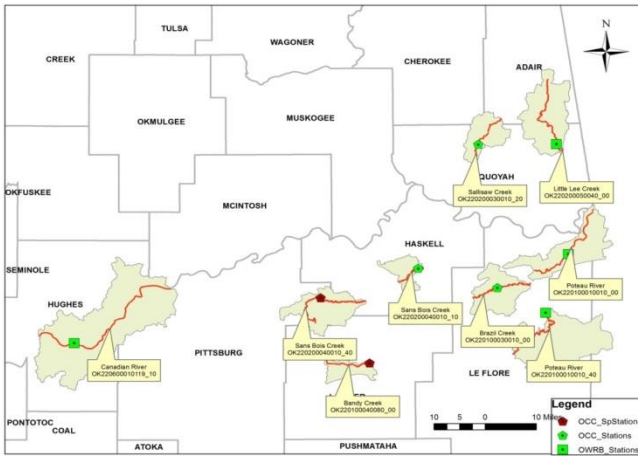
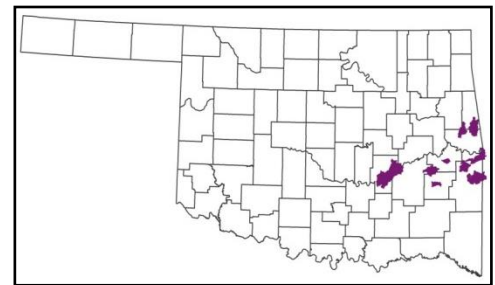


# 208 FACTSHEET FOR BACTERIAL AND TURBIDITY TMDLs in the LOWER ARKANSAS RIVER BASIN



**Watershed:** The Lower Arkansas River Basin TMDL Study Area is located central eastern part of Oklahoma in the in the [Poteau](#) (USGS [HUC 11110105](#)), [Robert S. Kerr Reservoir](#) (USGS HUC 11110104), [Lower Canadian](#) (USGS HUC 11090204), and [Lower Canadian-Walnut](#) (USGS HUC 11090202) watersheds. The creeks evaluated in this TMDL study are listed in the table below. These waterbodies flow through portions of [Hughes](#), [Pittsburg](#), [McIntosh](#), [Haskell](#), [Sequoyah](#), [Cherokee](#), [Latimer](#), [LeFlore](#), and [Adair](#) counties.

## Beneficial Uses in this Study Area:

According to the [Oklahoma Water Quality Standards](#), the designated beneficial uses for the waterbodies in the Lower Arkansas River Basin Study Area are Fish & Wildlife Propagation - Water Aquatic Community Subcategory (WWAC), Fish & Wildlife Propagation - Cool Water Aquatic Community Subcategory (CWAC), and Primary Body Contact Recreation (PBCR). The table<sup>1</sup> to the right is the assessment from Oklahoma's [2010 Integrated Report](#) on whether or not these waterbodies met these beneficial uses.

Waterbody Identification	Waterbody Name	WWAC	CWAC	PBCR
<a href="#">OK220100010010_00</a>	Poteau River	N		N
<a href="#">OK220100010010_40</a>	Poteau River	N		F
<a href="#">OK220100030010_00</a>	Brazil Creek	F		N
<a href="#">OK220100040080_00</a>	Bandy Creek	N		X
<a href="#">OK220200030010_20</a>	Sallisaw Creek		F	N
<a href="#">OK220200040010_10</a>	Sans Bois Creek	N		N
<a href="#">OK220200040010_40</a>	Sans Bois Creek	N		N
<a href="#">OK220200050040_00</a>	Little Lee Creek		I	N
<a href="#">OK220600010119_10</a>	Canadian River	N		N

## Impaired Waterbodies in this Study Area:

Waterbodies that were shown as impaired with bacteria or turbidity on Oklahoma's 2010 [303\(d\) list](#), are designated with an "x" in the green part of the following table:

WBID	Waterbody Name	Waterbody Impairments from the 2010 303(d) List		
		Enterococci	E. coli	Turbidity
<a href="#">OK220100010010_00</a>	Poteau River	X		X
<a href="#">OK220100010010_40</a>	Poteau River			X
<a href="#">OK220100030010_00</a>	Brazil Creek	X		
<a href="#">OK220100040080_00</a>	Bandy Creek			X
<a href="#">OK220200030010_20</a>	Sallisaw Creek	X		
<a href="#">OK220200040010_10</a>	Sans Bois Creek	X		
<a href="#">OK220200040010_40</a>	Sans Bois Creek			X
<a href="#">OK220200050040_00</a>	Little Lee Creek	X		
<a href="#">OK220600010119_10</a>	Canadian River	X		X

1 F = Fully supporting that designated use; N = Not supporting that use; I = Insufficient information; X= Not assessed

Water quality monitoring results from 1998 – 2011 were examined to verify if these waterbodies were still impaired. An “X” in the tan-shaded area in this table indicates that those waterbodies were found to still be impaired for bacteria or turbidity. TMDLs were developed for these waterbodies.

WBID	Waterbody Name	TMDLs needed after sampling results analyzed		
		Enterococci	<i>E. coli</i>	Turbidity
<a href="#">OK220100010010_00</a>	Poteau River	Delist: met standard		X
<a href="#">OK220100010010_40</a>	Poteau River			X
<a href="#">OK220100030010_00</a>	Brazil Creek	X		
<a href="#">OK220100040080_00</a>	Bandy Creek	Delist: Not enough data		
<a href="#">OK220200030010_20</a>	Sallisaw Creek	X		
<a href="#">OK220200040010_10</a>	Sans Bois Creek	X		
<a href="#">OK220200040010_40</a>	Sans Bois Creek	Delist: Meets standard		
<a href="#">OK220200050040_00</a>	Little Lee Creek	Delist: Not enough data		
<a href="#">OK220600010119_10</a>	Canadian River	X		X

**Possible Sources of Impairments:**

**Point sources - The point sources examined in this Study Area were:**

- NPDES regulated [municipal](#) and [industrial wastewater treatment facilities](#) (WWTF) – There are nine municipal and seven industrial NPDES-permitted facilities that discharge wastewater to waters in the Study Area.
- NPDES regulated Concentrated Animal Feeding Operations (CAFOs) – There are 3 CAFOs and 76 PFOs (Poultry Feeding Operations) in the Study Area.
- [Sanitary Sewer Overflows](#) (SSO) and No-Discharge Facilities – There were 213 SSO occurrences and one no-discharge facility in the Study Area.
- NPDES regulated stormwater discharges
  - [Municipal Separate Storm Sewer Systems \(MS4s\)](#) - There aren't any in the Study Area.
  - [Industrial Sites](#) - There are two industrial facilities with Multi-Sector General Permits in the Study Area.
  - [Construction Sites](#) - There were eight DEQ permitted construction sites during the time period that water samples were taken in the Study Area.
- Rock, Sand, and Gravel Quarries – There aren't any in the Study Area
- Section 404 Permits

**Nonpoint sources - The nonpoint sources examined in this Study Area were:**

- Wildlife – There are about 3,091 deer in the Study Area. This is thought to be a minor contributor of bacteria.
- Farm animals – There are an estimated 35,491 head of cattle in the Study Area. This is thought to be a major contributor of fecal coliform in the Study Area.
- Failing Septic Systems – There are 262 failing septic systems in the Study Area which is considered to be a minor contributor of bacteria.
- Pets – There are an estimated 4,181 dogs and 4,757 cats in the Study Area. They are considered to be a minor contributor of bacteria in the Study Area.

**For details about each of these sources and their impact on the impairment of waterbodies in the Study Area, consult the full TMDL report at the following DEQ webpage: <http://www.deq.state.ok.us/WQDnew/tmdl/index.html>.**

**TMDLs:** The TMDLs were calculated using load duration curves. Seven TMDLs developed for nine streams in the Lower Arkansas River Basin Study Area. The following table indicates the amount that each pollutant will need to be reduced [Percent Reduction Goal (PRG)] in order for that waterbody to meet water quality standards and its designated beneficial uses:

WBID	Waterbody Name	These impairments must be reduced by the following amounts in order to meet water quality standards.	
		Enterococci	Turbidity
<a href="#">OK220100010010_00</a>	Poteau River		44.5%
<a href="#">OK220100010010_40</a>	Poteau River		27.5%
<a href="#">OK220100030010_00</a>	Brazil Creek	61.4%	
<a href="#">OK220200030010_20</a>	Sallisaw Creek	86.6%	
<a href="#">OK220200040010_10</a>	Sans Bois Creek	65.4%	
<a href="#">OK220600010119_10</a>	Canadian River	96.4%	68.7%

The TMDLs include two bacterial WLAs and four TSS WLAs for these point source dischargers:

Waterbody ID	Stream Name	Name	NPDES Permit No.	Dis-infection?	Design Flow (mg/d)	Wasteload Allocation (x10 <sup>8</sup> cfu/day)
						ENT
OK220100030010_00	Brazil Creek	<b>Bokoshe PWA</b>	OK0027731	No	0.09	1.12
OK220600010119_10	Canadian River	<b>Town of Calvin</b>	OK0037818	Yes	0.028	0.35

Waterbody ID	Stream Name	Name	NPDES Permit No.	Average Monthly Flow (mgd)	In-stream TSS criteria	Wasteload Allocation (lb/day)
OK220100010010_00	Poteau River	<b>Shady Pt Cogen. Facility</b>	OK0040169	1.12	37 mg/L	346.5
OK220100010010_00	Poteau River	<b>Georges Colliers, Inc. #8</b>	OK0042781	0.07	37 mg/L	21.7
OK220100010010_00	Poteau River	<b>Blake Construction Incorp.</b>	OKR050184	0.01*	37 mg/L	3.1
OK220100010010_40	Poteau River	<b>Kansas City So. Ry. Co</b>	OK0040631	0.004	37 mg/L	1.2

\* Flow was assumed equal to 0.01 MGD for allocation purposes.

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