

Beaver River near Turpin

Station AT233900 (720500020450-001AT) is a permanent ambient trend monitoring station located on the Beaver River in Oklahoma. Situated in the west central portion of Beaver County, the site was established south of the town of Turpin on US Highway 83. The station is positioned near the terminal end of stream segment 720500020450 and is classified within the Middle Beaver River 8-digit HUC watershed (11100102). Water enters the stream system from Optima Lake and from several tributaries including Fulton Creek (Palo Duro Creek), Bull Creek, and Jackson Creek, among others.

This station on the Beaver River has been active for all water quality variables since October of 2000. The following assessment of beneficial uses is based on data collected from November of 2000 through September of 2004. For purposes of reporting, this station is representative of the Beaver River from just downstream of Optima Lake (101.0968, 36.6651) downstream to the confluence of the Beaver River with Sharp Creek (100.8064, 36.7972). As per Oklahoma Water Quality Standards, Appendix A, Table 7 of Oklahoma Administrative Code (OAC) 785:45, this water quality management segment is assigned the following designated beneficial uses: 1) Warm Water Aquatic Community—Fish and Wildlife Propagation (WWAC), 2) Agriculture—Class III Irrigation (AG), and 3) Primary Body Contact—Recreation (PBCR).

The WWAC beneficial use is supported. Dissolved oxygen (Figure 45a), pH (Figure 45b), turbidity (Figure 45c), and toxicant data met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is not supported (Figure 45d and Figure 45e). Of the twenty-eight (28) total dissolved solids concentrations, twenty-seven (27) samples (or 96%) exceeded the sample standard of 3275.0 mg/L, and the geometric mean (5445.1 mg/L) exceeded the yearly mean standard (2575 mg/L). Of the twenty-six (26) chloride concentrations, twenty-three (23) samples (or 89%) exceeded the sample standard of 1118.0 mg/L, and the geometric mean (2160.4 mg/L) exceeded the yearly mean standard (868 mg/L). Sulfate values met the segment-specific criterion. The PBCR beneficial use is not supported (Table 23). Of the thirteen (13) fecal coliform concentrations, nine (9) samples (or 69%) exceeded the prescribed screening level of 400 cfu/mL, and the geometric mean (769.5 cfu/mL) exceeded the prescribed mean standard of 400 cfu/mL. Of the 13 enterococci concentrations, eight (8) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (318.8 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. Of the twelve (12) *E. coli* concentrations, four (4) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (217.3 cfu/mL) exceeded the prescribed mean standard of 126 cfu/mL. This segment of the Beaver River is not nutrient-threatened. The total phosphorus and nitrate/nitrite median values were below the threshold medians of 0.36 mg/L and 5.0 mg/L, respectively (Figure 45f).

Figure 45a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) on the Beaver River at Turpin (AT233900), 2000-2004.



