

Coal Creek: Hwy 11
SE NE SW Section 22-20N-13E
Tulsa County
N 36° 11' 44"
W 95° 54' 53"
WBID#: OK 121300-01-0090M

Coal Creek is located in Tulsa, OK which is in the northeast quarter of the state. The stream runs north from the fair grounds into Bird Creek which empties into the Verdigris River. The stream runs through urban Tulsa, so there really isn't much agriculture going on. Coal Creek is located in the Central Irregular Plains ecoregion.

Coal Creek always has a lot of "floatable" trash. It looks terrible, but does not seem to interfere with the life in the stream. As of August 20, 2007, the time when Coal Creek's complete habitat assessment was last done, the stream had a good canopy shading and streamside cover. So, in other words, there were trees providing shade along the bank and vegetation that began on the bank and traveled into the stream. Coal Creek has good pool variability. It doesn't have a constant depth, but varies from shallow to deep. To better protect and shelter its underwater inhabitants there should be more rocks, boulders, and logs to offer them shelter. The flow and rocky runs and riffles are moderate. The flow is not very fast, fast enough to cause the rocky runs and riffles which help promote oxygen in the water. The bank is stable, with the help of the vegetation that grows along the stream. There does appear to be sediment slowly filling the creek. There are new point bars and the bottom of the stream is very soft. The habitat in Coal Creek is better than the average high quality stream in this ecoregion.

The first time that fish were collected at Coal Creek was Nov. 12, 1996. There were a total of 8 species of fish found. There were no Darter/benthic species or intolerant species found. There were 4 species of Sunfish found and 1 long-lived species of fish found.

The second time that fish were collected was on August 23, 2002. There were a total of 11 species found. There was 1 species of Darter/benthic species found, one more than the first fish collection. There were 5 species of Sunfish found and in the state of Oklahoma if there are at least 5 species of Sunfish found the stream is considered to be fairly healthy. There were 2 species of long-lived fish found, one more than the first time as well, but still no intolerant species were found.

The third time that fish were collected at Coal Creek was on August 20, 2007. This time there was a total of 17 species of fish found. There was still 1 species of Darter/benthic fish found, 7 species of Sunfish found, and still 2 species of long-lived fish were found. Again there were no intolerant fish found. This tells us that there is something in the stream causing the intolerant species to die out, but as the data shows the fish population and species diversity has increased over the past 11 years.

Bugs were first collected at Coal Creek in the winter of 1997 and were last collected in the winter of 2007, so bugs have been continually collected for 10 years. Coal Creek has one A, five C's and two B's for the score on bug conditions in the winter months. For two years the sensitive bugs were not found at all. The sensitive bugs are still there, but just not a healthy amount.

Bugs were first collected in the summer of 1997 and were last collected in the summer of 2007. Coal Creek averages a C for bug conditions in the summer months. There is also two year time where the sensitive bugs are nonexistent. There is not a healthy amount of sensitive and intolerant species of bugs.

The chemistry of Coal Creek has been tested monthly since September 2001. The median oxygen saturation is right at the caution zone at 80%, and the soluble nitrogen is normal at 0.63 mg/L N. The orthophosphate phosphorus is excellent at 0.01 mg/L P and chloride is normal at 30 mg/L Cl. The pH level is average at 7.5. So, overall the chemistry is not bad.

Coal Creek has been tested for *E.coli* 17 times from September 2003 to September 2007. The *E.coli* count was above 400 Colony Forming Units/100 mL water six times: the summer of 2004, August 2005, July 2007, and September 2007. Being close to the fair grounds could be part of the cause as the runoff from the agricultural barns eventually enters Coal Creek through the storm drains.

Coal Creek's habitat is excellent and seems to sustain the fish and bugs that live there. There have been no intolerant species of fish in the stream in 11 years, so there is something in the stream that makes it impossible for these very sensitive species of fish to dwell in Coal Creek. The bug species are the same way, only the small numbers of sensitive bugs fluctuate, there are some, just not very many. This could be due to the oxygen saturation or possibly the water has somehow become polluted causing the sensitive species to die out. There are also a lot of bacteria in Coal Creek in the summer months.

Written By: Shelby Hill