

Cimarron River Near Buffalo

Station AT157950 (620920030010-001AT) is a permanent ambient trend monitoring station located on the Cimarron River in Oklahoma. Situated in the northwestern portion of Woods County, the site was established east of the town of Buffalo on State Highway 34. The station is positioned near the midpoint of stream segment 620920030010 and is classified within the Lower Cimarron River - Eagle Chief Creek 8 digit HUC watershed (11050001). Water enters the stream system from Kansas and from several tributaries including Keno Creek, Day Creek, Buffalo Creek, and Sand 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 May of 2002 through April of 2007. For purposes of reporting, this station is representative of the Cimarron River from entrance into Oklahoma near Buffalo, Oklahoma (99.4562, 36.9996 downstream to confluence of the Cimarron River with Buffalo Creek (99.2166, 36.7869). As per Appendix A, Table 6 of 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 supported. Dissolved oxygen, pH, turbidity, and toxicant samples met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is not supported. Of the forty-six (46) total dissolved solids concentrations, ten (10) samples (or 22%) exceeded the sample standard of 14955.0 mg/L, and the mean (11003 mg/L) exceeded the yearly mean standard (10353 mg/L). Of the forty-two (42) chloride concentrations, nine (9) samples (or 21%) exceeded the sample standard of 6556.0 mg/L, and the mean (5246.2 mg/L) exceeded the yearly mean standard (4430 mg/L). Sulfate concentrations met the prescribed segment-specific criterion. The PBCR beneficial use is not supported. Of the eighteen (18) fecal coliform concentrations, six (6) samples (or 33%) exceeded the prescribed screening level of 400 cfu/100mL. Of the 18 enterococci concentrations, seven (7) samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (245.8 cfu/100mL) exceeded the prescribed mean standard of 33 cfu/100mL. Of the 18 *E. coli* concentrations, fifteen (8) samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (2010.4 cfu/100mL) exceeded the prescribed mean standard of 126 cfu/100mL. 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.

HUC 1105