

Cimarron River near Guthrie

Station AT160000 (620910010010-001AT) is a permanent ambient trend monitoring station located on the Cimarron River in Oklahoma. Situated in the central portion of Logan County, the site was established north of the city of Guthrie on US Highway 77. The station is positioned near the upper end of stream segment 620910010010 and is classified within the Lower Cimarron River - Skeleton Creek 8-digit HUC watershed (11050002). Water enters the stream system from several tributaries including Kingfisher Creek, Cottonwood Creek, and Skeleton Creek, among others.

This station on the Cimarron River has been active for all water quality variables since November of 1998. The following assessment of beneficial uses is based on data collected from October of 1999 through September of 2004. For purposes of reporting, this station is representative of the Cimarron River from the confluence of Kingfisher Creek (97.8787, 35.9308) downstream to confluence of the Cimarron River with Skeleton Creek (97.3975, 35.9875). As per Oklahoma Water Quality Standards, Appendix A, Table 6 of Oklahoma Administrative Code (OAC) 785:45, this water quality management segment is assigned the following designated beneficial uses: 1) Emergency Water Supply (EWS), 2) Warm Water Aquatic Community—Fish and Wildlife Propagation (WWAC), 3) Agriculture—Class III Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

The WWAC beneficial use is partially supported. Of the thirty (30) turbidity samples (Figure 7c), five (5) samples (or 17%) exceeded the numerical criteria of 50. Dissolved oxygen (Figure 7a), pH (Figure 7b), and toxicant samples (Table 10) met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is supported for total dissolved solids, chlorides, and sulfates (Figure 7d and Figure 7e). The PBCR beneficial use is not supported (Table 11). Of the twenty-two (22) fecal coliform concentrations, seven (7) samples (or 32%) exceeded the prescribed screening level of 400 cfu/mL. Of the twenty-three (23) enterococci concentrations, 7 samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (55.1 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of the Cimarron River is not nutrient-threatened. The total phosphorus and nitrate/nitrite median values were below the threshold medians of 1.0 mg/L and 4.65 mg/L, respectively (Figure 7f).

Figure 7a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for the Cimarron River at Guthrie (AT160000), 1999-2004.



