

Big Cabin Creek near Big Cabin

Station AT191000 (121600060060-001AT) is a permanent ambient trend monitoring station located on Big Cabin Creek. Situated in the south central portion of Craig county, the site was established northeast of the town of Big Cabin off of US Highway 69 on County Road 310. The station is positioned near the upper end of stream segment 121600060060 and is classified within the Lower Neosho River 8-digit HUC watershed (11070209). Water enters the stream system from several tributaries including Bull Creek, Little Cabin Creek, and White Oak Creek, among others.

This station on Big Cabin Creek has been active for all water quality variables since September of 1999. 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 Big Cabin Creek from the confluence of Bull Creek (95.1416, 36.5875) downstream to the confluence of an unnamed tributary at the Mayes County line (95.143, 36.5094). 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 supported. Dissolved oxygen (Figure 17a), pH (Figure 17b), turbidity (Figure 17c), and toxicant samples met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is partially supported (Figure 17d and Figure 17e). Of the forty-eight (48) sulfate concentrations, six (6) of the samples (or 13%) exceeded the minimum sample standard of 250 mg/L. Total dissolved solids and chlorides are within the prescribed sample standards and yearly means. Although 82% of the TDS concentrations exceeded the sample standard of 206.0 mg/L and the geometric mean (390.2mg/L) exceeded the yearly mean standard of 187.0 mg/L, these values are below the prescribed minimum values of 750mg/L and 700 mg/L, respectively. Although 16% of the chloride concentrations exceeded the sample standard of 36.0 mg/L, the geometric mean (15.2 mg/L) did not exceed the yearly mean standard of 25.0 mg/L and the values are below the minimum standard of 250 mg/L. The PBCR beneficial use is not supported (Table 17). Of the twenty (20) enterococci concentrations, four (4) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (347.1 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. Of the twenty-one (21) *E. coli* concentrations, two (2) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (126.1 cfu/mL) exceeded the prescribed mean standard of 126 cfu/mL. This segment of Big Cabin Creek 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 17f).

Figure 17a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for Big Cabin Creek at Big Cabin (AT191000), 1999-2004.



