

Bluff Creek

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ENVIRONMENTAL SERVICES

Bluff Creek is located in the southwestern metropolitan area. It begins in Chanhassen and runs through Rice Lake, the Minnesota Valley National Wildlife Refuge, agricultural land, forest and grassland, and some urban areas before discharging into the Minnesota River.

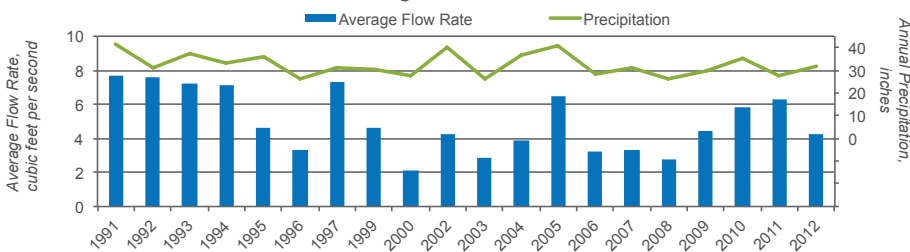
Flow

Stream flow, or the rate of water flowing in a stream, affects aquatic life and the ecosystem. High flows can lead to flooding and erosion, and transport pollutants.

Bluff Creek flows year-round due to groundwater discharge. Its flow is also influenced by how much rain or snow has fallen in any given year.

Since 2003, the average flow at Bluff Creek was a little more than four cubic feet-per-second. At that rate, it would take Bluff Creek nearly 60 days to fill the Target Center in Minneapolis.

Bluff Creek Annual Flows and Precipitation



Sediment

Sediment from poorly-managed construction sites, farm fields, and eroded stream banks and gullies can decrease the light available in streams and harm aquatic life. Another term for sediment is “total suspended solids.”

Bluff Creek carries an average of 2.8 million pounds of sediment into the Minnesota River each year (enough to fill 85 15-ton dump trucks), and its sediment concentration is the second highest of all the streams monitored by MCES in the Minnesota River basin. This is likely due to streambank and ravine erosion along the steeper portions of the creek.

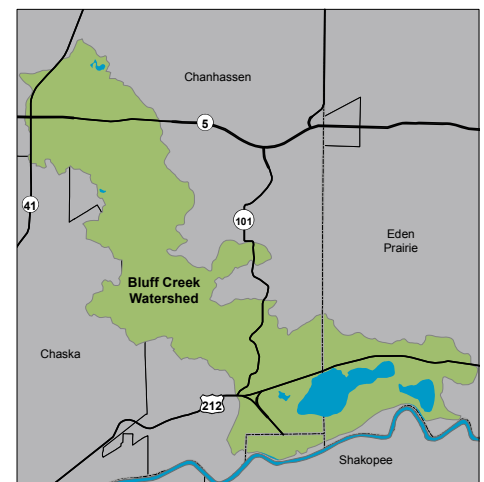
Nutrients

Nutrients, like nitrogen and phosphorus, are necessary for stream health. However, elevated nutrient levels, caused by materials like fertilizers, animal manure, pet waste or grass clippings, can cause excessive algae growth and harm aquatic wildlife, insects and fish.

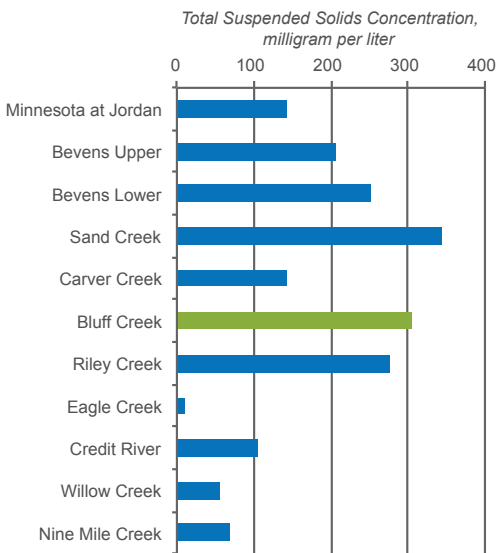
Bluff Creek has a low-to-moderate concentration of nitrogen compared to the other streams monitored by MCES in the Minnesota River basin. Phosphorus concentration in Bluff Creek is among the highest of the streams monitored by MCES in the basin, which is likely related to its high sediment levels.

FAST FACTS

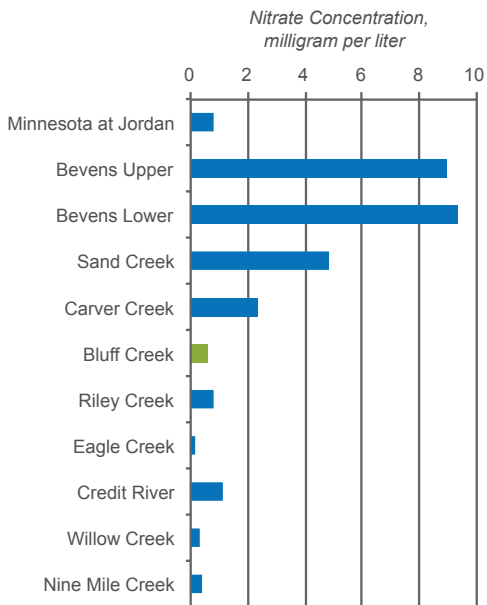
- Major river basin:** Minnesota River
- Water source:** Surface water runoff, groundwater, and lake outflow
- Length:** 9.5 miles
- Watershed area:** 9.2 square miles
- Watershed land use:** Agriculture, forest and grass lands, some urban areas
- Watershed management organization:** Riley Purgatory Bluff Creek Watershed District
- Year first monitored:** 1989



Median Sediment Concentrations in the Minnesota River and Tributary Streams, 2003–2012



Median Nitrate Concentrations in the Minnesota River and Tributary Streams, 2003–2012



Chloride

Chloride, one component of salt, is typically used for winter road, parking lot, and sidewalk maintenance and home water softening.

Bluff Creek has a higher concentration of chloride than the majority of streams monitored by MCES in the river basin.

Aquatic insects

Aquatic insects are excellent indicators of the overall health of a stream since they spend the majority of their lives in the water, and are an important food source for fish, birds and other wildlife. Bluff Creek has a consistent population of aquatic insects, but analysis indicates they are being affected by pollutants. Improved water quality would likely increase the number of aquatic insects in the stream.

Preserving our Creeks

The Riley Purgatory Bluff Creek Watershed District (RPBCWD) is the local governing body responsible for managing the Bluff Creek watershed. They partner with private landowners, cities, state agencies, and the Carver Soil and Water Conservation District to complete various improvement projects, including:

- Stabilizing streambanks and creating fish passage on Bluff Creek near Hwy. 101 through a Clean Water Land and Legacy Amendment grant
- Constructing a raingarden through a Clean Water Land and Legacy Amendment grant at Family of Christ Lutheran Church that will capture parking lot runoff.
- Supporting the construction of stormwater best management practices

Is the Stream Improving?

Long-term data analysis and computer modeling indicate that Bluff Creek’s water quality has improved, because phosphorus, nitrate and sediment levels have decreased. However, since Bluff Creek’s levels of phosphorus, sediment and chloride are higher than the Minnesota River at Jordan, the creek could potentially contribute to the degradation of the river.

Protecting the Region’s Water Resources

This work supports the regional policies established in the Metropolitan Council’s Thrive MSP 2040 and Water Resources Policy Plan to collaborate with partners to promote the long-term sustainability and health of the region’s water resources, including surface water, wastewater and water supply.

For more information

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Visit www.metrocouncil.org/streams for the full results of the Comprehensive Water Quality Assessment of Select Metropolitan Area Streams.