



Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Willow Fork and Tributary to Willow Fork

Water Body Segment at a Glance:

County:	Moniteau
Nearby City:	Tipton
Length of impaired segment:	
Willow Fork:	6.5 miles
Willow Fork tributary:	0.5 miles
Pollutant:	Low Dissolved Oxygen
Sources:	
Willow Fork:	None Given
Willow Fork tributary:	Tipton Wastewater Treatment Facility, or WWTF
Water Body IDs:	
Willow Fork:	0955
Willow Fork tributary:	0956



State Map Showing Location of Watershed

Scheduled for TMDL development: 2014

Description of the Problem

Beneficial uses of Willow Fork and Tributary

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation (Willow Fork only)

Use that is impaired

- Protection of Warm Water Aquatic Life

Standards that apply

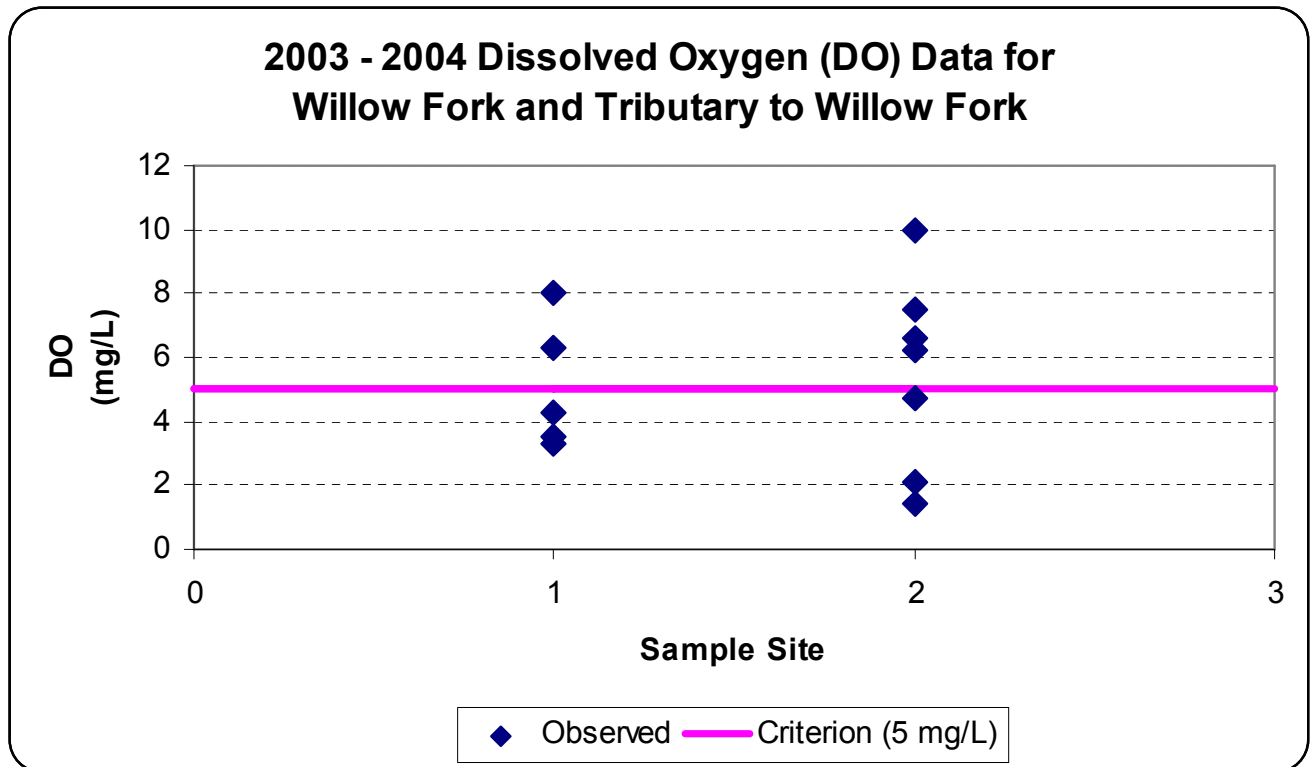
- In the Missouri Water Quality Standards, found in 10 CSR 20-7.031 Table A, the criterion for dissolved oxygen, or DO, in streams is a minimum of 5 mg/L (milligrams per liter or parts per million).

Background information and water quality data

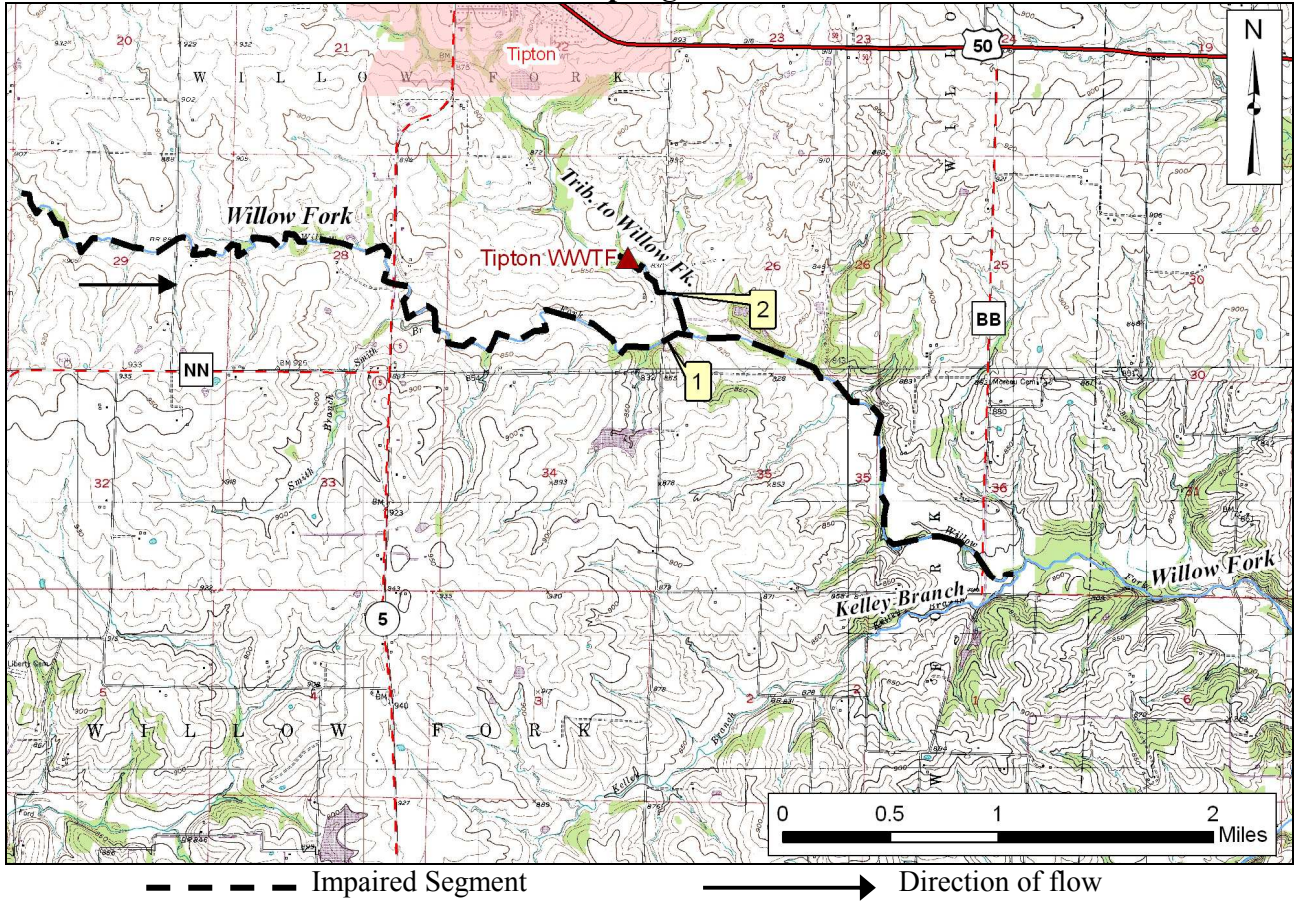
Willow Fork is a rural stream that lies south of Tipton in Moniteau County, Missouri. Its unnamed tributary is the receiving stream for the effluent (discharge) from the Tipton Wastewater Treatment Facility, or WWTF. Both water bodies are impaired by low dissolved oxygen. The impairment is based on data collected by the department in 2003 and 2004.

Water quality conditions in Willow Fork are not protective of aquatic life. Dissolved oxygen is important as many aquatic organisms require high levels of oxygen to survive. For dissolved oxygen, if more than 10 percent of measurements in a water body fail to meet the water quality criterion, that water body is judged to be impaired. In the case of Willow Fork, three of five samples (33 percent) did not meet the water quality criterion. It is not known what is causing the dissolved oxygen to be low in Willow Fork.

In the tributary to Willow Fork, three of seven samples (42.8 percent) did not meet the water quality criterion due to the Tipton WWTF. Wastewater effluent that is high in biochemical oxygen demand, or BOD, will lower the dissolved oxygen in a stream and stress or be lethal to the aquatic organisms that require dissolved oxygen to survive. Like all wastewater discharges in Missouri, the Tipton WWTF must meet the requirements of a discharge permit issued by the Missouri Department of Natural Resources. The limits in this permit can be adjusted to prevent the creek from being impaired.



Map Showing Willow Fork and Tributary to Willow Fork in Moniteau County, Mo., with Sampling Sites



Sample Sites
1 – Willow Fork at Bahner Quarry Road
2 – Trib to Willow Fork at Bahner Quarry Road

For more information call or write:
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