

Tributary to Little Muddy Creek

Water Body Segment at a Glance:

County: Pettis
Nearby City: Sedalia
Length of impaired segment: 0.4 mile
Pollutants: Chloride and Color
Source: Tyson Foods, Inc.
Water Body ID: 3490



State map showing location of watershed

Scheduled for TMDL development: 2014

Description of the Problem

Beneficial uses of Tributary to Little Muddy Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human (Fish Consumption)

Uses that are impaired

- Protection of Warm Water Aquatic Life (chloride)
- General Criteria (color)

Standards that apply

- The criteria for chloride are found in Missouri's Water Quality Standards, or WQS, at 10 CSR 20-7.031 Table A. The chronic criterion is 230 milligrams per liter (mg/L or parts per million) and the acute criterion is 860 mg/L.
- Missouri has no specific criteria for color, but the following general criteria, found in the WQS at 10 CSR 20-7.031(3), apply:
 - (C) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses.
 - (G) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

Background information and water quality data

This tributary flows northeast to join Little Muddy Creek, which in turn flows east into Muddy Creek northeast of Sedalia, Mo. It is included in a TMDL for temperature, approved by the U.S. Environmental Protection Agency Jan. 12, 2001. The pollutants chloride and color were added to the 303(d) List in 2008. These impairments were based on data collected by the department from 2002 to 2005.

The Listing Methodology stipulates that only one exceedance of the chloride criteria in the last three years of available data is necessary to constitute an impairment. The department data contain three samples where the chronic standard of 230 mg/L is exceeded in the Tributary to Little Muddy Creek in that timeframe (Figure 1).

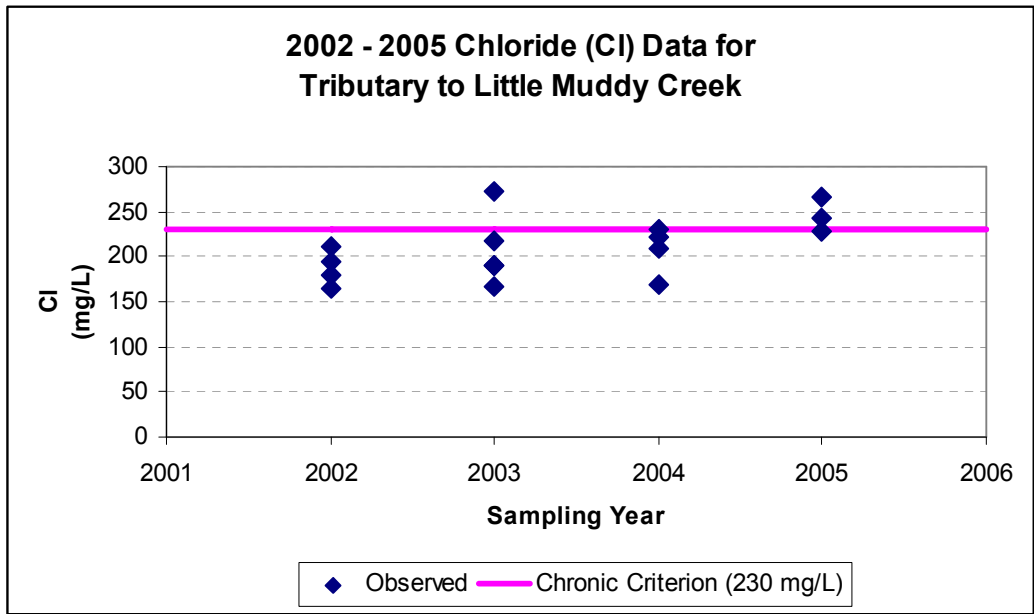


Figure 1

When a stream is “off color”, it is considered an impairment of the general criteria, (3) (C) above, "unsightly color or turbidity", and not an impairment of the aquatic life use. Impairment is determined using the Platinum-Cobalt method where a test tube of the stream water is visually compared to a standard set of a range of colors and given a number. These results were then compared to a control stream (Figure 2). The color in this creek is from discharge from the Tyson Foods, Inc. [Sedalia] poultry processing plant.

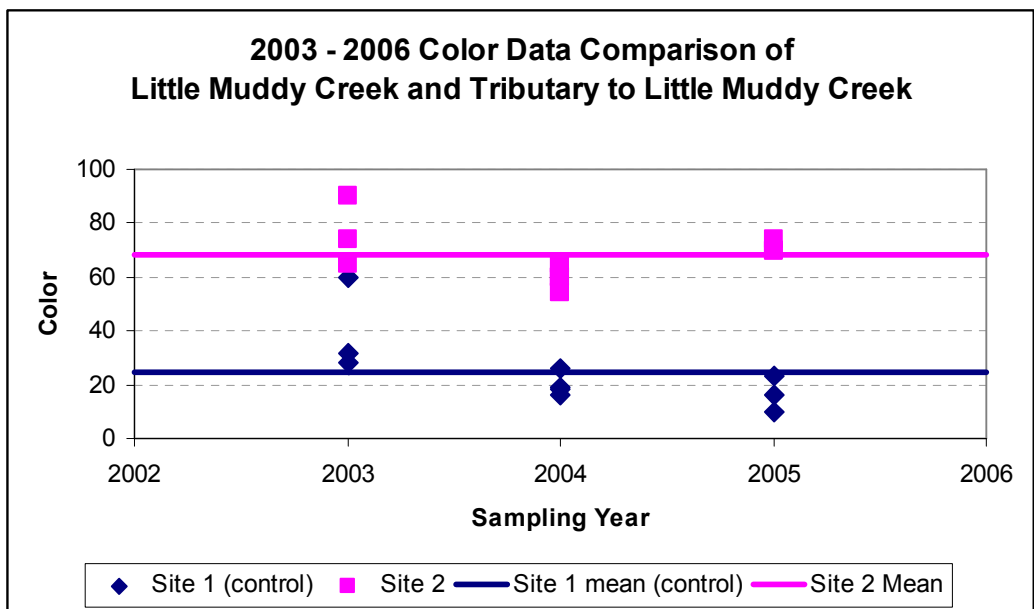
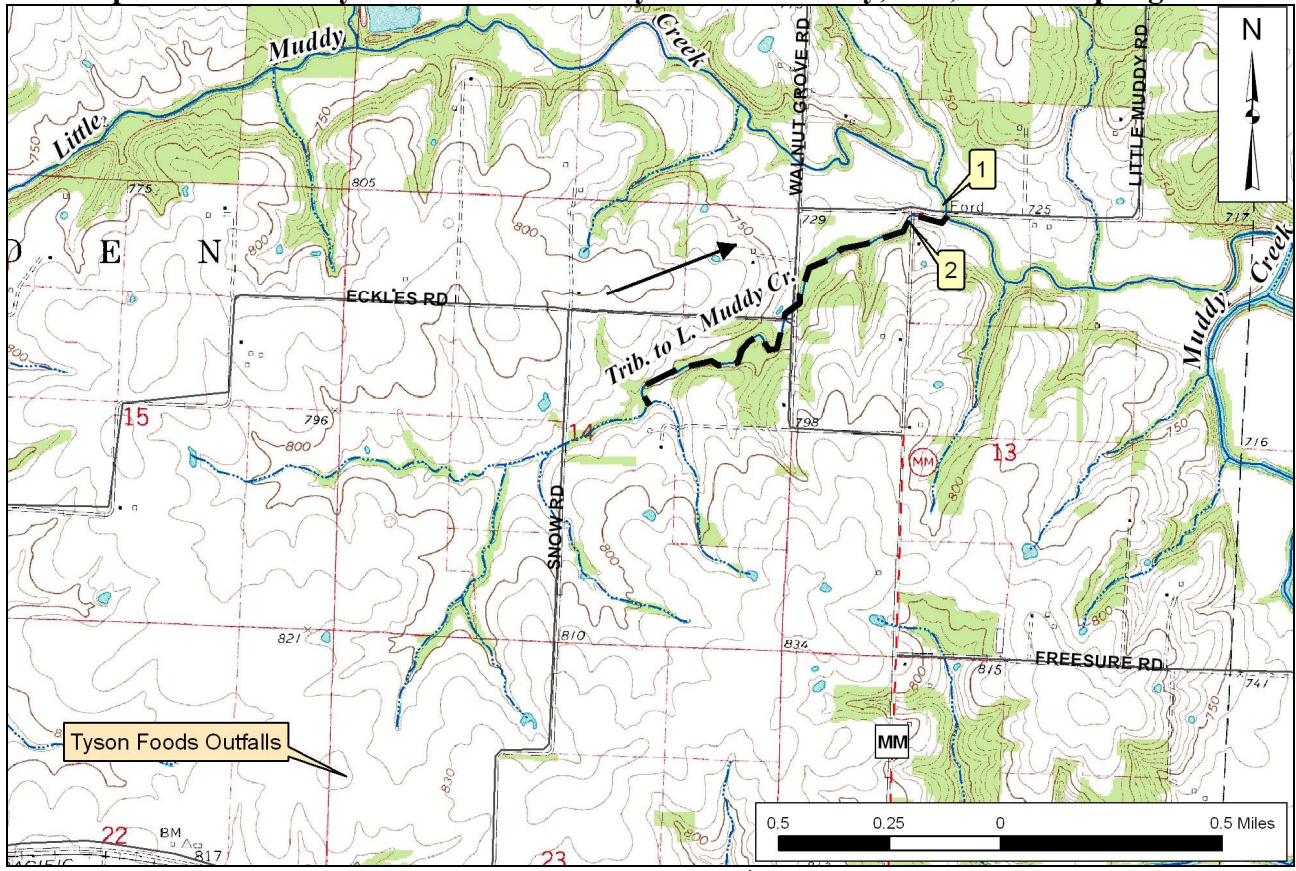


Figure 2

Map of Little Muddy Creek and Tributary in Pettis County, Mo., with Sampling Sites



--- Impaired segment → Direction of flow

Site Index

1 – Little Muddy Creek at Little Muddy Creek Road (control site)
 2 – Trib to Little Muddy Creek at Little Muddy Creek Road

For more information call or write:
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