

(Continued from front)

Priority area for protection

If nitrate levels in reach 707 can be reduced now, we could prevent the South Branch of the Vermillion River from being listed as impaired for nitrate. (See “Test the Waters” fact sheet to find out more about nitrate in drinking water issues.)

Nitrate data from the cold-water trout streams are compared to the state’s drinking water standard for nitrate of 10 mg/L. State agencies are developing a surface water standard for nitrate, which may be lower than the 10 mg/L standard. Reaches 691, 692, and 707 in Vermillion Township may violate the new standard, if it is adopted. Calculations from the 2012 and 2013 Vermillion River Monitoring Network annual reports show that the nitrate yields entering surface water were 9.4-10.0 pounds per acre and originate in the South Branch (which includes 707).

The biggest challenge

Throughout the Vermillion River Watershed, bacteria levels in surface water are too high. Reaches 507, 691, 692, and 707 are impaired for fecal coliform bacteria. Sources of bacteria include livestock waste, wildlife waste, and failing septic systems. Best management practices (BMPs) can help improve water quality. Incentives are available from state and local programs for landowners to implement BMPs.

**VERMILLION RIVER WATERSHED
JOINT POWERS BOARD**

Commissioner Mike Slavik,
(Dakota County)

Commissioner Mary Liz Holberg,
(Dakota County)

Commissioner Tom Wolf,
(Scott County)



**Vermillion River Watershed
Joint Powers Organization**

14955 Galaxie Avenue
Apple Valley, MN 55124
www.vermillionriverwatershed.org
952-891-7000

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.

Updated: Jan. 2015

Groundwater impacts on water quality

State Hwy. 52 runs north-south, crossing the Vermillion River main stem in Vermillion Township. The underlying geology of the area changes the river, roughly at the City of Vermillion. The reaches west of Hwy. 52 (507 and 707) are “gaining,” with groundwater moving into surface water and keeping it cold enough for cold-water species, such as trout. The reaches east of Vermillion (691 and 692) are “losing,” with surface water moving into groundwater. Contaminants (such as nitrate) in surface water are seeping into the groundwater and affecting drinking water. The Dakota County Targeted Townships groundwater sampling program conducted in 2013 showed that 42 percent of private drinking water wells tested in Vermillion Township have nitrate levels that exceed the health risk limits set by the Minnesota Department of Health.

Reducing pollutant loads

The WRAPS study estimates pollutant load reductions that will improve water quality to meet state standards. Each city with a state municipal separate storm sewer system (MS4) permit will receive a waste load allocation – a pollutant load reduction they will be required to achieve. The unincorporated areas **as a whole** that drain to the river are given a load allocation – a pollutant load reduction the unincorporated areas will try to achieve together.

Benefits of restored waters

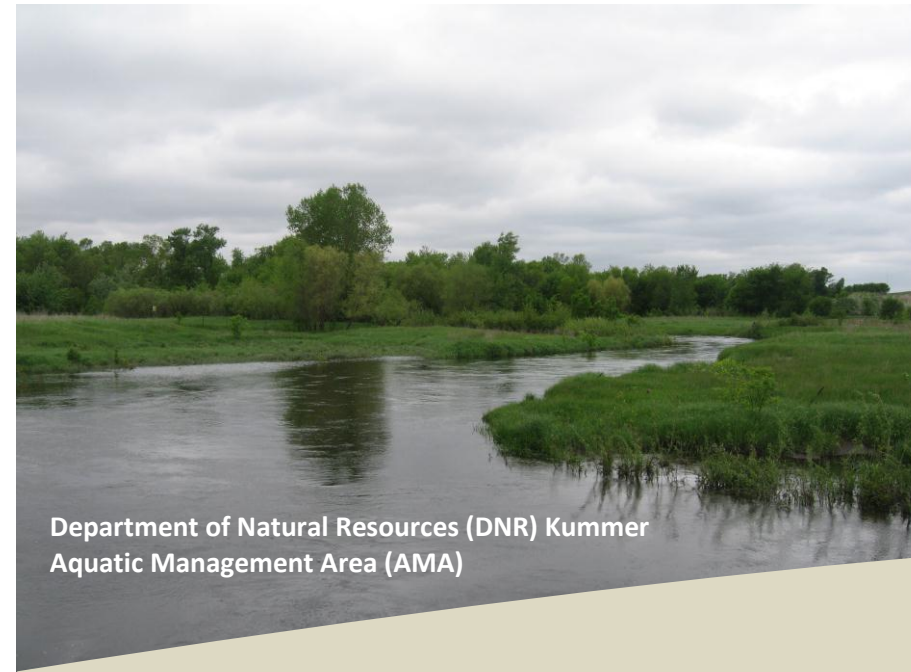
- Rivers and wetlands reduce the effects of flood or drought on urban and rural property.
- Water resources support many kinds of life. These living things break down wastes, prevent soil erosion, reduce pests, pollinate plants, serve as food, or otherwise benefit human populations.
- Clean rivers and lakes increase property values, boost the local economy, and attract recreational users.
- Clean water attracts wildlife, supports healthy outdoor recreation, and improves the quality of life.

For more information about:

- **The Vermillion River Watershed**, visit www.vermillionriverwatershed.org
- **Impaired waters**, go to the MPCA website at www.pca.state.mn.us, search “impaired waters”
- **E-mail notifications of events** or subscriptions to the VRWJPO newsletter, send an e-mail to water@co.dakota.mn.us



**Frequently
Asked
Questions**



Department of Natural Resources (DNR) Kummer Aquatic Management Area (AMA)

**Impaired Waters in
Vermillion Township
and the Watershed
Restoration and
Protection Strategy
(WRAPS)**

Impaired waters

Portions of the Vermillion River, its tributaries, and lakes in the Vermillion River Watershed are listed as “impaired” by the Minnesota Pollution Control Agency (MPCA) and the U.S. Environmental Protection Agency (EPA) under the federal Clean Water Act.

Impaired waters are rivers, lakes, or streams that **do not meet one or more state water-quality standards** and are considered too polluted for their designated uses. Designated uses for water bodies can include consumption (drinking water, eating fish); aquatic recreation (swimming, canoeing); and aquatic life (living conditions for fish, insects, and other aquatic species).

**Watershed Restoration and
Protection Strategy**

The Vermillion River Watershed Joint Powers Organization (VRWJPO) is responsible for identifying pollution sources and stresses causing these impairments and creating a Watershed Restoration and Protection Strategy (WRAPS) to restore impaired waters and protect waters from becoming impaired.

In developing the WRAPS, the VRWJPO is consulting with people in Vermillion Township to inform them about the impairments and identify strategies to achieve water-quality goals. Strategies taken to achieve these goals must comply with existing laws, be practical and cost-effective, and be eligible for grant funding. This FAQ describes impaired waters in Vermillion Township, factors that affect water quality in the area, and general information about pollutant loading.

Vermillion Twp.’s water and land

Vermillion Township is entirely located in the Vermillion River Watershed. Vermillion Township contains the main stem of the Vermillion River, small intermittent tributaries to the Vermillion River and the South Branch.

Priority areas for improvement

The impaired river reaches in Vermillion Township are 507, 691, and 692 (main stem) and 707 (South Branch). These reaches are identified on the map in the center of this fact sheet. Reach 692 is classified as a warm-water stream; reaches 507, 691, and 707 are classified as cold-water trout streams. Regulations and standards are more stringent for cold-water streams.

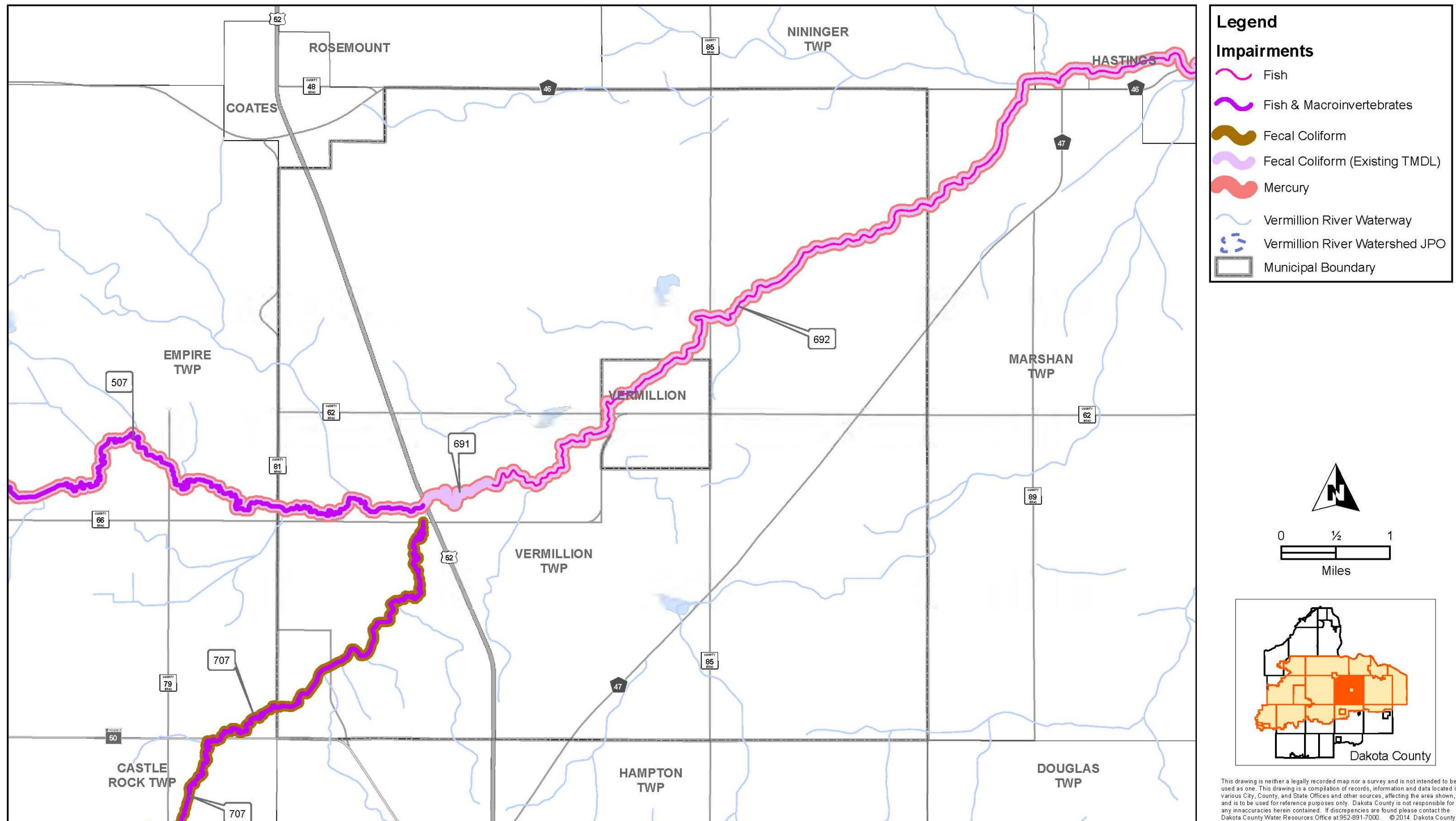
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Where are the current water quality impairments in Vermillion Township?

Mercury is a statewide issue

Some pollutants are widespread in the environment, including mercury (a toxic element) in water resources. Mercury builds up in fish tissue as it moves through the food chain. This makes some species or sizes of fish unsafe to eat in large quantities. Mercury is deposited on water from the air. One major source is coal-burning power plants.

The State of Minnesota is responsible for reducing mercury pollution. To find out more, visit the Minnesota Pollution Control Agency website at www.pca.state.mn.us/index.php/topics/mercury/index.html.



Bacteria – The most common pollutant in Vermillion Township’s river reaches (507, 692, and 707) is **fecal coliform bacteria, especially *E. coli***. The bacteria come from the intestines of warm-blooded organisms. People exposed to these bacteria can get sick. Where these bacteria occur, they indicate that other diseases that affect human health may be present in the water, too.

Fish and Macroinvertebrates – The health of the river is measured, in part, by its ability to support aquatic life, such as fish and macroinvertebrates (aquatic insects). In river segments 507, 692, and 707, the make-up of the fish and macroinvertebrate communities is considered unhealthy. The reach does not contain the right kinds of living things in the right amounts, primarily because of environmental stress.

These environmental stresses include turbidity caused by too much sediment eroding into the river or carried to the river by stormwater, areas of degraded habitat, high water temperatures, lack of dissolved oxygen, and excess nitrate, (reach 707 only).

This drawing is neither a legally recorded map nor a survey and is not intended to be used as one. This drawing is a compilation of records, information and data located in various City, County, and State Offices and other sources, affecting the area shown, and is to be used for reference purposes only. Dakota County is not responsible for any inaccuracies herein contained. If discrepancies are found please contact the Dakota County Water Resources Office at 952-891-7000. © 2014 Dakota County