

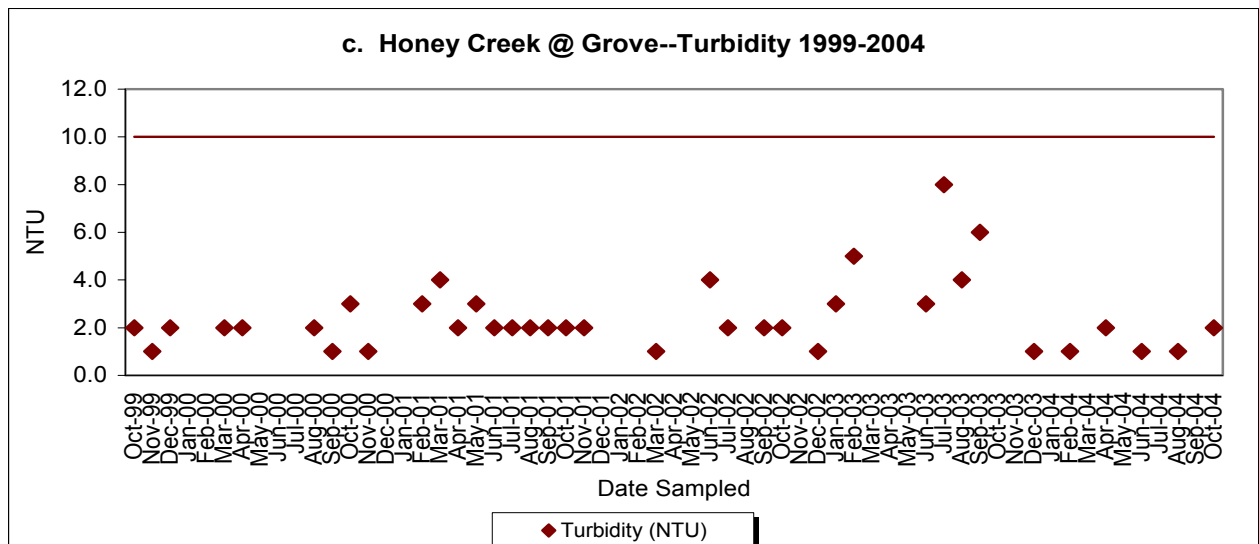
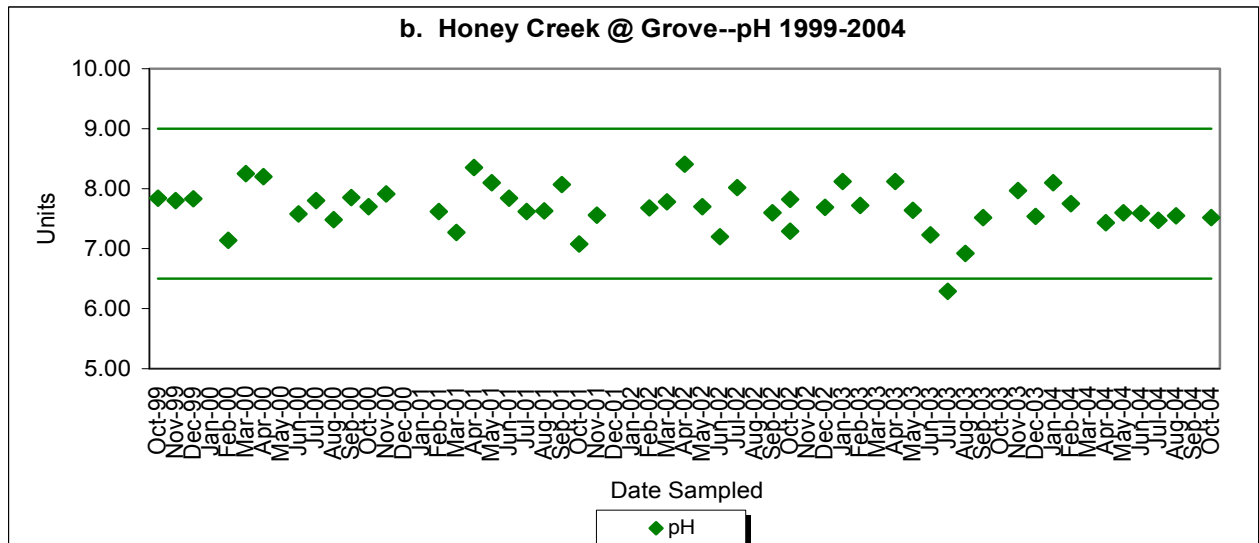
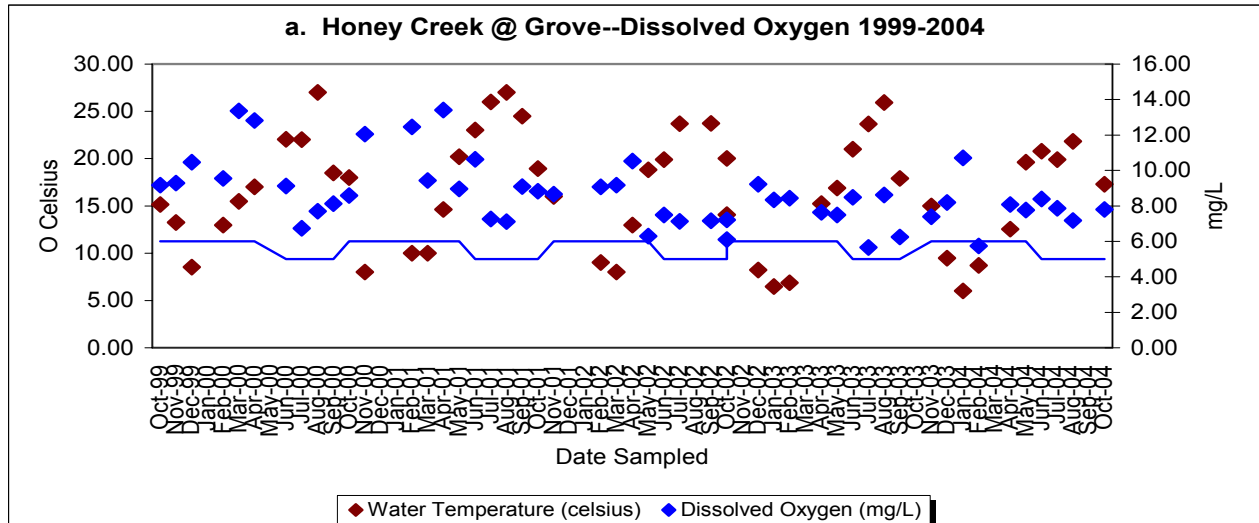
Honey Creek near Grove

Station AT189090 (121600030290-001AT) is a permanent ambient trend monitoring station located on Honey Creek in Oklahoma. Situated in the northeastern portion of Delaware county, the site was established southeast of the city of Grove off of SH 25 on County Road N4650. The station is positioned near the terminal end of stream segment 121600030445 and is classified within the Grand Lake 8-digit HUC watershed (11070206). Water enters the stream system from Missouri and from several tributaries including the Cave Springs Branch, among others.

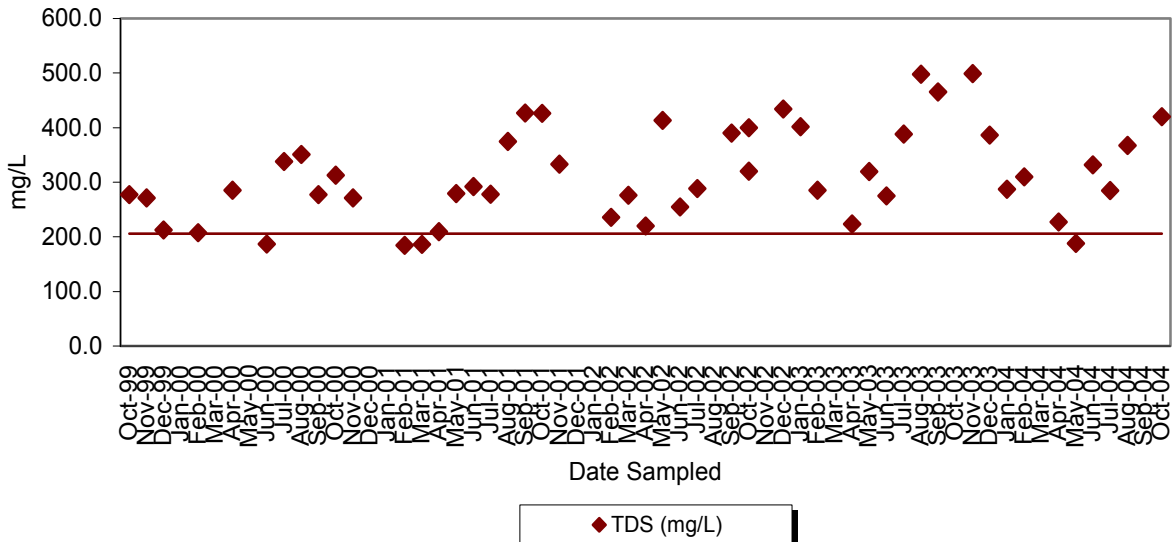
This station on Honey Creek has been active for all water quality variables since November of 1998. The following assessment of beneficial uses is based on data collected from October of 1999 through October of 2004. For purposes of reporting, this station is representative of Honey Creek from its entrance into Oklahoma near Southwest City, Missouri (94.6178, 36.5243) downstream to confluence of Honey Creek with Grand Lake (94.7427, 36.5505). 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) Cool Water Aquatic Community—Fish and Wildlife Propagation (CWAC), 3) Agriculture—Class I Irrigation (AG), and 4) Primary Body Contact—Recreation (PBCR).

The PPWS beneficial use is supported. The CWAC beneficial use is supported. Dissolved oxygen (Figure 21a), pH (Figure 21b), turbidity (Figure 21c), and toxicant samples met the criteria prescribed in the WWAC beneficial use. Fish collected during the summer of 2003 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 24 (maximum 30) and fish condition score of 15 (maximum 15) for a total score of 39. This is above the assigned supporting threshold of 37 for Ozark Highland streams [Oklahoma Administrative Code (OAC) 46:15-5(j)]. The AG beneficial use is supported for total dissolved solids (TDS), chlorides, and sulfates (Figure 21d and Figure 21e). Although 92% of the TDS concentrations exceeded the sample standard of 206.0 mg/L and the geometric mean (337.0 mg/L) exceeded the yearly mean standard of 187.0 mg/L, the values are below the minimum standards of 750 and 700 mg/L, respectively. Although 69% of the chloride concentrations exceeded the sample standard of 80.0 mg/L, the values are below the minimum standard of 250 mg/L. The PBCR beneficial use is not supported (Table 17). Of the twenty-three (23) enterococci concentrations, eight (8) samples exceeded the prescribed screening level of 406 cfu/mL, and the geometric mean (362.7 cfu/mL) exceeded the prescribed mean standard of 33 cfu/mL. This segment of Honey Creek is nutrient-threatened. The median of the nitrate/nitrite samples (2.79 mg/L) exceeded the prescribed threshold median of 2.40 mg/L (Figure 21f). The station is not light-limited with a mean turbidity of 2 NTU and less than 80% canopy coverage. The total phosphorus median values were below the threshold median of 0.15 mg/L (Figure 21f).

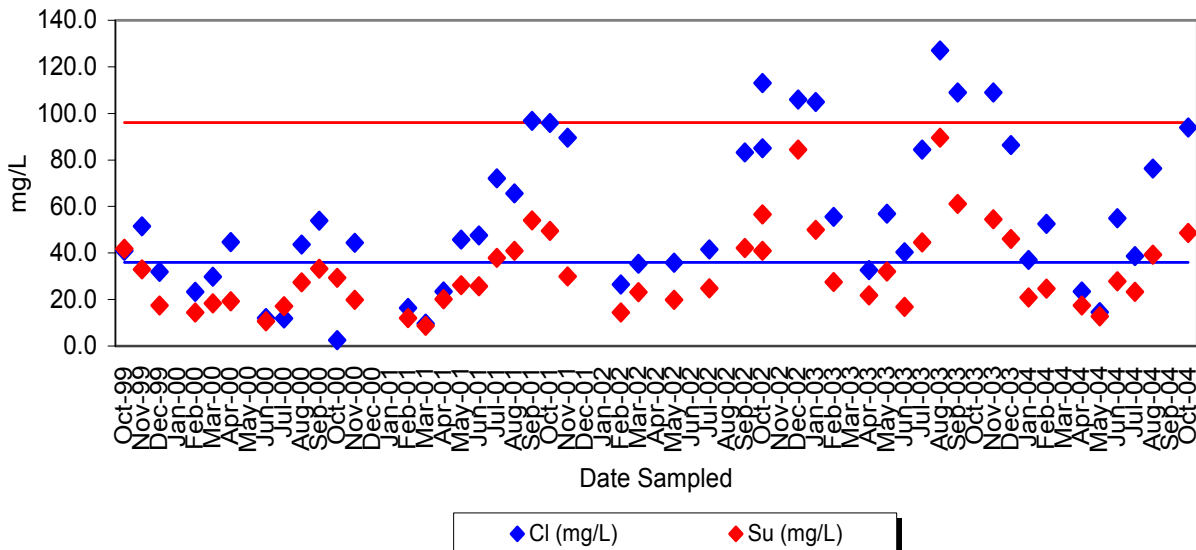
Figure 21a-f. Dissolved Oxygen (a), pH (b), Turbidity (c), Total Dissolved Solids (d), Minerals (e), and Nutrients (f) for Honey Creek at Grove (AT189090), 1999-2004.



d. Honey Creek @ Grove--TDS 1999-2004



e. Honey Creek @ Grove--Minerals 1999-2004



f. Honey Creek @ Grove--Nutrients 1999-2004

