

Harlow Tributary: Golden Acres

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SW SE SE Section 20-20N-12E

Osage County

N 36° 11' 19.2"

W 96° 02' 29.1"

WBID#: OK 120420-01-0170T

Harlow Tributary: Golden Acres drains an area of about 3 square miles and is located NW of Tulsa in the Cross Timbers ecoregion. This tributary has a mixed urban and rural surrounding. It runs south into the Arkansas River. It is a very small area with very few residents. There are some livestock in the area and the occasional crop is planted.

The Harlow Tributary has an amazing habitat for fish. This tributary has a lot of shade which is good for the fish because it keeps the water cool and the oxygen levels high during the summer. There is a lot of vegetation along the bank which means there is a lot of energy and food transferred into the water. The bottom of this tributary is often changed by the movement of the waters. There are some deep areas and some shallow ones which is wonderful for the different types of fish and other aquatic inhabitants. This tributary flows in a rather straight course. The tributary has an average amount of highly oxygenated turbulent water.

The Harlow Tributary has few fish compared to the average high quality stream in this ecoregion. There were only five species instead of twenty-two species. However, it is a very small stream. Where you would expect six types of sensitive benthic fish you find none. You would expect three types of intolerant fish and, again, found none of them. There are only half of the sunfish expected.

The bugs (benthic macroinvertebrates) in this stream were collected in the winter every year from 2004 through 2007 with the exception of 2006. The summer collections are few and far between because the stream often has no flow in the summer months. There is one summer collection from 2007 on record. The collection for the winter of 2007 was a rather poor collection, but the other collections are consistent. The results from these collections are excellent. EPT is an abbreviation for the sensitive fly species Ephemeroptera, Plecoptera, and Trichoptera. During the winter season, this tributary to Harlow Creek has twice as many EPT species as the average high quality stream. Based on the condition results this tributary is in excellent shape.

The water chemistry has been tested using field screening techniques. The results in the Harlow Tributary are around average. There is a median 82% oxygen level, a 0.24 mg/L N nitrogen reading, a 0.02 mg/L P phosphate reading, the pH is a perfect 7, and the chloride has a median of 25 mg/L. However, back in September of 2005 the chloride was way off the charts. There was a time in August and September in 2008 where the *E. coli* readings were high. Over 400 colony forming units per 100 mL means that that area is considered unsafe for swimming. In August it was 460 CFUs/100 mL, and in September it was >6000 CFUs/100 mL. There may have been cattle in the stream upstream of the bacteria testing.

Harlow Tributary is a beautiful place. It has an amazing habitat for aquatic life. There are not as many fish as expected, but that may be because the creek is so small that it has no flow during the summer seasons. The summer bugs are also less than expected, but the winter bug results are better than high quality streams in this ecoregion. Water chemistry is usually fine. This tributary to Harlow Creek appears to be a healthy small headwater stream.