Cimarron River near Ames

Station AT158115 (620910020010-004RS) is a permanent ambient trend monitoring station located on the Cimarron River in Oklahoma. This station replaces the Cimarron River near Orienta (AT158110), which was discontinued for safety reasons. The assessment for this segment will not include data from the Orienta station. The Ames station is situated in the southeastern portion of Major county and was established southwest of the city of Ames on a County Road E0550 off of State Highway 8. The station is positioned near the lower end of stream segment 620910020010 and is classified within the Lower Cimarron River - Eagle Chief Creek 8 digit HUC watershed (11050001). Water enters the stream system from several tributaries including Main Creek, Griever Creek, Cheyenne Creek, Eagle Chief Creek, Sand Creek, and Indian Creek, among others.

This station on the Cimarron River has been active for all water quality variables since March of 2003. The following assessment of beneficial uses is based on data collected from March of 2003 through April of 2007. For purposes of reporting, this station is representative of the Cimarron River from the confluence of Main Creek (98.8753, 36.5154) downstream to confluence of the Cimarron River with Deep Creek one mile south of the sampling location. As per Appendix A, Table 6 of OAC 785:45, this water quality management segment is assigned the following designated beneficial uses: 1) Emergency Water Supply (EWS), 2) Warm Water Aquatic Community—Fish and Wildlife Propagation (WWAC), 3) Agriculture—Class III Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

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The WWAC beneficial use is supported. Dissolved oxygen, pH, turbidity, and toxicant samples met the criteria prescribed in the WWAC beneficial use. Fish collected during the summer of 2004 indicate that whether the segment is supporting a healthy biological community is currently indeterminate. Based on the Index of Biological Integrity (IBI) outlined in Appendix C of Oklahoma's USAP, the segment had a sample composition scores of 8 (maximum 30) and fish condition scores of 11 (maximum 15) for a total score of 19. This is between the assigned non-supporting and supporting thresholds of 19-21 for Central Great Plains warm water aquatic communities [OAC 46:15-5(l)]. The AG beneficial use is not supported. Of the thirty-six (36) total dissolved solids concentrations, twenty-one (21) samples (or 58%) exceeded the prescribed sample standards of 10028.0 mg/L, and the mean (11143.9 mg/L) exceeded the yearly mean standard (7437.0 mg/L). Of the 36 chloride concentrations, sixteen (16) samples (or 44%) exceeded the sample standard of 5902.0 mg/L, and the mean (5848.5 mg/L) exceeded the yearly mean standard (4218.0 mg/L). Of the 36 sulfate concentrations, eleven (11) samples (or 31%) exceeded the sample standard of 873.0 mg/L, and the mean (795.1 mg/L) exceeded the yearly mean standard (680.0 mg/L). The PBCR beneficial use is not supported. Of the eighteen (18) *E. coli* concentrations, nine (9) samples exceeded the prescribed screening level of 406 cfu/100mL, and the mean (346.1 cfu/100mL) exceeded the prescribed mean standard of 126 cfu/100mL. Of the 18 enterococci concentrations, two (2) samples exceeded the prescribed screening level of 406 cfu/100mL, and the mean (41.6 cfu/100mL) exceeded the prescribed mean standard of 33 cfu/100mL. This segment of the Cimarron 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.