

VLAWMO TECHNICAL COMMISSION MEETING
8:00 AM March 9th, 2022

Vadnais Heights City Hall, Council Chambers, 800 County Road E East, Vadnais Heights, MN 55127

Action items: ✈

- I. **Call to Order – 8:00am –Chair Jesse Farrell**
- II. **Approval of Agenda**
- III. **Approval of Minutes (Feb 9th, 2022)**
- IV. **Administration & Operations**
 - A. Financial Report for March – Phil ✈ [p. 9](#)
 - B. Discussion on draft Partnership Project Planning Table– Phil & Rachel ✈ [p. 17](#)
 - C. Annual Report Highlights – Nick ✈ [p. 31](#)
 - D. Water Monitoring Report Highlights – Brian and Nick [p. 33](#)
 - E. Update on VLAWMO Board of Directors officers for 2022 - Phil [p. 14](#)
- V. **Programs**
 - A. Education & Outreach – Nick
 - 1. 2022 WAV and education program outline [p. 14](#)
- VI. **Projects**
 - A. 319/Wilkinson BMP update – Dawn [p. 14](#)
 - B. Lino Lakes Lake Amelia update – Phil [p. 14](#)
 - C. Biochar and BWSR amendment update –Brian [p. 15](#)
 - D. Sucker/East Vadnais Lake SLMR – Dawn ✈ [p. 15](#)
 - E. Aquatic Plant Management Board position update - Phil [p. 15](#)
- VII. **Commissioner Reports**
- VIII. **NOHOA**
- IX. **Ramsey Soil & Water Conservation Division**
- X. **St. Paul Regional Water Services**
- XI. **Public Comment**
- XII. **Next Meetings:** TEC: April 13th, Regular Board Meeting: April 27th, 2022
- XIII. **Adjourn**

Upcoming events:

Watershed Action Volunteers (WAV) meeting: March 17
Blue Thumb Resilient Yards: March 29, April 12,
May 5th
Blue Thumb Pollinator Plantings: April 5th
Drought Recovery for your Lawn: April 14
Cost-share open house: April 28

**Vadnais Lake Area Water Management Organization
Technical Commission Minutes
February 8th, 2022
Vadnais Heights City Hall, Council Chambers
800 County Road E East, Vadnais Heights, MN 55127**

Commission Members Present:

Jesse Farrell	Chair, Vadnais Heights (VH)
Gloria Tessier	Vice Chair, Gem Lake (GL)
Terry Huntrods	White Bear Lake (WBL)
Andy Nelson	Lino Lakes (LL)

Others in attendance: Phil Belfiori, Brian Corcoran, Nick Voss, Dawn Tanner (VLAWMO staff); Connie Taillon (WBL), Justine Rowe, Jeremy Erickson (SPRWS), Ed Shapland (Watershed Action Volunteers/CAC). Patricia Orud (NOHOA).

Absent: Treasurer, Bob Larson (North Oaks); Paul Duxbury Board Liaison, White Bear Township (WBT)

I. **Call to Order – 8:00am –Chair Jesse Farrell** called the meeting to order at 8:00am

Chair Farrell acknowledged staff member Tyler Thompson who is departing VLAWMO and going to a new position this week.

II. **Approval of Agenda**

It was moved by Huntrods and seconded by Tessier to approve the February 8th, 2022 TEC agenda as presented. Vote: All aye, motion passed.

Approval of Minutes (December 8th, 2021)

It was moved by Huntrods and seconded by Tessier to approve the February, 2022 meeting minutes, as presented. Vote: all eye. Motion passed.

III. **Administration & Operations**

A. Financial Report for February & authorization for Payment

Belfiori described current payments and activities as presented in the financial records from the February 8th TEC packet.

It was motioned by Tessier and seconded by Huntrods to approve the February Treasurer's Report and authorization of payments. Vote: All aye, motion passed.

B. February 2022 TEC Report to the Board

Belfiori described and summarized the February TEC report as included in the Feb TEC packet. Staff recommended approval of the

It was motioned by Huntrods and seconded by Tessier to approve the February TEC Report to the Board. Vote: All aye, motion passed.

IV. Programs

A. Education & Outreach

1. Community Blue grant application deadlines-

Voss provided a summary of the proposal for timing changes to have two application deadlines to the community blue grant program. The hope is to motivate additional applications to the program and to create additional momentum for the program. .

Ferrell noted he thought was good idea

It was motioned by Huntrods and seconded by Tessier . All in favor and motion was approved.

B. 2021 Cost Share Grant Extensions

Thompson described the four cost-share grants from 2021 that are continued into 2022. This is a common occurrence and extensions have been issues in past years to accommodate for unforeseen circumstances in project installation (weather, market fluctuations, etc.).

It was motioned by Tessier and seconded by Nelson to approve the 2021 cost share grant extensions. Vote: All aye, motion passed

1. SHG Application 2022-01 Keleher Rain Garden/Native Planting, WBL

Thompson described the 120 sq ft raingarden basin and that this application is within the Lambert Creek targeted volume reduction zone, which is eligible for a 75% grant match according to the cost-share grant program policy. Applicant is proposing to do the work herself. Thompson added that the application was complete upon submission and no additional information was needed to be requested.

Farrell commented that the application was a great idea and that raingarden basins pay dividends for a long time into the future.

It was motioned by Nelson and seconded by Huntrods to approve SHG 2022-01 and authorization of payments. Vote: All aye, motion passed.

2. SHG Application 2022-02 Kanne Native Planting/Restoration, VH

Thompson described the application as included in the February TEC packet and past erosion control, native planting, and stormwater reduction efforts this property owner has completed in the past, including a 2021 SHG with VLAWMO. Applicant requesting 75% match due to being in the targeted volume reduction zone in the Lambert Creek subwatershed.

It was motioned by Huntrods and seconded by Tessier to approve SHG 2022-02 and authorization of payments. Vote: All aye, motion passed.

3. LL1 Application 2022-01 Charpenter Rain Garden, VH

Thompson described the application located in a shaded wooded lot that drains to a ditch system without a curb and gutter. Applicant's property takes a combined drainage from 3 properties including his own. The ditch draining from his property connects to Branch Ditch

#3 which then drains into Lambert Creek. Annual sediment removal draining into ditch system estimated to be 65 lbs/year (MIDS).

Discussion: Farrell commented that the proposal from the contractor needs to be updated to accommodate for changing materials and labor costs. An updated 2022 contract could hold potential for a larger square footage or working with the site's wetland buffer. Interest in doing better to achieve higher infiltration and to make the most of the opportunity.

Thompson and Belfiori expressed that due to the drainage area being flat, the depth for the basin is limited.

Farrell expressed support for tabling application for March TEC meeting with mentioned recommendations. Updated proposal from contractor for materials and labor estimates, ask contractor to look at existing buffer and wetland for potential project enhancements, and to look at whether grading for project is on private property or is a portion on public right of way.

Nelson asked whether the staff recommendation was to approve the project as submitted, Thompson affirmed. Expressed concern that project estimates and design work may already be maxed out for the applicant and the contractor.

It was motioned by Nelson and seconded by Tessier to approve LL1 2022-01 and authorization of payments. Vote: All aye, motion passed.

4. LL1 Application 2022-02 BLP HOA Lamb. Creek Streambank Restoration, WBT

Thompson described this Lambert Creek restoration project in White Bear Township as described in the Feb TEC packet. This project is located near existing VLAWMO Lambert Creek bank restorations at Oakmede lane and upstream from Fox Meadow Park, thus extending the growth and impact of streambank restoration in that area. Thompson recognized that the HOA involved in the project is being proactively involved to fix the erosion issues through this initiative to work with a contractor and submit this grant application.

Thompson also noted that this effort at this location on Lambert Creek holds potential to be a problem area in the future, and that this project helps mitigate that risk.

Discussion: Tessier asked if this is a park that experiences frequent flooding, Thompson confirmed.

Huntrods asked why a large tree removal is in the proposal and why it costs so much. Thompson explained that this big tree is wrapped around a culvert and is right on the ditch, which causes issues. Big trees further away are no problem, but the in this case the proximity to the creek is an issue. In many ditch maintenance efforts tree removal is a big part of the effort. Belfiori commented that according to VLAWMO's drainage authority taking the tree out aligns with VLAWMO's ditch maintenance responsibilities.

It was motioned by Farrell and seconded by Tessier to approve LL1 2022-02 and authorization of payments. Vote: All aye, motion passed.

5. 2022-2023 RCSWCD Design & Technical Assistance Agreement

Thompson described the services that RCSWCD provides. The 2022-2023 agreement builds continuity between the years opposed to designing an agreement for a single year. This provides continuity for projects that may require extension after 2022. Additional GIS were also added to the agreement.

Thompson reminded TEC that in 2021 VLAWMO used roughly half its contracted agreement with RCSWCD.

Farrell noted that the County relationship is a major asset to VLAWMO's services.

It was motioned by Tessier and seconded by Huntrods to approve 2022-2023 RCSWCD Design & Technical Assistance Agreement. Vote: All aye, motion passed.

V. Projects

A. Biochar project update

Tanner explained that SEH has made a final determination of feasibility for the biochar filter at the Whitaker Pond site. A site footprint schematic has been provided by SEH for a winter construction goal. Design work is continuing at this time.

Tanner updated the TEC that the settlement offer was accepted by the UMN, a signed letter was received by VLAWMO, and final payment has been sent.

The MPCA is currently preparing a change order to address the new site location for the February, 2022, Board of Director meeting.

Farrell expressed being glad that the UMN invoice has been resolved and that the project is continuing.

B. West Vadnais and Pleasant Lake carp projects for 2022

Tanner described Pleasant Lake's obstacles due to hazardous ice conditions. Tanner corrected the staff memo citing that carp harvest was attempted in 2022, not 2021. Tanner stated that noise and activity on the ice may have disturbed carp aggregations, as they were observed via telemetry to have moved widely throughout the lake and have remained scattered following that harvest attempt. Staff and the carp removal team are continuing to conduct telemetry and sonar to detect when/if carp move back in an aggregated way into an area of the lake that is suitable and prepped for harvest.

Tanner explained the West Vadnais carp strategy with Ramsey Washington Metro Watershed District. Because the carp population size has been determined to be smaller than previously measured (likely a result of a recent winterkill), bullhead (documented to be present in high numbers through numerous MN DNR surveys over the years) may be contributing to poor water quality in West Vadnais Lake. An updated fish survey and continued tagging and

monitoring have been requested by project partners to determine the most suitable next steps for the lake.

It was motioned by Farrell and seconded by Nelson to approve West Vadnais and Pleasant Lake carp projects for 2022. Vote: All aye, motion passed.

- C. 319 grant/Wilkinson BMP project materials to Board
Tanner described the project and partnership between North Oaks Company, North Oaks Farm, and the MPCA. The easement, signed by NOC/NOF and the Minnesota Land Trust, will be brought to the Board at the February meeting with a request for VLAWMO to sign and file the easement with Ramsey County. The MPCA is completing preparation of the Project grant contract that will incorporate the workplan and budget, as approved by the TEC and Board, for the February Board meeting. USFWS was consulted during the fall of 2021 regarding an eagle nest near the project area. USFWS has provided their support and a request for increased monitoring during construction. A memo summarizing findings will be presented to the Board at the February meeting. Cash match invitations will be re-stated to possible project partners identified in the TMDL for Wilkinson, and a meeting with MPCA to determine possible load reduction allocation of credits could be distributed.

Tanner recommended bringing materials to the Feb, 22 Board meeting and to continue pursuing the project as outlined.

It was motioned by Tessier and seconded by Huntrods to approve the easement, 319 grant contract for the Wilkinson BMP project and bring associated documents to the Board at the February meeting. Vote: All aye, motion passed.

- D. MDA invasive species grant awarded
Tanner explained the MDA invasive species grant was funded, as described in the TEC packet, for buckthorn removal at the City Hall wooded wetland.
- Farrell stated support for buckthorn removal efforts.
- E. DNR invasive species treatment grant in prep (partnership with BLID)
Tanner explained that staff is partnering with BLID to submit an invasive species control grant application through the MN DNR, due Feb. 21.
- F. Maintenance update: Iron-enhanced filter addition to Natural Shores contract
Tanner updated that Natural Shores is willing to serve as a contractor for maintaining the Birch Lake sand-iron filter.

Farrell commented that Birch Lake Improvement District is a fabulous partner, that project maintenance is critical, and that it is efficient to have a specialist company hired to do the maintenance.

- G. Great River Greening/Vadnais-Sucker Regional Park restoration maintenance JPA update

Tanner explained that a JPA for maintenance is being reviewed and adopted by partners. An update will come back to the TEC when the JPA is received from Ramsey County Parks and SPRWS.

- H. Amelia survey reports in from RCSWCD (posted on VLAWMO website)
Amelia survey information is now available on the VLAWMO website.

Flowering rush checks will continue at Amelia. It has not been detected during the past 2 years. If we can document flowering rush not being present in Amelia for another 2 consecutive years, the MN DNR will allow it to be updated to no longer infested.

VI. Commisioner Reports
None

Farrell updated the TEC that the Vadnais Boulevard trail meetings are underway at the City of Vadnais Heights, outcomes may be up to 10 years away but he noted that strong partnerships with the SPRWS are helping the process along.

VII. NOHOA

Orud updated the TEC that NOHOA has declared invasive species as a prominent theme for 2022. Additional buckthorn removals are scheduled for April, 2022 for Deep Lake. The NEST committee is to look at various planting locations around the City of North Oaks. Multiple planting locations have been washed out due to heavy rains, so NEST is seeking to establish more hardy and durable native vegetation in these areas.

Orud updated TEC that North Oaks NRC updates the City and NOHOA about environmental and conservation research.

VIII. Ramsey Soil & Water Conservation Division
None

IX. St. Paul Regional Water Services

Rowe explained that the year-long pilot plant project will be completed in March.

X. Public Comment
None

XI. Next Meetings:

Next TEC meeting March 9th, Next BOD meeting February 23rd.

XII. XII. Adjourn

It was moved by Huntrods and seconded by Tessier to adjourn the meeting at 9:18 am. Vote: all aye. Motion passed.

Minutes compiled and submitted by Nick Voss.

draft

Finance Report: March, 2022

Mar-22		Actual 3/1/22	Actual to Date	2022 Budget	2021 carry over/Grants	Remaining in Budget	2022 Available	Act vs. Budget
BUDGET #		INCOME						
5.11	Storm Water Utility	\$0	\$440,247	\$1,019,521	\$0	\$579,274	\$1,019,521	43%
5.12	Service Fees	\$0	\$0	\$200	\$0	\$200	\$200	0%
5.13	Interest + mitigation acct	\$13	\$42	\$1,500	\$0	\$1,458	\$1,500	3%
5.14	Misc. income - WCA admin & other	\$1,750	\$1,876	\$3,000	\$0	\$1,124	\$3,000	63%
5.15	Other Income Grants/loan	\$0	\$29,519	\$324,500	\$0	\$294,981	\$324,500	9%
5.16	Transfer from reserves	\$0	\$0	\$192,367	\$133,751	\$326,118	\$326,118	0%
	TOTAL	\$1,763	\$471,684	\$1,541,088	\$133,751	\$1,203,155	\$1,674,839	31%
		EXPENSES						
3.1	Operations & Administration							
3.110	Office - rent, copies, post tel supplies	\$2,004	\$6,027	\$27,097	\$0	\$21,070	\$27,097	22%
3.120	Information Systems	\$1,424	\$6,107	\$25,865	\$0	\$19,758	\$25,865	24%
3.130	Insurance	\$0	\$0	\$7,210	\$0	\$7,210	\$7,210	0%
3.141	Consulting - Audit	\$3,150	\$3,150	\$8,191	\$0	\$5,041	\$8,191	38%
3.142	Consulting - Bookkeeping	\$0	\$0	\$1,500	\$0	\$1,500	\$1,500	0%
3.143	Consulting - Legal	\$0	\$0	\$5,000	\$0	\$5,000	\$5,000	0%
3.144	Consulting - Eng. & Tech.	\$4,641	\$9,203	\$30,000	\$14,000	\$34,797	\$44,000	21%
3.150	Storm Sewer Utility	\$130	\$640	\$14,000	\$0	\$13,360	\$14,000	5%
3.160	Training (staff/board)	\$0	\$235	\$12,500	\$0	\$12,265	\$12,500	2%
3.170	Misc. & mileage	\$141	\$360	\$6,300	\$0	\$5,940	\$6,300	6%
3.191	Administration - staff	\$36,505	\$93,109	\$391,400	\$0	\$298,291	\$391,400	24%
3.192	Employer Liability	\$9,792	\$27,609	\$114,425	\$0	\$86,816	\$114,425	24%
3.2	Monitoring and Studies							
3.210	Lake and Creek lab analysis	\$0	\$0	\$18,000	\$0	\$18,000	\$18,000	0%
3.220	Equipment	\$0	\$160	\$3,000	\$0	\$2,840	\$3,000	5%
3.230	Wetland assessment & management	\$0	\$0	\$15,000	\$0	\$15,000	\$15,000	0%
3.240	Watershed Plan Amendment	\$0	\$0	\$15,000	\$0	\$15,000	\$15,000	0%
3.3	Education and Outreach							
3.310	Public Education	\$0	\$67	\$6,000	\$0	\$5,933	\$6,000	1%
3.320	Marketing	\$0	\$3,139	\$17,500	\$0	\$14,361	\$17,500	18%
3.330	Community Blue Ed Grant	\$0	\$0	\$2,000	\$0	\$2,000	\$2,000	0%
<i>Total Core Functions: Ops, Monitoring, Education</i>		\$57,787	\$149,806	\$719,988	\$14,000	\$584,182	\$733,988	20%
		Capital Improvement Projects and Programs						
3.4	Subwatershed Activity							
3.410	Gem Lake	\$0	\$0	\$10,000	\$0	\$10,000	\$10,000	
3.420	Lambert Creek	\$0	\$5,176	\$44,432	\$70,000	\$109,256	\$114,432	5%
3.421	Lambert Lake Loan	\$0	\$0	\$38,568	\$0	\$38,568	\$38,568	0%
3.425	Goose Lake	\$1,323	\$18,343	\$70,000	\$10,000	\$61,657	\$80,000	23%
3.430	Birch Lake	\$4,145	\$4,145	\$10,000	\$0	\$5,855	\$10,000	41%
3.440	Giff Black Tam Wilk Amelia	\$0	\$15,035	\$93,500	\$12,000	\$90,465	\$105,500	14%
3.450	Pleasant Charley Deep	\$0	\$4,178	\$35,000	\$10,000	\$40,822	\$45,000	9%
3.460	Sucker Vadnais	\$0	\$0	\$41,500	\$0	\$41,500	\$41,500	0%
3.48	Programs							
3.480	Soil Health Grant	\$0	\$111	\$5,000	\$0	\$4,889	\$5,000	2%
3.481	Landscape 1	\$0	\$0	\$16,000	\$0	\$16,000	\$16,000	0%
3.482	Landscape 2	\$0	\$6,826	\$28,000	\$17,751	\$38,925	\$45,751	15%
3.483	Project Research & feasibility	\$0	\$0	\$0	\$0	\$0	\$0	#DIV/0!
3.485	Facilities Maintenance	\$602	\$34,966	\$102,600	\$0	\$67,634	\$102,600	34%
3.5	Regulatory							
3.510	Engineer Plan review	\$0	\$0	\$2,000	\$0	\$2,000	\$2,000	0%
<i>Total CIP & Program</i>		\$6,070	\$88,780	\$496,600	\$119,751	\$527,571	\$616,351	14%
Total of Core Operations & CIP		\$63,857	\$238,586	\$1,216,588	\$133,751	\$1,111,753	\$1,350,339	18%

Fund Balance	2/1/2022	3/1/2022
4M Account	\$692,233	\$651,935
4M Plus Savings	\$324,212	\$324,220
Total	\$1,016,445	\$976,155

Restricted funds	3/1/2022
Mitigation Savings	\$21,037
Term Series	\$0

Vadnais Lake Area Water Management Orga
Profit & Loss
February 10 through March 9, 2022

9:17 AM
03/03/2022
Cash Basis

Feb 10 - Mar 9, 22

Ordinary Income/Expense	
Income	
Misc.	1,750.00
5.1 · Income	
5.13 · Interest	12.89
Total 5.1 · Income	<u>12.89</u>
Total Income	<u>1,762.89</u>
Gross Profit	1,762.89
Expense	
3.1 · Administrative/Operations	
3.110 · Office	
Copies	30.68
Phone/Internet/Machine Overhead	295.00
Postage	13.36
Rent	1,665.00
Total 3.110 · Office	<u>2,004.04</u>
3.120 · Information Systems	
IT Support	1,300.19
IT Systems - Hardware	124.54
Total 3.120 · Information Systems	<u>1,424.73</u>
3.141 · Audit	3,150.00
3.144 · Eng. & Tech.	4,641.37
3.150 · Storm Sewer Utility	130.00
3.170 · Misc. & mileage	140.74
3.191 · Employee Payroll	
payroll	36,505.43
Total 3.191 · Employee Payroll	36,505.43
3.192 · Employer Liabilities	
Admin payroll processing	44.92
Administration FICA	2,673.51
Administration PERA	2,237.53
Insurance Benefit	4,835.72
Total 3.192 · Employer Liabilities	<u>9,791.68</u>
Total 3.1 · Administrative/Operations	57,787.99
3.4 · Capital Imp. Projects/Programs	
3.425 · Goose Lake	1,323.50
3.430 · Birch Lake	
4th & Otter project	4,145.30
Total 3.430 · Birch Lake	<u>4,145.30</u>
Total 3.4 · Capital Imp. Projects/Programs	<u>5,468.80</u>
3.48 · Programs	
3.485 · Facilities & Maintenance	602.50
Total 3.48 · Programs	<u>602.50</u>
Total Expense	<u>63,859.29</u>
Net Ordinary Income	<u>-62,096.40</u>
Net Income	<u><u>-62,096.40</u></u>

Check Detail

03/03/2022

February 10 through March 9, 2022

Type	Num	Date	Name	Item	Account	Paid Amount	Original Amount
Check	eft	02/17/2022	Reliance Standard		Checking - 1987		-313.76
				Insurance Benefit		-90.00	90.00
				Insurance Benefit		-223.76	223.76
TOTAL						-313.76	313.76
Check	eft	02/24/2022	further		Checking - 1987		-5.00
				Insurance Benefit		-5.00	5.00
TOTAL						-5.00	5.00
Check	5303	03/09/2022	Dawn Tanner		Checking - 1987		-135.14
				3.170 - Misc. & mileage		-135.14	135.14
TOTAL						-135.14	135.14
Check	5304	03/09/2022	Nicholas Voss		Checking - 1987		-5.60
				3.170 - Misc. & mileage		-5.60	5.60
TOTAL						-5.60	5.60
Check	5305	03/09/2022	Ehlers & Associates, Inc.		Checking - 1987		-130.00
				3.150 - Storm Sewer Utility		-130.00	130.00
TOTAL						-130.00	130.00
Check	5306	03/09/2022	Houston Engineering, Inc		Checking - 1987		-4,335.75
				3.485 - Facilities & Maintenance		-602.50	602.50
				3.144 - Eng. & Tech.		-3,733.25	3,733.25
TOTAL						-4,335.75	4,335.75
Check	5307	03/09/2022	City Of Roseville		Checking - 1987		-1,300.19
				IT Support		-1,300.19	1,300.19
TOTAL						-1,300.19	1,300.19
Check	5308	03/09/2022	City of Vadnais Heights		Checking - 1987		-2,004.04
				Rent		-1,665.00	1,665.00
				Phone/Internet/Machine Overhead		-295.00	295.00
				Postage		-13.36	13.36
				Copies		-30.68	30.68
TOTAL						-2,004.04	2,004.04
Check	5309	03/09/2022	CliftonLarsonAllen		Checking - 1987		-3,150.00
				3.141 - Audit		-3,150.00	3,150.00
TOTAL						-3,150.00	3,150.00
Check	5310	03/09/2022	SEH		Checking - 1987		-908.12
				3.144 - Eng. & Tech.		-908.12	908.12
TOTAL						-908.12	908.12
Check	5311	03/09/2022	Barr Engineering Co		Checking - 1987		-1,323.50
				3.425 - Goose Lake		-1,323.50	1,323.50
TOTAL						-1,323.50	1,323.50
Check	5312	03/09/2022	City of White Bear Lake		Checking - 1987		-45,978.35
				payroll		-36,505.43	36,505.43
				Administration FICA		-2,673.51	2,673.51
				Administration PERA		-2,237.53	2,237.53
				Insurance Benefit		-4,516.96	4,516.96
				Admin payroll processing		-44.92	44.92
TOTAL						-45,978.35	45,978.35
Check	5313	03/09/2022	Prairie Moon Nursery		Checking - 1987		-3,145.30
				4th & Otter project		-3,145.30	3,145.30
TOTAL						-3,145.30	3,145.30
Check	5314	03/09/2022	Dell		Checking - 1987		-124.54
				IT Systems - Hardware		-124.54	124.54
TOTAL						-124.54	124.54

Vadnais Lake Area Water Management Organization
Custom Transaction Detail Report
 January 1 through March 1, 2022

3:09 PM

03/02/2022

Accrual Basis

Type	Date	Num	Name	Memo	Account	Clr	Split	Amount	Balance
Jan 1 - Mar 1, 22									
Credit Card Charge	01/03/2022		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	36.00	36.00
Credit Card Charge	01/10/2022		adobe *photography plan		US Bank CC	√	Software	9.99	45.99
Credit Card Charge	01/14/2022		EDCO	engraved plate	US Bank CC	√	3.310 · Public Education	67.65	113.64
Credit Card Charge	01/14/2022		Survey Monkey	2022 renewal	US Bank CC	√	3.320 · Marketing	372.00	485.64
Credit Card Charge	01/19/2022		Prairie Moon Nursery	seed	US Bank CC	√	3.320 · Marketing	213.00	698.64
Credit Card Charge	01/19/2022		Conservastore.com	water saving faucet	US Bank CC		3.320 · Marketing	54.00	752.64
Transfer	01/20/2022			Funds Transfer	US Bank CC	√	Checking - 1987	-415.31	337.33
Credit Card Charge	01/26/2022		Adobe "Creative Cloud		US Bank CC	√	Software	32.20	369.53
Credit Card Charge	01/29/2022		REI	carp gear	US Bank CC	√	3.220 · Equipment	89.90	459.43
Credit Card Charge	01/31/2022		REI	dawn - gloves	US Bank CC	√	3.220 · Equipment	79.95	539.38
Credit Card Charge	01/31/2022		hologram	account refill	US Bank CC	√	Software	30.00	569.38
Credit Card Charge	02/03/2022		Google*SVCAPPS_VLAWM		US Bank CC	√	WEB	36.00	605.38
Credit Card Charge	02/11/2022		Prairie Moon Nursery	plants	US Bank CC		4th & Otter project	1,000.00	1,605.38
								1,605.38	1,605.38
Jan 1 - Mar 1, 22									

TEC Staff Memo – March 9, 2022

IV. Administration & Operations

A. Financial Report for March & authorization for Payment

Please find the March, 2022 Finance Report attached in the ePacket for review and approval.

B. Discussion on draft Partnership Project Planning Table -

See Attached staff memo with attachments in packet. Memo also contains requested TEC action.

C. Annual Report Highlights

Staff have prepared a draft 2021 Annual report per requirements from the Board of Water and Soil Resources (BWSR). This draft Annual Report contains all of the annual communications requirements except for the financial summary pages, and it was approved by the VLAWMO Board of Directors on February 23rd, 2022. The financial pages will be added upon the completion of the 2022 VLAWMO audit. The annual report was prepared in advance to help meet the BWSR annual report submission deadline. Questions and comments are welcome during the March 9th meeting.

The 2021 Annual Report summary is included in this TEC packet for review.

Highlights of the full annual report recommended to read include:

- Cost-share summary (pg 14)
- 2021 partners list (pg 33)
- Lambert Lake Pond and Meander summary (pg 12)
- Lambert Creek/Ditch 14 updates (pg 13)
- MS4 summary (pg 31)
- Letter from the administrator (pg 4)

Find the full draft annual report for review here:

https://www.vlawmo.org/files/2016/4504/7089/2021_Annual_Report_-_no_finance.pdf

Requested action: Approval of 2021 Annual Report document.

D. 2021 Water Monitoring Report Highlights

Brian Corcoran and Nick Voss will present highlights of the 2021 water monitoring report. Corcoran will provide a general overview and Voss will provide a preview of how water monitoring data will be presented in documents and social media throughout the year.

A 2021 water monitoring summary is included in this TEC packet for review.

March 9, 2022 VLAWMO TEC Meeting Staff Memo

Find the full 2021 monitoring report online here:

https://www.vlawmo.org/files/3616/4624/3567/2021_Monitoring_Report.pdf

E. Update on VLAWMO Board Officers for 2022

At the Feb. 23, 2022 meeting the VLAWMO Board approved the same 2022 officers as were in place in 2021: Jim Lindner -Chair, Dan Jones - Vice -Chair, and Patricia Youker -Tres./Secretary.

V. Programs

A. Education and Outreach

1. 2022 WAV and education program update

During the March 9th, 2022 meeting, Nick Voss will present a brief slideshow of this year's upcoming programs and partnerships. Highlights include:

- Blue Thumb partnership workshops
- Guest presenters: Organic Bob and Tracy Lawler
- Raingarden maintenance and education series with neighboring watersheds
- MS4 efforts with partners and neighboring watersheds
- Watershed Action Volunteers leadership

VI. Projects

A. 319/Wilkinson BMP update

During the February Board meeting, the Board approved: signing and filing the project easement, signing and proceeding with the MPCA grant contract, signing the amendment with Barr Engineering and continuing site investigation, and reviewed the letter to TMDL responsible parties and invitation to participate in an upcoming meeting with MPCA (date yet TBD). Following the Board meeting, the grant contract has been fully executed, the project easement is being filed with VLAWMO's legal counsel taking the lead on that action, and Barr Engineering has been notified that they are approved to proceed with site investigation. Project partners have been notified of progress, and communication efforts with regard to the project are in prep. The TMDL letter has been sent. VLAWMO staff will wait for responses before setting up a meeting with the MPCA to discuss possible allocation of load-reduction credits.

B. Lino Lakes Lake Amelia Update

Board approved a MOU between VLAWMO and City of Lino Lakes for financial partnership related to development of a Lake Amelia Subwatershed Management Plan /Feasibility Study. The purpose of the Study is to identify a preferred long term water quality and quantity management strategy for the ditch system located north of the Lake and to develop alternative concepts for possible BMP implementation along the corridor that enhances water quality, preserves flood storage and provides a potential recreational and wildlife habitat corridor. The MOU identifies that the City will manage the consultant developing the Study and the VLAWMO will reimburse City for the actual professional costs to complete the Study. The total amount of the reimbursement shall not to exceed \$15,000 (50% of proposed total study cost).

Some of the key elements of the scope of work include:

1. Review and summary of existing conditions
2. Preparation of Hydrologic modeling of existing and full build out
3. Recommendation on possible phasing plan for transition of the private ditch system into a publicly (City) managed system;
4. Development of site specific ditch corridor improvement concepts, phasing plan and alternatives analysis including but not limited to modification of the stream corridor to improve water quality ;
5. Rough cost estimate of concepts.

C. Biochar Update

The Board approved the amended SEH contract for engineering design services for the Biochar project located at Whitaker Pond. SEH has been working with VLAWMO staff to evaluate site conditions and advance design for the biochar filter that is the last BMP in the current 319 funded grant. The Lambert site was infeasible. An additional \$3,100 dollars was needed to complete some wetland delineation and permitting work along with some load reduction modeling.

Based on early estimates from SEH, anticipated project construction and observation costs range from \$78,800 to \$111,300. There is currently \$59,175 in 319 grant funds remaining for the project. Staff will also be using the approved BWSR Watershed Based grant funding for a portion of the local match (+/- \$33,000) for this project.

D. Sucker/East Vadnais Lake SLMR

The Sucker/East Vadnais Lake SLMR can be found at the following link for TEC review:

[https://www.vlawmo.org/files/7616/4495/9528/V. F. 2 Sucker and East Vadnais Lake SLMR Draft1.pdf](https://www.vlawmo.org/files/7616/4495/9528/V.F.2.Sucker.and.East.Vadnais.Lake.SLMR.Draft1.pdf)

The Board reviewed the SLMR at the February Board meeting. Please let VLAWMO staff know of any edits that you would like to see made. VLAWMO staff will give the document a final review following the TEC prior to posting.

Requested action: VLAWMO staff request approval by the TEC of the Sucker/East Vadnais Lake SLMR.

E. Aquatic Plant Management Board Position Update

After a short presentation and additional Board discussion, VLAWMO Board unanimously approved the attached resolution at the Feb. 23, 2022 Board meeting. The approved resolution identifies the Board position regarding VLAWMO's role in aquatic plant management (APM). The key element of the resolution is that the Board confirmed its role in aquatic plant management as:

- **Lead or partner** to conduct aquatic plant monitoring and/or education
- **Lead or partner** for in-lake treatment/removal of Curly-leaf pondweed for water quality benefits as they align with the priorities of the VLAWMO Capital Improvements and Programs Plan.

- **Technical support** and/or **partner** for management of other aquatic invasive species (AIS) besides Curly-leaf pondweed
- **Lead** in-lake treatment/removal of other AIS to support ecological health and/or water quality on a project-by-project basis
- **Lead or partner** on native-plant introduction to support a desirable native-plant community as determined by best available science

This role precludes APM for recreation benefit and assumes that financial participation will be decided based on available budgets.

To: VLAWMO TEC members

From: Phil Belfiori, Rachel Olm, and Dawn Tanner

Date: March 2, 2022

Re: Strategic organizational planning –TEC discussion on 5-year partnership table

Introduction

As discussed at the November 2021 TEC meeting, the VLAWMO is undertaking a strategic organizational planning process in 2022 as first step in updating the VLAWMO Watershed Management Plan (Plan). VLAWMO staff completed an amendment to the Plan in 2019 to increase implementation-level activities, broaden areas of relevant partner-based projects and update budget/project goals to incorporate planning since the Plan was developed. At this time, most of the reports and projects that were envisioned in the amended 2019 Plan have been completed or have evolved. VLAWMO staff is currently seeking direction from Board, TEC, and City staff in establishing high level planning for the next 5 years of partnership based projects to be incorporated into the next amendment of the Plan.

Background – January 26 Board Strategic Planning workshop

At the 1/26/22 Board workshop, the Board of Directed completed the discussed the following information:

- Reviewed project budget allocations from the past 6 years and looked at trends and changes over the past 6 budget years;
- Compared past project budget allocation to a Dec. 2021 Board survey rankings for priority watershed issues and Compared ranking of sub-issues to priority rankings;
- Examined and discussed what appear to be “gaps” or interesting /surprising trends from the Board survey results;

At the March 9th TEC meeting, Staff will provide a short summary of excerpts from a few of the key powerpoint slides discussed at the Jan. 26 Board workshop (see Attachment #1).

The Board then engaged in discussions on the presented information. Below is a summary of some of the key takeaways/notes from the Board discussion:

- The Board Affirmed priority ranking as shown by survey results
- Priority issues for surface water, groundwater, and data / capacity are in the right place
- Evolution of VLAWMO spending reflects priorities; they are now more comprehensive
- Flooding may be in better control now; affirms priority placement
- VLAWMO is here for if/when a project is needed related to AIS; affirms priority placement
- Interconnectivity of surface water and groundwater: How would the VLAWMO spend their funds on addressing groundwater?

Next Step in Process: Draft 5 year Partnership Project Table

Based on input from the Board workshop and from the other stakeholder feedback, the next step in the strategy organization planning process is the development of a draft 5 -year partnership project table. To start in this table development process, staff sent a rough draft table on Feb 8, 2022 to ten city /partner staff from:

- City of White Bear Lake (Connie T)
- City of Vadnais Heights (Jesse F. and Nick O.)
- City of Gem Lake (Emily J. and Jim L.)
- City of Lino Lakes (Andy and Mike G.)
- City of North Oaks (Kevin K. and Andrew Hawkins)
- White Bear Township (Dale R.)
- NOHOA (Kristie E.)
- St. Paul Water (Jeremy and Justine)
- Ramsey County Public Works (Molly C.)
- Ramsey Conservation Division (Ann W.)

Staff then held separate meetings with each of the above-mentioned staff from Feb. 18 – 28, 2022. The attached rough draft table (**Attachment #2**) has incorporated the feedback from these City and partners staff meetings. The six priority issues discussed at the on 1/26 Board is represented, to some extent, in the rough draft table.

Powerpoint slides of each subwatershed project list from the rough draft table will be presented at the March 9th TEC meeting.

Requested TEC Action: Staff request that TEC members review the attached rough draft 5 year partnership project table in preparation of the March 9 TEC meeting.

Once feedback and guidance from the TEC is considered and incorporated where appropriate, the next step will be to review the table with the VLAWMO Board Subcommittee in March /April 2022. As noted above, the table will then be incorporated into the 10 year VLAWMO Watershed Management Plan amendment process later in 2022.

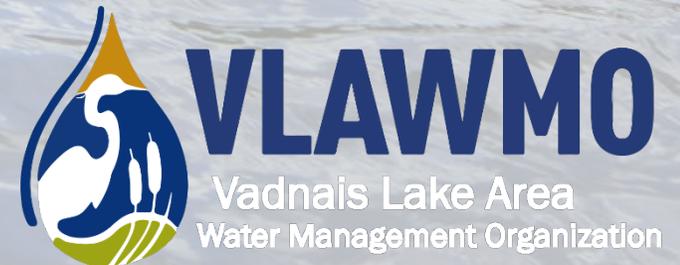
Proposed motion: TEC consider recommending to the VLAWMO Board /Board Subcommittee that the attached draft table generally captures a high-level plan for partnership projects for the VLAWMO.

Attached:

- **Attachment #1: Excerpts of PPT slides from 1/26/22 Board workshop**
- **Attachment #2: Rough draft 5 year partnership project table**
- **(PPT slides of partnership project table – not attached but will be presented at the March 9th TEC meeting)**

Excerpts from the January 26, 2022 Board Workshop - Strategic Organizational Planning Process

VLAWMO TEC Meeting
March 9, 2022



Overview of Strategic Process



Purpose: To review and establish understanding and consensus about the Board's priority issues so that staff may better guide implementation efforts in the next 5 years



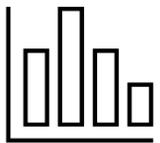
Current Priority Issues



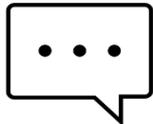
- Threatened and impaired **surface water and natural resources**



- Threatened or impaired **groundwater quality or quantity**



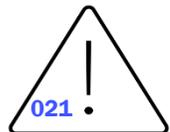
- Need for adequate **data, analysis, financing,** and staff **capacity** in order to meet goals and accomplish strategies



- Need for **education and involvement** from citizens and stakeholders

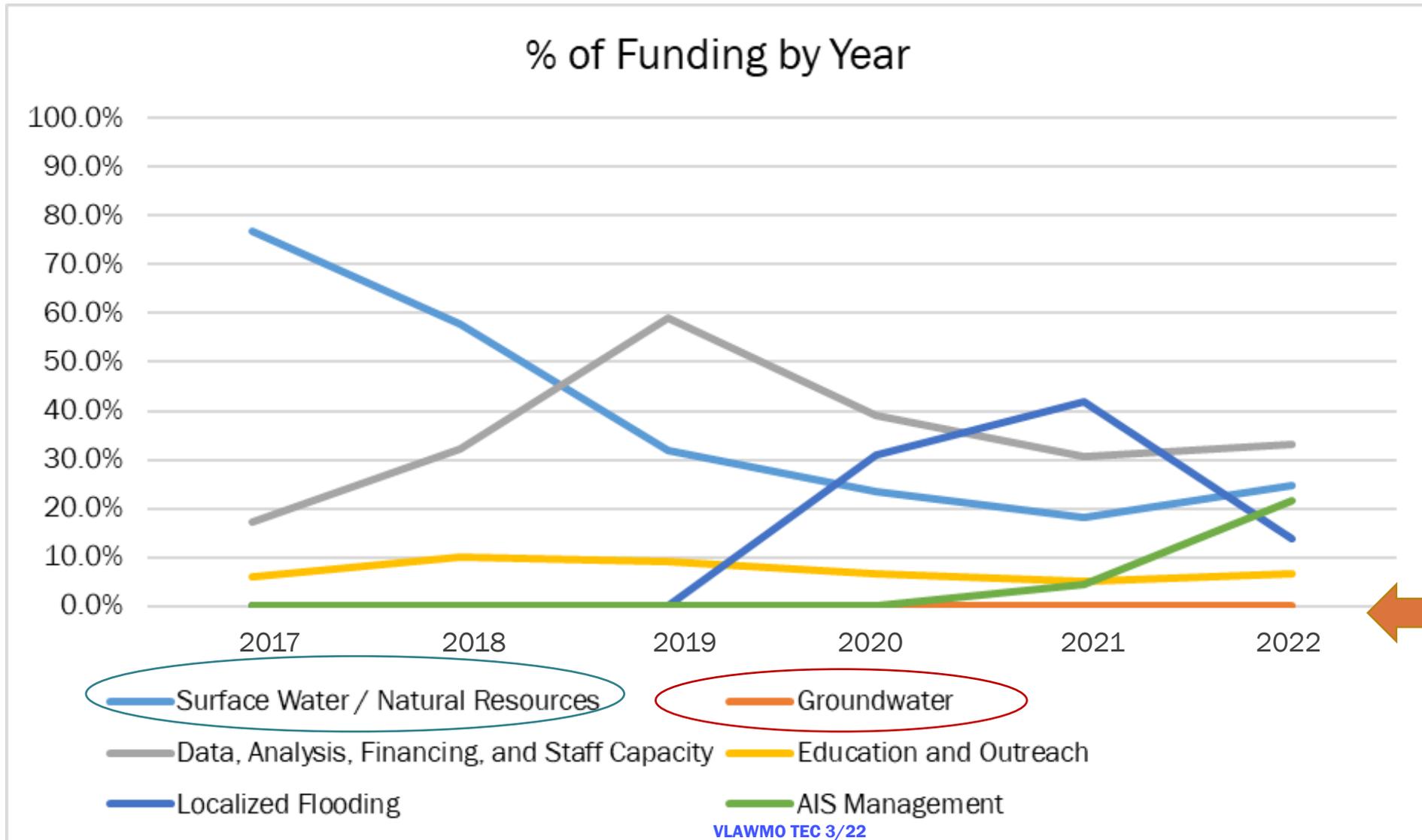


- **AIS Management**

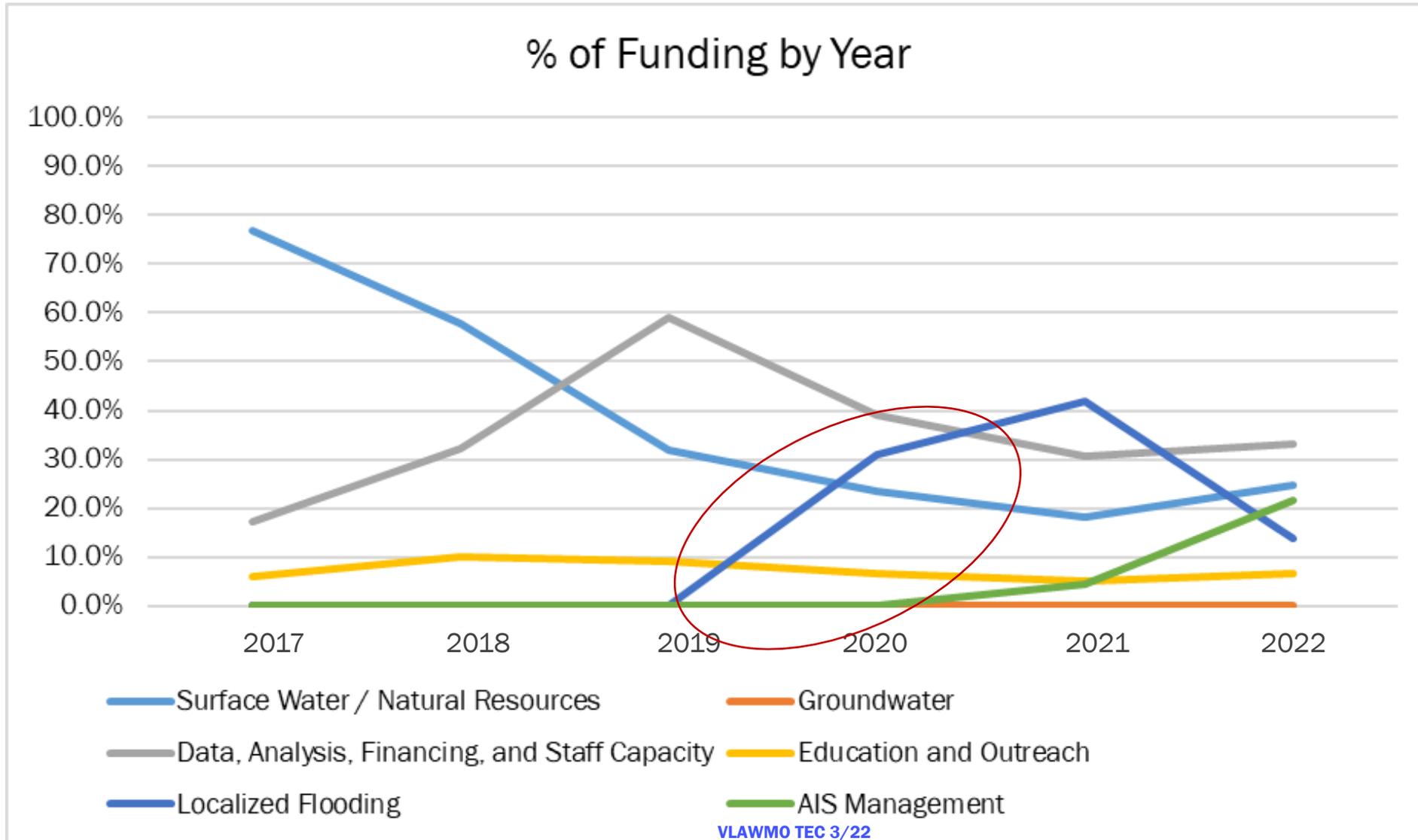


- **Localized Flooding**

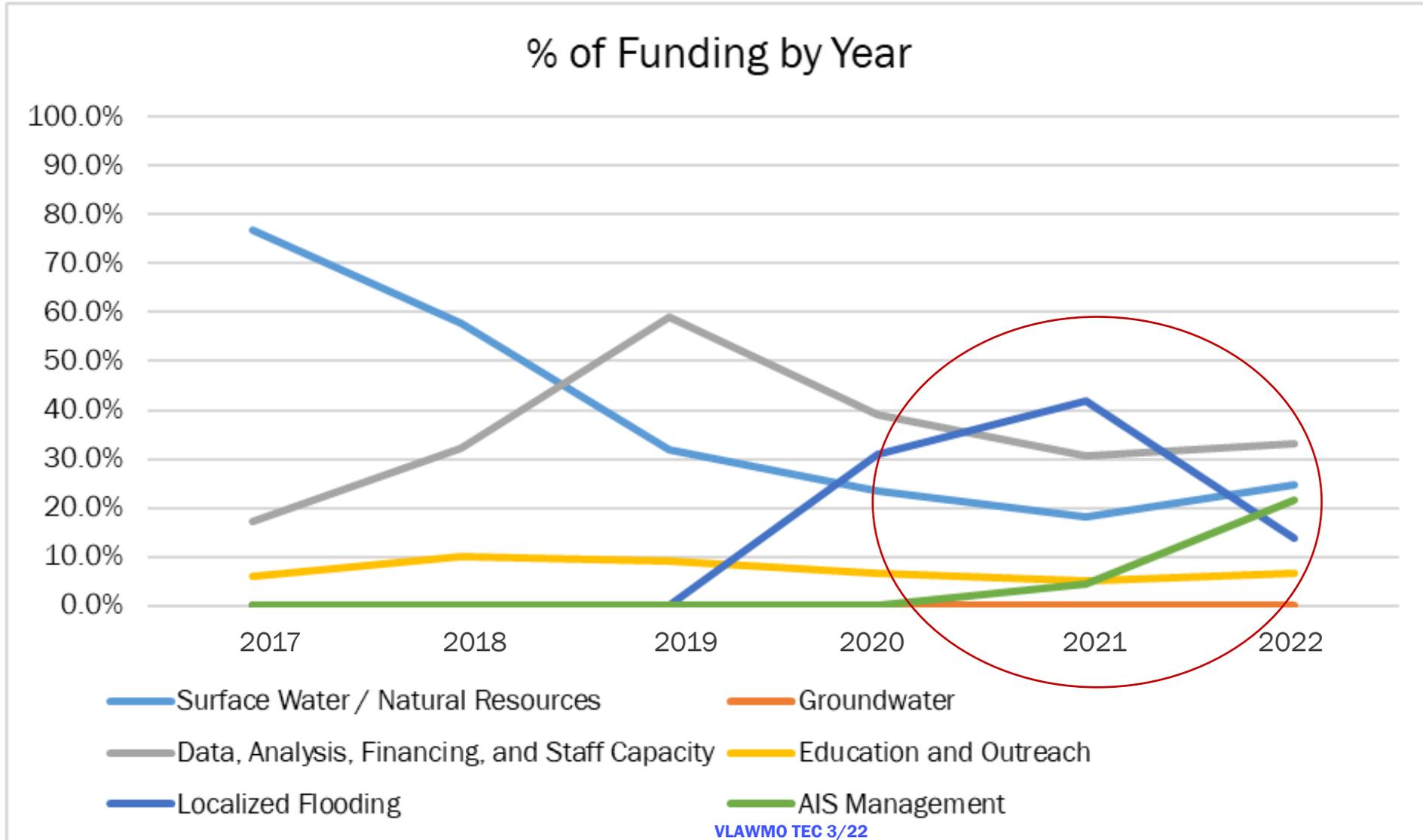
Key trend: Groundwater has no investment; Surface water is consistently high



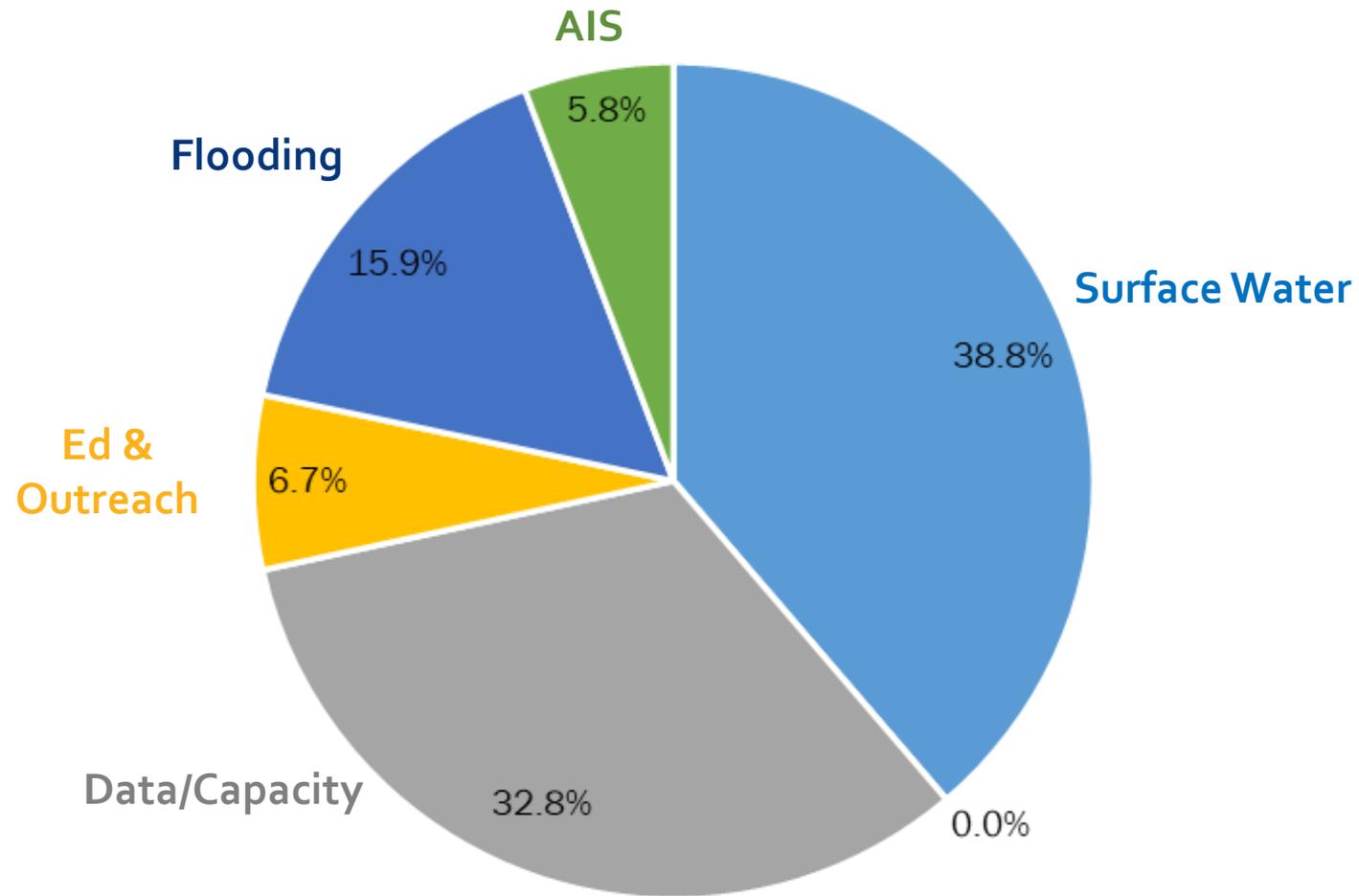
Key trend: Recent investment in localized flooding



Key trend: More comprehensive project balance emerging



Average Annual Budget (2017-2022)



- Surface Water / Natural Resources
- Data, Analysis, Financing, and Staff Capacity
- Localized Flooding
- Groundwater
- Education and Outreach
- AIS Management

Board Survey Results: Priority Issues



Priority Issue	Issue RANK
Surface water and natural resources	A
Groundwater quality or quantity	B
Data, analysis, financing, and capacity	C
Education and involvement	D
Localized flooding	E
AIS management	F



Comparison between budget and survey



Priority Issue	Issue RANK	2017-2022 Average \$
Surface water and natural resources	A	A
Groundwater quality or quantity	B	F
Data, analysis, financing, and capacity	C	B
Education and involvement	D	D
Localized flooding	E	C
AIS management	F	E

Comparison: Key takeaways



- Groundwater as a priority issue in survey much higher than \$
- Surface water consistent
- Localized flooding lower in survey
- AIS lowest

Priority Issue	Issue RANK	2017-2022 Average \$
Surface water and natural resources	A	A
Groundwater quality or quantity	B	F
Data, analysis, financing, and capacity	C	B
Education and involvement	D	D
Localized flooding	E	C
AIS management	F	E

LONG-RANGE HIGH LEVEL PROJECT PLANNING & BRAINSTORMING. VLAWMO & PARTNERS IMPLEMENTATION 2023-2027

March 9, 2022 TEC MEETING

Rough Draft for discussion purposes only. Do not cite or quote.

<i>grant & partnership dependent project / activities (would /may not be implemented without grant and or partnership funding)</i>	2023	2024	2025	2026	2027	Possible Proposed Partners &Notes
Subwatershed Activities						
Gem Lake						
Commercial area retrofit project feasibility study	\$25,000					City/ County
Commercial area retrofit &/or METRO Purple Line partnership-project implementation (Purple Line also in Goose sub)	\$15,000	\$150,000				Cities /County- state grant ?
Golf course water reuse				\$20,000	\$75,000	\$ amount identified is local match to grant only (assume larger CIP project)City, GC,
Lambert Creek						
Whitaker wetland retrofit project & reuse potential Columbia Park (soccer fld)	\$15,000	\$70,000				\$ amount identified is local match to grant only (assume larger CIP project) Cities/Township- state grant?
Debt services on Lambert Sheet Pile Replacement	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	repay loan
Public drainage program maintenance and inspection	\$20,000	\$15,000	\$15,000	\$100,000	\$10,000	City
Public drainage Water quality partnership projects (Branches)	\$25,000	\$10,000	\$30,000	\$20,000	\$40,000	cost sharing to City
Stormwater reuse project (local match for a BWSR grant)				\$20,000	\$85,000	\$ amount identified is local match to grant only (assume larger CIP project) Cities - state grant?
Whitaker Pond restoration (study /project /maint.)	\$10,000	\$60,000				City, County
Goose Lake						
Adaptive Lake Management (ALM) Plan (E Goose)	\$60,000					City (50/50)
E. Goose ALM implementation per ALM Plan (in lake projects)		\$130,000	\$55,000	\$130,000	\$55,000	City (50/50) and state grant ?
E. Goose ALM BMP watershed project per ALM plan					\$150,000	\$ amount identified is local match to grant only (assume larger CIP project), City
Shoreline restoration (White Bear Boat Works site; W Goose)		\$25,000				city
Polar Chev/61 channel restoration					\$25,000	City
Bruce Vento trail stormwater treatment opportunities (also Gem Lk. Subshed?)			\$50,000			City, County. State grant?
Spent Lime demonstration project (Oak Knoll Pond)	\$75,000					City- research grant ?
Birch Lake						
Otter Lake Road project (ramsey county) over and above BMP	\$30,000	\$40,000				City /County - state grant ?
Other regional water-quality project /shoreline or wetland rest.		\$20,000		\$20,000		City , BLID - grant
Subwatershed neighborhood raingarden projects	\$10,000		\$10,000		\$10,000	City - WBF grant ?
Lake Access project north end of Birch lk.		\$10,000				City, BLID
Rotary Park Restoration projects	\$10,000	\$20,000				City
Sports Center shoreline rest. Expansion	\$15,000					City (could be 2022)
Gilfillan-Tamarack-Black-Wilkinson-Amelia						
Local match for 319 small watershed grant project (Wilkinson)	\$113,000	\$113,000	\$10,000	\$113,000	\$113,000	\$ amount identified is local match to grant only (assume larger CIP project)NOC, City, SPRWS, 319 grant,
Feasibility study for Birch outlet channel (Wilkinson)			\$15,000			City, grant
CR J & intersection BMP project (Ramsey County street project)		\$50,000				\$ amount is VLAWMO cost share only. Ramsey County, grant?
Ash Street and intersection (Anoka Co. street project)			\$50,000			\$ amount is VLAWMO cost share only.Anoka County, City, NOC, grant?
Restoration partnership project (N. of Amelia per 2022 Feas Study)	\$10,000	\$10,000		\$100,000		City, state grant?
Sediment study (Tamarack & Wilkinson)	\$30,000					NOHOA
Internal load/alum Wilkinson (319 grant?)			\$100,000		\$100,000	NOC, City, MS4s, 319 Grant ?
Internal load/alum Tamarack (319 grant)			\$40,000		\$40,000	MS4, grant ?
Tamarack Park (partnership with County Parks)				\$25,000		County Parks, RCD
Cortec pond (enhancements to existing pond)			\$25,000			Township
Centerville Rd. and 96 pond (NW quad)				\$30,000		Township
Pleasant-Charley-Deep Lakes						
TMDL partnership projects			\$10,000	\$20,000	\$25,000	\$ amount is VLAWMO cost share only. City, MS 4, Grant?

Carp mgmt implementation (Pleasant)	\$10,000	\$20,000	\$10,000	\$20,000	\$10,000	SPRWS, NOHOA
Vegetation mgmt (Pleasant & Deep)		\$5,000		\$5,000		SPRWS, NOHOA
Subwatershed neighborhood raingarden projects			\$10,000		\$10,000	NOHOA, City, SPRWS
Joint city hall /NOHOA building	\$10,000	\$30,000				\$ amount is VLAWMO cost share only. City, NOHOA
Water and nutrient balance study for the 3 lakes				\$40,000	\$40,000	SPRWS, NOHOA
Sucker-East & West Vadnais Lakes						
TMDL report and plan development (W Vadnais)		\$20,000				\$ amount is VLAWMO cost share only. City, MS4, RWMWD
TMDL partnership projects (W Vadnais)			\$10,000	\$15,000	\$20,000	\$ amount is VLAWMO cost share only. City, MS4, RWMWD
Vadnais-Sucker Channel vegetation restoration				\$20,000		City, SPRWS, RCD
Vadnais-Sucker Lake Park ongoing restoration work			\$10,000	\$10,000		GRG, County, SPRWS
Sediment study (W Vadnais)	\$20,000					RWMWD
Edgerton St. & Centerville project (Ramsey County)	\$30,000	\$10,000				resiliency grant?
Trail project - Vadnais Blvd to County Road E				\$40,000		City, County
Internal load mgmt/alum (W Vadnais)			\$75,000		\$75,000	RWMWD, MS4 in TMDL
Stormwater study Meadowood area (city of VH)		\$15,000				City
Stormwater water quality retrofit on Meadowood				\$15,000		City
North Oaks GC water reuse			\$35,000			State Grant
Rough fish/AIS management (W Vadnais)	\$20,000	\$15,000	\$15,000	\$15,000	\$10,000	\$ amount is VLAWMO cost share only. RWMWD
Watershed Wide Partnerships						
VLAWMO cost shares	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000	Cities /township/County
Groundwater quantity cost-share program	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	Cities /township/County
Assist MS4 programming/implementation	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	Cities /township/County
Wetland assessment plan		\$15,000		\$15,000		Cities
Maintenance and operation (built projects & restorations)	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	
BWSR WBF grant (match)	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	Cities /township/County
Subwatershed Activities Total						
	\$708,000	\$1,018,000	\$750,000	\$978,000	\$1,088,000	<- Dependent on Partner Contribution

LAKE DATA & PROGRAMS

VLAWMO's primary source of income is Storm Sewer Utility (SSU) fees. The average single family homeowner in VLAWMO pays \$57.96/year (\$4.83/month) to support projects and programs that improve the watershed.

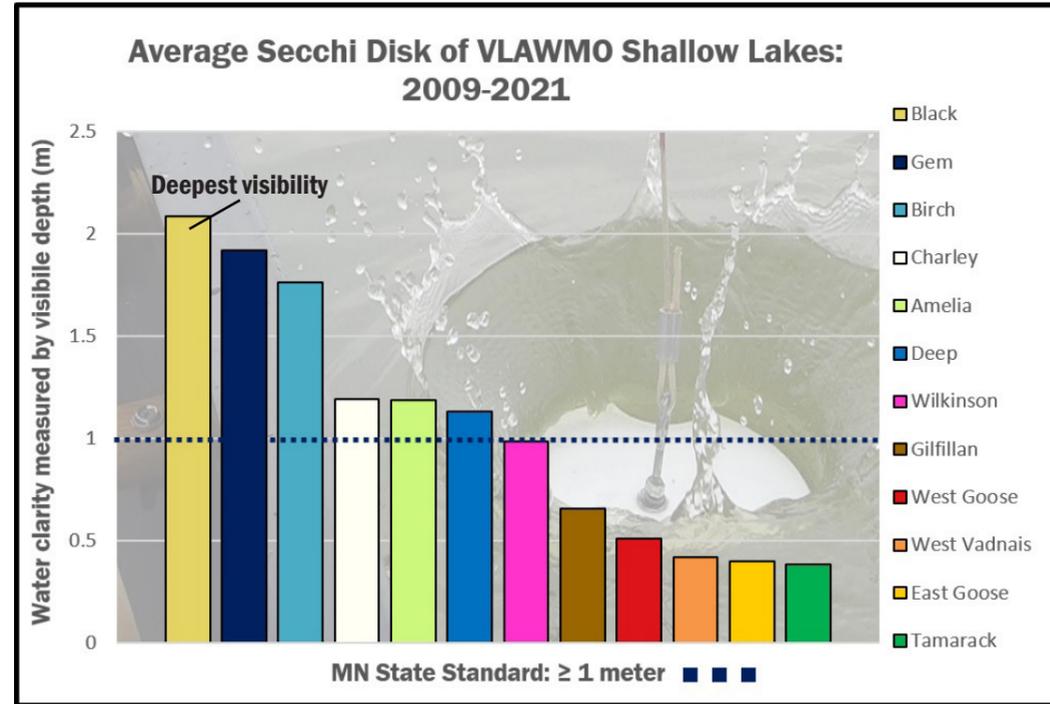
Additional funding for projects comes from grants from the Minnesota Board of Water and Soil Resources (BWSR) and the Legislative-Citizen Commission on Minnesota Recourses (LCCMR).

2021 Quick Stats:



STATE OF THE LAKES

See the 2021 water monitoring report for more on VLAWMO lake impairments and their causes.



VLAWMO has seven lakes impaired for nutrients, and Lambert Creek is impaired for bacteria during storm events. To improve these waterbodies VLAWMO looks at the unique needs of each lake inside the lake and in its surroundings. A Secchi disk (graph, left) is one of several tools we use measure water clarity and assess lake health.

STUDIES

Successful projects are backed by months or even years of planning and studies. Check out our full 2021 annual report for more on this year's watershed studies:

- Invasive common carp studies for future removals
- East Goose Adaptive Lake Management
- Wilkinson Lake sub-watershed planning and feasibility study
- Ash Street Spent Lime Study in Lino Lakes
- ...and more!

COST-SHARE PROGRAM

VLAWMO completed 16 cost-share grants in 2021. These grants supported the creation of raingardens, native pollinator plantings, and shoreline restorations, and installed number of new rainbarrels. All together the projects infiltrate an estimated 384,374 gallons of water per year. VLAWMO awarded a total of \$55,873 funds for these projects. If you're ready to renovate for beauty and watershed improvement, check out VLAWMO.org/grants for more info and 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 a nearby stormdrain is a convenient way to support clean water, and it also keeps the stormdrain system working smooth. This voluntary program allows users to name their drain and report cleanings to track our impact. Visit adopt-a-drain.org to find your drain and get started. Yard signs are available to help spread the word.

START AT HOME

For water-friendly lawncare tips, smart deciding, and more tips: vlawmo.org/residents
Ready to renovate? Visit vlawmo.org/grants to see how we can support raingardens, native plants, and rainbarrels - beauty and function!

ADOPT A STORM DRAIN



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, long-term, and citizen advisory roles are available.

www.vlawmo.org/get-involved



WATERSHED AT A GLANCE

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.

2021



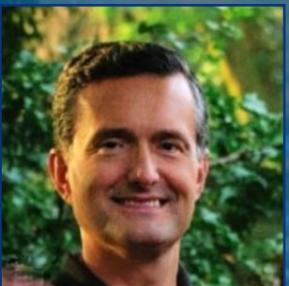
From the administrator

Greetings!

2021 was a very active year for VLAWMO. The organization implemented two regional partnership-based projects including the Lambert Lake Pond and Meander project and the Lambert Creek/Ditch 14 maintenance and dredging project. The partnerships that surrounded each of these projects were critical to achieving an outcome that met a variety of stakeholder needs.

The VLAWMO cost-share program is seeing a surge in curb-cut raingardens, which are raingardens that capture stormwater from the street. In 2021, VLAWMO implemented 16 cost-share grants in 2021. Each project helps us keep water clean and represents a community approach to protecting the watershed. See the back page for how to join us in the pursuit, and its ok to start small - it all adds up!

There's much more to share, so we hope you enjoy this 2021 summary and the full 2021 annual report. It's an honor to work with an outstanding VLAWMO Board of Directors, Technical Commission, and staff that make our work possible. The team looks forward to an even more exciting 2022 and beyond.



Phil Belfiori
651-204-6073

Phil.Belfiori@vlawmo.org

Board of Directors:

Jim Lindner
Gem Lake
Chair

Dan Jones
White Bear Lake
Vice Chair

Patricia Youker
Vadnais Heights
Treasurer

Ed Prudhon
WB Township

Tom Watson
North Oaks

Rob Rafferty
Lino Lakes

WHAT DID WE DO IN 2021?

- ★ Volunteer and public booth events
- 💧 Water monitoring sites
- 🟡 Workshops and planning efforts
- 🟠 Projects

NORTH OAKS BIOSWALE

Minnesota Water Steward Sierra Weirens led a bioswale renovation with help from VLAWMO and the North Oaks Home Owner's Association (NOHOA). The new bioswale supports drainage into Giffilan Lake.



CARP TRACKING

From 2019 to 2020 staff and partners conducted several studies and tracking efforts to understand the invasive Common Carp population in Pleasant Lake. From this foundation, VLAWMO is able to pursue invasive carp removal in 2022. Similar efforts are underway at West Vadnais Lake.



TEAL POND RESTORATION

This wetland restoration from 2020 continued into 2021 through a partnership between VLAWMO, Tamarack Nature Center (TNC), and Ramsey County. With invasive buckthorn removed in 2020, VLAWMO and TNC volunteers helped plant native shrubs around Teal Pond in May and September.



DITCH 14 MAINTENANCE

VLAWMO conducted ditch maintenance with the City of Vadnais Heights. A portion of Lambert Creek and Branch Ditch #5 was dredged with debris clearing and bank re-seeding.



GET THE LEAD OUT

VLAWMO teamed up with partners at the Get the Lead Out program (MN Pollution Control Agency) to install a lead drop-off box. The effort encourages switching to non-lead sinkers and tackle to protect swans and other wildlife.



LAMBERT LAKE MEANDER

A segment of Lambert Creek/Ditch 14 was switched over to a meander. This provides slower flow rates and enhanced floodplain access into the Lambert Lake wetland.



LAMBERT LAKE POND

Originally built in 2005, Lambert Lake Pond was renovated with a new steel sheetpile, extending the pond's valuable water storage into the future.

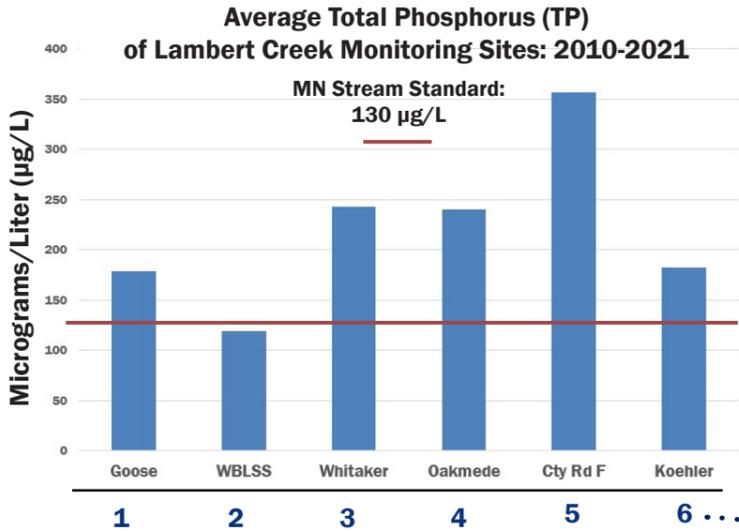


EAST GOOSE ALM

The East Goose Adaptive Lake Management web hub was launched under vlawmo.org/projects. This year staff and City of WBL partners completed a stakeholder engagement process and a Fall fish survey.



Lambert Creek:



Lambert Creek is impaired for high bacteria during storm events, and although not officially impaired for nutrients, the creek monitoring results show high nutrient levels. Water samples from six sites are taken along the creek every other week from May to September (locations on map, right). E. coli bacteria has been detected as largely avian and canine.

Waterbody impairments: VLAWMO has several lakes listed as impaired waterbodies. For a lake to be listed as impaired, it must show a trend in being above standards for several years. Impairments can be assigned for nutrient levels, bacteria, chloride, or others. VLAWMO's lakes are classified as shallow, but Pleasant and East Vadnais are classified as deep.

Citizen Science

Aquatic Invasive Species:

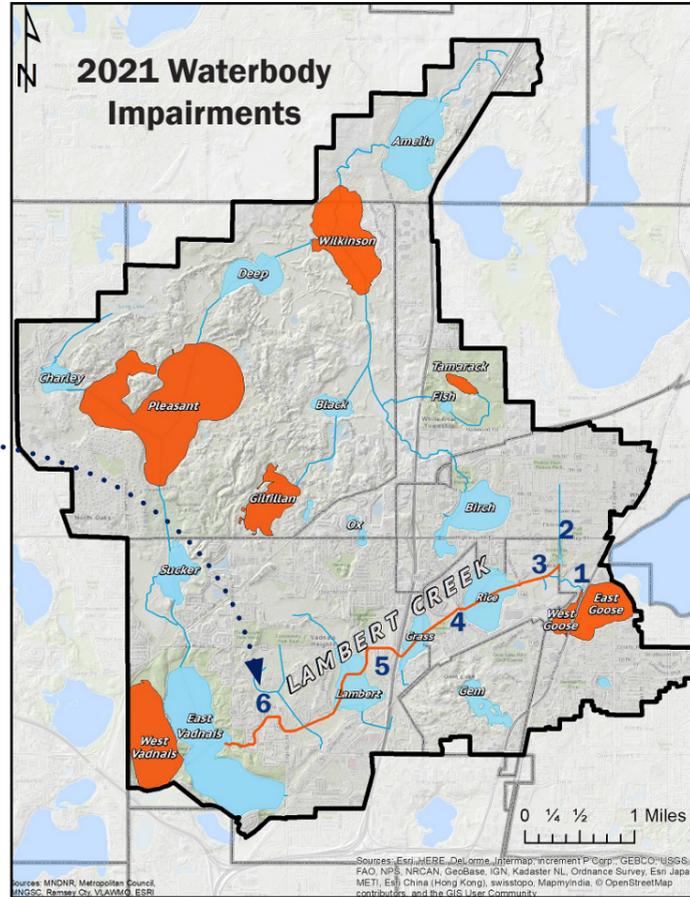
VLAWMO partners with Ramsey County Soil and Water Conservation Division to monitor for new infestations of aquatic invasive species. In this program, trained volunteers gather aquatic vegetation samples throughout the growing season. This provides the opportunity for early detection before infestations become problematic or spread to other lakes.

Macroinvertebrates:

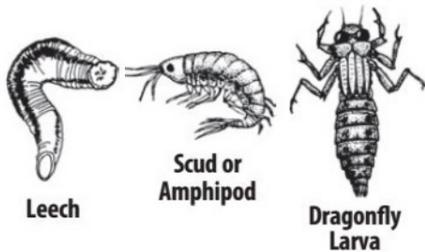
To compliment chemistry monitoring, VLAWMO utilizes bio-monitoring to gauge what's living in lakes or streams. This data provides a long-term snapshot of the water's health, because different organisms favor certain water quality and habitat conditions. Based on what we find in our samples, we gain clues about what's happening in the aquatic habitat over time and through the seasons.

This effort is supported by volunteers using the Leaf Pack program. In 2021, four locations were monitored along Lambert Creek in addition to the Charley and Deep Lake channels. Visit vlawmo.org/get-involved to learn how to be involved with this exciting citizen science program.

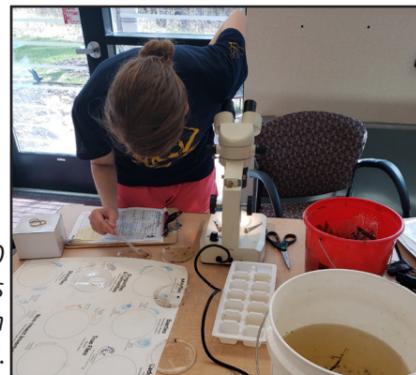
Visit VLAWMO.org/residents to learn how you can help take care of the watershed from home.



Above: An aquatic vegetation sample taken at Birch Lake.



Examples of macroinvertebrates documented in a Leaf Pack.



Right: A VLAWMO volunteer analyzes a Leaf Pack from Lambert Creek.



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Vadnais Lake Area Water Management Organization

2021 Water Monitoring Summary



VLAWMO's monitoring program consists of:

- 15 Lakes: Grab samples
- Lambert Creek: Grab samples, remote sensors
- Water quality sampling every other week from May to September: Dissolved oxygen, conductivity, chlorophyll-A, chloride, phosphorus, nitrates, total suspended solids, turbidity, temperature, bacteria, pH, and storm sampling



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

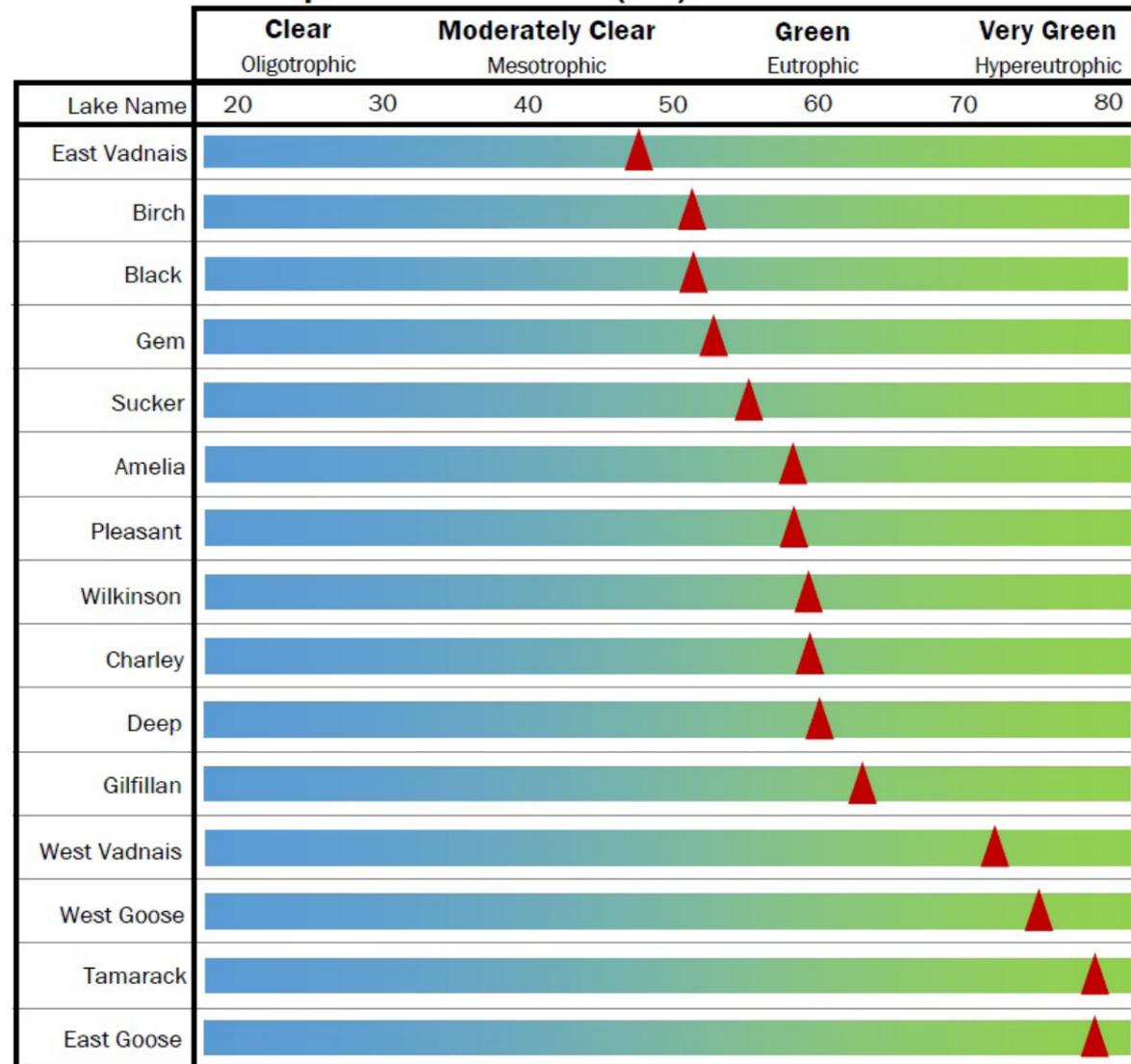
The Watershed at a Glance

See the 2021 water monitoring report at vlawmo.org/reports for more information.

Thinking like a lake scientist:

Lake science is a continual quest for data, trends, and critical thinking. Lakes can vary from year to year depending on what's happening either within or around the lake. Sometimes trends aren't visible to the naked eye. Because of this, lake scientists take a long-term approach and piece together multiple variables to draw conclusions.

Trophic State Indexes (TSI) of VLAWMO Lakes: 2021



Definitions:

TSI: Trophic Status Index. 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.

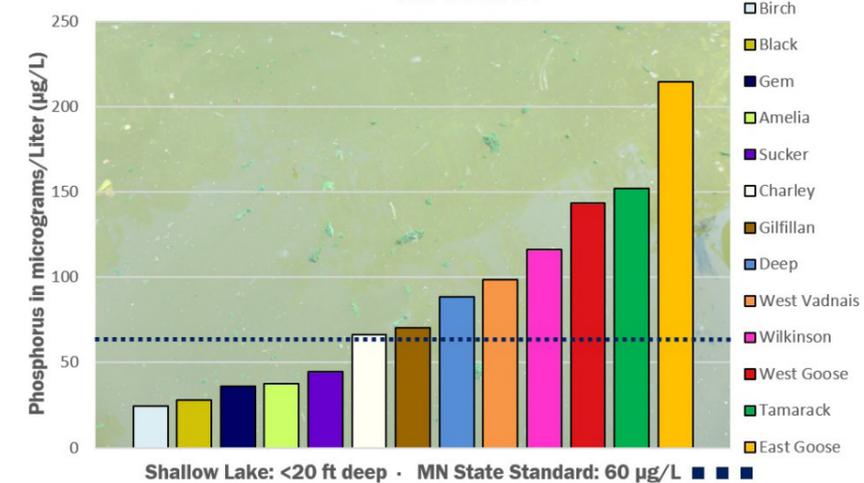
Hypereutrophic: Exceptionally high nutrients causing dense algae and macrophytes. Rough fish (bullhead, carp) dominate, blue-green algae most likely, fish kills possible during algae blooms. Episodes of severe taste and odor.

Nutrients and Chlorides

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



Average Total Phosphorus of VLAWMO Shallow Lakes: 2010-2021



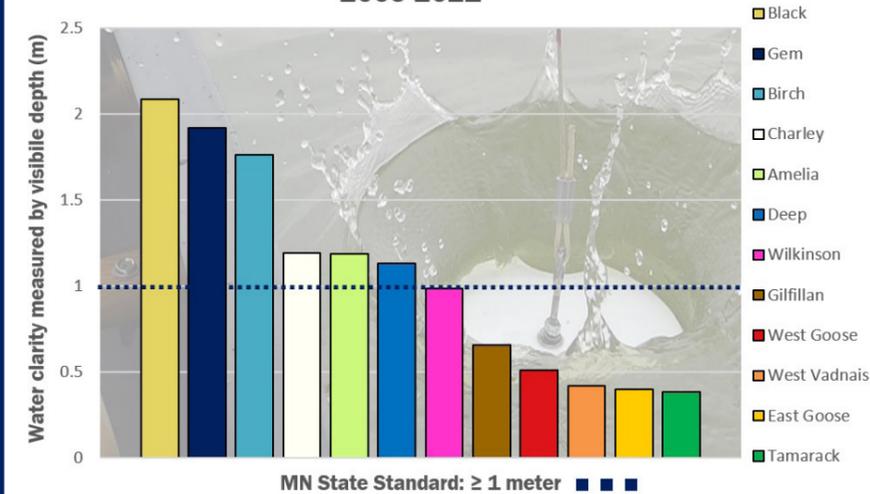
Phosphorus: What is it?

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:

High phosphorus levels determine whether the water looks like pea soup or an aquarium. Excessive algae can produce foul smells and toxins harmful to humans and pets. To control this, it's important to keep sediment and nutrients on the landscape and out of waterbodies.

Average Secchi Disk of VLAWMO Shallow Lakes: 2009-2021



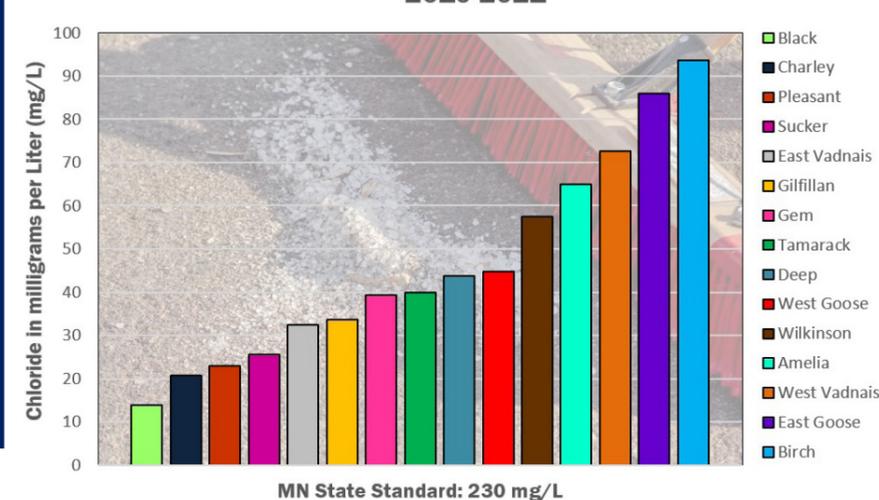
Secchi Disk: What is it?

A Secchi disk is a 20 cm disk that is lowered into the water until it can no longer be seen by the observer. This depth of disappearance, called the Secchi depth, is a measure of the transparency of the water.

What it means to me:

Transparency is the most basic indicator to assess risks for almost any lake use, and informs what to be aware of downstream. Poor transparency means there's something extra in the water that needs to be looked at. Transparency can be affected by pollutants or sediment draining into the lake, or by existing sediments from the lake bottom re-circulating into the water.

Average Chloride Levels of VLAWMO Lakes: 2010-2021



Chloride: What is it?

Chloride is a common ingredient in salt 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:

Chloride poses threats to freshwater and even drinking water supplies, because there is no economical way to remove it. VLAWMO currently has no waterbodies impaired for chloride, but some lakes show upward trends. Lake chloride levels can decline as water flushes through, but that chloride will be present wherever the water goes.