

Chickaskia River near Blackwell

Station AT152000 (621100000010-001AT) is a permanent ambient trend monitoring station located on the Chickaskia River in Oklahoma. Situated in the west central portion of Kay County, the site was established north of the city of Blackwell on US Highway 177. The station is positioned near the midpoint of stream segment 621100000010 and is classified within the Chickaskia River 8-digit HUC watershed (11060005). Water enters the stream system from Lake Blackwell and from several tributaries including Bluff Creek, Shoo Fly Creek, Doe Creek, Bitter Creek, Stink Creek, and Duck Creek, among others.

This station on the Chickaskia 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 Chickaskia River from the confluence of Bluff Creek (97.3276, 36.9679) downstream to confluence of the Chickaskia River with the Salt Fork of the Arkansas River (97.2442, 36.6233). 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 I Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

The PPWS beneficial use is supported. The WWAC beneficial use is not supported. Of the thirty-four (34) turbidity samples (Figure 14c), twelve (12) samples (or 35%) exceeded the numerical criterion of 50. Of the twenty-two toxicant samples collected, three (3) of the lead concentrations (or 14%) exceeded the prescribed, hardness-dependent chronic criteria of 11.91 µg/L (Table 13). Dissolved oxygen (Figure 14a) and pH (Figure 14b) data met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is partially supported (Figure 14d and Figure 14e). Of the forty-seven (47) total dissolved solids concentrations, eight (8) of the samples (or 17%) exceeded the minimum sample standard of 750 mg/L (Appendix F sample standard is 700 mg/L). The PBCR beneficial use is not supported (Table 14). Of the twenty-four (24) fecal coliform concentrations, nine (9) samples (or 38%) exceeded the prescribed screening level of 400 cfu/mL. Of the 24 enterococci concentrations, 12 samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (295.6 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of the Chickaskia 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 14f).

Figure 14a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for the Chickaskia River at Blackwell (AT152000), 1999-2004.



