3 Issues and Goals

This section summarizes the priority issues addressed by this Plan. Priority issues are divided into four categories:

- Waterbody and watershed quality
- Flooding and climate resiliency
- Education and engagement
- Organizational effectiveness

Subsections specific to individual issues general present the following information:

- Issue statement
- Brief narrative describing the issue
- BCWMC tools available to address the issue
- Desired future conditions
- Measurable goals

Impaired Waters – High Priority

Issue Statement
Some lakes and streams within the Bassett Creek watershed do not meet State water quality standards; some are listed as impaired for aquatic life function and recreational use due to pollutants such as nutrients, chloride, bacteria, and other stressors.

The Minnesota Pollution Control Agency (MPCA) administers the Federal Clean Waters Act (CWA) in Minnesota. In this role, the MPCA identifies and maintains a list of waterbodies that do not meet applicable state water quality standards adopted to promote intended waterbody uses including recreation, consumption of fish, and support of aquatic life. Waterbodies in the BCWMC that do not meet applicable standards are listed in Table 2-1 and shown in (cross reference inventory map).

The sources of water pollution in the watershed are many and varied. Potential pollutant sources include permitted point sources, potentially contaminated sites, leaking above- and below-ground storage tanks, unsealed wells, and non-point sources such as stormwater runoff. Internal loading of nutrients accumulated in lake sediments and from decaying aquatic plants can also be significant. For many BCWMC waterbodies, stormwater runoff is the major external contributor of pollutants. Pollutants in stormwater runoff include phosphorus and other nutrients, sediment, chlorides, oil, grease, chemicals (including hydrocarbons), metals, litter (e.g., plastics) and pathogens. Chloride loading from runoff carrying road salt applied to roadways, parking lots, sidewalks, and other paved areas throughout the winter months is also a significant pollutant source (cross reference to chloride issue).

Table 2-1 Summary of Impaired Waters within the BCWMC (draft 2024)

Waterbody	Impaired Use	Pollutant or Stressor
Parkers Lake	Aquatic Consumption	Mercury in Fish Tissue
	Aquatic Life	Chloride
Medicine Lake	Aquatic Consumption	Mercury in Fish Tissue
	Aquatic Recreation	Nutrients/Eutrophication
	Aquatic Life	Fish Bioassessments
Sweeney Lake	Aquatic Life	Chloride
Wirth Lake	Aquatic Consumption	Mercury in Fish Tissue
	Aquatic Life	Chloride
Lost Lake	Aquatic Recreation	Nutrients/Eutrophication
Northwood Lake	Aquatic Recreation	Nutrients/Eutrophication
Bassett Creek (Main Stem)	Aquatic Life	Chloride
	Aquatic Life	Macroinvert. Bioassess.
	Aquatic Life	Fish Bioassessments
	Aquatic Recreation	Fecal Coliform
Plymouth Creek	Aquatic Life	Macroinvert. Bioassess.
	Aquatic Life	Chloride
	Aquatic Recreation	Escherichia coli
North Branch Bassett Creek	Aquatic Recreation	Escherichia coli
Sweeney Branch Bassett Creek	Aquatic Recreation	Escherichia coli
Spring Lake	Aquatic Life	Chloride

See also Table X.X in the Land and Water Resourve Inventory Appendix.

In lakes and wetlands, phosphorous is the pollutant of primary concern. As phosphorus loads increase, water quality degradation often accelerates, resulting in negative impacts such as excess algae growth or algal blooms (reflected in high chlorophyll a concentrations). Algal blooms and invasive aquatic plants (cross reference to AIS issue), such as Eurasian watermilfoil, purple loosestrife, and curly-leaf pondweed, can thrive and interfere with ecological function, recreational use, and the aesthetics of waterbodies. Some types of blue-green algae contain neurotoxins that can be harmful to people or pets if consumed. Sediment is also a pollutant of concern as it can carry phosphorus and other pollutants that bind to it. It contributes to poor water clarity that affects vegetation growth and deposits onto stream and lake beds, impacting aquatic habitat.

Additional Resources

- Water quality summaries and monitoring reports for BCWMC priority waterbodies
- MPCA Impaired waters list
- MPCA What's in My Neighborhood potential pollutant sources and environmental information
- Minnesota Stormwater Manual summary of common pollutants in stormwater

Trend analysis indicates declining water quality in Lost Lake.

Impaired Waters Desired Future Condition

Water quality in priority waterbodies meets or is better than applicable State water quality standards.

Impaired Waters Goals

WQ1: Achieve State eutrophication standards in Medicine Lake (see Table 2-2).

WQ2: Make statistically significant improvement in water quality toward achieving State eutrophication standards in Northwood Lake and Lost Lake (see Table 2-2).

WQ3: Maintain current conditions 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 (see Table 2-2).

Table 2-2 BCWMC Priority Lake Water Quality Compared to State Eutrophication Standards

Priority Lake	State Standard Total Phosphorus (ug/L)	Current Condition Total Phosphorus (ug/L)[1]	State Standard Chlorophyll *a* (ug/L)	Current Condition Chlorophyll *a* (ug/L)[1]	State Standard Secchi Depth (m)	Current Condition Secchi Depth (m)[1]
Cavanaugh Pond	60	39	20	9.1	>1.0	1.8
Crane Lake	60	28	20	7.0	>1.0	0.9[4]
Lost Lake	60	95	20	50	>1.0	0.8
Medicine Lake[2]	40	54	14	30	>1.4	1.8
Northwood Lake	60	223	20	72	>1.0	0.7
Parkers Lake	40	27	14	11	>1.4	2.8
Sweeney Lake[3]	40	34	14	14	>1.4	1.6
Twin Lake	40	15	14	3.6	>1.4	3.5
Westwood Lake	60	32	20	4.9	>1.0	1.3
Wirth Lake	40	28	14	8.1	>1.4	2.8

Red = does not meet standard/goal
(1) Based on summer average data collected 2013-2022 (will be updated with most recent data before plan adoption)
(2) Main basin
(3) North basin
(4) Crane Lake Secchi depth is limited due to dense aquatic plant growth

Impaired Waters Desired Future Condition

Water quality in priority waterbodies meets or is better than applicable State water quality standards.

Impaired Waters Goals (continued)

WQ4: Reduce sources of bacteria to Bassett Creek Main Stem, North Branch Bassett Creek, Plymouth Creek, and Sweeney Branch Bassett Creek (see Table 2-3).

WQ5: Maintain or improve water quality in priority streams to achieve State eutrophication standards (see table) – Bassett Creek Main Stem, North Branch Bassett Creek, Plymouth Creek, and Sweeney Branch Bassett Creek.

WQ6: Maintain total phosphorus loading to the Mississippi River of 0.35 lb/acre/year or less (as defined in the Lake Pepin TMDL).

Table 2-3 BCWMC Priority Stream Water Quality Compared to State Standards

Priority Lake	State Standard Total Phosphorus (ug/L)	Current Condition Total Phosphorus (ug/L)[1]	State Standard Total Suspended Solids (mg/L)	Current Condition Total Suspended Solids (mg/L)	State Standard *E. coli* (#/100 mL)[2]	Current Condition *E. coli* (#/100 mL)
Bassett Creek Main Stem	100	195	30	9.1	126	168
North Branch Bassett Creek	100	91	30	73	126	537
Plymouth Creek	100	227	30	50	126	853
Sweeney Branch Bassett Creek	100	101	30	30	126	257

Red = does not meet standard/goal

(1) Based on summer average data collected 2013-2022 for Main Stem Bassett Creek, 2018 for North Branch Bassett Creek, 2020 for Sweeney Branch Bassett Creek, and 2022 for Plymouth Creek

(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)

Impaired Waters Desired Future Condition

Water quality in priority waterbodies meets or is better than applicable State water quality standards.

Impaired Waters Goals (continued)

WQ7: Maintain or improve macroinvertebrate indices of biological integrity (MIBI) in priority streams: Bassett Creek Main Stem, North Branch Bassett Creek, Plymouth Creek, Sweeney Branch Bassett Creek (see Table 2-4).

WQ8: Maintain or improve lake floristic quality indices (FQIs) and number of species towards achieving State standards for aquatic vegetation in Cavanaugh Pond, Crane Lake, Lost Lake, Medicine Lake, Northwood Lake, Parkers Lake, Sweeney Lake, Twin Lake, Westwood Lake, and Wirth Lake (see Table 2-5).

WQ9: Maintain or improve fish index of biologic integrity for applicable priority lakes.

Table 2-4 BCWMC Priority Stream Macroinvertebrate Data Compared to State Standards

Priority Stream	Location	State Std MIBI	Current Condition MIBI[1]	Years of Current MIBI
Bassett Creek Main Stem	East of Brookridge	≥37	22.9	2015, 2018
Bassett Creek Main Stem	Irving Avenue	≥37	22.0	2015, 2018
Bassett Creek Main Stem	Rhode Island Avenue	≥37	17.6	2015, 2018
North Branch Bassett Creek	34th Street	≥37	23.0	2015, 2018
Plymouth Creek	Industrial Park Blvd	≥37	15.9	2015, 2022
Sweeney Branch Bassett Creek	Woodstock Avenue	≥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

Table 2-5 BCWMC Priority Lake Aquatic Macrophyte (Plant) Data Compared to State Standards

Priority Lake	State Std FQI	Most Recent FQI[1]	10-year Average FQI[2]	State Std Species Richness	Most Recent Species Richness[1]	10-year Average Species Richness[2]	Year of Most Recent Data	Years of Average Data
Cavanaugh Pond	>17.8	25.0	25.0	11	19	19	2019	2019
Crane Lake	>17.8	18.6	18.8	11	13.5	14	2021	2016, 2021
Lost Lake	>17.8	20.6	11.8	11	8.0	14.5	2022	2017, 2022
Medicine Lake	>18.6	27.6	25.3	12	21	23.5	2020	2016, 2020
Northwood Lake	>17.8	14.1	14.5	11	11.2	11	2022	2016, 2019, 2022
Parkers Lake	>18.6	19.5	18.9	12	13	13	2021	2018, 2021
Sweeney Lake	>18.6	25.2	21.7	12	15.3	19.5	2020	2014, 2017, 2019, 2020
Twin Lake	>18.6	28.3	24.7	12	19	23	2020	2014, 2017, 2019, 2020
Westwood Lake	>17.8	20.1	19.0	11	13.7	15.5	2021	2015, 2018, 2021
Wirth Lake	>17.8	--	--	11	--	--	--	--

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

Tools to address Impaired Waters

The BCWMC implements several strategies and tools to address impaired waters and improve water quality. These tools are described in (see implementation section) and include:

Education and Outreach – The BCWMC and its partners share materials encouraging best practices that limit pollutant loading.

Monitoring – The BCWMC collects water quality data for priority waterbodies, and reviews data to assess the condition of priority waterbodies and progress made towards BCWMC and/or State water quality goals.

Modeling and Studies – The BCWMC performs studies to evaluate sources of pollution and opportunities for treatment. The BCWMC maintains a **watershed-wide water quality model** to identify areas of high phosphorus and sediment loading ("hot spots") to target improvements and evaluate the water quality benefits of proposed improvement projects.

Project Review – The BCWMC evaluates development and redevelopment proposals for conformance with water quality performance standards to limit pollutant loading from the watershed.

Capital Projects – The BCWMC works with partners to implement projects to reduce pollutant loading to priority waterbodies from tributary watersheds and internal sources.

*The **Sweeney Lake Improvement Project** significantly reduced phosphorus, improved water quality, and supported a balanced aquatic ecosystem in Sweeney Lake. Regular monitoring from 1985 to 2018 indicated that 74% of the time, total phosphorus concentrations exceeded the state standard of 40 ug/L. Further, the lake had a history of harmful algal blooms, negatively impacting the lake's recreational usability. Despite numerous best management practices installed or implemented in the lake's watershed over the years, water quality in Sweeney Lake had not improved.*

In 2018 the Sweeney Lake Association agreed to turn off the year-round aerators that had been running for decades. This change, improved the water quality. The BCWMC project further reduced total phosphorus in the lake with a combination of curly-leaf pondweed control in Sweeney Lake, carp management in upstream Schaper Pond and Sweeney Lake, and an alum treatment in Sweeney Lake.

Following the project, water quality in Sweeney Lake improved and

Chloride Loading – High Priority

Issue Statement
High chloride loading from use of winter deicers across the Bassett Creek watershed negatively impacts lakes, streams, and groundwater water quality.

Chloride is toxic to aquatic life in high concentrations. The State has established surface water standards for chloride of 230 mg/L for chronic (long term) exposure and 860 mg/L for acute (short term) exposure. Data collected from Twin Cities Metro Area (TCMA) lakes, wetlands, and streams identified several waterbodies that exceed the State standard including the following (see also Table 2-1):

- Crane Lake
- Parkers Lake
- Spring Lake
- Sweeney Lake
- Wirth Lake
- Bassett Creek (Main Stem)
- Plymouth Creek

The use of sodium chloride (salt) as a deicing agent for winter maintenance of impervious surfaces such as sidewalks, parking lots, and roads is a significant source of chloride loading in the Bassett Creek watershed. As it melts snow and ice, chloride dissolves into the melted water and is transported in runoff to lakes, streams, and wetlands. Residential water softeners may also be a significant source of chloride. In the BCWMC, chloride from water softeners is transported downstream to municipal wastewater treatment plants (WWTPs) that discharge to the Mississippi River. However, typically wastewater treatment is not effective in removing chloride.

Chloride is extremely persistent in the environment and is considered a "permanent pollutant" because it dissolves in water and there is no practical way to remove it. Protecting surface waters from excess chloride loading is more effective than restoring impaired surface waters (consider adding Parkers Lake Study as inset example). While only some BCWMC priority waterbodies are currently listed as impaired due to chloride, the BCWMC considers all waterbodies at risk due to chloride loading from the highly impervious land use throughout the watershed.

Additional Resources

- MPCA summary information about chloride as a stormwater pollutant
- Smart Salting training resources from the MPCA
- Twin Cities Metropolitan Area Chloride Management Plan

Desired Future Condition
Priority waterbodies meet applicable State chloride standards.

Chloride Goals

WQ10: Reduce chloride loading to, and concentrations in, lakes and streams at risk of chloride impairment and those not meeting State standards.

WQ11: Reduce average chloride concentrations in Bassett Creek by 10% at the Watershed Outlet Monitoring Program (WOMP) station.

Table 2-6 BCWMC PriorityWaterbody Chloride Data Compared to 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[1] (mg/L)	Number of Observations
Cavanaugh Pond	230	59	860	70	12
Crane Lake[3]	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[3]	230	257	860	716	103
Sweeney Lake[3]	230	276	860	371	48
Twin Lake	230	117	860	139	26
Westwood Lake	230	81	860	99	12
Wirth Lake[3]	230	200	860	512	306
Bassett Creek Main Stem[2,3]	230	165	860	664	259
North Branch Bassett Creek	230	88	860	219	12
Plymouth Creek[3]	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) As measured at watershed outlet monitoring program (WOMP) location
(3) 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

Tools to address Chloride Loading

The BCWMC implements several strategies and tools to address issues resulting from chloride loading in the watershed. These tools are described in more detail in (reference implementation section) but include, briefly:

Monitoring – The BCWMC monitors chloride concentrations in its priority waterbodies to assess conditions and progress made towards BCWMC and/or State water quality goals. Chloride data is presented in Table 2-6.

Modeling and Studies – The BCWMC maintains a land use-based chloride loading map to inform project and program decisions. Pollutant load mapping allows the BCWMC to focus resources in areas where benefits can be maximized.

Project Review – The BCWMC has established performance standards for development and redevelopment projects that promote the reduction of impervious area and other factors related to winter maintenance.

Education – The BCWMC works with partners to support training, communications, and other outreach promoting strategies to minimize the use of de-icing salt.

*The **MPCA Smart Salting** program helps improve winter maintenance operator effectiveness and reduce chloride pollution while keeping roads, parking lots, and sidewalks safe. Participating organizations have been able to reduce their salt use by 30 to 70%. In addition, the training has been shown to prevent chloride contamination in lakes, rivers, and streams. More information is available at:* Smart Salting training | Minnesota Pollution Control Agency (state.mn.us)

Streambank and Gully Erosion – Medium Priority

Issue Statement
Excessive erosion along streambanks and gullies negatively impacts stream geomorphology, water quality, aquatic habitat, and floodplain function.

Erosion of streambanks, gullies, ditches and other natural conveyances of runoff is a natural process. Landscape changes often associated with urbanization, however, can significantly accelerate this process. Increased impervious area generates larger runoff volumes and higher peak runoff rates, leading to increased erosion. Development activity may result in the loss or degradation of vegetation that provides stability to natural runoff conveyances. More frequent and intense precipitation events resulting from climate change can exacerbate channel erosion issues.

Streambank, ravine, and gully erosion degrade the appearance, usability, ecological health, and water quality of streams. Possible impacts include, but are not limited to:

- Moving or widening channels can encroach on utilities, trails, roads, and structures resulting in increased maintenance and public health risk.
- Deposited sediment can limit the effectiveness of stormwater infrastructure to limit flood risk and improve water quality.
- Undercutting or sloughing of streambanks results in the loss of riparian canopy that provides pollutant filtration, habitat, and temperature-regulating benefits.
- Sedimentation of the channel bed degrades habitat for complex macroinvertebrate communities.
- Impacts to/loss of pool-riffle stream structure degrades fish and invertebrate habitat.
- Elevated in-stream sediment and pollutant concentrations stress fish populations.
- Increased pollutant loading contributes to downstream water quality issues or impairments.

Add detail based on results of stressor ID study when available.

The extent and severity of streambank, ravine, and gully erosion issues vary across the Bassett Creek watershed. The BCWMC has completed several streambank stabilization projects along various sections of priority streams to address known issues (reference past CIP projects). Opportunities for such projects are limited due to much of the streambanks being located on private land. Additional evaluation is needed to identify and prioritize streambank erosion issues to be addressed via BCWMC and partner programs and projects.

A section of eroding streambank along the Main Stem of Bassett Creek evaluated in 2023.

Desired Future Condition
Streambanks and gullies throughout the watershed are naturally stable with no excessive erosion that negatively impacts the beneficial functions of waterbodies or infrastructure.

Streambank and Gully Erosion Goals

WQ12: Achieve stable streambanks along all priority streams (Bassett Creek Main Stem, North Branch Bassett Creek, Plymouth Creek, and Sweeney Branch Bassett Creek) such that streambanks are not contributing to pollution downstream nor threatening infrastructure or public health.

WQ13: Stabilize gullies that most significantly contribute to reduced water quality downstream.

Tools to address Streambank and Gully Erosion

The BCWMC implements several strategies and tools to address streambank and gully erosion. These tools are described in more detail in (reference implementation section) but include, briefly:

Monitoring – The BCWMC monitors macroinvertebrates at several BCWMC priority stream locations to assess overall stream health.

Project Review – The BCWMC's *Requirements for Development and Redevelopment Proposals* requires vegetated buffers be maintained or established adjacent to priority streams for projects triggering BCWMC review.

Capital Projects – The BCWMC has implemented several projects along priority streams to restore streambank areas and improve water quality.

*The BCWMC funded the City of Golden Valley's construction of the **Bassett Creek Main Stem Restoration Project (10th Avenue to Duluth Street)** in 2015 and 2016. This project restored streambanks along a 9,500-foot reach of Bassett Creek in Golden Valley. The project stabilized and re-vegetated areas of bank erosion and bank failure to improve water quality and habitat. Restoration techniques include bioengineering methods, which primarily use vegetation materials, and structural methods, which use rock and other non-vegetative materials. The project reduces the total phosphorous load by an estimated 60-100 pounds per year and reduces the total suspended sediment load by an estimated 70-100 tons per year.*

Lakeshore Erosion – Medium Priority

Issue Statement
Erosion along lake shorelines degrades water quality and negatively impacts lake ecology.

Shoreline erosion occurs when land at the edge of a waterbody is eroded by wave action. Wave action is primarily driven by wind but can also be driven or exacerbated by powered watercraft. Shoreline erosion can result in the loss or degradation of habitat, increased sediment and nutrient loading to lakes, increased maintenance of recreational facilities, and diminished access. Shoreline erosion problems may be amplified by high water, frequent water level fluctuations, and the absence of lakeshore vegetation (i.e., buffers).

Shoreland ordinances adopted by BCWMC member cities include standards to minimize erosion and protect shoreline areas but are often only triggered by significant redevelopment activity. Eroded shorelines are often stabilized using "hard armoring" techniques like riprap that do not provide the water quality filtration or habitat benefits of vegetation or other soft-armoring stabilization methods.

A healthy, vegetated buffer along the shoreline of Medicine Lake.

The extent and severity of lakeshore erosion issues within the watershed is not comprehensively known and additional data is needed. Placeholder for locations/issues significant enough to be specifically identified in the Plan? The extent of lake shoreline within private property limits opportunities for the BCWMC and its partners to implement practices to address shoreline erosion issues.

Desired Future Condition
Shorelines along priority lakes have buffers with native vegetation and no excessive erosion.

Lakesore Erosion Goals

WQ14: Establish a baseline of lakeshore conditions along all priority lakes.

WQ15: Increase percentage of properties with native buffers on nutrient impaired lakes.

Tools to address lakeshore erosion

Education and Outreach – The BCWMC and its partners communicate the benefits of vegetated shorelines and opportunities/resources for lakeshore landowners to implement stewardship practices.

Add reference to cost-share program, if implemented.

Wetland Health and Restoration – Medium Priority

Issue Statement
The function, value, and quantity of wetlands within the Bassett Creek watershed have been negatively impacted by development and the changing climate.

Healthy wetlands are critical components of the hydrologic system and positively affect soil systems, groundwater and surface water quality and quantity, wildlife, fisheries, aesthetics, and recreation. Beneficial functions of wetlands include (but are not limited to):

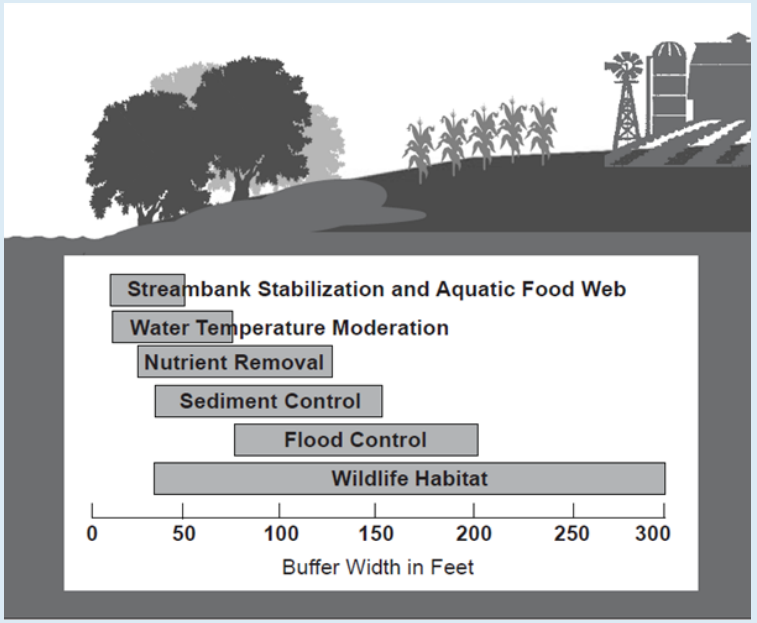
- Maintaining stream baseflow
- Recharging groundwater
- Providing flood storage and attenuating peak flows
- Providing erosion protection
- Physically filtering particulates (and pollutants attached to particulates) from runoff
- Providing wildlife habitat

Healthy wetland functions also contribute to the overall resiliency of the landscape to climate extremes. The ecological benefits of wetland communities are increased when they are physically or functionally connected with other native communities.

Many wetlands within the Bassett Creek watershed have been impacted by development and other human activities including draining, filling, altering outlet elevations, reducing drainage area, removing vegetation for access or aesthetics, and diverting stormwater to wetlands. These impacts can diminish the beneficial hydrologic functions of wetlands and tip the ecological balance to benefit invasive plant species, further reducing the benefits to water quality, wildlife, fisheries, amphibians, and humans.

The establishment of vegetated buffers is a common practice to protect existing wetlands. There are also potential opportunities for the BCWMC and its partners to implement additional protection and restoration efforts.

Although the benefits of vegetated buffers to downstream resources can be difficult to quantify, wider buffers can achieve a broader range of and/or more significant benefits.



Source: Riparian Forest Buffers: Linking Land and Water. 2004. Alliance for the Chesapeake Bay.

Desired Future Condition
Wetland function and values are sustained and enhanced, and no additional wetland acres are lost to development.

Wetland Health and Restoration Goals

WQ16: Establish baseline wetland conditions through watershed-wide wetland inventory and assessment; identify priority wetlands.

WQ17: Restore or enhance priority wetlands as opportunities arise or as adjacent CIP projects are planned.

Tools to address lakeshore erosion

Monitoring and Studies – BCWMC member cities inventory and classify wetlands according to functions and values, comprehensively or on an as needed basis.

Project Review – The BCWMC's *Requirements for Development and Redevelopment Proposals* includes standards for wetland buffers applicable to projects triggering BCWMC review. Wetland buffer standards are implemented by member cities.

The BCWMC also administers the Wetland Conservation Act (WCA) for the cities of Medicine Lake, Robbinsdale, and St. Louis Park. Other member cities administer WCA within their cities. The WCA provides basic protections to minimize wetland impacts and requires mitigation for those impacts.

Aquatic Invasive Species – Medium Priority

Issue Statement
Aquatic invasive species (AIS) present in the Bassett Creek watershed can negatively impact water quality, and lake and stream ecology, and are exacerbated by climate trends.

Aquatic invasive species (AIS) is a term given to invasive species that inhabit lakes, wetlands, rivers, or streams and overrun or inhibit the growth of native species. Aquatic invasive species pose a threat to natural resources and local economies that depend on them. The presence of AIS can impair the ecological, aesthetic, and recreational functions of aquatic, wetland, and shoreland areas.

Several waterbodies within the Bassett Creek watershed are known to contain AIS populations (reference table). Some AIS contribute directly to nutrient loading in lakes and streams (e.g., curly-leaf pondweed, carp). Other AIS impact lake ecology by creating less diverse habitats that support fewer species and are less resilient to climate extremes.

Based on their potential environmental impact and the difficulty of eradication once a waterbody is infested, the BCWMC seeks to prevent the spread of AIS and manage the AIS already present. The BCWMC partners with the Minnesota Department of Natural Resources (MDNR) and other partners in AIS management efforts. The MDNR administers a statewide Invasive Species Program. More information is available at: Aquatic Invasive Species - Programs, Reports, and Partners | Minnesota DNR (state.mn.us)

Species prioritized in the BCWMC AIS rapid response plan include:

Curly-leaf Pondweed *(Potamogeton crispus)*:

This submersed aquatic plant grows vigorously during early spring, outcompeting native species for nutrients. After curly-leaf pondweed dies out in early to mid-summer, decay of the plant releases nutrients and consumes oxygen, creating conditions that can increase sediment release of phosphorus. This process may result in algal blooms during the peak of the recreational use season, which further inhibit native macrophytes by reducing water clarity and blocking sunlight necessary for growth.

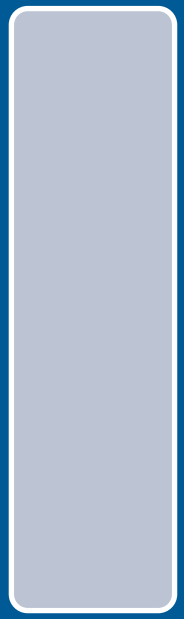
Common Carp

Carp feeding techniques disrupt shallow-rooted plants, which can reduce water clarity and possibly release phosphorus bound in sediment, leading to increased algal blooms and a decline in native aquatic plants. Common carp are present throughout the watershed and are typically spread between lakes by the accidental inclusion and later release of live bait, but can also migrate through natural or built channels as adults.

Zebra mussels (*Dreissena polymorpha*)

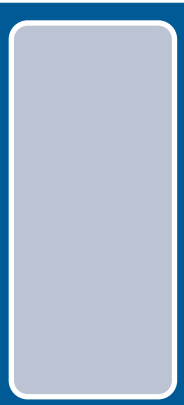
- Zebra mussels were identified in Medicine Lake in 2017 and are present in several surrounding watersheds. Their huge populations attach to hard surfaces, clog intake pipes for water treatment and power generating plants, encrust boat motors and hulls, may greatly reduce lakefront property values, and their sharp shells cut swimmers feet. Ecologically, they filter enormous quantities of microscopic algae, alter energy flow through aquatic systems, smother and cause extinctions of native bivalves, and promote toxic bluegreen algal blooms through their selective filtration.

Eurasian watermilfoil (*Myriophyllum spicatum*)



This invasive aquatic plant that reproduces from fragments and seeds. Any fragment of the plant stem that includes a node (whorl of leaves) can produce a new viable plant. Eurasian watermilfoil (EWM) stores carbohydrates which enables the plant to survive over the winter and outcompete native species in the spring. The plants often form a canopy throughout the summer that shades out native plants . EWM is spread most commonly by inadvertent transport by boaters. EWM's fast growth rate, ability to spread rapidly by fragmentation, and its ability to effectively block out sunlight needed for native plant growth often result in monotypic stands. Monotypic stands of EWM provide only a single habitat and threaten the integrity of aquatic communities, including disrupting predator-prey relationships. Dense stands of EWM also inhibit recreational uses like swimming, boating, and fishing. Cycling of nutrients from sediments to the water column by EWM may lead to deteriorating water quality and algae blooms of infested lakes.

Starry stonewort (*Nitellopsis obtusa*):



Starry stonewort is an invasive green alga that can grow tall and dense, forming mats on the surface that interfere with recreation and potentially displace native plant species (MAISRC, 2017c). The spread of starry stonewort is estimated to be through human movement of fragments from lake to lake. It was first recorded in Minnesota in 2015 and identified in Medicine Lake in 2018

Desired Future Condition

No new AIS infestations in lakes or creeks. Existing AIS are managed such that they are not negatively impacting beneficial functions.

Aquatic Invasive Species Goals

WQ18: Prevent new AIS infestations in lakes or creeks throughout the watershed.

WQ19: Mitigate the impact of existing AIS infestations through application of BCWMC policies and practices.

Tools to address aquatic invasive species

Monitoring and Studies – The BCWMC monitors for select AIS (plants) as part of its water quality monitoring program (reference monitoring section).

Projects and Programs – The BCWMC developed a *AIS Rapid Response Plan* (BCWMC, 2018) addressing seven BCWMC lakes. The plan seeks to reduce the potential establishment, spread, and harmful impacts of a species when new infestations are detected through coordinated containment and suppression and/or eradication.

Groundwater-Surface Water Interaction – Medium Priority

Issue Statement
The uncertainty of groundwater – surface water interactions complicates our ability to protect, restore, and responsibly manage natural resources.

Surface water and groundwater are interdependent. Runoff and snowmelt that infiltrate the ground surface may ultimately discharge to streams, lakes, and wetlands or percolate to deeper aquifers. Groundwater levels higher or lower than adjacent surface water features (i.e., gradient) can result in flow to or from those features, respectively. The amount of groundwater-surface water interaction depends on soil and bedrock characteristics and gradient. The temporal and spatial variability of these factors make it difficult to quantify the exchange of water between surface waters and the groundwater.

The interaction of groundwater and surface water can negatively impact both resources. Declines in groundwater levels may result in decreased baseflow to streams, which can in turn result in decreased water quality and ecosystem function. Lower water levels in lakes may limit recreational use, reduce habitat areas, and increase growth of aquatic plants including invasive species. Development of the landscape replaces pervious surfaces with impervious or less-pervious surfaces, limiting recharge to groundwater from runoff. In addition, infiltration of stormwater runoff may carry pollutants that can contaminate vulnerable groundwater supplies (reference groundwater quality issue section).

Interactions between groundwater and surface water resources may be exacerbated by changes in Minnesota's climate. Prolonged periods of drought may result in increased groundwater use, reduced infiltration, and lowered aquifer levels. Extended wet periods, conversely, may elevate groundwater levels and alter flow gradients in the surficial aquifer.

Desired Future Condition
Areas with significant groundwater – surface interaction are identified and potential negative impacts due to interaction are minimized.

Hennepin County develops and implements county groundwater plan.

Groundwater-Surface Water Interaction Goals

WQ20: Understand groundwater-surface water interaction characteristics of BCWMC priority waterbodies.

WQ21: Reduce or mitigate negative impacts of groundwater-surface water interactions during development and project implementation.

Tools to address groundwater-surface water interaction
Project Review – The BCWMC's *Requirements for Development and Redevelopment Proposals* details circumstances where stormwater infiltration is limited or prohibited for the protection of groundwater (consistent with the MPCA Construction Stormwater General Permit).

Degradation of Riparian Areas – Low Priority

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

Healthy riparian areas provide water quality, hydrologic, and habitat benefits. Vegetation and organic debris present in healthy riparian areas provide soil stability and reduce erosion of lakeshore and streambank areas (add cross reference to those issues). Vegetation obstructs the flow of runoff, thereby decreasing water velocities, allowing infiltration, and further reducing the erosion potential of stormwater runoff. Leaf litter from vegetation can also increase the organic content of the soil and increase adsorption and infiltration. Riparian vegetation scatters sunlight and provides shade, reducing water temperature in the summer. Healthy riparian areas also have habitat benefits, providing food and shelter for native wildlife, fish, and amphibians. These areas provide separation and interspersion areas for animals, to reduce competition and maintain populations.

The benefits of healthy riparian areas increase with width and species complexity (reference inset figure in wetland issue). Development of the watershed has disturbed and degraded much of the riparian area along streams and lakes. Diverse riparian vegetation has been removed, thinned, or replaced for residential lawns, recreational access, and aesthetic reasons. Increased stormwater runoff volumes and peak flow rates can also overwhelm established riparian ecosystems leading to their degradation. The amount of riparian area located on private property limits the BCWMC's and its partners' understanding of the scope and severity of degraded riparian areas and also limits opportunities for the BCWMC and its partners to implement improvements (reference land use map).

Desired Future Condition
Riparian areas throughout the watershed are ecologically healthy with well established, diverse native vegetation.

Degraded Riparian Area Goals

WQ22: Establish and maintain native vegetation along streams, where required.

WQ23: Restore degraded riparian areas adjacent to BCWMC CIP projects.

Tools to address degraded riparian areas
Project Review – The BCWMC's *Requirements for Development and Redevelopment Proposals* requires vegetated buffers be maintained or established adjacent to priority streams for projects triggering BCWMC review.

Capital Projects – The BCWMC has implemented several projects along priority streams to restore degraded streambank areas and improve water quality.

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.

Natural upland areas (i.e., not wetland or shoreline areas) are present throughout the watershed as part of city and county parks and other green space (reference land use map). Watershed residents and visitors enjoy these areas for recreational and aesthetic viewing purposes. These areas provide varied environmental benefits from mature vegetation and permeable land that promote infiltration, mitigate urban heat island effects, and provide habitat.

Some natural areas within the BCWMC have been classified as particularly high value. The MDNR's Minnesota Biological Survey (MBS) classified an area south of Wirth Lake as an area of moderate biodiversity (reference map) due to the presence of rare species and moderately disturbed native plant communities. Natural upland areas provide habitat benefits within a fully developed landscape. The MDNR defined a portion of the BCWMC as an "ecological corridor" based on the connection of habitat areas (reference map).

Protection of natural upland areas is necessary to preserve the recreational, aesthetic, and ecological benefits they provide. Conversion of upland natural areas to other land uses may result in permanent loss. Small losses may result in greater cumulative impacts due to the loss of connectivity. Changes in Minnesota's climate may also negatively impact natural upland areas as native species face pressure from invasive species, extended wet and dry periods, and temperature pressure (reference climate change section).

Desired Future Condition

Natural areas throughout the watershed are well managed, ecologically healthy, and accessible to the public, where possible. High quality uplands are not lost or negatively impacted by development projects.

Degraded Upland Area Goal

WQ24: Consider and support preservation or enhancement of upland natural areas within BCWMC purview.

Tools to address degraded riparian areas

Capital Projects – BCWMC projects provide an opportunity for the Commission and member cities to incorporate protection or enhancement of upland areas.

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.

Groundwater is the primary source of drinking water in Minnesota. The BCWMC member cities of Medicine Lake, Minnetonka, Plymouth, Robbinsdale, and St. Louis Park obtain municipal drinking water supplies from groundwater aquifers while a small number of residents obtain drinking water from private wells. Maintaining clean, safe groundwater supplies by protecting groundwater from contamination is critical to public health. Once contaminated, groundwater clean-up is expensive and technically complex, even when feasible.

Groundwater quality may be compromised by varied surface and near-surface activities and sources, including commercial and industrial waste disposal, landfills, leaking underground storage tanks, subsurface sewage treatment systems (SSTS), mining operations, accidental spills, feedlots, and fertilizer/pesticide applications. Infiltration of stormwater runoff can also transport chloride and other pollutants into groundwater supplies (reference GW-SW interaction issue).

To limit groundwater contamination, the Minnesota Department of Health (MDH) works with public water suppliers to define wellhead protection areas and drinking water supply management areas (DWSMAs) subject to additional protections (see map). Much of the western half of the Bassett Creek watershed is located within DWSMAs of moderate vulnerability. The MPCA limits or prohibits infiltration of stormwater within portions of some DWSMAs (depending on vulnerability), in areas of high groundwater, areas of high infiltration rates, and in karst areas. Stormwater infiltration restrictions can limit treatment opportunities for development and redevelopment projects.

Desired Future Condition

Groundwater is safe to drink, meets all drinking water standards, and is not adversely impacted by pollutants.

Groundwater Quality Goals

WQ25: Prevent negative impacts to groundwater quality from proposed projects reviewed by the BCWMC.

WQ26: Prevent negative impacts to groundwater quality from BCWMC projects.

Tools to address groundwater quality

Education and Outreach – The BCWMC and its partners share materials encouraging best practices that limit the potential for contamination of groundwater resources.

Project Review – The BCWMC's *Requirements for Development and Redevelopment Proposals* details conditions where infiltration of stormwater is limited or prohibited to protect groundwater resources (consistent with the MPCA Construction Stormwater General Permit).

Draft Issues and Goals Narrative
Flooding and Climate Resiliency– v1. 4/28/25

Impact of Climate Change on Hydrology, Water Levels, and Flood Risk (High Priority)

Issue Statement: Extreme fluctuations in precipitation amounts and intensities increase flood risk and prolonged drought cycles that contribute to significant changes to water level and stream flow and may negatively impact the natural and built environment, (e.g. ecology, water quality, public health and safety, economy, and recreation).

Desired Future condition(s):

- Watershed residents, businesses, and infrastructure are protected from flood damages and water fluctuations.
- Waterbodies are resilient to changes in water levels and climate such that their beneficial functions are maintained or enhanced.

Goals:

1. Identify areas, populations, and ecosystems most vulnerable to flooding and hydrologic risk resulting from existing and future climate trends.
2. Reduce flood risk for structures and infrastructure within the floodplain.
3. Implement at least 3 CIP projects that reduce flood risk on structures and infrastructure.
4. Evaluate the impacts of climate trends on hydrology, ecology, and recreation of priority streams and lakes.
5. Enhance climate resilience through BCWMC projects and programs by incorporating climate mitigation and adaptation functions, including in the majority of BCWMC CIP projects.

Narrative:

The condition of the waters within the BCWMC is a function of the hydrologic cycle (i.e., the process in which precipitation becomes runoff and flows downstream before evaporating or infiltrating). Precipitation, snowmelt, and other elements of the hydrologic cycle vary from year to year. However, climatologists have found four significant climate trends in the Upper Midwest (NOAA, 2013):

- Warmer winters – a decline in severity and frequency of severe cold; more warming periods leading to mid-winter snowmelt
- Higher minimum temperatures
- Higher dew points
- Changes in precipitation trends – more rainfall is coming from heavy thunderstorm events (high intensity events) and increased snowfall

These trends can lead to extreme fluctuations in water levels and flows beyond what the landscape normally experiences (i.e., altered hydrology). Higher intensity precipitation events typically produce more runoff than lower intensity events with similar total precipitation amounts; higher rainfall intensities are more likely to exceed the capacity of the land to slow and infiltrate runoff and may overwhelm natural and constructed drainage systems (e.g., storm sewers).

Draft Issues and Goals Narrative
Flooding and Climate Resiliency– v1. 4/28/25

Flooding from increased precipitation can damage the built environment such as roadways, bridges, buildings, , and more. The BCWMC and its member cities have invested heavily in studies and capital projects to reduce flood risk within the watershed (see Flood Control Project sidebar). Climate trends threaten to increase the risk of flooding within the watershed, creating new issues, reducing the effectiveness of existing projects, and increasing infrastructure maintenance needs.

In addition to flooding concerns, increased precipitation can damage the natural environment by degrading natural wetlands, eroding streambanks, and destabilizing bluffs and trees (BWSR, 2022). Frequent, heavier, or longer-duration rainfall leads to increased soil erosion and transportation of pollutants that degrade the water quality of downstream water bodies. Conversely, prolonged periods of drought and higher temperatures can stress native vegetation and promote invasive species with negative impacts on aquatic, riparian, and upland ecologies.

Although climate trends are well-documented, the impact of these trends on waters, natural features, and communities within the BCWMC is uncertain. The BCWMC seeks to better understand the potential impacts of climate change as a first step in implementing strategies to mitigate these impacts.

Resources:

- Placeholder for Atlas 15
- Hennepin County Climate Vulnerability Assessment
- Minnesota DNR Climate Change Website

Tools:

- Development review – The BCWMC reviews project proposals for compliance with performance standards established to minimize the risk of flooding, including rate control requirements, minimum building elevations, and floodplain use restrictions.
- Capital Projects – The BCWMC and member cities implement projects to reduce flood risk as a primary benefit.
- Modeling and Monitoring – The BCWMC maintains a watershed-wide hydrologic model that identifies areas at risk of flooding and monitors water levels and flows.
- Flood Control Project – The BCWMC and member cities maintain and operate the BCMWC Flood Control Project (see also Section X).
- Studies – The BCWMC will perform studies to estimate the potential impacts of climate change on waters and communities, identify areas of risk, and evaluate mitigation strategies
- Education and Engagement – The BCWMC shares resources to promote climate resiliency and conservation practices among watershed residents.

Flood Control Project Sidebar:

Aging stormwater control facilities and rapid urbanization caused the Bassett Creek watershed to experience flooding problems beginning in the 1960s. The original Bassett Creek Flood Control Commission was formed in 1969 specifically to address flooding. Severe storms in the summers of 1974, 1978, and 1987 resulted in millions of dollars in damage to homes and infrastructure. A modest storm (2.5 inches over 24 hours) in the spring of 1975 was exacerbated by wet antecedent conditions, again resulting in damage to homes. In a 1982 design memorandum, the US Army Corps of Engineers (USACE) estimated the damages sustained by Bassett Creek flooding were approximately $4 million per

year (extrapolated to 2014 dollars). The worst problem was the 1.5-mile long Bassett Creek Tunnel, which was undersized and severely deteriorated.

To address the major flooding along Bassett Creek, the BCWMC cooperated with the USACE, Minnesota Department of Transportation (MnDOT), Minnesota Department of Natural Resources (MDNR), and its member cities to construct the Bassett Creek Flood Control Project (see Section 2.8.1). Although major flooding along Bassett Creek has been addressed, some homes remained in the floodplain following the construction of the Flood Control Project. In addition, the BCWMC and member cities are aware of local flooding issues within the watershed that are not adjacent to Bassett Creek (e.g., DeCola Ponds, Medicine Lake Road).

Floodplain Management Sidebar

The 100-year floodplain includes the areas that are expected to be inundated as a result of a precipitation event with a 1% chance of occurring in any given year. The BCWMC maintains a hydraulic and hydrologic model to estimate floodplain extents. The Federal Emergency Management Agency (FEMA) has also mapped floodplains within the watershed. To reduce the risk of damage to property, infrastructure, and public health, the BCWMC and member cities have adopted policies and other requirements that govern development activity within the BCWMC-defined floodplain.

Draft Issues and Goals Narrative
Flooding and Climate Resiliency– v1. 4/28/25

Bassett Creek Valley flood risk reduction and stormwater management opportunities (High Priority)

Issue Statement: Current conditions in the Bassett Creek Valley present significant challenges to sustainable development, resilient and healthy ecosystems, and people due to floodplain extents, environmental hazards, and limited space for stormwater management.

Desired Future condition(s):

- The Bassett Creek Valley supports healthy ecosystems and communities with reduced flood risk, improved water quality, and neighborhood access to the creek corridor.

Goals:

1. Collaborate on evaluation, sequencing, and implementation of multi-beneficial projects within the Bassett Creek Valley to create regional flood storage, reduce floodplain by at least 8 acres, improve regional stormwater management, and improve creek access.

Narrative:

Bassett Creek Valley is portion of the watershed located downstream of Wirth Lake in the City of Minneapolis (see inset figure). The approximately 230-acre area is fully developed with a mix of primarily park/recreation, transportation, and industrial land use. The area is surrounded by vibrant and diverse residential neighborhoods including Bryn Mawr, Harrison, and Heritage Park.

Redevelopment in the Bassett Creek Valley is anticipated, although there are significant environmental challenges including high groundwater, extensive floodplains, and contaminated soils. Within the valley, there are commercial, residential, and industrial properties located within the Bassett Creek floodplain. Existing land use, topography, and pressure for future development limit opportunities for projects that improve water quality, restore ecology, and reduce flood risk.

Recognizing increased redevelopment potential and associated challenges, the BCWMC and the City of Minneapolis collaborated on the Bassett Creek Valley Floodplain and Stormwater Management Study (2019) to assess the potential for developing regional approach to stormwater and floodplain management, as well as improved aesthetics and community access to the creek. The BCWMC seeks to partner with the City, Hennepin County, and others in the future to implement projects within the valley that take a coordinated approach to achieve multiple benefits.

Include and inset map that identifies the Bassett Creek Valley area relative to the overall watershed

Include sidebar about “stacked stormwater features?” – see Stantec presentation

Resources:

- Bassett Creek Valley Floodplain and Stormwater Management Study (2019)
- Bassett Creek Valley Master Plan (2006)

Tools:

- Planning – The BCWMC coordinates with partners including Hennepin County and the City of Minneapolis to explore potential improvement opportunities in areas like Bassett Creek Valley.

- Development review – The BCWMC reviews project proposals for compliance with performance standards established to minimize the risk of flooding, including rate control requirements, minimum building elevations, and floodplain use restrictions.
- Capital Projects – The BCWMC and member cities implement and support stormwater management projects to achieve multiple benefits

Draft Issues and Goals Narrative
Flooding and Climate Resiliency– v1. 4/28/25

Groundwater quantity (low priority)

Issue Statement: Groundwater levels may be negatively impacted by overuse, loss of recharge, or extreme changes in precipitation.

Desired Future condition(s): Groundwater levels support drinking water needs and do not negatively impact groundwater-sensitive resources.

Goals:

1. Reduce negative impacts to groundwater quantity from proposed projects in the Bassett Creek watershed.
2. Incorporate stormwater reuse practices into 2 BCWMC CIP projects.
3. Increase the use of groundwater conservation practices among watershed residents.
4. Increase groundwater recharge through required and encouraged stormwater infiltration practices.

Narrative:

Maintaining dependable and safe groundwater supplies is critical to human and environmental health and to the economic and social vitality of communities. Many residents within the BCWMC obtain their drinking water from municipal groundwater wells. Industrial users also rely on consistent groundwater supplies for their operations.

Groundwater is a finite resource with inputs and outputs. The input is generally rainwater and snowmelt that seeps into the ground (recharge). The outputs can be groundwater that is pumped out for human use and groundwater that naturally discharges to lakes, wetlands, and streams. The inputs and outputs need to be managed to ensure a sustainable groundwater supply. Development generally results in more impervious area and more compacted soils, decreasing opportunities for infiltration and recharge. Development often parallels population increases that may lead to additional groundwater use.

Climate trends can also affect groundwater quantity. Temperature, precipitation patterns, and drought conditions can impact infiltration and alter consumptive use (leading to local groundwater use restrictions in some cases).

Various agencies are responsible for managing groundwater in the BCMWC including the MDNR, Minnesota Department of Health (MDH), Metropolitan Council, and Hennepin County. While groundwater is an important resource that must be conserved, the BCWMC has established its role as primarily one of support for other groundwater management agencies.

Resources:

- Groundwater Management | Minnesota DNR
- Metropolitan Region Water Supply Planning Atlas - Metropolitan Council

Tools:

- Planning – The BCWMC coordinates with partners including the MDNR, Metropolitan Council, and Hennepin County, as needed, to address groundwater issues.
- Development review – The BCWMC reviews project proposals for compliance with performance standards established to promote groundwater infiltration and minimize negative groundwater impacts. The BCWMC reviews applications to the MDNR for public waters work permits and groundwater appropriations permits.
- Education and Engagement – The BCWMC shares resources to promote groundwater conservation practices among watershed residents.

Draft Issues and Goals Narrative
Education and Engagement – v1. 4/28/25

Public Awareness and Action (Medium priority)

Issue Statement: Lack of knowledge and resources for action limit the ability and interest of watershed residents and stakeholders to be good caretakers of the BCWMC waterbodies and ecosystems

Desired Future Condition:

- Watershed residents and stakeholders understand their relationship with and impact on waterbodies and ecosystems and are good caretakers of these ecosystems through their actions and behaviors.

Goals:

1. Increase public knowledge of and participation in programs or practices for waterbody and ecosystem caretaking
2. Increase the number of people who access watershed information and improve accessibility to information.
3. Support community science and volunteer efforts

Narrative:

Public education and engagement plays an important role in protecting local waters and ecosystems. Everyday actions taken by those who live, work, and recreate within the Bassett Creek watershed may have positive or negative impacts on the surrounding environment. Through education and engagement, the BCWMC, member cities, and partners can raise awareness about these impacts, both positive and negative, and reinforce the benefits of positive actions.

Many watershed residents are unaware of the BCWMC's presence or function, and few take advantage of the technical and financial resources the BCWMC and/or its partners provide for conservation action. Increasing the visibility of the BCWMC can lead to increased community participation in watershed planning, volunteer action, and positive conservation and stewardship practices. The BCWMC Education and Engagement Plan (Appendix C) details the topics, messages, audiences, partners, and methods used by the BCWMC to engage watershed communities and residents.

Education and engagement is also critical to building communities' trust in the BCWMC and public support necessary to efficiently implement capital projects. As a joint powers organization, all BCWMC projects are implemented in close cooperation with member cities. Developing relationships between watershed residents and the BCWMC promotes a CIP process that is transparent, cooperative, and considerate of community input.

Sidebar:

Key education topics to promote positive ecosystem impacts:

- Invasive species recognition
- Appropriate salt/deicer use
- Water conservation practices
- Native and pollinator-friendly planting
- Maintenance of shoreline vegetation (i.e. buffers)

Draft Issues and Goals Narrative
Education and Engagement – v1. 4/28/25

Resources:

- BCWMC Website
- BCWMC Education and Engagement Plan (Appendix C)
- West Metro Water Alliance - Clean Water

Tools:

- Planning – The BCWMC coordinates its education and engagement actions with member cities, West Metro Watershed Alliance, and other local and regional partners.
- Education and Engagement – The BCWMC maintains and implements an Education and Engagement Plan (Appendix C) that outlines activities to increase community visibility, issue awareness, and participation.
- Capital Projects – The BCWMC and member cities perform targeted engagement in association with planned capital improvements and often incorporates educational signage at the project site.

Draft Issues and Goals Narrative
Education and Engagement – v1. 4/28/25

Engagement of Diverse Communities (Medium priority)

Issue Statement: Efforts are needed to engage and build relationships with communities that have been underrepresented in past BCWMC planning, programs, and projects.

Desired Future Condition:

- All communities, and especially those historically and currently underrepresented, are positively engaged in relevant BCWMC planning, programs, and projects.

Goals:

1. Establish and maintain relationships and communication avenues with underrepresented communities.
2. Seek, consider, and respond to input from all impacted communities as part of the BCWMC's plans, programs, and projects.
3. Incorporate Dakota place names, history, culture, and Indigenous knowledge into BCWMC projects and programs.

Narrative:

The BCWMC recognizes that the watershed includes a diverse population representing a broad range of socio-economic demographics (e.g., spoken language, age, income). The BCWMC acknowledges that the voices and opinions of many minority communities in the watershed have not been sought nor heard. The BCWMC further recognizes that deliberate action is needed to engage with and build relationships with underrepresented communities,. The BCWMC Education and Engagement Plan (Appendix C) identifies the strategies and methods used to engage with diverse communities.

As part of developing relationships with underrepresented communities, the BCWMC recognizes that the watershed and its waters are located on Dakota land. The BCWMC adopted a land acknowledgement statement (see Section X) and seeks to incorporate Dakota place names into its projects and programs.

Consider including table of some quick demographic facts?

Resources:

- BCWMC Education and Engagement Plan (Appendix X)
- West Metro Water Alliance - Clean Water

Tools:

- Planning – The BCWMC coordinates with member cities and partners like West Metro Watershed Alliance to leverage local relationships to engage underrepresented groups.
- Education and Engagement – The BCWMC maintains and implements an Education and Engagement Plan (Appendix C) that outlines activities to increase community visibility, issue awareness, and participation.

Draft Issues and Goals Narrative
Education and Engagement – v1. 4/28/25

Draft Issues and Goals Narrative
Education and Engagement – v1. 4/28/25

Recreation Opportunities (Low priority)

Issue Statement: Opportunities to protect or enhance recreational use of, and access to, natural areas in the watershed may be lost without proactive consideration by the BCWMC and its partners in their activities.

Desired Future Conditions:

- Recreational uses and access are maintained or enhanced, as appropriate, for priority waterbodies.

Goals:

1. Support recreational uses of and access to lakes, streams and natural areas, particularly in underserved communities.
2. Consider protecting and enhancing recreational functions of and access to waterbodies and natural areas during BCWMC planning and projects.

Narrative:

Many people use the waters and natural areas within the watershed for recreational purposes, including boating, swimming, fishing, walking or riding on trails, and aesthetic viewing. Several BCWMC waters are bordered by parks maintained by BCWMC member cities, Three Rivers Park District, or Minneapolis Parks and Recreation Board. The MDNR Lakefinder website lists and maps water access points and includes information about local fisheries, including fish stocking activity.

Although recreational functions and benefits are not the primary motivation for BCWMC programs or projects, since many BCWMC projects are located in or adjacent to its priority waters, there may be opportunities to enhance or maintain recreational functions as part of BCWMC projects. Understanding how watershed residents value and use priority waters for recreation allows the BCWMC to recognize opportunities for added recreational benefits and evaluate if those opportunities are worth pursuing in collaboration with member cities or other partners.

Resources:

- BCWMC Watershed Map
- LakeFinder | Minnesota DNR

Tools:

- Planning – The BCWMC coordinates with Minneapolis Park and Recreation Board, Three Rivers Park District, and other partners with primary recreational roles.
- Capital Projects – The BCWMC and member cities implement and support stormwater management projects to achieve multiple benefits, including secondary recreational benefits.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Organizational Capacity and Staffing (High priority)

Issue Statement: Current BCWMC staff capacity and organizational structure are likely not sufficient to achieve intended goals and effectively execute projects and programs.

Desired Future Condition:

- BCWMC organization exists in its most efficient and effective structure to achieve its identified goals.

Goals:

1. Understand the options, benefits, and challenges of various organizational structures for effective and efficient management of the Bassett Creek watershed through a comprehensive assessment undertaken in the first year of Plan implementation.
2. Improve organization capacity, efficiency, and effectiveness as warranted and desired by implementing outcomes of organizational assessment.

Narrative:

The BCWMC currently operates as a joint powers organization cooperatively governed by a commission that includes one Commissioner and one Alternative Commissioner appointed by each member city. The BCWMC's governance structure, authorities, and funding mechanisms are defined in its Joint Powers Agreement (JPA, see Appendix G).

The BCWMC contracts with an Administrator (part time) and receives additional legal, audit, and engineering services through hired consultants. As a joint powers organization, the BCWMC relies heavily on the cooperative, in-kind service of its nine member cities to implement programs and projects, including participating in the BCWMC's Technical Advisory Committee (TAC).

This Plan includes an ambitious implementation program (see Section 4) with broad-ranging studies, programs, and capital projects intended to achieve the BCWMC's goals. The BCWMC's current governance structure and staff capacity may not be sufficient to implement all elements of this Plan. Changes to the BCWMC's organizational structure and/or capacity may result in more complete and/or more efficient implementation of this Plan.

The BCWMC has operated as a joint powers organization similar to its current structure since its inception. Any changes to the BCWMC's organizational structure must be carefully evaluated and the potential risks weighed against the BCWMC's history of successful watershed management operations.

Resources:

- Joint Powers Agreement (Appendix X)
- BWSR PRAP?
- Links to MN Rules 8410 and 103B?

Tools:

- Planning – The BCWMC collaborates with its nine member cities and many local, regional, and state partners to efficiently implement its Plan, projects, and programs.
- Studies – The BCWMC performs studies to evaluate issues and identify feasible solutions.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Funding Mechanisms (High priority)

Issue Statement: Additional funding sources and/or alternate funding mechanisms for BCWMC administration and implementation are needed to achieve the most efficient, equitable, and robust outcomes.

Desired Future Condition:

- BCWMC operations are adequately funded for ongoing administration and robust implementation.

Goals:

1. Understand potential funding mechanisms for BCWMC work related to various organizational structures through an assessment undertaken in the first year of Plan implementation.
2. Expand potential funding streams through grants and partnerships with public and private entities.
3. Improve funding capacity in conjunction with changes to the organizational structure and functions of the BCWMC.

Narrative:

The BCWMC funds its operations, projects, and programs through a variety of funding mechanisms including a general fund supported by member city contributions, CIP funds levied through Hennepin County, and grants (see Section 4.3).

This Plan includes an ambitious implementation program (see Section 4) with broad-ranging studies, programs, and capital projects intended to achieve the BCWMC's goals. The BCWMC's current funding mechanisms, may not be adequate to fully support implementation of this Plan.

New or expanded funding mechanisms may be available to the BCWMC to promote further program and project implementation without increasing the financial burden to member cities.

Further evaluation is necessary to identify the benefits and risks of different funding options and determine the most appropriate mechanisms to fund BCWMC operations, projects and programs.

Resources:

- Annual Reports?
- Links to MN Rules 8410 and 103B?

Tools:

- Planning – The BCWMC collaborates with its nine member cities and many local, regional, and state partners to efficiently implement its Plan, projects, and programs.
- Studies – The BCWMC performs studies to evaluate issues and identify feasible solutions.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Progress Assessment (Medium priority)

Issue Statement: Evaluation of progress toward achieving 10-year goals is critical to process improvement.

Desired Future Condition:

- BCWMC is effective in its implementation through evaluation and adaptive management.

Goals:

1. Understand the effectiveness of implementation and progress towards reaching each of this plan's 10-year goals.
2. Implementation activities are adapted to reflect changing conditions or pace of progress.

Narrative:

This Plan includes a 10-year implementation schedule (see Table X) that outlines the activities performed by the BCWMC in pursuit of its goals. While Table X presents the BCWMC's activities at a planning level, the BCWMC develops a more detailed work plan and budget to direct activities annually.

Coordination of the BCWMC's annual work plan with the overall Plan implementation schedule is necessary to achieve the BCWMC's 10-year goals. The BCWMC performs biennial assessment of progress towards goals using metrics that tie implementation activities to one or more Plan goals. Evaluation of these metrics allows the BCWMC to determine if its actions are having the intended impacts and fosters the use of adaptive management.

Many factors within or outside of the BCWMC's control can limit or accelerate progress towards goals. Having an accurate understanding of Plan progress and influencing factors allows the BCWMC to determine if changes to goals or planned implementation activities are appropriate.

Resources:

- Annual Reports?

Tools:

- Evaluation and Assessment – The BCWMC reports its accomplishments in an annual report (submitted to BWSR) and assesses progress towards goals at least every two years.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Projects and Programs Implemented through a DEIA Lens (Medium priority)

Issue Statement: Additional focus is needed to ensure equity in the delivery of BCWMC projects, programs, and decision making.

Desired Future Condition:

- BCWMC work is equitably implemented.

Goals:

1. Prioritize and implement programs and projects with guidance from social vulnerability metrics.
2. Diversify representation on BCWMC Board of Commissioners, contractors, consultants and vendors such that they reflect community diversity.

Narrative:

The BCWMC serves socio-economically diverse population of residents. Its population has also grown more racially and ethnically diverse over time. The percentage of people of color in Hennepin County increased from 21% in 2000 to 32% in 2020 (US Census Bureau). This trend is anticipated to continue through 2040.

Different communities have had varying engagement with the BCWMC and may have little or no experiences with its projects and programs. The BCWMC also recognizes that different communities can disproportionately experience flood risk, climate vulnerability, water quality, and other impacts. Deliberate diversity and inclusion efforts are needed to ensure that BCWMC work considers input from all impacted communities and is delivered across the watershed to equitably benefit residents.

In 2024, the BCWMC adopted a policy related to diversity, equity, inclusion, and accessibility that recognizes the value of engaging with diverse communities and the benefits of more equitable implementation of projects and programs.

SIDEBAR: DEIA Policy - The BCWMC is committed to understanding issues and prioritizing improvements in diversity, equity, inclusion, and accessibility as they relate to the Commission's work in improving and protecting aquatic ecosystems, building climate resiliency, and reducing flood risk. The BCWMC strives for diverse representation in decision making, robust engagement and communication with historically underrepresented communities, equitable access to information and resources, and use of social vulnerability and similar indices in prioritization of its projects and programs.

Resources:

- US Census Bureau?
- CIP Project map/webpage link?
- BCWMC Education and Engagement Plan (Appendix X)?

Tools:

- Studies – The BCWMC conducts studies to understand complex issues and identify feasible solutions.

- Capital Projects – The BCWMC and member cities perform targeted engagement in association with planned capital improvements.
- Education and Engagement – The BCWMC maintains and implements a Education and Engagement Plan (Appendix C) that outlines activities to increase community visibility, issue awareness, and participation.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Public Ditch Management (Low Priority)

Issue Statement: The Plan must address management of the public ditches within BCWMC jurisdiction (per MN Statutes 103B)

Desired Future Condition:

- Public ditches in the watershed are either transferred to municipal authority or abandoned, where appropriate.

Goals:

1. Public ditches function in a manner that allows their current use as streams and altered waterways.
2. If ditch authority is transferred to the member cities, the BCWMC and cities will manage the ditches similar to other BCWMC waterways.

Narrative:

Judicial ditches and county ditches are public drainage systems established under Chapter 103E of Minnesota Statutes and are under the jurisdiction of the county. There are three stream segments classified as county ditches in the BCWMC (see Figure X). Regardless of their original function, the BCWMC and member cities currently manage public ditches to ensure their continued function as streams or altered waterways. The BCWMC manages public ditches that are part of its trunk system; member cities manage portions that are not part of the trunk system.

Per Minnesota Statute 363B.61, cities or watershed management organizations (WMOs) within Hennepin County may petition the county to transfer authority over public ditches to the city or WMO. The BCWMC has not petitioned Hennepin County to transfer this authority (due in part to the limitation that the BCWMC cannot own property per the Joint Powers Agreement. Hennepin County may transfer authority over public ditches to the member cities, if the member cities request such action.

Resources:

- Link to public ditch law (MS 103E)?

Tools:

- Planning – The BCWMC collaborates with its nine member cities and many local, regional, and state partners to efficiently implement its Plan, projects, and programs.

Draft Issues and Goals Narrative
Organizational Effectiveness – v1. 4/28/25

Carbon Footprint of BCWMC Projects (Low Priority)

Issue Statement: Carbon released in the construction and ongoing maintenance of BCWMC projects is not currently considered and contributes to climate change.

Desired Future Condition:

- The BCWMC understands the carbon footprint or lifecycle impacts of its activities and considers mitigative measures during implementation.

Goals:

1. Consider the use of available tools to assess the impact and mitigate the effects of BCWMC activities on greenhouse gas emissions.

Narrative:

Scientific consensus establishes carbon emissions as a contributor to climate change and that reduced emissions in all aspects of society are needed to avoid the most severe impacts of climate change (Hennepin County Climate Action Plan). BCWMC projects contribute to carbon emissions through the manufacture, transportation, installation, and maintenance of materials.

BCWMC feasibility studies have not, prior to this Plan, considered the carbon footprint or material lifecycle impacts of project options. Understanding the lifecycle impact and relative carbon emissions of different project options will allow the BCWMC to consider its contribution to climate impacts. The BCWMC may leverage existing tools or approximate methods to promote efficient analysis of a complex problem.

Resources:

- **Climate Change: Atmospheric Carbon Dioxide | NOAA Climate.gov**

Tools:

- Capital Projects – the BCWMC and member cities perform targeted engagement in association with planned capital improvements.

Sidebar:

What is a carbon footprint?

A carbon footprint refers to the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by an action over a given time. For a person, it refers to the cumulative impact driven by one's behaviors - a person's carbon footprint depends on the food they eat, how they travel, how they heat and cool our homes, and other factors.

The carbon footprint for an average person in the United States is 16 tons per year – this is about four times the global average and one of the highest rates in the world. Calculate your own carbon footprint and how different behaviors can change it. What is your carbon footprint? | Carbon Footprint Calculator