

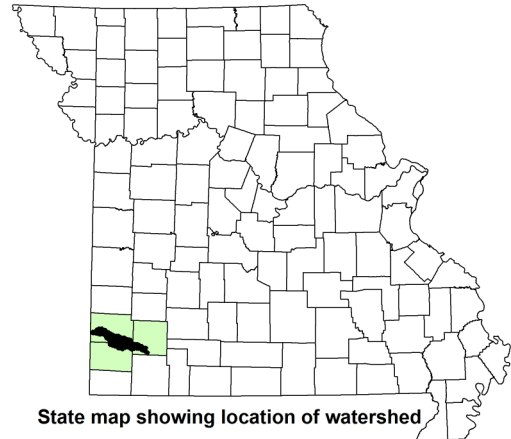
Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Center Creek

Water Body Segment at a Glance:

Counties: Jasper, Newton and Lawrence
Nearby Cities: Joplin, Webb City
10-Digit Watershed: 1107020706
Watershed Size: 300 square miles
Pollutant: Bacteria
Source: Rural nonpoint sources
Water Body ID: 3203 (26.8 miles)
3210 (21 miles)
3214 (4.9 miles)



State map showing location of watershed

Scheduled for TMDL development: Bacteria in 2012

Description of the Problem

Designated beneficial uses of Center Creek:

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Cool Water Fishery (WBID 3203 only)
- Cold Water Fishery (WBID 3214 only)
- Protection of Human Health (Fish Consumption)
- Industrial
- Irrigation
- Secondary Contact Recreation
- Whole Body Contact Recreation Category A

Use that is impaired:

- Whole Body Contact Recreation Category A

Standards that apply

Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C), states that the *E. coli* bacteria count shall not exceed 126 colonies per 100 milliliters of water (126 col/100 mL) for Category A and 206 col/100 mL for Category B waters. This count is the geometric mean during the recreational season (April 1- October 31) in waters designated for whole body contact recreation.

Background information and water quality data

Center Creek is a stream in southwest Missouri that flows west for approximately 66 miles from its headwaters in Lawrence County to its confluence with the Spring River at the Kansas and Missouri state line. Center Creek is designated for category A whole body contact recreation use. Waters designated for the category A use are waters where there are established public swimming areas and existing whole body

contact recreational uses. Three segments of Center Creek are listed as impaired by bacteria on the state’s 2010 303(d) List of impaired waters, which was approved by the U.S. Environmental Protection Agency on Oct. 6, 2011. The impairments are based on measurements of *Escherichia coli*, or *E. coli*, bacteria collected by the U.S. Geological Survey, the Kansas Department of Health and Environment, and the health departments for Jasper and Lawrence counties.

High counts of *E. coli* are an indication of fecal contamination and an increased risk of pathogen-induced illness to humans. Infections due to pathogen-contaminated waters include gastrointestinal, respiratory, eye, ear, nose, throat and skin diseases. *E. coli* are bacteria found in the intestines of warm-blooded animals and are used as indicators of the risk of waterborne disease from pathogenic (disease causing) bacteria or viruses. Most *E. coli* strains are harmless, but some can cause serious illness in humans and are occasionally responsible for product recalls. Missouri’s whole body contact bacteria criteria are based on specific levels of risk of acute gastrointestinal illness. The level of risk correlating to the category A criterion is no more than 8 illnesses per 1,000 swimmers in fresh water (0.8 percent).

The Department judges a stream to be impaired by bacteria if the water quality criterion for *E. coli* is exceeded in any of the last three years for which there is adequate data (minimum of five samples taken during the recreational season). The most recent data used to assess water quality in Center Creek was collected in 2007 through 2011 (Figure 1). Segment 3203 was listed as impaired due to exceedances of the *E. coli* criterion in 2007. Data collected since this time shows the water body to now be in compliance with the whole body contact category A criterion. For this reason, the state will recommend removal of this impairment from the 2012 303(d) List. Segment 3210 of Center Creek exceeded the whole body contact category A criterion in both 2007 and 2010, the two most recent years with available data for that segment. Segment 3214 also showed exceedances of the criterion in 2007 and 2010.

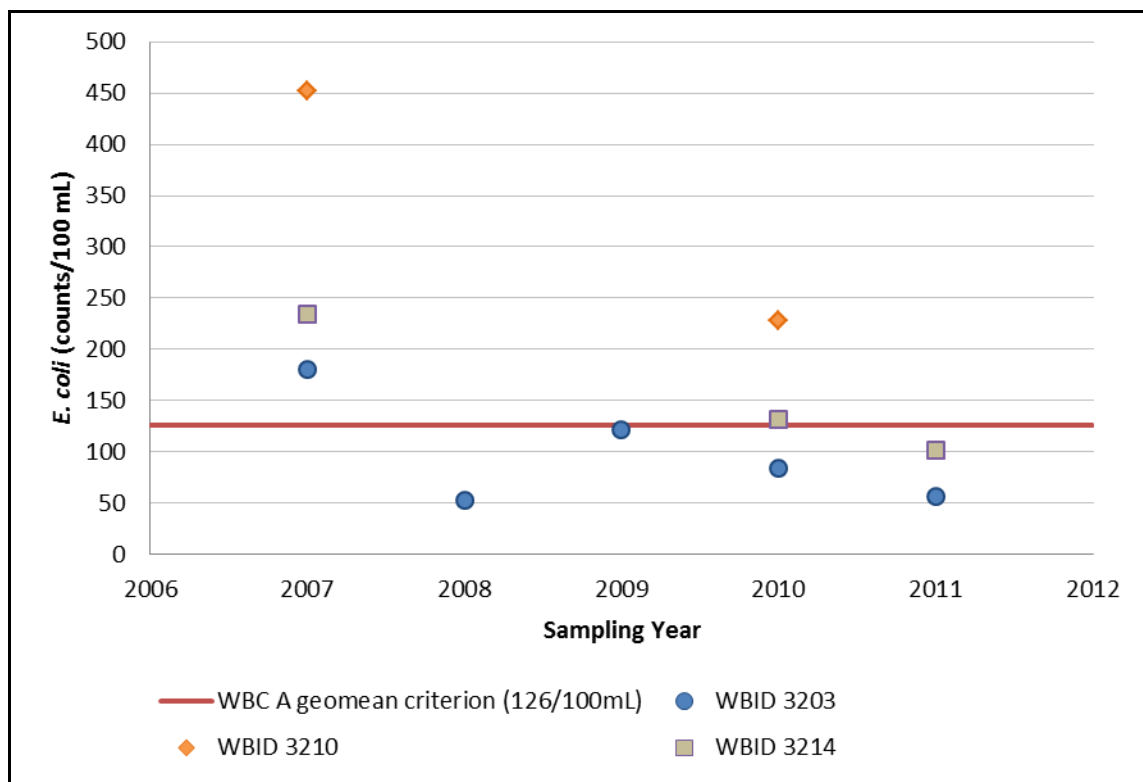
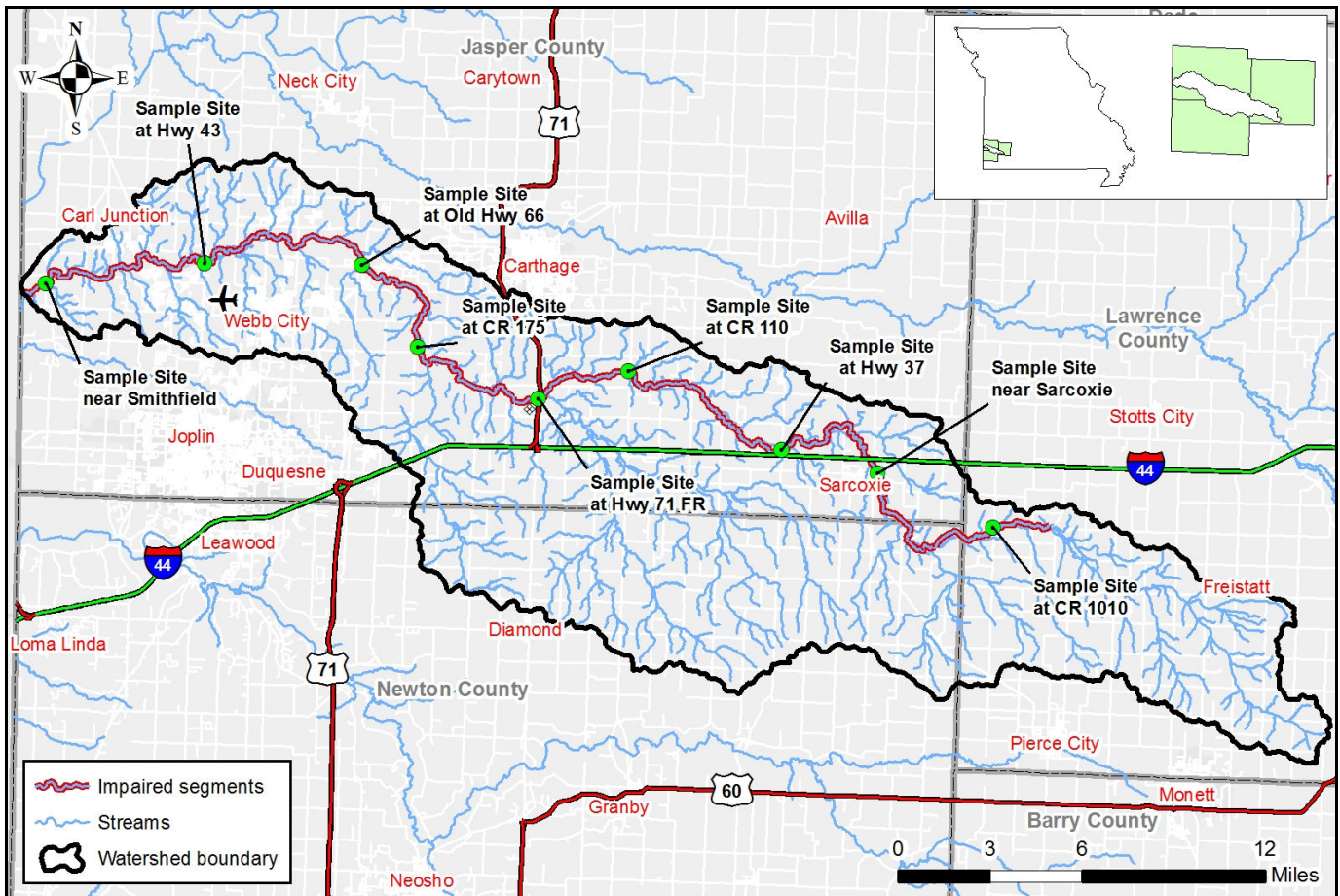


Figure 1. Recreational season geometric mean *E. coli* data for Center Creek (2007 – 2011)

Map Showing the Center Creek Watershed and Sample Sites



NOTE: The final Center Creek TMDL will be developed using the most current and available data.

For more information call or write:

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