

Cimarron River near Waynoka

Station AT158000 (620920020010-001RS) is a permanent ambient trend monitoring station located on the Cimarron River in Oklahoma. Situated in the south central portion of Woods County, the site was established south of the town of Waynoka on US Highway 281. The station is positioned near the end of stream segment 620920020010 and is classified within the Lower Cimarron River - Eagle Chief Creek 8 digit HUC watershed (11050001). Water enters the stream system from several tributaries including Traders Creek, Long Creek, Doe Creek, Whitehorse Creek, and Chimney Creek, among others.

This station on the Cimarron River has been active for all water quality variables since March of 2003. The following assessment of beneficial uses is based on data collected from March of 2003 through April of 2007. For purposes of reporting, this station is representative of the Cimarron River from the confluence of the Cimarron River with Buffalo Creek (99.2166, 36.7869) downstream to confluence of the Cimarron River with Main Creek (98.8753, 36.5154). 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 not supported. Fish collected during the summer of 2004 indicate that the segment is not supporting a healthy biological community. Based on the Index of Biological Integrity (IBI) outlined in Appendix C of Oklahoma's USAP, samples from both the Waynoka station had a sample composition score of 6 (maximum 30) and a fish condition score of 11 (maximum 15) for a total score of 17. This is below the non-supporting threshold of 19 for Central Great Plains warm water aquatic communities [OAC 46:15-5(l)]. Dissolved oxygen, pH, and turbidity samples met the criteria prescribed in the WWAC beneficial use. Toxicant data are not available for the station. The AG beneficial use is not supported. Of the thirty-eight (38) total dissolved solids concentrations, thirty (30) samples (or 79%) exceeded the sample standard of 14955.0 mg/L, and the mean (23605.0 mg/L) exceeded the yearly mean standard (10353 mg/L). Of the forty (40) chloride concentrations, thirty-two (32) samples (or 80%) exceeded the sample standard of 6556.0 mg/L, and the mean (13583.9 mg/L) exceeded the yearly mean standard (4430.0 mg/L). Sulfate concentrations met the prescribed segment-specific criterion. The PBCR beneficial use is not supported. Of the ten (10) *E. coli* concentrations, nine (9) samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (1499.4 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