

Arkansas River near Ralston

Station AT152500 (621200010200-001AT) is a permanent ambient trend monitoring station located on the Arkansas River in Oklahoma. Situated in the west central portion of Osage County, the site was established east of the town of Ralston on State Highway 18. The station is positioned near the upper end of stream segment 621200010200 and is classified within the Black Bear - Red Rock Creek 8-digit HUC watershed (11060006). Water enters the stream system from several tributaries including Salt Creek (Fairfax Lake), Black Bear Creek (Pawnee Lake), and Bug Creek, among others.

This station on the Arkansas 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 Arkansas River from the confluence of Salt Creek (97.3276, 36.9679) downstream to confluence of the Arkansas River with Keystone Reservoir (97.1739, 36.6243). 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) Public and Private Water Supply (PPWS), 2) Warm Water Aquatic Community—Fish and Wildlife Propagation (WWAC), 3) Agriculture—Class II Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

The PPWS beneficial use is supported. The WWAC beneficial use is not supported. Of the twenty-seven (27) turbidity samples (Figure 12c), ten (10) samples (or 37%) exceeded the numerical criteria of 50. Dissolved oxygen (Figure 12a), pH (Figure 12b), and toxicant data (Table 13) collected during the same period met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is supported for total dissolved solids, chlorides, and sulfates (Figure 12d and Figure 12e). Although 14% of the sulfate concentrations exceeded the sample standard of 153.0 mg/L, the values are below the prescribed minimum standard of 250 mg/L. The PBCR beneficial use is not supported (Table 14). Of the twenty (20) enterococci concentrations, four (4) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (118.5 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of the Arkansas 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 12f).

Figure 12a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for the Arkansas River at Ralston (AT152500), 1999-2004.



