

## 208 Factsheet regarding Bacteria and Turbidity TMDLs for the Oklahoma Basin 3 Study Area

**Watershed:** This TMDL study area is located in the north-central part of Oklahoma. The waterbodies and their watersheds addressed in this report are scattered over Caddo, Comanche, Custer, Dewey, Garvin, Grady, Greer, Jackson, Jefferson, Kiowa, McClain, Roger Mills, Stephens, and Tillman counties.

**Beneficial Uses in This Watershed:** According to Oklahoma's [2022 Integrated Report](#), the designated beneficial uses for Oklahoma streams in Basin 3 area are Aesthetics (AES), Agriculture (AG), Fish & Wildlife Propagation (Warm Water Aquatic Community Subcategory (WWAC)), Fish Consumption (FISH), Primary Body Contact Recreation (PBCR), Public & Private Water Supply (PPWS), and Emergency Water Supply (EWS).

Based on an assessment of water quality monitoring data for the 2022 IR, Oklahoma DEQ has placed the below waterbodies in Category 5 for nonsupport of PBCR or Fish & Wildlife Propagation beneficial uses.

| Waterbody ID                     | Waterbody Name        | AES                | AG | WWAC             | FISH | PBCR             | PPWS | EWS                                       |
|----------------------------------|-----------------------|--------------------|----|------------------|------|------------------|------|-------------------------------------------|
| OK310810020020_00                | Finn Creek            | F                  | F  | F                | X    | N                | I    |                                           |
| OK310810020050_00                | Criner Creek          | F                  | F  | F                | X    | N                | I    |                                           |
| OK310810020170_00                | Roaring Creek         | F                  | F  | N                | X    | X                | I    |                                           |
| OK310820020010_00                | Little Washita River  | F                  | N  | N                | X    | F                | I    |                                           |
| OK310840010060_00                | Quartermaster Creek   | F                  | N  | N                | X    | F                | I    |                                           |
| OK311200000060_00                | Cow Creek             | I                  | F  | N                | F    | N                |      | F                                         |
| OK311500010020_00                | Red River, North Fork | F                  | N  | N                | F    | I                | F    |                                           |
| OK311500010020_10                | Red River, North Fork | F                  | N  | N                | F    | N                | I    |                                           |
| F – Fully supporting information |                       | N – Not supporting |    | I – Insufficient |      | X – Not assessed |      | Source: <b>DEQ 2022 Integrated Report</b> |

### Possible Sources of Impairments

#### Point Sources:

- **OPDES regulated municipal and industrial wastewater treatment facilities:** There are three permitted municipal WWTFs and three active OPDES industrial point sources. Comanche WWT and the City of Altus will receive bacteria WLAs, but the other facilities were assigned WLAs in previous TMDLs or were not considered potential sources.
- **OPDES regulated stormwater discharges:** DEQ regulates stormwater discharges from Municipal Separate Storm Sewer Systems (MS4s), industrial sites, and construction sites. There is one MS4s permittee (the city of Altus) that will receive bacterial WLA in the study area. For turbidity, TSS WLAs for NPDES-regulated stormwater discharges are considered unnecessary because Oklahoma's Water Quality Standard for turbidity does

not apply during periods of high flow.

- **No-Discharge Facilities:** There are four facilities in the study area (Table 3-5).
- **Sanitary Sewer Overflows (SSO):** Between 1993 and 2022, 151 SSO occurrences were reported with amounts ranging from a minimal quantity to eight million gallons (Table 3-6).
- **NPDES regulated Animal Feeding Operations (AFOs):** In the study area, there are two CAFOs.

#### Nonpoint Sources:

- **Wildlife** – Estimated numbers of wild deer are summarized in Table 3-8 of the TMDL report.
- **Farm animals** – Estimated numbers of farm animals are summarized in Table 3-12 of the TMDL report.
- **Pets** – Estimated numbers of pets are summarized in Table 3-10 of the TMDL report.
- **Failing Septic Systems** – Estimated numbers of failed septic systems are summarized in Table 3-15 of the TMDL report.

#### TMDL Calculations:

The TMDL, WLA, LA, and MOS will vary with flow condition, and are calculated at every 5th flow interval percentile. The below tables summarize the TMDL, WLA, LA and MOS loadings at the 50% flow percentile.

#### Summary of Bacterial TMDLs

| Stream Name           | Waterbody ID      | Pollutant | TMDL (colonies /day) | WLA <sub>WWTF</sub> (colonies /day) | WLA <sub>MS4</sub> (colonies /day) | WLA <sub>growth</sub> (colonies /day) | LA (colonies /day) | MOS (colonies /day) |
|-----------------------|-------------------|-----------|----------------------|-------------------------------------|------------------------------------|---------------------------------------|--------------------|---------------------|
| Finn Creek            | OK310810020020_00 | EC        | 3.28E+10             | 0.00E+00                            | 0.00E+00                           | 3.28E+09                              | 2.62E+10           | 3.28E+09            |
| Criner Creek          | OK310810020050_00 | EC        | 1.55E+10             | 0.00E+00                            | 0.00E+00                           | 1.55E+09                              | 1.24E+10           | 1.55E+09            |
| Cow Creek             | OK311200000060_00 | EC        | 1.13E+10             | 1.00E+09                            | 0.00E+00                           | 1.13E+09                              | 8.03E+09           | 1.13E+09            |
| Red River, North Fork | OK311500010020_00 | ENT       | 6.60E+10             | 4.37E+09                            | 2.77E+09                           | 6.60E+09                              | 5.47E+10           | 6.60E+09            |
| Red River, North Fork | OK311500010020_10 | EC        | 2.10E+11             | 0.00E+00                            | 0.00E+00                           | 2.10E+10                              | 1.68E+11           | 2.10E+10            |

#### Summary of TSS TMDLs

| Stream Name           | Waterbody ID      | Pollutant | TMDL (lbs/day) | WLA (lbs/day) | WLA <sub>MS4</sub> (lbs/day) | WLA <sub>Growth</sub> (lbs/day) | LA (lbs/day) | MOS (lbs/day) |
|-----------------------|-------------------|-----------|----------------|---------------|------------------------------|---------------------------------|--------------|---------------|
| Roaring Creek         | OK310810020170_00 | TSS       | 3,738          | 0             | 0                            | 37.4                            | 2,766        | 935           |
| Little Washita River  | OK310820020010_00 | TSS       | 12,403         | 0             | 0                            | 124.0                           | 9,798        | 2,481         |
| Quartermaster Creek   | OK310840010060_00 | TSS       | 5,469          | 0             | 0                            | 54.7                            | 4,047        | 1,367         |
| Red River, North Fork | OK311500010020_00 | TSS       | 30,652         | 0             | 0                            | 306.5                           | 28,813       | 1,533         |

Each pollutant will need to be reduced by the following Percent Reduction Goal (PRG) in order for an impaired waterbody to meet water quality standards and its designated beneficial uses.

**PRG Needed for Waterbody to meet Water Quality Standards**

| WBID              | Waterbody Name        | These impairments must be reduced by the following amounts in order to meet water quality standards. |             |           |
|-------------------|-----------------------|------------------------------------------------------------------------------------------------------|-------------|-----------|
|                   |                       | <i>E. coli</i>                                                                                       | Enterococci | Turbidity |
| OK310810020020_00 | Finn Creek            | 16.6%                                                                                                |             |           |
| OK310810020050_00 | Criner Creek          | 44.1%                                                                                                |             |           |
| OK310810020170_00 | Roaring Creek         |                                                                                                      |             | 35.1%     |
| OK310820020010_00 | Little Washita River  |                                                                                                      |             | 27.9%     |
| OK310840010060_00 | Quartermaster Creek   |                                                                                                      |             | 64.6%     |
| OK311200000060_00 | Cow Creek             | 71.8%                                                                                                |             |           |
| OK311500010020_00 | Red River, North Fork |                                                                                                      | 97.3%       | 49.4%     |
| OK311500010020_10 | Red River, North Fork | 57.2%                                                                                                |             |           |

The following OPDES-permitted facilities were assigned a daily wasteload allocation calculated as their permitted flow rate multiplied by the in-stream geometric mean water quality criterion to determine their bacterial WLAs.

| Waterbody ID      | Stream Name           | Name                 | OPDES Permit No. | Design Flow (mg/d) | Wasteload Allocation (x10 <sup>8</sup> colonies/day) |          |
|-------------------|-----------------------|----------------------|------------------|--------------------|------------------------------------------------------|----------|
|                   |                       |                      |                  |                    | <i>E. coli</i>                                       | ENT      |
| OK311200000060_00 | Cow Creek             | <b>Comanche WWT</b>  | OK0031763        | 0.21               | 1.00E+09                                             | -        |
| OK311500010020_00 | Red River, North Fork | <b>City of Altus</b> | OK0028037        | 3.5                | -                                                    | 4.37E+09 |

The Oklahoma Basin 3 TMDL Report can be found on the following DEQ webpage:  
<https://oklahoma.gov/deq/divisions/water-quality/watershed-planning/tmdl.html>.

**EPA Approval Date:** Pending  
**Record Last Updated:** 8/21/2026