

Missouri Department of Natural Resources

## Total Maximum Daily Load Information Sheet

### Watkins Creek

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#### Water Body Segment at a Glance:

<b>County:</b>	St. Louis
<b>Nearby City:</b>	St. Louis
<b>Water Body ID:</b>	1708
<b>Segment Length:</b>	1.4 miles
<b>Watershed Size:</b>	6.5 square miles
<b>Pollutants:</b>	Bacteria, chloride and pH
<b>Source:</b>	Urban runoff/Storm sewers



State Map Showing Location of Watershed

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**Scheduled for TMDL development:** 2013 for Bacteria; 2017 for chloride and pH

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#### Description of the Problem

##### Designated beneficial uses of Watkins Creek

- 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
- Whole Body Contact Recreation – Category B

##### Standards that apply

- Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C) states that the *E. coli* bacteria count for category B waters, measured as a geometric mean, shall not exceed 206 colonies per 100 milliliters of water (206 col/100 mL) during the recreational season. The recreational season is defined as being from April 1 through October 31.
- Numeric criteria for chloride are found in 10 CSR 20-7.031 Table A and are dependent upon water hardness and sulfate concentrations. However, the assessment of Watkins Creek as impaired by chloride predates this current criteria and is based on the state's former chronic chloride criterion of 230 milligrams per liter (mg/L). An assessment based on the new hardness dependent criteria has not yet been completed.
- Criteria for pH are found at 10 CSR 20-7.031 (4)(E). Water contaminates shall not cause pH to be outside of the range of 6.5 to 9.0 standard pH units.

**Background information and water quality data**

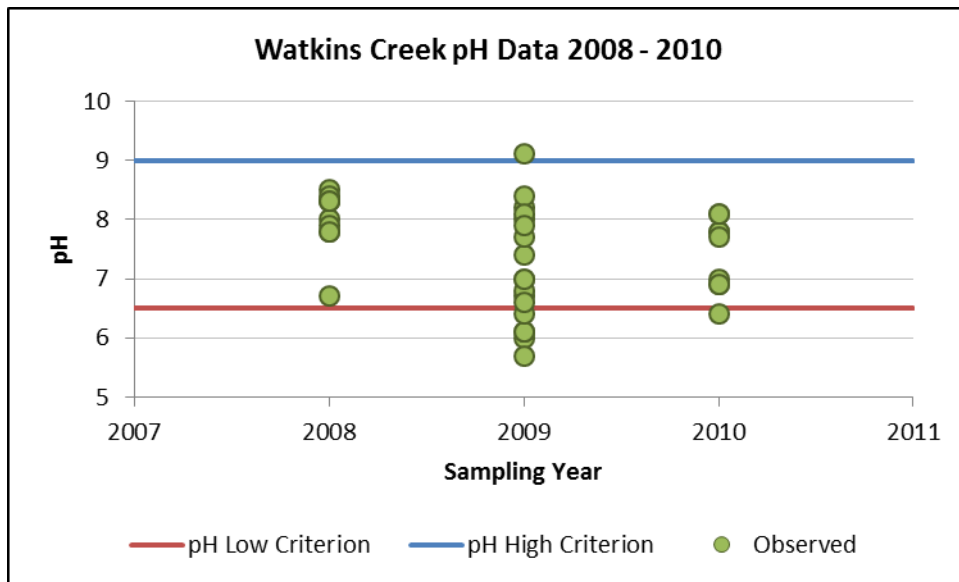
Watkins Creek is an urban creek at the northern edge of St. Louis and is a tributary to the Mississippi River. The Department judges a stream to be impaired by bacteria if the applicable water quality criterion for *E. coli* is exceeded in any of the last three years for which there is a minimum of five samples taken during the recreational season. Sufficient bacteria data is available for the 2008 and 2009 recreational seasons. The geometric mean of the 2009 data exceeded the whole body contact criterion.

<i>Recreational Season</i>	<i>No. of Samples</i>	<i>E. coli Geometric Mean (counts/100mL)</i>
2008	5	28.3
2009	6	283.6

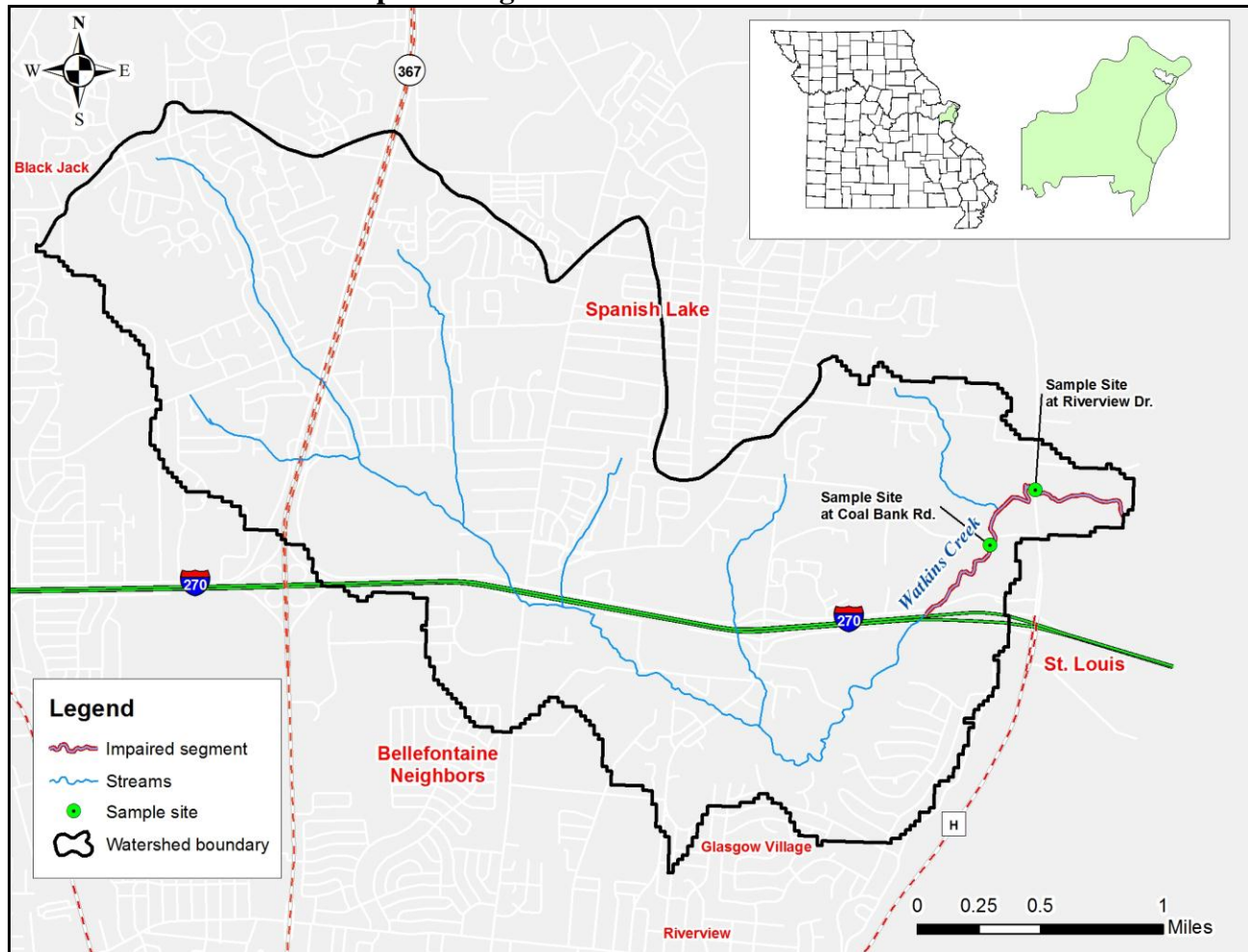
For toxicants such as chloride, a water is judged to be impaired if there are more than one exceedance of the criteria during stable flow conditions during any of the last three years for which data are available. For Watkins Creek, there were six exceedances of the state’s former chronic chloride criterion of 230 mg/L during stable flow conditions.

<i>Sampling Site</i>	<i>Sample Date</i>	<i>Chloride (mg/L)</i>
Watkins Creek at Riverview Drive	Feb. 7, 2008	256
Watkins Creek at Riverview Drive	March 13, 2008	248
Watkins Creek at Riverview Drive	Dec. 9, 2008	522
Watkins Creek at Riverview Drive	Feb. 17, 2009	412
Watkins Creek at Riverview Drive	May 10, 2010	600
Watkins Creek at Coal Bank Road	Aug. 18, 2010	246

For pH, a water body is judged to be impaired if 10 percent of available pH measurements exceed the criteria. For Watkins Creek, nine of 56 pH measurements, or 16 percent, failed to meet the pH criteria. Therefore, Watkins Creek was judged to be impaired by low pH.



## Map Showing the Watkins Creek Watershed



### For more information call or write:

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NOTE: The final Watkins Creek TMDL will use the most recent and available data and information.