

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Tributary to Barker Creek

Waterbody Segment at a Glance:

County: Henry
Nearby Cities: Roseland, Thrush
Length of impairment: 0.3 miles
Pollutants: pH, sulfate
Source: Grey Abandoned Mine Lands



TMDL Priority Ranking: TMDL Approved 2004

Description of the Problem

Beneficial uses of Tributary to Barker Creek

This stream is not classified so no beneficial uses are assigned to it; however, all waterbodies in Missouri are protected by the general criteria (standards) contained in Missouri's Water Quality Standards. 10 CSR20-7.031(3). See (3)(D) and (G), cited below.

Use that is impaired

There are no uses assigned to this waterbody (as above).

Standards that apply

The general criteria in Missouri's Water Quality Standards 10 CSR20-7.031(3)(D) and (G), cited below are applicable to protection of the Tributary to Barker Creek

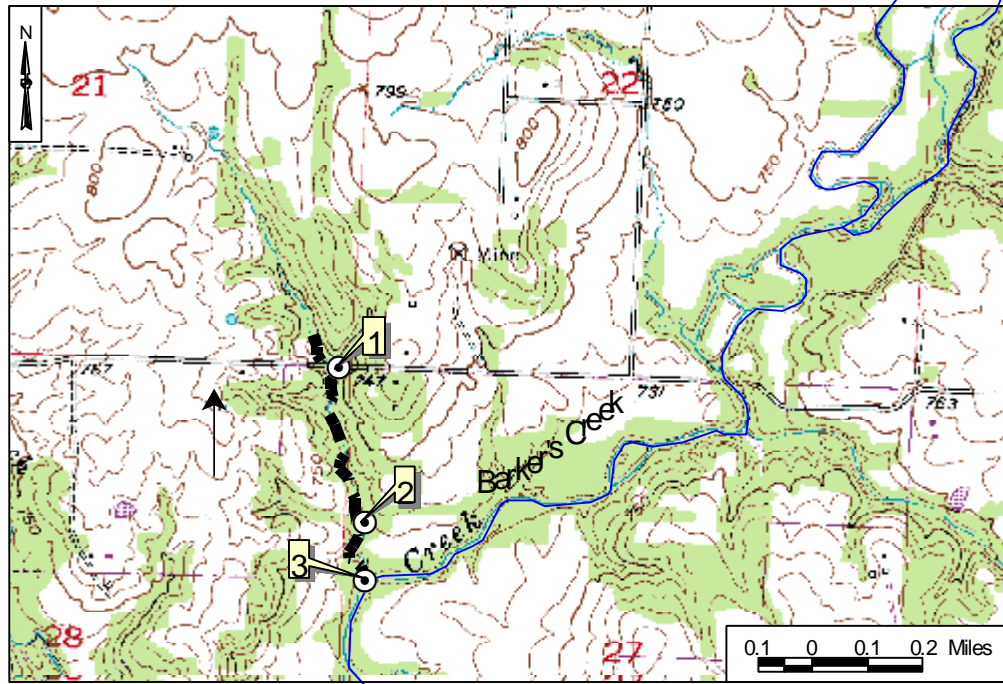
- Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life.
- Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community.

Background Information and Water Quality Data

Tributary to Barker Creek (also called Barkers Creek in Missouri Water Quality Standards and 1998 303(d) list) is a tributary to Harry S Truman Reservoir. It has similar problems from abandoned underground coal mines that affect the Tebo Creek system (another tributary to the reservoir). When sulfide minerals in rock are uncovered in the mining process and are exposed to water and oxygen, they oxidize and form highly acidic (low pH) iron and high sulfate drainage, which is harmful to aquatic life. These minerals make up a large amount of the coal wastes around the Tebo Creek area. Even though reclamation work was done on the Grey Abandoned Mine Land next to this tributary in 1993-1994, the underground mines can still contribute acid mine drainage to the creek through groundwater flow. Since the drainage coming from the mines seep in many locations, they are very

hard to remedy. A TMDL document has been written to address the problem and was approved by the U.S. Protection Agency February 12, 2004.

Tributary to Barker Creek in Henry County, Missouri, Showing Sampling Site



--- Impaired Segment → Direction of Flow

Site Index
1 – Tributary to Barker Creek near road
2 – Tributary to Barker Creek near mouth
3 – Barker Creek just downstream of confluence with tributary

Sample analyses in Tributary to Barker Creek

| <u>Site #</u> | <u>Date</u> | <u>pH</u> | <u>Sulfate (mg/L)</u> | <u>Chloride (mg/L)</u> |
|---------------|---------------|-----------|---------------------------|----------------------------|
| 1 | Apr 7, 1999 | 4.9 | | |
| 1 | Sept 12, 2001 | 2.0 | 938 | 2.5 |
| 1 | Oct 4, 2001 | 3.0 | 1070 | 2.5 |
| 1 | Nov.27,2001 | 3.0 | 1090 | 8 |
| 1 | June 6, 2002 | 3.7 | 452 | 6 |
| 1 | Oct.3, 2002 | 3.6 | 800 | 5 |
| 1 | Apr 24, 2003 | 6.0 | 255 | 7 |
| 1 | June 10, 2003 | 6.0 | 686 | 6 |
| 2 | June 19,2001 | 6.0 | 114 | 4 |
| 2 | Aug.14,2001 | 2.8 | 1190 | 5 |
| 2 | June 6, 2002 | 6.4 | 80 | 17 |
| 3 | Aug 16,2001 | 5.6 | 129 | 2 |
| 3 | Oct 4, 2001 | 6.7 | 33 | 9 |
| 3 | Feb. 10, 2003 | 9.8 | 66 | 10 |

Source: Missouri Department of Natural Resources

For more information call or write:

Missouri Department of Natural Resources

Water Protection Program

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