

Silver Creek

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ENVIRONMENTAL SERVICES

Silver Creek is a small stream in Washington County that begins at the outlet of Lake Carol in Stillwater Township, drops into an ecologically-sensitive, scenic gorge at Fairy Falls, and extends to the St. Croix River. Silver Creek provides opportunities for wildlife viewing, hiking, and other recreational activities. The creek and its surrounding area are a valuable scenic amenity for the community.

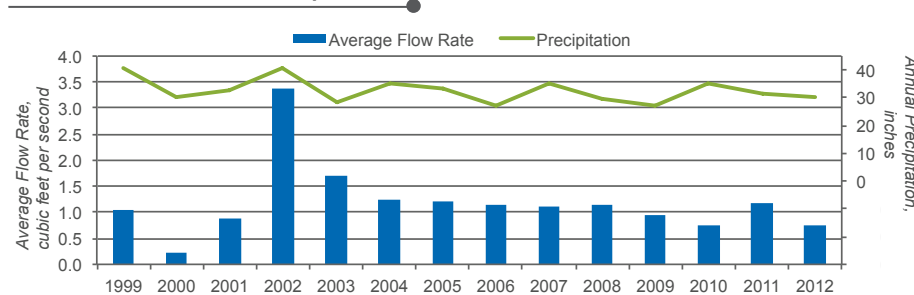
Flow

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

Silver Creek is fed by lake outflows and groundwater seeps and springs. The cold groundwater allows the stream to support many types of cold-water aquatic life. Flow levels are also influenced by the amount of rain and/or snow that falls.

However, the stream does not usually have much water in it, and during brief periods does not flow at all. During the last 14 years, the average flow in Silver Creek was 1.2 cubic feet-per-second. At that rate, it would take Silver Creek 215 days to fill the Target Center in Minneapolis!

Silver Creek Annual Flows and Precipitation



Sediment

Sediment from poorly-managed construction sites 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.”

Silver Creek sediment concentrations are the second highest of the St. Croix River basin. Over the last ten years, the stream carried an average of 121,500 pounds of sediment to the St. Croix River every year. Some of the sediment may be caused by the groundwater seeps and Fairy Falls flowing over fragile, erodible limestone. This is enough sediment to fill four 15-ton dump trucks!

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. Aquatic insects are an important food source for fish, birds, and other wildlife.

FAST FACTS

Major river basin: St. Croix River

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

Length: 2.5 miles

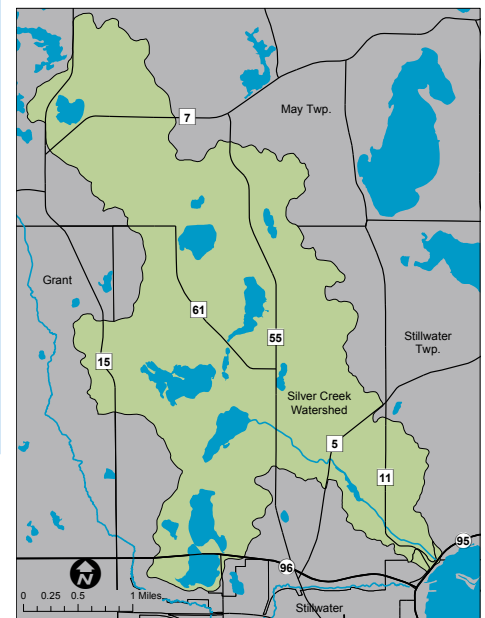
Watershed area: 8.6 square miles

Watershed land use: Forest, grassland, mixed agriculture, some urban

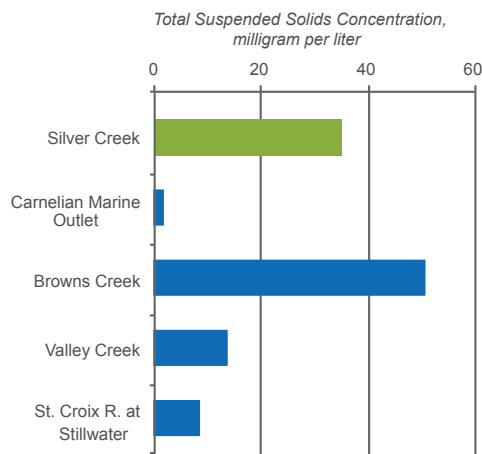
Regional Park: Pine Point

Cooperator organizations: Carnelian Marine St. Croix Watershed District and Washington Conservation District

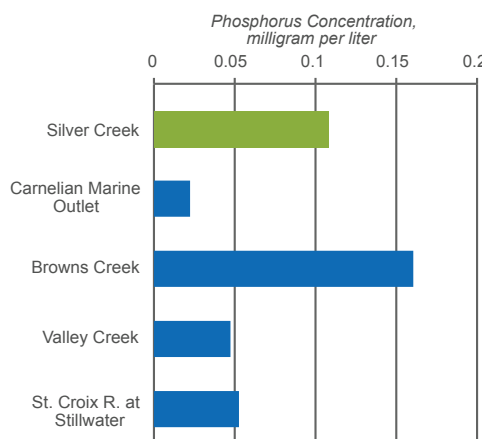
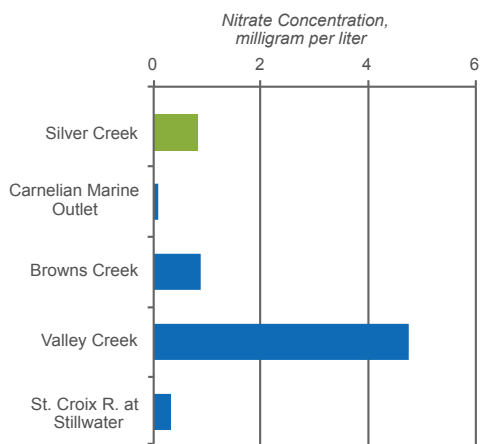
Year first monitored: 1999



Median Sediment Concentrations in the St. Croix River and Tributary Streams, 2003–2012



Median Nutrient Concentrations in the St. Croix River and Tributary Streams, 2003–2012



Silver Creek has a healthy population of aquatic insects. The cold groundwater and lower flows create a great and healthy habitat for the bugs.

Nutrients

Nutrients, like nitrogen and phosphorus, are necessary for stream health. However elevated 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.

On average, Silver Creek has a similar concentration of nitrogen (measured as nitrate) as its neighbor, Browns Creek. All of the creeks monitored by MCES in the St. Croix River basin, except Carnelian-Marine, are higher than the St. Croix River.

Phosphorus concentrations in Silver Creek are the second highest of the St. Croix River basin streams monitored by MCES, and higher than the phosphorus concentration in the St. Croix River.

Preserving our Creeks

The Carnelian-Marine St. Croix Watershed District (CMSCWD) is the local governing body responsible for managing the Silver Creek watershed. They work with private landowners and organizations to complete restoration projects that improve Silver Creek water quality, including:

- National Park Service
- Minnesota Department of Natural Resources
- Private Landowners

Improvement projects completed by the Carnelian-Marine St. Croix Watershed District and its partners include:

- Construction of cost-share projects, including raingardens, shoreland restoration, vegetative buffers, agricultural grassy waterways, prairie plantings, and conversion of agricultural crop lands to prairie
- Implementation of a permit program that requires installation of raingardens and vegetative buffers at new construction projects occurring within 1,000 feet of the lakes and stream
- Installation of alternative manure management systems at horse farms

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

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