Fourche Maline: Black Loop

SW/SW/SE
Section 8-5N-20E
Latimer County, Oklahoma
34.9184°
-95.2174°
WBID#: OK 220100-40-0020P

This site on Fourche Maline Creek, which means wicked fork, is located in southeastern Oklahoma in the town of Panola, which is in Latimer County. The creek is monitored on the Black Loop Road from a low water dam. It drains an area of 60 square miles. The Fourche Maline flows south from the San Bois Mountains. Although the name San Bois Mountains means hills with no trees, there is an abundance of young pine trees. The creek then flows through Robbers Cave State Park, and into Wilburton where it turns east and empties into Wister Lake. There are a variety of uses for the land around the creek: housing, agricultural land uses, and some oil field activity.

The Fourche Maline Creek habitat has been assessed twice; first on August 29, 2000 and again on June 7, 2007. The canopy cover shading around the creek was high, which means there are good shade trees on the banks of the creek. There is also a lot of instream cover, places where fish and bugs can hide. The pool bottom substrate describes places where the creek bottom is easily disturbed and is quite stable at this site. The banks are stable and there is an excellent mix of streamside cover with a variety of vegetation on the banks of the creek, such as grasses, shrubs, vines, and so forth. There is a variety of pool depths throughout the creek. There are rocky runs and riffles which offer the stream highly oxygenated, swift water. Fourche Maline has a low flow which means the water does not move very quickly and upstream, in Robbers Cave State Park, the creek has been known to dry up in the summer. There is very little channel alteration which means the stream doesn't change very much. Fourche Maline has low channel sinuosity; the creek does not curve, but stays fairly straight. This creek has an excellent habitat.

Fish have been collected from Fourche Maline twice with the last collection on June 7, 2007. There were a total of 22 species of fish found. While there were six species of darter/benthic fish found, the average high quality stream in this ecoregion has eight species. These are the fish that live on the bottom of the streams. There were six species of sunfish found; in the state of Oklahoma if there are five species found the stream is automatically thought to be healthy. There was one species of long-lived fish found. These are the fish that have a longer life span than most fish. There were two intolerant species of fish found, which means they are very sensitive to pollutants and will be the first to die out if pollution is present. The Fourche Maline received a grade of 91% which is a B.

The winter bug collections from 2000 to 2007 seem to indicate the conditions in the Fourche Maline are improving over time. The last collection in the winter of 2007 was graded A while the collections from 2000 and 2002 were graded C. Even now the stream is still missing some of the most sensitive taxa.

The summer bug collections do not score as well with grades of C. They are also missing the most sensitive taxa and do not have much diversity.

The chemistry of Fourche Maline has been monitored monthly since August of 2001. There is only one major problem area in the chemistry, the oxygen saturation. The median value is 70% which is in the caution area. This is probably due to the deeply pooled nature of the creek near the monitoring site. The pH stays at about a 7 which is perfect. The soluble nitrogen is low at 0.05 mg/L N. The orthophosphate phosphorus is low at 0.01 mg/L P and the chloride is perfect at 10 to 15 mg/L Cl.

The Fourche Maline Creek was tested one time in 2006 and three times in 2007 for *E. coli*. The measurement has to be fewer than 400 colony forming units per 100 mL of creek water before it is safe to swim. It was under 400 CFUs in July and September 07, but was 1540 CFUs in June 07.

The habitat of Fourche Maline at Black Loop is as good as, or better than, the average high quality stream in the Arkansas Valley ecoregion. Fish collections show that the stream is missing a few of the more sensitive species. The winter collections of bugs appear to be getting better and are now almost as good as the average of a high quality stream, but the summer collections are missing a few of the more sensitive species of bugs. The stream has a low oxygen level, but all of the other chemistry levels are normal and excellent. The bacteria level is normal except for one time in June of 2007.

When looking at all of the data, the Fourche Maline at Black Loop is pretty healthy overall. The stream is losing only a few species of fish and bugs, which could be due to the variation of oxygen levels, but overall the stream is healthy and thriving.

Written By: Shelbey Hill