

Neosho River near Commerce

Station AT185000 (121600040220-001AT) is a permanent ambient trend monitoring station located on the Neosho River in Oklahoma. Situated in the northwest portion of Ottawa County, the site was established west of the town of Commerce off of US Highway 66 on County Road. The station is positioned near the midpoint of stream segment 121600040220 and is classified within the Lower Verdigris River 8 digit HUC watershed (11070206). Water enters the stream system from Bird Creek, Spunky Creek, Chambers Creek, Dog Creek (Claremore Lake), and Salt Creek, among others.

This station on the Neosho River has been active for all water quality variables since October of 2000. The following assessment of beneficial uses is based on data collected from May of 2002 through April of 2007. Analysis also includes water quality data collected by the United States Geological Survey's Oklahoma Water Science Center. For purposes of reporting, this station is representative of the Neosho River from its entrance into the state of Oklahoma (95.0352, 36.9995) downstream to the confluence of the Neosho River with Elm Creek (94.9286, 36.8907). As per Appendix A, Table 1 of 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-five (35) turbidity samples, twelve (12) samples (or 34%) exceeded the numerical criterion of 50. Of the sixteen (16) toxicant samples collected, three (3) of the lead concentrations (or 19%) exceeded the prescribed hardness-dependant chronic criterion of 6.18 ug/L. Of the eighteen (18) chromium samples collected, 3 concentrations (or 17%) exceeded the chronic criterion of 50 ug/L. Dissolved oxygen and pH samples met the criteria prescribed in the WWAC beneficial use. The AG beneficial use is supported for total dissolved solids (TDS), chlorides, and sulfates. Although several TDS and sulfate concentrations exceeded the sample standards, no values were above the minimum standards of 700 mg/L and 250 mg/L, respectively. The PBCR beneficial use is not supported. Of the twenty-four (24) enterococci concentrations, five (5) samples exceeded the prescribed screening level of 406 cfu/100mL, and the geometric mean (99.9 cfu/100mL) exceeded the prescribed mean standard of 33 cfu/100mL. This segment of the Neosho 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. Furthermore, the mean sestonic chlorophyll-a concentration (18.6 mg/M³) produced a TSI of 59, which is below the threshold TSI of 62.