

# Fourche Maline: Robbers Cave State Park

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SW/SW/SE Section 7-6N-19E

35.0028°

-95.336°

Latimer County, Oklahoma

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The site on Fourche Maline Creek at Robbers Cave State Park drains an area of about 10 square miles of the San Bois Mountains north of Wilburton. San Bois stands for “Hills with no Trees.” The collection site is near an area known as the Old Swimming Hole. The land use in the area is a State Park with monitored caves, group camps and horse trails. Below the site Fourche Maline Creek flows south to Wilburton and then east to Wister Lake. It is in the Arkansas Valley ecoregion.

This far upstream Fourche Maline Creek is very small and doesn't have very much water. It dries up sometimes in the summer in the shallow places, but there is always water in the deep pools. The channel is straight. The banks are stable and there is great cover and protection for the fish and other aquatic animals that live in that area. There is a good variety of deep and shallow pools for plenty of fish of all shapes and sizes. Trees along the banks provide welcome dappled shade. Aquatic vegetation provides hiding places and food. Terrestrial vegetation along the banks stabilizes the banks and provides food to Fourche Maline Creek. At this site the creek has an average amount of highly oxygenated turbulent water. The habitat is excellent surpassing the habitat in known high quality streams in this same ecoregion.

Because of the excellent habitat, collecting fish from Fourche Maline Creek was very difficult. This collection was made by pulling a seine (net) through the water for 400 meters of stream. The seine got caught on all of the rocks and debris in the water that makes the habitat excellent for fish. The collection team noted that they lost many fish when they got stuck. Fourche Maline has twelve species of fish in the creek, about half the number of species found in known high quality sites in the ecoregion. This could be due to the small size of the creek here as well as the difficulty seining. Most of the fish caught are tolerant of water quality and habitat changes. Two sensitive species, the big eye shiner and the slender madtom were present. The intermediate species are the freckled madtom, blackstripe topminnow, blackspotted topminnow, central stoneroller and

redecor sunfish. The tolerant species are other sunfish, including largemouth bass.

Another indicator of stream health is the benthic macroinvertebrate (bug) community. These are collected twice every year; in the summer and also in the winter. In the summer there is often very little flow so the results are spotty. The team has collected data in the winter every year except for the winter of 2006. The results from the winter collections are usually superior to known high quality streams in this area. Fourche Maline has between 15 and 20 different species each winter with about half of the species members of the Ephemeroptera (mayflies), Plecoptera (stoneflies) and Trichoptera (caddisflies) orders. These are known as EPT. A little more than 40% of the entire collection is made up of EPT individuals. Based on data with EPT and the condition scores, the creek and the bugs are marvelously healthy.

The water chemistry in Fourche Maline Creek is tested using field screening techniques. The oxygen saturation of water in this creek is 80%. That is good because it's in the normal range. Soluble nitrogen is below the detection levels of the tests in this creek. The pH should be in between 5.5 and 8. This pH is 6.5. Chloride is at a normal range of 15 and that is really good. The Phosphorus in Fourche Maline is BDL which means Below Detection Level. So that means that they can't tell what the Phosphorus is. The *E. coli* bacteria in Fourche Maline are under 400 colony forming units per 100 mL water and that is fantastic.

The Fourche Maline Creek is in a wonderful place. It has a beautiful habitat. The fish can safely live in the water due to the protection provided by lots of cover from things like submerged logs, cobbles and boulders, root wads, and beds of aquatic plants within the stream. There is plentiful food. The water chemistry shows the most common nutrients are below the detection levels of the tests. The fish collection was not as good as expected, but the excellent habitat made seining for fish extremely difficult. Since the stream is so small here, it often dries up in the summertime except in pools. It is possible that there is some structure like a low water dam downstream that would keep fish from repopulating the stream after drought. The bugs are excellent. The climate there is terrific for all the animals and the people that go visit it. Not to mention that it is located in the beautiful Robbers Cave State Park. Everything in this creek is perfect from the water to land and air in it and around. So come down to this magnificent and beautiful Fourche Maline Creek at Robbers Cave State Park. (: