

Black Dog Watershed Management Commission

AGENDA

Wednesday, November 15, 2023

5:00 P.M.

COMMISSIONERS:

Curt Enestvedt, Chair

Mike Hughes, Vice Chair

Scott Thureen, Secretary/Treasurer

Rollie Greeno

Greg Helms, Alternate

- I. Approval of Agenda
- II. Approval of Minutes – October 18, 2023
- III. Approval of Accounts Payable
- IV. Review Budget Performance Reports
- V. Approval of Final 2022 Watershed Management Plan Goal Tracking Summary Sheets
- VI. Approval of Revisions to New Report Format For Use In Reporting Management Level Monitoring Results
- VII. Approve 2024 Dakota SWCD Workplan and Budget
- VIII. Miscellaneous
- IX. Adjournment

The City of Burnsville and Black Dog Watershed Management Organization do not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in the admission or access to, or treatment or employment in, its programs, activities, or services.

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Black Dog Watershed Management Commission

Agenda Background November 15, 2023

I. Approval of Agenda

Agenda enclosed.

Action Requested: A motion be considered to approve the Agenda.

II. Approval of Minutes from the October 18, 2023, Meeting

Minutes enclosed.

Action Requested: A motion be considered to approve the Minutes from the October 18, 2023, meeting.

III. Approval of Accounts Payable

Accounts payable list enclosed.

Action Requested: A motion be considered to approve the accounts payable list as submitted by staff.

IV. Review of Budget Performance Reports

Current Budget Performance Reports enclosed.

Action Requested: No formal action required.

V. Approval of Final 2022 Watershed Management Plan Goal Tracking Summary Sheets

The packet includes the final draft of the goal tracking summary sheets.

Action requested: A motion be considered to approve the goal tracking sheets

VI. Approval of Revisions to New Report Format for Use in Reporting Management Level Monitoring Results

The packet includes a final draft of the new proposed format for this reporting. This new format includes revisions that were discussed in the last meeting. Staff will go over these changes at the meeting.

Action requested: A motion be considered to approve the management level monitoring format.

VII. Approval of 2024 Dakota SWCD Work Plan and Budget

Included in the packet is the proposed 2024 Dakota SWCD Work Plan and Budget. Staff will discuss this plan at the meeting.

Action requested: A motion be considered to approve the 2024 SWCD Workplan and budget.

VIII. Miscellaneous

Summary of October Technical Advisory Meeting

IX. Adjournment

DRAFT
Meeting Minutes
October 18, 2023

MEMBERS PRESENT

Mike Hughes, Vice Chair
Scott Thureen, Secretary/Treasurer
Lynette Dunsworth
Greg Helms, Alternate

MEMBERS ABSENT

Curt Enestvedt, Chair
Rollie Greeno

OTHERS PRESENT

Greg Williams – Barr Engineering
Karen Chandler – Barr Engineering
Jared Shepherd – Campbell Knutson
Ann Messerschmidt – City of Lakeville
Daryl Jacobson – BDWMO Administrator
Tammi Carte – BDWMO Secretary

Mike Hughes, Vice Chair, called the October 18, 2023, meeting to order at 5:00pm.

I. Approval of Agenda

Motion by Thureen, second by Dunsworth, to approve the October 18, 2023, Agenda as presented.

Ayes – Hughes, Thureen, Dunsworth, Helms

Nays – None

Motion Carried Unanimously

II. Approval of Minutes from the September 20, 2023, Meeting

Motion by Helms, second by Dunsworth, to approve the September 20, 2023, Minutes as presented.

Ayes – Hughes, Thureen, Dunsworth, Helms

Nays – None

Motion Carried Unanimously

III. Approval of Accounts Payable

Motion by Thureen, second by Helms, to approve accounts payable to Barr Engineering in the amount of \$5,614.68 for services from September 2, 2023, through September 29, 2023; and, to Campbell Knutson in the amount of \$245.00 for August 2023 general services; and, to Dakota County Soil & Water Conservation District in the amount of \$8,520.00 for services from July 2023 through September 2023.

Ayes – Hughes, Thureen, Dunsworth, Helms

Nays – None

Motion Carried Unanimously

IV. Review Budget Performance Reports

Daryl Jacobson, BDWMO Administrator, Burnsville's contribution invoice was presented to City Council and approved. All contributions have been received to date except Burnsville's which will be paid next week.

No Formal Action Required

V. Review 2022 Watershed Management Plan Goal Tracking Summary Sheets

Draft copies of the goal tracking summary sheets for the 2022 BDWMO Plan were provided to the Commission for review prior to tonight's meeting. The first half of the tracking forms were reviewed at the September 2023 meeting.

Greg Williams, Barr Engineering, reviewed the remaining forms and requested input from the Commission on content and layout of the tracking sheets. These sheets will be used to record the progress of all trackable plan goals.

Motion by Dunsworth, second by Thureen, to approve the goal tracking summary sheets format.

Ayes – Hughes, Thureen, Dunsworth, Helms

Nays – None

Motion Carried Unanimously

VI. Review Draft Report Format for Reporting Management Level Monitoring Results

A draft of the proposed format for this reporting was provided to the Commission for review prior to tonight's meeting. This new format was developed because of changes in the 2022 Watershed Management Plan.

Greg Williams, Barr Engineering, proposed streamlining the water quality management report format to include additional monitoring data. He suggests including a map zoomed to the specific lake being monitored with arrows indicating the flow pattern. The Commission wants cumulative monitoring data from previous years to be part of the report. Chloride concentration data is new to the report and has not been monitored in previous years. Commissioners would like information about positive and healthy aquatic vegetation included in the report. The water quality results should be formatted as bulleted conclusions. There was some discussion about graph coloration to make results more noticeable.

Black Dog WMO recommends excluding the World Health Organization (WHO) published levels for harmful algal blooms. Using these numbers does not give a valid comparison of levels. There are too many

variables affecting levels and timing of levels. An alternative to using WHO's numbers would be to include statements such as, if the water looks like this, stay out of the water, and include images to support the condition. With the more accessible format of the report the Commission agrees with including resources on the last page of the report.

No Formal Action Required

VII. Miscellaneous

1. Commission applications have been received.
2. The next meeting is scheduled for November 15, 2023. This meeting might include new Commission members.
3. The December 2023 meeting may be canceled.

VIII. Adjournment

Motion by Thureen, second by Dunsworth, to adjourn at 5:42pm.

Ayes – Hughes, Thureen, Dunsworth, Helms

Nays – None

Motion Carried Unanimously



Accounts Payable November 15, 2023 Meeting

Barr Engineering - Services from September 30, 2023 through October 27, 2023

Engineering	\$	4,528.50
Special Projects: General Fund - 2023 Management Level Monitoring - Keller Lake	\$	260.50
	\$	<u>4,789.00</u>

Accounts Payable Total \$ 4,789.00

resourceful. naturally.
engineering and environmental consultants



Remittance address:

Lockbox 446104

PO Box 64825

St Paul, MN 55164-0825

November 2, 2023

Black Dog Watershed Management Commission
City of Burnsville
13713 Frontier Court
Burnsville, MN 55337-4720

Attn: Mr. Daryl Jacobson

RE: Engineering & Environmental Consulting Services

**Invoice of Account with
BARR ENGINEERING COMPANY**

For professional services during the period of September 30, 2023 through October 27, 2023

TOTAL PAYABLE THIS INVOICE:	\$ 4,789.00
Allocation:	
Engineering	\$ 4,528.50
Special Projects: General Fund	
• Keller Lake 2023 Management Level Monitoring	\$ 260.50

Barr declares under the penalties of law that
this account, claim, or demand is just and that
no part of it has been paid.

OK
11-7-23

A handwritten signature in blue ink, with the date "11-7-23" written below it.

A handwritten signature in blue ink that reads "Karen L. Chandler".

Karen L. Chandler
Vice President

BUDGET SUMMARY - 2023 FY
Black Dog Watershed Management Commission
through October 27, 2023

Work Description	Pre-2023 Costs	2023 Barr Budget	Current Invoice	Spent This Year	Balance
Engineering	-----	43,000.00 ¹	4,528.50	27,600.57	15,399.43
Special Projects: General Fund					
<i>Reporting on Lac Lavon 2022 Water Quality Monitoring</i>	-----	4,700.00	0.00	4,323.50	376.50
<i>Keller Lake 2023 Management Level Monitoring</i>		19,100.00	260.50	13,241.65	5,858.35
Subtotal -- Special Projects: General Fund	-----	23,800.00	260.50	17,565.15	6,234.85
Water Quality Monitoring					
<i>Reporting on 2022 Orchard Lake Habitat Monitoring</i>	-----	9,200.00	0.00	8,957.00	243.00
<i>Update Trend Analyses</i>	-----	2,000.00	0.00	810.00	1,190.00
Subtotal -- W.Q. Monitoring	-----	11,200.00	0.00	9,767.00	1,433.00
Public Education					
<i>Watershed Annual Report</i>	-----	4,500.00	0.00	4,196.50	303.50
<i>Annual Activity Report (BWSR)</i>	-----	2,100.00	0.00	2,272.50	(172.50)
Subtotal -- Public Education	-----	6,600.00	0.00	6,469.00	131.00
Total Services	-----	84,600.00	4,789.00	61,401.72	23,198.28

Notes:

¹ 2023 budget increase from \$31,000 to \$43,000 authorized at 2/15/2023 meeting for BDWMO Plan goal tracking



INVOICE

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Phone: 952-832-2600; Fax: 952-832-2601
FEIN #: 41-0905995 Inc: 1966

Remittance address:
Lockbox 446104
PO Box 64825
St Paul, MN 55164-0825

Mr. Daryl Jacobson
Black Dog WMO
City of Burnsville
13713 Frontier Court
Burnsville, MN 55337-4720

November 2, 2023
Invoice No: 23190374.23 - 8

Total this Invoice	\$4,528.50
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Regarding: BDWMO 2023 Engineering Services

Professional Services from September 30, 2023 to October 27, 2023

Job: 2023 Engineering Services

Task: 001 Attend BDWMO Meetings

Labor Charges

	Hours	Rate	Amount
Engineer / Scientist / Specialist III			
Williams, Sterling	1.90	165.00	313.50
	1.90		313.50
Subtotal Labor			313.50
Task Subtotal			\$313.50

Task: 002 Miscellaneous Consulting

Labor Charges

	Hours	Rate	Amount
Vice President			
Chandler, Karen	5.80	200.00	1,160.00
Engineer / Scientist / Specialist III			
Williams, Sterling	3.40	165.00	561.00
Support Personnel II			
Nypan, Nyssa	2.10	110.00	231.00
	11.30		1,952.00
Subtotal Labor			1,952.00
Task Subtotal			\$1,952.00

Task: 005 BDWMO Plan Goal Tracking

Labor Charges

	Hours	Rate	Amount
Vice President			
Chandler, Karen	.20	200.00	40.00

Terms: Due upon receipt. 1 1/2% per month after 30 days. Please refer to the contract if other terms apply.

Engineer / Scientist / Specialist III

Williams, Sterling

1.70

165.00

280.50

1.90

320.50

Subtotal Labor

320.50

Task Subtotal

\$320.50

Task: 006 2024 monitoring report template

Labor Charges

	Hours	Rate	Amount	
Vice President				
Chandler, Karen	2.70	200.00	540.00	
Engineer / Scientist / Specialist III				
Williams, Sterling	8.50	165.00	1,402.50	
	11.20		1,942.50	
Subtotal Labor				1,942.50
				Task Subtotal
				\$1,942.50
				Job Subtotal
				\$4,528.50
				Total this Invoice
				\$4,528.50

	Current	Prior	Total	Received	A/R Balance
Invoiced to Date	4,528.50	29,541.07	34,069.57	26,104.07	7,965.50

Outstanding Invoices

Invoice	Date	Balance
7	10/10/2023	3,437.00
Total		3,437.00

Thank you in advance for the prompt processing of this invoice. If you have any questions, please contact Karen Chandler, your Barr project manager, at (952) 832-2813 or email at kchandler@barr.com.



INVOICE

Barr Engineering Co.
4300 MarketPointe Drive, Suite 200
Minneapolis, MN 55435
Phone: 952-832-2600; Fax: 952-832-2601
FEIN #: 41-0905995 Inc: 1966

Remittance address:
Lockbox 446104
PO Box 64825
St Paul, MN 55164-0825

Mr. Daryl Jacobson
Black Dog WMO
City of Burnsville
13713 Frontier Court
Burnsville, MN 55337-4720

November 2, 2023
Invoice No: 23190375.23 - 8

Total this Invoice	\$260.50
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Regarding: Management Level Water Quality Monitoring

Professional Services from September 30, 2023 to October 27, 2023

Job:	KEL	Keller Lake 2023 Water Quality Monitoring
Task:	100	Monitoring Data Mgmt & Proj Mgmt

Labor Charges

	Hours	Rate	Amount	
Engineer / Scientist / Specialist III				
Olson, Terri	.10	160.00	16.00	
Williams, Sterling	.20	165.00	33.00	
Engineer / Scientist / Specialist II				
Menken, Kevin	1.50	135.00	202.50	
Technician I				
Wolf, Matthias	.10	90.00	9.00	
	1.90		260.50	
Subtotal Labor				260.50
		Task Subtotal		\$260.50
		Job Subtotal		\$260.50
		Total this Invoice		\$260.50

	Current	Prior	Total	Received	A/R Balance
Invoiced to Date	260.50	17,304.65	17,565.15	15,126.97	2,438.18

Outstanding Invoices

Invoice	Date	Balance
7	10/10/2023	2,177.68
Total		2,177.68

Thank you in advance for the prompt processing of this invoice. If you have any questions, please contact Kevin Menken, your Barr project manager, at (952) 832-2794 or email at kmenken@barr.com.

Terms: Due upon receipt. 1 1/2% per month after 30 days. Please refer to the contract if other terms apply.

BLACK DOG WMO
CASH ACTIVITY REPORT 2023

					Expenditures:													
Date	Description	Deposits	Check #	Check Amount	Monthly Cash Balance	General Engineering Support	Special Projects (General)	Special Projects (Capital)	Special Projects (Gen. Reserve)	Insurance	Legal & Audit	Admin Support	Public Education	Water Quality Monitoring	Conf Public	Contingency		
Balance as of 12/31/22					533,464.61													
18-Jan	Barr Engineering Co (2022)		1797	7,639.50		2,155.00	1,832.00		3,130.50					522.00				
18-Jan	Campbell Knutson (2022)		1798	175.00							175.00							
18-Jan	Metropolitan Council -Enviro Srvc (2022)		1799	3,420.00										3,420.00				
31-Jan	Interest Income	1,880.84																
01/31/23 Balance		1,880.84		11,234.50	524,110.95	2,155.00	1,832.00	-	3,130.50	-	175.00	-	-	3,942.00	-	-		
15-Feb	Barr Engineering Co		1800	3,099.22		1,436.72	544.50						668.00	450.00				
15-Feb	Campbell Knutson		1801	630.00							630.00							
15-Feb	City of Burnsville (2022)		1802	24,032.91								24,032.91						
15-Feb	Dakota County Soil & Water (2022)		1803	1,005.00			750.00						255.00					
28-Feb	Interest Income	1,759.91																
02/28/23 Balance		1,759.91		28,767.13	497,103.73	1,436.72	1,294.50	-	-	-	630.00	24,032.91	923.00	450.00	-	-		
31-Mar	Interest Income	1,977.10																
03/31/23 Balance		1,977.10		-	499,080.83	-	-	-	-	-	-	-	-	-	-	-		
19-Apr	Barr Engineering		1804	11,558.72		2,361.72	862.00						1,990.00	6,345.00				
19-Apr	Campbell Knutson		1805	210.00							210.00							
19-Apr	Dakota County Soil & Water (2022)		1806	11,412.50			5,250.00						6,162.50					
19-Apr	Dakota County Soil & Water		1807	1,170.00									1,170.00					
30-Apr	Interest Income	1,969.34																
04/30/23 Balance		1,969.34		24,351.22	476,698.95	2,361.72	6,112.00	-	-	-	210.00	-	9,322.50	6,345.00	-	-		
18-May	Barr Engineering		1808	11,122.90		2,828.72	4,039.18						1,283.00	2,972.00				
18-May	Campbell Knutson		1809	385.00							385.00							
31-May	Interest Income	2,018.05																
05/31/23 Balance		2,018.05		11,507.90	467,209.10	2,828.72	4,039.18	-	-	-	385.00	-	1,283.00	2,972.00	-	-		
21-Jun	Barr Engineering		1810	7,263.99		3,452.72	2,020.77						1,790.50	-				
21-Jun	Campbell Knutson		1811	35.00							35.00							
21-Jun	League of MN Cities Insurance Trust		1812	2,842.00						2,842.00								
30-Jun	Interest Income	1,930.28																
06/30/23 Balance		1,930.28		10,140.99	458,998.39	3,452.72	2,020.77	-	-	2,842.00	35.00	-	1,790.50	-	-	-		
														-	-			
31-Jul	Interest Income	1,965.67																
07/31/23 Balance		1,965.67		-	460,964.06	-	-	-	-	-	-	-	-	-	-	-		
16-Aug	Barr Engineering		1813	10,920.07		5,575.19	4,607.38						737.50	-				
16-Aug	Campbell Knutson		1814	280.00							280.00							
16-Aug	Dakota County Soil & Water Conserv Dist		1815	14,460.00			14,100.00						360.00					
31-Aug	Interest Income	2,018.73																
08/31/23 Balance		2,018.73		25,660.07	437,322.72	5,575.19	18,707.38	-	-	-	280.00	-	1,097.50	-	-	-		
20-Sep	Barr Engineering		1816	7,033.14		3,980.00	3,053.14											
20-Sep	Campbell Knutson		1817	297.50							297.50							
14-Sep	City of Lakeville	28,310.00																
22-Sep	City of Apple Valley	11,404.00																
22-Sep	City of Eagan	586.00																
30-Sep	Interest Income	1,995.01																
09/30/23 Balance		42,295.01		7,330.64	472,287.09	3,980.00	3,053.14	-	-	-	297.50	-	-	-	-	-		
18-Oct	Barr Engineering		1818	5,614.68		3,437.00	2,177.68											
18-Oct	Campbell Knutson		1819	245.00							245.00							
18-Oct	Dakota County Soil & Water Conser Dist		1820	8,520.00									8,520.00					
30-Oct	City of Burnsville	103,200.00																
31-Oct	Interest Income	2,207.31																
10/31/23 Balance		105,407.31		14,379.68	563,314.72	3,437.00	2,177.68	-	-	-	245.00	-	8,520.00	-	-	-		
Total YTD 2023 Revenue		163,222.24	Total YTD 2023 Exp		85,687.22	23,072.07	31,404.65	-	-	2,842.00	2,082.50	-	16,519.00	9,767.00	-	-		
				2023 Budget	158,200.00	43,000.00	37,300.00	-	-	2,500.00	5,000.00	24,000.00	25,700.00	15,200.00	500.00	5,000.00		
				Budget Remaining	72,513.00	19,928.00	5,895.35	-	-	(342.00)	2,917.50	24,000.00	9,181.00	5,433.00	500.00	5,000.00		
YTD Interest Income		19,722.24																

BLACK DOG WATER MANAGEMENT COMMISSION

Budget Performance Report October 31, 2023

	CURRENT MONTH	YEAR TO DATE			
	ACTUAL	GENERAL FUND BUDGET	CAPITAL IMPROVEMENT FUND BUDGET	ACTUAL	VARIANCE FAVORABLE (UNFAVORABLE)
Opening Fund Balance		\$ 382,290	\$ 103,489	\$ 485,780	
REVENUES :					
Member Contributions:					
City of Apple Valley	\$ -	\$ 10,412	\$ 992	\$ 11,404	\$ -
City of Burnsville	103,200	94,014	9,186	103,200	-
City of Eagan	-	586	-	586	-
City of Lakeville	-	25,988	2,322	28,310	-
Total Member Contributions	103,200	131,000	12,500	143,500	-
Other Revenues:					
Interest	\$ 2,207	\$ 40	\$ -	\$ 19,722	\$ 19,682
Grant (State of MN BWSR)	-	-	-	-	-
Total Other Revenue	2,207	40	-	19,722	19,682
Total Revenues	\$ 105,407	\$ 131,040	\$ 12,500	\$ 163,222	\$ 19,682
EXPENDITURES :					
General Engineering Support	\$ 3,437	\$ 43,000	\$ -	\$ 23,072	\$ 19,928
Special Projects - General Fund	2,178	37,300	-	31,405	5,895
Special Projects - Capital Improvement Fund	-	-	-	-	-
Special Projects - General Fund Reserve	-	-	-	-	-
Insurance	-	2,500	-	2,842	(342)
Legal and Audit	245	5,000	-	2,083	2,918
Administrative Support	-	24,000	-	-	24,000
Public Education	8,520	25,700	-	16,519	9,181
Water Quality Monitoring	-	15,200	-	9,767	5,433
Conference/Publications	-	500	-	-	500
Contingency	-	5,000	-	-	5,000
Total Expenditures	14,380	158,200	-	85,687	72,513
EXCESS OF REVENUES OVER (UNDER) EXPENDITURES	91,028	(27,160)	12,500	77,535	
EXCESS OF REVENUES OVER (UNDER) EXPENDITURES PLUS OPENING FUND BALANCE				563,315	
TOTAL CASH AVAILABLE 10/31/2023	563,315				
Fund Balance 10/31/2023	\$ 563,315				

Goal A – Water Quality

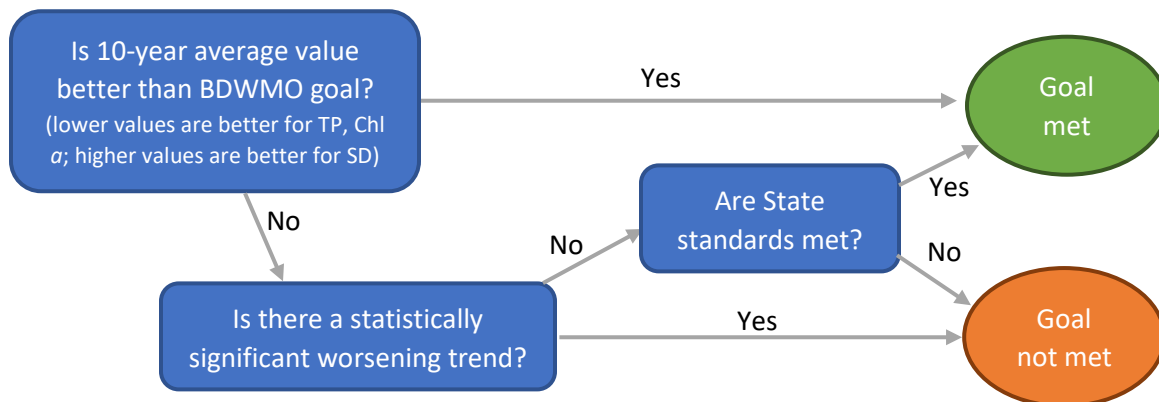
Maintain or improve water quality in BDWMO strategic waterbodies to meet applicable state standards or existing 10-year (2012 – 2021) summer average water quality, if better than state standards, including:

- Keller Lake – 60 ug/L total phosphorus (TP), 20 ug/l chlorophyll *a* (chl *a*), and 1.0 meter Secchi disc transparency (SD) (i.e., applicable state shallow lake water quality standards for eutrophication)
- Crystal Lake – 26 ug/L total phosphorus, 13 ug/l chlorophyll *a*, and 2.1 meter Secchi disc transparency
- Kingsley Lake – 17 ug/L total phosphorus, 2.3 ug/l chlorophyll *a*, and 3.0 meter Secchi disc transparency
- Lac Lavon – 13 ug/L total phosphorus, 2.9 ug/l chlorophyll *a*, and 4.2 meter Secchi disc transparency
- Orchard Lake – 21 ug/L total phosphorus, 6.2 ug/l chlorophyll *a*, and 2.5 meter Secchi disc transparency

Placeholder for simple inset map showing BDWMO and location of strategic waterbodies

Metric/Measures

The BDWMO assesses goal achievement for total phosphorus (TP), chlorophyll *a* (Chl *a*), and Secchi disc transparency (SD) in each lake individually based on each parameter's most recent 10-year average value (as measured from BDWMO and partner monitoring), State standards, and trend analysis:



Goal Status

The following table summarizes the 10-year parameter averages and trends in each strategic waterbody based on data collected from 2013 through 2022. Of the strategic waterbodies, Crystal Lake and Lac Lavon are meeting all water quality goals. Kingsley Lake and Orchard Lake show TP and SD values worse than BDWMO goals, respectively, and statistically significant degrading trends. Although degrading trends are present in Kingsley and Orchard Lakes, 10-year average values are close to BDWMO goals and better than State standards.

Mostly Met
(10 of 15 = 67%)

Keller Lake currently exceeds applicable state standards and BDWMO goals for total phosphorus, chlorophyll *a*, and Secchi disc transparency although statistically significant improving trends were observed in 2022 for all three parameters. An alum treatment of Keller Lake was completed in 2021; the impact of that treatment will continue to be evaluated through future water quality monitoring.

Draft Goal Progress Tracking Form – Goal A to R
Version 3 – November 6, 2023

Strategic Waterbody	Parameter	Unit	BDWMO Goal	State Standard	10-year Average ¹	Significant Trend ²	Goal Met? ³
Crystal Lake	TP	ug/L	26	40	24.8	--	Yes
	Chl <i>a</i>	ug/L	13	14	12.7	--	Yes
	SD	m	2.1	1.4	2.1	Improving	Yes
Keller Lake	TP	ug/L	60	60	76.0	Improving	No
	Chl <i>a</i>	ug/L	20	20	37.4	Improving	No
	SD	m	1.0	1.0	0.9	Improving	No
Kingsley Lake	TP	ug/L	17	60	18.6	Degrading	No
	Chl <i>a</i>	ug/L	2.3	20	2.9	--	Yes
	SD	m	3.0	1.0	3.0	--	Yes
Lac Lavon	TP	ug/L	13	40	12.3	--	Yes
	Chl <i>a</i>	ug/L	2.9	14	3.9	--	Yes
	SD	m	4.2	1.4	4.2	--	Yes
Orchard Lake	TP	ug/L	21	40	21.0	--	Yes
	Chl <i>a</i>	ug/L	6.2	14	6.3	--	Yes
	SD	m	2.5	1.4	2.4	Degrading	No

- (1) 2013-2022 data; **green** = value better than BDMWO goal and State standard; **yellow** = value worse than BDWMO goal and better than State standard; **red** = value worse than BDWMO goal and State standard
(2) Trend are evaluated at 90% confidence using linear least squares regression; **green** = improving trend; **yellow** = no trend; **red** = worsening trend
(3) See decision tree for determination of goal status based on 10-year value, State standard, and trend

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal A.

Monitoring

MN-1 Management level monitoring of strategic waterbodies, on a rotating 5-year cycle (next is Orchard Lake in 2024)

MN-2 CAMP monitoring of all strategic waterbodies annually

Projects and Programs

PP-1 Implement small and medium-scale stormwater BMPs (number and location to be determined)

KL-1a Improvements to Whitney Pond in the City of Apple Valley (2024)

KL-1b Improvements to stormwater pond by Arby's in the City of Apple Valley (2025)

LL-1a Water quality BMPs in coordination with Lac Lavon Park parking lot improvements in the City of Apple Valley (2023)

Goal B – Water Quality

Cooperate with member cities to achieve stormwater sediment loading goals consistent with member city MS4 permits to protect and improve local water resources and the Minnesota River.

Metric/Measures

The BDWMO assesses goal achievement through:

- Implementation of projects in the 2022 Watershed Management Plan leading to sediment reductions (see Plan Table 5-2), including:
 - PP-1, CL-1, CL-2, KL-1, KL-2, KG-1, KG-2, LL-1, LL-2, OL-1, and OL-2
- Member city MS4 reporting relative to sediment minimum control measures (MCMs) and applicable total maximum daily load (TMDL) waste load allocations (WLAs). **Revise if no TMDL limits.**

Goal Status

Goal metrics are summarized in the following tables. During this assessment period, the BDWMO cooperated with partners to implement **XX** small-scale water quality improvements (Item PP-1). The BDWMO also cooperated with **[insert partner(s)]** to complete **[insert project(s)]** to reduce sediment loading to **[insert resource(s)]**.



Implementation Schedule Item	Completed in 2024	Total Completed	Notes
PP-1 (small-scale BMPs)	XX	XX	Includes Landscaping for Clean Water projects
CL-1, CL-2 (Crystal Lake)			
KL-1, KL-2 (Keller Lake)	1		Whitney Pond expansion (2024, Apple Valley)
KG-1, KG-2 (Kingsley Lake)			
LL-1, LL-2 (Lac Lavon)		1	Lac Lavon parking lot improvements (2023, Apple Valley)
OL-1, OL-2 (Orchard Lake)			

BDWMO Member City	MS4 Phosphorus MCMs ¹ met?	MS4 Sediment WLAs met?	Notes
Apple Valley	Yes	Yes	
Burnsville	Yes	Yes	
Eagan	Yes	Yes	
Lakeville	Yes	Yes	

(1) Minimum control measures consistent with each City's MS4 permit.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal B.

Projects and Programs

PP-1 Implement small and medium-scale stormwater BMPs (number and location to be determined)

KL-1a Improvements to Whitney Pond in the City of Apple Valley (2024)

KL-1b Improvements to stormwater pond by Arby's in the City of Apple Valley (2025)

LL-1a Water quality BMPs in coordination with Lac Lavon Park parking lot improvements in the City of Apple Valley (2023)

Placeholder for other specific strategic waterbody projects (vs general projects listed in metrics/measures)

Goal C – Water Quality

Cooperate with member cities to achieve stormwater phosphorus loading goals consistent with member city MS4 permits to protect and improve local water resources and the Minnesota River.

Metric/Measures

The BDWMO assesses goal achievement through:

- Implementation of projects in the 2022 Watershed Management Plan leading to phosphorus reductions (see Plan Table 5-2), including:
 - PP-1, CL-1, CL-2, KL-1, KL-2, KG-1, KG-2, LL-1, LL-2, OL-1, and OL-2
- Member city MS4 reporting of minimum control measures (MCM) related to phosphorus and applicable total maximum daily load (TMDL) waste load allocations (WLAs). **Revise if no TMDL limits.**

Goal Status

Goal metrics are summarized in the following tables. During this assessment period, the BDWMO cooperated with partners to implement **XX** small-scale water quality improvements (Item PP-1). The BDWMO also cooperated with **[insert partner(s)]** to complete **[insert project(s)]** to reduce phosphorus loading to **[insert resource(s)]**.



Implementation Schedule Item	Completed in 2024	Total Completed	Notes
PP-1 (small-scale BMPs)	XX	XX	Includes Landscaping for Clean Water projects
CL-1, CL-2 (Crystal Lake)			
KL-1, KL-2 (Keller Lake)	1		Whitney Pond expansion (2024, Apple Valley)
KG-1, KG-2 (Kingsley Lake)			
LL-1, LL-2 (Lac Lavon)		1	Lac Lavon parking lot improvements (2023, Apple Valley)
OL-1, OL-2 (Orchard Lake)			

BDWMO Member City	MS4 Phosphorus MCMs ¹ met?	Notes
Apple Valley	Yes	
Burnsville	Yes	
Eagan	Yes	
Lakeville	Yes	

(1) Minimum control measures consistent with each City's MS4 permit.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal C.

Projects and Programs

PP-1 Implement small and medium-scale stormwater BMPs (number and location to be determined)

KL-1a Improvements to Whitney Pond in the City of Apple Valley (2024)

KL-1b Improvements to stormwater pond by Arby's in the City of Apple Valley (2025)

LL-1a Water quality BMPs in coordination with Lac Lavon Park parking lot improvements in the City of Apple Valley (2023)

Placeholder for other specific strategic waterbody projects (vs general projects listed in metrics/measures)

Goal D – Water Quality

Work with member cities to reduce chloride loading relative to current conditions through practices consistent with the Twin Cities Metropolitan Area Chloride Management Plan (MPCA, 2016) and Minnesota Statewide Chloride Management Plan (MPCA, 2021).

Metric/Measures

The BDWMO assesses goal achievement through performance of applicable salt management practices by member cities. The BDWMO will also track chloride concentrations in strategic waterbodies as additional data is collected.

Goal Status

Goal metrics are summarized in the following table.



Chloride Reduction Best Practices	Performed in 2024				Notes
	Apple Valley	Burnsville	Eagan	Lakeville	
Training for municipal applicators					
Calibration of application equipment					
Municipal use of alternative deicers					
Training for private applicators/ property managers					
Site visits to promote reduced salt use in high-density areas					
Distribution of educational materials					
Incentive programs for residents or property owners					E.g., water softener upgrades
Use of chloride minimization design practices					
Other activities (see notes)					

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal D.

Monitoring

MN-3 Chloride monitoring of strategic waterbodies

Projects and Programs

PP-3 Chloride education and outreach for landowners

Goal E – Water Quantity and Flooding

Achieve no net increase in intercommunity peak stormwater flow rates.

Metric/Measures

The BDWMO assesses goal achievement based on reported impacts of development and redevelopment projects that may affect flows at community boundaries.



Goal Status

Goal metrics are summarized in the following table.

Member City	Intercommunity Flow Reviews		Intercommunity Flow Increases		Notes
	2024	2023-Present	2024	2023-Present	
Apple Valley					
Burnsville					
Eagan					
Lakeville					
Total					

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal E.

Administration and Engineering

AE-8 General Engineering – including review of proposed changes to intercommunity stormwater systems.

Goal F – Water Quantity and Flooding

Reduce the number and/or flood risk of habitable structures within the floodplain in cooperation with member cities.

Metric/Measures

The BDWMO assesses goal achievement based on number of habitable structures within the floodplain corresponding to the 1%-annual-chance event (1% ACE, i.e., 100-year event) as reported by member cities. If the total number is unknown, goal achievement will be based on the number of structures removed from the floodplain by individual projects.



Goal Status

Goal metrics are summarized in the following table.

Member City	Habitable Structures in 1%-ACE ¹ Floodplain					Notes
	Pre-project	Post-project	Net change	2024 Total (start)	Total 2024 (end)	
Apple Valley						
Burnsville						
Eagan						
Lakeville						
Total						

(1) 1%-Annual chance event (ACE) is the event with a 1% chance of occurring in a given year and sometimes referred to as a 100-year event.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal F.

Administration and Engineering

AE-8 General Engineering – including review of proposed flood risk mitigation projects.

Goal G – Wetland Management

Promote improving the ecological function of wetlands for water retention, recharge, soil conservation, habitat, aesthetics, and water quality improvement through education and outreach and support of member city actions.

Metric/Measures

The BDWMO will assess goal achievement based on the following measurable outcomes or actions:

- Number of newsletter articles, social media posts, or other public broadcasts addressing wetland issues.
- Number of workshops, field days, or hands-on training supported by member cities addressing wetland issues (e.g., via Wetland Health Evaluation Program (WHEP))
- BDWMO support provided for member city wetland planning, protection, and/or restoration activities, including:
 - Technical support
 - Financial support
 - Regulatory support/coordination



Goal Status/Tracking

Member City/Partner	2024			Cumulative 2023 – Present			Notes
	Broadcasts ¹	Workshops	Projects	Broadcasts ¹	Workshops	Projects	
Apple Valley							
Burnsville							
Eagan							
Lakeville							
Dakota SWCD							
Dakota County							

(4) Including newsletters, articles, social media posts and other public broadcasts as noted.

Project Name	BDWMO Assistance type(s)			Notes
	Technical	Financial	Other ¹	

(1) Excluding regular participation in Technical Evaluation Panels (TEPs) and WCA roles (see Goal H).

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Additional Details (if applicable)

Placeholder to include narrative of project details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal G.

Administration and Engineering

AE-8 General Engineering (task includes providing technical support for projects as requested by cities, including projects addressing wetlands).

Education and Public Engagement

ED-4 Coordinate with member cities to develop and distribute educational information (wetland protection and buffers are identified as a key education topic).

ED-5 Sponsor workshops to support resident/landowner stewardship practices.

ED-6 Coordinate with partners to identify and support volunteer efforts (may include wetland management activities).

Projects and Programs

Placeholder to include specific projects if added to implementation table.

Goal H – Wetland Management

Pursue no net loss of wetlands in the BDWMO through continued City implementation of the Minnesota Wetland Conservation Act (WCA), participation in technical evaluation panels (TEPs), and other wetland management roles.

Metric/Measures

The BDWMO will assess goal achievement based on the following measurable outcomes or actions:

- City staff performance of WCA administrative duties
- City staff participation in technical evaluation panels
- Other City/BDWMO management roles, as applicable



Goal Status/Tracking

Entity	2024			Notes
	Administer WCA locally	TEP Participation	Other WCA Roles	
Apple Valley				
Burnsville				
Eagan				
Lakeville				

Additional WCA Role Details (if applicable)

Placeholder to include narrative of participation in WCA-related actions.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal H.

Administration and Engineering

AE-8 General Engineering – task includes providing technical support for projects as requested by cities, including projects addressing wetlands.

Education and Public Engagement

ED-4 Coordinate with member cities to develop and distribute educational information – wetland protection and buffers are identified as a key education topic.

Goal I – Shoreland, Habitat, and Open Space Management

Promote improved shoreline integrity and the ecological functions of healthy shorelines through education, cost-share, and support of member city actions.

Metric/Measures

The BDWMO will assess goal achievement based on the following measurable outcomes or actions:

- Number of newsletter articles, social media posts, or other public broadcasts addressing shoreland health
- Number of workshops, field days, or hands-on training supported by member cities addressing shoreland health
- Number of shoreline projects implemented via Dakota SWCD's Landscaping for Clean Water
- BDWMO financial, technical, or planning support provided for member city shoreline projects



Goal Status/Tracking

Member City/Partner	2024			Cumulative 2023 – Present			Notes
	Broadcasts ¹	Workshops ²	Projects ²	Broadcasts ¹	Workshops ²	Projects ²	
Apple Valley							
Burnsville							
Eagan							
Lakeville							

(5) Including newsletters, articles, social media posts and other public broadcasts as noted.

(6) Including those supported by Dakota SCWD's Landscaping for Clean Water

Additional BDWMO Support Role Details (if applicable)

Placeholder to include narrative of BDWMO support for member city/partner shoreline actions.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal I.

Education and Public Engagement

ED-4 Coordinate with member cities to develop and distribute educational information – including information about shoreline health.

Projects and Programs

PP-1 Implement small and medium-scale stormwater BMPs – including shoreline projects.

Goal J – Shoreland, Habitat, and Open Space Management

Maintain or improve the ecological and habitat quality of BDWMO strategic waterbodies to achieve applicable standards for floristic quality index (FQI \geq 17.8) and native species diversity of submerged vegetation (at least 11 species).

Metric/Measures

The BDWMO assesses goal achievement for floristic quality index (FQI) and submerged native species diversity in each lake individually based on the results of the most recent BDWMO management level monitoring. For both metrics, higher values are better.

Goal Status

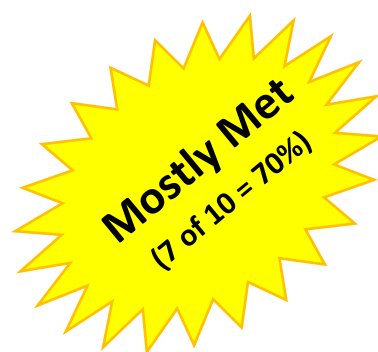
The following table summarizes the FQI and submerged native species diversity data for strategic waterbodies collected from 2018-2021. All strategic waterbodies except Keller Lake are meeting the goal of 11 or more submerged native species. All strategic waterbodies are meeting the FQI goal of 17.8 with the exception of Keller Lake and Lac Lavon; the FQI score for Lac Lavon (17.4) is very close to the goal value.

Strategic Waterbody	Year of Assessment	Floristic Quality Index (FQI) ¹	Number of Native Submerged Species ²
Crystal Lake	2018	20.8	15
Keller Lake	2020	3.0	2
Kingsley Lake	2021	24.8	19
Lac Lavon	2019	17.4	11
Orchard Lake	2017	21.9	16

(1) green = value equal or better (greater) than BDMWO goal of 17.8; red = value worse (less) than BDMWO goal of 17.8.

(2) green = value equal or better (greater) than BDMWO goal of 11; red = value worse (less) than BDMWO goal of 11.

Placeholder for simple inset map showing BDWMO and location of strategic waterbodies



Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal J.

Monitoring

MN-1 Management level monitoring of strategic waterbodies, on a rotating 5-year cycle (next is Orchard Lake in 2024)

Projects and Programs

Placeholder for specific projects added as sub-items under CL-3, KL-3, KG-3, LL-3, and OL-3.

Goal K – Shoreland, Habitat and Open Space Management

Support member city and partner actions to prevent the increase or reduce the occurrence of aquatic invasive species within BDWMO strategic waterbodies.

Metric/Measures

The BDWMO will assess goal achievement based on the following measurable outcomes or actions:

- Number of newsletter articles, social media posts, or other public broadcasts addressing aquatic invasive species (AIS) issues.
- Member city and partner AIS management activities, noting BDWMO support roles including, but not limited to:
 - Technical support
 - Financial support
 - Regulatory support/coordination



Goal Status/Tracking

Member City/Partner	AIS Information Broadcasts ¹		AIS Management Actions
	2024	To date	
Apple Valley			
Burnsville			
Eagan			
Lakeville			
Dakota SWCD			
Dakota County			

(1) Including newsletters, articles, social media posts and other public broadcasts as noted.

Additional Project Details (if applicable)

Placeholder to include narrative of project details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal K.

Administration and Engineering

AE-8 General Engineering (task includes providing technical support for projects as requested by cities, including projects addressing AIS).

Education and Public Engagement

ED-4 Coordinate with member cities to develop and distribute educational information (AIS are identified as a key education topic).

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- ED-5 Sponsor workshops to support resident/landowner stewardship practices.
- ED-6 Coordinate with partners to identify and support volunteer efforts (may include AIS management activities).

Projects and Programs

Placeholder to include specific projects if added to implementation table.

Goal L – Groundwater

Promote the protection of groundwater quality and quantity through annual collaboration with Dakota County, Minnesota Department of Natural Resources, and/or other agencies managing groundwater.

Metric/Measures

The BDWMO will assess goal achievement based on the following measurable outcomes or actions:

- Meeting annually with Dakota County and other groundwater management agencies.
- Groundwater management roles performed in cooperation with partners, including but not limited to:
 - Planning and/or advisory roles
 - Technical support
 - Financial support



Goal Status/Tracking

- Did BDWMO staff meet with Dakota County/groundwater authorities in 20XX: Yes; date(s)
- Outcomes of groundwater planning meeting(s):
 - Placeholder for notes

Additional Activity Details (if applicable)

Placeholder to include narrative of project/role details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal L.

Administration and Engineering

AE-8 General Engineering (task includes providing technical support for projects as requested by cities, including projects addressing groundwater management).

Projects and Programs

PP-2 Groundwater protection planning and technical assistance.

Goal M – Groundwater

Promote groundwater conservation and water reuse through education and outreach activities.

Metric/Measures

- Number of newsletter articles, social media posts, or other public broadcasts addressing groundwater conservation or stormwater reuse
- BDWMO support provided for member city and partner groundwater conservation and reuse activities, including:
 - Technical support
 - Financial support
 - Regulatory support/coordination



Goal Status/Tracking

Member City/Partner	2024			2023 – Present			Notes
	Broadcasts ¹	Workshops	Projects	Broadcasts ¹	Workshops	Projects	
Apple Valley							
Burnsville							
Eagan							
Lakeville							
Dakota SWCD							
Dakota County							

(1) Including newsletters, articles, social media posts and other public broadcasts as noted.

Additional Project Details (if applicable)

Placeholder to include narrative of project details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal M.

Administration and Engineering

AE-8 General Engineering (task includes providing technical support for projects as requested by cities, including projects addressing wetlands).

Education and Public Engagement

ED-4 Coordinate with member cities to develop and distribute educational information.

ED-5 Sponsor workshops to support resident/landowner stewardship practices.

Projects and Programs

PP-2 Groundwater protection planning and technical assistance.

Goal N – Administration

Promote local connection to water resources by delegating day-to-day management and regulation of the BDWMO's water resources to the member cities.

Metric/Measures

- Maintenance of City local controls (e.g., ordinances) addressing stormwater management, erosion and sediment control, wetlands, floodplains and shorelands.
- Updates on City and partner activities impacting strategic waterbodies or other public waters.



Goal Status/Tracking

Member City	Local Controls					Notes
	Stormwater	Erosion Control	Wetlands	Shorelands	Floodplains	
Apple Valley	X	X	X	X	X	
Burnsville	X	X	X	X	X	
Eagan	X	X	X	X	X	
Lakeville	X	X	X	X	X	

City/Partner Activities

Placeholder to include activities impacting strategic waterbodies and public waters (i.e., city reporting)

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal N.

Administration and Engineering

- AE-8 General Engineering (task includes review of proposed updates to City local controls).
AE-9 Review of Local Water Management Plans (LWMPs)

Goal O – Administration

Promote efficient and consistent management of water and natural resources by coordinating staff and financial resources to address common goals while maintaining regulation at the local level.

Metric/Measures

The BDWMO will assess goal achievement based on the following outcomes, actions, or assessments:

- Did the BDWMO's 20XX expenditures fall between 80% and 110% of its planned 20XX budget?
- How many of the BDWMO 2022 Watershed Management Plan's 15 non-administrative goals (Goals A through M, Q, and R) were achieved or advanced in 20XX?
- Was regulation maintained at the local level?
- What were the BDWMO commissioners', administrator's, and member city staff's qualitative assessments of annual coordination:
 - Good/Neutral/Needs improvement



Goal Status/Tracking

Assessment	Score ¹	Notes
Did expenses fall within 80% to 110% of budget?	Budgeted: \$XX,XXX Spent: \$XX,XXX Percent: XX%	
Number of non-administrative goals achieved or advanced	Achieved: X Advanced: Y Total: (X+Y)/15	
Was regulation maintained at the local level?	Yes	
Commissioners' qualitative assessment of coordination	Good: X Neutral: X Needs improvement: X	
Administrator and member city staff qualitative assessment of coordination	Good: X Neutral: X Needs improvement: X	

(1) Score type varies according to question/assessment

This section will include a narrative discussion of the goal, for example:

In 20XX, the BDWMO promoted the efficient and consistent management of water and natural resources through successful coordination of its commissioners, staff, member cities, and partners. The BDWMO was within X percent of its planned operating budget [note any extenuating circumstances]. BDWMO member cities maintain direct land use permitting authority and request BDWMO assistance as needed [note any special requests]. Overall, coordination was considered [good, neutral, needs improvement] by the BDWMO commissioners, administrator and member city staff.

Placeholder for simplified
budget pie chart

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal O.

Administration and Engineering

- AE-1 General Administration
- AE-7 Review Funding Mechanisms and Dues
- AE-8 General Engineering (includes coordination of engineer with administrator and member city staff)
- AE-4 Biennial Progress Review

Note that several other implementation activities are indirectly related to this goal.

Goal P – Administration

Minimize duplication and redundancy of regulatory efforts by delegating regulatory authority to member cities and establishing standards complementary to and consistent with State and Federal requirements.

Metric/Measures

- Maintenance of City local controls (e.g., ordinances) addressing stormwater management, erosion and sediment control, wetlands, floodplains and shorelands.
- Consistency of City controls and practices with BDWMO performance standards (see Watershed Management Plan Section 4.8.1).



Goal Status/Tracking

Performance Standards (paraphrased from WMP Section 4.8.1)	Apple Valley	Burnsville	Eagan	Lakeville
4.8.1-1: Local controls are strengthened or maintained	X	X	X	X
4.8.1-2: Require 1-acre trigger for stormwater standards	X	X	X	X
4.8.1-3: Erosion controls are consistent with NPDES Stormwater Permit	X	X	X	X
4.8.1-4: New/redeveloped stormwater facilities conform to BDWMO WMP	X	X	X	X
4.8.1-5: Stormwater pretreatment upstream of lakes, ponds, and wetlands	X	X	X	X
4.8.1-6: Orchard Lake outlet is limited to 65 cfs or less	--	--	--	X
4.8.1-7: Trunk stormwater systems are designed to 100-year event	X	X	X	X
4.8.1-8: Non-trunk stormwater systems are designed to 10-year event	X	X	X	X
4.8.1-9: Conveyances are designed to minimize erosion	X	X	X	X
4.8.1-10: Consider additional factors in stabilization projects (see WMP)	X	X	X	X
4.8.1-11: Seek input from BDWMO when standards cannot be met	--	--	--	--
4.8.1-12: Ensure projects do not increase downstream flood risk	X	X	X	X
4.8.1-13: Include emergency overflows to ponds where feasible	X	X	X	X
4.8.1-14: Secure easements to stormwater system with new/redevelopment	X	X	X	X
4.8.1-15: Require maintenance agreements for private stormwater facilities	X	X	X	X
4.8.1-16: Minimum building elevations are 1ft above 100-year water level	X	X	X	X
4.8.1-17: Peak stormwater rates maintained for 2-, 10-, and 100-year events	X	X	X	X
4.8.1-18: Maintain all City-owned stormwater infrastructure	X	X	X	X
4.8.1-19: BMP designs conform to standard engineering practice	X	X	X	X
4.8.1-20: Maintain wetland standards for buffers and bounce	X	X	X	X

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Additional Details (if applicable)

Placeholder to include notes specific to any of the items above

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal P.

Administration and Engineering

AE-8 General Engineering (task includes review of proposed updates to City local controls).

AE-9 Review of Local Water Management Plans (LWMPs)

Goal Q – Education and Public Involvement

Increase awareness and knowledge of community members regarding water resources and stormwater management through actions coordinated with member cities, Dakota SWCD, and other partners, including:

- *presentations at K-12 schools,*
- *electronic newsletters/social media posts presenting information on priority issues, and*
- *resource clean-up events or similar volunteer activities.*

Metric/Measures

- Presentations at K-12 schools
- Number of newsletter articles, social media posts, or other public broadcasts addressing education topics
- Volunteer activities (e.g., resource clean-up events)



Goal Status/Tracking

Member City/Partner	2024			Cumulative 2023 – Present			Notes
	Broadcasts ¹	School Presentations	Volunteer Events	Broadcasts ¹	School Presentations	Volunteer Events	
Apple Valley							
Burnsville							
Eagan							
Lakeville							
Dakota SWCD							
Dakota County							

(1) Including newsletters, articles, social media posts and other public broadcasts as noted.

Additional Details (if applicable)

Placeholder to include narrative of project details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal Q.

Education and Public Engagement

- ED-3 Coordination with Dakota SCWD and member cities for K-12 programming.
- ED-4 Coordinate with member cities to develop and distribute educational information.
- ED-6 Coordinate with partners to identify and support volunteer efforts.

Goal R – Education and Public Involvement

Increase community capacity to implement water and natural resource stewardship action through:

- *increased participation in volunteer activities*
- *increased participation in small-scale BMP cost share projects*
- *consistently providing data through accessible media*

Metric/Measures

- Volunteer activities (e.g., resource clean-up events)
- Small-scale BMP cost-share project implementation
- Updates to BDWMO website
- Distribution of annual report



Goal Status/Tracking

Member City/Partner	2024		Cumulative 2023 – Present		Notes
	Volunteer Events	Small-scale BMPs supported ¹	Volunteer Events	Small-scale BMPs supported ¹	
Apple Valley					
Burnsville					
Eagan					
Lakeville					
Dakota SWCD		-- ¹		-- ¹	
Dakota County		--		--	

(1) Including Landscaping for Clean Water projects; projects are listed according to physical location.

- Did the BDWMO update the website in 20XX? **Yes**
- Did the BDWMO distribute the annual newsletter in 20XX? **Yes**

Additional Details (if applicable)

Placeholder to include narrative of project details, if applicable.

Implementation Actions

The following activities from the BDWMO's 2022 Watershed Management Plan are related to Goal R.

Education and Public Engagement

- ED-1 Website administration.
- ED-2 Prepare and publish annual report (newsletter) to BDWMO website.
- ED-5 Sponsor workshops to support resident/landowner stewardship practices.
- ED-6 Coordinate with partners to identify and support volunteer efforts.



Placeholder for aerial map showing lake and surrounding land (to give idea of land use), maybe conceptual flow arrows (major inlets and outlet)?

The Black Dog Watershed Management Organization (BDWMO) performs monitoring of its strategic waterbodies on a 5-year rotating basis. BDWMO monitored Lac Lavon in 2022. Monitoring results presented in this report include:

- Water chemistry (including chloride)
- Macrophytes (aquatic plants)
- Phytoplankton (algae)
- Water levels

Summary and Recommendations

- Continued excellent water quality; Phosphorus, chlorophyll a, and Secchi disc transparency better than MPCA standards
- No statistically significant trends in water quality over the past 10 years
- *Placeholder for chloride results*
- Several native plant species are present that indicate good water quality
- Dense growth of invasive curly-leaf pondweed and Eurasian watermilfoil occur in some areas
- Invasive brittle naiad is present but not in nuisance levels
- *Placeholder for phytoplankton results*
- *Placeholder for lake level results, if significant*
- *Placeholder for recommendations*

About Lac Lavon

BDWMO Classification	Strategic waterbody
MDNR ID number	19-0446
Watershed Area	184 acres
Lake Area	60 acres
Average Depth	--
Maximum Depth	32 feet
Ordinary High Water Level	--
Downstream Resource	Normally landlocked, Keller Lake at high water
Location (city)	Apple Valley, Burnsville
Public Access	Two parks
MPCA Classification	Deep lake
MPCA Impairments	Mercury in fish tissue
Aquatic Invasive Species	Curly-leaf pondweed Eurasian watermilfoil Brittle naiad

Introduction

Lac Lavon is an abandoned gravel pit that lies on the border of Burnsville and Apple Valley. Lac Lavon receives runoff from both cities, although the lake's primary water source is groundwater. Lac Lavon has no natural outlet and lake levels can fluctuate significantly based on long-term precipitation trends.

The Lac Lavon watershed land use is low density residential and park. Lac Lavon is used for wildlife habitat and a variety of recreational purposes, including fishing, swimming, and aesthetic viewing. The City of Burnsville park has access for launching canoes and the City of Apple Valley park has a canoe rack and path to a fishing pier on the shoreline. There is no public boat ramp for launching trailered boats on Lac Lavon.

*Include brief summary of recent projects, if applicable.
Add callout box for BDWMO and City management activities?*

2023 Water Quality Monitoring

Water quality monitoring performed by BDWMO in 2022 included eleven sampling events between April and September. Measured parameters included:

- Secchi disc transparency
- Chlorophyll *a*
- Total phosphorus
- Field parameters including:
 - Dissolved oxygen
 - Specific conductivity
 - pH

A CAMP volunteer also collected four samples in 2022. Monitoring methods are described in detail in the Lac Lavon monitoring plan (*to be completed*).

Results of 2022 Barr and CAMP water quality monitoring events are presented in Figure 1a through 1c. *Placeholder for summarized results of 2022 monitoring specifically.*

Add the boat graphic?

Consider adding BDWMO standard to the plots.

Fisheries

The City of Apple Valley has conducted fish surveys (years 2020 and 2022) and fish stocking (2020) on Lac Lavon. The Lac Lavon fish community includes bluegill, northern pike, black crappies, hybrid sunfish, pumpkin-seed sunfish, largemouth bass, and bullhead. Bluegill sunfish were the most abundant species in 2020. In 2020, a total of 500 walleye and 500 largemouth bass were stocked in Lac Lavon.

Include a photo of fish. Check species against most recent survey.

Figure 1a: Lac Lavon 2022 Total Phosphorus

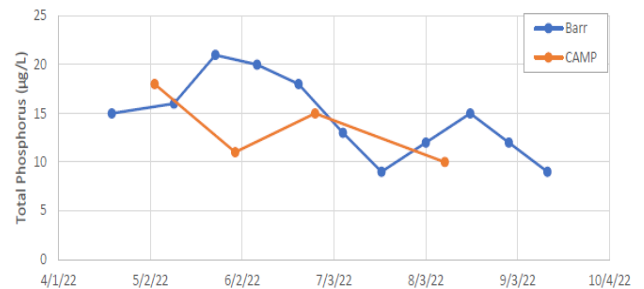


Figure 1b: Lac Lavon 2022 Chlorophyll-a

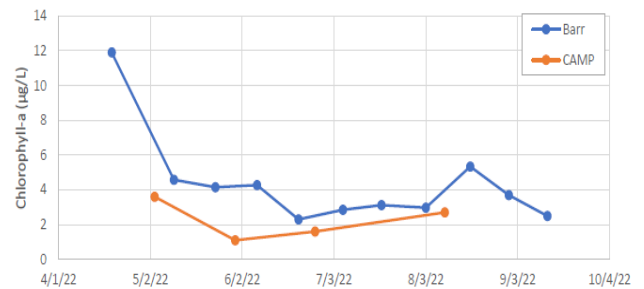
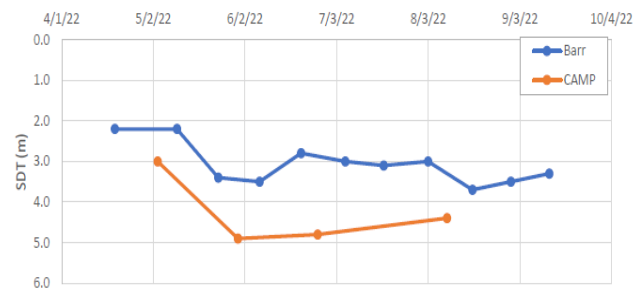


Figure 1c: Lac Lavon 2022 Secchi Disc Transparency



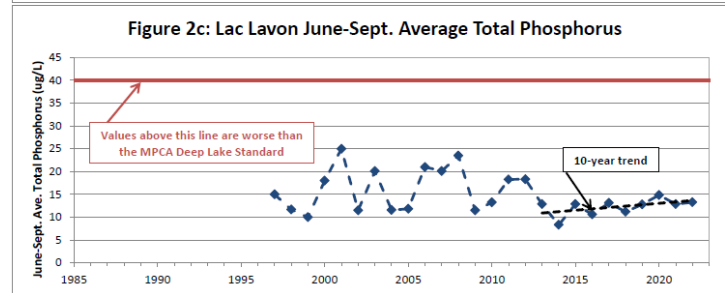
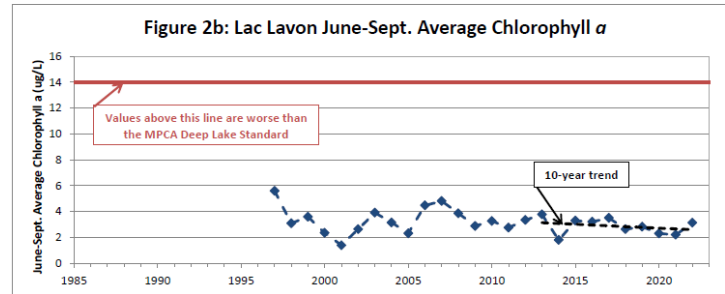
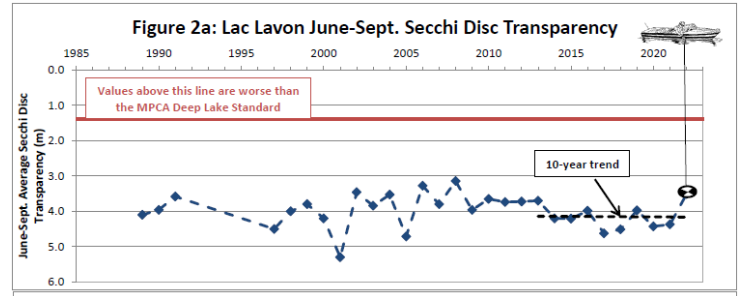
Water Quality Trends (2014-2023)

The 2022 summer (June-September) averages of water quality parameters were calculated for Lac Lavon and plotted with previous years' summer averages (see Figure 2).

Placeholder for summer average water quality. Results will address:

- Condition relative to MPCA standards
- Condition relative to BDWMO standards
- Statistically significant trends
- Relationships between parameters

Parameter	MPCA Standard	BDWMO Goal	2014-2023 Average
Secchi Disc Transparency (m)	1.4	XX	XX
Chlorophyll a (ug/L)	14	XX	XX
Total Phosphorus (ug/L)	40	XX	XX

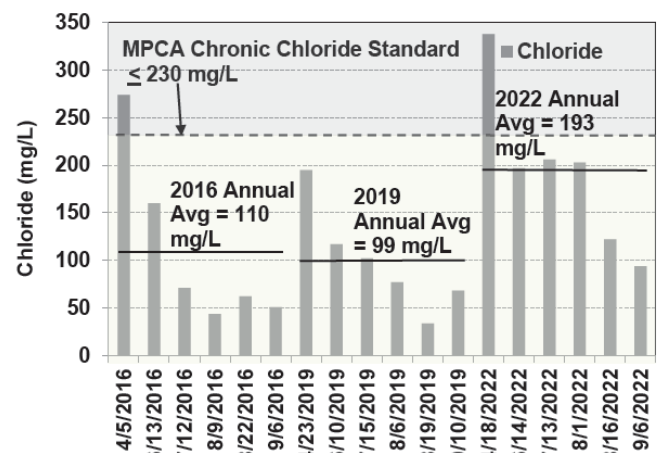


Chlorides

Consider having a separate callout for chloride data and results due to dissimilarity with nutrient data (e.g., shorter period of record, seasonal trends)

Chloride concentrations in area lakes have increased since the early 1990s due to increased use of road salt in winter. Because high chloride concentrations can harm fish and plant life, the MPCA has established maximum and chronic chloride standards. A lake is considered impaired if two or more measurements exceed the chronic standard (230 mg/L) within a 3-year period or if one measurement exceeds the maximum standard (860 mg/L).

Placeholder for summary of 2023 data.



Example chloride graphic.

Macrophytes (Aquatic Plants)

A diverse aquatic plant community is a sign of a healthy lake.

The BDWMO assess health of a lake’s submerged aquatic plant community based on the number of species present and the “quality” of the species as measured by the Floristic Quality Index (FQI). The FQI considers the number of different species and the sensitivity of each species to disturbance (referred to as a “C-value”). Higher C-values and FQI indicate better lake health. The BDWMO established goals for the number of native species and FQI of strategic waterbodies.

Parameter	BDWMO Standard	2022 Results
Floristic Quality Index (submergent zone)	≥17.8	17.7
Native Species (submergent zone)	≥11	8

A total of 11 aquatic plant species were identified in 2022, including 8 native species and three non-native aquatic invasive plants.

Native Species (2023)

- *List native species as bullets*
- *Note species with high C values*
- *Include photos?*

Aquatic Invasive Species

- **Brittle naiad (*Najas minor*)** has been reported in Lac Lavon as far back as 2003 and was observed in the lake in years 2013, 2014, and 2016. Unlike curly-leaf pondweed and Eurasian watermilfoil, which have infested numerous Minnesota lakes, brittle naiad has only been reported in a total of six Minnesota lakes, according to [MDNR web page on the invasive plant](#). Brittle naiad grows much shorter than curly-leaf pondweed and Eurasian watermilfoil (both of which can create dense surface mats); and does not appear to be growing at nuisance levels in Lac Lavon. Because brittle naiad does not grow very tall, and more easily breaks into small fragments (it truly is “brittle”), it may not show up on the plant rake during surveys even when present, and it’s possible its abundance is underreported. It can be transferred to other waterbodies by plant fragments stuck to boats or equipment, or by tiny seeds in mud stuck to boots, anchors, etc.
- **Curly-leaf pondweed** was found at 29% of sampling points with plant growth. No curly-leaf pondweed was observed in August 2022. Curly-leaf pondweed can create dense, nuisance growths, and can also have negative impacts on water quality due to its earlier seasonal life cycle than native aquatic plants. The water quality of Lac Lavon remained excellent throughout the summer months; therefore, curly-leaf pondweed does not appear to be degrading Lac Lavon water quality.
- **Eurasian watermilfoil** can create dense, nuisance growths at the lake surface, and have a negative impact on recreational activities and may also crowd out native plant species. Eurasian watermilfoil was found at 65% of sampling points with plant growth in June 2022, and 82% in August 2022.

Phytoplankton (Algae)

Phytoplankton, or algae, are small aquatic plants naturally present in lakes. Phytoplankton derive energy from the sun through photosynthesis and provide food for several types of aquatic organisms, including zooplankton (microscopic animals), which are, in turn, eaten by fish. Excess phytoplankton can reduce water clarity while low numbers of phytoplankton can negatively impact zooplankton, and consequently, fish populations.

Phytoplankton samples were collected from XXXXXX to evaluate water quality and the quality of food available to zooplankton. Phytoplankton monitoring included blue-green algae (cyanobacteria). This type of bacteria thrives in warm, nutrient-rich water and can grow rapidly under certain conditions, causing “blooms.” Blue-green algae can produce algal toxins that may be harmful to humans and animals and are also a poor-quality food for zooplankton. Conversely, green algae are a good source of food for zooplankton and are indicative of healthy aquatic ecosystems.

Figure X summarizes the number and major groups of phytoplankton in XXXXX in 2022.

Example figure below. Stacked bars in figure will be sequenced to show cumulative blue-green and green algae. Add note to plot that “higher the bar the more likely an algal bloom”.

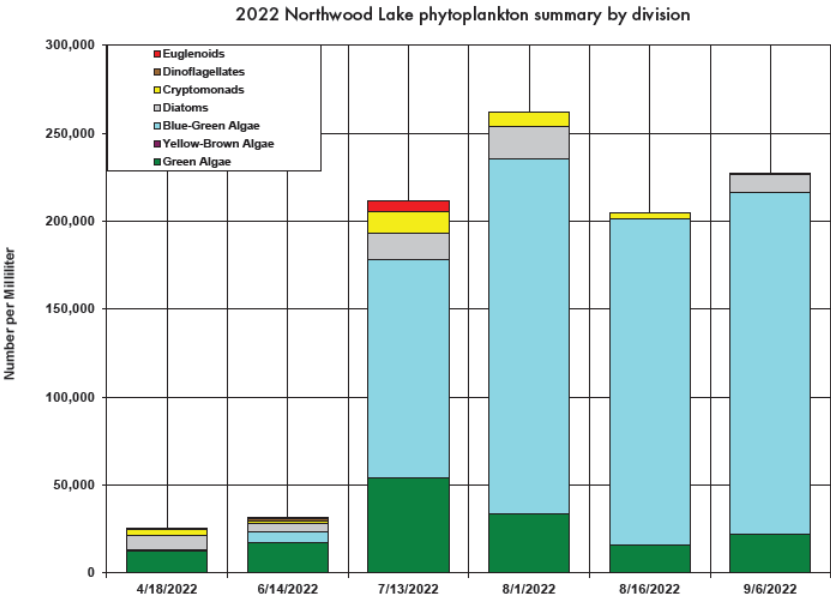
Placeholder for text summarizing the results and significance of phytoplankton monitoring. Include picture of BG vs G algae.

Harmful Algal Blooms

During algal blooms, some blue-green algae (cyanobacteria) can produce toxins that can be harmful to humans and animals if ingested. Such algal blooms can occur rapidly under specific aquatic conditions (e.g., high temperatures). Not all blue-green algae produce toxins and laboratory testing is necessary to determine the presence and concentration of algal toxins in lake water.

Add picture of blue-green algae bloom for context.

BDWMO residents should look to their respective Cities for information and communications regarding harmful algal blooms and associated public health guidance (such as beach closures or bodily contact warnings).

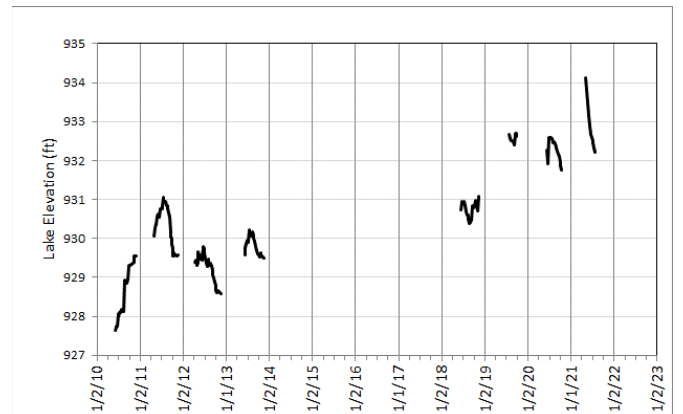


Water Levels

Lac Lavon is landlocked and has no regularly flowing outlet. The lake level changes in response to precipitation, evaporation, and groundwater inflow/outflow. City of Apple Valley staff collected lake elevation data for years 2010-2014, 2018-2021, and 2023.

Water levels were not measured in 2022 but were observed to be low during water quality monitoring visits. During the period of monitoring, the lake elevation has fluctuated from a low of 927.6 feet in 2010 to a high of 934.13 feet in 2021, a difference of 6.53 feet (Figure X). High lake levels flooded the path leading to the fishing dock in years 2019-2021 (Figure X). Many landlocked lakes in the Twin Cities experienced high water levels in 2019-2021 due to record-breaking precipitation in years 2019-2020 combined with above-average precipitation in prior recent years.

The last two years have seen below average precipitation, and lake levels have come down, including in Lac Lavon. By August 2022, the receding water levels were visible along the lakeshore (Figure X).



Use last page to advertise BMP practices, volunteer opportunities, and/or cost share programs?

2023 Work Plan and Budget
Black Dog Watershed Management Organization

Task	Calculation			Sub-total
Education and Outreach	Hours	Rate	Fees	
BDWMO Website Hosting and Maintenance	20	\$95.00	\$1,000.00	\$2,900.00
Host and maintain a website, as required by BWSR, with meeting information, plans, reports, grants and other information.	Fee is for web hosting			
Landscaping for Clean Water			\$13,300.00	\$13,300.00
Provide access to the Landscaping for Clean Water: Introduction Class Materials, Design Course Materials and Maintenance Workshop	Introduction Classes= \$3,800 Design Courses= \$7,600 Maintenance Workshop= \$1,900			
<i>Includes online registration, partner coordination, presentation creation and updates, creation of education and outreach materials, participant tracking, one-on-one design assistance.</i>				
<i>Note: some classes may be virtual in 2024</i>				
Education and Outreach Total				\$16,200.00

Technical Assistance	Hours	Rate	Fees
Landscaping for Clean Water - Project installs			\$10,800.00
Technical assistance to homeowners including layout, mid-point and final inspections for raingardens, native plantings and shoreline stabilizations.		\$600 times 18 projects	
Technical Assistance Total			\$10,800.00

Cost Share		Fees	
Landscaping for Clean Water - Landowner Grants		\$4,500.00	\$4,500.00
Provide cost share to landowners for projects including raingardens, native plantings and shoreline stabilization projects consistent with SWCD cost share policies.		\$250 times 18 projects	
Cost Share Total			\$4,500.00

Total Agreement Not-to Exceed				\$31,500.00
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Note: Additional items may be required of the SWCD during the workplan timeframe and individual budget amounts may change as work progresses. If proposed changes are to exceed the total agreed amount, this work plan will then be amended and re-executed by the NCRWMO and SWCD.