount will not be compensated unless a contract amendment has been approved in advance by the District.
- The District shall retain ownership of all documents, plans, maps, reports, and data prepared under this proposal. In addition to being provided with hard copy and digital documents throughout the project, upon completion the vendor shall supply the District with files in their original format
- If, for any reason, the Vendor is unable to fulfill the obligations under the contract in a timely and proper manner, the District shall reserve the right to terminate the contract by written notice. In this event, the firm shall be entitled to just and equitable compensation for any satisfactory completed work tasks, as determined by the Project team.
- The Vendor shall not assign or transfer any interest in the contract without prior written consent of the District.
- The Vendor shall maintain comprehensive general liability insurance in accordance with coverages listed in the attached Prior Lake-Spring Lake Watershed District Professional Services Agreement template.



Contract Terms and Conditions Continued

- The Vendor shall defend, indemnify and hold harmless Prior Lake-Spring Lake Watershed District, its officials, employees and agents, from any and all claims, causes of action, lawsuits, damages, losses or expenses, including attorney fees, arising out of or resulting from the Vendor's (including its officials agents, subconsultants or employees) performance of the duties required under the contract, provided that any such claim, damages, loss or expense if attributable to bodily injury, sickness, diseases or death or injury to or destruction of property including the loss of use resulting therefrom and is caused in whole or in part by any negligent act or omission or willful misconduct of Vendor.
- The Vendor contract shall be governed by the laws of the State of Minnesota.
- Invoices submitted to the District shall include a detailed breakdown of staff members and hours charged, a description of work completed, mileage, etc. chargeable for the invoice period.



Conclusion and Submittal

Any requests for additional information that may be needed for the preparation of the proposal should be directed via email to Patty Dronen at pdronen@plslwd.org

All questions must be received before 4:30 PM May 1, 2023. No responses will be provided for questions received after that time.

A list of questions received and the Project Team's responses will be provided to all persons or firms who were solicited for RFP submission.

Please provide an electronic (pdf) copy of the proposal for the evaluation process. Proposals must be emailed to pdronen@plslwd.org.

Proposals will be accepted until May 8, 2023, 4:30 PM.

Patty Dronen, Administrative Assistant
Prior Lake-Spring Lake Watershed District
4646 Dakota Street SE
Prior Lake, MN 55372
952-447-4166



Attachment A:

Professional Services

Agreement

- The following pages provide the PLSLWD Professional Services Agreement template that will serve as the basis for contract negotiations.



TEMPLATE - PROFESSIONAL SERVICES AGREEMENT**AGREEMENT BETWEEN
PRIOR LAKE - SPRING LAKE WATERSHED DISTRICT and
[CONSULTANT]****[Project Title]**

This agreement is entered into by the Prior Lake - Spring Lake Watershed District, a public body with powers set forth at Minnesota Statutes chapters 103B and 103D (PLSLWD), and [CONSULTANT], a Minnesota corporation (CONSULTANT). In consideration of the terms and conditions set forth herein and the mutual exchange of consideration, the sufficiency of which hereby is acknowledged, PLSLWD and CONSULTANT agree as follows:

1. Scope of Work

CONSULTANT will perform the work described in the [DATE] Scope of Services attached as Exhibit A (the "Services"). Exhibit A is incorporated into this agreement and its terms and schedules are binding on CONSULTANT as a term hereof. PLSLWD, at its discretion, in writing may at any time suspend work or amend the Services to delete any task or portion thereof. Authorized work by CONSULTANT on a task deleted or modified by PLSLWD will be compensated in accordance with paragraphs 5 and 6. Time is of the essence in the performance of the Services.

2. Independent Contractor

CONSULTANT is an independent contractor under this agreement. CONSULTANT will select the means, method and manner of performing the Services. Nothing herein contained is intended or is to be construed to constitute CONSULTANT as the agent, representative or employee of PLSLWD in any manner. Personnel performing the Services on behalf of CONSULTANT or a subcontractor will not be considered employees of PLSLWD and will not be entitled to any compensation, rights or benefits of any kind from PLSLWD.

3. Subcontract and Assignment

CONSULTANT will not assign, subcontract or transfer any obligation or interest in this agreement or any of the Services without the written consent of PLSLWD and pursuant to any conditions included in that consent. PLSLWD consent to any subcontracting does not relieve CONSULTANT of its responsibility to perform the Services or any part thereof, nor in any respect its duty of care, insurance obligations, or duty to hold harmless, defend and indemnify under this agreement.

4. Duty of Care; Indemnification

CONSULTANT will perform the Services with due care and in accordance with national standards of professional care. CONSULTANT will defend PLSLWD, its board members, employees and agents from any and all actions, costs, damages and liabilities of any nature arising from; and hold each such party harmless, and indemnify it, to the extent due to: (a) CONSULTANT's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty; or (b) a subcontractor's negligent or otherwise wrongful act or omission, or breach of a specific contractual duty owed by CONSULTANT to PLSLWD. For any claim subject to this paragraph by

an employee of CONSULTANT or a subcontractor, the indemnification obligation is not limited by a limitation on the amount or type of damages, compensation or benefits payable by or for CONSULTANT or a subcontractor under workers' compensation acts, disability acts or other employee benefit acts.

5. Compensation

PLSLWD will compensate CONSULTANT for the Services on [an hourly OR a lump-sum] basis and reimburse for direct costs in accordance with Exhibit A. Invoices will be submitted monthly for work performed during the preceding month. Payment for undisputed work will be due within 30 days of receipt of invoice. Direct costs not specified in Exhibit A will not be reimbursed except with prior written approval of the PLSLWD administrator. Subcontractor fees and subcontractor direct costs, as incurred by CONSULTANT, will be reimbursed by PLSLWD at the rate specified in PLSLWD's written approval of the subcontract.

[The total payment for each task will not exceed the amount specified for that task in Exhibit A.] The total payment for the Services will not exceed [\$_____]. Total payment in each respect means all sums to be paid whatsoever, including but not limited to fees and reimbursement of direct costs and subcontract costs, whether specified in this agreement or subsequently authorized by the administrator.

CONSULTANT will maintain all records pertaining to fees or costs incurred in connection with the Services for six years from the date of completion of the Services. CONSULTANT agrees that any authorized PLSLWD representative or the state auditor may have access to and the right to examine, audit and copy any such records during normal business hours.

6. Termination; Continuation of Obligations

This agreement is effective when fully executed by the parties and will remain in force until [DATE] unless earlier terminated as set forth herein.

PLSLWD may terminate this agreement at its convenience, by a written termination notice stating specifically what prior authorized or additional tasks or services it requires CONSULTANT to complete. CONSULTANT will receive full compensation for all authorized work performed, except that CONSULTANT will not be compensated for any part performance of a specified task or service if termination is due to CONSULTANT's breach of this agreement.

Insurance obligations; duty of care; obligations to defend, indemnify and hold harmless; and document-retention requirements will survive the completion of the Services and the term of this agreement.

7. No Waiver

The failure of either party to insist on the strict performance by the other party of any provision or obligation under this agreement, or to exercise any option, remedy or right herein, will not waive or relinquish such party's rights in the future to insist on strict performance of any provision, condition or obligation, all of which will remain in full force and affect. The waiver of either party on one or more occasion of any provision or obligation of this agreement will not be construed as a waiver of any subsequent breach of the same provision or obligation, and the consent or

approval by either party to or of any act by the other requiring consent or approval will not render unnecessary such party's consent or approval to any subsequent similar act by the other.

Notwithstanding any other term of this agreement, PLSLWD waives no immunity in tort. This agreement creates no right in and waives no immunity, defense or liability limit with respect to any third party.

8. Insurance

At all times during the term of this Agreement, CONSULTANT will have and keep in force the following insurance coverages:

A. General: \$1.5 million, each occurrence and aggregate, covering CONSULTANT's ongoing and completed operations on an occurrence basis and including contractual liability.

B. Professional liability: \$1.5 million each claim and aggregate. Any deductible will be CONSULTANT's sole responsibility and may not exceed \$50,000. Coverage may be on a claims-made basis, in which case CONSULTANT must maintain the policy for, or obtain extended reporting period coverage extending, at least three (3) years from completion of the Services.

C. Automobile liability: \$1.5 million combined single limit each occurrence coverage for bodily injury and property damage covering all vehicles on an occurrence basis.

D. Workers' compensation: in accordance with legal requirements applicable to CONSULTANT.

CONSULTANT will not commence work until it has filed with PLSLWD a certificate of insurance documenting the required coverages and naming PLSLWD as an additional insured for general liability, along with a copy of the additional insured endorsement establishing coverage for CONSULTANT's ongoing and completed operations as primary coverage on a noncontributory basis. The certificate will name PLSLWD as a holder and will state that PLSLWD will receive written notice before cancellation, nonrenewal or a change in the limit of any described policy under the same terms as CONSULTANT.

9. Compliance with Laws

CONSULTANT will comply with all applicable laws and requirements of federal, state, local and other governmental units in connection with performing the Services and will procure all licenses, permits and other rights necessary to perform the Services

In performing the Services, CONSULTANT will ensure that no person is excluded from full employment rights or participation in or the benefits of any program, service or activity on the ground of race, color, creed, religion, age, sex, disability, marital status, sexual orientation, public assistance status or national origin and no person who is protected by applicable federal or state laws, rules or regulations against discrimination otherwise will be subjected to discrimination.

10. Data and Information

All data and information obtained or generated by CONSULTANT in performing the Services, including documents in hard and electronic copy, software, and all other forms in which the data and information are contained, documented or memorialized, are the property of PLSLWD.

CONSULTANT hereby assigns and transfers to PLSLWD all right, title and interest in: (a) its copyright, if any, in the materials; any registrations and copyright applications relating to the materials; and any copyright renewals and extensions; (b) all works based on, derived from or incorporating the materials; and (c) all income, royalties, damages, claims and payments now or hereafter due or payable with respect thereto, and all causes of action in law or equity for past, present or future infringement based on the copyrights. CONSULTANT agrees to execute all papers and to perform such other proper acts as PLSLWD may deem necessary to secure for PLSLWD or its assignee the rights herein assigned. [Define and exclude instruments of service, as appropriate]

PLSLWD may immediately inspect, copy or take possession of any materials on written request to CONSULTANT. On termination of the agreement, CONSULTANT may maintain a copy of some or all of the materials except for any materials designated by PLSLWD as confidential or non-public under applicable law, a copy of which may be maintained by CONSULTANT only pursuant to written agreement with PLSLWD specifying terms.

11. Data Practices; Confidentiality

If CONSULTANT receives a request for data pursuant to the Data Practices Act, Minnesota Statutes chapter 13 (DPA), that may encompass data (as that term is defined in the DPA) CONSULTANT possesses or has created as a result of this agreement, it will inform PLSLWD immediately and transmit a copy of the request. If the request is addressed to PLSLWD, CONSULTANT will not provide any information or documents, but will direct the inquiry to PLSLWD. If the request is addressed to CONSULTANT, CONSULTANT will be responsible to determine whether it is legally required to respond to the request and otherwise what its legal obligations are, but will notify and consult with PLSLWD and its legal counsel before replying. Nothing in the preceding sentence supersedes CONSULTANT's obligations under this agreement with respect to protection of PLSLWD data, property rights in data or confidentiality. Nothing in this section constitutes a determination that CONSULTANT is performing a governmental function within the meaning of Minnesota Statutes section 13.05, subdivision 11, or otherwise expands the applicability of the DPA beyond its scope under governing law.

CONSULTANT agrees that it will not disclose and will hold in confidence any and all proprietary materials owned or possessed by PLSLWD and so denominated by PLSLWD. CONSULTANT will not use any such materials for any purpose other than performance of the Services without PLSLWD written consent. This restriction does not apply to materials already possessed by CONSULTANT or that CONSULTANT received on a non-confidential basis from PLSLWD or another party. Consistent with the terms of this section 11 regarding use and protection of confidential and proprietary information, CONSULTANT retains a nonexclusive license to use the materials and may publish or use the materials in its professional activities. Any CONSULTANT duty of care under this agreement does not extend to any party other than PLSLWD or to any use of the materials by PLSLWD other than for the purpose(s) for which CONSULTANT is compensated under this agreement.

12. PLSLWD Property

All property furnished to or for the use of CONSULTANT or a subcontractor by PLSLWD and not fully used in the performance of the Services, including but not limited to equipment, supplies, materials and data, both hard copy and electronic, will remain the property of PLSLWD and returned to PLSLWD at the conclusion of the performance of the Services, or sooner if requested by PLSLWD. CONSULTANT further agrees that any proprietary materials are the exclusive property of PLSLWD and will assert no right, title or interest in the materials. CONSULTANT will not disseminate, transfer or dispose of any proprietary materials to any other person or entity unless specifically authorized in writing by PLSLWD.

Any property including but not limited to materials supplied to CONSULTANT by PLSLWD or deriving from PLSLWD is supplied to and accepted by CONSULTANT as without representation or warranty including but not limited to a warranty of fitness, merchantability, accuracy or completeness. However, CONSULTANT's duty of professional care under paragraph 4, above, does not extend to materials provided to CONSULTANT by PLSLWD or any portion of the Services that is inaccurate or incomplete as the result of CONSULTANT's reasonable reliance on those materials.

13. Notices

Any written communication required under this agreement to be provided in writing will be directed to the other party as follows:

To PLSLWD:

Administrator
Prior Lake - Spring Lake Watershed District
4646 Dakota Street SE
Prior Lake MN 55372

To CONSULTANT:

[Authorized Representative
Organization
Address]

Either of the above individuals may in writing designate another individual to receive communications under this agreement.

14. Choice of Law; Venue

This agreement will be construed under and governed by the laws of the State of Minnesota. Venue for any action will lie in Scott County.

15. Whole Agreement

The entire agreement between the two parties is contained herein and this agreement supersedes all oral agreements and negotiations relating to the subject matter hereof. Any modification of this agreement is valid only when reduced to writing as an amendment to the agreement and signed by the parties hereto. PLSLWD may amend this agreement only by action of the Board of Managers acting as a body.

IN WITNESS WHEREOF, intending to be legally bound, the parties hereto execute and deliver this agreement.

CONSULTANT

By _____ Date: _____

Its _____

PRIOR LAKE -SPRING LAKE WATERSHED DISTRICT

By _____ Date: _____

Its _____

**Exhibit A
Scope of Services**

DRAFT
TEMPLATE



Subject | Draft Ferric Chloride System Assessment RFP

Meeting Date | April 11, 2023

Meeting Item: 6.9

Prepared By | Emily Dick, Water Resources Project Manager

Attachments | Draft Ferric Chloride System Assessment RFP

Proposed Action | Motion to approve issuance of the request for proposals for the Ferric Chloride System Assessment.

Background

The Ferric Chloride system began operating 26 years ago, in 1997. The system includes a wetland, ferric chloride feed systems and a desiltation pond. The existing system needs to be evaluated for its remaining service life and effectiveness prior to replacement or updates. The current system requires that the building which houses equipment be at least partially disassembled to replace the storage tank. Prior Lake-Spring Lake Watershed District is seeking assistance to evaluate the lifetime of the existing system components, and recommend updates or potential re-design alternatives. The District has included funding in the 2023 budget for this purpose.

Discussion

The District has prepared a Draft Request for Proposals (RFP) for the Board to discuss and respond to.

Notably, the scope of work does not include design or management of construction. In order to solicit accurate and competitive proposals, the District intends to seek information in this RFP to refine potential re-design options. Depending on the recommended re-design/updates and remaining service life, the District may solicit proposals for a second phase to progress design and construction.

Action Requested

District staff recommends the Board votes to approve issuance of the request for proposals for the Ferric Chloride System Assessment.

REQUEST FOR PROPOSALS FOR PROFESSIONAL ENGINEERING SERVICES

Prior Lake-Spring Lake Watershed District Ferric Chloride System Assessment

SECTION 1: GENERAL INFORMATION

Acceptance of Proposal Contents

The contents of this RFP will be included as part of the contractual obligations if a contract ensues. All information in the proposal is subject to disclosure under the provisions of Minnesota Statutes Chapter 13 – Minnesota Government Data Practices Act.

PROJECT OVERVIEW

Purpose

The Ferric Chloride system began operating 26 years ago, in 1997. The system includes a wetland, ferric chloride feed systems and a desiltation pond. The existing system needs to be evaluated for its remaining service life and the consultant should propose updates with best science and practices in mind. The current system requires that the building which houses equipment be at least partially disassembled to replace the storage tank. Prior Lake-Spring Lake Watershed District is seeking assistance to evaluate the lifetime of the existing system components, and recommend updates or potential re-design alternatives, including utilizing a new treatment chemical or method (ie. filter).

Organizational Background

The PLSLWD was formed on March 4, 1970 at the request of local residents through a citizen's petition, primarily for the purposes of managing the water levels of Spring and Prior Lake. The PLSLWD encompasses 42 square miles in Scott County, MN. Water in the PLSLWD flows mainly from the southwest to the northeast through Spring, Upper Prior and Lower Prior Lakes, and then north through the Prior Lake Outlet Channel to the Minnesota River near Valley Fair.

The mission of the PLSLWD is to manage and preserve the water resources of the District to the best of our ability using input from our communities, sound engineering practices, and our ability to efficiently fund beneficial projects which transcend political jurisdictions.

Background

Stormwater runoff from the Upper Watershed is partially responsible for water quality impairments to Spring and Upper Prior Lake, and poorer water quality on Lower Prior Lake. In 2011, the [Spring Lake-Upper Prior Lake Nutrient TMDL](#) provided Waste Load Allocations (WLA) and Load Allocations (LA) for the two impaired lakes.

In 2020, the PLSLWD completed an update of its Water Resources Management Plan (WRMP),

Request for Proposals

Ferric Chloride System Assessment and Recommended Updates

which identifies several programs, strategies, and implementation activities to address phosphorus and runoff reduction in the Upper Watershed (Figure 1). County Ditch 13 is the main inflow and contributor of phosphorus and sediment from the Upper Watershed to Spring Lake. PLSLWD is seeking evaluation of the effective lifetime of the current ferric chloride system as well as the consultant's view of the effectiveness of the Ferric Chloride System at reducing phosphorus entering Spring Lake from Ditch 13 and what types of upgrades are recommended.

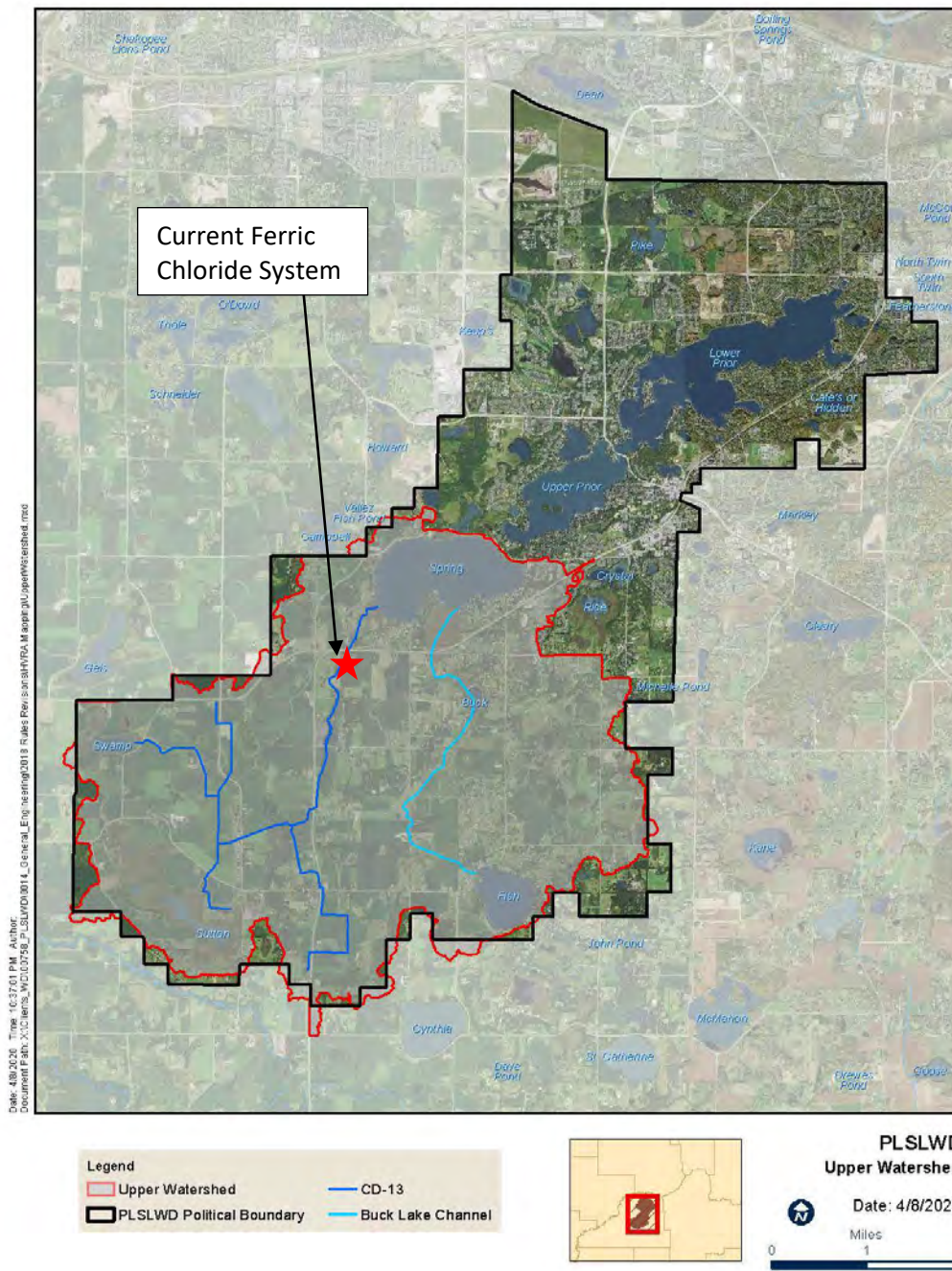


Figure 1. Upper Watershed Boundary

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Ferric Chloride System Assessment and Recommended Updates

SECTION 2: OVERALL SCOPE OF SERVICES

This study will be led by the Consultant with support from PLSLWD staff and the District Engineer. PLSLWD staff will assist with partner engagement.

The following section contains example tasks for the system analysis. Responses to this RFP are not constrained by these examples. Alternate scopes of work will be considered if the approach and work plan is capable of achieving the goals stated in the purpose of this RFP. The following are general work tasks and deliverables that shall be included in the Consultant's bid.

Existing Systems Conditions Assessment

Remaining Service Life Assessment

Assess the condition of the existing ferric chloride storage tank, pump, operational controls, and feed system. Evaluate whether the current system is in compliance with safety best practices. Prepare an estimate of remaining service life of all system components.

Update Current Site Operations to Industry Standards

Update existing Operations & Maintenance Manual (attached) to be consistent with industry standards for equivalent sites. Prepare guidance on safety requirements and recommendations for addressing safety concerns in the interim of system update/redesign. Identify the accurate location of the feedline running underground from the dosing facility to the desilt pond.

Develop Estimate for Minimum Functional System Update

Assess the probable impacts to the existing building associated with replacing the tank or other system components. Prepare engineer's opinion of probable costs to replace tank and any other recommended system components, including any needed equipment upgrades, and shed demolition/restoration costs. Include the costs of updating system components with reasonable safety protections given the chemical risk and site constraints.

Access Drive Assessment

Assess functionality of existing access drive. Prepare two options for access drive improvements with associated estimated construction costs. Improvements should take into account ease of chemical delivery by large trailer trucks, deterrents of public use of access drive (a nuisance to easement landowner), and ability to prevent private land impacts (rutting, etc.) in future. PLSLWD will facilitate coordination with the landowner through design process to ensure proposed design functions with their intended land use.

System Effectiveness and Alternatives Analysis

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Analyze existing monitoring data to get a confident understanding of system effectiveness. Review EOR Memo (attached) and consider which potential tasks (Task 1-2.7) are still relevant and should be included in the response to this proposal request. In addition, consider whether phosphorus release related to anoxic conditions should be further evaluated and addressed in system updates. Considering current system effectiveness, identify potential modifications, associated costs, and estimate how much more effective these system modifications could be compared to the existing system operation. Provide a list of alternate chemical or filter treatment systems besides ferric chloride and the benefits/drawbacks associated with each alternate system.

Anticipated Permits

Identify anticipated permitting that may be necessary for Minimum Functional System Updates, Access Improvements, and any component updates recommended in the Effectiveness and Alternatives Analysis.

Potential Funding Sources

Identify any potential funding sources the project may be eligible for.

Meetings

For the duration of this project, the Consultant shall coordinate with PLSLWD on attendance and presentation at District meetings (Board and Citizen Advisory Committee). The Consultant shall include a minimum of three District meetings in its scope. Additionally, the Consultant shall attend up to two public/landowner meetings to discuss the project with parties impacted by construction.

TARGET PROJECT SCHEDULE

May 3, 2023 – Proposals due.

May 9, 2023 – Seek authorization from District to enter into an agreement with the consultant and proceed with work.

June 1, 2023 – Contracting complete. Project Kickoff meeting.

August 5, 2023 – Useful Lifetime and Minimum System Update Estimate completed (to inform 2024 budget).

Dec 1, 2023 – All deliverables complete.

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Ferric Chloride System Assessment and Recommended Updates

SECTION 3: PROPOSALS

The proposal shall contain the type of information summarized below and shall be limited to 15 pages.

Proposal Format

The submittal should follow the Table of Contents listed below:

1. General Information
2. Project Understanding
3. Proposed Project Team and Experience
4. Work Tasks and Proposed Schedule
5. Any Additional Information as Needed
6. Total Consultant Cost

A brief description of each section is included below.

1. General Information
General information and a brief history of the Consultant's firm. Include similar information on key subconsultants, if any, proposed for the project.
2. Project Understanding
A summary of the Consultant's understanding of the work.
3. Proposed Project Team and Experience
 - Identify the key project team members and describe their specific roles on the project. Include key team members from subconsultant firms if any.
 - Include one-page resumes only for key members of the project team.
 - Describe relevant experience and provide information on at least three (3) reference projects completed in the last five (5) years. Provide contact information for references.
 - Include specific descriptions of proposed team members' roles on reference projects.
4. Work Tasks and Proposed Schedule
A proposed schedule from project initiation to final completion of construction. The schedule should include a list of key work tasks, key milestones and approximate dates, and deliverables. The target schedule listed in Section 2 should be understood as a guide for an ideal milestone timeline. Consultant should submit a proposed schedule that is reflective of workload and ability.

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5. Additional Information

Include any other information believed to be pertinent but not specifically requested elsewhere in this RFP.

6. Total Consultant Cost

The consultant cost should be broken out as follows:

- a. Proposed costs for each work task for the project as listed in Section 4.
- b. Hourly rates for all consultant employees who are expected to work on this project. These rates shall be the agreed upon costs for any additional services requested by the District, above what is detailed in the scope of this RFP.
- c. Reimbursable costs including detail of service or item and applicable charge per unit.
- d. Not to Exceed cost for the project.

Proposals that do not include a 'Not to Exceed' cost will be disregarded with no further consideration.

SECTION 4: CONSULTANT SELECTION

Proposals will be reviewed and evaluated by a team of District staff ("Project Team") on the basis of the following criteria:

1. Consulting firm and key project staff experience with similar projects. In addition to understanding technical issues and having sound technical/engineering expertise, the Consultant must also have an awareness and understanding of the social/political issues that can surround projects of this nature and must possess the personal and leadership skills necessary to navigate the project through the public process.
2. Proven successful management of projects of this nature is required.
3. Proven track record in successfully completing similar projects on time and within budget. Successful experience of both the firm itself and the individual team members will be considered.
4. Proposed approach to completing the project.
5. Proposed consultant cost.

Following review of the Proposals, the Project Team may ask Consultants to make a presentation. Upon conclusion of the evaluation process, the Project Team will make a recommendation to the Board of Managers regarding the selection a Consultant to negotiate a contract with the District as follows:

1. If, for any reason, a firm is not able to commence the services in that firm's Proposal within 30 days of the award, the District reserve the right to contract with another

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qualified firm.

2. The District shall not be liable for any expenses incurred by the Consultant prior to the signing of a contract including, but not limited to, the proposal preparation, attendance at interviews, or final contract negotiations.
3. The Proposal must be signed in ink by an official authorized to bind the Consultant to its provisions that will be included as part of an eventual contract. The Proposal must include a statement as to the period during which the Proposal remains valid. This period must be at least 90 days from the date of the submittal.
4. The District reserves the right to reject any and all Proposals or to request additional information from any or all of the proposing firms.

SECTION 5: CONTRACT TERMS AND CONDITIONS

Upon selection of a Consultant, an Agreement shall be entered into by the District and the Consultant. It is expected that the Agreement will provide for compensation for actual work completed on a not to exceed basis, and the following conditions:

1. Deletions of specific itemized work tasks will be at the discretion of the District. Payment or reimbursement shall be made based on tasks that have been satisfactorily completed. Billing that exceeds the not to exceed amount will not be compensated unless a contract amendment has been approved in advance by the District.
2. The District shall retain ownership of all documents, plans, maps, reports, and data prepared under this proposal. In addition to being provided with hard copy and digital documents throughout the project, upon completion the consultant shall supply the District with files in their original format (Word documents, AutoCAD, GIS, HydroCAD, etc.).
3. If, for any reason, the Consultant is unable to fulfill the obligations under the contract in a timely and proper manner, the District shall reserve the right to terminate the contract by written notice. In this event, the firm shall be entitled to just and equitable compensation for any satisfactory completed work tasks, as determined by the Project Team.
4. The Consultant shall not assign or transfer any interest in the contract without prior written consent of the District.
5. The Consultant shall maintain comprehensive general liability insurance in accordance with coverages listed in the attached Prior Lake-Spring Lake Watershed District Professional Services Agreement Template.
6. The Consultant shall defend, indemnify and hold harmless Prior Lake-Spring Lake Watershed District, its officials, employees and agents, from any and all claims, causes of action, lawsuits, damages, losses or expenses, including attorney fees, arising out of or resulting from the Consultant's (including its officials, agents, subconsultants or employees) performance of the duties required under the contract, provided that any such claim, damages, loss or expense is attributable to bodily injury, sickness, diseases or

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death or injury to or destruction of property including the loss of use resulting therefrom and is caused in whole or in part by any negligent act or omission or willful misconduct of Consultant.

7. The Consultant contract shall be governed by the laws of the State of Minnesota.
8. Invoices submitted to the District shall include a detailed breakdown of staff members and hours charged, a description of the work completed, mileage, etc. chargeable for the invoice period.
9. If there is a conflict between this section and the terms of the final professional services agreement, the professional services agreement shall prevail.
10. The attached professional services agreement template shall serve as the basis for contract negotiations.

SECTION 6: CONCLUSION AND SUBMITTAL

Any requests for additional information that may be needed for the preparation of the proposal should be directed via email to Emily Dick at edick@plslwd.org by April 26, 2023. No responses will be provided for questions received after that time.

A list of all questions received, and the Project Team's responses will be provided to all persons or firms who were solicited for RFP submission.

Please provide an electronic (pdf) copy of the Proposal for the evaluation process. Proposals must be e-mailed to edick@plslwd.org.

Proposals will be accepted until May 3, 2023, 4:30 p.m.

Attachments:

- Current Ferric Chloride System Plans
- Ferric Chloride Operations and Maintenance Manual
- Flow data
- EOR Memo on Recommendations to FeCl System Effectiveness
- PLSLWD Professional Services Agreement Template