

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Beaver Branch

Water Body Segment at a Glance:

County: McDonald
Nearby City: Anderson
Water Body ID: 3265
Segment Length: 2 miles
Watershed Size: 14.3 square miles
Pollutant: Aquatic Macroinvertebrate
Bioassessments
Source: Unknown



Statewide Map Showing Location of Watershed

Scheduled for TMDL development: 2022

Description of the Problem

Designated beneficial uses of Beaver Branch

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category B

Uses that are impaired

- Protection of Warm Water Aquatic Life

Standards that apply

The state's general water quality criteria at 10 CSR 20-7.031(3) are applicable to all waters of the state at all times. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal, or aquatic life [10 CSR 20-7.031(3)(D)].
- Waters shall be free from physical, chemical, or hydrologic changes that would impair the natural biological community [10 CSR 20-7.031(3)(G)].

Background information and water quality data

Beaver Branch is a tributary to Indian Creek in the Elk River watershed. Aquatic invertebrate samples were collected from Beaver Branch in 2009 and 2010. These samples are analyzed and a score is determined to indicate the health of the aquatic community based on the numbers and types of species present. Scores of 16 or greater are considered healthy and reflect an unimpaired condition. Scores less than 16 indicate an impaired condition, which may be caused by toxicity or habitat issues within the waterway. Additional monitoring may be necessary to determine if the cause of the low scores is due to a chemical or physical condition.

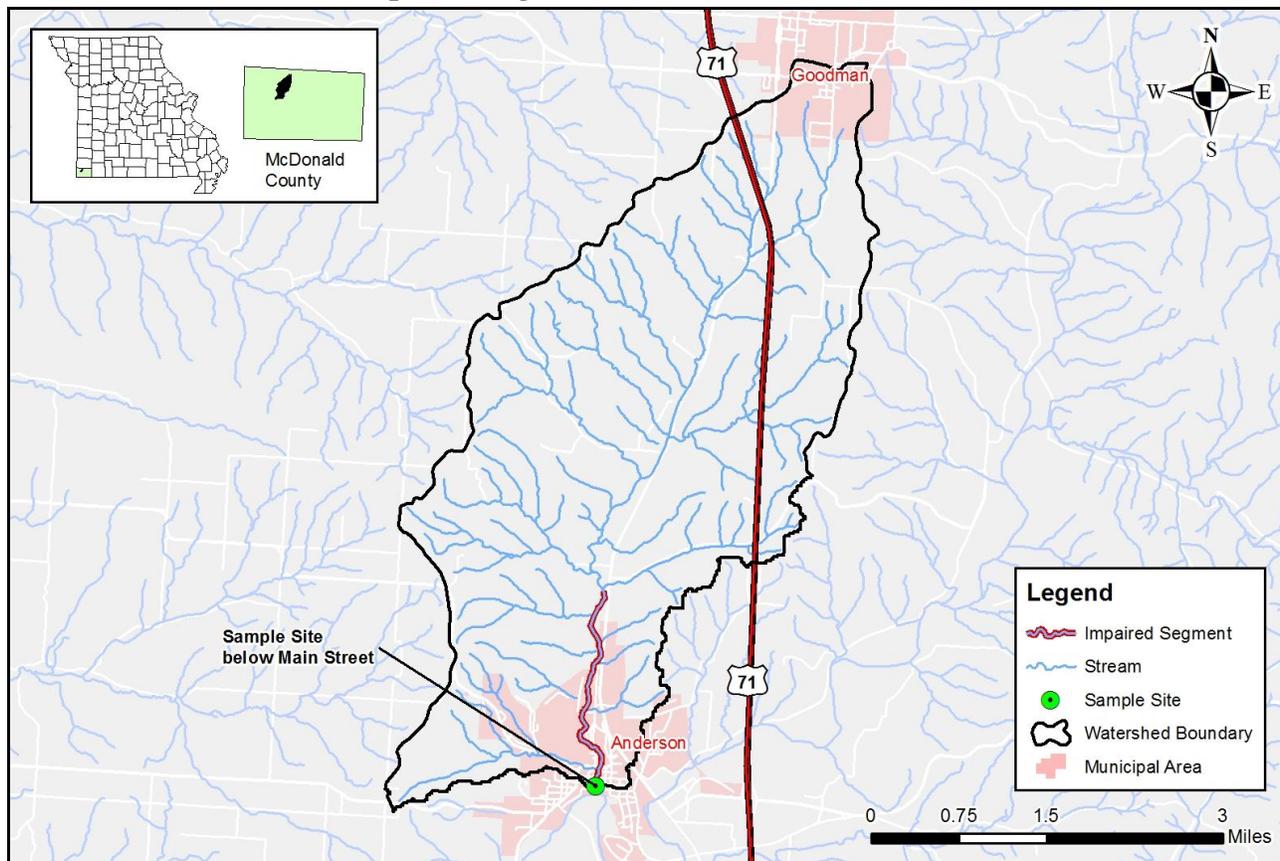
Invertebrate communities are judged to be impaired if the percent of sampling sites receiving a score of 16 or more is significantly less than for reference streams within the same ecological drainage unit. If there are seven or fewer samples, as in the case of Beaver Branch, the department judges a stream as impaired if at least 75 percent of the samples score less than 16. Since both samples collected from Beaver Branch scored less than 16, the stream is judge to be impaired.

Invertebrate Community Data

| <i>Sampling Organization</i> | <i>Sampling Site Code</i> | <i>Sampling Site Location</i> | <i>Date</i> | <i>Score</i> |
|------------------------------|---------------------------|-------------------------------|----------------|--------------|
| MoDNR | 3265/0.05 | Beaver Br. below Main St. | Oct. 1, 2009 | 12 |
| MoDNR | 3265/0.05 | Beaver Br. below Main St. | March 24, 2010 | 12 |

In addition to macro invertebrate sampling, some chemistry data was collected from Beaver Brach by the U.S. Geological Survey. However, the small size of the dataset is inadequate for making a scientifically defensible decision regarding impairment. The available data shows zinc concentrations in the sediments of Beaver Branch to be greater than the concentration at which some toxic effects of aquatic life are likely. It is not known if these zinc concentrations are responsible for the low invertebrate scores. The department has recommended that additional chemical monitoring be collected from Beaver Branch.

Map Showing the Beaver Branch Watershed



For more information call or write:

Missouri Department of Natural Resources
Water Protection Program

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Program Home Page: dnr.mo.gov/env/wpp/index.html

NOTE: The final Beaver Branch TMDL will use the most recent and available data and information.