



Bassett Creek Watershed Management Commission

MEMO

To: BCWMC Commissioners and Alternate Commissioners
From: BCWMC Budget Committee
Date: August 9, 2023

Recommendation: Approve Annual Operating Budget, City Assessments, and Investment Income Allocation

The BCWMC Budget Committee met on July 27th to finalize recommendations on the 2024 Operating Budget and continue discussing options for allocating the 2023 and 2024 investment income.

At their June meeting, the Commission directed staff to send an initial proposed budget and city assessments to member cities for comment by August 1st. No cities offered comments or concerns with this proposed budget which included:

- Total operating budget: \$914,720
- Total city assessments: \$681,800
- Average increase in city assessments over 2023 levels: 10.4%
- Amount of investment income from 2023 and 2024 used in operating budget: \$0

The budget proposed in June (above) was based on estimated fund balances at the end of the last fiscal year. The final audit's year end balance was higher than expected meaning more funding was available for 2024. With the updated figures, the Budget Committee again reviewed and discussed options for the overall budget, city assessments, and use of investment income.

The Budget Committee recommends that the Commission:

1. Set aside investment income from 2023 and 2024 in a short-term "special projects" fund. Income is expected to be \$300,000 - \$400,000 over 2023 and 2024. The Budget Committee will continue gathering input from commissioners, TAC members, and city leadership about future assessments and how to utilize investment income. No investment funds would be spent without Commission approval. Committee will revisit the investment income allocation policy over the coming months and will reassess income allocation at the end of the fiscal year.
2. Adopt the budget as presented in tables on the following pages and as summarized below:
 - Total operating budget: \$914,720
 - Total city assessments: \$622,500
 - Average increase in city assessments over 2023 levels: 0.8%
 - Amount of investment income from 2023 and 2024 used in operating budget: \$0
3. Continue to work with City of Plymouth to transfer accounting tasks to city. Bring a potential agreement with Plymouth to future BCWMC meeting.

2024 Recommended Operating Budget

	2020 Budget	2020 Gross Expenses	2020 Revenue	2020 NET Expenses	2021 Budget	2021 Gross Expenses	2021 Revenue	2021 NET Expenses	2022 Budget	2022 Gross Expenses	2022 Revenue	2022 NET Expenses	2023 Budget	Proposed 2024 Budget	See Notes
ENGINEERING & MONITORING															
Technical Services	130,000	143,081	-	143,081	134,000	105,492	\$ -	105,492	145,000	132,541		132,541	145,000	145,000	(A1)
Development/Project Reviews	75,000	94,267	63,000	31,267	68,000	89,507	\$ 73,554.00	15,953	75,000	103,851	77,617	26,234	80,000	90,000	(A)
			Review fees				Review fees				Review fees				
Non-fee and Preliminary Reviews	20,000	16,851	-	16,851	24,000	38,406	\$ 10,000.00	28,406	22,000	17,788	1,000	16,788	30,000	30,000	(B)
							Cost share w/ MPLS				Cost share w/ MPLS				
Commission and TAC Meetings	12,000	10,478	-	10,478	12,000	10,961	\$ -	10,961	14,000	13,119		13,119	15,000	15,000	(C)
Surveys and Studies	10,000	3,745	-	3,745	9,000	7,683	\$ -	7,683	10,000	14,283		14,283	15,000	15,000	(D)
Water Quality / Monitoring	102,600	119,397	-	119,397	129,000	132,432	\$ -	132,432	110,000	109,478		109,478	105,000	160,500	(E)
Water Quantity	6,500	6,229	-	6,229	7,000	7,205	\$ -	7,205	8,000	6,369		6,369	9,000	9,000	(F)
Annual Flood Control Project Inspections	12,000	69,149	69,149	0	12,000	14,999	\$ 14,999.00	-	12,000	21,290	21,290	-	15,000	85,000	(G)
			Transfer from long term account				Transfer from long term account				Transfer from long term account				
Municipal Plan Review	2,000	1,548	-	1,548	2,000	-	\$ -	-	2,000	1,464		1,464	2,000	2,000	(H)
Watershed Outlet Monitoring Program	20,500	20,837	4,500	16,337	23,000	18,257	\$ 5,500.00	12,757	28,500	28,425	3,750	24,675	27,000	26,500	(I)
			Grant from Met Council				Grant from Met Council				Grant from Met Council				
Annual XP-SWMM Model Updates/Reviews	-	-	-	-	-	\$ -	\$ -	-	5,000	8,983		8,983	3,000	3,000	(J)
APM/AIS Work	30,000	11,634	1,128	10,506	14,000	13,533	\$ 5,601.00	7,932	13,000	41,844	22,500	19,344	40,000	40,000	(K)
			Cost share with TRPD				DNR Grant & Cost share w/ TRPD				DNR Grant & Cost share w/ TRPD				
Subtotal Engineering & Monitoring	\$420,600	\$497,215	\$137,777	\$359,438	\$434,000	\$438,475	\$ 109,654.00	\$328,821	\$444,500	\$499,435	\$126,157	\$373,278	\$486,000	\$621,000	See Notes
PLANNING															
Next Generation Plan Development	18,000	18,000	-	18,000	18,000	10,001	\$ -	10,001	18,000	47,372	11,000	36,372	53,250	35,650	(L)
											Transfer from Plan account				
Subtotal Planning	\$18,000	\$18,000	\$0	\$18,000	\$18,000	\$10,001	\$ -	\$10,001	\$18,000	\$47,372	\$11,000	\$36,372	\$53,250	\$35,650	

Continued next page

Item	2020 Budget	2020 Gross Expenses	2020 Revenue	2020 NET Expenses	2021 Budget	2021 Gross Expenses	2021 Revenue	2021 NET Expenses	2022 Budget	2022 Gross Expenses	2022 Revenue	2022 NET Expenses	2023 Budget	Proposed 2024 Budget	See Notes
ADMINISTRATION															
Administrator	69,200	64,764	30,000	34,764	67,400	67,481	\$ 29,495.00	37,986	70,848	69,174	34,000	35,174	78,750	78,750	(M)
			Transfer from CIP account				Transfer from CIP account				Transfer from CIP account				
MAWD Dues	500	500	-	500	3,750	3,750	\$ -	3,750	7,500	7,500		7,500	7,500	7,500	(N)
Legal	15,000	20,996	-	20,996	15,000	16,280	\$ -	16,280	17,000	20,204		20,204	17,000	21,000	(O)
Financial Management	3,500	3,500	-	3,500	4,000	10,600	\$ -	10,600	13,500	14,260		14,260	14,540	17,000	(P)
Audit, Insurance & Bond	18,000	18,684	-	18,684	18,000	14,949	\$ -	14,949	18,700	18,218		18,218	18,700	18,700	(Q)
Meeting Catering	1,500	317	-	317	1,300	-	\$ -	-	1,300	1,830		1,830	2,400	2,400	(R)
Administrative Services	15,000	11,887	-	11,887	8,000	5,960	\$ -	5,960	8,000	5,993		5,993	7,240	2,570	(S)
Subtotal Administration	\$122,700	\$120,648	\$30,000	\$90,648	\$117,450	\$119,020	\$29,495	\$89,525	\$136,848	\$137,179	\$34,000	\$103,179	\$146,130	\$147,920	
OUTREACH & EDUCATION															
Publications / Annual Report	1,300	1,069	-	1,069	1,300	375	\$ -	375	1,300	1,164		1,164	1,000	1,200	(T)
Website	1,000	1,264	-	1,264	1,800	544	\$ -	544	1,800	645		645	1,600	1,600	(U)
Watershed Education Partnerships	15,850	16,535	-	16,535	17,350	13,080	\$ -	13,080	18,350	15,410		15,410	18,350	18,350	(V)
Education and Public Outreach	22,000	38,321	28,811	9,510	26,000	23,073	\$ 6,295.00	16,778	28,000	36,591	13,013	23,578	28,000	28,000	(W)
			Grant from BWSR				Grant from BWSR				Grant from BWSR				
Public Communications	1,000	1,113	-	1,113	1,000	1,028	\$ -	1,028	1,100	69		69	1,100	1,000	(X)
Subtotal Outreach & Education	\$41,150	\$58,302	\$28,811	\$29,491	\$47,450	\$38,100	\$6,295	\$31,805	\$50,550	\$53,879	\$13,013	\$40,866	\$50,050	\$50,150	
MAINTENANCE FUNDS															
Channel Maintenance Fund	25,000	25,000	-	25,000	20,000	\$20,000	\$ -	20,000	25,000	25,000		25,000	25,000	25,000	(Y)
Flood Control Project Long-Term Maint.	25,000	25,000	-	25,000	25,000	25,000	\$ -	25,000	25,000	25,000		25,000	35,000	35,000	(Z)
Subtotal Maintenance Funds	\$50,000	\$50,000	\$0	\$50,000	\$45,000	\$45,000	\$0	\$45,000	\$50,000	\$50,000	\$0	\$50,000	\$60,000	\$60,000	
TMDL WORK															
TMDL Implementation Reporting	10,000	263	-	263	7,000	6,989	\$ -	6,989	7,000	3,397	-	3,397	-	-	(AA)
Subtotal TMDL Work	\$10,000	\$263	\$0	\$263	\$7,000	\$7,000	\$7,000	\$7,000	\$7,000	3,397	-	3,397	\$0		
GRAND TOTAL	\$662,450	\$744,428	\$196,588	\$547,840	\$668,900	\$657,596	\$152,444	\$512,152	\$706,898	\$791,262	\$184,170	\$607,092	\$795,430	\$914,720	

Estimated 2024 Revenues	
Expected Income	Income
Assessments to cities	\$ 622,500
Investment Income	\$ -
CIP Administrative Funds (2.0% of est. requested levy of \$1.972M)	\$ 39,440
Project review fees	\$ 77,000
Transfer from Long-term Maint Fund for Flood Control Proj Inspections	\$ 85,000
WOMP reimbursement	\$ 5,000
TRPD reimbursement	\$ 5,000
Transfer from Plan Development Savings	\$ 13,000
TOTAL EXPECTED INCOME	\$ 846,940
Expected Expenses	
Total operating budget	\$ 914,720
Fund Balance Details	
Est. Beginning Fund Balance (Jan 31, 2024)	\$ 517,671
Change in Fund Balance (income - expenses)	\$ (67,780)
Est. Remaining Fund Balance (Jan 31, 2025)	\$ 449,891

City Assessments														
Community	For Taxes Payable in 2023	2023 Percent of	Area Watershed (w/ 2022 changes)	Percent of	Average	2017	2018	2019	2020	2021	2022	2023	2024 Proposed Budget	Percent increase by city over 2023
	Net Tax Capacity	Valuation	in Acres	of Area	Percent	\$500,000	\$515,050	\$529,850	\$550,450	\$554,900	\$565,998	\$ 617,430	\$ 622,500	
Crystal	\$12,385,383	5.58	1,297	5.11	5.35	\$25,704	\$26,904	\$27,877	\$29,062	\$29,898	\$30,206	\$32,948	\$33,280	1.0%
Golden Valley	\$56,201,654	25.34	6,615	26.05	25.70	\$131,270	\$134,649	\$138,553	\$144,693	\$145,228	\$148,477	\$160,438	\$159,957	-0.3%
Medicine Lake	\$1,436,006	0.65	199	0.78	0.72	\$3,561	\$3,783	\$3,846	\$3,975	\$3,928	\$3,988	\$4,472	\$4,455	-0.4%
Minneapolis	\$16,265,139	7.33	1,685	6.64	6.98	\$33,609	\$34,763	\$35,805	\$37,631	\$37,983	\$39,103	\$43,643	\$43,481	-0.4%
Minnetonka	\$14,598,518	6.58	1,108	4.36	5.47	\$28,199	\$28,053	\$28,989	\$29,967	\$29,622	\$30,437	\$34,091	\$34,069	-0.1%
New Hope	\$12,585,791	5.68	1,368	5.39	5.53	\$25,917	\$26,740	\$27,987	\$28,987	\$29,464	\$30,087	\$33,078	\$34,431	4.1%
Plymouth	\$93,993,300	42.38	12,001	47.26	44.82	\$224,531	\$231,682	\$237,986	\$245,942	\$247,860	\$252,307	\$275,216	\$279,012	1.4%
Robbinsdale	\$4,329,509	1.95	369	1.45	1.70	\$7,747	\$8,189	\$8,523	\$8,937	\$9,299	\$9,288	\$10,314	\$10,599	2.8%
St. Louis Park	\$9,974,412	4.50	752	2.96	3.73	\$19,463	\$20,287	\$20,284	\$21,257	\$21,618	\$22,105	\$23,230	\$23,216	-0.1%
TOTAL	\$221,769,712	100.00	25,394	100.00	100.00	\$500,000	\$515,050	\$529,850	\$550,450	\$554,900	\$565,998	\$ 617,430	\$ 622,500	0.8%

NOTES

(A1) General technical services by Barr Engineering; 2021 budget based on actual expenditures in 2019 and 2020. 2024 Budget same as 2022 and 2023.

(A) Partially funded by application fees; with the creation of the preliminary and non-fee budget category, most of the review costs will be covered by application fees. Budget based on recent actual expenses and projected number of projects submitted for review. New review fees effective Aug 1, 2022. Increase in 2024 to better align with 2022 costs.

(B) This was a new line item in 2015 used to cover reviews for which either we do not receive an application fee or it's too early in the process for us to have received an application fee. Includes DNR application reviews, MnDOT project reviews, and other prelim reviews requested by administrator and member cities. Reviews for large projects such as SWLRT reviews and North Loop Green Project have been partially or fully reimbursed to Commission.

(C) Includes attendance at BCWMC meetings, TAC meetings and other committee meetings, as needed. 2017 budget increased to allow for additional BCWMC Engineer staff to attend Commission/TAC meetings (total of 3 assumed). 2018 - 2020 budgets were reduced from 2017 and assumed 12 BCWMC meetings and 5 other meetings (TAC, etc.). 2021 budget also assumes 17 meetings including BCWMC meetings (12), TAC meetings (3), Administrative Services Committee meetings (1), Budget Committee meetings and other meetings (1). 2022 and 2023 budgets increased to reflect return to in-person meetings, plus additional staff attendance at meetings. 2024 Budget same as 2023.

(D) For Commission-directed surveys and studies not identified in other categories - e.g., past work has included watershed tours, Medicine Lake outlet work, Flood Control Project Maintenance and Responsibilities, Sweeney Lake sediment monitoring, stream monitoring equipment purchase. 2018 budget was reduced from previous years for overall budget savings. 2019 budget is more in line with previous years and gives Commission flexibility to investigate or tackle unforeseen issues that arise. Lowered again in 2020, 2021, and 2022 for budget savings. Among other surveys and studies, in 2023 this budget may be used to review and develop agreements with Minneapolis related to tunnel roles and responsibilities. There are not yet specific plans for this budget in 2024 but it allows BCWMC to address unforeseen issues.

(E) Routine lake and stream monitoring. Follows monitoring schedule laid out in Appendix A of Watershed Plan. Higher budget than 2023 due to monitoring 3 lakes instead of 2, biological monitoring on streams, and higher water quality monitoring costs for North Branch than Plymouth Creek (partnership with TRPD brought down costs for Plymouth Creek). See details on next page. https://www.bassettcreekwmo.org/application/files/7914/4676/6436/Appendix_A_Monitoring_Plan.pdf

(F) Water Quantity (lake level) monitoring. 2018 budget lowered for budget savings and resulted in fewer data points. 2019 budget back to earlier budget levels. 2020 budget lowered again for budget savings. 2022 and 2023 budget increase allows for additional measurements and benchmark checks, beyond the once/month lake level measurements to assist with proper maintenance of hydrologic and hydraulic modeling and climate resiliency preparations. 2024 same as 2023 budget

(G) 2024 budget includes double box inspection, along with annual inspections. Budget assumes \$70,000 for double box inspection (includes \$25,000 in subcontractor fees for Rescue Resources and a crane), and \$15,000 for regular annual inspections. The BCWMC Flood Control Project Double Box Culvert Repairs CIP project (FCP-1) is slated for 2027; a feasibility study is needed in 2025 or 2026. Therefore, the double box inspection includes meeting with contractor in double box culvert to discuss repairs for 2025/2026 feasibility study. The last deep tunnel inspection was 2020, next one is due 2030. Unsubmerged deep tunnel inspection due in 2025.

http://www.bassettcreekwmo.org/application/files/4514/9637/1815/2016_FCP_Policies.pdf

(H) Municipal plan approvals completed in 2019; however, this task has also included review of adjacent WMO plan amendments, and review of city ordinances; \$2,000 budget recommended annually.

(I) Monitoring at the Watershed Outlet Monitoring Program (WOMP) site in Minneapolis through an agreement with Met Council (MCES). Commission is reimbursed \$5,000 from Met Council. Met Council pays for equipment, maintenance, power, cell service, and lab analyses. Monitoring protocol changed in 2017 with collection of bi-monthly samples (up from once-per-month sampling). Both Barr and Stantec (previously Wenck) have tasks related to WOMP activities. Station was moved in late 2020. In 2022, Barr portion was set at \$10,000 because MCES requested additional high flow measurements due to the new station location. Stantec portion was similar to previous years at \$18,500 due to similar sampling regime. 2024 budget reflects actual 2023 contract with Stantec and Barr estimates (\$7,500 for Barr + \$19,000 for Stantec).

(J) This item is used to make updates to the XP-SWMM model, coordinate with P8 model updates, and assist cities with model use. No XP-SWMM updates were performed 2019 - 2021 due to work on the grant funded FEMA modeling project. 2022 budget includes finalizing updates to the Commission's official model and flood elevations to match the "FEMA model" (this work was started in 2021 using "Surveys and Studies" budget). 2024 budget is same as 2023: budget assumes Barr will request, compile, and review information provided by the cities and flag those that are large enough/significant enough to incorporate into the XP-SWMM and P8 model updates. As this covers both XP-SWMM and P8, we assumed \$0 for the TMDL Implementation Reporting (P8 model update) budget.

Notes (continued)

(K) Funds to implement recommendations of Aquatic Plant Management/Aquatic Invasive Species Committee likely including curly-leaf pondweed control in Medicine Lake and small grant program for launch inspectors, education/outreach, etc. by other organizations including TRPD, AMLAC, others. TRPD shares cost (17%) of treatments. In 2021, recieved \$5,000 DNR grant. In 2022, recieved \$10,000 DNR grant. In 2022 and for a few years thereafter, treatment costs are expected to be significantly higher due to expanded treatment area allowed under Lake Vegetation Management Plan. No DNR grant in 2023 awarded in 2023. 2024 budget same as 2023.

(L) The scope and budget for development of the 2025 Watershed Plan was approved in February 2022. \$38,000 has already been set aside 2019 - 2022 in a long term account for Plan development, of which \$11,000 was initially planned to cover work in 2022. The Commission approved a revised Plan scope and budget in September 2022 to include additional funding to address "complex issues." In 2022, Barr spent approximately \$41,000 as part of the original Plan update and complex issues tasks. In 2023, Barr estimates spending \$42,000 and Administrator estimates spending \$11,250 on Plan development (total = \$53,250) and Barr estimates spending \$16,300 to address complex issues. Barr estimates spending \$26,700 in 2024 and Administrator estimates spending \$8,950 on Plan development (total = \$35,650).

(M) Amended Administrator contract approved March 2022 includes 87.5 hours per month at \$75/hour starting in FY23 for total of \$78,750.

(N) MN Association of Watershed District Annual dues. New budget item. 2019 and 2020 dues were \$500 because WMOs were newly allowed to join the organization. 2021 dues \$3,750. Starting in 2022 dues went to the max of \$7,500 similar to other Metro watersheds.

(O) For Commission attorney. 2022 budget included 3% hourly rate increase over 2021 + more work expected. Acutal costs in 2022 were \$3,000 over budget. 2024 proposed budget is in line with acutal 2022 costs. Legal costs for some CIP projects will be charged to specific CIP budgets, as warranted.

(P) In 2021, Commission began contractoing with Redpath for accounting services. 2023 contract includes NTE of \$16,650. Increased 2024 budget to reflect slight potential increase from 2023 contract.

(Q) Insurance and audit costs have risen considerably in the last few years.

(R) Assumes 12 in-person meetings @ \$200 per meeting

(S) Recording Secretary \$40/hr rate * 8 hrs/mo for 6 months for minutes (\$1,920 total) + \$250/mo meeting packet printing/mailling + \$400 supplies (envelopes, stamps, etc).

(T) Budget was decreased in last few years to be more in line with actual expenses. Costs associated with Commission Engineer assistance with annual report

(U) Based on agreement with HDR for website hosting and maintenance activities.

(V) Includes CAMP (\$7,000), River Watch (\$2,000), Metro Watershed Partners (\$3,500), Metro Blooms Workshops (\$1,500), Children's Water Festival (\$350), Metro Blooms resident engagement in Minneapolis neighborhoods (\$4,000).

(W) Includes funding for West Metro Water Alliance at \$13,000 and \$15,000 for work by educational contractors + supplies and materials including educational signage, display materials, Commissioner training, etc. [2024 may be a good year to redesign and print watershed map for estimated \$15,000]

(X) Public Communications covers required public notices for public hearings, etc.

(Y) Will be transferred to Channel Maintenance Fund for use by cities with smaller projects along main streams.

(Z) Will be transferred to Long-Term Maintenance Fund. Budget increased in 2023 to be more in line with expected costs at TAC's recommendation.

(AA) This task is meant for updating the P8 pollution model; will be done in conjunction with the work in budget line J with XP-SWMM model updates.

BCWMC 2024 Water Quality Monitoring Budgets - by item		
Item	Budget	Notes
Reporting on 2023 (and 2022 biological) monitoring:		
Plymouth Creek stream flow and quality monitoring (2022 & 2023), and biological monitoring (2022)	\$15,500	Stream flow, water quality, and biological monitoring will be combined into one report for Plymouth Creek. Report will follow template of recent reports.
Sweeney Lake & Twin Lake	\$13,000	Report will follow template of recent reports.
2024 monitoring:		
Year 1 of North Branch stream flow and quality monitoring	\$42,000	Flow and monitoring equipment will be installed in the North Branch of Bassett Creek. Samples will be collected during 8 storm events and 7 baseflow events. Water depth, flow, temperature, and specific conductance will be continuously measured during the 2024 monitoring period. Dissolved oxygen will be continuously measured for 4 days during July or August. Storm and base flow samples will be analyzed for nutrients (total phosphorus, ortho phosphorus, dissolved phosphorus, nitrate/nitrite, ammonia, and total Kjeldahl nitrogen), solids (total suspended solids and volatile suspended solids), chlorides, hardness, calcium, and magnesium. Base-flow samples will also be analyzed for chlorophyll a, and E. coli bacteria. Quarterly grab samples will be analyzed for metals (chromium, cadmium, copper, lead, nickel, and zinc). Instantaneous dissolved oxygen and pH measurements will be taken when baseflow samples are collected. MCES Lab will perform the analyses. Four manual flow measurements will be taken to verify/adjust the rating curve. Budget assumes an average level of maintenance and trouble-shooting efforts. Budget also includes purchase of a new 4G cell modem, as the existing modem is obsolete. Cellular data services will be purchased directly from the vendor (Campbell Scientific), rather than Verizon (saves time and costs). Equipment that cannot withstand winter weather (e.g., specific conductance probe) will be removed at the end of the monitoring period. Data will be reviewed and
Parkers Lake (Priority 1 Deep lake)	\$20,000	Detailed lake monitoring includes monitoring one location on Parkers Lake on 6 occasions for selected parameters (total phosphorus, soluble reactive phosphorus, total nitrogen, chlorophyll a, chloride, temperature, pH, DO, and specific conductance), plus parameters associated with AIS vulnerability (alkalinity, sodium, hardness, calcium, and magnesium) sample analysis, phytoplankton and zooplankton collection and analysis, an aquatic plant survey (two occasions), calculation of aquatic plant IBIs, preparation of dissolved oxygen, temperature, total phosphorus, and specific conductance isopleths, completion of trend analyses of total phosphorus, chlorophyll a, and Secchi disc average summer values. Three Rivers Park District staff will collect water quality, phytoplankton, and zooplankton samples, perform aquatic plant surveys, and complete lab analysis of samples (except for AIS vulnerability parameters) at a reduced cost to BCWMC. Final report preparation (following template of recent reports) and presentation costs deferred to 2025.
Westwood Lake (Priority 1 Shallow lake)	\$23,000	Detailed lake monitoring includes monitoring one location on six occasions for selected parameters (total phosphorus, ortho phosphorus, total nitrogen, nitrate +nitrite nitrogen, total Kjeldahl nitrogen, chlorophyll a, chloride, Secchi disc, temperature, pH, DO, and specific conductance), plus parameters associated with AIS vulnerability (alkalinity, hardness, calcium, magnesium, and sodium) and sample analysis, monitoring phytoplankton, and zooplankton and sample analysis, an aquatic plant survey (two occasions), calculation of aquatic plant IBIs, preparation of dissolved oxygen, temperature, total phosphorus, and specific conductance isopleths, completion of trend analyses of total phosphorus, chlorophyll a, and Secchi disc average summer values. Final report preparation (following template of recent reports) and presentation costs deferred to 2025.
Cavanaugh Lake (Priority 2 Shallow lake)	\$23,000	Detailed lake monitoring includes monitoring one location on six occasions for selected parameters (total phosphorus, ortho phosphorus, total nitrogen, nitrate +nitrite nitrogen, total Kjeldahl nitrogen, chlorophyll a, chloride, Secchi disc, temperature, pH, DO, and specific conductance), plus parameters associated with AIS vulnerability (alkalinity, hardness, calcium, magnesium, and sodium) and sample analysis, monitoring phytoplankton, and zooplankton and sample analysis, an aquatic plant survey (two occasions), calculation of aquatic plant IBIs, preparation of dissolved oxygen, temperature, total phosphorus, and specific conductance isopleths, completion of trend analyses of total phosphorus, chlorophyll a, and Secchi disc average summer values. Final report preparation (following template of recent reports) and presentation costs deferred to 2025.
Biological monitoring - Main Stem & North Branch	\$14,000	Assumptions: 1) one sample event during late September to early October of 2024; 2) macroinvertebrate samples will be collected and a habitat survey completed at one location on the North Branch and three locations on the Main Stem; 3) microscope identification/ enumeration by subconsultant (Dr. Dean Hansen); and 4) MPCA computes MIBI at no cost to BCWMC. Budget does not include report and presentation to Commission, which will likely occur in 2026 (and be included in 2026 budget), to coincide with the reporting on the North Branch stream flow and water quality monitoring. This monitoring could be deferred to 2025, if needed.
General water quality	\$10,000	
Total Water Quality Monitoring	\$160,500	