Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Impaired Waters – High Priority

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
Water quality in priority waterbodies meets or is better than applicable State water quality standards	Achieve State eutrophication standard in Medicine Lake (see table)	 Assess TMDL implementation status and existing conditions (\$ TBD; scope being developed) Manage curly-leaf pondweed in Medicine Lake (\$14,000) Assess feasibility/perform alum treatment to manage sediment TP load - CIP Implement stormwater treatment projects in tributary subwatersheds – CIP Provide education to lake homeowners including shoreland restoration workshops – new activity (\$5,000) Encourage/fund buffers on private lakeshore property – new activity (\$10,000) Monitor Medicine Lake water quality (\$14,000 every 3 years) Review development and redevelopment projects for compliance with BCWMC standards (fee for service) Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) 	Discussion about including values in goal statement at 10/4 PSC meeting; consensus decision to reference a table as there are multiple standards and they may change.
	Make significant improvement in water quality toward achieving State eutrophication standards (see table) in: - Northwood Lake - Lost Lake	 Perform subwatershed analyses for Lost and Northwood Lakes (or cooperate on TMDL) – new activity (one time \$50,000 possible estimate) Implement stormwater treatment projects in tributary subwatersheds – CIP Provide education to lake homeowners including shoreland restoration workshops new activity (\$5,000) Encourage/fund buffers on private lakeshore property - new activity (\$10,000) 	Discussion at 10/4 PSC meeting to add, but not define, "significant" to goal text; significant could mean a statistically significant improving trend is identified.

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Impaired Waters – High Priority

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
		 Monitor water quality of Lost and Northwood (\$71,000 every 3 years) Review development and redevelopment projects for compliance with BCWMC standards – fee for service Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) 	
	Maintain or improve water quality in priority lakes currently meeting State eutrophication standards: - Cavanaugh Pond, Crane Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, Wirth Lake,	 Monitor water quality of priority waterbodies (\$30,000/lake every 1 to 3 years) Cooperate on any future TMDLs – new activity (\$ unknown) Review development and redevelopment projects for compliance with BCWMC standards – fee for service Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) Education and outreach to watershed residents (\$46,000 current education programs) 	-
	Reduce bacterial loading to the Main Stem Bassett Creek, Plymouth Creek, Sweeney Branch of Bassett Creek, and the North Branch of Bassett Creek	 Establish baseline of bacterial loading and possible sources – new activity (\$20,000 possible estimate) Install signage regarding pet waste and other best practices to reduce bacterial loading - \$0 (city expense) Implement projects to improve shoreline integrity along priority streams (indirect benefit) – CIP 	Check Bacteria TMDL for other implementation ideas Get goal wording help from Alt. Comm. Jodi Polzin

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Impaired Waters – High Priority

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
	Maintain or improve water quality in priority streams to achieve State eutrophication standards (see table).	 Continue to participate in the Metropolitan Council's watershed outlet monitoring program (WOMP) (\$27,000) Education and outreach to watershed residents (\$46,000 current education programs) Implement projects to improve shoreline integrity along priority streams - CIP Implement watershed stormwater treatment projects - CIP Continue to participate in the Metropolitan Council's watershed outlet monitoring program (WOMP) (\$27,000) Review development and redevelopment projects for compliance with BCWMC standards – fee for service Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) Education and outreach to watershed residents (\$46,000 current education programs) 	-
	Maintain total phosphorus loading to the Mississippi River of 0.35 lb/acre/year or less	 Implement watershed stormwater treatment projects - CIP Continue to participate in the Metropolitan Council's watershed outlet monitoring program (WOMP) (\$27,000) Review development and redevelopment projects for compliance with BCWMC standards - fee for service Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) 	-

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Impaired Waters – High Priority

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
	Maintain or improve macroinvertebrate indices of biological integrity (MIBI) in priority streams (see table)	 Encourage/fund buffers on private riparian property – new activity (\$10,000) Implement projects to stabilize degraded riparian areas – CIP/channel maintenance funds Continue MIBI monitoring (\$8,000) Data review to identify areas/zones where specific stressors are most significant – new activity (\$10,000 possible estimate) Incorporate elements to improve in-stream habitat or address stream impairment stressors on all stream-focused BCWMC capital improvement projects - CIP Review development and redevelopment projects for compliance with BCWMC standards – fee for service Ensure compliance with BCWMC standards (enforce/inspect) – new activity (\$ unknown) 	-
	Maintain or improve the floristic quality index (FQI) of priority lakes towards achieving State standards for aquatic vegetation (see table)	 Vegetation surveys of priority lakes (\$1,500) In-lake aquatic plant management (e.g., AIS treatment) (see AIS issue below) Education and outreach to watershed residents (\$46,000 current education programs) 	New item not included at 10/4/23 PSC meeting

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Summary of Priority Lake Eutrophication Data vs. State Standards

Priority Lake	State Std TP (ug/L)	Current Condition TP (ug/L) ¹	State Std Chl a (ug/L)	Current Condition Chl a (ug/L) ¹	State Std Secchi (m)	Current Condition Secchi (m) ¹
Cavanaugh Pond	60	39	20	9.1	<u>≥</u> 1.0	1.8
Crane Lake	60	28	20	7.0	<u>≥</u> 1.0	0.94
Lost Lake	60	95	20	50	<u>≥</u> 1.0	0.8
Medicine Lake ²	40	54	14	30	<u>≥</u> 1.4	1.8
Northwood Lake	60	223	20	72	<u>≥</u> 1.0	0.7
Parkers Lake	40	27	14	11	<u>≥</u> 1.4	2.8
Sweeney Lake ³	40	34	14	14	<u>≥</u> 1.4	1.6
Twin Lake	40	15	14	3.6	<u>></u> 1.4	3.5
Westwood Lake	60	32	20	4.9	<u>≥</u> 1.0	1.3
Wirth Lake	40	28	14	8.1	<u>></u> 1.4	2.8

TP = total phosphorus; Chl a = chlorophyll a; SD = Secchi disc transparency

Red = does not meet standard/goal

Summary of Priority Stream Water Quality Data vs. State Standards

Priority Stream	State Std TP (ug/L)	Current Condition TP (ug/L) ¹	State Std TSS (mg/L)	Current Condition TSS (mg/L)	State Std E. coli (#/100 mL) ²	Current Condition (#/100 mL)
Bassett Creek (Main Stem)	100	195	30	19.7	126	168
North Branch Bassett Creek	100	91	30	73	126	
Plymouth Creek	100	227	30	23.8	126	853
Sweeney Branch Bassett Creek	100	101	30	21.4	126	257

TP = total phosphorus; TSS = total suspended solids; E. col = Escherichia coli

Current condition is based on data collected from: 2013-2022 for Main Stem Bassett Creek, 2018 for North Branch Bassett Creek, 2020 for Sweeney Branch Bassett Creek, and 2022 for Plymouth Creek

Red = does not meet standard/goal

⁽¹⁾ Based on summer average data collected 2013-2022

⁽²⁾ Main basin

⁽³⁾ North basin

⁽⁴⁾ Crane Lake Secchi disc depth is limited due to dense aquatic plant growth impeding travel of the Secchi disc

⁽¹⁾ based on summer average values (June through September)

^{(2) 126} organisms per 100 mL as a geometric mean of not less than five samples within any month, nor shall more than 10% of all samples within a month exceed 1,260 organisms per 100 mL (note that BCWMC monitoring is limited to fewer than 5 samples per month)

⁽³⁾ A stream is considered impaired if two or more measurements exceed the chronic criterion (230 mg/L) within a 3-year period or if one measurement exceeds the acute criterion (860 mg/L)

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Summary of Priority Stream Macroinvertebrate Data vs. State Standards

Priority Stream Location		State Std MIBI	Current Condition MIBI ¹	Years of Current MIBI
Bassett Creek (Main Stem)	East of Brookridge	<u>></u> 37	22.9	2015, 2018
Bassett Creek (Main Stem)	Irving Avenue	<u>></u> 37	22.0	2015, 2018
Bassett Creek (Main Stem)	Rhode Island Avenue	<u>></u> 37	17.6	2015, 2018
North Branch Bassett Creek	34 th Street	<u>></u> 37	23.0	2015, 2018
Plymouth Creek	Industrial Park Blvd	<u>></u> 37	15.9	2015, 2022
Sweeney Branch Bassett Creek	Woodstock Avenue	<u>></u> 43	45.5	2015, 2020

MIBI = Macroinvertebrate Index of Biological Integrity

State MIBI standards are based on "general use" category for Class 5 southern high-gradient streams (MIBI = 37) or Class 6 southern forest low-gradient stream (MIBI = 43)

Red = does not meet standard/goal

(1) based on average of listed years

Summary of Priority Lake Floristic Quality Index (FQI) vs. State Standards

Priority Lake	State Std FQI	Most Recent FQI ¹	Year of Most Recent FQI	10-year Average FQI ²	Years of Average FQI
Cavanaugh Pond	>17.8	25.0	2019	25.0	2019
Crane Lake	>17.8	18.6	2021	18.8	2016, 2021
Lost Lake	>17.8	20.6	2022	11.8	2017, 2022
Medicine Lake	>18.6	27.6	2020	25.3	2016, 2020
Northwood Lake	>17.8	14.1	2022	14.5	2016, 2019, 2022
Parkers Lake	>18.6	19.5	2021	18.9	2018, 2021
Sweeney Lake	>18.6	25.2	2020	21.7	2014, 2017, 2019, 2020
Twin Lake	>18.6	28.3	2020	24.7	2014, 2017, 2019, 2020
Westwood Lake	>17.8	20.1	2021	19.0	2015, 2018, 2021
Wirth Lake	>17.8				

FQI = Floristic Quality Index; FQI is a measure of the quality of aquatic vegetation

Red = does not meet standard/goal based on 10-year average FQI

- (1) Reflects the average of June and August measurements during the most recent monitoring year
- (2) Reflects average of all measurements in the 10-year period from 2014-2023

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Chloride Loading – High Priority

Issue Statement: High chloride loading from overuse of winter deicers across the Bassett Creek watershed negatively impacts lake and stream water quality.

Desired Future	Goal (10-year)	Strategy, Action, or Task (some potential examples;	Notes/Timeframe/
Condition		highlight = new activity)	Discussion Items
Priority waterbodies meet applicable State chloride standards	Reduce chloride concentrations in lakes vulnerable to chloride pollution and those not meeting State standards.	 Perform subwatershed analyses for chloride-impaired lakes to identify pollution hotspots and to target implementation – new activity (\$75,000 possible estimate) Aside from the above, identify waterbodies and/or subwatersheds at greatest risk to chloride pollution or impairment (overlays?) – new activity (\$10,000 possible estimate) Incentivize/require Smart Salt training – new activity (\$2,000) Require winter maintenance plans for applicable projects/locations – new activity \$0 Develop/identify/require(?) design strategies to minimize salt use – new activity (\$10,000 possible estimate) Update development and redevelopment standards (watershed-wide or select areas?) – new activity (\$ unknown; could do during plan development) Develop plans for priority waterbodies similar to Parkers Lake Chloride Reduction Study – new activity (\$45,000 per lake) Education targeted to private applicators – new activity (\$10,000) Monitor chlorides in priority waterbodies (\$ included with monitoring budgets) 	

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Reduce average chloride concentrations in Bassett Creek by 10% at the Watershed Outlet Monitoring Program (WOMP) station.	-	All action items from goal above	-
1	<u> </u>		1

Summary of Priority Lake Chloride Data vs. State Standards

Priority Waterbody	State Chronic Std Chloride (mg/L)	Current Condition Average Chloride ¹ (mg/L)	State Acute Std Chloride (mg/L)	Current Condition Maximum Chloride ² (mg/L)	Number of Observations
Cavanaugh Pond	230	59	860	70	12
Crane Lake ⁴	230	718	860	820	6
Lost Lake	230	31	860	33	12
Medicine Lake	230	162	860	375	318
Northwood Lake	230	104	860	274	12
Parkers Lake ⁴	230	257	860	716	103
Sweeney Lake ⁴	230	276	860	371	48
Twin Lake	230	117	860	139	26
Westwood Lake	230	81	860	99	12
Wirth Lake	230	200	860	512	306
Bassett Creek ^{3,4}	230	165	860	664	259
North Branch Bassett Creek	230	88	860	219	12
Plymouth Creek	230	180	860	382	25
Sweeney Branch Bassett Creek	230	218	860	348	18

Red = does not meet standard/goal

⁽¹⁾ Based on all measurements 2013-2022

⁽²⁾ Based on maximum concentration observed between 2013-2022

⁽³⁾ As measured at watershed outlet monitoring program (WOMP) location

⁽⁴⁾ A stream is considered impaired if two or more measurements exceed the chronic criterion within a 3-year period or if one measurement exceeds the acute criterion

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Streambank and Gully Erosion — Medium Priority

Issue Statement: Excessive erosion along streambanks and gullies increases sediment and other pollutant loading and impacts stream geomorphology negatively impacting water quality, aquatic habitat, and climate resiliency.

Desired Future	Goal (10-year)	Strategy, Action, or Task (some potential examples;	Notes/Timeframe/
Condition		highlight = new activity)	Discussion Items
Streambanks and gullies throughout the watershed are stable with no significant active erosion.	Maintain or reduce total suspended solids concentrations in priority streams.	 Monitor and evaluate stream habitat and macroinvertebrate communities. (\$8,000/creek) Biennially assess the condition of streambanks along BCWMC priority streams and prioritize areas for action – new activity (\$25,000 possible estimate) Implement streambank restoration projects to stabilize banks, limit erosion, and improve ecological health - CIP Continue setting aside funds in Channel Maintenance Fund – (\$25,000) Require vegetated buffers adjacent to priority streams for projects triggering BCWMC review (ensure enforcement of existing stream buffer standards) \$0 	No change to current buffer standards proposed. Could consider mechanism to enforce buffer requirements or audit city's enforcement

Issue Statement: Erosion along lake shorelines degrades water quality and negatively impacts lake ecology.			
Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
Shorelines along priority lakes have buffers with native vegetation and no erosion.	Establish native buffers on 10 lakeshore properties	 Inventory lakeshore conditions in priority lakes – new activity (\$10,000/lake) Provide education to lake homeowners including shoreland restoration workshops – new activity (\$5,000) Encourage/fund buffers on public or private lakeshore property – new activity (\$10,000) 	Shoreland habitat monitoring program was not approved for implementation (upon TAC recommendation) in Jan 2017. (TAC indicated cities already perform these types of surveys buthere's no evidence or reporting of that activity)

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Wetland Health and Restoration — Medium Priority

Issue Statement: The health and quantity of wetlands within the Bassett Creek watershed has been impacted by development and the changing climate.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
Wetlands throughout the watershed are healthy and no additional wetland acres are lost to development.	Establish and maintain vegetated wetland buffers where required	 Require vegetated buffers adjacent to wetlands for projects triggering BCWMC review \$0 Ensure enforcement of existing wetland buffer standard – new activity (\$ unknown) Assist partners with education to residents on wetland health and native buffers – (\$46,000 current education programs) 	BCWMC must identify priority wetlands within this plan [decide process for that] Reference wetland maps BCWMC is the WCA LGU in
	Restore or enhance priority wetlands as opportunities arise or adjacent CIP projects are planned	 Encourage cities to restore or enhance wetlands during city projects or through development processes - \$0 Identify opportunities for wetland restoration and enhancement through BCWMC CIP projects 	Robbinsdale, Med Lake, SLP

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Aquatic Invasive Species — Medium Priority

Issue Statement: Aquatic invasive species (AIS) present in the Bassett Creek watershed negatively impact water quality, lake and stream ecology, and climate resiliency.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
No new AIS infestations in lakes or creeks. Existing AIS are eradicated or well under control.	Prevent new AIS infestations in lakes or creeks throughout the watershed.	 Implement BCWMC's aquatic plant management/aquatic invasive species (APM/AIS) policies (\$40,000) Assist TRPD, Hennepin County, and others with AIS inspection programs (\$5,000) Work with Hennepin County, member cities, and other partners to provide signage, education, and early detection training to residents, boaters, anglers, and lakeshore landowners (\$46,000 current education programs) 	Turn APM/AIS recommendations approved in 2017 into policies, where appropriate Consider updating rapid response plan to reflect actual practice (Sweeney EWM as example)
	Mitigate the impact of existing AIS infestations through application of BCWMC policies.	 Implement BCWMC's aquatic plant management/aquatic invasive species (APM/AIS) policies (\$40,000) Work with TRPD and MnDNR to manage and assess curly-leaf pondweed, starry stonewort, and zebra mussels in Medicine Lake (included in \$40,000 above) Follow AIS Rapid Response Plan when needed - \$ unknown 	Reference map showing current AIS in priority waters

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Groundwater - Surface Water Interactions - Medium Priority

Issue Statement: The flow of water between groundwater and lakes, streams, and wetlands complicates the protection, restoration, and responsible management of natural resources.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
Areas with groundwater – surface interaction are identified and negative impacts due to interaction are minimized. Hennepin County develops and implements county groundwater plan.	Evaluate the groundwater-surface water interaction characteristics of BCWMC priority waterbodies.	 Work with Met Council or other agencies to map groundwatersheds and evaluate groundwatersurface water interactions – new activity (\$50,000 possible estimate) Lobby Hennepin County to develop county-wide groundwater management plan (similar to Dakota and Washington Counties) – new activity \$0 	
	Consider and mitigate negative impacts of groundwater-surface water interactions during development and project implementation.	- Assist with development of regional or statewide policies regarding infiltration of stormwater – new activity (\$5,000 possible estimate) - Through BCWMC Requirements Document: maintain requirements detailing circumstances where stormwater infiltration is limited or prohibited for the protection of groundwater resources (consisted with the MPCA Construction Stormwater General Permit) – fee for service	

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Degradation of Riparian Areas – Low Priority

Issue Statement: Degraded riparian areas allow excess pollutant loading to lakes and streams, contribute to impairments (water quality and biological), and result in poor ecological function and habitat.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity))	Notes/Timeframe/ Discussion Items
Riparian areas throughout the watershed are ecologically healthy with well established, diverse native vegetation.	Establish and maintain vegetated stream buffers where required.	 Require vegetated buffers adjacent to priority streams for projects triggering BCWMC review (ensure enforcement of existing stream buffer standard – new activity \$ unknown) Provide education to creek homeowners including riparian protection/ restoration workshops – new activity (\$5,000) 	Consider lower thresholds for review of buffer standards
	Restore riparian areas along BCWMC CIP projects.	 Assess the condition of riparian areas on BCWMC priority streams and lakes and prioritize areas for action – new activity (\$ included in activities under other issues) Incorporate elements to improve riparian areas on all stream-focused and lake-adjacent BCWMC capital improvement projects CIP 	

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Degradation of Upland Areas – Low Priority

Issue Statement: Natural areas in uplands may be threatened by development pressure, lack of proper management, and negative impacts from climate change.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
		 Evaluate aesthetics, habitat, and accessibility during CIP project selection and prioritization - CIP Encourage and support public and private 	BCWMC could co-sponsor or support land protection or enhancement projects by its partners.
Natural areas throughout the watershed are well managed,		landowners to maintain, preserve or restore open space and native habitats (\$46,000 current education programs)	NOTE: Surveys indicate passive recreation in natural areas and along streams and lakes is an
ecologically healthy, and accessible to the public, where possible. High quality	Consider protection or enhancement of upland natural areas during BCWMC planning and projects.	 Member cities shall consider opportunities to maintain, enhance, or provide new open spaces and/or habitat. \$0 	important way residents interact with nature and is highly prioritized by survey respondents.
uplands are not lost or negatively mpacted by development orojects.		 Cooperate with the MDNR and other entities, as requested, to protect rare and endangered species under the State's Endangered Species Statute. The BCWMC will review the Natural Heritage Information System during the design phase of Commission projects - CIP 	
		 Incorporate trails, parks, and natural areas into BCWMC watershed map. (to be included with current map update) 	

Including edits/comments from 10/4 PSC meeting re: impaired waters, chloride; includes first iteration of additional water quality goals.

Groundwater Quality – Low Priority

Issue Statement: Groundwater quality impacts public health as a source of drinking water and may be threatened by infiltration of stormwater and associated pollutants.

Desired Future Condition	Goal (10-year)	Strategy, Action, or Task (some potential examples; highlight = new activity)	Notes/Timeframe/ Discussion Items
Groundwater is safe to drink, meets all drinking water standards, and is not adversely impacted by elevated chloride levels.	Prevent negative impacts to groundwater quality from proposed projects reviewed by the BCWMC.	 Through BCWMC Requirements Document: maintain requirements detailing circumstances where stormwater infiltration is limited or prohibited for the protection of groundwater resources (consisted with the MPCA Construction Stormwater General Permit) – fee for service Review all MDNR groundwater appropriation permit applications in the BCWMC excluding applications for temporary appropriations permits - \$3,000 	Chloride reducing actions will also help GW quality but not sure how to incorporate here b/c it's not appropriate to have chloride GW goal.
	Prevent negative impacts to groundwater quality from BCWMC projects.	- CIP projects are evaluated for potential impacts to groundwater before implementation CIP	