

North Canadian River near Seiling

Station AT238000 (720500010010-001AT) is a permanent ambient trend monitoring station located on the North Canadian River. Situated in the southwestern portion of Major County, the site was established north of the town of Seiling on US Highway 281. The station is positioned near the midpoint of stream segment 720500010010 and is classified within the Middle North Canadian River 8-digit HUC watershed (11100301). Water enters the stream system from several tributaries including Bent Creek, Deep Creek, and Cheyenne Creek, among others.

This station on the North Canadian 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 North Canadian River from the confluence of an unnamed tributary near Mutual, Oklahoma (99.0817, 36.2638) downstream to confluence of the North Canadian River with Canton Lake (98.6641, 36.1355). As per Oklahoma Water Quality Standards, Appendix A, Table 7 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 III Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

The PPWS beneficial use is supported. The WWAC beneficial use is partially supported. Of the thirty-four (34) turbidity samples (Figure 51c), five (5) samples (or 15%) exceeded the numerical criterion of 50. Dissolved oxygen (Figure 51a), pH (Figure 51b), and toxicant samples met the criteria prescribed in the WWAC beneficial use. Fish collected during the summer of 2004 indicate that the segment is supporting a healthy biological community. Based on the Index of Biological Integrity (IBI) outlined in Appendix C of Oklahoma's Use Support Assessment Protocols (USAP), the station has a sample composition score of 10 (maximum 30) and fish condition score of 13 (maximum 15) for a total score of 23. This is above the assigned supporting threshold of 22 for Central Great Plains streams (proposed). The AG beneficial use is supported for total dissolved solids, chlorides, and sulfates (Figure 51d and Figure 51e). The PBCR beneficial use is not supported (Table 23). Of the twenty-one (21) enterococci concentrations, six (6) samples exceeded the prescribed screening level of 406cfu/mL, and the geometric mean (224.4 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of the North Canadian 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 (Figure 51f).

Figure 51a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) on the North Canadian River at Seiling (AT238000), 1999-2004.



