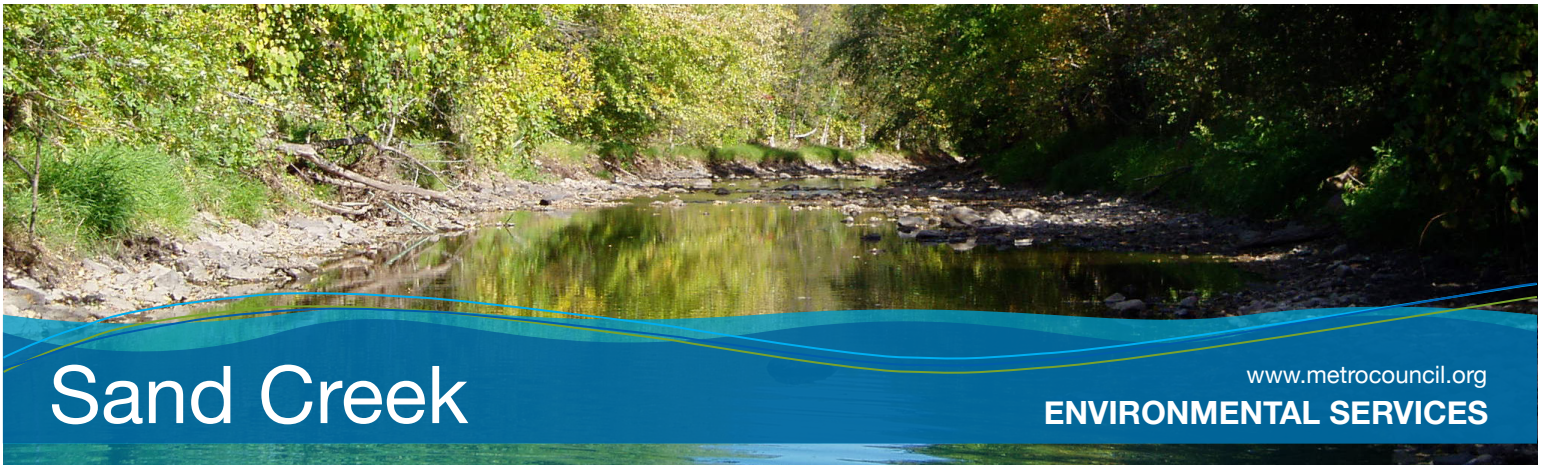


Sand Creek

www.metrocouncil.org
ENVIRONMENTAL SERVICES

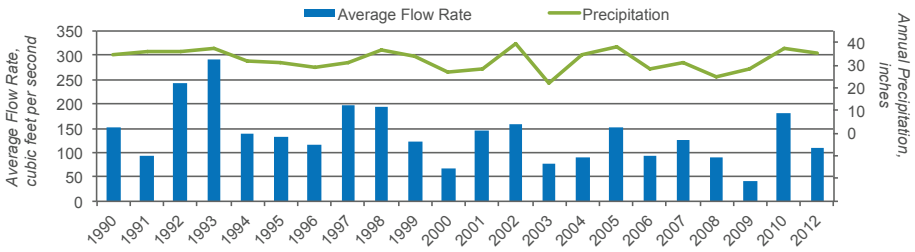
Sand Creek is located in the southern metropolitan region and its watershed extends into Scott, Rice and Le Sueur counties. It has three main branches (Raven, Porter and Sand creeks) that flow through the communities of Montgomery, New Prague, and Jordan and the Minnesota Valley Wildlife Refuge, before 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.

Sand Creek flows year-round due to groundwater, lake, and drain tile outflow. Its flow is also influenced by how much rain or snow has fallen in any given year. Since 2003, the average flow in Sand Creek is nearly 107 cubic feet-per-second. At that rate, it would take the creek 2.5 days to fill the Target Center in Minneapolis.

Sand 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.”

Sand Creek carries an average of 75 million pounds of sediment into the Minnesota River each year (enough to fill 2,271 15-ton dump trucks), more than any other stream monitored by MCES in the river basin.

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.

Sand Creek has a higher concentration of nitrogen (measured as nitrate) than almost all the streams in the Minnesota River basin monitored by MCES, and is higher than the Minnesota River. Phosphorus concentration in Sand Creek is also higher than the majority of the other streams in the basin monitored by MCES, and is higher than that in the Minnesota River.

FAST FACTS

Major river basin: Minnesota River

Water source: Surface water runoff, lake and wetland outflow, shallow groundwater, agricultural drain tiles

Length: 43.5 miles

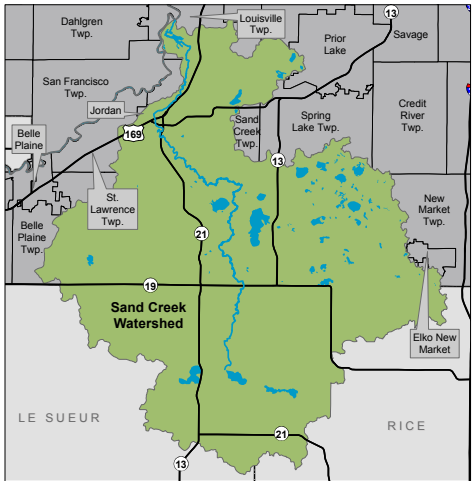
Watershed area: 274 square miles

Watershed land use: Agricultural, open space, bluff land, urban areas

Regional Parks: Cedar Lake Farm, Doyle-Kennefick (planned)

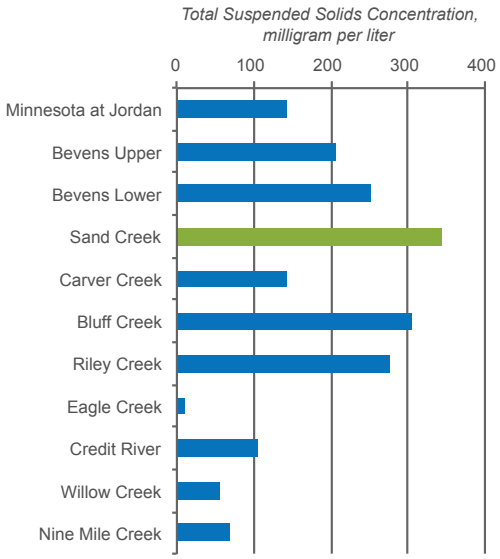
Watershed management organizations: Scott County Watershed Management Organization (WMO), Rice County, Le Sueur County

Year first monitored: 1989

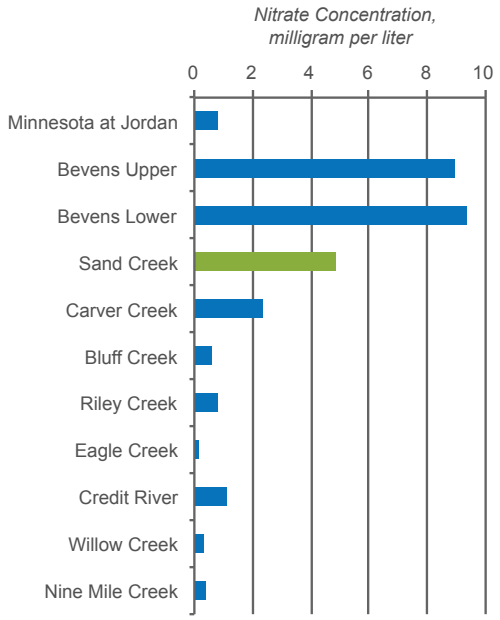


METROPOLITAN COUNCIL

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



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



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. Sand 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.

Chloride

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

Sand Creek has a higher chloride concentration than the Minnesota River, but it is less than the more urban streams in the river basin monitored by MCES.

Preserving our Creeks

The Scott County Watershed Management Organization, Rice County, and Le Sueur counties are the local governing bodies responsible for managing the Sand Creek watershed. They partner with private landowners, the Scott Soil and Water Conservation District, cities, Scott, Rice and Le Sueur counties, state agencies, the University of Minnesota, and others to complete various improvement projects, including:

- Stabilizing and restoring stream banks
- Restoring drained wetlands
- Controlling erosion of sediment from steep slopes
- Improving near-stream vegetation
- Educating on and supporting the construction of agricultural best management practices

Is the Stream Improving?

Long-term data analysis and computer modeling indicate that Sand Creek's water quality has declined because sediment levels have increased. The water quality has improved for nutrients, because nitrate and phosphorus concentrations have decreased. However, since Sand Creek's nitrate, 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 polices 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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