photo credit RPBCWD

Riley Creek

www.metrocouncil.org
ENVIRONMENTAL SERVICES

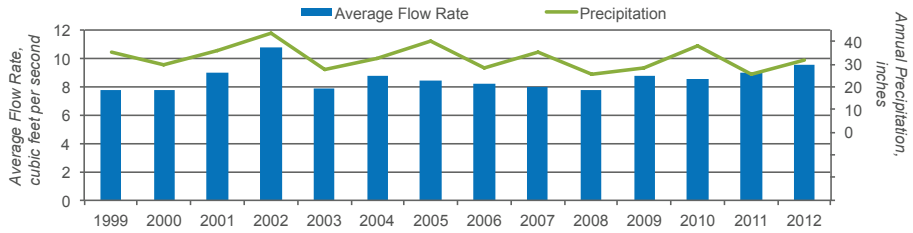
Riley Creek is located in the western metropolitan area. It begins at Lake Lucy in Chanhassen and runs through lakes, open land, urban areas and the Minnesota Valley National Wildlife Refuge before entering the Minnesota River.

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.

Riley Creek flows year-round due to groundwater and lake outflow. Its flow is also influenced by how much rain or snow has fallen in any given year. Since 2003, the average flow in Riley Creek is nearly 8.5 cubic feet-per-second. At that rate, it would take the creek a little more than 30 days to fill the Target Center in Minneapolis.

Riley Creek Annual Flows and Precipitation



Sediment

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

Riley Creek’s median sediment concentration is among the highest of the MCES-monitored streams in the Minnesota River basin, only lower than Sand and Bluff Creeks. These high sediment concentrations are probably due to streambank and ravine erosion in the steeper parts of the watershed. For the last ten years, Riley Creek carried an average of 2.5 million pounds of sediment to the Minnesota River. This amount of sediment would fill 75 15-ton dump trucks!

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.

Riley Creek has a lower nitrogen (measured as nitrate) level than the more agricultural streams monitored by MCES, but it is higher than the more urban streams in the Minnesota River basin. Phosphorus concentration in

FAST FACTS

Major river basin: Minnesota River

Water source: Lake outflow, groundwater, and surface water runoff

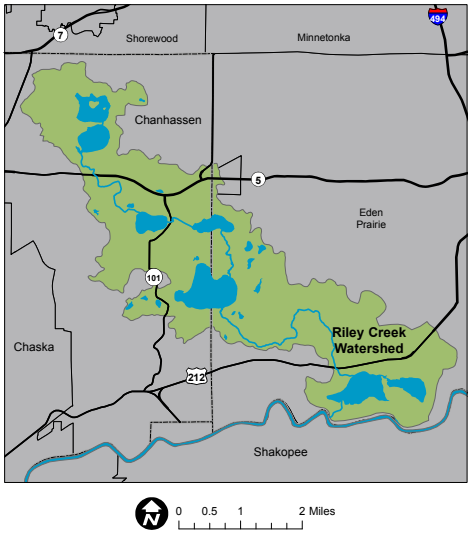
Length: 10 miles

Watershed area: 13.1 square miles

Watershed land use: Mixed urban land, open space, and wetlands

Cooperator organization: Eden Prairie

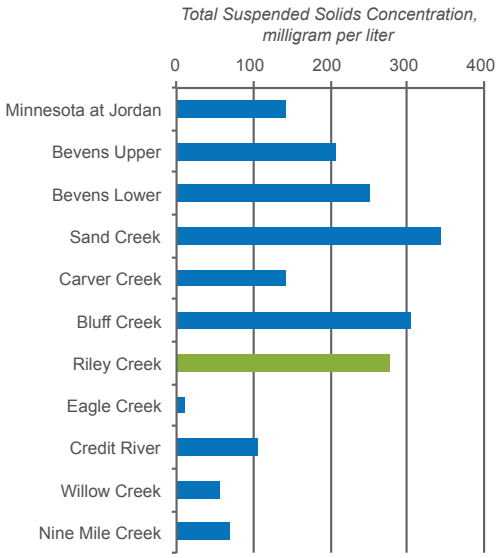
Year first monitored: 1999



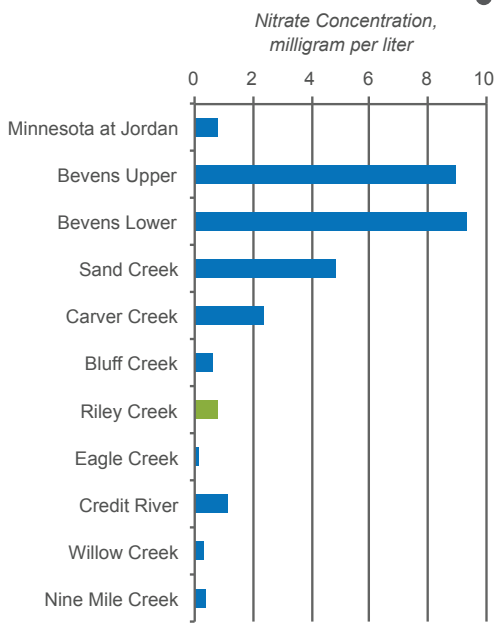
CLEAN WATER LAND & LEGACY AMENDMENT

METROPOLITAN COUNCIL

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



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



Riley Creek is also lower than the more agricultural streams, but higher than the more urban streams monitored by MCES in the Minnesota River basin.

Chloride

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

Riley Creek has a moderate concentration of chloride compared to other streams monitored by MCES in the Minnesota River basin.

Preserving our Creeks

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

- Constructing chemical treatment systems to reduce phosphorus loads to Lakes Lucy and Susan
- Completing shoreland restoration on Lake Lucy
- Installing a winter aeration system on Rice Marsh Lake to control invasive carp populations
- Conducting herbicide treatments on Lakes Riley and Susan to control invasive plants, restore native plants, and reduce phosphorus loads
- Supporting the construction of stormwater best management practices

Is the Stream Improving?

Data analysis and computer modeling indicate that Riley Creek's water quality has improved because the sediment and nitrate levels in the creek have decreased. However, the water quality has declined because phosphorus levels have increased. Since Riley Creek's phosphorus and sediment levels are higher than the Minnesota River, 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.

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