

Bevens Creek

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ENVIRONMENTAL SERVICES

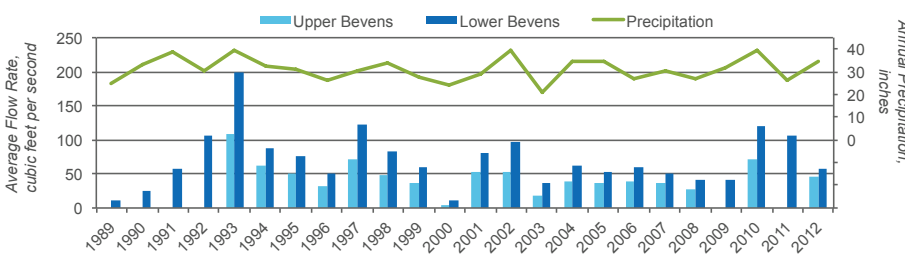
Bevens Creek is located in the southwestern metropolitan area. It begins in Green Isle Township in Sibley County (outside of the metropolitan area) and runs through agricultural land, wetlands and some urban areas. Silver Creek joins the main stem of Bevens Creek roughly three miles upstream of where the creek discharges 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.

Bevens Creek flows year-round, though winter flow levels are very low. Since 2003, the average flow is 39 cubic feet-per-second for Upper Bevens and 63 cubic feet-per-second for Lower Bevens. At that rate, it would take Upper Bevens seven days, and Lower Bevens four days, to fill the Target Center in Minneapolis.

Bevens Creek Annual Flows and Precipitation



Sediment

Sediment from farm fields, poorly-managed construction sites, 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.”

Bevens Creek carries an average of 15.7 million pounds of sediment into the Minnesota River each year (enough to fill 475 15-ton dump trucks). Bevens Creek has among the highest sediment concentration levels in the Minnesota River basin streams monitored by MCES.

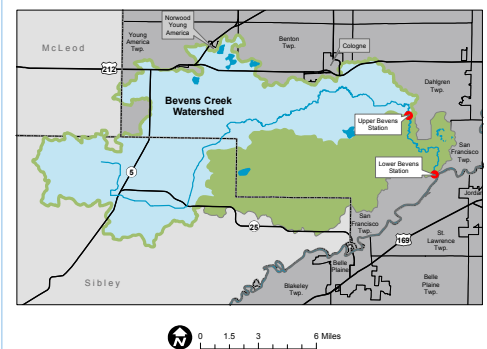
Nutrients

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.

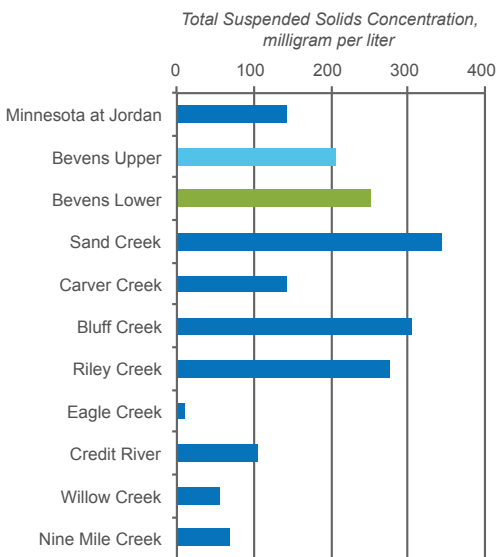
Bevens Creek has the highest concentration of nitrogen (measured as nitrate) of all the Minnesota River streams monitored by MCES; its nitrate level is also higher than any other stream monitored by MCES in the metropolitan area. Phosphorus concentrations in Bevens Creek are among the highest of the streams monitored by MCES in the Minnesota River basin.

FAST FACTS

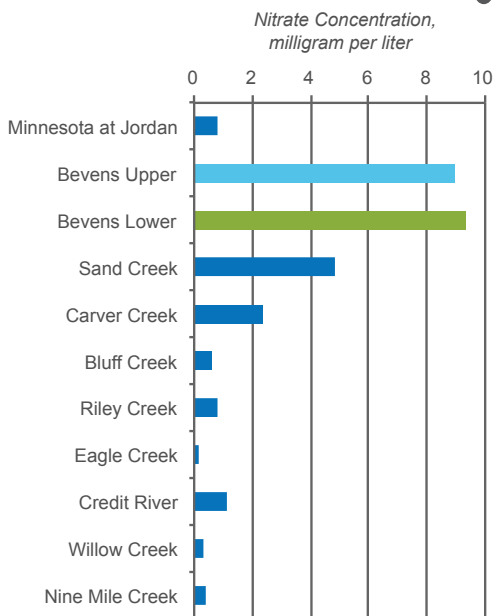
- Major river basin:** Minnesota River
- Water source:** Surface water runoff, wetland outflow, and agricultural drain tile runoff
- Length:** 39 miles
- Watershed area:** 133 square miles
- Watershed land use:** Agriculture, bluff land, open space, some urban
- Watershed management organizations:** Carver County Watershed Management Organization and Sibley County
- Year first monitored:** Lower Bevens 1989, Upper Bevens 1992



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. Large-lot rural, residential areas also have many individual on-site septic systems to manage wastewater since there is no centralized sewage system. Septic systems can leak chloride into the groundwater and eventually pollute the stream.

Bevens Creek has among the lowest concentrations of chloride in the streams monitored by MCES in the Minnesota River basin, which likely reflects the rural nature of the region.

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. Lower Bevens Creek has a fair to good population of aquatic insects.

Preserving our Creeks

Carver County Water Management Organization and Sibley County are the local governing bodies responsible for managing the Bevens Creek watershed. They work with private landowners, cities, state agencies, and soil and water conservation districts to complete various improvement projects, including:

- Installing vegetated buffer strips along creeks and ditches
- Encouraging agricultural best management practices
- Restoring wetlands
- Initiating a stream bank erosion inventory to identify potential future projects
- Completing stormwater management practices

Is the Stream Improving?

Long-term data analysis and computer modeling indicate that Bevens Creek’s water quality has improved because phosphorus, nitrate and sediment levels have decreased. However, since Bevens Creek’s nitrate and sediment concentrations are higher than the Minnesota River, the creek contributes 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.