EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

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(651) 204-6070

BOARD OF DIRECTORS MEETING AGENDA

7:00 PM APRIL 22, 2020

Meeting will be held by WebEx video conferencing and phone:

For video conferencing on your computer, enter into your web browser:
https://meetingsamer9.webex.com/meet/tyler.thompson

For joining by phone, please dial **+1-408-418-9388** and enter the access code: **626 368 138**, **followed by #, when prompted.** Also, please note that this is not a toll-free number, and associated charges from your phone provider may apply.

Vadnais Heights City Hall, Council Chambers; 800 County Road E, East, Vadnais Heights

I. **Call to Order**, Chair, Jim Lindner

II. **Approval of Agenda**

III. **Visitors and Presentations**

A. 2019 Financial report and audit – CLA
B. TEC Report and Financial – April – Paul Duxbury
C. Award presentation: Stephanie McNamara
D. Public visitors – non agenda items

IV. **Consent Agenda**

A. Approval of Minutes March 25, 2020
B. Project update reports: Birch SLMP, Frog and Toad Story Map, W Vadnais Carp Project, Lambert EAW
C. 2019 Annual Report, report summary, water monitoring summary

V. **Business**

A. Administration
   1. Administrator
   2. Draft 2021 budget – discussion
B. Education and Outreach
   1. White Bear Center for the Arts – Community Blue grant amendment
C. Projects
   1. Lambert Lake – Preparation for CPL Grant – Dawn
   2. Goose Lake Alum Treatment Grant – Stephanie
   3. WBF Goose Lake Subwatershed BMP Selection & Proceeding – Tyler

VI. **Discussion**

VII. **Administration Communication –**

XI. **Adjourn**

Next regular meeting: June 24, 2020

Upcoming Webinars: vlawmo.org/events

- Raingardens 101: May 6th
- Native Plants Close to Home: May 13th
- Resilient Yards: June 11th

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org

To: VLAMWO Board of Directors

From: Stephanie McNamara

RE: III. A. 2019 Financial Report and Audit

Representatives from Clifton, Larson, Allen LLP, Christopher Knopik and Liz Towne will be present at the meeting with a presentation of the audit materials. The 2019 Financial report and audit documents, the Governance letter and the Internal Control letter are enclosed in the packet. Please feel free to ask questions. These documents will need to be sent to the Board of Water & Soil Resources and the State Auditor's office. VLAWMO also send the financial report to each of our JPA member communities.

Recommendation: Staff recommends the Board accept the 2019 Financial Report and audit documents and direct them to be distributed to the appropriate state and local agencies.

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Board of Directors and Management
Vadnais Lake Area Water Management Organization
Vadnais Heights, Minnesota

In planning and performing our audit of the financial statements of the governmental activities and the major fund of the Vadnais Lake Area Water Management Organization (the Organization) as of and for the year ended December 31, 2019, in accordance with auditing standards generally accepted in the United States of America, we considered the Organization's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Organization's internal control. Accordingly, we do not express an opinion on the effectiveness of the Organization's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and, therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified a certain deficiency in internal control that we consider to be a material weakness.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A material weakness is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the Organization's financial statements will not be prevented, or detected and corrected, on a timely basis.

Material weaknesses

We consider the following deficiencies in the Organization's internal control to be material weaknesses.

Financial reporting process

The board of directors and management share the ultimate responsibility for the Organization's internal control system. While it is acceptable to outsource various accounting functions, the responsibility for internal control cannot be outsourced.

The Organization engages CliftonLarsonAllen LLP (CLA) to assist in preparing its financial statements and accompanying disclosures, including adjustments for the conversion from modified to full accrual balances. Adjustments also included recording special assessments receivable and other receivables and payables. However, as independent auditors, CLA cannot be considered part of the Organization's internal control system. As part of its internal control over the preparation of its financial statements, including disclosures, the Organization has implemented a comprehensive review procedure to ensure that the financial statements, including disclosures, are complete and accurate. Such review procedures should be performed by an individual possessing a thorough understanding of accounting principles generally accepted in the United States of America and knowledge of the Organization's activities and operations.

Material weaknesses (continued)

Financial reporting process (continued)

The Organization's personnel have not monitored recent accounting developments to the extent necessary to enable them to prepare the Organization's financial statements and related disclosures, to provide a high level of assurance that potential omissions or other errors that are material would be identified and corrected on a timely basis. If the financial statements are not properly monitored, the financial statements on a monthly basis may not be consistent with the annual financial statements.

The outsourcing of this service is not unusual in organizations of your size and is a result of management's cost benefit decision to use our accounting expertise rather than to incur internal resource costs.

Other deficiencies in internal control and other matters

During our audit, we became aware of other deficiencies in internal control and other matters that are opportunities to strengthen your internal control and improve the efficiency of your operations. While the nature and magnitude of the other deficiencies in internal control were not considered important enough to merit the attention of the board of directors they are considered of sufficient importance to merit management's attention and are included herein to provide a single, comprehensive communication for both those charged with governance and management.

Documentation and review

During our testing of internal controls, it was noted in several areas the documentation of review was not retained or indicated on the supporting statements. These areas include payroll registers, bank reconciliations, and journal entries. We recommend the Organization review their policies and procedures and ensure a formal review process is in place for all areas. These review processes should include proper documentation of the reviews.

We will review the status of these comments during our next audit engagement. We have already discussed many of these comments and suggestions with various Organization personnel, and we will be pleased to discuss them in further detail at your convenience, to perform any additional study of these matters, or to assist you in implementing the recommendations.

* * *

This communication is intended solely for the information and use of management, the board of directors, and others within the Organization, and is not intended to be, and should not be, used by anyone other than these specified parties.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Minneapolis, Minnesota
April 1, 2020

CliftonLarsonAllen LLP
CLAconnect.com

Board of Directors
Vadnais Lake Area Water Management Organization
Vadnais Heights, Minnesota

We have audited the financial statements of the governmental activities and the major fund of Vadnais Lake Area Water Management Organization (the Organization) as of and for the year ended December 31, 2019, and have issued our report thereon dated April 1, 2020. We have previously communicated to you information about our responsibilities under auditing standards generally accepted in the United States of America, as well as certain information related to the planned scope and timing of our audit. Professional standards also require that we communicate to you the following information related to our audit.

Significant audit findings

Qualitative aspects of accounting practices

Accounting policies

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by the Organization are described in Note 1 to the financial statements.

No new accounting policies were adopted and the application of existing policies was not changed during 2019.

We noted no transactions entered into by the Organization during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. The most sensitive estimates affecting the financial statements were:

- Management's estimate of the useful lives of capital assets is based on authoritative guidance and past experience. We evaluated the key factors and assumptions used to develop the useful lives of capital assets in determining that it is reasonable in relation to the financial statements taken as a whole.

- Management's estimate of the amount of the year-end compensated absences payable to employees is based on historical trends and anticipated leave time activity.

- Management's estimate of the city's proportionate share of Public Employees' Retirement Association of Minnesota net pension liabilities as well as the related deferred inflows and outflows of resources is based on guidance from GASB Statement No. 68, GASB Statement No. 71, and the plans' allocation tables. The plans' allocation tables allocate a portion of the plans' net pension liabilities based on the city's contributions during the plans' fiscal years as a percentage of total contributions received for the related fiscal year by the plans.

Financial statement disclosures

Certain financial statement disclosures are particularly sensitive because of their significance to financial statement users. There were no particularly sensitive financial statement disclosures.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties encountered in performing the audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Uncorrected misstatements

Professional standards require us to accumulate all misstatements identified during the audit, other than those that are clearly trivial, and communicate them to the appropriate level of management. Management has determined that the effects of uncorrected misstatements are immaterial, both individually and in the aggregate, to the financial statements taken as a whole. The following summarizes uncorrected misstatements of the financial statements:

- Expenses were overstated by $7,095 as of December 31, 2018 due to an estimate in Accounts Payable. We are passing on adjusting beginning fund balance as of December 31, 2019.

Corrected misstatements

The following material and immaterial misstatements detected as a result of audit procedures were corrected by management:

- Recording special assessments receivable.
- Recording accrued wages and other payables.

Disagreements with management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditors' report. No such disagreements arose during our audit.

Management representations

We have requested certain representations from management that are included in the management representation letter dated April 1, 2020.

Management consultations with other independent accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to the Organization's financial statements or a determination of the type of auditors' opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Significant issues discussed with management prior to engagement

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to engagement as the Organization's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our engagement.

Other audit findings or issues

We have provided a separate letter to you dated April 1, 2020, communicating internal control related matters identified during the audit.

Other information in documents containing audited financial statements

With respect to the required supplementary information (RSI) accompanying the financial statements, we made certain inquiries of management about the methods of preparing the RSI, including whether the RSI has been measured and presented in accordance with prescribed guidelines, whether the methods of measurement and preparation have been changed from the prior period and the reasons for any such changes, and whether there were any significant assumptions or interpretations underlying the measurement or presentation of the RSI. We compared the RSI for consistency with management's responses to the foregoing inquiries, the basic financial statements, and other knowledge obtained during the audit of the basic financial statements. Because these limited procedures do not provide sufficient evidence, we did not express an opinion or provide any assurance on the RSI.

* * *

This communication is intended solely for the information and use of the board of directors and management of Vadnais Lake Area Water Management Organization and is not intended to be, and should not be, used by anyone other than these specified parties.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Minneapolis, Minnesota
April 1, 2020

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

FINANCIAL STATEMENTS AND SUPPLEMENTARY INFORMATION

YEAR ENDED DECEMBER 31, 2019

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
TABLE OF CONTENTS
YEAR ENDED DECEMBER 31, 2019

INTRODUCTORY SECTION

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
BOARD OF DIRECTORS AND APPOINTED OFFICIALS
YEAR ENDED DECEMBER 31, 2019

BOARD OF DIRECTORS

Name	Title	Member City
Jim Lindner	Chairperson	Gem Lake
Marty Long	Vice-Chair	North Oaks
Rob Rafferty	Treasurer	Lino Lakes
Dan Jones	Board Member	White Bear Lake
Ed Prudhon	Board Member	White Bear Township
Patricia Youker	Board Member	Vadnais Heights

TECHNICAL COMMISSION

Name	Title	Member City
Gloria Tessier	Chairperson	Gem Lake
Jesse Farrell	Vice-Chair	Vadnais Heights
Bob Larson	Treasurer	North Oaks
Terry Huntrods	Commissioner	White Bear Lake
Marty Asleson	Commissioner	Lino Lakes
Paul Duxbury	Commissioner	White Bear Township

FINANCIAL SECTION

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INDEPENDENT AUDITORS' REPORT

Board of Directors
Vadnais Lake Area Water Management Organization
Vadnais Heights, Minnesota

Report on the Financial Statements

We have audited the accompanying financial statements of the governmental activities and the major fund of the Vadnais Lake Area Water Management Organization (the Organization), Vadnais Heights, Minnesota, as of and for the year ended December 31, 2019, and the related notes to the financial statements, which collectively comprise the Organization's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities and the major fund of the Organization as of December 31, 2019, and the respective changes in financial position and the budgetary comparison for the General Fund for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited Vadnais Lake Area Water Management Organization's 2018 financial statements of the governmental activities and major fund, and we expressed unmodified opinions on those financial statements in our report dated April 24, 2019. In our opinion, the summarized comparative information presented herein as of and for the year ended December 31, 2018 is consistent, in all material respects, with the audited information from which is has been derived.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 4 through 12, the schedule of employer's share of PERA net pension liability, and the schedule of employer's share of PERA contributions on page 40 be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise the Organization's basic financial statements. The introductory section is presented for purposes of additional analysis and is not a required part of the basic financial statements.

The introductory section has not been subjected to the auditing procedures applied in the audit of the basic financial statements and, accordingly, we do not express an opinion or provide any assurance on it.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Minneapolis, Minnesota
April 1, 2020

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
MANAGEMENT'S DISCUSSION AND ANALYSIS
DECEMBER 31, 2019

As management of the Vadnais Lake Area Water Management Organization (the Organization), Vadnais Heights, Minnesota, we offer readers of the Organization's financial statements this narrative overview and analysis of the financial activities of the Organization for the fiscal year ended December 31, 2019. We encourage readers to consider the information presented here in conjunction with the financial statements, which follow this section.

Financial Highlights

- The assets and deferred outflows of resources of the Organization exceeded its liabilities and deferred inflows of resources at the close of the most recent fiscal year by $956,865 (*net position*). Of this amount, $468,792 (*unrestricted net position*) may be used to meet the Organization's ongoing obligations.

- The Organization's total net position increased by $146,743.

- As of the close of the current fiscal year, the Organization's General Fund reported combined ending fund balances of $786,103, an increase of $178,786 in comparison with the prior year.

- The ending General Fund balance was $786,103. Of this balance, $455,895 is committed purposes disclosed in the financial statements.

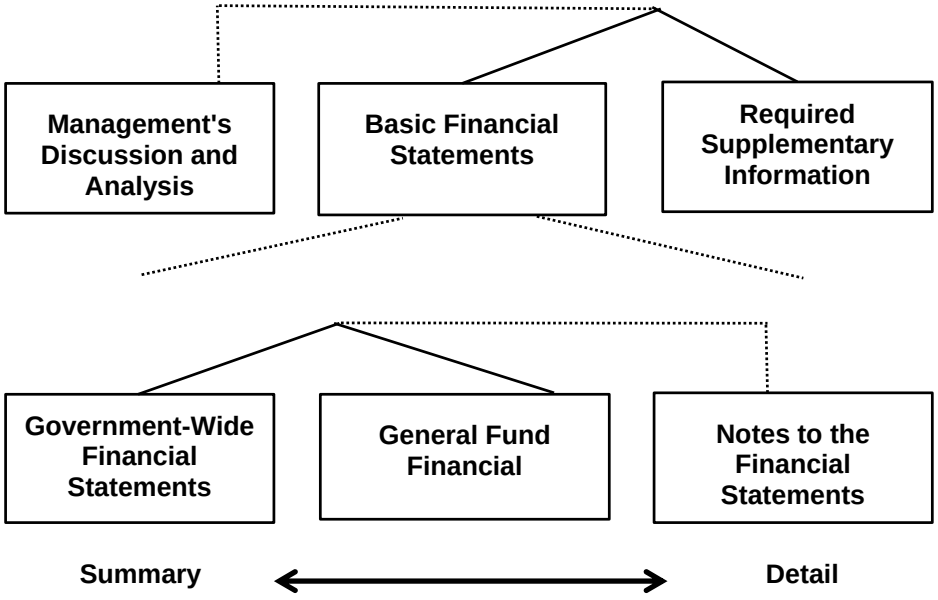
- The Organization's unrestricted cash and temporary investments as of December 31, 2019 increased to $819,206 from $687,715 as of December 31, 2018.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the Organization's basic financial statements. The Organization's basic financial statements are comprised of three components: 1) government-wide financial statements, 2) General Fund financial statements, and 3) notes to the financial statements. This report also contains other required supplemental information in addition to the basic financial statements themselves.

The financial statements also include notes that explain some of the information in the financial statements and provide more detailed data. Figure 1 shows how the required parts of this annual report are arranged and relate to one another.

Figure 1
Required Components of the Organization's Annual Financial Report



Overview of the Financial Statements (Continued)

Figure 2 summarizes the major features of the Organization's financial statements, including the portion of the Organization government they cover and the types of information they contain. The remainder of this overview section of management's discussion and analysis explains the structure and contents of each of the statements.

Figure 2
Major Features of the Government-Wide and Fund Financial Statements

	Fund Financial Statements	
	Government-Wide Statements	**General Fund**
Scope	Entire Organization	The activities of the Organization
Required financial statements	• Statement of Net Position • Statement of Activities	• Balance Sheet • Statement of Revenues, Expenditures, and Changes in Fund Balances
Accounting Basis and measurement focus	Accrual accounting and economic resources focus	Modified accrual accounting and current financial resources focus
Type of asset/liability information	All assets and liabilities, both financial and capital, and short-term and long-term	Only assets expected to be used up and liabilities that come due during the year or soon thereafter; no capital assets included
Type of deferred outflows/inflows of resources information	All deferred outflows/inflows of resources, regardless of when cash is received or paid	Only deferred outflows of resources expected to be used up and deferred inflows of resources that come due during the year or soon thereafter; no capital assets included
Type of inflow/outflow information	All revenues and expenses during year, regardless of when cash is received or paid	Revenues for which cash is received during or soon after the end of the year; expenditures when goods or services have been received and payment is due during the year or soon thereafter

Government-Wide Financial Statements

The government-wide financial statements are designed to provide readers with a broad overview of the Organization's finances, in a manner similar to a private-sector business.

The *statement of net position* presents information on all of the Organization's assets and liabilities, with the difference between the two reported as *net position*. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the Organization is improving or deteriorating.

The *statement of activities* presents information showing how the Organization's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, *regardless of the timing of related cash flows*. Thus, revenues and expenses are reported in this statement for some items that will only result in cash flows in future fiscal periods (e.g., grants and earned but unused vacation and sick leave).

The governmental activities of the Organization include general and administrative, programs, and projects.

Fund Financial Statements

A *fund* is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The Organization, like other state and local government, uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements. The Organization currently only uses a general fund.

General Fund

The *General Fund* is used to account for essentially the same functions reported as *governmental activities* in the government-wide financial statements. However, unlike the government-wide financial statements, the General Fund financial statements focus on *near-term inflows and outflows of spendable resources*, as well as on *balances of spendable resources* available at the end of the fiscal year. Such information may be useful in evaluating a government's near-term financing requirements.

Because the focus of the General Fund is narrower than that of the government-wide financial statements, it is useful to compare the information presented for the *General Fund* with similar information presented for *governmental activities* in the government-wide financial statements. By doing so, readers may better understand the long-term impact by the government's near-term financing decisions. Both the General Fund balance sheet and the General Fund statement of revenues, expenditures and changes in fund balance provide a reconciliation to facilitate this comparison between the *General Fund* and *governmental activities*.

The Organization adopts an annual appropriated budget for its General Fund. A budgetary comparison statement has been provided for the General Fund to demonstrate compliance with this budget.

Notes to the Financial Statements

The notes provide additional information that is essential to a full understanding of the data provided in the government-wide and fund financial statements.

Government-Wide Financial Analysis

As noted earlier, net position may serve over time as a useful indicator of a government's financial position. In the case of the Organization, assets and deferred outflows of resources exceeded liabilities and deferred inflows of resources by $956,865 at the close of the most recent fiscal year.

The largest portions of the Organization's net position are unrestricted and available to meet the ongoing needs of the Organization. The Organization has a total of 51% classified as investment in capital assets (e.g., land, buildings, machinery, and equipment). The Organization uses these capital assets to provide services to its member cities; consequently, these assets are not available for future spending.

Government-Wide Financial Analysis (Continued)

Vadnais Lake Area Water Management Organization's Summary of Net Position

	December 31, 2019	December 31, 2018	Increase (Decrease)
ASSETS			
Current	$ 1,768,829	$ 1,572,820	$ 196,009
Capital, Net of Accumulated Depreciation	488,073	500,845	(12,772)
Total Assets	2,256,902	2,073,665	183,237
DEFERRED OUTFLOWS OF RESOURCES			
Deferred Pension Resources	28,659	59,386	(30,727)
LIABILITIES			
Current	1,018,419	970,284	48,135
Noncurrent	252,185	271,547	(19,362)
Total Liabilities	1,270,604	1,241,831	28,773
DEFERRED INFLOWS OF RESOURCES			
Deferred Pension Resources	58,092	81,098	(23,006)
NET POSITION			
Net Investment in Capital Assets	488,073	500,845	(12,772)
Unrestricted	468,792	309,277	159,515
Total Net Position	$ 956,865	$ 810,122	$ 146,743

At the end of the current fiscal year, the Organization is able to report positive balances in both categories of net position.

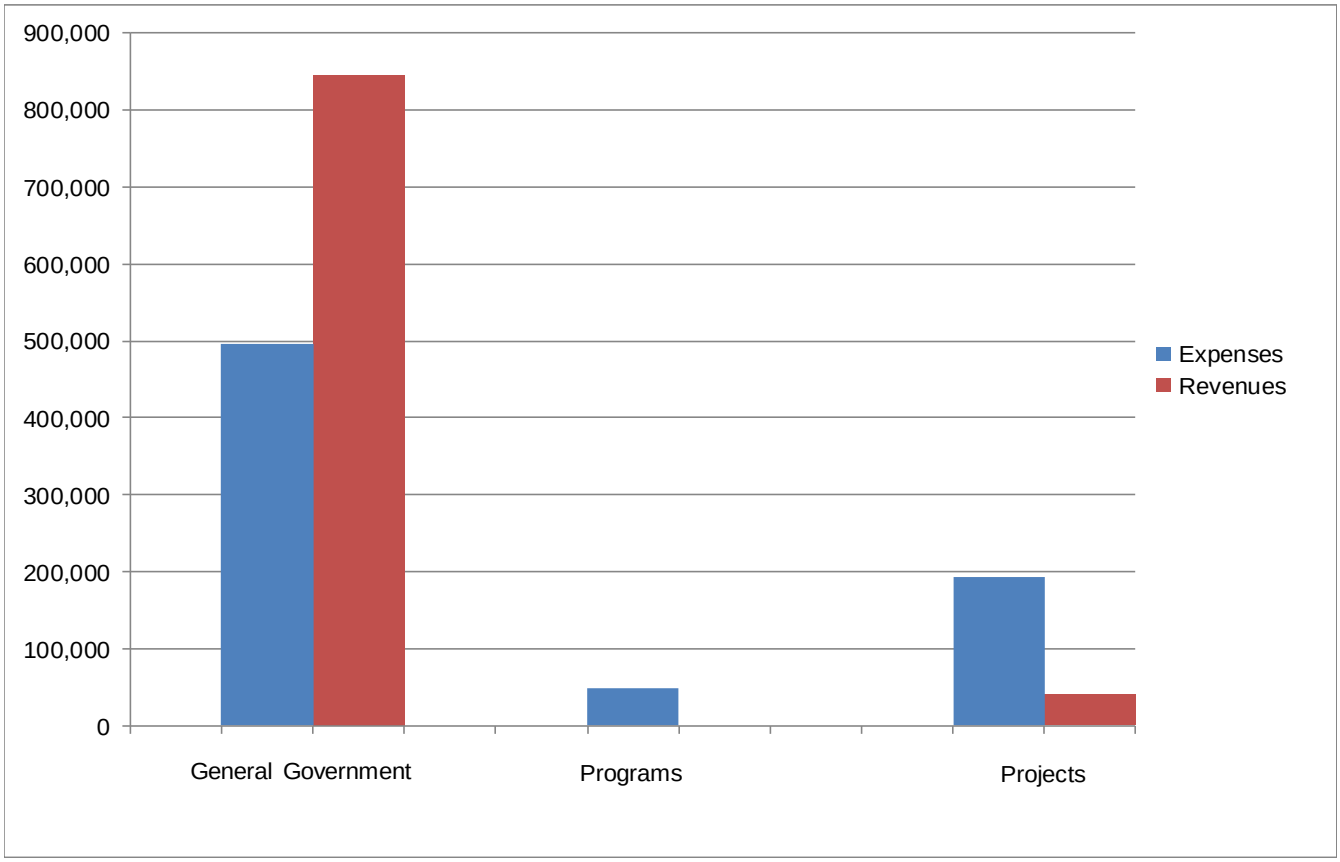
Government-Wide Financial Analysis (Continued)

Vadnais Lake Area Water Management Organization's Changes in Net Position

	December 31, 2019	December 31, 2018	Increase (Decrease)
REVENUES			
Program:			
Charges for Services	$ 835,069	$ 756,604	$ 78,465
Operating Grants and Contributions	40,870	176,599	(135,729)
General:			
Unrestricted Investment Earnings	10,526	7,565	2,961
Total Revenues	886,465	940,768	(54,303)
EXPENSES			
General and Administrative	496,890	446,811	50,079
Programs	50,021	26,241	23,780
Projects	192,811	201,640	(8,829)
Total Expenses	739,722	674,692	65,030
CHANGE IN NET POSITION	146,743	266,076	(119,333)
Net Position - January 1	810,122	544,046	266,076
NET POSITION - DECEMBER 31	$ 956,865	$ 810,122	$ 146,743

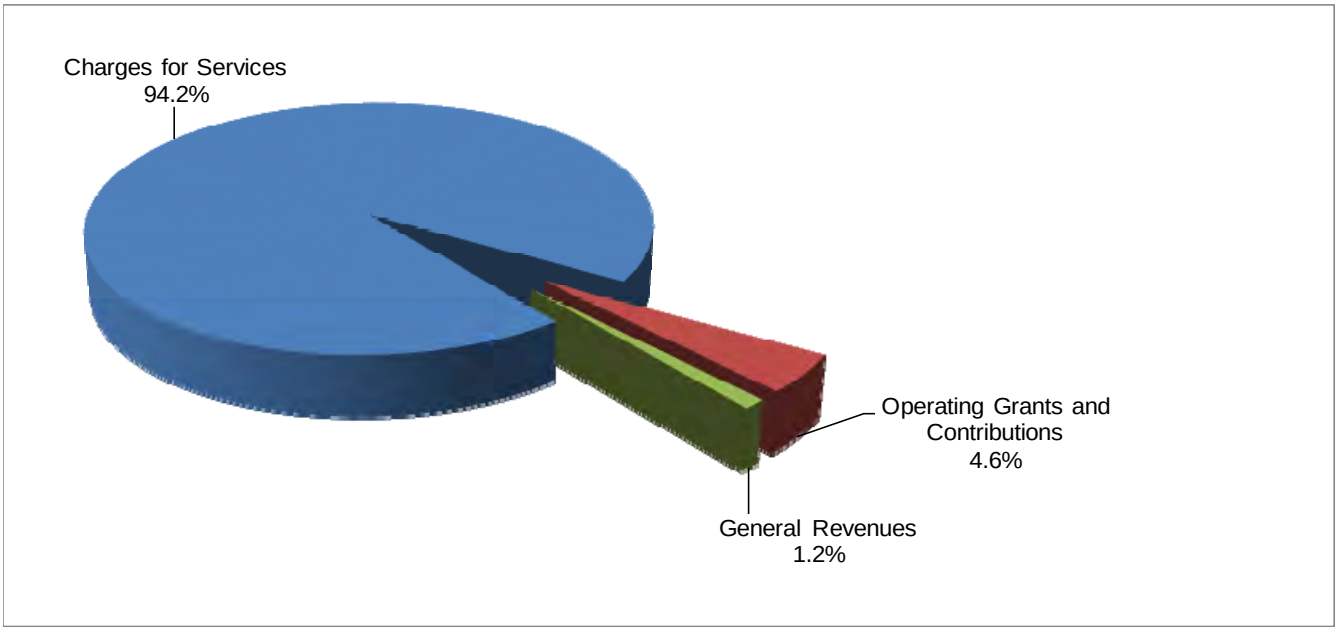
Government-Wide Financial Analysis (Continued)

Expenses and Program Revenues – Governmental Activities



Government-Wide Financial Analysis (Continued)

Revenues by Source – Governmental Activities



Financial Analysis of the General Fund

As noted earlier, the Organization uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements.

General Fund

The focus of the Organization's *General Fund* is to provide information on near-term inflows, outflows, and balances of *spendable* resources. Such information is useful in assessing the Organization's financing requirements. In particular, *unassigned fund balance* may serve as a useful measure of a government's net resources available for spending at the end of the fiscal year.

As of the end of the current fiscal year, the Organization's General Fund reported an ending fund balance of $786,103 an increase of $178,786 in comparison with the prior year. Approximately 42% of the total amount, $330,208, constitutes unassigned fund balance, which is available for spending at the Organization's discretion. The remainder fund balance of $455,895 is committed for purposes described in the notes to the financial statements. As a measure of the General Fund's liquidity, it may be useful to compare total fund balance to total fund expenditures. Total fund balance represents 111% of 2019 fund expenditures and 104% of 2018 fund expenditures.

General Fund Budgetary Highlights

The Organization's General Fund budget was not amended during the year. Actual revenues were over budget by $52,384, mainly due to intergovernmental grants exceeding budget by $35,479. Expenditures were under budget with a variance of $121,202 mostly due to project costs being lower than anticipated.

Capital Asset and Debt Administration

Capital Assets

The Organization's investment in capital assets for its governmental activities as of December 31, 2019, amounts to $488,073 (net of accumulated depreciation).

Additional information on the Organization's capital assets can be found in Note 3 of this report.

Economic Factors and Next Year's Budgets

The Organization considered and prepared the 2020 budget based on the following factors:

- Revenue is primarily from the storm sewer utility assessment, with occasional income from grants, service fees, and interest.
- Expenditures fall into three main categories: Programs, projects, and general and administration.
- Programs include: monitoring and data analysis, sustainable lake plans, cost-share, education and outreach, maintenance, and 30% of payroll for five employees.
- Projects include capital projects such as the Sucker Lake channel restoration, year four of the bacteria source monitoring on Lambert Creek, Lambert Creek hydrologic study, and development of the Whitaker Treatment wetland project occupying 40% of payroll for five employees.
- Operations and administration include office rent and supplies, bookkeeping and general and program audit, information systems, insurance, and 30% payroll for five employees and legal expenses.

All of these factors were considered in preparing the Organization's budget for the 2019 fiscal year.

Requests for Information

This financial report is designed to provide a general overview of the Organization's finances for all those with an interest in the Organization's finances. Questions concerning any of the information provided in this report or requests for additional financial information should be addressed to Stephanie McNamara, Administrator, Vadnais Lake Area Water Management Organization, 800 County Road E East, Vadnais Heights, MN 55127.

BASIC FINANCIAL STATEMENTS

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
STATEMENT OF NET POSITION
DECEMBER 31, 2019

	Governmental Activities
ASSETS	
Cash and Temporary Investments	$ 819,206
Restricted Cash	29,653
Receivables:	
Special Assessments	919,970
Capital Assets:	
Depreciable Assets, Net of Accumulated Depreciation	488,073
Total Assets	2,256,902
DEFERRED OUTFLOWS OF RESOURCES	
Deferred Pension Resources	28,659
LIABILITIES	
Accounts Payable	18,757
Escrow Deposits Payable	29,591
Salaries Payable	23,359
Due to Other Government	7,498
Unearned Revenue	895,871
Compensated Absences Payable:	
Due Within One Year	43,343
Due in More than One Year	14,448
Net Pension Liability:	
Due in More than One Year	237,737
Total Liabilities	1,270,604
DEFERRED INFLOWS OF RESOURCES	
Deferred Pension Resources	58,092
NET POSITION	
Net Investment in Capital Assets	488,073
Unrestricted	468,792
Total Net Position	$ 956,865

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
STATEMENT OF ACTIVITIES
YEAR ENDED DECEMBER 31, 2019

Functions/Programs	Expenses	Program Revenues: Charges for Services	Program Revenues: Operating Grants and Contributions	Program Revenues: Capital Grants and Contributions	Net Revenue (Expense) and Changes in Net Position: Governmental Activities
GOVERNMENTAL ACTIVITIES					
General and Administrative	$ 496,890	$ 835,069	$ 40,479	$ -	$ 378,658
Programs	50,021	-	-	-	(50,021)
Projects	192,811	-	391	-	(192,420)
Total	$ 739,722	$ 835,069	$ 40,870	$ -	136,217
	GENERAL REVENUES				
	Unrestricted Investment Earnings				10,526
	CHANGE IN NET POSITION				146,743
	Net Position - January 1				810,122
	NET POSITION - DECEMBER 31				$ 956,865

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
BALANCE SHEET
GENERAL FUND
DECEMBER 31, 2019
(WITH SUMMARIZED COMPARATIVE INFORMATION AS OF DECEMBER 31, 2018)

	2019	2018
ASSETS		
Cash and Temporary Investments	$ 819,206	$ 687,715
Restricted Cash	29,653	29,661
Receivables:		
Accounts	-	3,259
Special Assessments	919,970	852,185
Total Assets	$ 1,768,829	$ 1,572,820
LIABILITIES, DEFERRED INFLOWS OF RESOURCES, AND FUND BALANCES		
LIABILITIES		
Accounts Payable	$ 18,757	$ 68,905
Escrow Deposits Payable	29,591	29,591
Salaries Payable	23,359	22,618
Due to Other Government	7,498	7,292
Unearned Revenue	895,871	830,878
Total Liabilities	975,076	959,284
DEFERRED INFLOWS OF RESOURCES		
Unavailable Revenue - Special Assessments	7,650	6,219
FUND BALANCES		
Committed	455,895	340,591
Unassigned	330,208	266,726
Total Fund Balances	786,103	607,317
Total Liabilities, Deferred Inflows of Resources, and Fund Balances	$ 1,768,829	$ 1,572,820

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
RECONCILIATION OF THE BALANCE SHEET TO THE STATEMENT OF NET POSITION
DECEMBER 31, 2019

Amounts reported for the governmental activities in the statement of net position are different because:		
Total Fund Balances - Governmental	$	786,103
Capital assets used in governmental activities are not financial resources and therefore are not reported as assets in governmental funds.		
Cost of Capital Assets		666,851
Less: Accumulated Depreciation		(178,778)
Noncurrent liabilities are not due and payable in the current period and therefore are not reported as liabilities in the funds.		
Compensated Absences Payable		(57,791)
Pension Liability		(237,737)
Some receivables are not available soon enough to pay for the current periods expenditures, and therefore are unavailable in the funds.		
Special Assessments		7,650
Governmental funds do not report long-term amounts related to pensions.		
Deferred Outflows of Pension Resources		28,659
Deferred Inflows of Pension Resources		(58,092)
Total Net Position - Governmental Activities	$	956,865

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES
GENERAL FUND
YEAR ENDED DECEMBER 31, 2019
(WITH SUMMARIZED COMPARATIVE INFORMATION FOR THE YEAR ENDED DECEMBER 31, 2018)

	2019	2018
REVENUES		
Charges for Services	$ 832,014	$ 758,935
Intergovernmental Grants	40,479	176,278
Interest on Investments	10,526	7,565
Miscellaneous	2,015	1,467
Total Revenues	885,034	944,245
EXPENDITURES		
Current:		
General and Administrative	476,188	434,160
Programs	41,947	22,141
Projects	188,113	297,676
Total Expenditures	706,248	753,977
EXCESS (DEFICIENCY) OF REVENUES OVER (UNDER) EXPENDITURES	178,786	190,268
Fund Balances - January 1	607,317	417,049
FUND BALANCES - DECEMBER 31	$ 786,103	$ 607,317

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
RECONCILIATION OF THE STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES TO THE STATEMENT OF ACTIVITIES
YEAR ENDED DECEMBER 31, 2019

Amounts reported for the governmental activities in the statement of activities are different because:		
Total Net Change in Fund Balances - Governmental Funds	$	178,786
Capital outlays are reported in governmental funds as expenditures. However in the statement of activities, the cost of those assets is allocated over the estimated useful lives as depreciation expense.		
Depreciation Expense		(43,305)
Capital Outlays		30,533
Certain revenues are recognized as soon as they are earned. Under the modified accrual basis of accounting, certain revenues cannot be recognized until they are available to liquidate liabilities of the current period.		
Special Assessments		1,431
Some expenses reported in the statement of activities do not require the use of current financial resources and, therefore, are not reported as expenditures in governmental funds.		
Pension Expense		(6,912)
Compensated Absences		(13,790)
Change in Net Position - Governmental Activities	$	146,743

See accompanying Notes to Financial Statements.

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION
STATEMENT OF REVENUES, EXPENDITURES, AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
GENERAL FUND
YEAR ENDED DECEMBER 31, 2019
(WITH COMPARATIVE ACTUAL AMOUNTS FOR THE YEAR ENDED DECEMBER 31, 2018)

	2019				2018
	Budgeted Amounts		Actual	Variance with	Actual
	Original	Final	Amounts	Final Budget	Amount
REVENUES					
Charges for Services	$ 826,150	$ 826,150	$ 832,014	$ 5,864	$ 758,935
Intergovernmental Grants	5,000	5,000	40,479	35,479	176,278
Interest on Investments	1,300	1,300	10,526	9,226	7,565
Miscellaneous	200	200	2,015	1,815	1,467
Total Revenues	832,650	832,650	885,034	52,384	944,245
EXPENDITURES					
General and Administrative:					
Wages	353,760	353,760	324,152	29,608	281,092
Payroll Taxes and Employee Benefits	88,810	88,810	79,034	9,776	74,781
Legal	4,000	4,000	2,985	1,015	4,996
Professional Services	8,700	8,700	13,208	(4,508)	19,179
Information Systems	22,000	22,000	16,058	5,942	16,012
Insurance	5,200	5,200	7,628	(2,428)	5,251
Office	24,980	24,980	20,604	4,376	20,106
Staff Training	4,500	4,500	2,971	1,529	3,573
Telephone	-	-	3,300	(3,300)	3,240
Miscellaneous	5,500	5,500	6,248	(748)	5,579
Programs:					
Monitoring	44,000	44,000	41,947	2,053	22,141
Maintenance	5,000	5,000	-	5,000	-
Projects	261,000	261,000	188,113	72,887	297,676
Total Expenditures	827,450	827,450	706,248	121,202	753,626
EXCESS (DEFICIENCY) OF REVENUES OVER (UNDER) EXPENDITURES	5,200	5,200	178,786	(68,818)	190,619
Fund Balances - January 1	506,024	506,024	607,317	101,293	315,405
FUND BALANCES - DECEMBER 31	$ 511,224	$ 511,224	$ 786,103	$ 32,475	$ 506,024

See accompanying Notes to Financial Statements.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Reporting Entity

The Vadnais Lake Area Water Management Organization (the Organization), Vadnais Heights, Minnesota, was established to meet the requirements of the Metropolitan Surface Water Management the Act, re-codified as Minnesota Statutes, Chapters 103-b and 103-d.

The general purpose of the Organization is to establish a jointly and cooperatively developed water management plan and program to (1) protect, preserve, and use natural surface and groundwater storage and retention systems; (2) minimize capital expenditures necessary to correct flooding and water quality problems; (3) identify and plan for means to effectively protect and improve surface and groundwater quality; (4) establish more uniform local policies and official controls for surface water, wetland and groundwater management; (5) prevent erosion of soil into surface water systems; (6) promote groundwater recharge; (7) protect and enhance fish and wildlife habitat and water recreational facilities; and (8) secure other benefits associated with the proper management of surface ground water, and be in accordance with the Act.

The Organization is governed by a board of directors which consists of six members, one from each of the following governmental units: City of North Oaks, City of White Bear Lake, City of Lino Lakes, White Bear Township, City of Vadnais Heights, and City of Gem Lake. The board of directors exercises legislative authority and determines all matters of policy. The board of directors appoints personnel responsible for the proper administration of all affairs relating to the Organization's activities.

The Organization has considered all potential units for which it is financially accountable, and other organizations for which the nature and significance of their relationship with the Organization are such that exclusion would cause the Organization's financial statements to be misleading or incomplete. The Governmental Accounting Standards Board (GASB) has set forth criteria to be considered in determining financial accountability. These criteria include appointing a voting majority of an organization's governing body, and (1) the ability of the primary government to impose its will on that organization, or (2) the potential for the organization to provide specific benefits to, or impose specific financial burdens on the primary government. The Organization has no component units that meet the GASB criteria.

Government-Wide and General Fund Financial Statements

The government-wide financial statements (i.e., the statement of net position and the statement of activities) report information on all of the nonfiduciary activities of the Organization.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Government-Wide and Fund Financial Statements (Continued)

The statement of activities demonstrates the degree to which the direct expenses of a given function or segment is offset by program revenues. *Direct expenses* are those that are clearly identifiable with a specific function or segment. Amounts reported as *program revenues* include: 1) charges to customers or applicants who purchase, use, or directly benefit from goods, services, or privileges provided by a given function or segment, and 2) grants and contributions that are restricted to meeting the operational or capital requirements of a particular function or segment. Other items not properly included among program revenues are reported instead as *general revenues.*

Separate financial statements are provided for the General Fund.

Measurement Focus, Basis of Accounting, and Basis of Presentation

The government-wide financial statements are reported using the *economic resources measurement focus* and the *accrual basis of accounting*. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

The General Fund financial statements are reported using the *current financial resources measurement focus* and the *modified accrual basis of accounting.* Revenues are recognized as soon as they are both measurable and available. Revenues are considered to be *available* when they are collectible within the current period or soon enough thereafter to pay liabilities of the current period. For this purpose, the Organization considers revenues to be available if they are collected within 60 days of the end of the current fiscal period. Expenditures generally are recorded when a liability is incurred, as under accrual accounting. However, expenditures related to compensated absences and claims and judgments, are recorded only when payment is due.

Charges for service, assessments to members, grants, and interest associated with the current fiscal period are all considered susceptible to accrual and so have been recognized as revenues of the current fiscal period. All other revenue items are considered to be measurable and available only when cash is received by the Organization.

Revenue resulting from exchange transactions, in which each party gives and receives essentially equal value, is recorded on the accrual basis when the exchange takes place. On a modified accrual basis, revenue is recorded in the year in which the resources are measurable and become available.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Measurement Focus, Basis of Accounting, and Basis of Presentation (Continued)

Nonexchange transactions, in which the Organization receives value without directly giving equal value in return, include grants, entitlement, and donations. Eligibility requirements include timing requirements, which specify the year when the resources are required to be used or the year when use is first permitted, matching requirements, in which the Organization must provide local resources to be used for a specified purpose, and expenditure requirements, in which the resources are provided to the Organization on a reimbursement basis. On a modified accrual basis, revenue from nonexchange transactions must also be available before it can be recognized.

Unearned revenue arises when assets are recognized before revenue recognition criteria have been satisfied. Grants and entitlements received before eligibility requirements are met are also recorded as unearned revenue.

The Organization reports the following major governmental fund:

The *General Fund* is the Organization's primary operating fund. It accounts for all financial resources of the Organization.

When both restricted and unrestricted resources are available for use, it is the Organization's policy to use restricted resources first, then unrestricted resources as they are needed.

As a general rule the effect of interfund activity has been eliminated from government-wide financial statements.

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance

Deposits and Investments

The Organization's cash and temporary investments are considered to be cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition. Investments are reported at fair value.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance (Continued)

Deposits and Investments (Continued)

The Organization may also invest idle funds as authorized by Minnesota Statutes, as follows:

1. Direct obligations or obligations guaranteed by the United States or its agencies.
2. Shares of investment companies registered under the Federal Investment Company Act of 1940 and received the highest credit rating, rated in one of the two highest rating categories by a statistical rating agency, and have a final maturity of 13 months or less.
3. General obligations of a state or local government with taxing powers rated “A” or better; revenue obligations rated “AA” or better.
4. General obligations of the Minnesota Housing Finance Agency rated “A” or better.
5. Bankers’ acceptances of United States banks eligible for purchase by the Federal Reserve System.
6. Commercial paper issued by United States banks corporations or their Canadian subsidiaries, of highest quality category by at least two nationally recognized rating agencies, and maturing in 270 days or less.
7. Repurchase or reverse repurchase agreements and securities lending agreements with financial institutions qualified as a “depository” by the government entity, with banks that are members of the Federal Reserve System with capitalization exceeding $10,000,000, a primary reporting dealer in U.S. government securities to the Federal Reserve Bank of New York, or certain Minnesota securities broker-dealers.
8. Guaranteed Investment Contracts (GIC’s) issued or guaranteed by a United States commercial bank, a domestic branch of a foreign bank, a United States insurance company, or its Canadian subsidiary, whose similar debt obligations were rated in one of the top two rating categories by a nationally recognized rating agency.

The Minnesota Municipal Money Market (4M) fund operates in accordance with appropriate state laws and regulations. The 4M fund is an external investment pool not registered with the Securities and Exchange Commission (SEC); however, it follows the same regulatory rules of the SEC under rule 2a7. The reported value of the pool is the same as the fair value of the pool shares. Financial statements of the 4M fund can be obtained by contacting RBC Global Asset Management at 100 South Fifth Street, Suite 2300, Minneapolis, MN 55402-1240.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance (Continued)

Restricted Assets

Certain assets of the Organization are set aside for repayment of individual property owners once they meet specific criteria.

Accounts Receivable

Accounts receivable include amounts billed for services provided before year-end.

Special Assessments

Special assessments represent storm sewer utility charges. These assessments are recorded as receivables upon certification to the County. Special assessments are recognized as revenue in the year they are collected or received in cash or within 60 days after year-end. General Fund special assessments receivables are offset by deferred inflows of resources or unearned revenue in the fund financial statements.

Capital Assets

Capital assets, which include property, plant, and equipment, are reported in the applicable governmental activities columns in the government-wide financial statements. Capital assets are defined by the Organization as assets with an initial, individual cost of more than $5,000 (amount not rounded) and an estimated useful life in excess of one year. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated acquisition value at the date of donation.

The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend assets lives are not capitalized.

Major outlays for capital assets and improvements are capitalized as projects are constructed. Interest incurred during the construction phase of capital assets is included as part of the capitalized value of the assets constructed.

Property, plant, and equipment of the Organization are depreciated using the straight-line method over the following estimated useful lives:

Infrastructure	15 to 30 Years
Equipment	5 to 7 Years

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance (Continued)

Deferred Outflows of Resources

In addition to assets, the statement of financial position will sometimes report a separate section for deferred outflows of resources. This separate financial statement element, deferred outflows of resources, represents a consumption of net position that applies to a future period(s) and so will not be recognized as an outflow of resources (expense/expenditure) until then. The Organization has only one item that qualifies for reporting in this category. Accordingly, the item, deferred pension resources, is reported only in the statements of net position. This item results from actuarial calculations and current year pension contributions made subsequent to the measurement date.

Compensated Absences

It is the Organization's policy to permit employees to accumulate earned but unused vacation and sick benefits, which will be paid to the employee upon separation without the considerations of number of years of service. A liability for these amounts is reported in the General Fund only if they have matured, for example, as a result of employee resignations and retirements. The General Fund is used to pay employee benefits upon termination for governmental and proprietary funds.

Pensions

For purposes of measuring the net pension liability, deferred outflows/inflows of resources, and pension expense, information about the fiduciary net position of the Public Employees Retirement Association (PERA) and additions to/deductions from PERA's fiduciary net position have been determined on the same basis as they are reported by PERA except that PERA's fiscal year-end is June 30. For this purpose, plan contributions are recognized as of employer payroll paid dates and benefit payments and refunds are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value.

Deferred Inflows of Resources

In addition to liabilities, the statement of financial position and fund financial statements will sometimes report a separate section for deferred inflows of resources. This separate financial statement element, deferred inflows of resources, represents an acquisition of net position that applies to a future period(s) and so will not be recognized as an inflow of resources (revenue) until that time. The government has only one type of item, which arises only under a modified accrual basis of accounting, that qualifies as needing to be reported in this category. Accordingly, the item, unavailable revenue, is reported only in the General Fund balance sheet. The General Fund reports unavailable revenues from one source: special assessments. The unavailable amounts are deferred and recognized as an inflow of resources in the period that the amounts become available. Furthermore, the Organization has an additional item which qualifies for reporting in this category. The item, deferred pension resources, is reported only in the statements of net position, and results from actuarial calculations.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance (Continued)

Fund Balance

In the General Fund financial statements, fund balance is divided into five classifications based primarily on the extent to which the Organization is bound to observe constraints imposed upon the use of resources reported in the General Fund. These classifications are defined as follows:

Nonspendable – Amounts that cannot be spent because they are not in spendable form, such as prepaid items.

Restricted – Amounts related to externally imposed constraints established by creditors, grantors, or contributors; or constraints imposed by state statutory provisions.

Committed – Amounts constrained for specific purposes that are internally imposed by formal action (resolution) of the board of directors, which is the Organization's highest level of decision-making authority. Committed amounts cannot be used for any other purpose unless the board of directors modifies or rescinds the commitment by resolution.

Assigned – Amounts constrained for specific purposes that are internally imposed. In the General Fund, assigned amounts represent intended uses established by the board of directors itself or by an official to whom the governing body delegates the authority. The board of directors has adopted a fund balance policy which delegates the authority to assign amounts for specific purposes to the Administrator.

Unassigned – The residual classification for the General Fund and also negative residual amounts in other funds.

The Organization considers restricted amounts to be spent first when both restricted and unrestricted fund balance is available. Additionally, the Organization would first use committed, then assigned, and lastly unassigned amounts of unrestricted fund balance when expenditures are made.

The Organization has formally adopted a fund balance policy for the General Fund. The Organization's policy is to maintain a minimum unassigned fund balance of 35% to 50% of budgeted operating expenditures for cash-flow timing needs.

NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

Assets, Deferred Outflows of Resources, Liabilities, Deferred Inflows of Resources, and Net Position/Fund Balance (Continued)

Net Position

Net position represents the difference between assets and liabilities. Net position is displayed in three components:

Net Investment in Capital Assets – Consists of capital assets, net of accumulated depreciation reduced by any outstanding debt attributable to acquire capital assets.

Restricted Net Position – Consist of net position balances restricted when there are limitations imposed on their use through external restrictions imposed by creditors, grantors, laws, or regulations of other governments.

Unrestricted Net Position – All other net position balances that do not meet the definition of "restricted" or "net investment in capital assets."

Comparative Data/Reclassifications

Comparative total data for the prior year has been presented for the fund financial statements in order to provide an understanding of the change in financial position. Certain amounts presented in prior year data have been reclassified in order to be consistent with the current year's presentation.

NOTE 2 STEWARDSHIP, COMPLIANCE, AND ACCOUNTABILITY

Budgetary Information

Annual budgets are prepared on a basis consistent with accounting principles generally accepted in the United States of America for the General Fund. All annual appropriations lapse at year-end. The Organization does not use encumbrance accounting.

During the budget year, supplemental appropriations and deletions are or may be authorized by the board of directors. The budget was not amended by the board of directors in 2019.

NOTE 3 DETAILED NOTES ON ACCOUNTS

Deposits and Investments

Deposits

Custodial credit risk for deposits and investments is the risk that in the event of a bank failure, the Organization's deposits may not be returned or the Organization will not be able to recover collateral securities in the possession of an outside party. In accordance with Minnesota Statutes and as authorized by the board of directors, the Organization maintains deposits at those depository banks which are members of the Federal Reserve System.

Minnesota Statutes require that all Organization deposits be protected by insurance, surety bond, or collateral. The market value of collateral pledged must equal 110% of the deposits not covered by insurance or bonds, or irrevocable standby letters of credit from Federal Home Loan Banks.

Authorized collateral in lieu of a corporate surety bond includes:

- United States government Treasury bills, Treasury notes, Treasury bonds;
- Issues of United States government agencies and instrumentalities as quoted by a recognized industry quotation service available to the government entity;
- General obligation securities of any state or local government with taxing powers which is rated "A" or better by a national bond rating service, or revenue obligation securities of any state or local government with taxing powers which is rated "AA" or better by a national bond rating service;
- General obligation securities of a local government with taxing powers may be pledged as collateral against funds deposited by that same local government entity;
- Irrevocable standby letters of credit issued by Federal Home Loan Banks to a municipality accompanied by written evidence that the bank's public debt is rated "AA" or better by Moody's Investors Service, Inc., or Standard & Poor's Corporation; and
- Time deposits that are fully insured by any federal agency.

Minnesota Statutes require that all collateral shall be placed in safekeeping in a restricted account at a Federal Reserve Bank, or in an account at a trust department of a commercial bank or other financial institution that is not owned or controlled by the financial institution furnishing the collateral. The selection should be approved by the Organization.

At year-end, the Organization's carrying amount of deposits was $18,628 and the bank balance was $29,661. The entire bank balance was covered by federal depository insurance.

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Deposits and Investments (Continued)

Investments

The Organization does not have an investment policy and is permitted to invest its idle funds as authorized by Minnesota Statutes as follows:

- Direct obligations or obligations guaranteed by the United States or its agencies.
- Shares of investment companies registered under the Federal Investment Company Act of 1940 and received the highest credit rating, are rated in one of the two highest rating categories by a statistical rating agency and all of the investments have a final maturity of 13 months or less.
- General obligations rated “A” or better; revenue obligations rated “AA” or better.
- General obligations of the Minnesota Housing Finance Agency rate “A” or better.
- Bankers’ acceptances of United States banks eligible for purchase by the Federal Reserve System.
- Commercial paper issued by United States banks corporations or their Canadian subsidiaries, of highest quality category by a least two nationally recognized rating agencies, and maturing in 270 days or less.
- Guaranteed investment contracts guaranteed by United States commercial banks or domestic branches of foreign banks or United States insurance companies if similar debt obligations of the issuer or the collateral pledged by the issuer is in the top two rating categories.
- Repurchase or reverse purchase agreement and securities lending agreements financial institutions qualified as a “depository” by the government entity, with banks that are members of the Federal Reserve System with capitalization exceeding $10,000,000, a primary reporting dealer in U.S. government securities to the Federal Reserve Bank of New York, or certain Minnesota securities broker-dealers.

Interest Rate Risk – Interest rate risk is defined as the risk that changes in interest rates will adversely affect the fair value of an investment. Investments are categorized to give an indication of the level of interest rate risk assumed at year-end. Investments as of December 31, 2019 are as follows:

Type of Investments	Credit Quality/ Ratings (1)	Segmented Time Distribution (2)	Fair Value and Carrying Amount
Pooled Investments:			
Minnesota Trust Term Series	N/A	Less than 6 Months	$ 418,796
Minnesota Municipal Money Market Fund	N/A	Less than 6 Months	411,435
Total Investments			$ 830,231

(1) Ratings are provided by Moody's where applicable to indicate associated credit risk.
(2) Interest rate risk is disclosed using the segmented time distribution method.
N/A Indicates not applicable or available.

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Deposits and Investments (Continued)

Investments (Continued)

The investments of the Organization are subject to the following risks:

Credit Risk – Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Ratings are provided by various credit rating agencies and where applicable, indicate associated credit risk. Minnesota Statutes limit the Organization's investments to the list on page 29 of the notes.

Custodial Credit Risk – The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party.

Concentration of Credit Risk – Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer.

Interest Rate Risk – Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment.

The Organization does not have an investment policy that addresses the risks described above.

The Minnesota Municipal Money Market Fund Trust and the US Bank Money Market are money market accounts that are valued at amortized cost with maturities of investments of one year or less.

The Minnesota Municipal Money Market Trust Fund does not have its own credit rating. PMA Financial Network, Inc., who administers the Minnesota Municipal Money Market Fund Trust, holds an organization credit rating of AA by Standard & Poor's.

A reconciliation of cash and temporary investments as shown in the financial statements of the Organization follows:

Carrying Amounts of Deposits	$	18,604
Investments		830,231
Cash on Hand		24
Total	$	848,859
Cash and Investments		
Unrestricted	$	819,206
Restricted		29,653
Total	$	848,859

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Fair Value Measurements

The Organization uses fair value measurements to record fair value adjustments to certain assets and liabilities and to determine fair value disclosures.

The Organization follows an accounting standard that defines fair value, establishes a framework for measuring fair value, establishes a fair value hierarchy based on the quality of inputs used to measure fair value, and requires expanded disclosures about fair value measurements. In accordance with this standard, the Organization has categorized its investments, based on the priority of the inputs to the valuation technique, into a three-level fair value hierarchy. The fair value hierarchy gives the highest priority to quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). If the inputs used to measure the financial instruments fall within different levels of the hierarchy, the categorization is based on the lowest level input that is significant to the fair value measurement of the instrument.

Financial assets and liabilities recorded on the combined statement of financial position are categorized based on the inputs to the valuation techniques as follows:

Level 1 – Financial assets and liabilities are valued using inputs that are unadjusted quoted prices in active markets accessible at the measurement date of identical financial assets and liabilities. The inputs include those traded on an active exchange, such as the New York Stock Exchange, as well as U.S. Treasury and other U.S. government and agency mortgage-backed securities that are traded by dealers or brokers in active over-the-counter markets.

Level 2 – Financial assets and liabilities are valued based on quoted prices for similar assets, or inputs that are observable, either directly or indirectly for substantially the full term through corroboration with observable market data.

Level 3 – Financial asset and liabilities are valued using pricing inputs which are unobservable for the asset, inputs that reflect the reporting entity's own assumptions about the assumptions market participants and would use a pricing the asset.

Assets measured at fair value on a recurring basis:

	December 31, 2019			
Type	Level 1	Level 2	Level 3	Total
N/A	$ -	$ -	$ -	$ -
Subtotal	$ -	$ -	$ -	-
Investments Held at Amortized Cost				830,231
Total Investments				$ 830,231

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Fair Value Measurements (Continued)

The Minnesota Municipal Money Market Fund Trust is an external investment pool (the Pool) that is managed to maintain a dollar-weighted average portfolio maturity of no greater than 60 days and seeks to maintain a constant net asset value (NAV) per share of $1.00. The Pool elects to measure its investments at amortized cost in accordance with accounting statements issued by the Government Accounting Standards Board.

Restricted Assets

The Organization set aside the following cash balances for repayment of individual property owners:

Mitigation Restricted Cash	$ 29,653

Capital Assets

Capital asset activity for the year ended December 31, 2019 was as follows:

	Beginning Balance	Increases	Decreases	Ending Balance
Governmental Activities				
Capital Assets, Being Depreciated:				
Infrastructure	$ 613,163	$ 22,313	$ -	$ 635,476
Equipment	23,155	8,220	-	31,375
Total Capital Assets Being Depreciated	636,318	30,533	-	666,851
Less Accumulated Depreciation for:				
Infrastructure	(119,315)	(39,821)	-	(159,136)
Equipment	(16,158)	(3,484)	-	(19,642)
Total Accumulated Depreciation	(135,473)	(43,305)	-	(178,778)
Total Governmental Activities	$ 500,845	$ (12,772)	$ -	$ 488,073

The full depreciation expense amount was charged to projects.

Operating Lease

The Organization entered into a lease agreement with the City of Vadnais Heights for office space. The lease agreement has an effective period beginning January 1, 2018 and will be terminated on December 31, 2020.

The lease agreement calls for monthly payments for office space, as well as amounts for the Organizations portion of normal operating expenses, such as: janitorial, secretarial, office supplies, postage, utilities, IT support, and any other costs that arise.

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Operating Lease (Continued)

The Organization paid $21,780 and $21,106 for rent and other office expenses in 2019 and 2018, respectively. The Organization's future obligations for rent and office expenses under their new lease are as follows:

Year Ending December 31,	Amount
2020	$ 22,200
Total	$ 22,200

Unearned Revenue

The General Fund reports unearned revenue in connection with receivables for revenues that have been received, but not yet earned. At the end of the current fiscal year, the various components of unearned revenue reported were as follows:

	Unearned
Special Assessments Receivable	$ 895,871

Changes in Long-Term Liabilities

Long-term liability activity for the year ended December 31, 2019 was as follows:

	Beginning Balance	Increases	Decreases	Ending Balance	Current Portion
Governmental Activities					
Compensated Absences Payable	$ 44,001	$ 28,637	$ (14,847)	$ 57,791	$ 43,343
Government-Type Activity Long-Term Liabilities	$ 44,001	$ 28,637	$ (14,847)	$ 57,791	$ 43,343

NOTE 3 DETAILED NOTES ON ACCOUNTS (CONTINUED)

Fund Balance Classifications

At December 31, 2019, portions of the Organization's fund balance are not available for appropriation due to board of directors' action (committed). The following is a summary of the commitments:

Commitments:		
Information Systems	$	2,000
Legal Assistance		2,500
Training		800
Misc and Mileage		1,000
Admin-Payroll		62,000
Monitoring and Equipment		10,000
Education and Marketing		1,000
Community Blue		2,000
Lambert Creek		63,275
Goose Lake		150,316
Birch Lake		39,067
Gil, Black, Tam Wilkin		50,000
Pleasant Charley Deep		9,000
Sucker Vadnais		10,900
Landscape 1 Cost-Share		11,500
Landscape 2 Cost-Share		11,361
Facilities Maintenance		29,176
Total Committed	$	455,895

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE

Plan Description

The Organization participates in the following cost-sharing multiple-employer defined benefit pension plans administered by the Public Employees Retirement Association of Minnesota (PERA). PERA's defined benefit pension plans are established and administered in accordance with Minnesota Statutes, Chapters 353 and 356. PERA's defined benefit pension plans are tax-qualified plans under Section 401 (a) of the Internal Revenue Code.

General Employees Retirement Fund (GERF)

All full-time and certain part-time employees of the Organization are covered by the General Employees Plan. General Employees Plan (GERF) members belong to the Coordinated Plan. Coordinated Plan members are covered by Social Security.

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE (CONTINUED)

Benefits Provided

PERA provides retirement, disability, and death benefits. Benefit provisions are established by state statute and can only be modified by the state Legislature. Vested, terminated employees who are entitled to benefits, but are not receiving them yet, are bound by the provisions in effect at the time they last terminated their public service.

General Employees Fund Benefits

General Employees Plan benefits are based on a member's highest average salary for any five successive years of allowable service, age, and years of credit at termination of service. Two methods are used to compute benefits for PERA's Coordinated Plan members. Members hired prior to July 1, 1989, receive the higher of Method 1 or Method 2 formulas. Only Method 2 is used for members hired after June 30, 1989. Under Method 1, the accrual rate for Coordinated members is 1.2% of average salary for each of the first 10 years of service and 1.7% of average salary for each additional year. Under Method 2, the accrual rate for Coordinated members is 1.7% of average salary for all years of service. For members hired prior to July 1, 1989, a full annuity is available when age plus years of service equal 90 and normal retirement age is 65. For members hired on or after July 1, 1989, normal retirement age is the age for unreduced Social Security benefits capped at 66.

Annuities, disability benefits, and survivor benefits are increased effective every January 1. Beginning January 1, 2019, the postretirement increase will be equal to 50% of the cost-of-living adjustment (COLA) announced by the SSA, with a minimum increase of at least 1% and a maximum of 1.5%. Recipients that have been receiving the annuity or benefit for at least a full year as of the June 30 before the effective date of the increase will receive the full increase. For recipients receiving the annuity or benefit for at least one month but less than a full year as of the June 30 before the effective date of the increase will receive a reduced prorated increase. For members retiring on January 1, 2024, or later, the increase will be delayed until normal retirement age (age 65 if hired prior to July 1, 1989, or age 66 for individuals hired on or after July 1, 1989). Members retiring under Rule of 90 are exempt from the delay to normal retirement.

Contributions

Minnesota Statutes Chapter 353 sets the rates for employer and employee contributions. Contribution rates can only be modified by the state Legislature.

General Employees Fund Contributions

Coordinated Plan members were required to contribute 6.50% of their annual covered salary in fiscal year 2019 and the Organization was required to contribute 7.50% for Coordinated Plan members. The Organization's contributions to the General Employees Fund for the year ended December 31, 2019 and 2018, were $22,623 and $21,847, respectively. The Organization's contributions were equal to the required contributions as set by state statute.

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE (CONTINUED)

Pension Costs

General Employees Fund Pension Costs

At December 31, 2019, the Organization reported a liability of $237,737 for its proportionate share of the General Employees Fund's net pension liability. The Organization's net pension liability reflected a reduction due to the state of Minnesota's contribution of $16 million to the fund in 2019. The state of Minnesota is considered a nonemployer contributing entity and the state's contribution meets the definition of a special funding situation. The state of Minnesota's proportionate share of the net pension liability associated with the Organization totaled $7,333. The net pension liability was measured as of June 30, 2019, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The Organization proportion of the net pension liability was based on the Organization contributions received by PERA during the measurement period for employer payroll paid dates from July 1, 2018, through June 30, 2019, relative to the total employer contributions received from all of PERA's participating employers. At June 30, 2019, the Organization's proportion was 0.0043% which showed a no change increase or decrease as its proportion measured as of June 30, 2018.

For the year ended December 31, 2019, the Organization recognized pension expense of $31,434 for its proportionate share of GERF's pension expense. In addition, the Organization recognized an additional $549 as pension expense (and grant revenue) for its proportionate share of the state of Minnesota's contribution of $16 million to the General Employees Fund.

At December 31, 2019, the Organization reported its proportionate share of General Employees Plan's deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences Between Expected and Actual Experience	$ 6,589	$ -
Changes in Actuarial Assumption	-	18,686
Net Difference Between Projected and Actual Earnings on Plan Investments	-	24,097
Changes in Proportion	9,884	15,309
Contributions to GERF Subsequent to the Measurement Date	12,186	-
Total	$ 28,659	$ 58,092

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE (CONTINUED)

Pension Costs (Continued)

General Employees Fund Pension Costs (Continued)

$12,186 reported as deferred outflows of resources related to pensions resulting from the Organization's contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended December 31, 2020. Other amounts reported as deferred outflows and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year Ending December 31,	Amount
2020	$ (10,452)
2021	(26,790)
2022	(4,759)
2023	382

Actuarial Assumptions

The total pension liability in the June 30, 2019 actuarial valuation was determined using the following actuarial assumptions:

Inflation	2.50% Per Year
Active Member Payroll Growth	3.25% Per Year
Investment Rate of Return	7.50%

Salary increases were based on a service-related table. Mortality rates for active members, retirees, survivors, and disabilitants were based on RP-2014 tables for males or females, as appropriate, with slight adjustments to fit PERA's experience. Benefit increases for retirees are assumed to be 1.25% per year for all future years for the General Employees Plan.

Actuarial assumptions used in the June 30, 2019 valuation were based on the results of actuarial experience studies. The most recent four-year experience study in the General Employees Plan was completed in 2019. The most recent four-year experience study for Police and Fire Plan was completed in 2016. The five-year experience study for the Correctional Plan, prepared by a former actuary, was completed in 2012. The mortality assumption for the Correctional Plan is based on the Police and Fire Plan experience study completed in 2016. Economic assumptions were updated in 2018 based on a review of inflation and investment return assumptions.

The following changes in actuarial assumptions occurred in 2019:

General Employees Fund

Changes in Actuarial Assumptions:

- The morality projection scale was changed from MP-2017 to MP-2018.

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE (CONTINUED)

Actuarial Assumptions (Continued)

General Employees Fund

Changes in Plan Provisions:

- The employer supplemental contribution was changed prospectively, decreasing from $31.0 million to $21.0 million per year. The state's special funding contribution was changed prospectively, requiring $16.0 million due per year through 2031.

The State Board of Investment, which manages the investments of PERA, prepares an analysis of the reasonableness on a regular basis of the long-term expected rate of return using a building-block method in which best-estimate ranges of expected future rates of return are developed for each major asset class. These ranges are combined to produce an expected long-term rate of return by weighting the expected future rates of return by the target asset allocation percentages. The target allocation and best estimates of geometric real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Domestic Stock	36.00%	5.10%
International Stock	17.00	5.30
Bonds	20.00	0.75
Alternative Assets	25.00	5.90
Cash	2.00	-
Total	100.00%	

Discount Rate

The discount rate used to measure the total pension liability in 2019 was 7.50%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members and employers will be made at rates set in Minnesota Statutes. Based on these assumptions, the fiduciary net positions of the General Employees Fund, the Police and Fire Fund, and the Correctional Fund were projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Pension Liability Sensitivity

The following presents the Organization's proportionate share of the net pension liability for all plans it participates in, calculated using the discount rate disclosed in the preceding paragraph, as well as what the Organization's proportionate share of the net pension liability would be if it were calculated using a discount rate one percentage point lower or one percentage point higher than the current discount rate.

NOTE 4 DEFINED BENEFIT PENSION PLANS – STATEWIDE (CONTINUED)

Pension Liability Sensitivity

The following presents the Organization's proportionate share of the net pension liability for all plans it participates in, calculated using the discount rate disclosed in the preceding paragraph, as well as what the Organization's proportionate share of the net pension liability would be if it were calculated using a discount rate one percentage point lower or one percentage point higher than the current discount rate:

	City Proportionate Share of NPL		
	1% Decrease (6.50%)	Current (7.50%)	1% Increase (8.50%)
GERF	$ 390,827	$ 237,737	$ 111,331

Pension Plan Fiduciary Net Position

Detailed information about each pension plan's fiduciary net position is available in a separately issued PERA financial report that includes financial statements and required supplementary information. That report may be obtained on the internet at www.mnpera.org.

NOTE 5 OTHER INFORMATION

Risk Management

The Organization is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; injuries to employees; and natural disasters for which the Organization carries insurance. The Organization pays annual premiums for its workers' compensation and property and casualty insurance. Settled claims have not exceeded the Organization's coverage in any of the past three fiscal years.

Liabilities are reported when it is probable that a loss has occurred and the amount of the loss can be reasonably estimated. Liabilities, if any, include an amount for claims that have been incurred but not reported (IBNRs). The Organization's management is not aware of any incurred but not reported claims.

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Employer's Share of PERA Net Pension Liability – General Employees Retirement Fund

Fiscal Year Ending	Organization's Proportion of the Net Pension Liability	Organization's Proportionate Share of the Net Pension Liability (a)	States Proportionate Share of the Net Pension Liability Associated with the City (b)	Total (a+b)	Organization's Covered Payroll (c)	Organization's Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll ((a+b)/c	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
6/30/2019	0.0043 %	$ 237,737	$ -	$ 237,737	$ 301,640	78.8 %	80.2 %
6/30/2018	0.0041	238,546	-	238,546	291,293	81.9	47.9
6/30/2017	0.0041	306,429	-	306,429	309,693	98.9	68.9
6/30/2016	0.0041	332,900	-	332,900	286,044	116.4	78.2
6/30/2015	0.0041	212,483	-	212,483	242,844	87.5	78.2

Schedule of Employer's Share of PERA Contributions – General Employees Retirement Fund

Year Ending	Statutorily Required Contribution (a)	Contributions in Relation to the Statutorily Required Contribution (b)	Contribution Deficiency (Excess) (a-b)	Organization's Covered Payroll (c)	Contributions as a Percentage of Covered Payroll (b/c)
12/31/19	$ 22,623	$ 22,623	$ -	$ 301,640	7.50 %
12/31/18	21,847	21,847	-	291,293	7.50
12/31/17	23,227	23,227	-	309,693	7.50
12/31/16	19,128	19,128	-	255,040	7.50
12/31/15	19,530	19,530	-	260,400	7.50

Note: Information is required to be presented for 10 years. However, until a full 10-year trend is compiled, the Organization will present information for only those years for which information is available.

NOTES TO SCHEDULE OF CHANGES IN NET PENSION LIABILITIES AND RELATED RATIOS

General Employees Fund

2019 Changes

Changes Actuarial Assumptions

- The morality projection scale was changed from MP-2017 to MP-2018.

Changes in Plan Provisions

- The employer supplemental contribution was changed prospectively, decreasing from $31.0 million to $21.0 million per year. The state's special funding contribution was changed prospectively, requiring $16.0 million due per year through 2031.

NOTES TO SCHEDULE OF CHANGES IN NET PENSION LIABILITIES AND RELATED RATIOS (CONTINUED)

2018 Changes

Changes Actuarial Assumptions

- The morality projection scale was changed from MP-2015 to MP-2017.
- The assumed benefit increase was changed from 1.00% per year through 2044 and 2.50% per year thereafter to 1.25% per year.

Changes in Plan Provisions

- The augmentation adjustment in early retirement factors is eliminated over a five-year period starting July 1, 2019, resulting in actuarial equivalence after June 30, 2024.
- Interest credited on member contributions decreased from 4.00% to 3.00%, beginning July 1, 2018.
- Deferred augmentation was changed to 0.00%, effective January 1, 2019. Augmentation that has already accrued for deferred members will still apply.
- Contribution stabilizer provisions were repealed.
- Postretirement benefit increases were changed from 1.00% per year with a provision to increase to 2.50% upon attainment of 90.00% funding ratio to 50.00% of the Social Security Cost of Living Adjustment, not less than 1.00% and not more than 1.50%, beginning January 1, 2019.
- For retirements on or after January 1, 2024, the first benefit increase is delayed until the retiree reaches normal retirement age; does not apply to Rule of 90 retirees, disability benefit recipients, or survivors.
- Actuarial equivalent factors were updated to reflect revised mortality and interest assumptions.

2017 Changes

Changes Actuarial Assumptions

- The combined service annuity (CSA) loads were changed from 0.80% for active members and 60.00% for vested and nonvested deferred members. The revised CSA load are now 0.00% for active member liability, 15.00% for vested deferred member liability, and 3.00% for nonvested deferred member liability.
- The assumed postretirement benefit increase rate was changed for 1.00% per year for all years to 1.00% per year through 2044 and 2.50% per year thereafter.

Changes in Plan Provisions

- The state’s contribution for the Minneapolis Employees Retirement Fund equals $16,000,000 in 2017 and 2018, and $6,000,000 thereafter.
- The Employer Supplemental Contribution for the Minneapolis Employees Retirement Fund changed from $21,000,000 to $31,000,000 in calendar years 2019 to 2031. The state’s contribution changed from $16,000,000 to $6,000,000 in calendar years 2019 to 2031.

NOTES TO SCHEDULE OF CHANGES IN NET PENSION LIABILITIES AND RELATED RATIOS (CONTINUED)

2016 Changes

Changes Actuarial Assumptions

- The assumed postretirement benefit increase rate was changed from 1.00% per year through 2035 and 2.50% per year thereafter to 1.00% per year for all years.
- The assumed investment return was changed from 7.90% to 7.50%. The single discount rate changed from 7.90% to 7.50%.
- Other assumptions were changed pursuant to the experience study June 30, 2015. The assumed future salary increases, payroll growth, and inflation were decreased by 0.25% to 3.25% for payroll growth and 2.50% for inflation.

Changes in Plan Provisions

- There have been no changes since the prior valuation.

2015 Changes

Changes Actuarial Assumptions

- The assumed postretirement benefit increase rate was changed from 1.00% per year through 2030 and 2.50% per year thereafter to 1.00% per year through 2035 and 2.50% per year thereafter.

Changes in Plan Provisions

- On January 1, 2015, the Minneapolis Employees Retirement Fund was merged into the General Employees Fund, which increased the total pension liability by $1.1 billion and increase the fiduciary plan net position by $892 million. Upon consolidation, state and employer contributions were revised; the state's contribution of $6.0 million, which meets the special funding situation definition, was due September 2015.

OTHER REQUIRED REPORT

CliftonLarsonAllen LLP
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INDEPENDENT AUDITORS' REPORT
ON MINNESOTA LEGAL COMPLIANCE

Board of Directors
Vadnais Lake Area Water Management Organization
Vadnais Heights, Minnesota

We have audited, in accordance with auditing standards generally accepted in the United States of America, the financial statements of the governmental activities and the major fund of the Vadnais Lake Area Water Management Organization (the Organization), Vadnais Heights, Minnesota, as of and for the year ended December 31, 2019, and the related notes to the financial statements, which collectively comprise the entity's basic financial statements, and have issued our report thereon dated April 1, 2020.

The *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*, promulgated by the State Auditor pursuant to Minnesota Statute §6.65, contains six categories of compliance to be tested: contracting and bidding, deposits and investments, conflicts of interest, claims and disbursements, miscellaneous provisions, and tax increment financing. Our audit considered all of the listed categories except that we did not test for compliance with the provisions for tax increment financing because the Organization does not have any established tax increment financing districts.

In connection with our audit, nothing came to our attention that caused us to believe that the Organization failed to comply with the provisions of the *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions*. However, our audit was not directed primarily toward obtaining knowledge of such noncompliance. Accordingly, had we performed additional procedures, other matters may have come to our attention regarding the Organization's noncompliance with the above referenced provisions, insofar as they relate to accounting matters.

The purpose of this report is solely to describe the scope of our testing of compliance relating to the provisions of *Minnesota Legal Compliance Audit Guide for Other Political Subdivisions* and the results of that testing, and not to provide an opinion on compliance. Accordingly, this report is not suitable for any other purpose.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Minneapolis, Minnesota
April 1, 2020

TEC Report to the Board
April 2020

Programs & Projects	Effort Level LOW MED HIGH	Completion Date	Comments
Projects			
Oak Knoll Pond		2020	With Barr's workplan approved by BWSR, Barr has been seeking an applicator with complications arising from COVID-19 delays. Updates will follow in April.
Goose Lk subshed project		2017-2020	Barr has produced plans for an alternate BMP (BMP14) as well as probable costs for an iron-enhanced sand filter near HWY 61 and Cedar Ave in White Bear Lake.
Lambert Creek - Ditch 14, branches		2020	S.E.H. has started the design work. This includes replacement of the sheet pile in the pond and design of the meander and treatment cells. MPCA loan was approved.
Birch Lake		2017-20	Pre-construction meeting complete and construction submittals being reviewed. VLAWMO & WBL staff marked site for construction for April.
Wetland Assessment - Vadnais Sucker		2018-20	S.EH contract signed and work beginning for 2020 wetland assessment.Grant through Great River Greening for AIS removal and habitat restoration in select areas of Vadnais Sucker park is moving forward to LCCMR.
Whitaker Wetlands		2020	Monitoring & pathogen sampling is complete, working on reports
Programs			
Outreach		April-June	Communications active for Birch Lake sand-iron filter, Lambert Lake Meander, and Goose Lake Alum treatment. Snail mail, website, press, email, and 1-1 communication. New lake factsheets complete, new water quality graphs and infographics created to convey water quality information. North Oaks News, VH Press article publishments in March, April.
Education		April-July	Online resources being developed for stormwater calculation in schools and residential settings. MS4 flyers and posters being created to support City and Township stormwater responsibilities/SWPPP reports. Striving to create online video "tours" of the watershed.
Website		Ongoing	COVID-19 updates posted under "news" from the homepage. Swans and lead updates posted under "news." Birch Lake sand-iron filter, Goose Lake alum, and Lambert Meander project pages updated regularly. GIS web tutorial videos (part 1 + 2) created as a reference and outreach tool, encouraging residents to engage with our watershed data.
WAV		May-July	Volunteer activities are adapting to social distancing. Master Water Steward Katherine Doll is planning her capstone project, supported by Community Blue, focused on rainbarrels and water conservation at home. Volunteer AIS monitoring training online, April 15th. Raingarden maintenance to be conducted according to social distance.
Cost Share		ongoing	Staff is working with the 3 approved 2020 LL2 grantees, as well as LL1 approved projects and in-coming applications. Site visits on-going.
GIS		ongoing	Lambert Lake EAW, programs support
Monitoring		ongoing	2020 season has started
WCA		ongoing	2020 season beginning

TEC Report to the Board
April 2020

Administration & Operation			
SLMPs		2020	Lake surveys and studies planned for 2020 on SLMP lakes.
Budget		April 2020	Audit preparation is underway with the auditors on site Feb. 11-12.
Administration		April 2020	VLAWMO has received a claim against our insurance from a resident on Twin Lake. A denial letter has been sent - no negligence on VLAWMOs part. The position for VLAWMO administrator is posted until Feb. 21st. There has been interest.
SSU		ongoing	Final divisions for 2020 SSU fees is complete for listing on May tax statements.
Water Plan		ongoing	The Water Plan Amendment was adopted by the Board. The last two Local Water Plans from North Oaks and White Bear Lake are remaining for approval Comments on NO submitted.

FINANCIAL SUMMARY as of 4/1/2020		
4M Account (1.10)	4M Plus (1.23)	Total
$180,151	$513,027	$693,178

CD's	4M Term Series	
	Maturity	Rate
Term series		

Budget Summary	Actual Expense YTD	2020 Budget amended	Remaining in Budget	% YTD
Operations	*$169,240*	*$697,800*	*$528,560*	24%
CIP	*$86,641*	$666,695	*$580,054*	13%
Total	$255,881	$1,364,495	$1,108,614	19%

April-20		Actual 4/1/20	Actual to Date	2020 Budget	2019 carry over/Grants	Remaining in Budget	2020 Available	Act vs. Budget
BUDGET #	**INCOME**							
5.11	Storm Water Ut	$0	$16,449	$890,800	$0	$874,351	$890,800	2%
5.12	Service Fees	$0	$0	$200	$0	$200	$200	0%
5.13	Interest + mitig	$762	$3,607	$5,000	$0	$1,393	$5,000	72%
5.14	Misc. income - V	$0	$3,050	$3,000	$0	($50)	$3,000	102%
5.15	Other Income G	$3,497	$26,054	$0	$0	($26,054)	$0	
5.16	Transfer from re	$0	$100,000	$0	$0	($100,000)	$0	
	TOTAL	$4,259	$149,160	$899,000	$0	$749,840	$899,000	17%
	EXPENSES							
3.1	**Operations & Administration**							
3.110	Office - rent, cor	$0	$6,093	$25,200	$0	$19,107	$25,200	24%
3.120	Information Sys	$959	$3,598	$20,000	$2,000	$18,402	$22,000	16%
3.130	Insurance	$0	$0	$5,800	$0	$5,800	$5,800	0%
3.141	Consulting - Aud	$5,250	$5,250	$6,700	$0	$1,450	$6,700	78%
3.142	Consulting - Boo	$0	$0	$1,500	$0	$1,500	$1,500	0%
3.143	Consulting - Leg	$0	$299	$4,000	$2,500	$6,201	$6,500	5%
3.144	Consulting - Eng	$0	$1,503	$30,000	$0	$28,497	$30,000	5%
3.150	Storm Sewer Ut	$375	$2,728	$14,000	$0	$11,272	$14,000	19%
3.160	Training (staff/b	$0	$0	$4,500	$1,500	$6,000	$6,000	0%
3.170	Misc. & mileage	$213	$1,947	$5,500	$800	$4,353	$6,300	31%
3.191	Administration -	$26,058	$105,109	$347,200	$50,000	$292,091	$397,200	26%
3.192	Employer Liabili	$11,327	$32,058	$89,600	$12,000	$69,542	$101,600	32%
3.2	**Monitoring and Studies**							
3.210	Lake and Creek	$0	$322	$22,000	$10,000	$31,678	$32,000	1%
3.220	Equipment	$0	$416	$4,000	$0	$3,584	$4,000	10%
3.230	Wetland assess	$0	$0	$10,000	$0	$10,000	$10,000	0%
3.3	**Education and Outreach**							
3.310	Public Educatio	$82	$2,143	$8,500	$1,000	$7,357	$9,500	23%
3.320	Marketing	$0	$550	$7,500	$0	$6,950	$7,500	7%
3.330	Community Blue	$1,272	$7,224	$10,000	$2,000	$4,776	$12,000	60%
Total Core functions: Ops, Monit		*$45,536*	*$169,240*	*$616,000*	*$81,800*	*$528,560*	*$697,800*	*24%*
Capital Improvement Projects and Programs								
3.4	**Subwatershed Activity**							
3.410	Gem Lake	$0	$0	$0	$0	$0	$0	
3.420	Lambert Creek	$10,101	$25,133	$120,000	$63,275	$158,142	$183,275	14%
3.425	Goose Lake	$4,745	$16,515	$60,000	$150,316	$193,801	$210,316	8%
3.430	Birch Lake	$1,448	$15,689	$10,000	$39,067	$33,378	$49,067	32%
3.440	Gilf Black Tam V	$0	$0	$30,000	$50,000	$80,000	$80,000	0%
3.450	Pleasant Charle	$0	$0	$10,000	$9,000	$19,000	$19,000	0%
3.460	Sucker Vadnais	$0	$3,164	$12,000	$10,000	$18,836	$22,000	14%
3.48	**Programs**							
3.481	Landscape 1	$0	$0	$24,000	$11,500	$35,500	$35,500	0%
3.482	Landscape 2	$3,400	$16,415	$20,000	$11,361	$14,946	$31,361	52%
3.483	Project Researc	$0	$9,725	$0	$0	($9,725)	$0	#DIV/0!
3.470	Facilities Mainte	$0	$0	$5,000	$29,176	$34,176	$34,176	0%
3.5	**Regulatory**							
3.510	Engineer Plan re	$0	$0	$2,000	$0	$2,000	$2,000	0%
	Total CIP & Prog	*$19,694*	*$86,641*	$293,000	$373,695	*$580,054*	*$666,695*	*13%*
	Total of Core Op	**$65,230**	$255,881	$909,000	$455,495	**$1,108,614**	$1,364,495	**19%**

Fund Balance		3/1/2020	4/1/2020
4M Account		$219,264	$180,151
4M Plus Savings		$512,475	$513,027
Total		$731,739	$693,177

Restricted funds	4/1/2020
Mitigation Savings	$26,572
Term Series (3/28/19)	$0

Vadnais Lake Area Water Management Organiz

12:40 PM

Profit & Loss

04/02/2020

March 14 through April 10, 2020

Cash Basis

	Mar 14 - Apr 10, 20
Ordinary Income/Expense	
Income	
Mitigation Interest	0.59
5.1 · Income	
5.13 · Interest	761.89
Total 5.1 · Income	761.89
6.6.6 · Grants	3,496.97
Total Income	4,259.45
Gross Profit	4,259.45
Expense	
3.1 · Administrative/Operations	
3.120 · Information Systems	
IT Support	959.00
Total 3.120 · Information Systems	959.00
3.141 · Audit	5,250.00
3.150 · Storm Sewer Utility	375.00
3.160 · Training (staff/board)	0.00
3.170 · Misc. & mileage	212.56
3.191 · Employee Payroll	
payroll	26,057.60
Total 3.191 · Employee Payroll	26,057.60
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	1,926.72
Administration PERA	1,954.32
Insurance Benefit	2,963.58
3.192 · Employer Liabilities - Other	4,437.50
Total 3.192 · Employer Liabilities	11,327.04
Total 3.1 · Administrative/Operations	44,181.20
3.2 · Monitoring and Studies	

3.220 · Equipment	0.00
Total 3.2 · Monitoring and Studies	0.00
3.3 · Education and Outreach	
3.310 · Public Education	82.44
3.330 · Community Blue Education Grant	1,272.45
Total 3.3 · Education and Outreach	1,354.89
3.4 · Capital Imp. Projects/Programs	
3.420 · Lambert Creek Restoration	
Whitaker Wetlands	6,604.44
3.420 · Lambert Creek Restoration - Other	3,496.97
Total 3.420 · Lambert Creek Restoration	10,101.41
3.425 · Goose Lake	
WB Funding - Goose subshed	4,744.50
Total 3.425 · Goose Lake	4,744.50
3.430 · Birch Lake	
4th & Otter project	1,448.38
Total 3.430 · Birch Lake	1,448.38
Total 3.4 · Capital Imp. Projects/Programs	16,294.29
3.48 · Programs	
3.482 · Landscape 2	3,400.00
Total 3.48 · Programs	3,400.00
Total Expense	65,230.38
Net Ordinary Income	-60,970.93
Net Income	**-60,970.93**

Vadnais Lake Area Water Management Organization

12:36 PM

Check Detail

04/02/2020

March 14 through April 10, 2020

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	**EFT**	**03/14/2020**	**further**		**Checking - 1987**		**-4.00**
					Insurance Benefit	-4.00	4.00
TOTAL						-4.00	4.00
Check	**EFT**	**03/14/2020**	**Reliance Standard**		**Checking - 1987**		**-177.68**
					Insurance Benefit	-177.68	177.68
TOTAL						-177.68	177.68
Check	**1011**	**04/02/2020**	**kjolhaug Environmental Services**		**Mitigation & Monitoring - 8355**		**-450.00**
			kjolhaug Environmental Services		Wetland Mitigation Payable	-450.00	450.00
TOTAL						-450.00	450.00
Check	**4903**	**04/10/2020**	**Stephanie Oliver McNamara**		**Checking - 1987**		**-260.72**
					3.170 · Misc. & mileage	-26.22	26.22
					Insurance Benefit	-234.50	234.50
TOTAL						-260.72	260.72
Check	**4904**	**04/10/2020**	**SEH**		**Checking - 1987**		**-3,496.97**
					3.420 · Lambert Creek Restoration	-3,496.97	3,496.97
TOTAL						-3,496.97	3,496.97
Check	**4905**	**04/10/2020**	**Barr Engineering Co**		**Checking - 1987**		**-6,192.88**
					4th & Otter project	-1,448.38	1,448.38
					WB Funding - Goose subshed	-4,744.50	4,744.50

TOTAL					-6,192.88	6,192.88
Check	**4906**	**04/10/2020**	**Noah & Associates, Inc**	**Checking - 1987**		**-3,468.75**
				3.192 · Employer Liabilities	-3,468.75	3,468.75
TOTAL					-3,468.75	3,468.75
Check	**4907**	**04/10/2020**	**Dawn Peterson**	**Checking - 1987**		**-3,400.00**
				3.482 · Landscape 2	-3,400.00	3,400.00
TOTAL					-3,400.00	3,400.00
Check	**4908**	**04/10/2020**	**Brian Corcoran**	**Checking - 1987**		**-51.04**
				3.170 · Misc. & mileage	-51.04	51.04
TOTAL					-51.04	51.04
Check	**4909**	**04/10/2020**	**City of White Bear Lake**	**Checking - 1987**		**-32,530.96**
				payroll	-26,057.60	26,057.60
				Administration FICA	-1,926.72	1,926.72
				Administration PERA	-1,954.32	1,954.32
				Insurance Benefit	-2,547.40	2,547.40
				Admin payroll processing	-44.92	44.92
TOTAL					-32,530.96	32,530.96
Check	**4910**	**04/10/2020**	**Tyler J Thompson**	**Checking - 1987**		**-26.34**
				3.170 · Misc. & mileage	-26.34	26.34
TOTAL					-26.34	26.34
Check	**4911**	**04/10/2020**	**Dawn Tanner**	**Checking - 1987**		**-108.96**
				3.170 · Misc. & mileage	-108.96	108.96
TOTAL					-108.96	108.96

Check	**4912**	**04/10/2020**	**Ehlers & Associates, Inc.**	**Checking - 1987**		**-375.00**
				3.150 · Storm Sewer Utility	-375.00	375.00
TOTAL					-375.00	375.00
Check	**4913**	**04/10/2020**	**City Of Roseville**	**Checking - 1987**		**-959.00**
				IT Support	-959.00	959.00
TOTAL					-959.00	959.00
Check	**4914**	**04/10/2020**	**Regents of the University of Minnesota**	**Checking - 1987**		**-6,604.44**
				Whitaker Wetlands	-6,604.44	6,604.44
TOTAL					-6,604.44	6,604.44
Check	**4915**	**04/10/2020**	**CliftonLarsonAllen**	**Checking - 1987**		**-5,250.00**
				3.141 · Audit	-5,250.00	5,250.00
TOTAL					-5,250.00	5,250.00
Check	**4916**	**04/10/2020**	**Noah & Associates, Inc**	**Checking - 1987**		**-968.75**
				3.192 · Employer Liabilities	-968.75	968.75
TOTAL					-968.75	968.75

Vadnais Lake Area Water Management Organization

Custom Transaction Detail Report

March 1 through April 1, 2020

12:34 PM
04/02/2020
Accrual Basis

	Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Mar 1 - Apr 1, 20										
	Credit Card Charge	03/03/2020		Trophies By EDCO	water drop trophy - steph	US Bank CC	√	3.310 · Public Education	57.13	57.13
	Credit Card Credit	03/03/2020		Amazon.com	credit for cabinet	US Bank CC	√	3.220 · Equipment	-299.99	-242.86
	Credit Card Charge	03/03/2020		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	20.83	-222.03
	Credit Card Charge	03/05/2020		Landscape Restoration	buckthorn removal tool tips	US Bank CC	√	3.220 · Equipment	32.00	-190.03
	Credit Card Charge	03/13/2020		Cub	interview snacks	US Bank CC		3.170 · Misc. & mileage	39.10	-150.93
	Credit Card Charge	03/13/2020		hologram	account refill	US Bank CC		Software	30.00	-120.93
	Credit Card Charge	03/17/2020		Trophies By EDCO	water drop trophy part 2 - steph	US Bank CC		3.310 · Public Education	82.44	-38.49
	Credit Card Charge	03/27/2020		Recycling Association of MN	rain barrel project master water steward	US Bank CC		3.330 · Community Blue Education Grant	1,272.45	1,233.96
Mar 1 - Apr 1, 20									**1,233.96**	**1,233.96**

The Vadnais Lake Area Water Management Organization
800 County Road E East, Vadnais Heights, 55127 651-204-6070
Website: www.vlawmo.org; Email: office@vlawmo.org

MINUTES OF THE BOARD OF DIRECTORS – MARCH 2020 SPECIAL BOARD MEETING
March 25th, 2020

Attendance		Present	Absent
Jim Lindner, Chair	City of Gem Lake	X	
Marty Long	City of North Oaks	X	
Rob Rafferty, Secretary-Treasurer	City of Lino Lakes	X	
Ed Prudhon	White Bear Township		X
Dan Jones	City of White Bear Lake	X	
Patricia Youker	City of Vadnais Heights	X	
Stephanie McNamara	Administrator	X	
Brian Corcoran	Water Resources Mgr.	X	
Dawn Tanner	Program Development Coord.	X	
Nick Voss	Education & Outreach Coord.	X	
Tyler Thompson	GIS Watershed Tech.	X	

Others in attendance: Paul Duxbury (VLAWMO TEC commissioner & rep.); Melissa King, Barb Peichel (BWSR); Connie Tailon (City of White Bear Lake); Rick Johnson (WBL EAC), Phil Belfiori.

I. Call to Order

The meeting was called to order at 7:00 pm by Chair Lindner, and a roll call was made for the Board Directors for the electronic video conferencing meeting, also available by telephone call-in. Chair Linder read aloud the electronic meeting statute protocol.
Roll call: Lindner: **present** Long: **present** Rafferty: **present** Jones: **present** Prudhon: **not present** Youker: **present**

II. Approval of Agenda

The agenda for the Special March 25th, 2020 meeting was presented for approval. Lindner noted a date correction for the February Board minutes to 2020 from 2019.
A motion was made by Jones and seconded by Long to approve the Special April meeting agenda as amended. Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

III. Visitors and Presentations

A. None.

IV. Consent Agenda

A. Approval of Minutes

The minutes from the February 26, 2020 Board meeting are placed on the consent agenda for approval, as presented.
A motion was made by Rafferty and seconded by Lindner to approve the Special April meeting consent agenda as presented. Vote: Lindner: aye Long: aye Rafferty: aye Jones: abstain Youker: aye. Motion passed.

V. Business

A. Administration

1. Consideration of Administrator hiring

After interviewing 3 candidates, the Search Committee has selected a first choice candidate for the administrator position. The candidate (Candidate 1) had been offered the same salary and benefits package as the current Administrator, though negotiations had been on-going for salary and benefits for the Administrator position. The majority of the Search Committee has reached a recommendation for hiring Candidate 1 under agreed upon terms and

conditions that were negotiated with Candidate 1 and provided to the Board on March 24, 2020.

Discussion: Jones noted that if candidate 1 did not accept offer, to consider candidate 2 for immediate offering. Rafferty noted that extensive discussion had taken place for all candidates, and that all candidates would have been excellent choices for the Administrator position and it was not an easy decision to make.

A motion was made by Rafferty and seconded by Jones to select Candidate 1 for the VLAWMO Administrator position and approve the terms and conditions in the document provided to the Board on March 24. Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

B. Goose Lake

1. Alum treatment grant consideration and decision

After the Goose Lake Clean Water Fund grant application was officially approved by the Board of Water & Soil Resources (BWSR) in February, BWSR staff had issued concerns on project assurances, based on changes to the project since the grant application had been written. These changes were: increase in bullhead (rough fish) population, no boating restrictions would be implemented, and stakeholder pushback to an alum treatment and aquatic vegetation regrowth. After multiple meetings with BWSR staff and working with Barr Engineering to update models to reflect nutrient reductions without boating restriction. , Consistent with the March 10 technical memo from Barr Engineering (included in the Board packet) the Project engineering has identified that annual reduction consistent with the proposed measurable outcomes as identified in the grant applicant are still possible, depending on nutrient loading in the given year. Three options for Board consideration were laid out in the staff memo dated March 18 (as revised and sent to the Board on March 24). Staff summarized each of the three options for the Board. Option 1 is to negotiate with BWSR to release grant funding with an assurance agreement that is based on the grant application. The Assurance agreement VLAWMO will sign with BWSR will address all of the project elements above. Issues addressed in the BWSR letter of concern dated 2/24/20 will be addressed using practical options. If within the 10 – 15 year life span of the alum treatment, adequate results are not being seen, the VLAWMO Board understands that additional efforts such as another treatment may be necessary. Additional expense incurred would be VLAWMO's responsibility. The second option would be to decline accepting grant funds, complete the preparation tasks, and a new grant application be submitted with updated information. The third option would be to not accept the grant. Then conduct facilitated stakeholder discussions as described in option 2. Conduct fish removal as described in option 2 and work with the City of White Bear Lake to construct boat landing. If VLAWMO cannot demonstrate support for an alum treatment, we would not reapply for funds in the next round of Clean Water Funding. The third option as identified in the March 18 staff memo would also include a systematic engagement approach with the 58 landowners in the area in an effort to gauge support for the alum treatment. McNamara described the project tasks that are at hand, and specifically identified the list of complementary work that VLAWMO would be responsible for if the Board selected option 1 and decides to go ahead with accepting the grant.

Discussion: Lindner asked what assurances Barr provided as part of this. Youker asked what other costs would be necessary for meeting grant assurances. McNamara answered that Barr has extensive prior experience with alum applications and had re-run the model for an alum treatment without boat restrictions and possible lake sediment resuspension. Also that VLAWMO may be responsible for a 3rd alum treatment, fully financed by VLAWMO if the first 2 alum treatments do not achieve water quality goals for the assurance period of 10-15 years. Youker asked what the chances for boating restrictions would happen. Jones answered that

the boating restrictions on East Goose Lake will not go into effect any time soon. Jones also identified that an alum treatment this is the most cost-effective way to increase the Lake's water quality. Jones stated he puts all his support behind the grant approval, and that the City of White Bear Lake is putting financial backing behind the project. Youker asked the match amount VLAWMO is responsible for the grant. McNamara answered VLAWMO's match for the grant is $12,500, and the City of White Bear Lake is agreeing to provide $35,000 for a total required local match of $47,500.

A motion was made by Jones and seconded by Rafferty to accept option 1, as identified in the memo dated March 18,2020 (as revided and sent to the Board on March 24) as related to the BWSR Clean Water Funds for Goose Lake Alum Treatment 2020 (C20-6375). Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

C. Cost Share Program

1. LL2 2020-03 Peterson Native Restoration

An application was received for LL2 cost share funding in the amount of $9,024 for a .26 acre native restoration at a private residence in North Oaks. After clarifying with the applicant, only $7,932 of the Project was eligible for applying for VLAWMO cost share funds. The February Board memo was unclear that the homeowners had seen a neighbor's native restoration and had heard about VLAWMO's cost share program through them, and had planned to do the same. The homeowner then had a proposal submitted from Prairie Restorations, Inc. for restoring their backyard hillside that was covered with buckthorn, to native vegetation. However, in this proposal, the cost to remove buckthorn was considerably high, so the applicants hired a cheaper contractor to perform the work last fall, and planned to have PRI carry out the rest of their proposal. Their application includes preparation of the planting site by herbicide of current invasive plants, then reseeding and planting with native plugs to restore the project area, totaling .26 acres. At the February meeting, the Board voted to table the approval of grant funding for members of the Board to view the site to verify the project. After this, staff is bringing this project back to the Special March 25th Board meeting, and is still requesting approval. **Staff has recommended a 50% match of the requested $7,932 LL2 funding for the project, resulting in total recommended amount of $4,000 for funding of LL2 2020-03. TEC concurs and is recommending Board approval.**

A motion was made by Rafferty and seconded by Youker to approve Landscape Level 2 grant LL2 2020-03 for funding in the amount of $4,000. Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

D. Projects

1. Partnership with RWMWD Carp effort in West Vadnais Lake

Staff has been working on coordinating with Ramsey Washington Metro Watershed District (RWMWD) for carp management on West Vadnais Lake. For RWMWD, this is part of a larger effort for carp management on their chain of lakes, and West Vadnais Lake has been identified as a priority. VLAWMO has the opportunity to partner with RWMWD by contributing funds to their ongoing project that would directly contribute to carp management in West Vadnais by means of monitoring, removal, and installation of a fish barrier at the outlet of the Lake. **The cost of partnering for management in West Vadnais amounts to $12,500 and is recommended by staff and Technical Commission for approval of funding.**

A motion was made by Youker and seconded by Jones to authorize funding in the amount of $12,500.00 for contribution to RWMWD for carp management on West Vadnais Lake. Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

VIII. Discussion

Jones noted that Neil Franey passed away and wanted to commend his efforts on the VLAWMO Technical Commission as well as his service in the community. He will be dearly missed.

IX. Administration Communication

None.

X. Adjourn

A motion was made by Rafferty and seconded by Jones to adjourn at 7:47 pm. Vote: Lindner: aye Long: aye Rafferty: aye Jones: aye Youker: aye. Motion passed.

Minutes compiled and submitted by Tyler Thompson.

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: VLAWMO Board of Directors

From: Dawn Tanner and Tyler Thompson

Date: April 22, 2020

Re: **IV. B. Project Updates**

1. **Birch SLMP:** This SLMP was scheduled for an update in 2021. VLAWMO was able to have the vegetation and bathymetry surveys done by RWSWCD during 2019. That meant that the information needed to update the SLMP was ready ahead of schedule. The wealth of information included in these survey reports and many more that were completed since the original SLMP was done were incorporated into the new draft. The SLMP draft is included in the packet and posted on the VLAWMO website. One item remains to convert the SLMP from draft to final. That is the stakeholder input, which is scheduled to occur at the BLID annual meeting during summer 2020. Timing may be adjusted, depending upon COVID-19 conditions and status.

2. **Frog and Toad Story Map:** The final report for our first year of frog and toad call surveys in the watershed was included in a previous packet and posted on the website. Staff wanted to be able to feature the process and results of this monitoring effort because there is a lot of potential to use this information to engage stakeholders. Reports may not be the most engaging way to do that. The ESRI Story Map tool is a multimedia, easy-to-scroll format available with our GIS mapping software that allows a highly visual product that can include video, photos, audio, and maps. Staff created a Story Map to feature the frog and toad survey results. It is linked on the VLAWMO homepage under Resources. It is also available directly here: https://storymaps.arcgis.com/stories/71bb6ac948a248dfbc0675514cc0bddf

3. **West Vadnais Carp Project with Ramsey Washington Metro Watershed District:** This project has moved forward, following approval at the March Special Board Meeting. Carp Solutions installed the physical barrier at the outlet of West Vadnais. RWMWD staff are checking and cleaning the barrier. RWMWD is also holding the contract with Carp Solutions for the full effort of which West Vadnais is part. VLAWMO will reimburse RWMWD as tasks are completed.

4. **Lambert Lake EAW:** VLAWMO staff have continued working closely with SEH and MN DNR on the Environmental Assessment Worksheet (EAW). The EAW was determined to be necessary following the February Board meeting. The current draft of the EAW will be included in the packet if MN DNR is able to respond with respect to the rare species features and required concurrence for mitigation during construction. SEH is approaching 90% designs and construction plans for the meander. These designs will also be included in the packet if they are ready in time.

5. **Birch 4th and Otter Construction Update**:
   Final contract documents have been signed with Blackstone Contractors, LLC, a pre-construction meeting took place on March 24th with Brooks Duesterhoeft (Project Manager, Blackstone), Connie Tailon (City of WBL), Greg Wilson & Greg Nelson (Barr Engineering), and Tyler Thompson. The site has been marked for tree removal and project extent, and Blackstone may begin working on-site as soon as the week of April 20th. Construction of the iron-enhanced sand filter and project is estimated to take about 2-3 weeks, depending on site conditions and weather.

6. **Trumpeter swan lead deaths**: There were a total of 5 Trumpeter swans that were reported by residents to VLAWMO or found by VLAWMO staff doing monitoring that died at Sucker Channel or on East Vadnais Lake. East Vadnais Lake was a new location this year. All of the dead swans documented last year were found at the same location on Sucker Channel.

   Of the 5 swans, 3 were taken to the UMN Veterinary Diagnostic Clinic on the MN DNR Nongame account for necropsy and toxicity testing. Results for all swans were received by VLAWMO by April 14, 2020. The 3 swans died of lead poisoning.

   Swan death, involvement of a local Girl Scout Troop, and involvement of residents and legislatures resulted in proposed legislation at the House and Senate. Both proposed bills are on hold. The House bill (HF 3825) was in the process of having a hearing scheduled when COVID-19 modifications and social distancing was put into place.

   The Star Tribune ran a story about the lead-sinker issue including the Vadnais Lake Area swan deaths and interviews with agencies and residents. The article can be found at:

   https://www.startribune.com/swan-loon-poisonings-fuel-anti-lead-sinker-campaign/569556022/

VLAWMO

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION

Sustainable Lake Management Plan
Birch Lake, Ramsey County, MN

Prepared by Dawn Tanner and Tyler Thompson

March 2020

VADNAIS LAKE AREA WATER MANAGEMENT ORGANIZATION SUSTAINABLE LAKE MANAGEMENT PLAN – BIRCH LAKE MARCH 2020

SLMP Update: The Birch Lake SLMP was originally prepared in 2009 by VLAWMO and Blue Water Science. Numerous surveys have been completed since that time. This SLMP includes prior data and incorporates new data collected since the last SLMP was completed. With data through time, we are able to look at trends in water quality and vegetation in this lake. We are also able to make new plans going forward to build on work that has been completed.

Our mission at VLAWMO is to protect and enhance water resources in the watershed through water quality monitoring, wetland protection, and water quality improvement projects. The cornerstone of our success is our partnerships. We appreciate all of our partners' work and assistance to help us fulfill our mission.

Figure 1: Original Birch Lake SLMP Image (2009).

Vadnais Lake Area Water Management Organization
800 County Road E East
Vadnais Heights, MN 55127
651-204-6070
www.vlawmo.org

VLAWMO
Vadnais Lake Area
Water Management Organization

TABLE OF CONTENTS

full reports (below) indicated in Appendix available on VLAWMO Website -> Birch Lake

Birch Lake Contour (Bathymetry) Survey: 2019
Birch Lake Aquatic Vegetation Surveys: 2007, 2013, 2015, and 2019
Birch Lake Sediment Survey: 2008
Birch Lake Shoreland Inventory: 2007
Birch Lake Aquatic Invasive Species Action Plan: 2015
Birch Lake Fish Surveys: 2011, 2014
Birch Retrofit Analysis: 2013

1 INTRODUCTION

1.1 INTRODUCTION

Birch Lake is located in the City of White Bear Lake, Ramsey County, and is in the Vadnais Lake Area Watershed. Birch Lake is a shallow lake with a maximum depth of 7.4 feet. The 125-acre lake has clear water and abundant aquatic vegetation. The lake receives input from the surrounding 575-acre subcatchment (subwatershed). Birch Lake has excellent water quality. It is the highest quality lake in the Vadnais Lake Area Watershed. It is classified as mesotrophic according to the TSI (Trophic State Index, MPCA). Birch Lake receives chloride from nearby roads and neighborhoods and nutrients from developed areas. The lake receives inflow from its surrounding subcatchment, and outflows in the north of the lake through the Rotary Park stream. The stream connects with North Oaks Chain of Lakes and eventually flows into East Vadnais Lake.

Birch Lake has been targeted for a number of habitat and structural improvements to protect water quality. Shoreline restoration areas are abundant, neighbors have used VLAWMO cost-share funds to add raingardens and other native vegetation to their yards, and an iron-enhanced sand filter will be constructed during summer 2020 with Watershed-based Funding from the Board of Water and Soil Resources. Service-learning students worked with VLAWMO during 2019 to remove buckthorn on a parcel adjacent to the future site of the filter. As a result of that invasive species control effort, VLAWMO and the City of White Bear Lake were able to work together on a Conservation Partners Legacy grant through MN DNR. That was funded and completed in 2020. Maintenance and continued restoration of the site will be ongoing to prevent recolonization of buckthorn and optimize filter function.

The Birch Lake Improvement District (BLID) is active in protecting this lake. The BLID partners with VLAWMO to fund additional water quality monitoring (e.g., chlorides). They also conduct vegetation harvest in the lake, permitted through MN DNR. One of the major actions of the BLID was to purchase a lake harvester, which they use to keep open areas for recreation. Recent vegetation surveys show that invasive Eurasian watermilfoil has expanded. VLAWMO would like to increase involvement with the BLID to strategically harvest vegetation and limit invasive species spread. The BLID has also worked with VLAWMO to do fish stocking, although no efforts are currently underway. Many studies, including in-lake and shoreline vegetation, fish, sediment, and bathymetry have been conducted on this lake. All of those studies are available on the VLAWMO website -> Birch Lake.

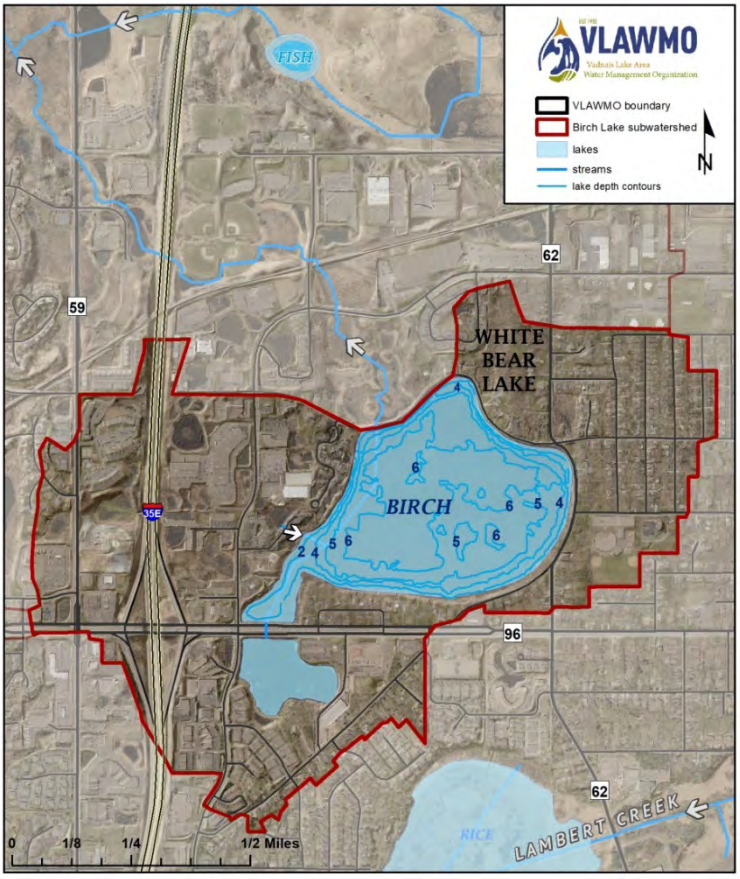


Figure 2: Birch Lake and Subcatchment Area.

2 WATERSHED FEATURES

2.1 AERIAL PHOTO HISTORY

Figure 3: 1940 aerial photo of Birch Lake

In 1940, aerial photos from Ramsey County show that the land surrounding Birch Lake was largely agricultural, and the road that is now Highway 96 was in place to the south of Birch Lake.

Figure 4: 1953 aerial photo of Birch Lake

By 1953, residential development is present around the lake. Vegetation is less dense on the surface water area on either side of Highway 96.

Figure 5: 1974 aerial photo of Birch Lake

By 1974, Interstate 35E is in place, and development east of Birch Lake has increased.

Figure 6: 1985 aerial photo of Birch Lake

By 1985, White Bear Parkway is constructed, and residential development has continued to grow east of Birch Lake as well as commercial development on the south.

Figure 7: 2006 aerial photo of Birch Lake

The 2006 aerial photo shows that commercial development has been built west and south of the lake along with townhome developments on the sides to the west and north. White Bear Parkway has been extended to cross Highway 96. It cuts through a portion of the southern basin of Birch Lake (colloquially known as Little Birch).

2 WATERSHED FEATURES

Figure 1: 2011 aerial photo of Birch Lake

In 2011, little has changed since 2006 at this scale.

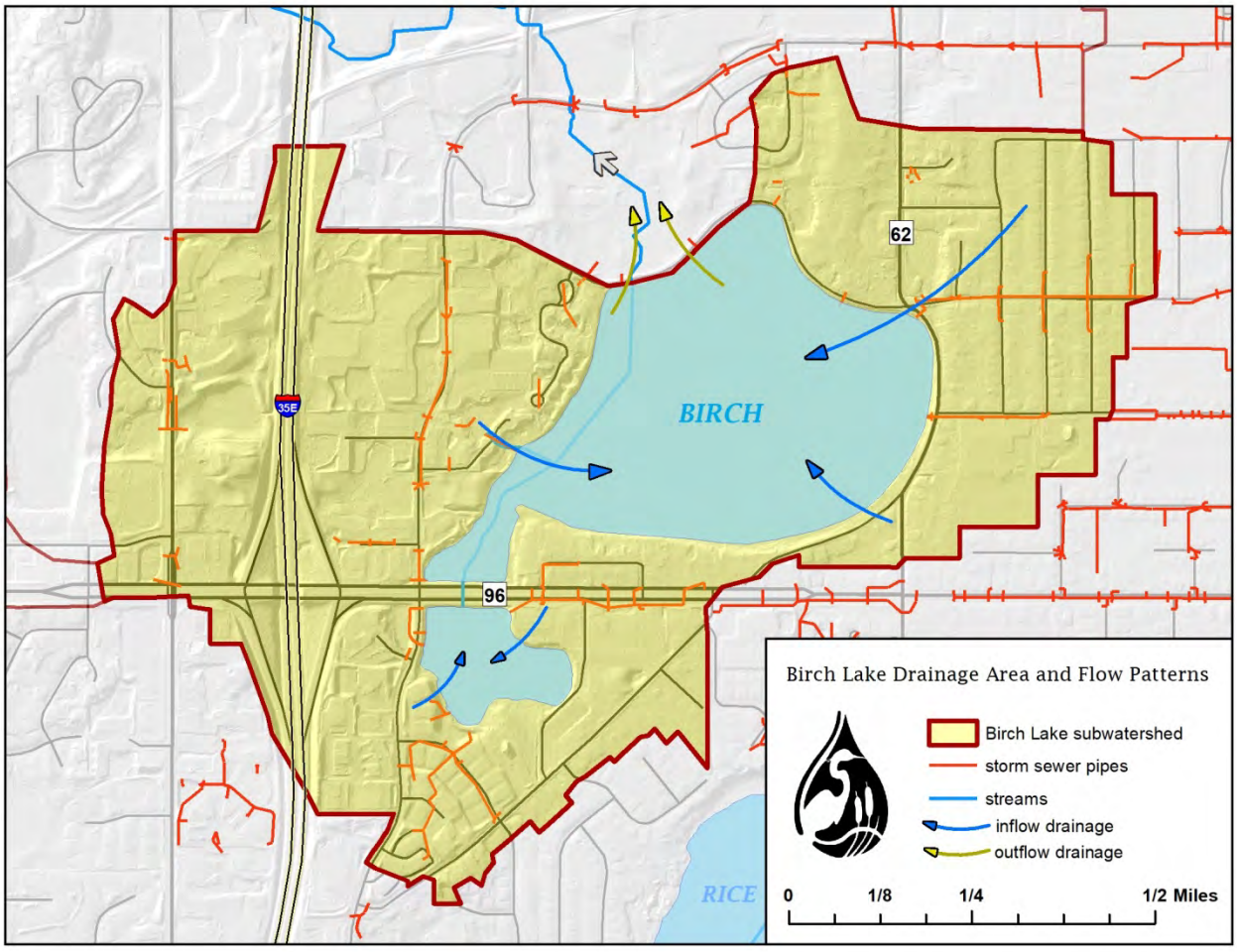
Figure 2: 2018 aerial photo of Birch Lake

In 2018, little has changed since 2011, though several small residential lots have been developed near the Lake in recent years. An iron-enhanced sand filter will be constructed on the northeast corner of the Lake in 2020 to treat roughly 50 acres of stormwater input into Birch Lake. Note that additional years of aerials are available on the VLAWMO GIS Map, linked on the website under Resources.

2.2 BIRCH LAKE DRAINAGE AREA

The drainage area (shaded area in Figure 2) into Birch Lake is approximately 575 acres and is about 5 times larger than the surface area of Birch Lake, which is 125 acres. This is a relatively small drainage area to Birch Lake. Lakes with a small drainage area (less than 10:1 ratio) tend to have better water quality.

Figure 10: Birch Lake Drainage Area and Flow Patterns



In 2007 and 2008, VLAWMO collected water samples from 3 areas around the lake where stormwater drains enters the lake to track the levels of nutrients and sediment. Results are shown in Table 1.

Table 1: Birch Lake Runoff Water Quality

	Avg TP		Avg NO_3N		Avg TSS		Avg VSS	
Birch Lake - 4th St	0.282	44.2%	0.165	24.4%	12.7	27.9%	5.7	28.1%
Birch Lake - Birch Lk Blvd	0.091	14.2%	0.298	44.1%	17.0	37.3%	7.8	38.4%
Birch Lake - Bremer Bank	0.265	41.5%	0.213	31.5%	15.9	34.9%	6.8	33.5%

Figure 11: Impervious Surfaces in the Birch Lake Drainage

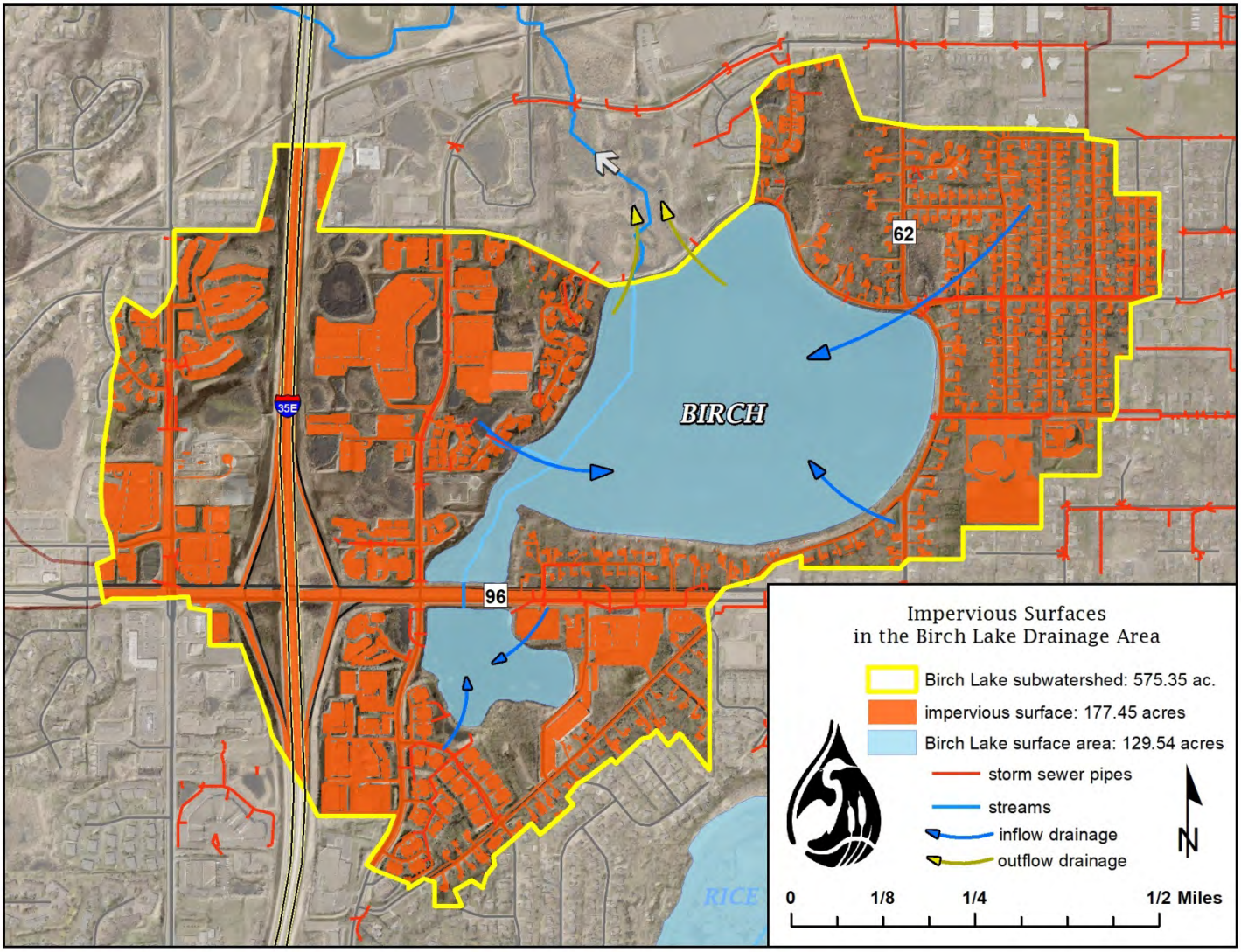
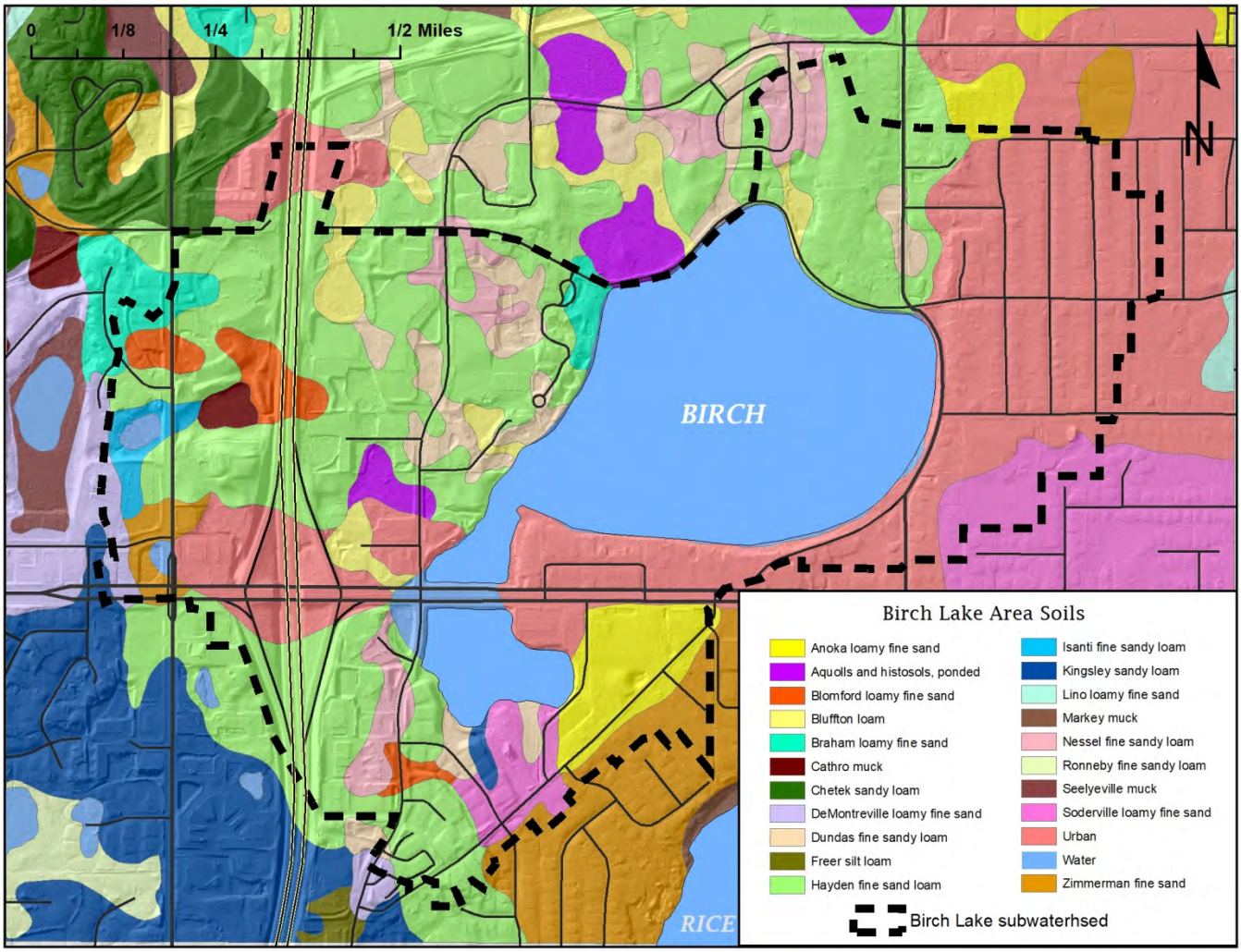


Figure 11 shows that a large amount of land cover in the Birch Lake Subwatershed is developed, and consists primarily of impervious surface (30.8% of total land cover, including water surface area and undeveloped surface area; not including Birch Lake's surface water area, impervious surface is 39.8% of the total land cover.). The majority of precipitation that falls on those surfaces moves rapidly into downstream lakes, wetlands, and streams.

2.3 BIRCH LAKE SOILS

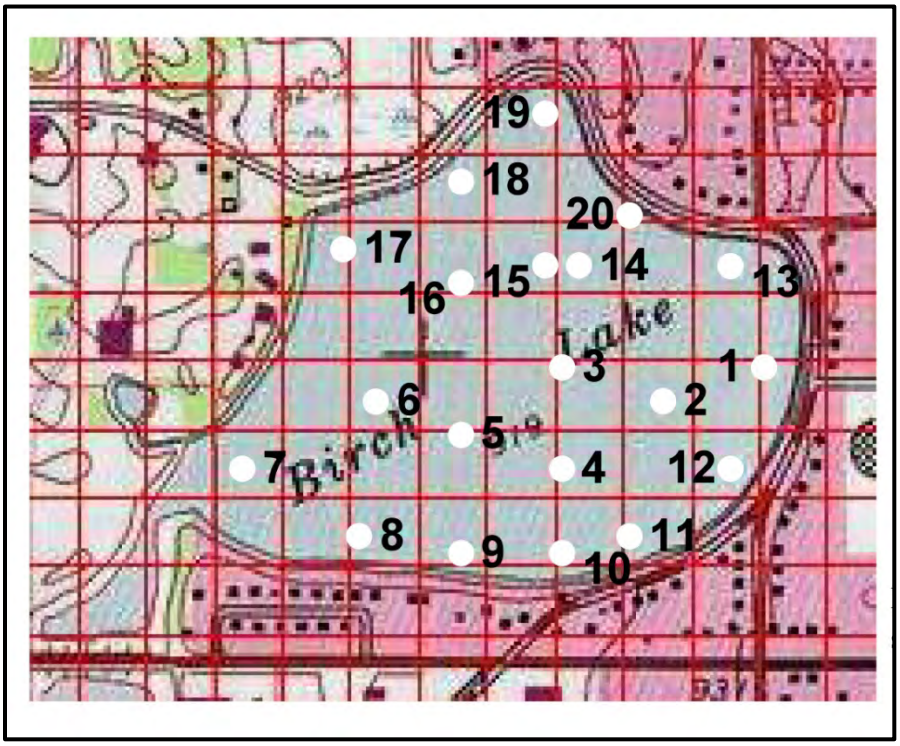
Soils in the Birch Lake Subwatershed are dominated by Hayden fine sandy loam and Urban Land-Zimmerman Complex. Both soils are good for building and residential development. These soils tend to be well drained, allowing water to infiltrate. With development, much of the soil has been compacted, moved, and paved over. Retrofits such as raingardens are especially effective in these soil types and have been added over time.

Figure 12: Birch Lake Area Soils



Soils in Birch Lake sediments have also been analyzed. A sediment study in the lake was conducted in 2008 to inform the Aquatic Invasive Species Action Plan that was completed in 2015. The lake sediment study was conducted with uniform sampling of the lake area. A total of 20 samples were collected and analyzed.

Figure 13: Birch Lake Sediment Sampling



A total of 15 parameters were analyzed for each sediment sample (see full list in the report included on the VLAWMO website -> Birch Lake). Lake sediments overall are soft and mucky. Typically high organic matter content is associated with the soft mucky sediments sample sites. Lake sediment phosphorus concentrations at all sites were low.

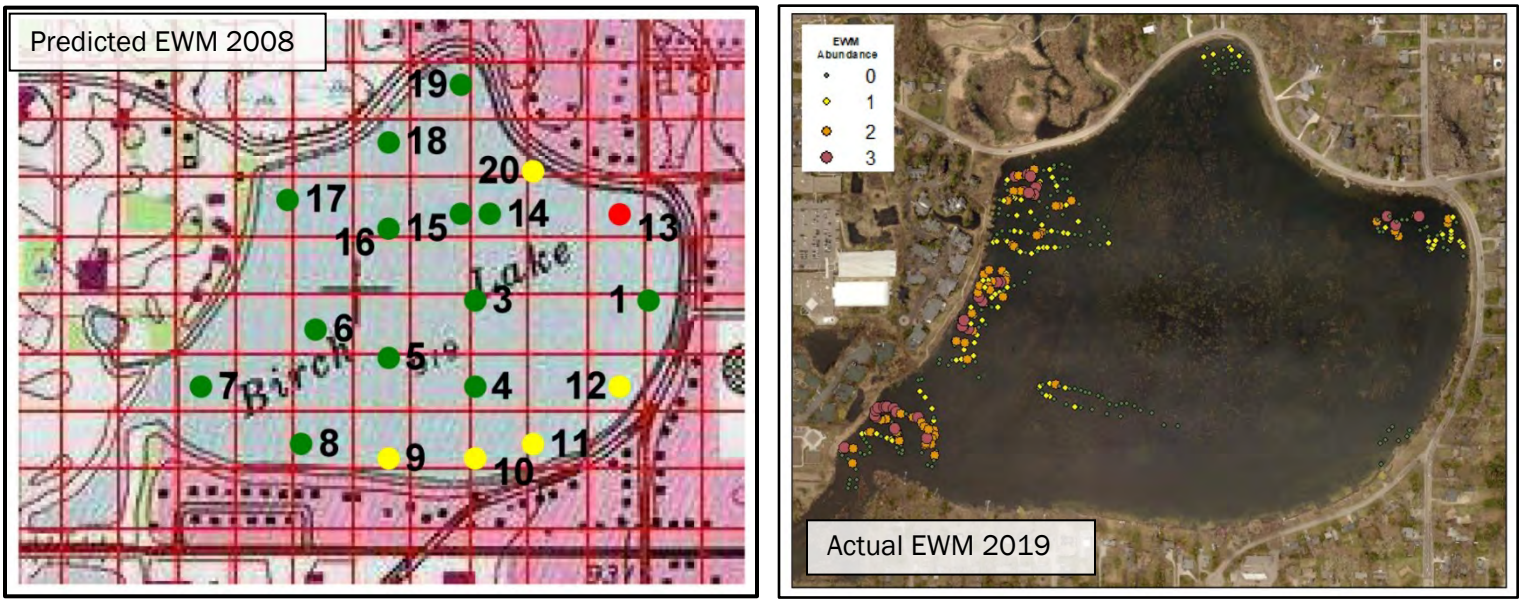
Lake Sediments and Invasive Aquatic Plants

Lake sediment sampling results from 2008 were used to predict lake bottom areas with the potential to support nuisance (invasive) Curlyleaf pondweed growth. Based on sediment parameters of pH, sediment bulk density, organic matter, and the Fe:Mn ratio (McComas, unpublished), the predicted growth characteristics of Curlyleaf pondweed was investigated. Curlyleaf pondweed growth was not predicted to produce nuisance growth (where plants top out in a solid canopy) in Birch Lake, based on the low sediment pH and high Fe:Mn ratio.

2 WATERSHED FEATURES

Lake sediment sampling results were also used to predict lake bottom areas with the potential to support nuisance Eurasian watermilfoil (EWM) growth. EWM was first documented in Birch Lake in 2005. Based on the key sediment parameters of NH_4 and organic matter (McComas, unpublished), the predicted growth characteristics of EWM were investigated and predicted. Sediment nitrogen conditions in Birch Lake are relatively high. However, because organic matter content is very high, nuisance milfoil growth was predicted to be rare. EWM may grow widely through Birch Lake, but it was not expected to produce extensive perennial nuisance matting conditions. Ramsey County Soil and Water Conservation Division conducted an aquatic vegetation survey and EWM delineation in 2019, so we are able to compare predicted versus actual growth of this invasive species. EWM has spread since 2008. Predicted areas for colonization of EWM do not closely match with actual colonization that has occurred over time.

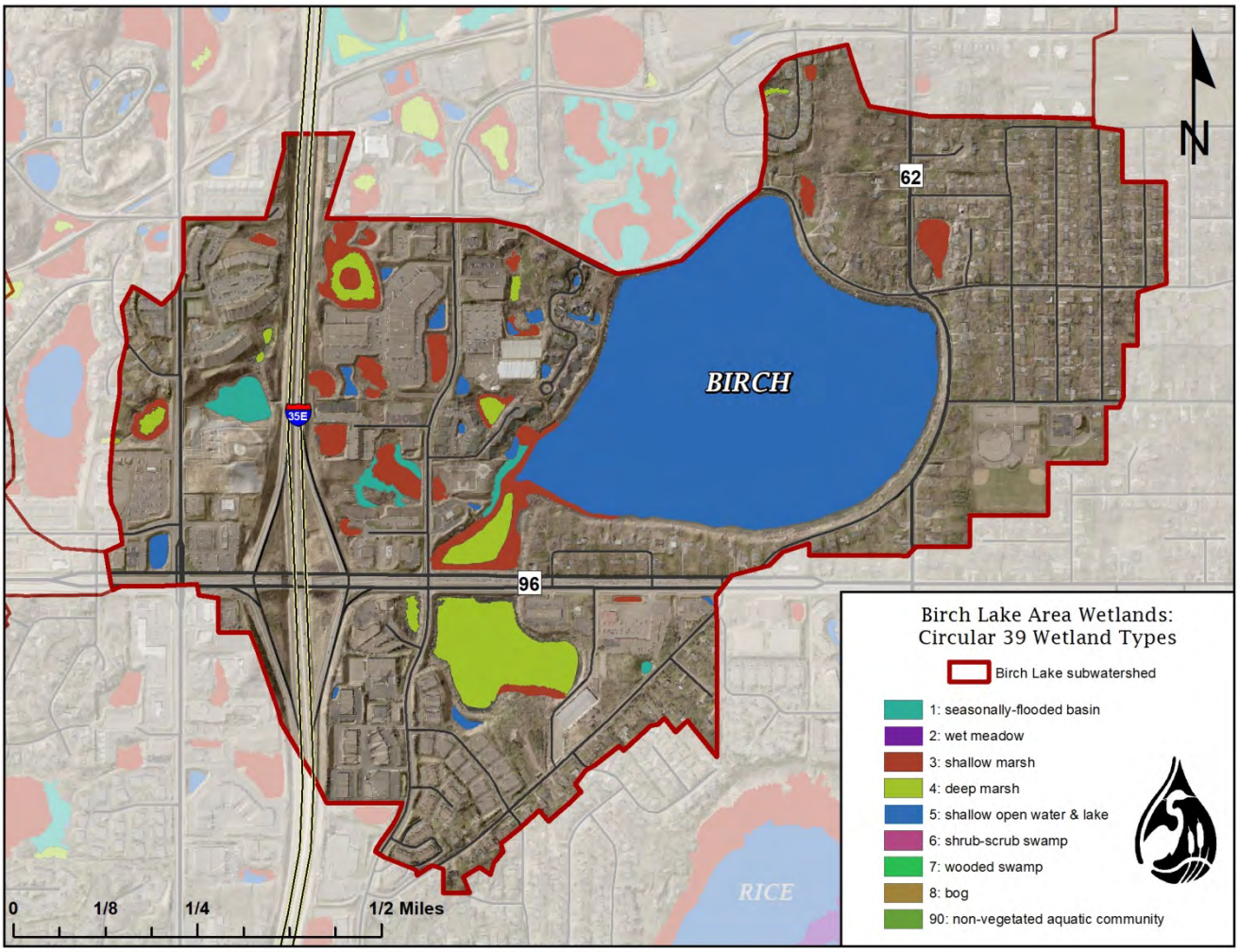
Figure 14: Birch Lake Predicted EWM Growth (2008). Green = low, Yellow = medium, and Red = high predicted coverage by EWM versus Actual Colonization (2019)



2.4 BIRCH LAKE WETLANDS

There are 40 delineated wetlands in the Birch Lake subwatershed totaling 46.6 acres or 8% of the watershed area, also considered "ponded" area. Ideally, a watershed should have at least 5% of the area ponded, so the subwatershed area of Birch Lake meets this criterion. The western third of the subwatershed contains the majority of the wetland area, and was also the last area to be developed. For new development or redevelopment, the creation of storm water mitigation or wetland area is advised, and in some cases is mandatory, according to Wetland Conservation Act (WCA) rules and/or the VLAWMO Water Management Policy.

Figure 15: Birch Lake Circular 39 Wetland Types

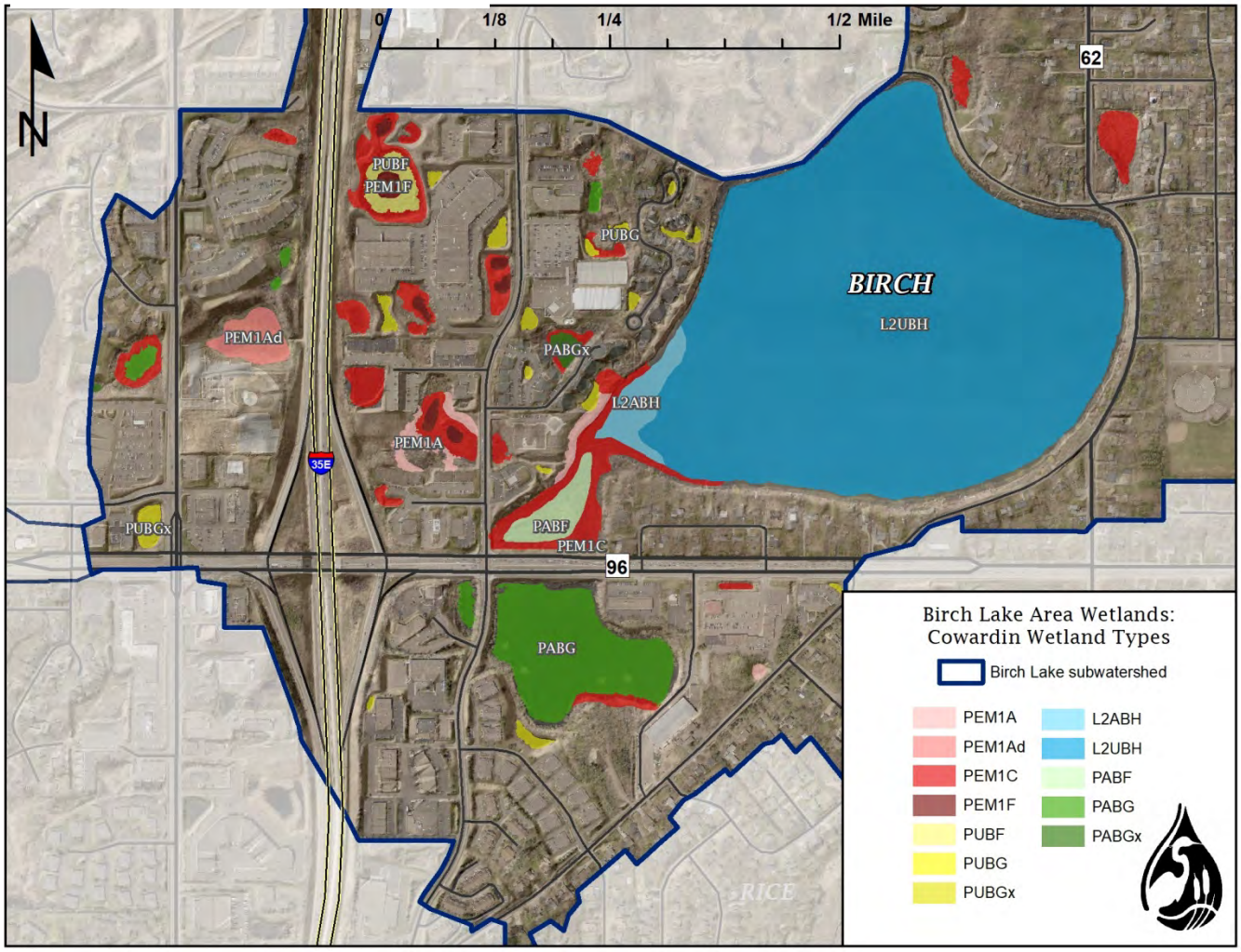


As Classified by the Circular 39 wetland classification system, the southwest bay of the Birch Lake and the lobe south of Highway 96 (South Birch) have mixed classification of deep and shallow marsh, while the greater area of Birch Lake is classified as shallow open water or lake, as the majority of the lake's perimeter is surrounded by residential development. The southwest corner of the Lake exhibits the most shallow wetland characteristics with predominantly emergent vegetation, and the western shore has the most lightly-developed or altered shoreline habitat.

2 WATERSHED FEATURES

Within the US Fish & Wildlife Service's National Wetland Inventory (Cowardin Classification System), there are three predominant classifications around Birch Lake that are non-Lacustrine (lake): PEM1C, PABF, and PABG, which correspond to Shallow and Deep Marsh wetlands (Figure 16). PEM1C refers to palustrine, emergent, persistent marshes that are seasonally flooded (1C), whereas PABF is identified as a palustrine, aquatic bed, semi-permanently flooded. PEM1C surrounds the southwestern shoreline and PABF encompasses the middle of the southwest bay. PABG is identified as being palustrine, aquatic bed, and intermittently- exposed, and is identified as nearly the entire South Birch basin. These areas within the Birch Lake basin and along the shoreline add up to 19.8 acres.

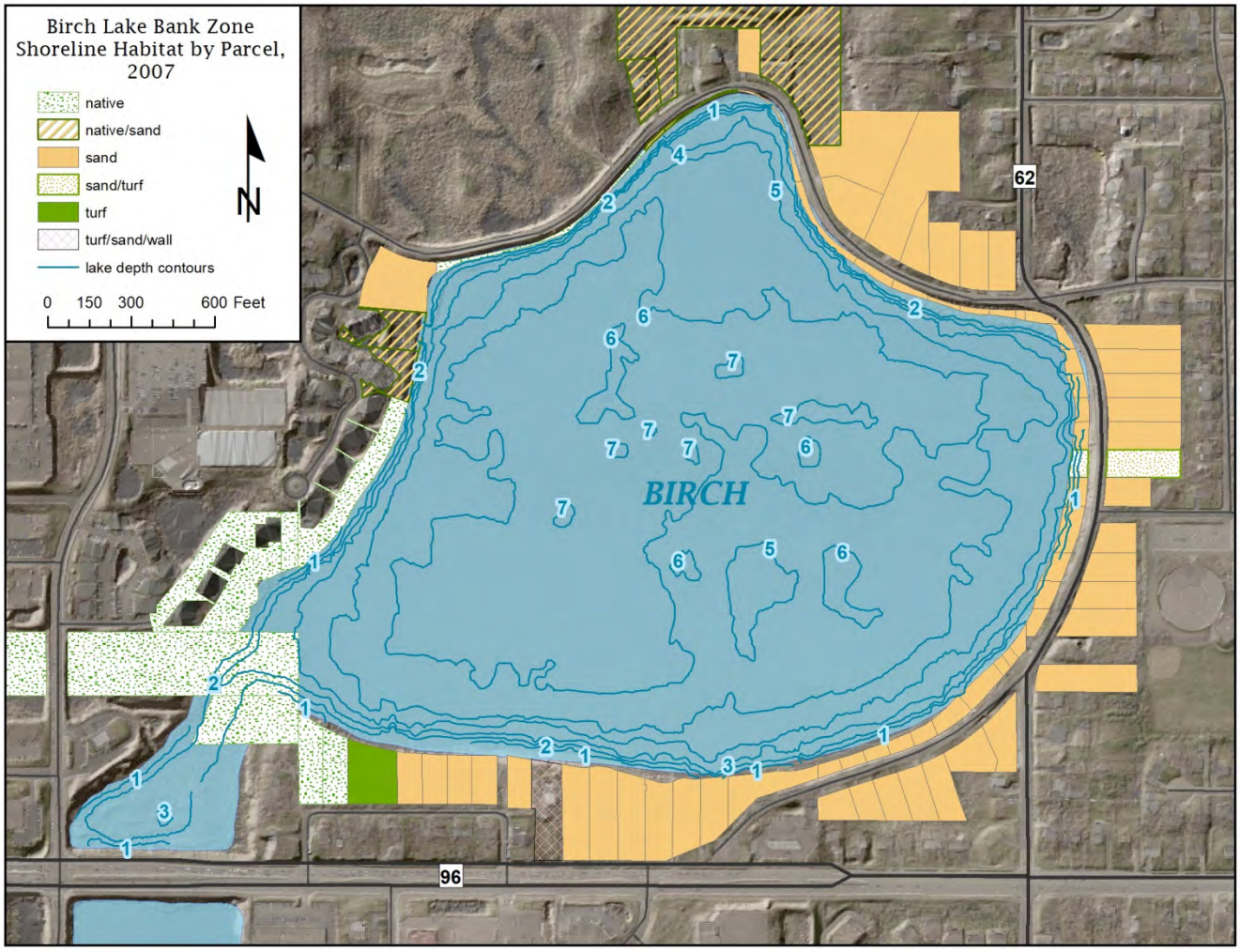
Figure 16: Birch Lake Cowardin Wetland Types



2.5 BIRCH LAKE SHORELINE VEGETATION

A shoreline survey was conducted by VLAWMO and Ramsey Conservation District (RCD) staff in 2007 (The report was published in 2008). Sixty parcels were evaluated for this effort. Based on our subjective criteria, approximately half of the sites were mostly natural or naturalized, while the other half of parcels were cleared to the shore. There were no signs of major erosion problems. Thirty parcels were deemed to have high potential for shoreline restoration. Nineteen of the properties that are cleared to the shore were determined to have good potential for restoration to a more natural shoreline. By creating a buffer of natural vegetation along the shoreline, there will be more filtering of chemicals from lawns and roads before it reaches the water. Homeowners on Birch Lake should be encouraged to implement these types of landscaping project. Grants and design assistance are available through VLAWMO and the Ramsey Soil & Water Conservation Division to help homeowners with these projects.

Figure 17: Birch Lake Bank Zone Shoreline Habitat by Parcel



A 25-50 foot buffer of natural vegetation that extends both onto land and into water and covers at least 75% of a property's frontage is ideal for the a lake ecosystem. Twenty-five percent of the lake frontage can be mowed and/or used as a beach area. For some people, this requires a change in their idea of what a nice shoreline looks like. Reestablishing natural conditions improves water quality by limiting the amount of

stormwater runoff, reducing the amount of lawn fertilizer that would wash into the lake. Native prairie grasses, shrubs, or other perennials are deep-rooted and hold a shoreline in place. Naturalized plantings also discourage nuisance wildlife and waterfowl such as Canada geese and muskrats while attracting desirable ones such as loons, otters, frogs, hummingbirds, and ducks.

These issues were identified in 2007. Although shoreline restoration has been conducted and maintained with the City of White Bear Lake, there are still large areas that are mowed to the shoreline. Additional restoration and minimizing clearing remains a recommendation for Birch Lake.

Table 2: Birch Lake Shoreline Inventory Summary

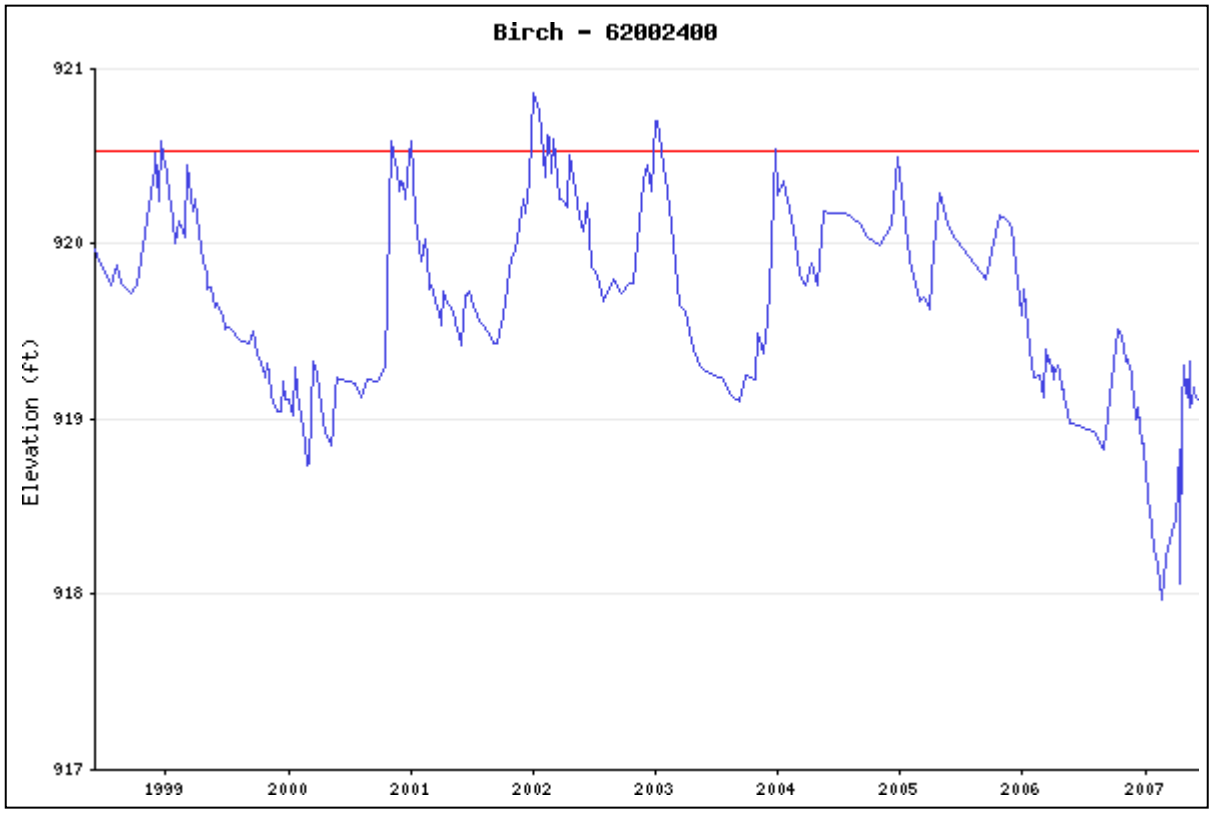
Shoreline Material %		
Grass	42.50%	Approximately half of the parcels are grass all the way to the shore; the other half is mainly woody and natural vegetation.
Rip Rap	1%	
Woody Vegetation	53.50%	
Retaining Wall	1%	
Sand	2%	
Shoreline Conditions		
0-25% Natural	28 (45.16%)	Approximately half of the parcels are cleared to the shore; the other half are kept very natural.
25-50% Natural	4 (6.45%)	
50-75% Natural	1 (1.61%)	
75-100% Natural	29 (46.77%)	
Upland Conditions		
0-25% Natural	45 (72.58%)	Most of the properties have homes or businesses on site and therefore the majority of the upland area are developed and mowed.
25-50% Natural	7 (11.29%)	
50-75% Natural	6 (9.67%)	
75-100% Natural	4 (6.45%)	

Figure 18: Example of a Birch Lake shoreline parcel. This parcel was rated as having good natural conditions.

2.6 BIRCH LAKE LEVELS

Water levels have fluctuated in Birch Lake since records were taken starting in June 1930 when the lake was dry. The highest recorded level was in 1952 when the lake was 7 feet deep. Water levels from 1998 through 2007 are shown in Figure 19. Birch Lake was approximately 2 feet below its historical average when the original SLMP was developed in 2007. After an especially wet period in 2018-2019, the maximum lake depth exceeded 1952 levels and was 7.4 feet deep. This shows that lakes are dynamic systems that vary over time.

Figure 19: 10-year Hydrograph of Birch Lake



When looking at the lake level data from 1930 to present, there have been other times when the lake level was lower than it was in 2007. The lake was lower in the late 1930s, 1948–1949, 1959, and 1989–1990. In 2007, it was predicted that Birch Lake levels would once again rise to its historical average. That has indeed occurred. As of, 2019, the lake was 7.4 feet deep.

3.1 Birch Lake Depth

A bathymetry survey was completed by Ramsey County Soil and Water Conservation Division on April 16, 2019, to develop a map of the bottom of Birch Lake and determine depths. The survey was conducted early (about 1-week post ice out) to capture depths before aquatic vegetation became too thick. Thick vegetation could register as lake bottom and give erroneously shallow readings. Birch Lake has a maximum depth of 7.4 feet. It follows a typical lake bottom shape, with shallower areas along the outer areas and deeper sections towards the middle. Birch Lake has small pockets that are 7-feet deep in the middle of the lake.

Figure 20: Birch Lake Depth with 1-foot Contours

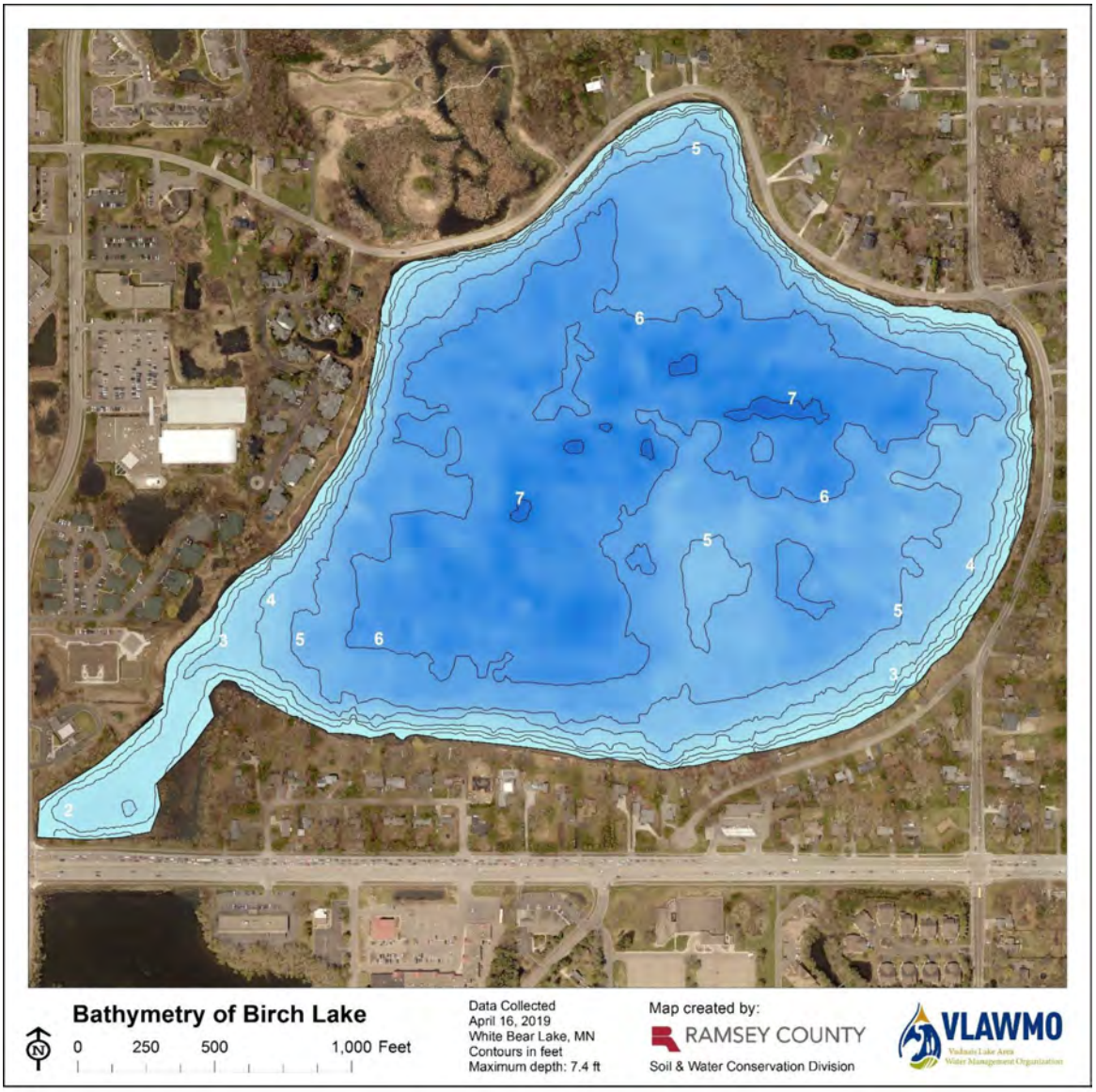


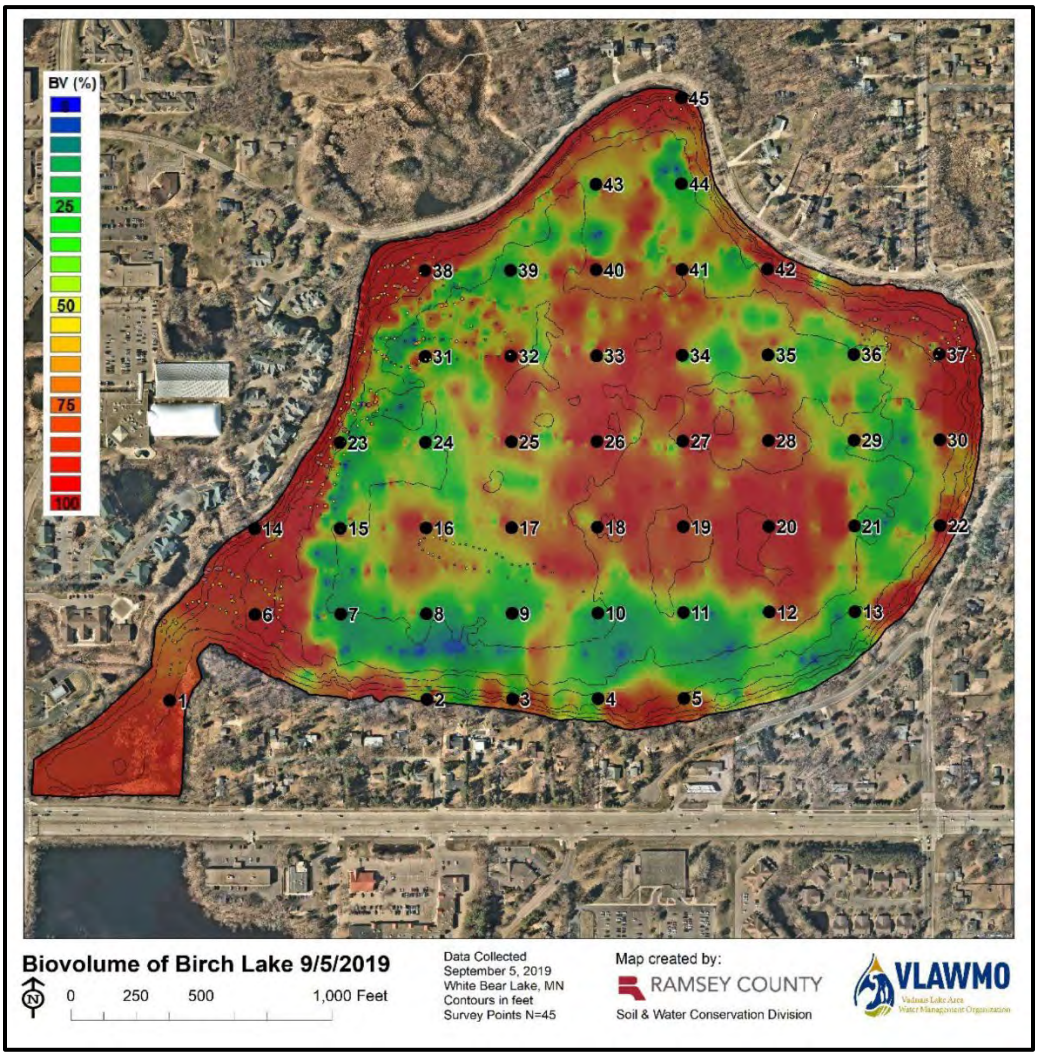
Figure 3. Depth of Birch Lake with 1-ft contours

3.2 BIRCH LAKE BIOVOLUME AND AQUATIC VEGETATION

Biovolume

Ramsey Soil and Water Conservation Division conducted a biovolume and aquatic vegetation survey on September 5, 2019. Biovolume measures the density of plant life within the lake. Blue signifies 0% plant life, and red signifies 100% plant life. At depths greater than 4-6 feet, there is commonly no plant life in Minnesota lakes. Plant growth is limited because the sun does not penetrate the water column below those depths enough to allow photosynthesis to occur. Birch Lake has abundant plant life throughout the lake, even in its deepest pockets (Figure 21).

Figure 21: Birch Lake Biovolume



Aquatic Vegetation

Blue Water Science conducted previous vegetation surveys (2007, 2013, and 2015). Ramsey County Soil and Water Conservation Division (RCSWCD) conducted the most recent vegetation survey (September 2019). Because of previous efforts, we can look at vegetation trends through time and see that the extent of Eurasian watermilfoil (EWM) has expanded. Because of suspected expansion of this invasive species, RCSWCD included a delineation for EWM in 2019.

In 2007, early summer and fall surveys were completed. In early summer, there was 100% coverage of the lake with aquatic plants. The most abundant plant in Birch Lake was Fern pondweed. It was found at 96% of the 54 stations. Overall aquatic plants grew to a depth of 5 feet in 2007. Eurasian watermilfoil (EWM) was found at 2 sites and a possible hybrid milfoil was found at 16 additional sites. In fall, the dominant plant species was also Fern pondweed. EWM was documented in this late summer survey. Overall, aquatic plants grew out to a depth of 5 feet, and were found throughout the entire lake. Species documented through these surveys are shown in the table below.

Table 3: Aquatic Plant Survey Results from 2007

Common Name	Scientific Name	Percent Occurrence		Native to MN?
		Summer	Fall	
Olney's Three-square Bulrush	*Scirpus americanus*	2%	2%	Yes
Arrowhead	*Saggitaria spp.*	4%	0%	Yes
Watershield	*Brasenia scheberi*	4%	4%	Yes
Spatterdock	*Nuphar variegatum*	15%	2%	Yes
White Water Lily	*Nymphaea odorata*	2%	2%	Yes
Chara	*Chara spp.*	13%	0%	Yes
Needle Spikerush	*Eleocharis acicularis*	2%	0%	Yes
Canada Waterweed	*Elodea canadensis*	26%	6%	Yes
Filamentous Algae	*Spirogyra/Cladophora sp*	6%	0%	Yes
Northern Watermilfoil	*Myriophyllum sibiricum*	2%	0%	Yes
Hybrid and Eurasian Watermilfoil	*Myriophyllum spicatum (EU)*	34%	34%	No
Large-leaf Pondweed	*Potamogeton amplifolius*	31%	43%	Yes
Illinois Pondweed	*Potamogeton illinoensis*	2%	0%	Yes
Fern Pondweed	*Potamogeton robinsii*	96%	100%	Yes
Coontail	*Ceratophyllum demersum*	0%	2%	Yes
Naiad	*Naias spp.*	0%	2%	Yes
Water Celery	*Vallisneria Americana*	0%	26%	Yes

In 2013, 1 aquatic plant point-intercept survey was conducted. The September 5, 2013 survey was done to characterize the aquatic plants community of Birch Lake. Fern pondweed was again the dominant plant and was found at 26 out of 45 sample sites (58% of the sites). Plants grew out to about 6 feet of water, which was also about the deepest depth in the lake.

The aquatic plant community in 2013 had 10 species of submerged plants in late summer (See full report on VLAWMO's website -> Birch Lake). This is a good plant diversity condition. Eurasian watermilfoil was the only non-native plant present. EWM covers about 8 acres in late summer but was found to have mostly light growth. EWM control was not deemed necessary at this time by Blue Water Science.

Figure 22: Birch Lake Vegetation Sampling Locations 2013

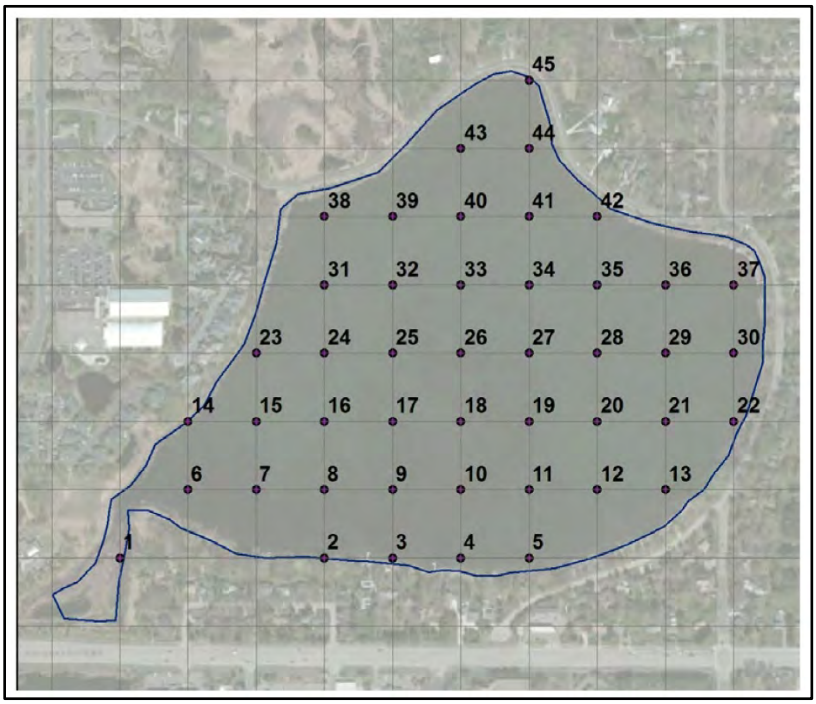


Figure 23 : Birch Lake Native Plant and EWM Locations 2013

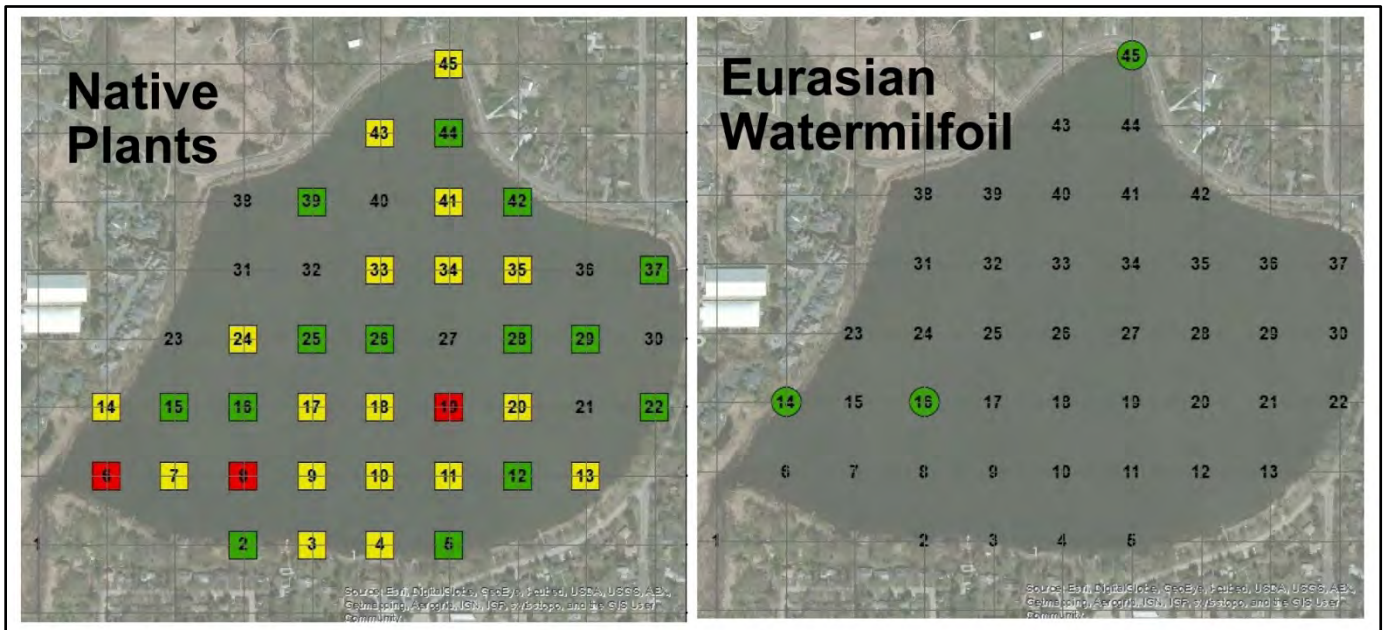
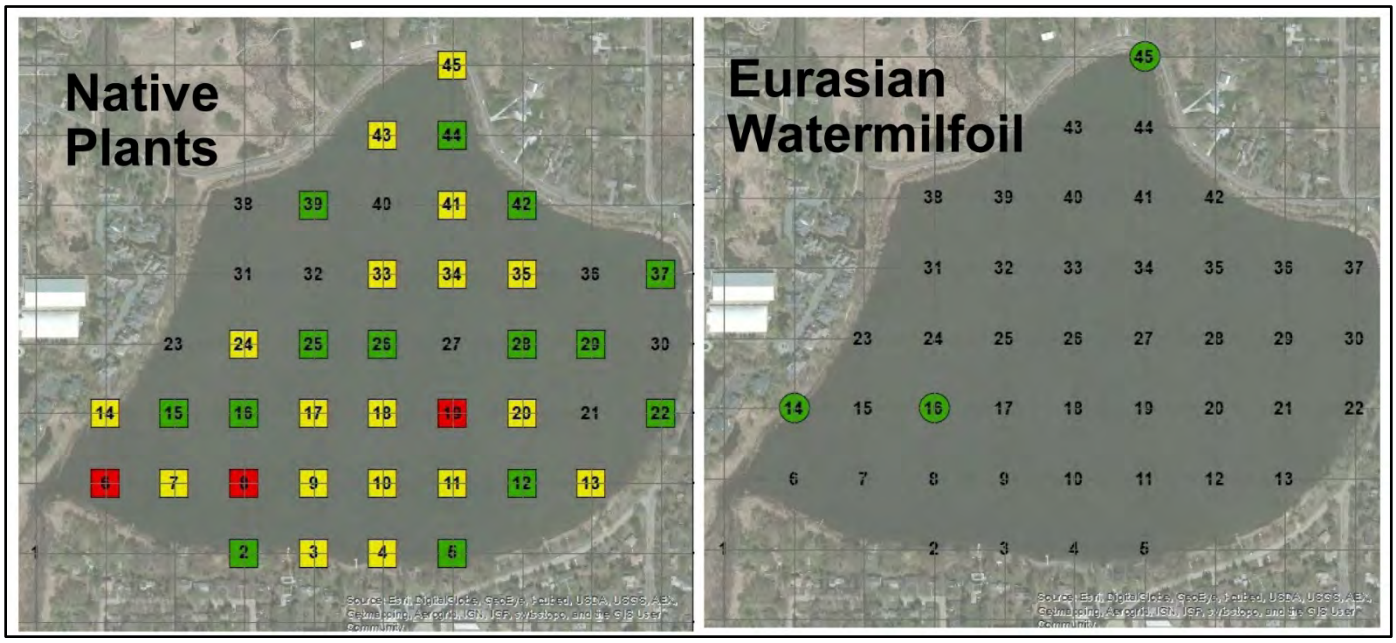


Figure 4. Aquatic plant coverage maps for September 5, 2013.
[top] Native plant coverage was about 95 acres.
[bottom] Eurasian watermilfoil, a non-native species, coverage was about 8 acres.

In 2015, aquatic plants in Birch Lake were checked at 13 points on September 8, 2015 using the same sites that were sampled in 2013. Results of the 2015 plant check indicated that aquatic plants were similar in abundance compared to the 2013 survey. In 2015, Fern pondweed and Water celery were the dominant plants, which was also the case in 2013. The plant community in Birch Lake in 2015 was similar to conditions in 2013. In 2013, the lake was about 1 foot lower in depth, and plants may have been closer to the surface. Plant distribution and coverage indicated that the lake remained in a healthy condition.

Figure 24: Birch Lake Native Plant and EWM Locations 2015



In 2019, 45 points were surveyed, replicating the study design of previous vegetation efforts. Aquatic macrophytes were found at all 45 points. 25 total macrophyte species were identified, 11 of which occurred at more than one point and 3 of which (Flat-stem Pondweed, Watermeal, and Northern Watermilfoil) were observed between designated points. The previous survey of 45 points in 2013 identified 12 species, all of which were detected in the 2019 survey, although Flat-stem pondweed, which had been found in four points in 2013, was only observed between points in 2019. The most prevalent species were Fern Pondweed (Potamogeton robbinsii) and Large-leaf Pondweed (Potamogeton amplifolius), both above 50% occurrence. Water Celery (Vallisneria americana) and Canada Waterweed (Elodea canadensis) were also prevalent at 29% and 27% occurrence, respectively. Present between 7% and 18% occurrence in the lake were Coontail (Ceratophyllum demersum), Slender Naiad (Najas flexilis), Eurasian Watermilfoil (Myriophyllum spicatum), Small Pondweed (Potamogeton pusillus), White Water Lily (Nymphaea odorata), Filamentous Algae (Spirogyra sp./Cladophora), and Muskgrass (Chara). Remaining species were found at one point only in the survey. The secchi disk reading was limited due to the shallowness of the lake. The disk was visible resting at the bottom at 6 ft, and so the official reading was not taken – the measurement was thus greater than 6 feet (or greater than 1.8 meters). Water temperature was 69.5 degrees. For full distribution information, refer the the report posted on the VLAWMO website -> Birch Lake.

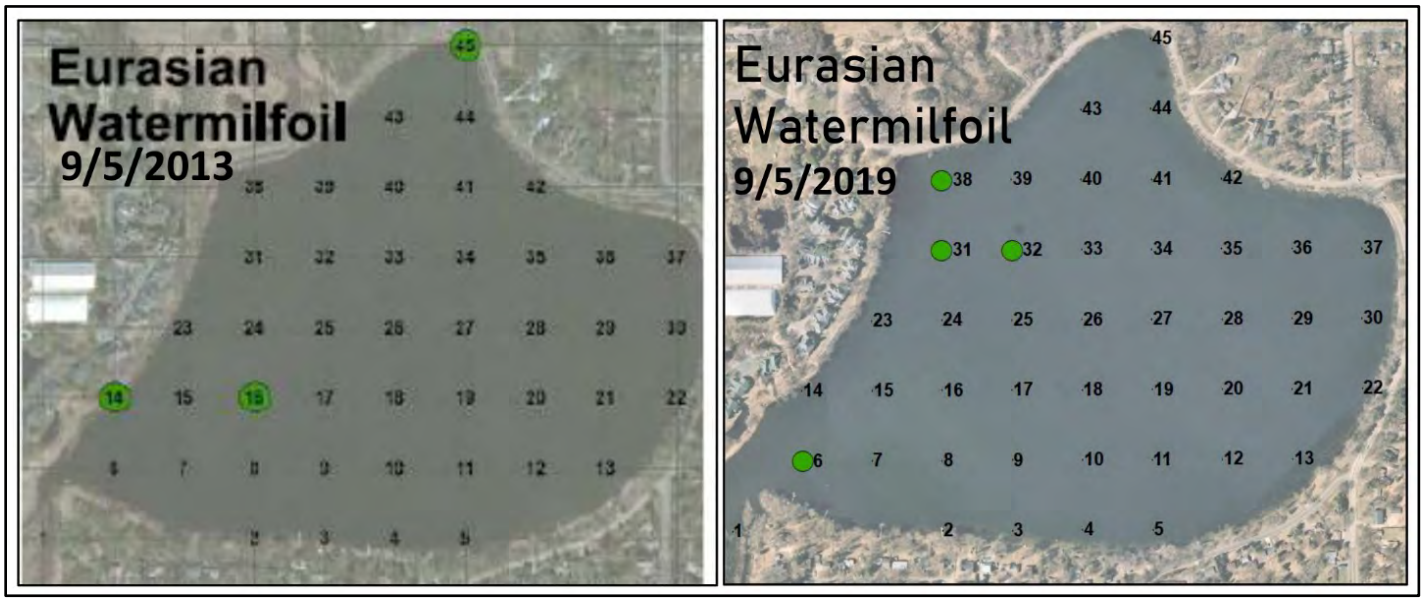
3 LAKE FEATURES

This vegetation survey was conducted in anticipation of updating the SLMP and to observe if Eurasian watermilfoil was expanding in extent in the lake.

The aquatic invasive species Eurasian watermilfoil (*Myriophyllum spicatum*) was detected in previous surveys of Birch Lake. To inform future management efforts of this species, a delineation of the species's current extent was conducted. Native Northern Watermilfoil (Myriophyllum sibiricum) was also detected in the lake, and it is suspected that hybrid watermilfoil (M. spicatum x M. sibiricum) is also present due to the collection of samples with traits of both species. For the purposes of delineation, hybrid watermilfoil was included, as it is also considered invasive.

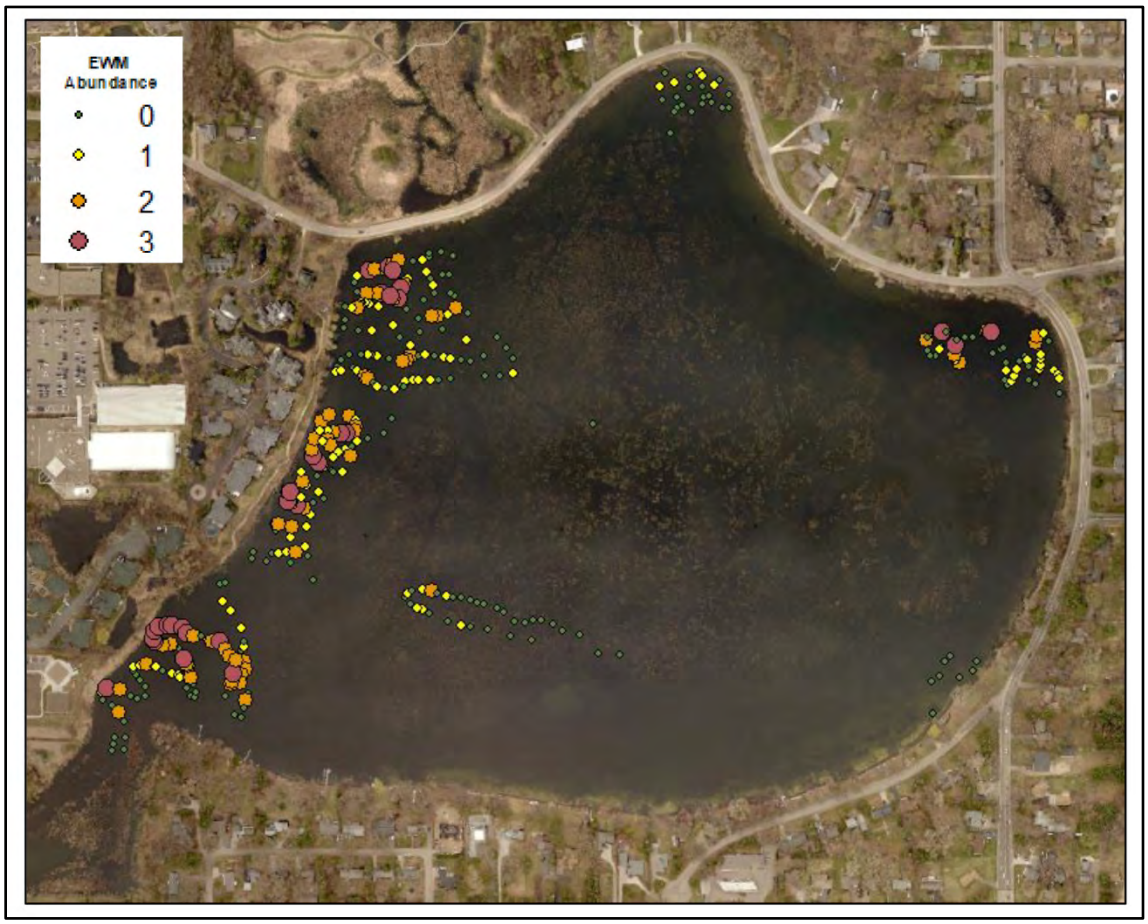
The first step of the delineation was the 2019 point intercept survey, in which field staff noted the locations of all points throughout the lake where Eurasian watermilfoil was found, as well as areas between points where it was detected. Next, staff returned to each location where it had been found to conduct a more in-depth vegetation survey in the interest of quantifying the present extent of Eurasian watermilfoil.
Figures show the sections of Birch Lake where Eurasian watermilfoil had been detected in the 2013 survey (points 14, 16, and 45) as well as where it had been observed in the 2019 survey (points 6, 31, 32, 38). The northeast was also re-visited due to an EWM sighting between points 36 and 37 on 9/5/2019.

Figure 25: Birch Lake Native Plant and EWM Locations 2015 compared to 2019



Consistent with the MNDNR's manual *Guidance for Delineating Invasive Aquatic Plants for Management*, the target areas were transected in a zig-zag pattern while staff took GPS points to note observation locations and results. Observation points are indicated in the figure below for each target area identified.

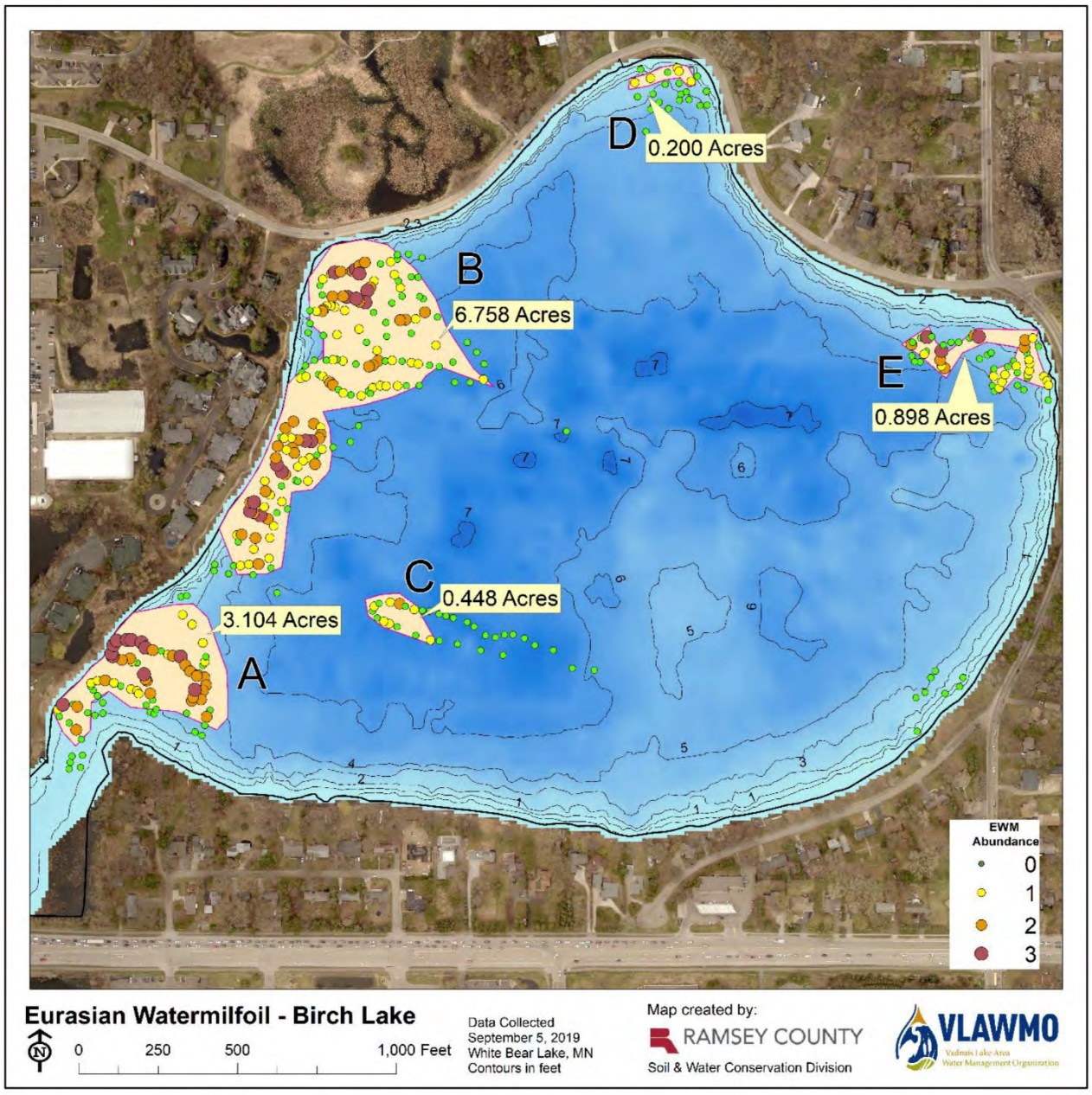
Figure 26: Birch Lake EWM Delineation 2019



Eurasian watermilfoil is widespread in Birch Lake, primarily along the western shoreline and the northeast corner of the lake. Due to the shallow littoral nature of Birch Lake, EWM is not restricted to the shore areas, although it is currently most prevalent in the 3-5 foot depth range. **Total acreage for Eurasian watermilfoil is about 11.4 acres, a rise from the 8 acres found in the 2013 survey.**

This is a 42.5% increase in EWM on Birch Lake.

Figure 27: Birch Lake EWM Extent in 2019. Total coverage is 11.4 acres.



3.3 FISH SURVEYS AND WILDLIFE MONITORING

Fish Surveys

Fish surveys were conducted partly to investigate the effectiveness of previous stocking efforts. Fish have been stocked in Birch Lake, in coordination with MN DNR.

Table 4: Birch Lake Fish Stocking Compared to 2011 Trapnet Captures.

	Largemouth Bass	Walleye	Yellow Perch	Crappie	Bluegill
April 2007	700 (4-7")	300 (3")			
April 2010	500 (4-7")	500 (4-7")	75 (2-3")		
July 2011	1,000 (3-5")		800 (3-4")	300 (4-7")	800 (3-5")
Fish Survey Results (Fish/trapnet) (August 2011)	1.0	0	0	0.6	15

Fish surveys were conducted on Birch Lake in August 2011 and September 2014. Full results of those surveys can be found on the VLAWMO website under Birch Lake.

In 2011, 6 standard trapnets were used to sample fish diversity for 2 days, for a total of 12 lifts. The trapnet was a MN DNR-style with a 4 x 6 feet square frame with two funnel mouth openings and 50-feet lead. Net mesh size was either 3/8 inch or ½ inch. Trapnets were set on August 22, 2011. Six nets were fished for the following 2 days (August 23, 24). Trapnet locations are shown in the full report.

A total of six fish species were sampled in Birch Lake on August 23 and 24, 2011. Bluegill sunfish were the most abundant species followed by pumpkinseed sunfish. The average number of Bluegills caught per net was moderate with the average haul of 15 fish per net. Pumpkinseed sunfish were found at moderate numbers and within a typical range for a lake like Birch, as defined by the MN DNR. Black crappie and Black bullhead abundance was low based on standard ranges compiled by the MN DNR. Northern pike had a moderate population with an average of 1.3 fish per net.

In 2014, 6 standard trapnets were sampled for 2 days for a total of 12 lifts. Net dimensions were unchanged from 2011. Six nets were fished for the following 2 days (September 5 and 6).

A total of 8 fish species were sampled in Birch Lake on September 5 and 6, 2014. Bluegill sunfish were the most abundant species followed by Pumpkinseed sunfish. The average number of bluegills caught per net was moderate with the average haul of 19 fish per net. Pumpkinseed sunfish were found at moderate numbers and within a typical range. Black crappie and Black bullhead abundance was low. Northern pike had a moderate population with an average of 1.2 fish per net.

Figure 28: Birch Lake Fish Survey: Adult summaries for fish species detected

2011			2014	
Common Name	Fish per net	MN DNR ave per net	Fish per net	MN DNR ave per net (if new)
Black Bullhead	0.6	2-61	1.4	
Bluegill Sunfish	15	6-60	19	
Pumpkinseed Sunfish	3.4	1-8	4.6	
Black Crappie	0.6	2-18	4.3	
Largemouth Bass	1.0	0.3-1	0	
Northern Pike	1.3	NA	1.2	
Green Sunfish			0.3	0.3-2.8
Hybrid Sunfish			0.3	NA
Yellow Perch			0.1	0.3-1.5

Summary

The fish community in Birch Lake changed from 2011 to 2014. A winterkill over the 2013-14 winter was suspected based on finding dead bullheads after ice-out in the spring of 2014. The winterkill may have impacted the fish community. Black bullheads increased slightly from 2011 to 2014. Black crappies also increased. Fish lengths have a wide distribution and indicate several year classes are present. In addition, Bluegill sunfish were at regional abundances with a good length distribution, indicating a balanced condition. The winterkill did not appear to impact Bullheads and Bluegills. However, it appears Largemouth bass may have been impacted. No largemouth bass were netted in 2014, while they were present in 2011. Northern pike numbers were similar for both surveys, but the lengths in 2014 were dominated by young fish up to 9 inches. It appears stocking Largemouth bass would reestablish the bass community. Other fish species in Birch Lake should continue to do well.

Recommendations

Recommendations and future considerations include the following:

- In Birch Lake, northern pike are the dominant gamefish, although their average length is relatively small. Walleye and perch have been stocked in the past and have not become established. Future stocking of walleyes and perch are unnecessary at this time.
- Stocking 2,000 largemouth bass in 2014 should reestablish the bass population and add another predator to the fish community.
- Because sunfish currently spawn in the lake, the young fish should produce a forage base on an annual basis. The fish carrying capacity of Birch Lake will be established naturally, which is a good long-term management strategy.
- The winter aeration system is essential to maintain the existing fish community. It is recommended that efforts continue to insure proper operation of the winter aeration system.
- Water quality remains good in Birch Lake, and fishing has the potential to be very good for panfish and Largemouth bass. In 3-4 years, another fish survey should be conducted to evaluate conditions and re-evaluate recommendations.

Wildlife Monitoring

During 2019, VLAWMO made it a priority to better understand our wetlands in a variety of ways. One way we did that was by conducting initial phases of a remote-camera survey. The survey allows us to focus on areas near waterways and in wetlands to better understand mammal diversity in these areas. Birds are also photographed at remote-camera sites. They are not included in this monitoring report because birds are better sampled by other methods (e.g., point-count call surveys, visual detection, mist netting). Some mammal species are indicators of habitat health and water quality (e.g., River otters). These species are of particular interest to us as we work to learn more about wildlife diversity in our watershed. These data provide baseline information about species present in our watershed and help VLAWMO identify priorities for future monitoring efforts.

Full details of the survey can be found in the VLAWMO Remote-camera survey monitoring results, posted on the VLAWMO website.

Bird Rotary Nature Preserve was included in this survey effort. One location was monitored from May 7-June 12, 2019, for a total of 36 trapnights. This site is among the smaller habitat areas included in the camera study. The nature preserve is ~31 acres, and much of the area is wetland. There are high densities of frogs and toads and many interesting plant species. The camera location was located south of the boardwalk and accessible by kayak. A small, natural, muddy platform was found that was kept clear by geese grazing. The camera was aimed at this open area and mounted on a metal post sunk into the peat. Mammal diversity was low at this camera site. There were interesting avian visits including a family of Wood ducks, Great blue heron, and Sandhill cranes. **Mammals included: Mink and Raccoon.**

Figure 29: Birch Rotary Sample Photos

Mink

Raccoon

Great blue heron

Sandhill crane

Wood duck family

Wood duck family

3.4 WATER QUALITY SUMMARY

VLAWMO has collected water quality (WQ) data on Birch Lake since 1997. Regular, long-term uniform sampling was implemented in 2009 (Table 1). VLAWMO staff collects WQ data and water samples biweekly, May-September, for water clarity (secchi disk), nutrients (TP, Chl-a, SRP, nitrogens), and chemistry (temperature, conductivity, dissolved oxygen, and potential hydrogen [pH]). Total Phosphorus (TP) and Chlorophyll A (Chl-a) analyses are conducted by a contracted lab.

- TP is the primary cause of excessive plant and algae growth in lake systems. Phosphorus originates from a variety of sources, many of which are human related. Major sources include human and animal waste, soil erosion, detergents, septic systems, and stormwater runoff. Internal loading can also be present in a lake. Internal loading can result from P becoming re-suspended into the water column from the sediment. High amounts of P in sediments may occur as a result of historical land uses including, but not limited to, waste disposal into the lake.

- Chl-a is a green pigment in algae. Measuring Chl-a concentration gives an indication of algae abundance.

- The MN Pollution Control Agency (MPCA) has impairment standards for the levels of TP and Chl-a. For shallow lakes in Minnesota, the impaired water quality standard levels are: <60µg/L for TP, <20µg/L for Chl-a, and <230 mg/L for Chloride.

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Table 5: Birch Lake Monitoring Data 2010-2019

Birch Lake Historical Avg TP/Chl A/SDT/Cl				
Year	TP (µg/L)	Chl A (mg/m³)	Secchi (m)	Chloride (mg/l)
2010	31	5	1	95
2011	29	3	2	100
2012	30	3	2	89
2013	30	3	2	89
2014	26	3	1.7	80
2015	21	1	1.7	89
2016	14	7	1.8	78
2017	28	8	1.8	83
2018	25	5	1.8	95
2019	18	3	2	110

Figure 30: Historical Water Quality Averages in Birch Lake 2010-2019

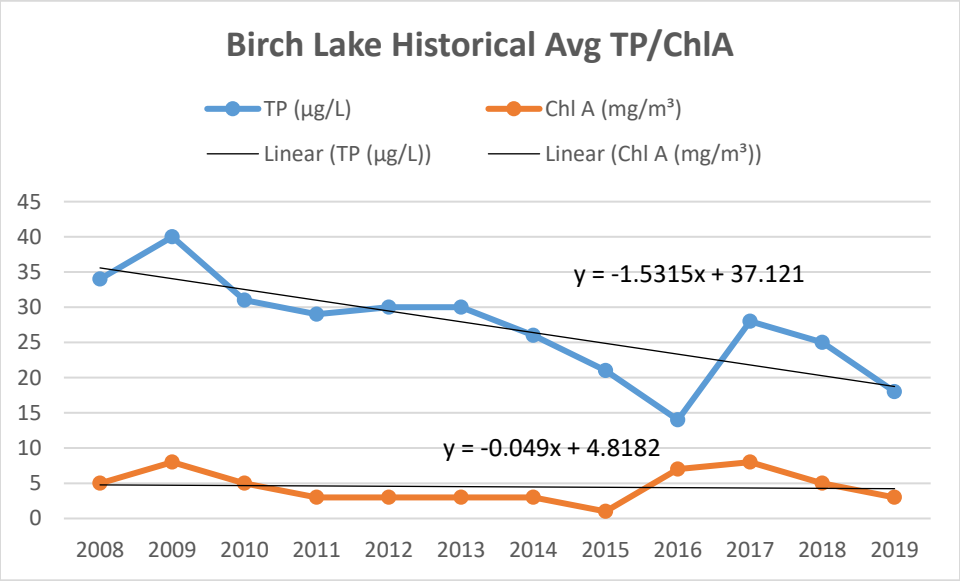


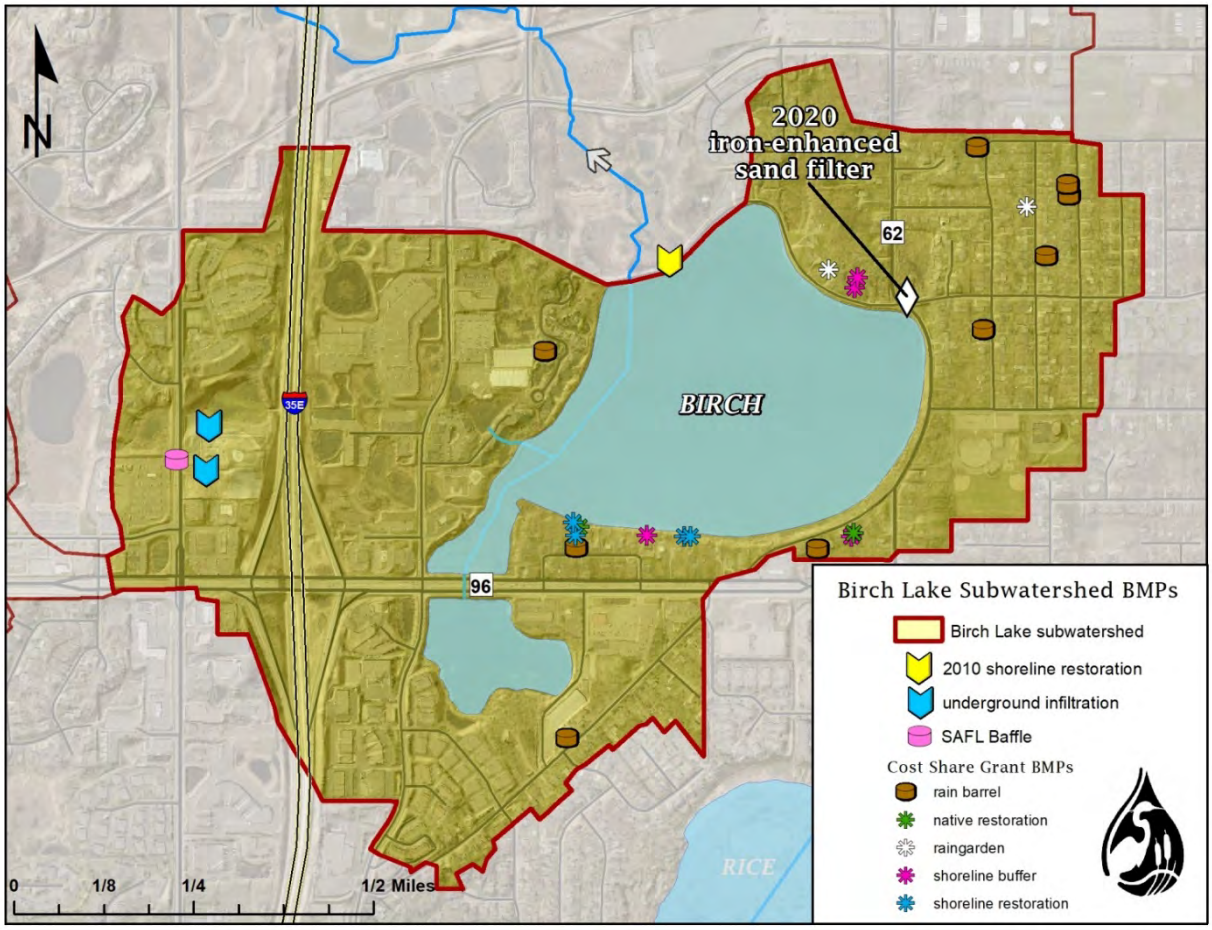
Figure 30: The graph shows results of TP/Chl-a with a linear trend through time. TP levels are below the State Standard (60 µg/L). Chl-a hovers around the value of 5 mg/m³.

4 MANAGEMENT PLAN

4.1 COMPLETED BPMS IN THE SUBWATERSHED

Best Management Practices (BMPs) are implemented to improve and protect water quality. Common small-scale examples of BMPs include raingardens, infiltration basins, shoreline restorations, rain barrels, and native plantings. Larger BMPs include stormwater retention basins, iron-enhanced sand filters, weirs and stormwater conveyance retrofits, and in-lake treatments such an alum treatment, rough fish management, or aquatic vegetation management. Many smaller-scale BMPs have been implemented in the subwatershed area. An iron-enhanced sand filter is being constructed on the northeast corner of the lake in 2020 to treat stormwater and reduce nutrient loading input into Birch Lake. This filter is being constructed at a hotspot nutrient input location identified by retrofit analysis.

Figure 31: Birch Lake Subwatershed Implemented BMPs



Summary of BMPs implemented:

- Large shoreline restoration on the north shore of Birch Lake, completed in 2010.
- Development of the Pillars senior living facility in 2017, Lunds & Byerlys grocery store in 2018, and subsequent reconstruction of Centerville Road prompted installation of underground infiltration cells and SAFL Baffle stormwater treatment.

- 21 VLAWMO Cost Share grant BMPs: 2 native restorations, 2 raingardens, 8 shoreline restorations/buffers, and 9 rain barrels.
- A 2-acre restoration is underway. It was begun during fall 2019 by removing buckthorn with assistance from volunteers and University of Minnesota service-learning students. The area was seeded with native, shady plants using funds provided from a Conservation Partners Legacy grant from MN DNR during winter 2020. Ongoing maintenance will be important to ensure successful establishment of the native plants and complete the restoration initiative.

4.2 Results of Stakeholder Survey and SLMP Update Meeting

VLAWMO conducted a lake resident survey in 2007. Half of the residents responded. A topic that was shown to be of high concern to residents is excessive aquatic plant growth.

Table 6: Lake Resident Questionnaire Results

How important to you are the following items? (1=low; 5=high); averages shown							
excessive plant growth	algae control	odor	access to the lake	poor fishing	mucky lake bottom	wildlife nuisance	exotic plant control
4.6	4.3	3.9	2	3	3.8	2.5	4.5

Answers that received high scores included excessive plant growth, exotic plant control, and algae growth. Residents are concerned with aquatic-plant management issues.

What are your primary activities on the lake?					
viewing water & wildlife	fishing	boating	swimming	walking around the lake	socializing
87%	33%	46%	28%	82%	46%

How do you feel about the following aspects of your lake? (1=poor; 5=excellent)					
water quality	fishing	swimming	boating	wildlife viewing	other (please describe)
3.5	3.2	1.8	2.4	4	2 added that lake depth was poor; 1 stated that privacy was excellent.
Responses showed that overall residents felt that swimming and boating were poor, and that wildlife viewing was excellent.					

If you were to control plants, what method would you prefer?		
herbicide/ chemical	harvest/ mechanical	other (please describe)
46%	36%	Combination of both - 13%
		Do nothing - 0.5%
		Other responses included trying other things such as carp, Asian grass, or dredging

4.3 MANAGEMENT PLAN FOR BIRCH LAKE

Retrofit Report and Management Plan (2013)

In 2013, the Ramsey Conservation District completed a Retrofit Report for the Birch Lake subwatershed, This was part of a larger effort to assess the full watershed and subwatershed scales and identify optimal locations for BMPs. For these retrofit reports, 3 types of bioretention were considered. The full report is available on the VLAWMO website -> Birch Lake.

Bioretention was defined as curb-cut raingardens. These raingardens take stormwater runoff offline for treatment and utilize the current stormwater conveyance system for overflow. Depending on the soil type at the location being constructed, bioretention basins consist of a depression utilizing native soils for infiltration or replacing current soil with an engineered soil and native vegetation plantings more conducive to infiltration. At some sites, an underdrain with connection to the existing storm sewer system may be needed if infiltration capability is limited by underlying soils or if infiltration cannot be allowed due to soil compaction or other conditions. Bioretention basins fell within categories listed below:

- Simple Bioretention: Native vegetation, a curb cut and forebay, but no engineered soils or under-drains. May include a retaining wall if grade is steep.
- Moderately Complex Bioretention: Native vegetation, engineered soils, a curb cut, forebay and underdrain, and no retaining walls.
- Complex Bioretention: The same as the MCB, but with 1.5-2.5 ft partial perimeter walls.

Retrofit locations were identified for the east, west, and south subcatchment areas of Birch Lake.

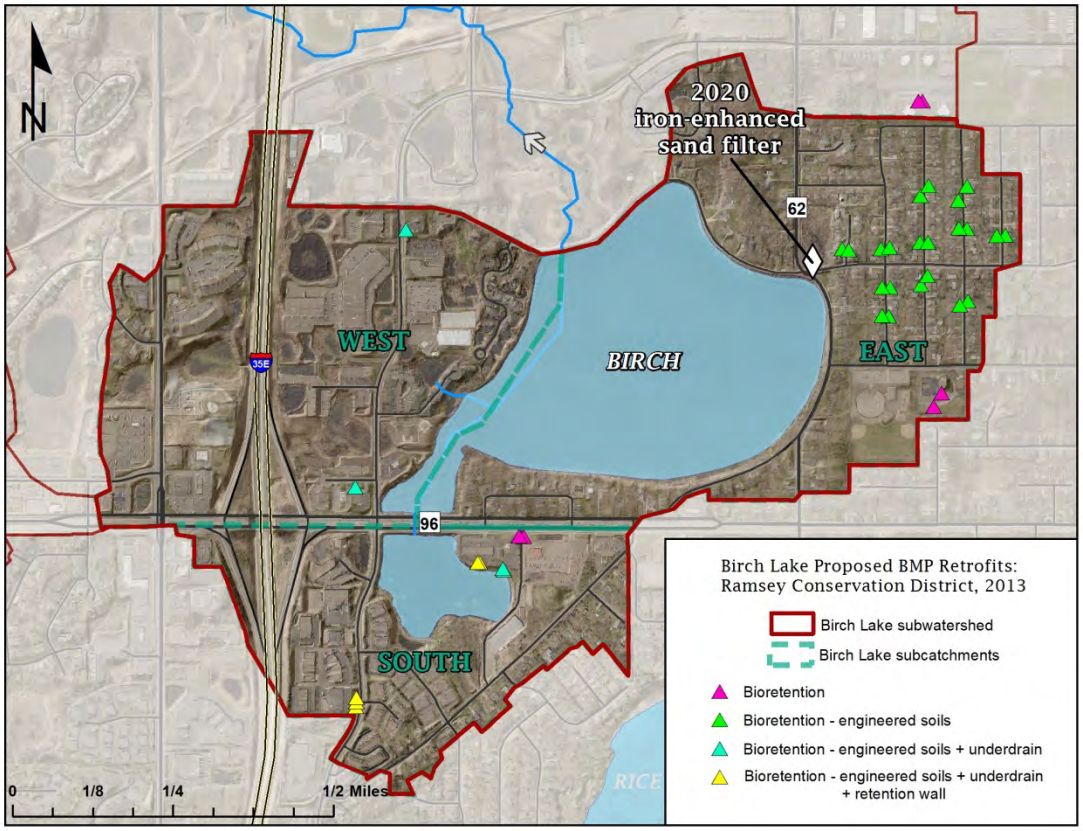


Figure 32: Retrofits identified for the Birch Lake subwatershed. The east side of the subwatershed had the most options. The iron-enhanced sand filter project (for construction in 2020) was selected for implementation for large-scale treatment of the storm sewer system, rather than individual residential raingardens.

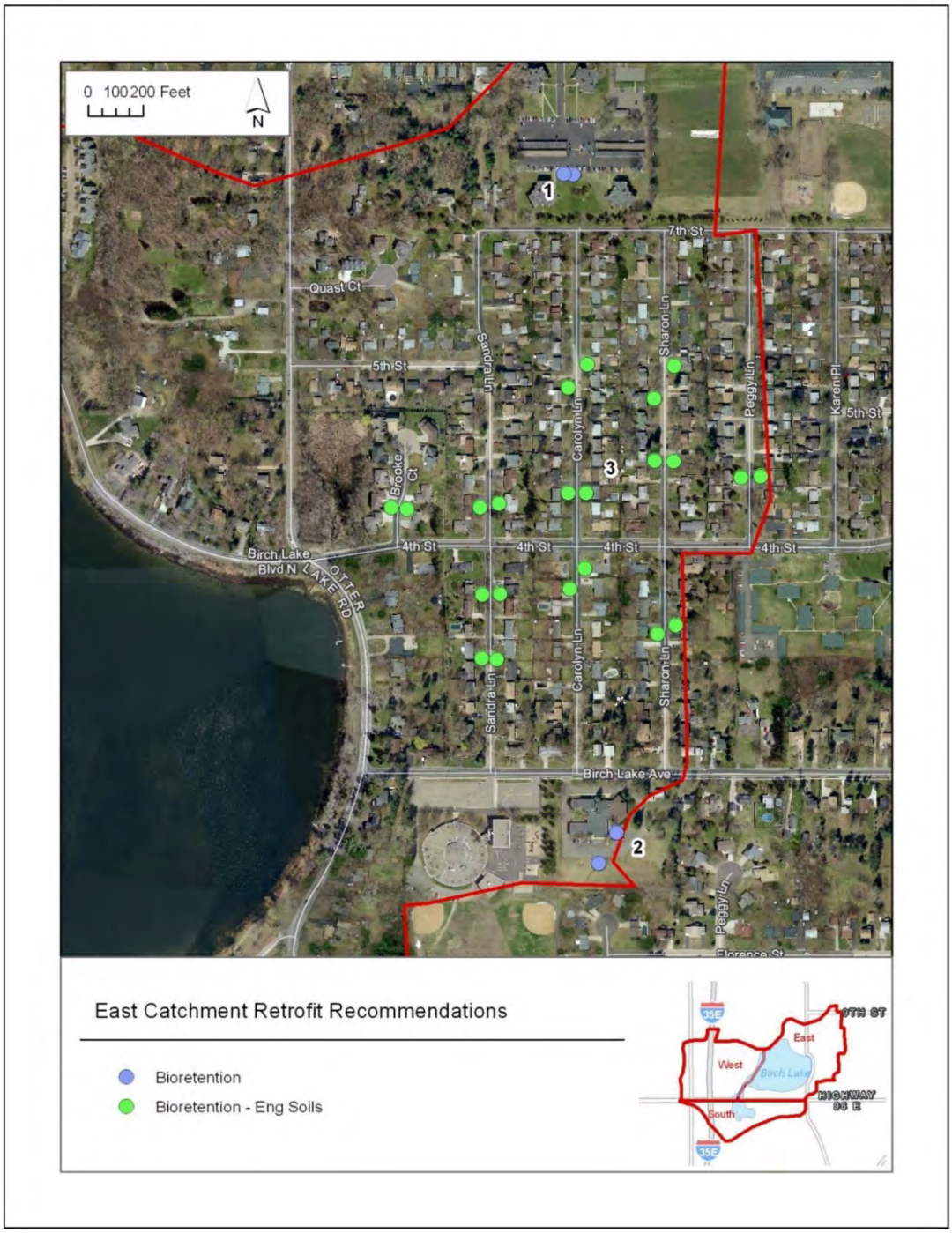


Figure 33: Retrofits identified for the east side of Birch Lake.

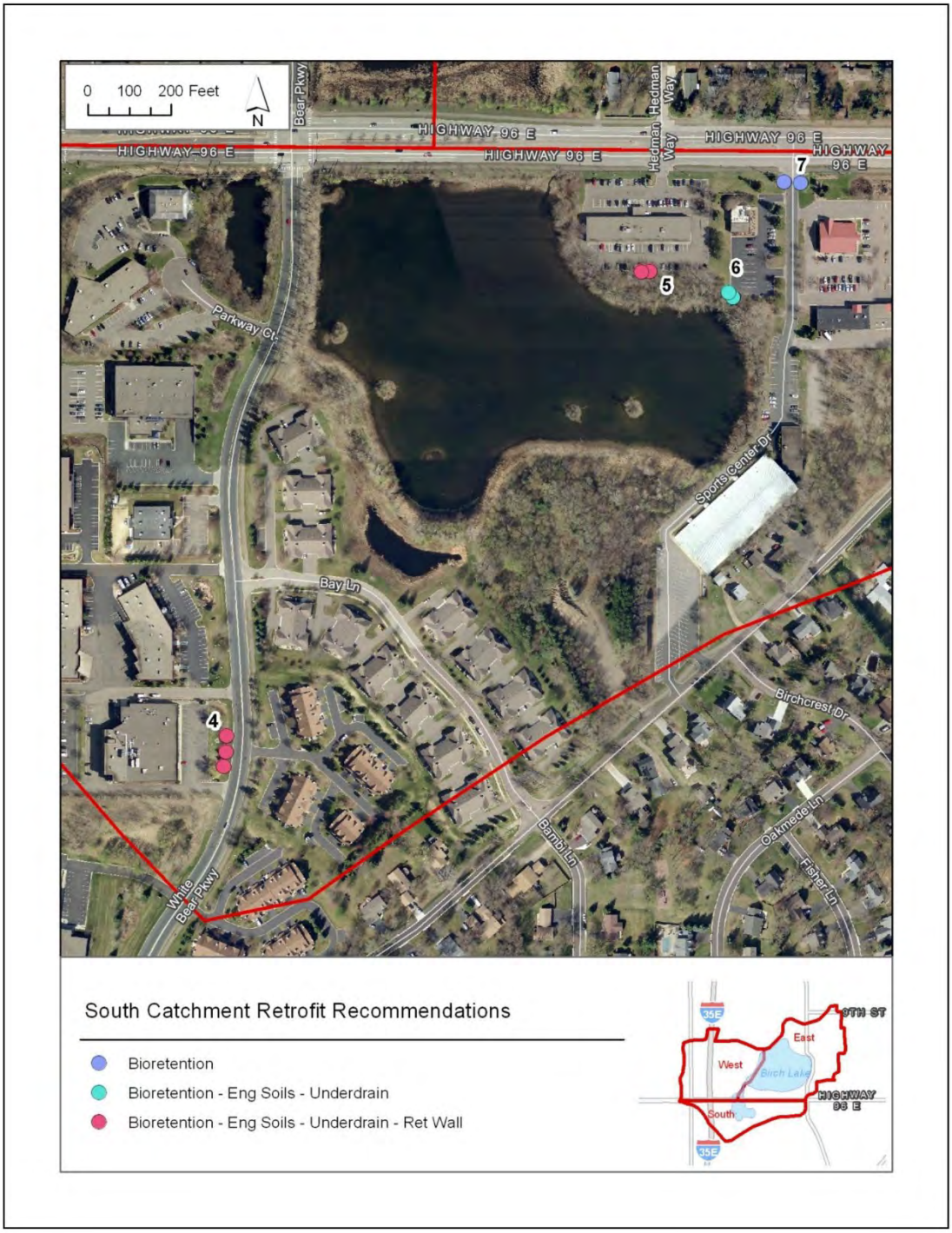


Figure 34: Retrofits identified for the south side of Birch Lake. Nine locations were identified for this side of the lake.

Figure 35: Retrofits identified for the west side of Birch Lake. Only 2 locations were identified for this side of the lake.

Total costs were included for 9 retrofit options identified in the report. The table below shows retrofit opportunities ranked from lowest to highest in terms of cost for the 3 subcatchments.

Table 7: Summary of pollutant-load reductions and costs.

Catchment	Site ID	TP (lb/yr)	TSS (lb/yr)	Volume (cubic-feet/yr)	Size (sq ft)	BMP Type	Materials/Labor/Design	Unit Promotion & Admin Costs*	Total Project Cost**	Annual O&M	Term Cost/lb/yr (30 yr)
East	3	18.66	7216.00	10.20	4750	Simple Bioretention	$57,210.00	$109.43	$62,408.01	$3,562.50	$302.45
South	4	1.68	1034.80	1.69	750	Complex Bioretention	$13,710.00	$420.27	$16,862.06	$562.50	$669.78
East	1	0.60	377.70	0.91	500	Simple Bioretention	$6,210.00	$564.81	$9,034.06	$375.00	$1,124.83
South	7	0.56	426.73	0.46	500	Simple Bioretention	$6,210.00	$564.81	$9,034.06	$375.00	$1,215.13
East	2	0.46	283.31	0.69	500	Simple Bioretention	$6,210.00	$564.81	$9,034.06	$375.00	$1,465.11
South	5	0.49	341.40	0.79	500	Complex Bioretention	$9,210.00	$564.81	$12,034.06	$375.00	$1,583.95
West	9	0.22	147.82	0.34	250	Moderately Complex Bioretention	$3,960.00	$936.17	$6,300.43	$187.50	$1,820.29
West	8	0.19	103.27	0.25	250	Moderately Complex Bioretention	$3,960.00	$936.17	$6,300.43	$187.50	$2,076.99
South	6	0.31	234.99	0.49	500	Moderately Complex Bioretention	$7,710.00	$564.81	$10,534.06	$375.00	$2,329.60

Options for Future Management Strategies

The 2017-2026 VLAWMO Comprehensive Watershed Management Plan assessed lakes and water resources within its jurisdiction and set management classifications for each of the subwatersheds. Birch Lake is part of the Birch Lake Subwatershed which was given a classification of “Protect”. Updating this SLMP is a step towards determining if additional restoration activities are warranted. VLAWMO will continue to monitor water quality and consider adding BMPs to the landscape to reduce TP contributed to the system.

Table 8: Action Items for Birch Lake

Action Item	Description	Leader	Potential Costs $ = $0-$5,000 $$ = $5,000-$25,000 $$$ = >$25,000
Continued Lake Monitoring	Continue current lake monitoring program to measure nutrient levels, dissolved oxygen, and temperature.	VLAWMO	$
Promote Landscape Grant Program	Reach out to property owners to promote the VLAWMO Landscape Grant Program to help reduce stormwater runoff into Birch Lake.	VLAWMO, BLID	$
Enhanced Studies	Partner and provide support with the City of White Bear Lake on possible future studies. Consider control efforts for EWM and reduced vegetation removal in infested areas.	VLAWMO, City, BLID	$$
Water Quality Improvement Projects	Use 2013 Retrofit Analysis Report to aid in determining best opportunities. Iron-enhanced sand filter currently being implemented at the hotspot location (4th Street and Otter Lake Road) (2020)	VLAWMO, City, BLID	$ - $$$

APPENDIX

Birch Lake Contour (Bathymetry) Survey: 2019
Birch Lake Aquatic Vegetation Surveys: 2007, 2013, 2015, and 2019
Birch Lake Sediment Survey: 2008
Birch Lake Shoreland Inventory: 2007
Birch Lake Aquatic Invasive Species Action Plan: 2015
Birch Lake Fish Surveys: 2011, 2014
Birch Retrofit Analysis: 2013

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: VLAWMO Board of Directors

From: Nick Voss

Date: April 22, 2020

Re: **IV. C. 2019 Annual Report and Summaries**

The 2019 Annual Report, Annual Report Summary, and 2019 Water Monitoring Summary are posted online. Staff posted them in several places on the website to accommodate for where they're relevant.

Blog:
http://www.vlawmo.org/news/2019-watershed-reports/

Reports page:
http://www.vlawmo.org/resources/reports/

2017-2026 Watershed Plan page:
http://www.vlawmo.org/about/why-water-matters/

LAKE DATA & INVOLVEMENT

VLAWMO's primary source of income is Storm Sewer Utility (SSU) fees. The average single family homeowner in VLAWMO pays $28.92/year ($2.41/month) to support projects and programs that improve the watershed.

Additional funding for projects comes from grants from the Minnesota Board of Water and Soil Resources (BWSR) and the Legislative-Citizen Commission on Minnesota Recourses (LCCMR).

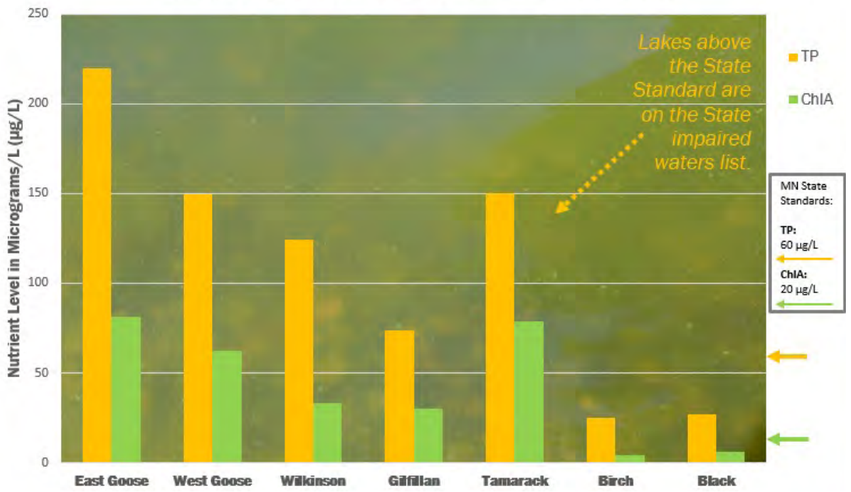
2019 Quick Stats:

- **11** Cost-share grants
- **5** Workshops facilitated
- **12** Events attended
- **12** WCA* permits approved

STATE OF THE LAKES

See the 2019 water monitoring report for more information.

Average Total Phosphorus (TP) and Chlorophyll A (ChlA) 2010-2019: Comparing lakes above and below state standards



VLAWMO has seven lakes impaired for nutrients, and Lambert Creek is impaired for bacteria. To improve these waterbodies, VLAWMO looks at the unique needs of each lake. Some issues are internal, while others are from the surrounding watershed including upland areas such as streets and yards. Sometimes, it's a combination of both! Because every City, Township, business, and property connects to water, improvements are truly a team effort. Learning and working together, we can work to protect our clean water.

A NEW ERA

In 2019, VLAWMO achieved the title of "priority small watershed" through the Minnesota Pollution Control Agency (MPCA). Great partnerships and key water resources supported VLAWMO's selection. This designation will provide VLAWMO with unique funding opportunities every four years for a span of 16 years, providing for more project proposals and installations!

COST-SHARE PROGRAM

VLAWMO completed 18 cost-share grants in 2019. These grants supported the creation of raingardens, native plantings, shoreline restoration, and rainbarrels. All together the projects totaled 42,037 ft^2, and infiltrate an estimated 300,141 gallons of water per year. VLAWMO awarded a total of $28,107 in designated cost-share funds for these projects.
Next year, one of these projects could be your own! Check out **VLAWMO.org/grants** for more info and to request a free on-site visit!

REGULATIONS

As a local governing unit, VLAWMO administers the Wetland Conservation Act (WCA). WCA oversees new development as it pertains to wetland conservation. Any wetlands lost to development, by law, are to be replaced either on-site or elsewhere in the state through the purchase of wetland banking credits.

What can you do?

ADOPT-A-DRAIN

Cleaning one or several nearby stormdrains is a convenient and effective way to support clean water. While the stormdrain system is effective at keeping our neighborhoods dry, it wasn't designed for lake health. Visit **adopt-a-drain.org** to help tip the balance, and give your drain a name!

ADOPT A STORM DRAIN

START AT HOME

What's happening and what's planted in the yard impacts local water. For water-friendly lawn care tips, smart salt and de-icer tricks, and what to plant for clean water, visit **vlawmo.org/residents**

Volunteers play a major role for the watershed, and a team effort makes it fun! The Watershed Action Volunteers (WAV) is a group of local residents who desire to learn more about the watershed while building community and making a difference. Short-term service projects and long-term volunteer roles are available.

www.vlawmo.org/get-involved

@VLAWMO

YOUR WATERSHED AT A GLANCE

VLAWMO

Vadnais Lake Area Water Management Organization

Established in 1983, VLAWMO is a unit of government co-created by Gem Lake, Lino Lakes, North Oaks, Vadnais Heights, White Bear Lake, and White Bear Township. Together, we use science and partnerships to protect and improve the water resources in the watershed.

From the administrator

2019 was a year of new undertakings! Carp management efforts began on Pleasant and West Vadnais Lakes, and funds for VLAWMO's first alum treatment were secured for Goose Lake. An iron-enhanced sand filter is set for installation at Birch Lake, and a meander is slated for Lambert Creek in the Lambert Lake wetland area - both made possible through State grant funds. Volunteer and education activities have grown, particularly in the Adopt-a-Drain program. Check out the complete 2019 annual report and vlawmo.org for more on each project. We're thankful for our many partnerships in 2019, and welcome new and familiar partners for 2020.

Stephanie McNamara
651-204-6073
stephanie.o.mcnamara@vlawmo.org

Photo: Debbie Hartmann

WHAT DID WE DO IN 2019?

Technical Commission:

- **Jim Grisim** — White Bear Lake — Chair
- **Jesse Farrell** — Vadnais Heights — Vice Chair
- **Bob Larson** — North Oaks — Treasurer
- **Marty Asleson** — Lino Lakes
- **Gloria Tessier** — Gem Lake
- **Paul Duxbury** — White Bear Township

- Event/booth locations
- Water monitoring sites
- Workshops/stakeholder planning
- Projects

LOCAL LEARNING AND SERVICE

Master Water Stewards conducted a stormdrain clean-up event in Vadnais Heights, a native plant swap, and a raingarden/native plant tour around the neighborhood.

CARP ELECTRO-SHOCKING

To understand the impact of invasive European carp on Pleasant Lake, we started with a quest to understand the carp population. Using a non-lethal electric shock, staff and partners at Carp Solutions netted stunned carp and tagged each one. With a population estimate and the ability to track their movements, we're set up with the tools to remove the carp in 2020. Removing invasive carp is removing their influence of bottom-feeding, which re-suspends nutrients into the water column to create excessive algae.

WHITAKER TREATMENT WETLANDS

Three lined wetland cells are being used to study bacteria treatment and treat polluted stormwater at the start of Lambert Creek. Filtration happens through various fill materials and native wetland plants. The final report of the three-year study is scheduled for June, 2020.

SWANS AND LEAD

With the help of local residents and Girl Scouts, VLAWMO conducted education about the dangers of using lead sinkers and fishing tackle. The effort was a response to trumpeter swans dying of lead poisoning at Sucker Channel.

ADOPT-A-DRAIN

VLAWMO and the City of White Bear Lake led a special adopt-a-drain promotion to help improve Goose Lake.

ADOPT a STORM DRAIN

See back page for more info.

BUCKTHORN REMOVAL

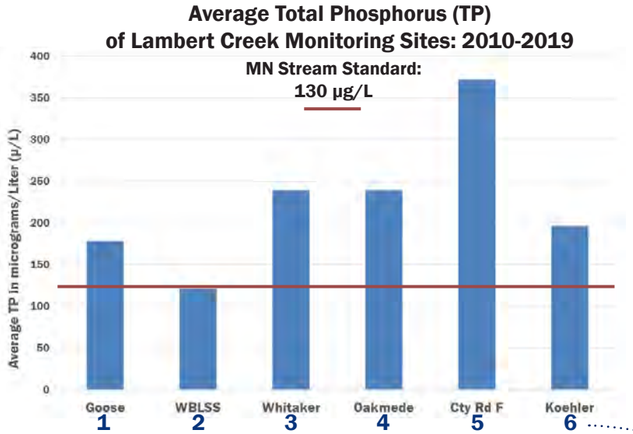
Local volunteers and AFSA High School students helped remove buckthorn to restore a wooded wetland.

REMOTE MONITORING

Combining Internet and cell phone technologies, VLAWMO installed four remote sensors to monitor flows in Lambert Creek in real time.

Amelia
Wilkinson
Deep
Charley
Pleasant
Black
Tamarack
Fish
Gilfillan
Ox
Birch
Sucker
Rice
West Goose
East Goose
Grass
Lambert
Gem
Lambert Creek
West Vadnais
East Vadnais

Lambert Creek



Lambert Creek is impaired for high bacteria, and although not officially impaired for nutrients, the overall creek results show it's above the state standard. Water samples from six sites are taken along the creek every other week from May to September (locations mapped on right). E. coli bacteria has been detected as largely avian and canine.

Waterbody impairments: VLAWMO has seven lakes and one creek impaired under MN water quality standards (right). For a lake to be listed as "impaired", it must show a trend in being above state standards in two of three readings: Chl-A, TP, and/or Secchi disk (turbidity). Deep and shallow lakes have different standards for impairment. Pleasant and East Vadnais Lakes are deep lakes primarily monitored by the Saint Paul Regional Water Services.

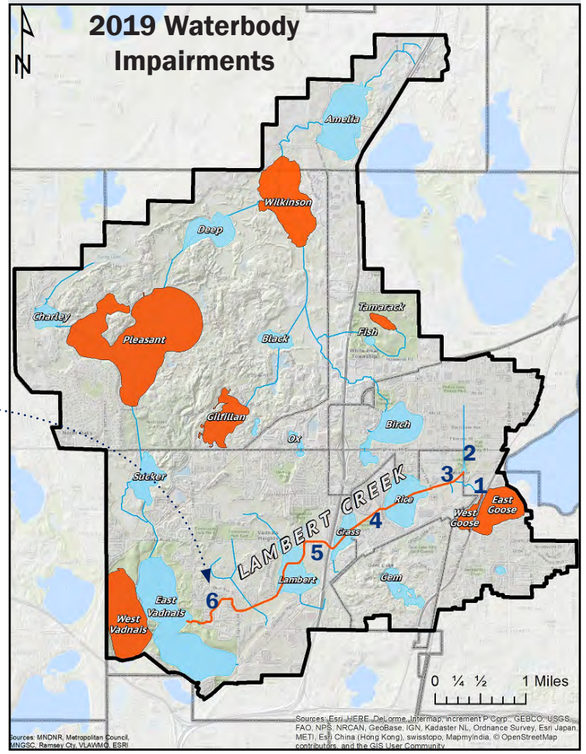
Remote Sensors

To better understand and evaluate the needs of Lambert Creek, VLAWMO has installed four new monitoring devices at existing monitoring locations along the creek. Each station is equipped with a sensor that is programmed to take readings of the water levels every 15 minutes. Data from the sensor is sent to a cellular service account, which is then sent to our on-line portal. Stream flow, depth, and macroinvertebrate sampling data from the four creek sites is publicly available through the Monitor My Watershed web portal, linked from our website: http://www.vlawmo.org/waterbodies/lambert-creek/

Below: The distance reading indicates creek depth - the distance from the sensor to the water surface.

Right: The discharge reading tells the volume of water moving beneath the sensor at that site.

Visit **VLAWMO.org/get-involved** to see how you can be a part of the solution!



Above: Anthony Aufdenkampe of LimnoTech guides VLAWMO staff in assembling remote sensor devices.

Brian Corcoran
Water Resources Manager
brian.corcoran@vlawmo.org
(651) 204-6075

Vadnais Lake Area Water Management Organization

2019 Water Monitoring Summary

VLAWMO's monitoring program consists of:

- 12 Lakes: *Grab samples*
- Lambert Creek: *Grab samples, remote sensors*
- Water quality sampling every other week from May to September:
  Phosphorus, nitrates, chlorophyll-A, chloride, turbidity, bacteria, pH, and storm sampling

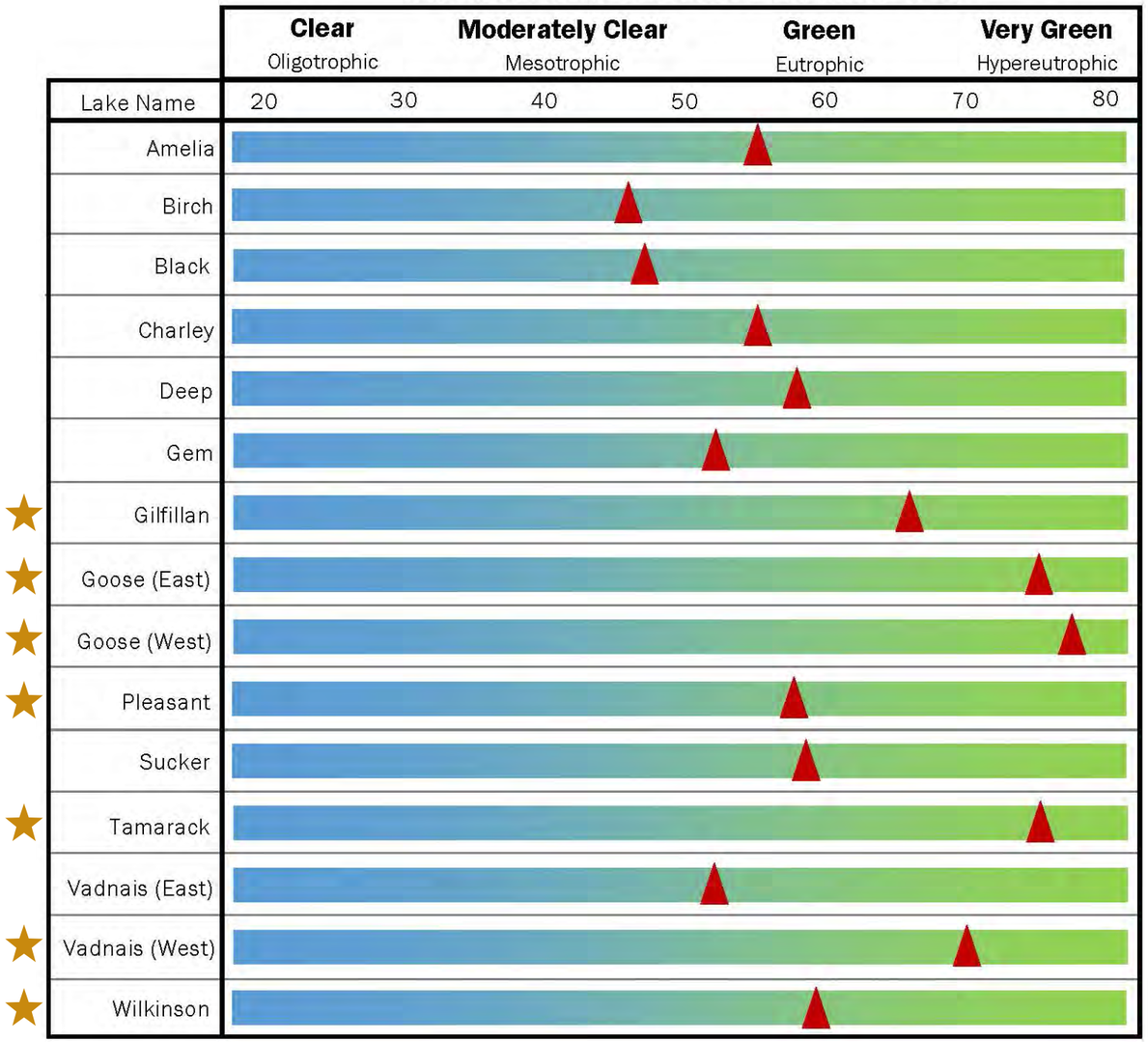
See the complete report at www.VLAWMO.org/resources/reports

The Watershed at a Glance

*See the 2019 water monitoring report at **vlawmo.org/reports** for more information.*

★ = Nutrient impaired waterbody (see reverse)

TSI Status of VLAWMO Lakes: 2019



Definitions:

TSI: Trophic Status Indicator. The trophic status of a lake pertains to its nutrient levels, transparency, and chlorophyll. The data for each reading is combined to create a single value, which is a TSI index, depicted with red arrows.

Oligotrophic: Low nutrient levels and abundant oxygen. May be suitable as an unfiltered water supply.

Mesotrophic: A moderate amount of dissolved nutrients. Iron or manganese taste/odors, turbidity increases.

Eutrophic: Rich in nutrients, supporting either a dense plant population or large algae blooms.

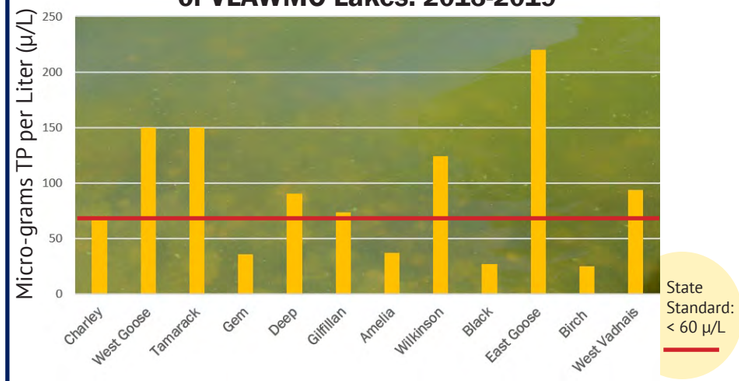
Eutrophication is the process of nutrient loading into a waterbody from the surrounding watershed (i.e. upland area). It is a natural process that can be accelerated by stormwater runoff and erosion.

Hypereutrophic: Exceptionally high nutrients causing dense algae and macrophyes. Rough fish (bullhead, carp) dominate, blue-green algae most likely, fish kills possible during algae blooms. Episodes of severe taste and odor.

Nutrients and Chlorides

*Visit **vlawmo.org/waterbodies** for specific lake studies, reports, and lake fact sheets.*

Average Total Phosphorus (TP) of VLAWMO Lakes: 2013-2019



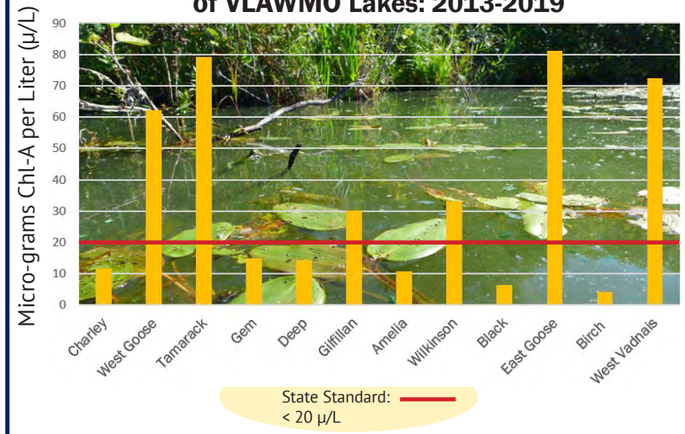
Phosphorus: What is it?

Phosphorus is a naturally occurring nutrient. and a main driver of algae growth. 1 lb. of phosphorus can produce up to 500 lbs. of algae. Increased algae levels create low oxygen, poor light penetration, and reduced fish and wildlife habitat.

What it means to me:

Human activities can accelerate phosphorus levels and algae growth. To control this, it's important to keep sediment and nutrients on the landscape. We can do this by keeping grass clippings out of the street, covering bare soil, picking up pet waste, and more. Visit vlawmo.org/residents for more info.

Average Chlorophyll-A (Chl-A) of VLAWMO Lakes: 2013-2019



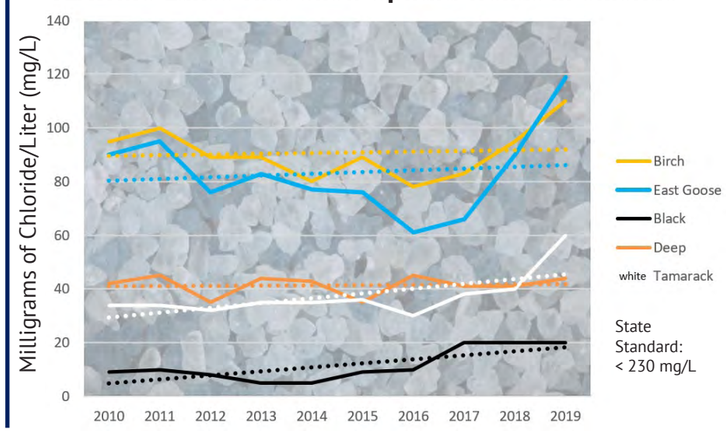
Chlorophyll-A: What is it?

Chloride is the green pigment that helps algae and other plants produce food. The concentration of chlorophyll present in the water is directly related to the amount of algae living in the water.

What it means to me:

Six VLAWMO lakes exceed the State Chlorophyll-A standard. Chlorophyll is a key ingredient in photosynthesis. While phosphorus is a nutrient for plants and algae, chlorophyll is what enables plant growth and algae blooms. Too much chlorophyll indicates a risk for large algae blooms that can deplete lake oxygen and kill fish.

VLAWMO Lakes That Show Upward Trends in Chloride



Chloride: What is it?

Chloride is a common ingredient in de-icers and home water softening. Chloride is a permanent pollutant to water quality, requiring only 1 tsp to pollute 5 gallons of water. It is toxic to aquatic life and interrupts lake temperature and nutrient cycles.

What it means to me:

VLAWMO has no waterbodies impaired for chloride, but some lakes show upward trends. Chloride level can decline as water flushes through lakes, but incoming salt from winter de-icing increases chloride levels in the watershed. This is why it's important to practice smart salting - visit "VLAWMO.org/residents" to learn more.

EST 1983
VLAWMO
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(651) 204-6070

To: the Board of Directors

From: Stephanie McNamara

Date: April 17, 2020

Re: V.A.1. Severance package for Stephanie McNamara

The severance amount for an employee leaving in good standing is guided by the policies in the Employee Handbook. Employees are accruing or earning either sick time or vacation time at rates that are set in the handbook, vacation time is based on length of service.

The hours accrued at the end of service for both vacation and sick time are added together. One half of that amount is paid to the departing employee at their current rate of pay. There is a cap of 400 hours. As of April 10, 2020 SMc's accrued hours total 915.35 hours. 800 / 2 = 400 hours are eligible or reimbursement under the severance package. 115.35 hours are not eligible under the handbook policies. It is anticipated that at least some of those hours be paid during the transition period until May 8, 2020. See attached personnel file severance package spreadsheet. The attachment is available to the Board and staff.

It is recommended that this amount be paid to S. McNamara with the regular May payments.

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To: the VLAWMO Board of Directors

From: Stephanie McNamara

Re: V. A. 2. Preliminary discussion of the 2021 budget

"It does not do to leave the dragon out of your calculations if you live near him" J.R.R. Tolkien, Hobbit

"If you don't know where you are going, you'll end up someplace else." — Yogi Berra

VLAWMO has several good projects in the works right now, more are anticipated either in the Water Plan or in the feasibility studies that are in the works. We are also in a time generally referred to as unprecedented, both as a health crisis and a time of economic uncertainty. Staff is requesting the Board discuss some of the current and future priorities and also consider, if you can, what economic realities might be with us next year. The table summarizes current major CIP and follow-up.

Projects (some of them):

	CIP Project	VLAWMO & partners	grant
Current	Goose Lake Alum treatment	12,500 / 35,000	190,000
20-21	with supporting work	30,000-45,000? *	
	WBF – Goose subwatershed BMPs – feasibility	5000 / 10,000	59000
	- One installation	125,000	
	Lambert Lake project - sheet pile maintenance.	550,000	10-yr loan
	- Meander project	$176,000	302,680
	Carp projects – Pleasant	15,000	
	- West Vadnais monitoring & barrier	12,500	
	Birch Lake iron sand filter	25,000/ 20,000	97,000
	Pleasant Lake sediment analysis	19,000 / 2,000	
	Wilkinson Lake feasibility study	20,000	9,000
	2020-21 TOTAL	***$440,000 /$67,000***	***$657,680***
2021-22	Lambert maintenance work – debt service	55,000	
	Lambert meander project	45,000?	
	Goose lake- -in lake management efforts	30,000?	
	- Subwatershed BMP funds	50,000?	
	Wilkinson - projects from feasibility	100,000	NOC
	Pleasant – sediment study follow-up	40,000	SPRWS
	Carp removal West Vadnais	40,000	
		$360,000	

* E. Goose Alum supporting work includes/ could include up to: construction of lake access, fish management/bullhead, possible stocking, fish survey, possible winter aeration, veg. survey, CLP management (possible other veg. work?), community engagement; possible sediment coring (2022).

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The 2017 Water Plan (amended 2019) indicates about subwatershed or CIP expenses of $793,700. Many of the above expenses are fairly consistent with possible 2021 spending with some exceptions.

- **No Whitaker treatment wetland expansion - $500,000**
- Goose Lake subshed BMP #2 – the start of saving funds for this to supplement possible grant $. $50,000 (WP $30,000)
- Wilkinson Lake BMP funding increased based on Birch Lake sand-iron filter costs, $100,000 (WP $50,000)
- W. Vadnais internal load study funds would be redirected to addressing the very large carp population $40,000 (WP $23,000)

Questions for Board consideration and direction:

At what level should the Storm Sewer Utility rate be set for 2021 considering current circumstances?

0% - which would mean cutting program or planned CIP projects

2% increase – roughly flat given nonnegotiable increases such as insurance, rent, fees, COL

6% increase – less than the 2020 7.83% increase in the SSU – would allow some modest way to address the project list

Does the Board wish to direct the Finance Committee to meet prior to the June Board meeting to develop the 2021 Budget for Board approval?

Committee members from 2019: Jim Lindner, Rob Rafferty, Dan Jones, Jesse Farrell (TEC). Would the Board wish to confirm committee members for 2020?

Date for meeting?

Direction to the committee regarding priorities?

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To: VLAWMO Board of Directors

From: Nick Voss

Date: April 22, 2020

Re: **V. B. 1. White Bear Center for the Arts – Community Blue grant amendment**

VLAWMO staff and the White Bear Center for the Arts (WBCA) have mutually agreed to accommodate for COVID-19 concerns and support social distancing by postponing the "Upstream" project that was approved at the Feb, 2020 Board meeting.

The amendment provides that the project will remain the same in its scope and design, but is postponed until January, 2021. At that time VLAWMO staff and WBCA staff will reconvene to initiate the project as previously planned. It was determined that the nature of the project – curated in-person conversations over tea – wasn't replicable in online formats. Community networking around the project is supported on an ongoing basis without funding support, and may help build a base of participation to expedite the January re-start.

The updated grant agreement with the amendment is included here in the Board packet.

Action item: Staff recommends approval of the new grant amendment to postpone Community Blue "Upstream" until January, 2021.

COMMUNITY BLUE GRANT CONTRACT AGREEMENT

This agreement is made the____ day of April 10th, 2020 _____, by and between the Vadnais Lake Area Water Management Organization, (hereinafter "WMO") and the White Bear Center for the Arts, 4971 Long Ave, White Bear Lake, MN, 55110 (herein after "Grantee").

This agreement and the Project "Upstream: Connecting and Collecting Stories About our Water" as it was recommended for approval at the Feb14th, 2020 Technical Commission meeting and approved at the February 26, 2020 Board meeting is amended by mutual agreement, as outlined in section 4.3 of the February 14th agreement. The Grantee and the WMO agree to postpone the Project as an adaptation to the COVID-19 global health pandemic. The Grantee and WMO will remain in contact with intentions to re-initiate the Project in January, 2021 with an extended completion date of December 31, 2021. Project funding will be dispersed upon VLAWMO approval at a consultation meeting in December, 2020. WMO and Grantee agree that Objective one in the original Project application ("assemble stakeholders and plan") may proceed throughout 2020 without grant funding from the WMO.
Amendment approval: TEC: 4-10-2020 _____ Board: 4-22-2020_____

ORIGINAL AGREEMENT:
This agreement is made the____ day of February 14th, 2020 _____, by and between the Vadnais Lake Area Water Management Organization, (hereinafter "WMO") and the White Bear Center for the Arts, 4971 Long Ave, White Bear Lake, MN, 55110 (herein after "Grantee").

1. BACKGROUND
   - 1.1 The WMO has included in its annual budget funds to coordinate with organizations, businesses, and residents to provide watershed education and participation within the watershed boundaries.
   - 1.2 Grantee has applied to the WMO for funds to help pay for the costs of materials and labor for *"Upstream: Connecting and Collecting Stories About Our Water"* (hereinafter "Project") as described in the Community Blue Grant Application attached herein as "Exhibit A".
   - 1.3 The VLAWMO Board of Directors has concluded the project is viable and executable and approved the Grantee's Application at their respective meeting on February 26th, 2020.
   - 1.4 The Board of Directors has agreed to the Technical Commission's approval of the project and therefore to award the grant in the amount of up to **$7,566.80** for the Project described in Exhibit A.

2. GRANTEE'S DUTIES
   - 2.1 The Project will be carried out per the list of objectives provided in the application attached as Exhibit A. Variations on the Work Plan will be discussed with the Grantor prior to implementation.
   - 2.2 Grantee must obtain all permits required in conjunction with the Project, if necessary.
   - 2.3 The Grantee will include VLAWMO and relevant information deemed by VLAWMO on any signs or outreach material created for this project. VLAWMO will submit their logo to the Grantee for use on those materials.
   - 2.4 Grantee will coordinate the duties and activities of Project partners.

2.5 Grantee agrees to allow the WMO access and photograph the Project for Watershed purposes, including but not limited to, inspections, tours, workshops, and community outreach.

2.6 If property is involved in the project and is transferred to another party before expiration of the contract, it shall be the responsibility of the Grantee to advise the new owner that this contract is in force.

2.7 Participants involved, partners helping facilitate the project, in-kind hours, and photo permissions shall be documented and submitted with the final report/work plan (Exhibit B). If a third party entity such as a school is involved with the project and maintains photo permission slips, VLAWMO will defer to that entity to obtain and collect permissions as per their procedure, and are expected to verify the success of this with a WMO representative.

2.8 The Project shall be completed and final report (Exhibit B) submitted by **December 11th, 2020**, unless this Agreement is amended by mutual consent to reschedule work and funding.

2.9 A final report submitted by the project completion date (part 2.8) will include 1) a completed work plan spreadsheet (Exhibit B) containing results of specific project measurables, 2) photos of the project in action according to photo permissions of program participants and 3) a list of the final expenses for the "Upstream" project, along with proof of payment. Materials eligible for reimbursement shall be those that are used solely for the Project. Volunteer hours are to be used as an in-kind funds match. Pre-existing materials used for project shall be listed in an inventory with prices described within the work plan (Exhibit B).

3. FINANCIALS

3.1 Funding for all objectives (Exhibit A) ($$7,566.80) will be sent to the Grantee in two payments according to the nature of the objectives. The **first payment of $5,407** will be sent upon completion of this grant agreement (providing funds outlined in objectives 1-3), and the **second payment of $2,159.80** will be sent from the August 14, 2020 VLAWMO Technical Commission Meeting held at Vadnais Heights City Hall at 7:30 am. Grantee and WMO will convene with a project report in person or over the phone to ensure that project objectives have been sufficiently met up to that point in time.

3.2 Any grant funds remaining unspent after the Project has been completed will be returned to the WMO within one month of the date of the final objective or the objective with the last month indicated, as described in the application (Exhibit A). Grantee must inquire about reallocating funds in writing, and must obtain written permission from WMO.

3.3 Requests for additional or reallocated funds will be submitted in writing to the WMO to be included in a VLAWMO Technical Commission (TEC) meeting agenda and will be reviewed and voted on accordingly. TEC meetings are held monthly at the Vadnais Heights City Hall.

3.4 Upon cancellation of this agreement, if the Project primary partner is unable to complete the Project in its entirety, Grantee shall return all unused funds up to that point back to VLAWMO within one month of cancellation notice (see 4.6). VLAWMO reserves the right to determine if Project partners are equipped to carry out the remainder of the Project. In the case of cancelation with the Grantee but Project partners are continuing the Project, VLAWMO will disperse any remaining funds not yet dispersed to the Project partners according to negotiation and VLAWMO's discretion.

4. GENERAL TERMS

4.1 Effective Date: The date the WMO obtains all required signatures on this Agreement.

4.2 Expiration Date: **December 12th, 2020**, or until all obligations have been satisfactorily fulfilled, whichever comes first.

4.3 This Agreement will remain in effect unless cancelled by mutual agreement, except where completion of Projects covered by this Agreement have not been substantially commenced as determined by the WMO within one (1) year of execution of this Agreement, in which case this Agreement will be automatically terminated on that date. If weather or other conditions beyond the control of the WMO do not permit the commencement of this Project within one year after approval, this Agreement may be amended by mutual written consent of the parties to reschedule the Project and its funding.

4.4 The WMO will not be an employer with or of the Grantee for any purpose. Nothing herein authorizes Grantee to act as an agent or representative of the WMO for any purpose.

4.5 Grantee shall indemnify, defend and hold the WMO and its agents, employees, officers and contractors harmless from all claims made by Grantee and/or third parties for damage or loss sustained or costs incurred, including but not limited to WMO staff, engineering and attorney's fees, in connection with or arising out of the issuance of and/or acceptance and payment by the WMO of funds pursuant to this agreement.

4.6 Cancellation of this Agreement may occur if 1) The terms outlined in section 4.3, and 2) Grantee is unable to complete the project due to unexpected emergency or health reasons. If Grantee is unable to complete the Project, the responsibility will be considered "cancelled". There is the option for Project partners to carry out the terms of the Project if the agreement with the Grantee is cancelled, in which VLAWMO will refer directly to the Project primary partner (section 5). Request for cancellation will be provided in writing from Grantee with the date of cancellation, an explanation, and a statement from Project partners describing 1) how they will continue the Project and 2) what support they need in order to complete the Project (see 3.3).

5. SIGNATURES

Date	Grantee Authorized Signature
Date	Grantee PRINTED NAME
Date	Project Primary Partner Authorized Signature
Date	Project Primary Partner PRINTED NAME
Date	VLAWMO Signature
	Title

VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E E, Vadnais Heights, MN 55127
www.vlawmo.org; Office@vlawmo.org

To: Board of Directors
From: Dawn Tanner
Date: April 22, 2020

Re: V. C. 1. Lambert Lake preparation for Conservation Partners Legacy grant proposal

VLAWMO and SEH are working closely to complete 90% designs and construction plans for the meander. As discussions have continued with MN DNR, additional habitat components have been suggested to support species that use the creek system and especially rare species known to be found in the area. The two most prominent species of concern are Blanding's turtle (MN threatened and being considered for federal listing) and Rusty patched bumble bee (federally listed). Blanding's turtles have not been documented at the meander construction site, but they have been listed to occur within 0.5 miles and are therefore likely to occur in the wetland area. Rusty patched bumble bees have also not been documented at the meander construction site, but they have been listed to occur in a polygon around Sucker Lake (to the west of the project site).

Discussions with MN DNR have focused on how to best improve habitat to support rare species and other known species that use the area (e.g., River otters). Habitat elements suggested include incorporating a selection of flowering plants that are known to be preferred by Rusty patched bumble bees that provide flowers throughout the growing season. Staff prepared such a list using the USFS resources and selecting species that are found locally in wetland and especially streamside habitats. That list has been shared with SEH and incorporated into the EAW.

Blanding's turtle suggestions include a phased construction approach to avoid potentially harming hibernating turtles that might be present in the current ditch when the meander is constructed.

Additional habitat improvement has also been suggested for other species known to use the site including River otters. Suggestions include resting sites streamside that may consist of brush bundles and logs, placed to avoid compromising streamflow.

Vegetation plans are being incorporated into the 90% plans to include a more basic restoration design that will function while fitting into the existing budget. VLAWMO staff would like to plan to apply for an upgrade to that restoration plan, which will also be built by the same team at SEH, adding more plants and plugs and enlarging key areas that would otherwise be seeded. The first round of CPL grants should open in August. A grant from this program would require a 10% local match. This is the same program that funded the winter seeding for native understory plants at 4th and Otter.

Recommendation: staff recommends Board authorization to submit a CPL expedited proposal for a restoration upgrade at the Lambert meander to expand on habitat support for rare species.

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To: Board of Directors

From: Phil Belfiori, Administrator

Stephanie McNamara, Administrator (retiring)

Date: April 17, 2020

Re: Update on Alum Treatment Grant for Goose Lake and Request to Consider Scheduling a Special meeting on May 27, 2020 for consideration of the Grant Agreement and Workplan

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The purpose of the memo is to provide the VLAWMO Board with an update on the Alum Treatment Grant for East Goose Lake since the March Special Board meeting and to recommend scheduling a special Board meeting for 5/27/20 for consideration of the Grant agreement and workplan.

Background /Update on the East Goose Lake Alum Treatment Project grant (Since the March Board Meeting)

At the 3/25/20 Special Meeting the Board approved the following language as was identified as "option 1" in the 3/18/20 staff memo (as amended):

> *Negotiate with BWSR to release grant funding with an assurance agreement that is based on the grant application. The Assurance agreement VLAWMO will sign with BWSR will address all of the project elements above. Issues addressed in the BWSR letter of concern dated 2/24/20 will be addressed using practical options. If within the 10 – 15 year life span of the alum treatment, adequate results are not being seen, the VLAWMO Board understands that additional efforts such as another treatment may be necessary. Additional expense incurred would be VLAWMO's responsibility.*

Based on the above mentioned Board direction from the 3/25/20 meeting, staff has pursued the following items:

1. Staff requested that Barr Engineering (Greg Wilson – Project Engineer) develop a technical memo (**See Attached dated 4/15**) which in summary:
    - Clarified the monitoring VLAWMO should collect to confirm that the alum treatment is working as anticipated for the BWSR assurances agreement and work plan; and
    - Provide his recommendations on measurable "metrics" for project assurances for the BWSR grant agreement/work plan to complete the East Goose Lake alum treatment.

    Greg Wilson will be in attendance at the 4/22 Board meeting to provide a brief overview of his recommendations and to answer any questions related to necessary follow-up discussion on BWSR's feedback on his recommended assurances in his memo.

2. Staff responded to the BWSR 2/24/20 Goose Lake alum treatment grant letter (**Attached**) which was discussed by the VLAWMO Board at the 3/25 special meeting. In Summary, the VLAWMO response letter (**Attached**) to BWSR requested written feedback on the following by noon on 4/22 so that staff can share any feedback with the VLAWMO Board at this meeting:
    - A request to BWSR for an extension for completion of the grant agreement, work plan and related documents to 5/29/20 (2 days after the proposed 5/27 special meeting);
    - The proposed project timeline 2020 - 2022;
    - Engineer Wilson's recommended project assurances;
    - The proposed complementary projects elements. (community engagement and fish /bullhead management).

Request to consider scheduling a special Board meeting on May 27, 2020.

As noted above, Staff has requested feedback from BWSR by noon on 4/22 so that staff can share any feedback with the Board at the 4/22 meeting. This feedback from BWSR and the subsequent Board discussion and consideration will be critical as the grant workplan development process moves forward. There will likely be a need for more time after the 4/22 Board meeting in order to allow for time to properly evaluate, respond to and reach resolution to each of the issues areas raised in the BWSR letter of 2/24/20. The ongoing BWSR discussions (including after the 4/22 Board meeting) regarding project assurance could also have an impact on overall lake management costs that are complementary to the Alum project grant. For this reason, staff is recommending to schedule a special VLAWMO Board meeting for 5/27/20 (4th Wednesday of the month) to consider the East Goose Lake Alum grant agreement and workplan. It is anticipated that this special meeting will focus only on the consideration of the grant agreement and workplan. This recommended special Board meeting is consistent with the request to BWSR for an extension for completion of the grant agreement, work plan and related documents to 5/29/20 (two days after the requested special Board meeting).

Proposed motion for Board meeting:

Board member _____ moves to authorize the Administrator to schedule and notice a special Board meeting for 5/27/20 at 7pm to consider the East Goose Lake Alum Project grant agreement and workplan.

Attached:

- 4/16/20 response letter to BWSR with the 4/15/20 Engineering Technical memo from Barr Engineering
- 2/24/20 BWSR letter to VLAWMO

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Water Management Organization

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April 16, 2020

Melissa King and Dan Fabian, Board Conservationists

MN Board of Water & Soil Resources
520 Lafayette Road North
St. Paul, MN 55155

Re: FY2020 Clean Water Fund Competitive Projects and Practices Grant Award

Dear Ms. King and Mr. Fabian,

The Vadnais Lake Area Water Management Organization (VLAWMO) received notice of the January 22, 2020 Board of Water and Soil Resources competitive grant award for the Goose Lake Alum treatment Project and your letter and email of February 24, 2020. The VLAWMO Board has considered the expressed concerns with various changing circumstances regarding this project and at their March 25, 2020 Board meeting. They voted to approve "option 1" which included continuing grant funding discussions with BWSR including the assurance agreement which addresses the multiple components of the project: access, monitoring, fish, vegetation, alum treatment, and community engagement. In so doing, VLAWMO has been authorized staff to work with BWSR to address the three concerns raised in the 2/24/20 letter using practical options.

At discussed at the April 15, 2020 conference call meeting, VLAWMO requests an extension for completion of the of the grant agreement, work plan and related documents to May 29, 2020. As you are aware, VLAWMO is in the process of transitioning to a new administrator with his first day being on April 16, 2020. The process is moving forward fairly smoothly but remote communication and staff "on-boarding" is difficult due to the complications we are all experiencing due to the COVID 19 pandemic. While those factors play a role, most critically the additional time is needed to evaluate and respond to the considerations raised in the BWSR letter of Feb. 24, 2020. We appreciate you understanding in this process.

We would like to address the issues raised in the BWSR letter to VLAWMO dated Feb. 24, 2020:

1. **Boating restrictions on East Goose Lake.** VLAWMO recommended temporary boating restrictions to our partner in this Project, the City of White Bear Lake. VLAWMO was not in a position to enable any restriction. The City and just as importantly, the MN Department of Natural Resources were the agencies empowered with passing and approving any boating restrictions. Public sentiment and the understanding that the DNR would not approve an ordinance establishing temporary restrictions kept those restrictions from moving forward. VLAWMO has requested that Barr Engineering (Greg Wilson – Project Engineer) provide their recommendations on the intended water quality benefits of the alum treatment that can be

anticipated without temporary restrictions. Further, the engineer was asked to provide a recommendation on project assurances for the BWSR grant agreement/work plan to complete the East Goose Lake alum treatment. See the Attached Barr memo dated April 15, 2020 for his recommended assurances language.

2. **The bullhead population has increased.** The Board authorized the additional survey last fall which documented and quantified the current population of bullheads. VLAWMO conducted a bullhead harvest in 2013-2014 after a survey indicated a strong game fish population in Goose Lake that might keep the bullhead numbers in check if a significant harvest took place. Roughly 16,000 lbs. of bullheads were removed and the predator fish keep the bullhead population level through 2017. Unfortunately, a partial winter kill disproportionately reduced the game fish numbers and allowed the bullheads to overpopulate the lake. The VLAWMO Board understands another harvest will need to be done this fall prior to any alum treatment. We anticipate, as in previous bullhead treatments, that pre-alum removal work will include both East and West Goose Lake. Further, it anticipated working with the DNR on a fish management plan with the possible to stock the lake with game fish to address the bullheads in a balanced approach. Winter aeration may be needed to address the potential for winter kills.
3. **Community Engagement.** In all of this VLAWMO understands that community involvement and engagement related to lake management strategies will be essential. While the pandemic may affect the type of engagement with our local partners, reaching out to the various stakeholders around the lake will be a part of this effort. It is anticipated that this will start in late spring to early summer. Vegetation management will be a key discussion point with our local partners. While the 2019 East Goose vegetation survey found no vegetation in the lake, only algae, a previous survey found native species in the shallower areas of the lake and invasive curly leaf pondweed in specific areas. It is anticipated that the seed bank exists and some of that vegetation will respond to clearer water. VLAWMO anticipates responding with possible herbicide treatment of the invasive curly leaf population regrowth based on survey results.

In general, the timeline may look something like this: (subject to change, including but not limited to project timelines and circumstances changing due to the unprecedented COVID 19 crisis.)

April – June 2020

- Complete Work Plan based on grant application elements and the whole-lake management elements identified above by May 29, 2020.
- Complete the grant agreement and assurances agreement and other required documents.
- Work with the City of White Bear Lake to establish a restricted use access to East Goose for monitoring and management activities.
- Schedule a fall bullhead harvest.
- Establish stakeholder engagement plan adaptable to existing corona virus circumstances. The VLAWMO website, social media and other platforms will be utilized in the effort. An emphasis on dialogue as well as information presentation will be made.

July – October2020

- Stakeholder engagement will be pursued.

- Fall bullhead harvest -– September-Oct
- Later fall alum treatment. September – October

October – Spring 2021
- Ongoing public engagement
- Possible limited winter monitoring (DO, Ph, TP)
- Preparation for 2021 vegetation survey
- Reporting to BWSR

April – December 2021
- Continued monitoring
- Possible game fish stocking
- Continued engagement
- Possible Curly leaf pondweed treatment
- Consider possible winter 2021-2022 aeration
- Reporting to BWSR

2022
- Alum treatment in the fall
- Sediment core, if needed
- Continued monitoring of
  - water quality
  - fish population and
  - vegetation monitoring
- Final reporting to BWSR

2020 – 2030 and beyond.
- Continued monitoring
- Continued partner engagement
- Adaptive management as needed.

We apologize for the timing of this request in advance however, we would request for BWSR's provide written feedback on the above mentioned:

1) Mr. Wilson's Technical memo of 4/15/20 (Attached);
2) The proposed complementary projects elements described above;
3) Proposed project timeline; and
4) proposed project work plan /grant agreement extension

by noon on 4/22 so that staff can share this information with the VLAMWO Board which meets at 7pm on 4/22.

Yours truly,

Stephanie McNamara

Stephanie McNamara
Administrator (retiring)

Phil Belfiori

Phil Belfiori
Administrator

resourceful. naturally.
engineering and environmental consultants

BARR

Technical Memorandum

To: Phil Belfiori and Stephanie McNamara, Vadnais Lake Area Water Management Organization (VLAWMO)
From: Greg Wilson, Barr Engineering Co. (Barr)
Subject: Response to BWSR's Follow-up Comments on Goose Lake Alum Treatment Grant
Date: April 15, 2020
Project: 23621353.00

Minnesota Board of Water and Soil Resources (BWSR) awarded $190,000 in grant funds to VLAWMO this past January for the East Goose Lake alum treatment which ranked as the highest scoring submittal in the FY2020 Projects and Practices category. Two potential issues with the alum treatment have been raised since the project award—the resurgence of the bullhead population in the lake and potential impact on alum floc given the high likelihood that boating restrictions will not be in-effect following the alum treatment. Barr issued a memorandum on March 10, 2020 to reevaluate the timing and potential effectiveness of alum treatment for East Goose Lake given the aforementioned concerns. As a part of the evaluation contained in the March 10th memorandum, information from past shallow lake alum treatments were compiled/consulted, the applicability of alternative stable states was considered, watershed BMP cost-benefit material was updated and project assurances were reconsidered before it was ultimately recommended that alum treatment still makes sense for East Goose Lake at this time.

The purpose of this memorandum is to assist VLAWMO in responding to the latest questions/comments from BWSR that are intended to further clarify monitoring VLAWMO should collect to confirm that the alum treatment is working as anticipated for the BWSR assurances agreement and work plan.

Water Quality Monitoring and Analysis for Alum Treatment Project Assurances

As a follow-up to the March 10th memorandum, East Goose Lake WQ modeling results from 2011 and 2016 were used to illustrate the effect that an 80% internal load reduction (consistent with an alum treatment) would have had on lake water quality. The results showed that an 80% reduction in internal load would drop the average summer TP concentration from 183 to 85 ug/L in 2011. In 2016, an 80% internal load reduction would drop the average summer TP concentration from 329 to 151 ug/L. It is important to note that the absolute values are highly predicated on the starting phosphorus concentrations in the lake at the beginning of each summer monitoring season. Since an in-lake alum treatment continues to control internal phosphorus load in subsequent years, it is expected that the TP concentration at the start of each summer season (in future years) will be lower than observed in past years, ensuring that the water quality is close to the 60 ug/L TP standard. At a minimum, the modeling from both years confirms that the average summer TP concentration in East Goose Lake would drop by 54% following an in-lake alum treatment.

The March 10th memo recommends lake water quality monitoring for 2 years after the first phase of the alum treatment. However, we understand that BWSR cannot change course on grant funding and will not authorize an extension of the grant period. Nonetheless, it is expected that the following project schedule would allow for water quality, fish and aquatic plant monitoring during the summers of 2021 and 2022:

1. Spring, 2020—grant agreement and work plan approval
2. Fall, 2020—apply first phase of alum treatment
3. Fall, 2022—apply second phase of alum treatment
4. End of 2022—complete final reporting on project results

It is expected that aquatic plant coverage will become more established by 2022, but interference from external factors (such as fish, climate, etc.) make it more likely that assurances can be provided about the relative change in average summer in-lake TP concentration, which should exceed 50 percent, more so than ensuring that an absolute TP concentration will be met (in future years) following an alum treatment.

Sediment Core Sampling and Analysis for Alum Treatment Project Assurances

To corroborate the assurances provided by the lake water quality monitoring, Barr agrees that VLAWMO can provide more funding assurances by committing to sediment core sampling and analysis of the sediment phosphorus release rate and/or amount of phosphorus controlled by the alum treatment at the end of the Project. For East Goose Lake, it estimated that the sediment phosphorus sampling and analysis will cost approximately $15,000, including development of a technical memorandum summarizing the results within the context of project assurances for the BWSR grant funding. If necessary, this sediment core sampling and analysis can be repeated at five-year intervals during the 15 years that follow the alum treatment to confirm treatment effectiveness and longevity.

Recommendations

Based on the above discussion, it is recommended that VLAWMO could commit to one or more of the following assurances for the BWSR grant agreement to complete the East Goose Lake alum treatment:

- VLAWMO will take sediment cores from East Goose Lake at the conclusion of the Project and have them analyzed for sediment phosphorus fractionations and/or release rate to verify the calculated alum dosing and release rates have been achieved; or
- VLAWMO will conduct annual monitoring of the lake to track the effectiveness of the alum treatment in reducing sediment release of phosphorus as per the management objectives of the TMDL and CWF Grant. VLAWMO shall make the monitoring information available to BWSR upon request; or

- Lake response modeling completed for the grant application estimated that the Project will reduce the summer average total phosphorus (TP) concentration in East Goose Lake by at least 50 percent. If monitoring indicates that the lake does not meet the percent TP concentration reduction for three out of any consecutive five years for 10 years after the second phase of alum application, VLAWMO agrees to undertake additional internal and/or external TP load reduction actions to ensure the 50 percent reduction goal is achieved, based on 2016 observations.

BOARD OF WATER AND SOIL RESOURCES

February 24, 2020

Stephanie McNamara
Administrator
Vadnais Lake Area Watershed Management Organization
800 East County Road East
Vadnais Heights, MN 55127

RE: FY2020 Clean Water Fund Competitive Projects and Practices Grant Award

Dear Ms. McNamara,

On January 22, 2020 the Board of Water and Soil Resources (BWSR) authorized the allocation of funds for the fiscal year (FY) 2020 Clean Water Fund (CWF) Competitive Grants to successful applicants for the Projects and Practices, Projects and Practices Drinking Water, and Multipurpose Drainage Management grants. The Vadnais Lake Area Watershed Management Organization (VLAWMO) was notified following this meeting, that the project proposal *Goose Lake Alum Treatment 2020* (grant ID: C20-6375), was awarded a $190,000 CWF Projects and Practices grant. Successful applicants were awarded funding based on the scope, intent and expectations of the project proposed in their grant application.

Applications were required to be submitted for available funding in each program beginning July 1, 2019 and ending September 9, 2019. The project proposals were reviewed, scored and ranked by an interagency review committee consisting of representatives from BWSR, the Pollution Control Agency, the Department of Agriculture, the Department of Health, and the Department of Natural Resources. At their December 18, 2019 meeting, BWSR's Grants Program and Policy Committee reviewed the proposed allocations and recommended approval to the BWSR Board.

Based on the ranking criteria presented in the table at the end of this letter, project proposals are solely reviewed and scored based on the information provide in an applicant's response to the application questions and content of any required supplemental documentation. For requests for eligible in-lake management activities, such as alum treatments, a feasibility study that included specific required content, was a required supplemental application attachment as described in the FY2020 Clean Water Fund Competitive Grants RFP.

During the application review process, BWSR was made aware of potential new developments regarding the VLAWMO Goose Lake Alum Treatment project, which indicated an altered project scope from what was presented in VLAWMO's project proposal. As previously indicated, funding applications were reviewed, scored and ranked solely based on the content of an applicant's grant proposal.

After notice of the grant award, BWSR met with VLAWMO staff on February 18, 2020 to review the project developments brought to BWSR's attention during the application review process, review the current status and scope of the Goose Lake Alum Treatment project, and to review BWSR's concerns regarding project assurances to ensure that the Goose Lake Alum Treatment project provides the successful 10-15 year water quality

outcomes as described in VLAWMO's CWF grant proposal for the project. BWSR requires assurances from grantees to ensure that installed/implemented projects and practices: 1) meet the purposes of the grant program through which it was funded, 2) remain in place and are effective for the intended lifespan, and 3) provide the water quality benefits designed and intended. BWSR's concerns are summarized below.

VLAWMO Proposed Project Assurances

1. VLAWMO's grant application cited multiple times (see below references) that the City of White Bear Lake was moving forward with development of an ordinance, at the recommendation of VLAWMO, to prevent motorized boat traffic as a means to protect the effectiveness and longevity of the proposed alum treatment. Per the project feasibility study *East Goose and West Goose Lakes (and Oak Knoll Pond) In-Lake Treatment Feasibility Study)*, Goose Lake is a shallow urban lake that has a high potential for lake sediment resuspension (Page 3).

   BWSR has concerns regarding the project assurances VLAWMO, as the BWSR grantee, could provide if a boating restriction is no longer being recommended or under consideration, that 1) would be equivalent with that proposed in VLAWMO's grant application and 2) ensure the intended water quality benefits and longevity (effective lifespan) of the alum treatment.

From Grant Application C20-6375 Goose Lake Alum Treatment 2020

VLAWMO Excerpt Response: Question 3. *Describe the methods used to identify, inventory, and target the root cause (most critical pollution source(s) or threat(s)). Describe any related additional targeting efforts that will be completed prior to installing the projects or practices identified in this proposal.*

"*VLAWMO has targeted efforts underway. We held a series of targeted Goose Lake stakeholder meetings. Presentations included individual stakeholder options to improve water quality, alum treatment process and Q&A, and vegetation restoration following an alum treatment. Stakeholder meetings are complemented by newspaper articles and regular updates on the VLAWMO website. The VLAWMO Board provided a formal recommendation to the City as of Aug. 28, 2019. The City is taking that information forward to develop an ordinance to prevent motorized boat traffic and protect the alum treatment.*"

VLAWMO Excerpt Response: Question 4. *How does this proposal fit with complimentary work that you and your partners are implementing to achieve the goal(s) for the priority water resource(s) of concern? Describe the comprehensive management approach to this water resource(s) with examples such as: other financial assistance or incentive programs, easements, regulatory enforcement, or community engagement activities that are directly or indirectly related to this proposal.*

"Regulatory enforcement is also underway for East Goose Lake. There are about a dozen landowners that have homes on East Goose. Of these, 4-6 have motorized boats, and one of their valued uses is waterskiing. VLAWMO has been working with these landowners by conducting a survey, engaging in conversation, compiling and presenting a thorough literature review of the science of alum treatments, and working with the City to pass an ordinance prohibiting motorized boat traffic during the 3 years of the alum treatment and either limiting motor size or continuing to prohibit motorized traffic beyond. VLAWMO is directly supporting the City Council as the process continues."

VLAWMO Excerpt Response: Question 6. *(A) What portion of the water quality goal will be achieved through this application? Where applicable, identify the annual reduction in pollutant(s) that will be achieved or avoided for the water resource if this project is completed. (B) Describe the effects this application will have on the root cause of the issue it will address (most critical pollution source(s) or threat(s)).*

"VLAWMO has been working on 2 tasks to protect the lake bottom from disturbance. The first was removing rough fish and working to repair the fish community. During 2013 and 2014, 16,000 pounds of bullhead were removed. A follow-up survey in 2017 showed that population reductions were sustained. A second follow-up survey is scheduled for fall 2019. The second task involves assisting the City of White Bear Lake in enacting an ordinance to limit motorized boating (Described previously)."

VLAWMO Excerpt Response: Question 9. *What steps have been taken or are expected to ensure that project implementation can begin soon after the grant award? Describe general environmental review and permitting needs required by the project (list if needed). Also, describe any discussions with landowners, status of agreements/contracts, contingency plans, and other elements essential to project implementation.*

"To ensure the effective lifespan of an alum treatment, VLAWMO has developed a specific boating restriction plan for East Goose Lake and has formally recommended this to the City of White Bear Lake for adoption and implementation as a City Ordinance. VLAWMO is also be working with MN DNR on vegetation management as previously described. That work includes a transplant permit for native vegetation that is in place and valid for 3 years."

2. VLAWMO's grant application (see below reference) also indicated that the WMO completed rough fish management and removals to also help minimize lake sediment disturbances. The project feasibility study also noted successful control of rough fish through bullhead removals completed between 2012 and 2015 (Page 13, *East Goose and West Goose Lakes (and Oak Knoll Pond) In-Lake Treatment Feasibility Study))*. However, preliminary results of the most recent fish survey (Fall 2019) for Goose Lake, indicated that the rough fish removal efforts provided only short-term success and that bullhead populations are once again high (Page 15, October 23, 2019 VLAWMO Board of Directors Meeting Packet – Project Updates – Goose Lake Fish Survey).

   BWSR has concerns regarding the potential for sediment disturbance and resuspension given the current density of rough fish present in Goose Lake. It is unclear if the alum treatment would achieve the intended water quality benefits for the effective life of the practice, as proposed in the grant application. It is also unclear if the proposed alum treatment would be feasible to complete within the timeframe of the grant, if a long-term management strategy for rough fish needs to be developed and management activities also need to be completed prior to the alum treatment.

From Grant Application C20-6375 Goose Lake Alum Treatment 2020

VLAWMO Excerpt Response: Question 6. *(A) What portion of the water quality goal will be achieved through this application? Where applicable, identify the annual reduction in pollutant(s) that will be achieved or avoided for the water resource if this project is completed. (B) Describe the effects this application will have on the root cause of the issue it will address (most critical pollution source(s) or threat(s)).*

"VLAWMO has been working on 2 tasks to protect the lake bottom from disturbance. The first was removing rough fish and working to repair the fish community. During 2013 and 2014, 16,000 pounds of

bullhead were removed. A follow-up survey in 2017 showed that population reductions were sustained. A second follow-up survey is scheduled for fall 2019."

3. VLAWMO's grant application (see below references) identified stakeholder engagement activities completed by the WMO and noted that the most recent meeting with stakeholders was held in January 2019. The project feasibility study references several stakeholder engagement activities completed between 2016 and 2018, and also stated that the direction for future action was to proceed with a grant application for the alum treatment (Page 17-18, *East Goose and West Goose Lakes (and Oak Knoll Pond) In-Lake Treatment Feasibility Study))*.

   BWSR recognizes that VLAWMO has engaged stakeholders regarding this project, however, it was apparent that in recent months a contingent of lake residents are currently not in support of the boating restriction, nor with project moving forward due to concerns regarding the regrowth of aquatic vegetation. BWSR has concerns regarding the feasibility and ability to complete the project as proposed with the grant application, within the timeframe allowed for the grant, without the stakeholder and resident support. It is unclear if the opposition to the project would be able to be mediated and project would be able to be completed within the timeframe allowed by the grant.

   From Grant Application C20-6375 Goose Lake Alum Treatment 2020

   VLAWMO Excerpt Response: Question 3. *Describe the methods used to identify, inventory, and target the root cause (most critical pollution source(s) or threat(s)). Describe any related additional targeting efforts that will be completed prior to installing the projects or practices identified in this proposal.*

   "VLAWMO has targeted efforts underway. We held a series of targeted Goose Lake stakeholder meetings. Presentations included individual stakeholder options to improve water quality, alum treatment process and Q&A, and vegetation restoration following an alum treatment. Stakeholder meetings are complemented by newspaper articles and regular updates on the VLAWMO website."

   VLAWMO Excerpt Response: Question 9. *What steps have been taken or are expected to ensure that project implementation can begin soon after the grant award? Describe general environmental review and permitting needs required by the project (list if needed). Also, describe any discussions with landowners, status of agreements/contracts, contingency plans, and other elements essential to project implementation.*

   "A series of stakeholder meeting have been facilitated including involvement from state agencies (DNR, MPCA, BWSR), property owners, City staff, Ramsey County staff, policy makers, and VLAWMO staff to discuss implications of different projects, including alum treatment, and to seek direction on which project to pursue for East Goose Lake. The most recent stakeholder meeting was held in January, 2019."

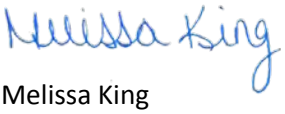
Since the time of application submittal to BWSR, the three key attributes of the proposed project described above have changed in extent and scope. BWSR is requesting that VLAWMO reassess the feasibility of completing the project within the allotted timeframe allowed, as proposed in the grant application.

If VLAWMO determines that it will not be feasible to complete the project as proposed, BWSR requests that VLAWMO take action no later than April 15, 2020 to not accept the grant award. This action would not adversely impact VLAWMO's eligibility to submit applications for future grant funding opportunities or impact the consideration of an award of any future grant funds. It also will not prevent VLAWMO from submitting a future grant proposal for funding for an alum treatment on Goose Lake, or another eligible project/activity.

If VLAWMO determines that it will be feasible to complete the project as proposed in the application, within the allotted timeframe, VLAWMO will need to demonstrate that BWSR's project assurance concerns above, are sufficiently addressed prior to BWSR approval of the grant work plan and execution of the grant agreement. As previously conveyed to VLAWMO staff, BWSR has established April 15, 2020 as the deadline for submittal of the grant work plan and May 15, 2020 as the deadline for execution of the grant agreement.

I will be attending the February 26, 2020 VLAWMO Board meeting. I would be happy to review and discuss the content of the letter in more detail, if needed. Please feel free to contact me with any questions at 651.350.8845.

Sincerely,



Melissa King
Board Conservationist

CC: Kevin Bigalke, BWSR Assistant Director of Regional Operation
Marcey Westrick, BWSR Clean Water Coordinator

FY2020 Clean Water Fund Competitive Project and Practices – Project Proposal Ranking Criteria (below).

Ranking Criteria – Projects and Practices

BWSR staff initially review all applications for eligibility. Eligible applications are further screened and forwarded to an interagency work team (BWSR, MPCA, MDA, MDH and DNR) that will review and rank Projects and Practices applications in order to make a funding recommendation to the BWSR Board.

Projects and Practices Ranking Criteria	
Ranking Criteria	**Maximum Points Possible**
Project Abstract: The project abstract succinctly describes what results the applicant is trying to achieve and how they intend to achieve those results.	5
Prioritization (Relationship to Plans): The proposal is based on priority protection or restoration actions listed in or derived from an approved local water management plan and is linked to statewide Clean Water Fund priorities and public benefits.	20
Targeting: The proposed project addresses identified critical pollution sources or risks impacting the water resource(s).	25
Measurable Outcomes and Project Impact: The proposed project has a quantifiable reduction in pollution for restoration projects or measurable outputs for protection projects and directly addresses the water quality concern identified in the application.	25
Cost Effectiveness and Feasibility: The application identifies a cost effective and feasible solution to address the non-point pollution concern(s).	15
Project Readiness: The application has a set of specific activities that can be implemented soon after grant award.	10
Total Points Available	**100**

EST 1983
VLAWMO
Vadnais Lake Area
Water Management Organization

800 County Road E East, Vadnais Heights, MN 55127
www.vlawmo.org
office@vlawmo.org
(651) 204-6070

To: The Board of Directors

From: Tyler Thompson, GIS Watershed Technician

Re: V. C. 3. WBF Goose Lake Subwatershed BMP Selection & Proceeding

Previously, Barr Engineering had come up with a final list of 4 potential BMP project locations for implementation for the Goose Lake subwatershed, after a preliminary Hydrologic & Hydrology study. However, all of these 4 proposed BMPs were either not feasible budget-wise, or would not meet the nutrient reduction criteria of the grant of 3-6 lbs of TP per year. However, in the middle of March, Barr had identified a project and location, first ID'd by the City of White Bear Lake that should work with VLAWMO's Goose Lake (3.425) budget, currently containing $193,000. This project (BMP 14) would be an iron-enhanced sand filter basin on the NW corner of the intersection of HWY 61 and Cedar Avenue in White Bear Lake, and has a probable cost between $120,000 and $160,000. The modeled annual TP removal for the project is 6 lbs/per year that would be removed from the Goose Lake subwatershed.

As the Watershed Based Funding grant was smaller, and most of the funding was slated in the workplan for assessment and project feasibility and design ($39,000), $16,039 of grant funding is available for construction, along with a $35,961 contribution from the City of White Bear Lake for future construction. This would mean an estimated $70,000 coming from VLAWMO Goose Lake budget funds.

The proposed project site is adjacent to both a planned Rush Line bus rapid transit station, as well as being within MnDOT right-of-way, and on private property owned by White Bear Rental and the White Bear Terrace apartment complex. Staff will be working to partner with current landowners, as well as Ramsey County, the City of White Bear Lake, and MnDOT for implementation and funding partnerships.

Recommendation: TEC and Staff requests that the Board approves moving forward with selecting "BMP 14", the iron-enhanced sand filter on HWY 61 and Cedar Ave., in White Bear Lake for the Goose Lake Subwatershed Watershed Based Funding (WBF) BMP implementation project.

Iron-Enhanced Sand Filtration Basin
Bottom of Draintile: 935.5
Top of Sand: 937.0
Ditch overflow to the north : 940.5
Assumed 4:1 side slopes

Regrade ditch to938.0 to provide additional storage and allow basin overflows to reach new outlet structure.

Regrade ditch to below 937.5 to allow flows from Cedar Avenue storm sewer into basin.

Outlet Structure: Modified Existing Manhole
Inv: 935.0 (need to verify)
Rim with Haala Grate: 939.0
Diameter: 48" (need to verify)

Bulkhead existing 21" RCP

61

Cedar Ave

Linden St

Cedar Ave

146
COUNTY

Hoffman Rd

Aerial Imagery: Ramsey County/MnGeo 2016

BMP14 Outlet Structure

BMP14 Location

Existng SS Structures

Existing SS Pipe

BARR

N

0 100 200

Feet

Proposed BMP14: Iron-Enhanced Sand Filtration Basin Vadnais Lakes Area Watershed Management Organization

FIGURE 5

Barr Footer: ArcGIS 10.7.1, 2020-03-11 14:09 File: I:\Projects\23\62\1292\Users\JJH2\Proposed BMP Figures\BMP14_RCcoord.mxd User: JJH2

VADNAIS LAKES AREA WATERSHED MANAGEMENT ORGANIZATION
GOOSE LAKE WATER QUALITY IMPROVEMENTS
FIGURE 5 BMP14 (Iron-Enhanced Sand Filtration Basin)
PRELIMINARY - ENGINEER'S OPINION OF COST[1]
MARCH 11TH, 2020

Item No.	Item	Qty	Unit	Unit Price[2]	Extension
MOBILIZATION					
1	Mobilization and demobilization (10%)	1	LS	$10,300	$11,000
				Subtotal	**$11,000**
SITE CIVIL					
2	Clearing and Grubbing	1	LS	$3,000	$3,000
3	Traffic Control (5%)	1	LS	$5,000	$5,000
4	Erosion Control	1	LS	$4,800	$5,000
5	Control of Water	1	LS	$1,200	$2,000
6	Site Improvements and Restoration	1	LS	$5,400	$6,000
		.		**Subtotal**	**$21,000**
STORM SEWER PIPING AND STRUCTURES					
7	Bulkhead Existing 21" RCP	1	LS	$1,200	$2,000
8	Lower Existing 48" Manhole Rim	1	LS	$1,200	$2,000
9	Install 48" Haala Cone Grate on Existing Manhole	1	EA	$2,000	$2,000
				Subtotal	**$6,000**
IRON-ENHANCED SAND FILTRATION BASIN					
10	Remove and Salvage Top Soil	250	CY	$25	$7,000
11	Common Excavation and Off-Site Disposal of Excavated Material	1200	CY	$18	$22,000
12	Drain Tile System; piping, fittings, and valves	1	LS	$4,200	$5,000
13	Washed Filter Sand	165	TON	$100	$17,000
14	Iron Aggregate	9	TON	$1,500	$14,000
15	Replace Salvaged Top Soil	205	CY	$25	$6,000
16	Erosion Control Blanket	1200	SY	$4	$5,000
				Subtotal	**$76,000**
Subtotal					**$114,000**
Contingency				**10%**	**$12,000**
Total					**$126,000**
Anticipated Accuracy Range[3]			**High**	20%	**$160,000**
			Low	-10%	**$120,000**
COST/BENEFIT ANALYSIS					
Modeled Average Annual Total Phosphorus Removal (lbs)					**6.0**
Annualized Cost per Pound of Total Phosphorus Removed ($/lb TP/year)[4]			**High**	20%	**$1,350**
			Point		**$1,160**
			Low	-10%	**$1,130**

(1) All costs are in 2020 dollars.

(2) Unit prices are adjusted by RS Means Construction Data location factors to Minneapolis, MN.

(3) This 75% design-level opinion of cost is based on 75% designs, alignments, quantities and unit prices. Costs will change with further design. The estimated accuracy range for the Total Project Cost as the projec judgement considering the level of design completed, the complexity of the project and the uncertainties in the project as scoped.

(4) 30 year annualized cost calculated as {[(total cost)-(IESF material cost)]/30 years}+(IESF material cost/15 years)+(annual maintenance). IESF material has an estimated 15 year lifespan. Annual operations and maintenance cost estimated to be $1,540 for trash removal and vegetation maintance in the filter.