

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: March 2015

(Continued from front)

Priority areas for improvement

Due to its close proximity, Elko New Market's primary impaired river reach is 516 (Vermillion River main stem), but because reach 517 is downstream from Elko New Market, the city will be allocated pollutant reductions in both 516 and 517. These reaches are identified on the map in center of this fact sheet.

Stormwater from the city discharges directly to reach 516, which is impaired for mercury and bacteria. Mercury can't be dealt with locally (see sidebar on the inside pages), so reducing bacteria in runoff is one of the priority areas for improvement in Elko New Market. Another priority area for improvement is reducing the amount of sediment in runoff. Turbidity (cloudy water from particles that wash into the water) is the primary stressor on fish and macroinvertebrates.

All of the impaired reaches need help, but perhaps none so much as reach 517. This reach doesn't meet state standards for fecal coliform bacteria, turbidity, dissolved oxygen, mercury, and fish and macroinvertebrate health. Excessive sediment was found to be a significant water quality problem in reach 517.

VERMILLION RIVER WATERSHED JOINT POWERS BOARD

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Vermillion River Watershed Joint Powers Organization

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Strategies for improvement

Elko New Market will have a Waste Load Allocation (WLA) for 517's pollutant impairments because 516 and other headwater tributaries contribute directly to impairments in reach 517. Since the city has both urban and farm land uses, strategies tailored for each land use have been identified.

One key strategy to consider for reducing bacteria in runoff on farm lands within the city is proper agricultural manure management and feedlot or pasture improvements. A key bacteria reduction strategy on the urban lands would be to work on pet waste management.

A strategy for reducing sediment in runoff on the urban lands would be effective erosion and sediment control on any new development. Conservation practices such as grassed waterways, conservation tillage, contour farming, and water and sediment control basins would be extremely effective at reducing sediment loss from the agricultural lands.

Reducing pollutant loads

Elko New Market has a state municipal separate storm sewer system (MS4) permit and will receive WLA that will be incorporated into the permit. The WLA, a pollutant-reduction goal, provides the city with a target to help meet water-quality standards.

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



Headwaters of the Vermillion River near Elko New Market

Impaired Waters near the City of Elko New Market 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) and MPCA are 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 the City of Elko New Market 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 and be practical, cost-effective, and eligible for grant funding. This FAQ describes impaired waters in Elko New Market, factors that affect water quality in the area, and general information about required pollutant reduction goals.

Elko New Market's water and land

The City of Elko New Market is partly within the Vermillion River Watershed. The headwaters of the Vermillion River originate near Elko New Market. The Vermillion River main stem emerges just north of the city and flows north and east past the former Elko New Market wastewater treatment plant, and into Eureka Township.

Elko New Market is in an unusual situation, compared to other jurisdictions in the Vermillion River Watershed. The headwaters of the Vermillion River system are located within the Scott County portion of the watershed. Water flows out of the headwaters, but not in.

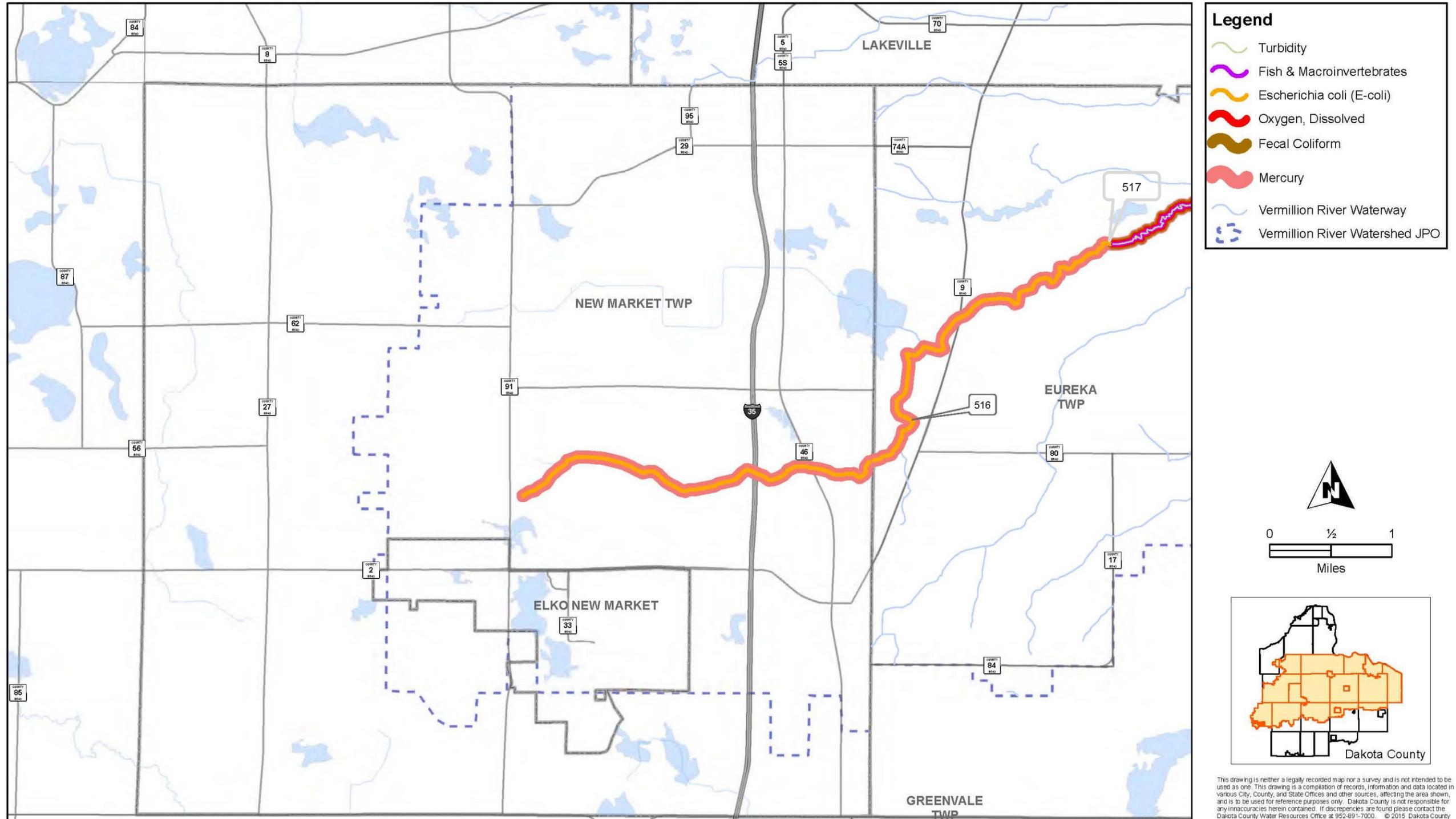
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Where are the current water quality impairments near the City of Elko New Market?

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 Elko New Market, river segments 516 and 517 are 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 near Elko New Market

Bacteria – The most common pollutant found in Elko New Market’s nearest river reaches is **fecal coliform bacteria, especially *E. coli***, in reaches 516 and 517. 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 (as is the case in reach 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 macroinvertebrate populations are impaired. 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.