

## Verdigris River near Keetonville

Station AT176000 (121500030010-001AT) is a permanent ambient trend monitoring station located on the Verdigris River in Oklahoma. Situated in the east central portion of Rogers County, the site was established east of the city of Keetonville on State Highway 20. The station is positioned near the midpoint of stream segment 121500030010 and is classified within the Lower Verdigris River 8-digit HUC watershed (11070105). Water enters the stream system from Oologah Lake and from several tributaries including Fourmile Creek, Caney River, and Bird Creek, among others.

This station on the Verdigris 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 October of 2004. For purposes of reporting, this station is representative of the Verdigris River from the confluence of Oologah Lake (95.4226, 36.6794) downstream to confluence of the Verdigris River with Bird Creek (95.7261, 36.2210). As per Oklahoma Water Quality Standards, Appendix A, Table 1 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 partially supported. Of the twenty-seven (27) turbidity samples (Figure 29c), four (4) samples (or 15%) exceeded the numerical criterion of 50. Dissolved oxygen (Figure 29a), pH (Figure 29b), and toxicant samples met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is supported for total dissolved solids, chlorides, and sulfates (Figure 29d and Figure 29e). The PBCR beneficial use is not supported (Table 17). Of the twelve (12) enterococci concentrations, three (3) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (108.3 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of the Verdigris 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 29f).

**Figure 29a-f.** Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for the Verdigris River at Keetonville (AT176000), 1999-2004.



