

## Beaver River near Beaver

Station AT234000 (720500020290-001AT) is a permanent ambient trend monitoring station located on the Beaver River in Oklahoma. Situated in the north central portion of Beaver County, the site was established north of the city of Beaver on state highway 23. The station is positioned near the midpoint of stream segment 720500020290 and is classified within the Middle Beaver River 8 digit HUC watershed (11100102). Water enters the stream system from several tributaries including Willow Creek, Sixmile Creek, Home Creek, and Clear Creek, among others.

This station on the Beaver 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 June 2002 through March of 2007. For purposes of reporting, this station is representative of the Beaver River from below the confluence of Sharp Creek (100.8064, 36.7972) downstream to below the confluence of Clear Creek with the Beaver River (100.4400, 36.8169). As per Appendix A, Table 7 of OAC 785:45, this water quality management segment is assigned the following designated beneficial uses: 1) Warm Water Aquatic Community—Fish and Wildlife Propagation (WWAC), 2) Agriculture—Class III Irrigation (AG), and 3) Primary Body Contact—Recreation (PBCR).

The WWAC beneficial use is supported. Dissolved oxygen, pH, turbidity, and toxicant data met the criteria prescribed in the WWAC beneficial use. Fish were collected during the summer of 2006. Based on the Index of Biological Integrity (IBI) outlined in Appendix C of Oklahoma's USAP, the station has a sample composition score of 9 (maximum 30) and fish condition score of 11 (maximum 15) for a total score of 20. However, because biocriteria have not been developed for the Southwestern Tablelands ecoregion, no assessment of community biological health can be made at this time. The AG beneficial use is not supported. Of the thirty-four (34) total dissolved solids concentrations, thirty-one (31) samples (or 91%) exceeded the sample standard of 3010.0 mg/L, and the mean (5111.8 mg/L) exceeded the yearly mean standard (2442 mg/L). Of the thirty (30) chloride concentrations, twenty-eight (28) samples (or 93%) exceeded the sample standard of 945.0 mg/L, and the mean (2062.7 mg/L) exceeded the yearly mean standard (735 mg/L). Of the 30 sulfate concentrations, five (5) samples (or 17%) exceeded the sample standard of 977.0 mg/L. The PBCR beneficial use is not supported. Of the eighteen (18) fecal coliform concentrations, eight (8) samples (or 44%) exceeded the prescribed screening level of 400 cfu/100mL; however the geometric mean (338.7 cfu/100mL) did not exceed the prescribed mean standard of 400 cfu/mL. Of the 18 *E. coli* concentrations, six (6) samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (235.2 cfu/100mL) exceeded the prescribed mean standard of 126 cfu/100mL. Of the 18 enterococci concentrations, 8 samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (293.3 cfu/100mL) exceeded the prescribed mean standard of 33 cfu/100mL. This segment of the Beaver 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.

HUC 1110