

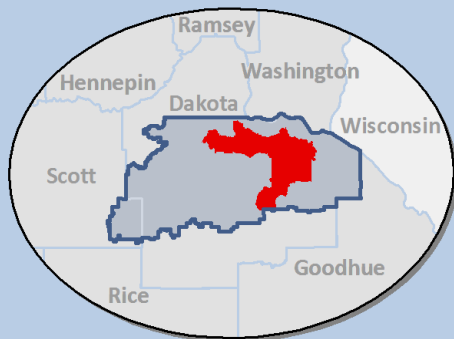


How can
you improve
local waters?



Lower Main Stem Subwatershed

Lower Main Stem Subwatershed



Includes:

- Southeastern Rosemount,
- Southern Nininger Township,
- City of Coates,
- Northern and eastern Vermillion Township,
- North central Hampton Township,
- Northwestern Marshan Township,
- Southwestern Hastings, and
- Vermillion River and all of its minor tributaries between Hwy. 52 and Hwy. 61.

Strategies for a healthy subwatershed

The land area around the Vermillion River's lower main stem (and smaller streams that run into it) make up the Lower Main Stem Subwatershed. The Lower Main Stem Subwatershed (shown in red on map, left) is part of the Vermillion River Watershed (shown in blue). Land and water in that area drain to the lower main stem of the Vermillion River.

The Lower Main Stem Subwatershed is primarily rural and agricultural, with the exception of residential areas in the City of Hastings. Over many years of agricultural production, landowners have altered the land to expand, improve crop yields, and drain soggy fields. Residential development in Hastings increases runoff from roads, pavement, and parking lots.

These land uses alter the natural flow of water, allowing rain water to move more quickly from where it falls. Increased runoff carries pollutants such as sediment, nitrate, and *E. coli* bacteria to lakes, rivers, and streams.

Practices that slow down stormwater and soak up the rain can improve water quality – not only in the Vermillion River lower main stem, but also in the groundwater. Surface water percolates down into the groundwater aquifers in the Lower Main Stem Subwatershed, affecting drinking water sources.

Healthy land and water resources depend on everyone. Find out more about what you can do to improve the Lower Main Stem Subwatershed's water resources.

Project Highlight
Vermillion Township Landowner
Grassed Waterway
Private landowners seek solutions for problems like severe erosion after large rain events. This farmer reduced erosion and improved water quality by installing a grassed waterway to convey runoff through his fields. Dakota Soil and Water Conservation District and the VRWJPO supported the project.



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Vermillion River Watershed Joint Powers Organization

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The Vermillion River Watershed encompasses an area of approximately 335 square miles, including portions of two counties and all or portions of 20 cities, towns, and townships. The main stem of the river begins in southeastern Scott County in New Market Township flowing east through central Dakota County, passing over a waterfall in the City of Hastings, and then discharging to the Mississippi River both through a northerly flowing outlet near the City of Hastings as well as through a southerly flowing outlet near the City of Red Wing, Minnesota.

Best Management Practices (BMPs) for the Lower Main Stem Subwatershed

What are the water-quality issues?

- *E.coli* bacteria in streams
- Excess sediment in streams
- Concerns about surface water pollutant impacts on groundwater used for drinking water supplies.

What are we (and partners) doing?

- **Cost-sharing conservation buffers** through federal and state programs.
- **Stabilizing streambanks** to prevent erosion.
- **Piloting an irrigation scheduling program** to provide landowners with services of a University of Minnesota Extension irrigation specialist to find optimal irrigation effectiveness.
- **Supporting private well testing** by Dakota County and the Minnesota Department of Agriculture to monitor nitrates and other pollutants in drinking water.

What can you do at home?

- **Install a rain garden** to soak up the rain, filter pollutants, and provide habitat.
- Pick up and properly **dispose of pet wastes** in the trash.
- **Stabilize and vegetate streambanks** to prevent erosion, filter pollutants, and provide habitat for wildlife.

What can you do on the farm?

- **Install a grassed waterway**, a vegetated channel designed to move surface water across farmland without causing soil erosion.
- **Install water and sediment control basins** to collect sediment and hold water until it seeps into the ground.
- **Keep livestock out of streams** and manage manure properly to reduce bacteria loads.
- **Use cover crops** on cropland when the soil would otherwise be bare to reduce erosion and runoff pollutants. Common cover crops in Minnesota include rye and other small grains.
- Follow University of Minnesota Extension's [best management practices](#) for **nitrogen use**.

Visit our website for more information:
www.vermillionriverwatershed.org