Minnesota River – Mankato 1W1P

Steering Committee Meeting

Wednesday, October 23, 2024 • 9:30 – 11:30 AM

Meeting Location

Nicollet County Courthouse
EOC Conference Center Room
St. Peter, MN 56082

Agenda Items	Action	Time
1. Welcome and General Updates • Final logo • Approved AC roster • Approved Land and Water Resources Narrative • Approved Priority Issues	--	25 min
2. Priority Issues • Introduction to plan section • Comments to date • Process for revisions • Advisory / Policy review	Recommend	25 min
3. Geospatial Prioritization and Goals • Overview of goal suggestions • Overview of example heat maps • Provide recommended direction	Recommend	45 min
4. Advisory Committee Meeting • Logistics (time, place) • Meeting content • Invitations	Discuss	20 min
5. Action Items and Next Meetings • Policy Committee: November 12 • Advisory Committee: November 22	--	5 min

Minnesota River – Mankato Watershed 1W1P

Approved Priority Issues

Below is a table summarizing the prioritized issues impacting resources in the Minnesota River-Mankato Watershed. Issue statements are provided to describe each issue. Issues were initially prioritized based on how prominent the issue was mentioned in review of the following sources:

- Agency reports and TMDLs: WRAPS, DNR Characterization, Stressor Identification, Minnesota River/Blue Earth River TSS TMDL, MRMW TMDL
- County Plans: Blue Earth, Le Sueur, Nicollet, and Sibley Water Management Plans
- 60-Day Letters: MPCA, DNR, BWSR, MDH
- Public survey responses

The number of sources that mentioned an issue were ranked 1-4 below, with 4 representing a higher prominence. The initial issue priority as determined by these ranks were reviewed and adjusted by the Steering Committee during their September meeting to better reflect local work and expertise. The final "Priority" column indicates the resulting Policy Committee priority for each issue.

Resource	Issue	Issue Statement	Agency Reports/ TMDLs	County Plans	Agency Letters	Public Survey	Ranking
Surface Water Quality	Nutrient Loading	Nutrient loading (phosphorus and nitrogen) has led to numerous impairments and an increase in algae blooms.	3	4	2	4	**High**
	Sediment and Erosion	Excess sediment, largely from channel erosion, ravine erosion, and cropland, is the cause of numerous aquatic life impairments	4	3	3	4	**High**
	Bacteria	Bacteria from livestock, human, and wildlife waste contribute to *E. coli* and fecal coliform impairments.	2	4	2	4	**Medium**

Resource	Issue	Issue Statement	Agency Reports/ TMDLs	County Plans	Agency Letters	Public Survey	Ranking
Drinking Water and Groundwater	Surface Water / Groundwater Interaction	Much of the watershed obtains drinking water from groundwater that is influenced by surface water, which makes contamination (especially with nitrate) more likely.	1	0	2	4	**High**
	Groundwater Quality	Groundwater that is used for drinking water can be contaminated with pollutants such as nitrate and arsenic, making it a public health problem.	0	2	2	4	**Medium**
	Groundwater Quantity	Protection of groundwater supplies through increasing recharge and wise water use is important to ensure the future drinking water supply as well as adequate base flow supply to streams.	0	2	1	3	**Low**
Flood Damage Reduction and Hydrology	Loss of Water Storage	Land use change has led to a loss of water storage in the landscape, which contributes to excess flow and pollutants in streams.	4	4	2	4	**High**
	Altered Hydrology	Altered hydrology due to changes in land use and drainage and combined with an increase in precipitation has led to flooding and high flow volume.	4	3	3	3	**High**
	Stormwater	Stormwater from developed areas contains salt, sediment, nutrients, fertilizer, and more that pollutes receiving waters.	1	3	2	3	**Medium**
	Flooding	Altered hydrology combined with an increase in annual and heavy rain events has increased the likelihood of flooding, which is costly to infrastructure or farmland in impacted areas.	1	2	2	1	**Medium**
	Stream Connectivity	Natural and built barriers such as perched or improperly sized culverts limit stream connectivity, impeding fish passage.	3	0	2	1	**Low**
	Precipitation	An increase in annual precipitation and changes to historic weather patterns impacts agricultural productivity, increases peak stream flows, and exceeds design of infrastructure.	2	0	1	3	**Low**

Resource	Issue	Issue Statement	Agency Reports/ TMDLs	County Plans	Agency Letters	Public Survey	Ranking
Land Use and Habitat	Soil Health	Degraded soil health on productive land can lead to more erosive soils.	3	4	1	3	**High**
	Invasive Species	The presence of aquatic and terrestrial invasive species degrades habitat quality and recreation opportunities.	2	1	2	2	**Medium**
	Wildlife Habitat	Historic wetlands, forest, and prairie have been lost, reducing available habitat and associated ecosystem benefits.	0	1	2	2	**Low**
	Riparian and Shoreline Areas	Insufficient vegetation in riparian and shoreland areas decreases riparian and shoreline stability, increases water temperatures, and degrades aquatic habitat.	3	0	0	2	**Low**

3. Priority Issues

This **Priority Issues** plan section identifies issues affecting watershed resources and covers:

- Issue development
- Public input
- Planning regions
- Priority Issues
- Emerging issues

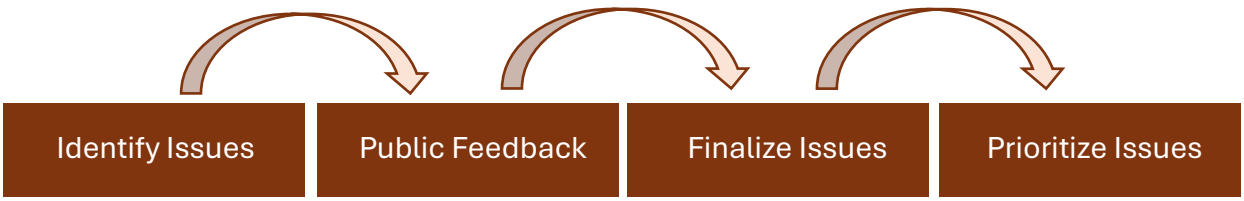
Issue Identification

This plan identifies actions that will be carried out over the next ten years to address watershed natural resource issues. In order to focus this work, issues affecting the watershed were identified and prioritized. An "issue" is generally defined as a problem, risk, or opportunity related to a resource. A "resource" is generally defined as a landscape feature that can be impacted by an issue, such as surface water, groundwater, habitat, or agricultural land.

A comprehensive list of issues impacting resources in the Minnesota River-Mankato Watershed was developed with planning committee input after review and consideration of the following:

- Agency reports: Watershed Restoration and Protection Strategies Report (WRAPS), Watershed Characterization Report, Stressor Identification Report
- Total Maximum Daily Loads (TMDLs): Minnesota River/Blue Earth River Total Suspended Solids TMDL, Minnesota River-Mankato Watershed TMDL
- County Local Waters Plans: Blue Earth, Le Sueur, Nicollet, and Sibley Counties
- 60-Day Letters received from state agencies on this plan: MPCA, DNR, BWSR, MDH

After issues were identified, feedback from the public was solicited. Then issues were finalized and prioritized to focus efforts related to this plan.



Public Input

This plan relies on voluntary implementation. The issues described here affect residents throughout the watershed. For this reason, it was important to get feedback from the public about issues that are important to them and provide opportunity to comment on the planning process. This feedback was achieved through public kickoff meetings held on July 23 and July 30, 2024 in Nicollet and St. Peter, respectively. These meetings were attended by approximately 40 people. The purpose of these meetings was to share information about the planning process and the purpose of a watershed plan and provide opportunities to identify issues and resources most important to members of the community.

At the meetings, community members discussed issues facing their watershed, voted on resources most important to them using mock money, and were invited to take a survey. The survey was also available online for those that did not attend the meetings. In total, there were 75 responses to the public survey. Results of that survey, resource voting, and meeting discussions are summarized in Appendix X.

One question on the survey asked participants to describe the Minnesota River-Mankato Watershed. The results are shown as a word cloud in **Figure 3-1** below:

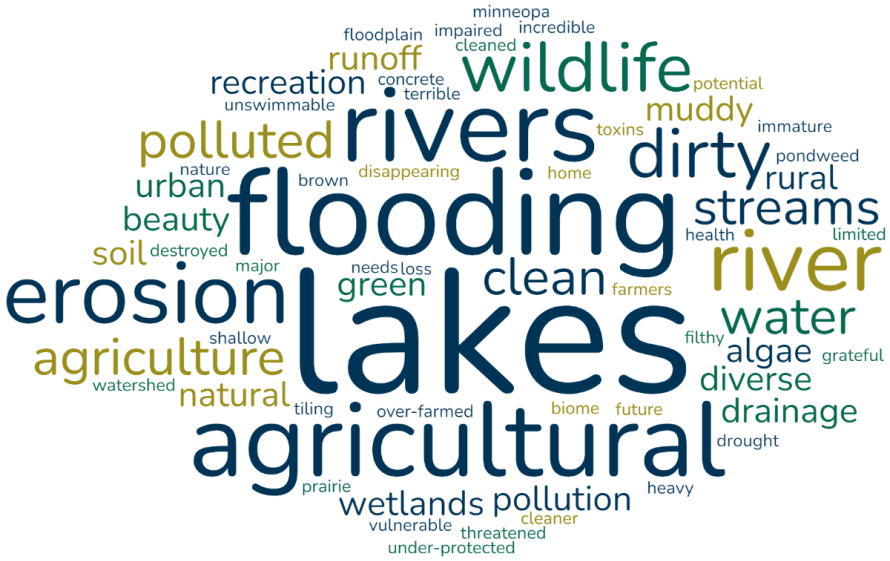


Figure 3-1. Survey responses to the question, "Using 4-5 words, what comes to mind when thinking of the watershed?"

Participants were also asked to choose up to five issues in the watershed that they care most about. This question was asked to help inform future issue prioritization efforts. Results from that question are summarized below in **Figure 3-2**. The most common answer was sediment, nutrients, and bacteria, followed by wetlands and drinking water protection. Additionally, when asked what specific resource was of the largest concern, the most common answer was the Minnesota River.

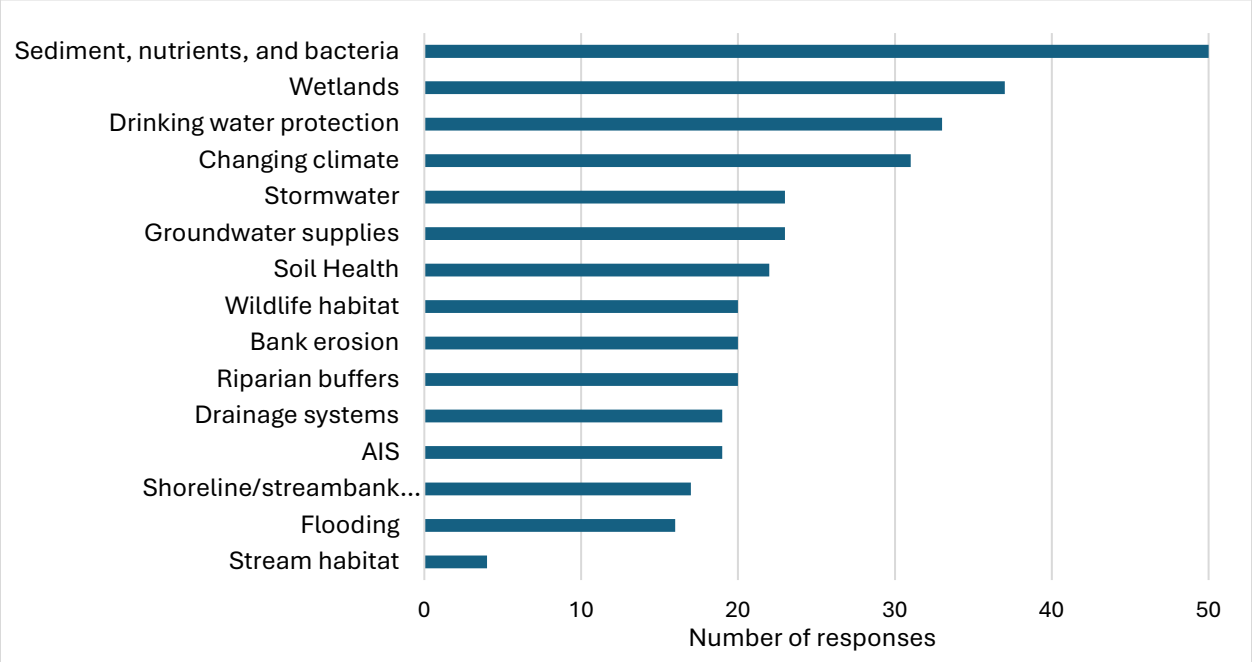


Figure 3-2. Survey responses to top issues/concerns in the watershed.

Resources

Ultimately, 16 issues were identified based on existing agency reports and TMDLs, local county water plans, agency letters, and feedback from the public. These issue are summarized in this plan section and considered by this plan. This is a large number of issues to manage without further organization, so issues were placed into one of four resource categories intended to reflect the resource most affected by that issue.

Surface Water Quality

Drinking Water and Groundwater

Flood Damage Reduction and Hydrology

Land Use and Habitat

Planning Regions

As introduced in **Section 2-Land and Water Resources Narrative**, the Minnesota River-Mankato Watershed is a diverse area spanning over 370,000 acres. The issues impacting resources (and importance of those issues) can change from the western to eastern, and southern to northern extents of the watershed.

In recognition of this, local planning partners organized the watershed into four planning regions based on HUC-10 boundaries (**Figure 3-3**; next page): The Minnesota River, Swan-Sevenmile, Shanaska Creek, and Minneopa Creek Planning Regions. The creation of planning regions keeps the focus on watershed-wide management, but allows issues, goals, and actions to be tailored to the area of the watershed where they matter the most. These planning regions will be referenced throughout the Plan.

Issue Prioritization

While there are numerous issues impacting the watershed and all are important in some way, there are limits in time, staffing, and financial resources to accomplish everything in a ten-year plan. Part of the planning process is identifying select issues to direct staff capacity and funding moving forward into implementation. This plan placed the 16 identified issues into three priority groups: high, medium, and low.

- **High Priority:** Most important issues
- **Medium Priority:** Important issues, but secondary priority to high priority issues.
- **Low Priority:** Not a focus of the plan but may be addressed by partners or with additional funding.

Issues were initially prioritized based on how prominent the issue was mentioned in existing agency reports and TMDLs, local county water plans, agency letters, and responses from the public survey. Priority rankings were then reviewed and adjusted by the Steering and Policy Committees to better reflect local work and expertise.

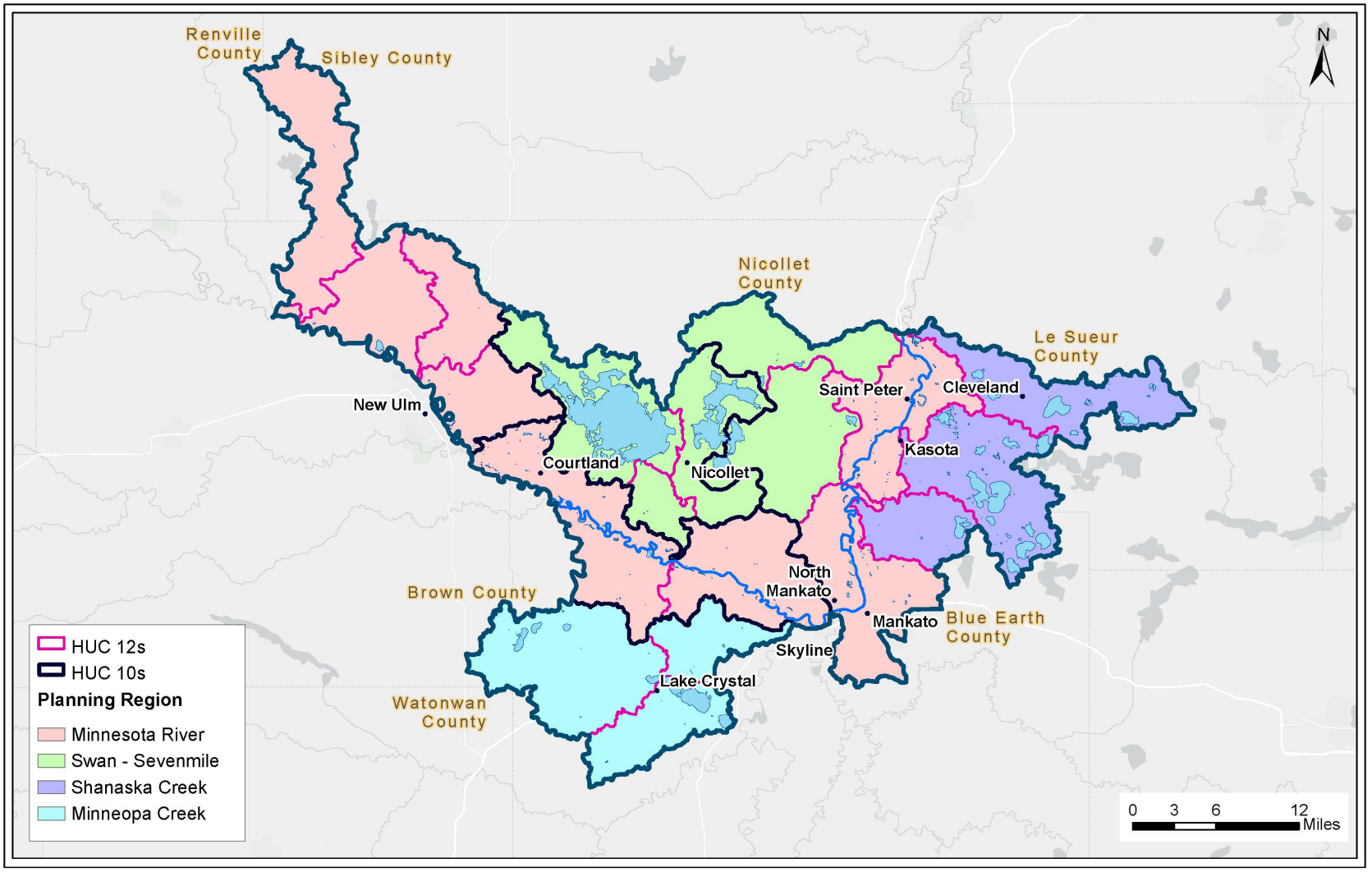


Figure 3-3. Planning regions in the Minnesota-Mankato Watershed

Issue Priorities

High priority issues are the primary focus of the plan and each is addressed by at least one measurable goal in Section 4. High priority issues are listed below in no order of priority.

Table 3-1. High priority issues.

High Priority	Resource	Issue	Issue Statement
		Nutrient Loading	Nutrient loading (phosphorus and nitrogen) has led to numerous impairments and an increase in algae blooms.
		Sediment and Erosion	Excess sediment, largely from channel erosion, ravine erosion, and cropland, is the cause of numerous aquatic life impairments
		Surface Water / Groundwater Interaction	Much of the watershed obtains drinking water from groundwater that is influenced by surface water, which makes contamination (especially with nitrate) more likely.
		Loss of Water Storage	Land use change has led to a loss of water storage in the landscape, which contributes to excess flow and pollutants in streams.
		Altered Hydrology	Altered hydrology due to changes in land use and drainage and combined with an increase in precipitation has led to flooding and high flow volume.
		Soil Health	Degraded soil health on productive land can lead to more erosive soils.

Medium priority issues are also a focus during implementation and are addressed by at least one measurable goal in Section 4. They are listed below in no order of priority.

Table 3-2. Medium priority issues.

Medium Priority	Resource	Issue	Issue Statement
		Bacteria	Bacteria from livestock, human, and wildlife waste contribute to *E. coli* and fecal coliform impairments.
		Groundwater Quality	Groundwater that is used for drinking water can be contaminated with pollutants such as nitrate and arsenic, making it a public health problem.

		Stormwater	Stormwater from developed areas contains salt, sediment, nutrients, fertilizer, and more that pollutes receiving waters.
		Flooding	Altered hydrology combined with an increase in annual and heavy rain events has increased the likelihood of flooding, which is costly to infrastructure or farmland in impacted areas.
		Invasive Species	The presence of aquatic and terrestrial invasive species degrades habitat quality and recreation opportunities.

Low priority issues are not specifically addressed through a measurable goal, but will still be indirectly improved through plan actions. Low priority issues are not unimportant, rather, they may be addressed by partner organizations, existing regulations, or as funding allows. Issues that were acknowledged through the issue development process but ended up as a low priority for implementation include:

- **Groundwater Quantity**: Protection of groundwater supplies through increasing recharge and wise water use is important to ensure the future drinking water supply as well as adequate base flow supply to streams.
- **Stream Connectivity**: Natural and built barriers such as perched or improperly sized culverts limit stream connectivity, impeding fish passage.
- **Precipitation**: An increase in annual precipitation and changes to historic weather patterns impacts agricultural productivity, increases peak stream flows, and exceeds design of infrastructure.
- **Wildlife Habitat**: Historic wetlands, forest, and prairie have been lost, reducing available habitat and associated ecosystem benefits.
- **Riparian and Shoreline Areas**: Insufficient vegetation in riparian and shoreland areas decreases riparian and shoreline stability, increases water temperatures, and degrades aquatic habitat.

Emerging Issues

There are additional issues facing the watershed that are not a traditional issue as summarized in the previous section. This may be because it lacks data, is new or not fully understood, or does not fit into the 1W1P issue definition. These emerging issues include climate, environmental justice, and chloride.

Climate

Feedback from the public kickoff and survey included concern over heavy rains, which are becoming more common in Minnesota. Precipitation patterns are becoming more variable and have shifted in recent years to have less precipitation in early summer and more in the fall (MPCA, 2019a). Precipitation is included in the plan as a "low" priority issue, but climate is discussed as an emerging issue due to the broader issues and implications of a variable climate. In addition to changing rainfall patterns, temperatures are shifting as well. In a highly agricultural watershed, a stable climate protects livelihoods and the local economy.

Resiliency to climate impacts is the ability to withstand extremes like flooding, drought, or temperature. Resilience is an aspect of planning that is becoming increasingly popular, especially as extreme floods are occurring more often and causing significant damage. This plan was developed through a climate lens and will build resiliency to climate into plan actions where possible. BWSR provides a climate resiliency toolbox, which provides tools for partnership and science-based actions to build resiliency in multiple sectors that are included within this plan, such as in water planning, agricultural landscapes, and community outreach. The toolbox is available at: https://bwsr.state.mn.us/bwsr-climate-resiliency-toolbox

Environmental Justice

Everyone in the Minnesota River-Mankato Watershed is affected by environmental issues, but historically marginalized and vulnerable groups can be disproportionately affected by pollution and access to natural spaces. MPCA developed areas of concern based on areas where a high proportion of residents are in poverty, are people of color, have limited English proficiency, or are in federally recognized tribal land. There are 55,288 acres of environmental justice areas in the watershed, all for poverty issues.

Environmental inequities can impact accessibility and public health. This plan was written with the principles and areas of environmental justice in mind, and implementation of the plan will also consider environmental justice in decision making and project implementation.

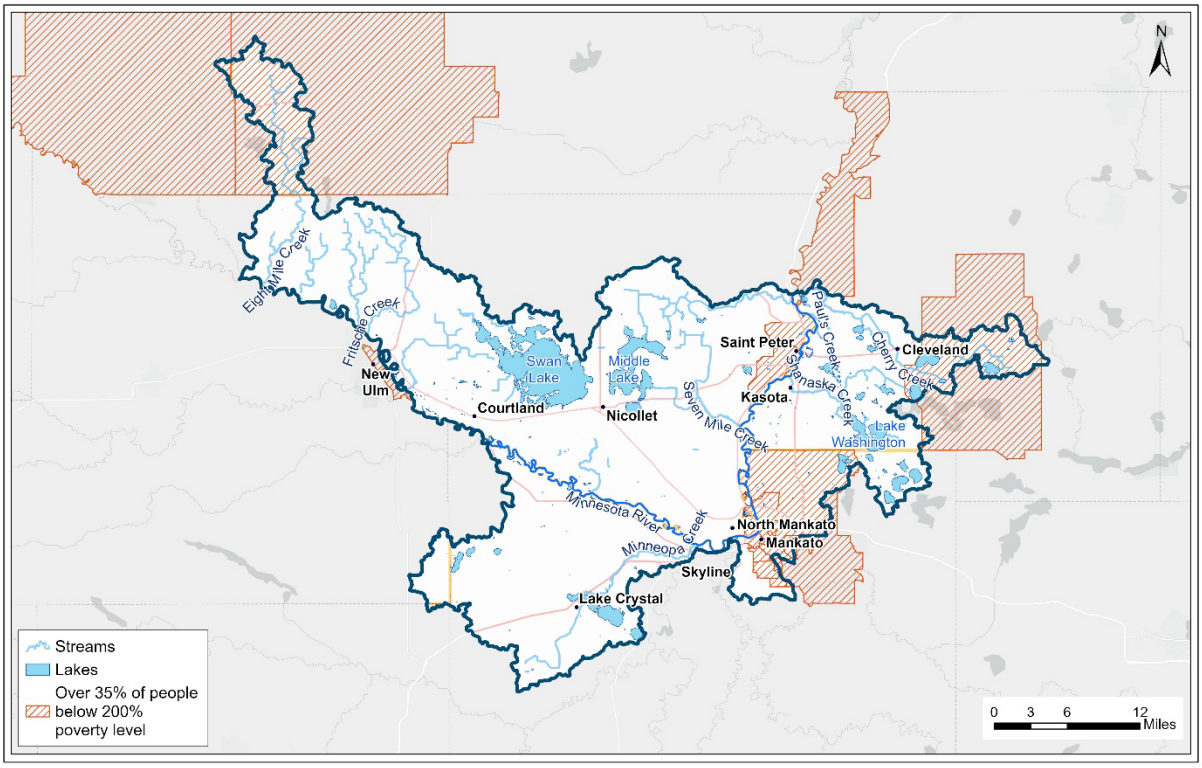


Figure 3-4. Environmental justice areas as defined by the MPCA in the Minnesota River-Mankato Watershed.

Chloride

Photo: Mankato photo contest, Bridget Woller

Concern over chloride in surface water is growing, as concentrations in streams and lakes have been increasing in recent decades due to road salt application. Road salt is applied to pavement as an anti-icer and de-icer to enhance winter driving and walking safety, but does not degrade in the environment and thus is a source of salinity in runoff.

Road salt corrodes infrastructure, is toxic to roadside vegetation, and is reaching groundwater in some locations. The principal concern over the presence of chloride in the environment is in surface waters, where it is toxic to aquatic life at high concentrations. The Environmental Protection Agency (EPA) set short-term and long-term chloride standard in freshwater, and MPCA has begun to declare waters impaired for chloride. However, most Minnesota waterbodies have not been assessed for chloride impairments. No waterbodies

in the watershed are impaired due to chloride, but this does not mean that chloride is not a pollutant of concern, especially near urban areas.

A report on chloride in the watershed is available at: https://freshwater.org/wp-content/uploads/2017/02/Mankato-Chloride-Management-Plan.pdf

The report discusses chloride as relevant to the Mankato area, and suggests training on salting best practices and education to the public on chloride to reduce chloride loading.