

(Continued from front)

Priority areas for protection

A large portion of land in Empire Township is under public ownership, a unique circumstance among the primarily agricultural townships in the Vermillion River Watershed. Efforts to protect or restore environmental resources on these publicly owned properties are already in progress, but there will be many more opportunities in the future.

UMore Park is a large tract of land (5,000 acres) in northern Empire Township and southern Rosemount owned by the University of Minnesota. Potential plans for UMore include: a sustainable community residential development, agricultural research and education, and commercial uses, such as gravel mining. Only one unnamed tributary drains from UMore Park to reach 507.

Dakota County Parks recently opened the 456-acre Whitetail Woods Regional Park, located one mile north of the Vermillion River main stem 507 reach. The new park installed stormwater best management practices (BMPs) and other sustainability measures and has restored and maintained habitat. Opportunities to partner with Whitetail Woods on water quality improvement projects are being actively explored.

**VERMILLION RIVER WATERSHED
JOINT POWERS BOARD**

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(Dakota County)

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(Scott County)



**Vermillion River Watershed
Joint Powers Organization**

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Metropolitan Council Environmental Services (MCES) owns and operates the Empire Wastewater Treatment Plant, which occupies approximately 400 acres on reach 507. MCES has integrated innovative stormwater management practices throughout the MCES property – a green roof, pervious pavers, infiltration practices, and native prairie plantings, for example. As a permitted wastewater treatment facility, MCES is committed to protecting water quality in the Mississippi River (where effluent is discharged) and the Vermillion River.

Priority areas for restoration

Reach 507, a designated trout stream, is impaired for bacteria. Bacterial impairments are widespread throughout the watershed, and the sources include feedlots, pet wastes, wildlife wastes, failing septic systems, and land application of manure. Riparian buffers could have a significant beneficial impact in filtering bacteria, nutrients, and sediment before they reach the water.

Reducing pollutant loads

Empire Township has a state municipal separate storm sewer system (MS4) permit will receive a waste load allocation – a pollutant load reduction the township will be required to achieve.

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**



Stream reach in Empire Township

**Impaired Waters in
Empire 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 Empire 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 Empire Township, factors that affect water quality in the area, and general information about pollutant loading.

Empire Township’s water and land

The Vermillion River’s main stem (reach 507) flows from west to east across Empire Township. This reach was once the receiving water for the Empire Wastewater Treatment Plant effluent (treated wastewater). The Empire Plant stopped discharging to the Vermillion River in 2006; its effluent is now piped to the Mississippi River.

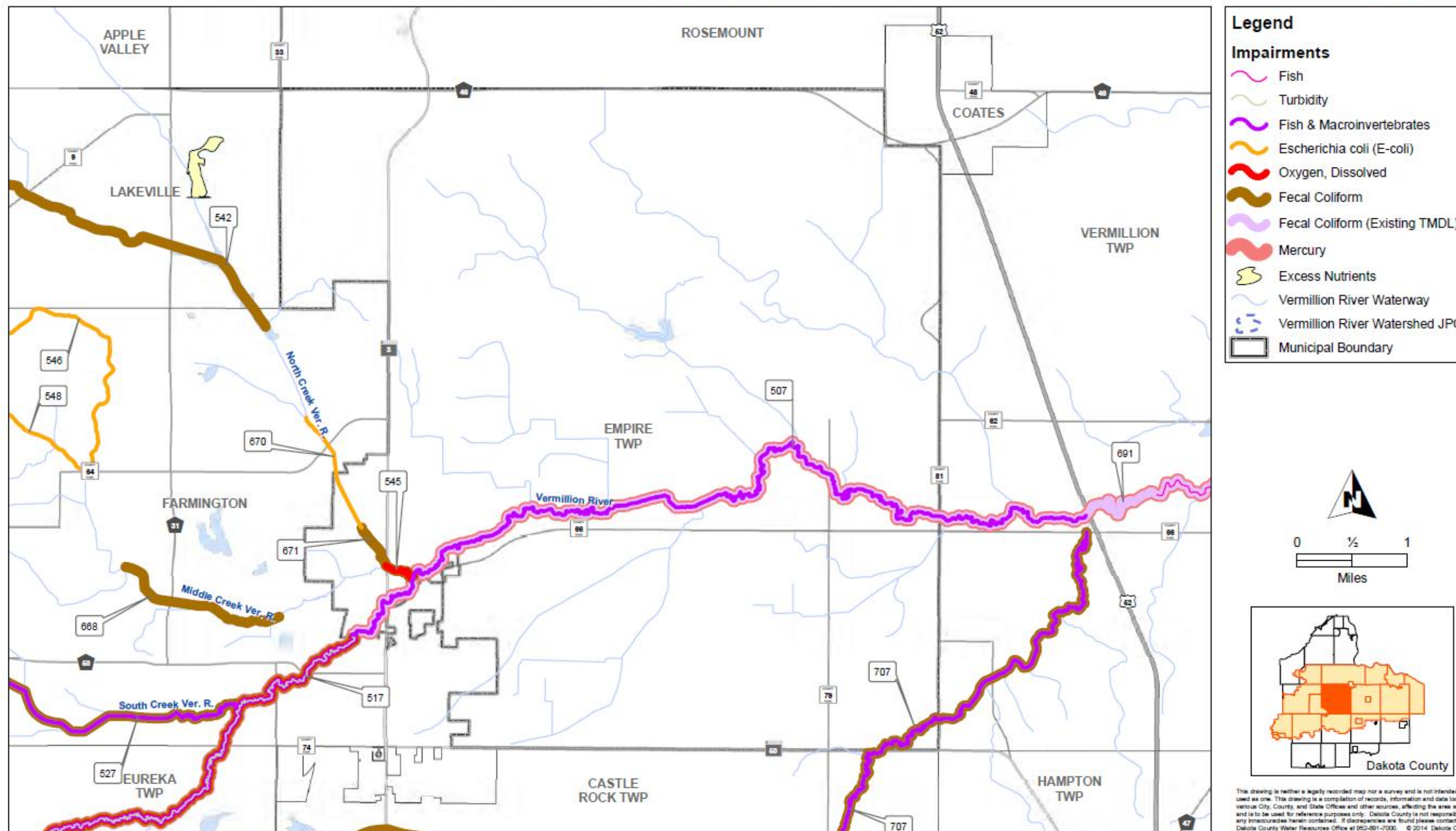
On the western border of Empire Township, North and Middle Creeks converge and drain into the Vermillion main stem (507). Portions of North Creek (reaches 545, 670, and 671) are located in Empire Township, as is a portion of the South Branch tributary (reach 707) that cuts through the southeastern corner of the township. See the map on the inside pages to see what portions of the river are impaired.

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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.

Updated: April 2015

Where are the current water quality impairments in Empire 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. In Empire Township, river segment 507 is impaired by mercury, which 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.

Impairments in Empire Township

Bacteria – The most common pollutant in Eureka Township’s river reaches (516, 517, and 706) 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.

Low dissolved oxygen – If a river or stream does not have enough dissolved oxygen (517), fish and other aquatic organisms are stressed and less able to live and reproduce. Reach 517 has poor oxygen conditions because it is slow moving, becomes stagnant, does not have in-stream features to help aerate the water, and is too warm.

Turbidity is cloudiness in water (517) caused by individual particles (typically sediment). Stormwater brings particles from land surfaces to water bodies. High turbidity levels can block light from reaching lower water depths; inhibit growth of aquatic plants and species (such as fish or aquatic insects) that depend on those plants; cover and fill vital habitat, hinder the ability of species to see food, and damage gills.

Fish and Macroinvertebrates – The health of the river is measured, in part, by its ability to support living things, such as fish and macroinvertebrates (aquatic insects). In river segment 517, fish and macroinvertebrates are unhealthy. The reach does not contain the right kinds of living things in the right amounts, primarily because of turbidity, but also high temperature, low oxygen, and poor habitat.