

MISSOURI
DEPARTMENT OF
NATURAL RESOURCES

Total Maximum Daily Load Information Sheet

Bee Fork

Water Body ID: 2760

Water Body Segment at a Glance:

County: Reynolds
Nearby Cities: Centerville
Length: 8.7 miles
Pollutant: Lead
Source: Fletcher Lead Mine/Mill



Scheduled for TMDL development:

TMDL development schedules are subject to change.

The most current schedule for TMDL development is available on the department's website at dnr.mo.gov/env/wpp/tmdl/wpc-tmdl-progress.htm.

Description of the Problem

A water body is considered impaired when it fails to meet applicable water quality standards. Water quality standards consist of designated uses, water quality criteria, an antidegradation policy and implementation procedures. Bee Fork is impaired due to exceedances of water quality criteria for the protection of aquatic life.

Designated uses of Bee Fork*

- Warm Water Habitat (WWH)
- Cool Water Habitat (CLH)
- Whole Body Contact Recreation Category A (WBC-A)
- Secondary Contact Recreation (SCR)
- Human Health Protection (HHP)
- Irrigation (IRR)
- Livestock and Wildlife Protection (LWP)

*In addition to these specific uses, all waters of the state are protected by the general water quality criteria that are specified in the state's Water Quality Standards at 10 CSR 20-7.031(4).

Designated uses that are impaired

- Warm Water Habitat (WWH)

Criteria that apply

- Table A of the Water Quality Standards at 10 CSR 20-7.031 contains dissolved lead criteria for the protection of aquatic life. These criteria are hardness dependent and are calculated from the formulas shown below:

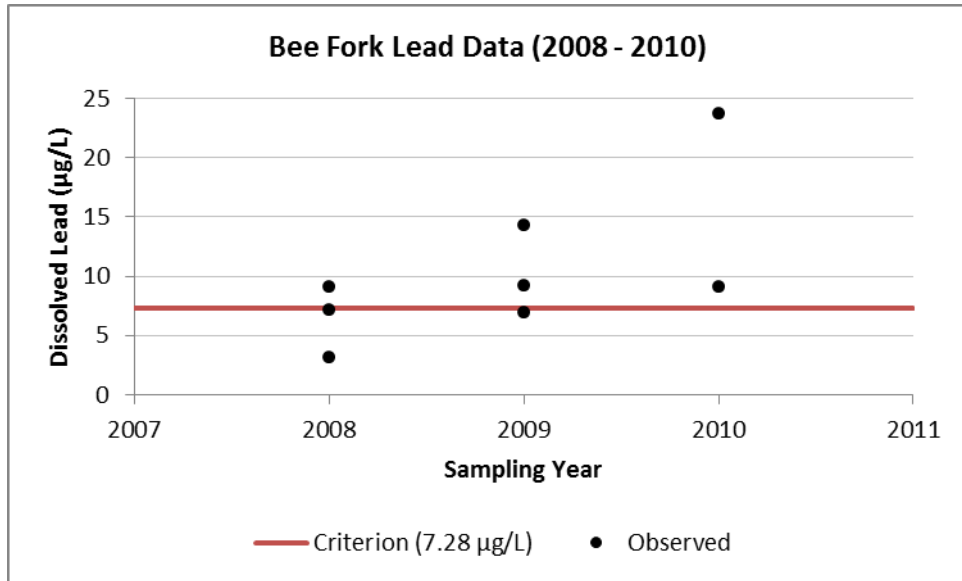
Dissolved Lead

$$\text{Acute}^1 = e(1.273 \cdot \ln(\text{Hardness}) - 1.460448) * (1.46203 - (\ln(\text{Hardness}) * 0.145712)) = \mu\text{g/L}$$

$$\text{Chronic} = e(1.273 \cdot \ln(\text{Hardness}) - 4.704797) * (1.46203 - (\ln(\text{Hardness}) * 0.145712)) = \mu\text{g/L}$$

Assessment and water quality data

A stream is judged to be impaired due to lead toxicity if there is more than one exceedance of the dissolved lead criterion in any of the last three years of available data that was collected under normal flow conditions. For Bee Fork, six of eight dissolved lead measurements collected below Highway TT exceeded the calculated criterion.

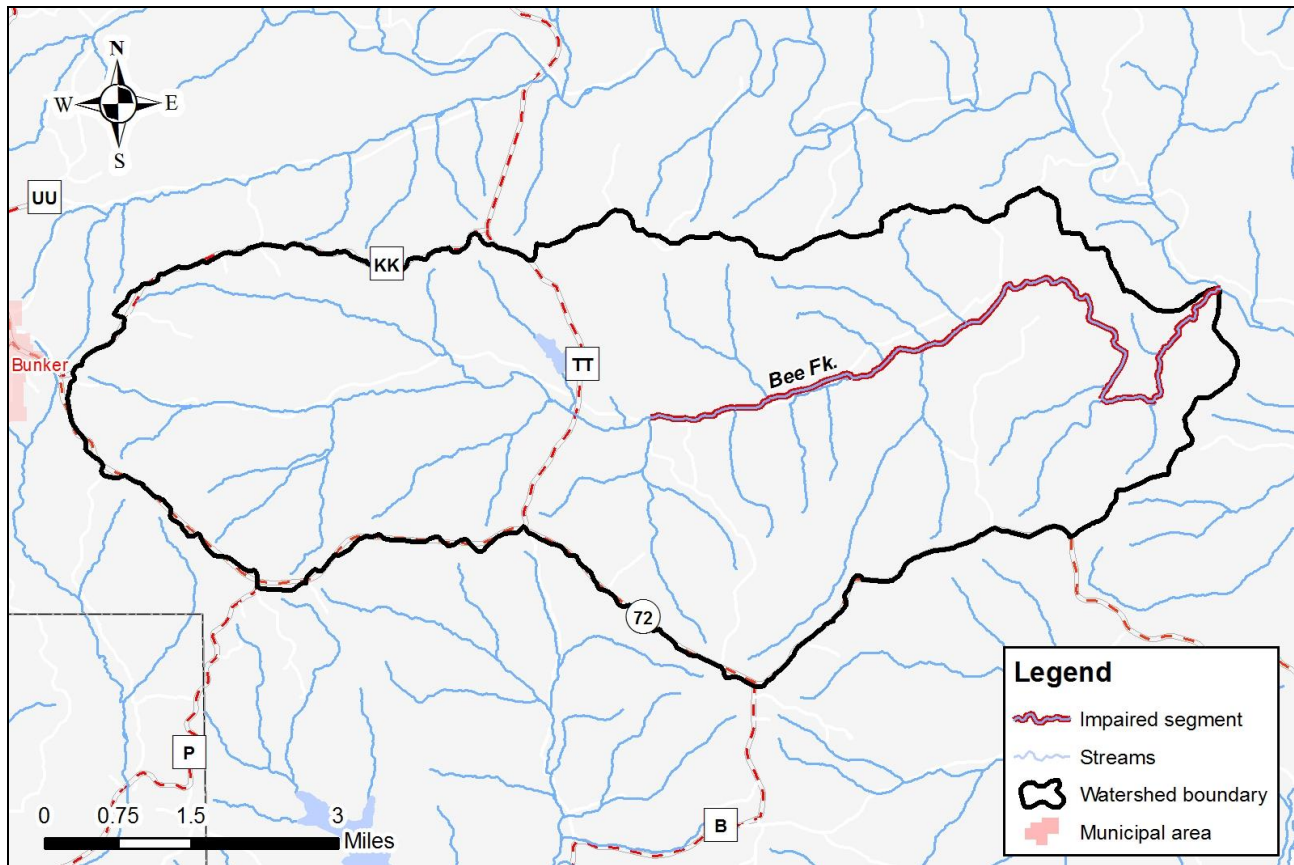


TMDL for Bee Fork

The Bee Fork TMDL will calculate the maximum amount of each listed pollutant that the stream can receive and still meet water quality standards. The TMDL will also identify all potential or suspected pollutant sources in the watershed and distribute the allowable pollutant loads among those various sources. When developed, the Bee Fork TMDL will use the most current and available data. For this reason, the final TMDL may present information that differs from that contained in this information sheet.

¹ Acute criteria apply to short exposures to toxic conditions that aquatic creatures can survive without harm. Chronic criteria apply to conditions producing adverse effects on aquatic life or wildlife following long-term exposure but having no readily observable effect over a short time period. Chronic criteria values are typically lower than acute criteria values.

Map of the Bee Fork Watershed



For more information call or write:

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