Black Fork of Poteau River: CR D1513 (Hodgen)

NE NE NE
Section 13-4N-25E
LeFlore County
Latitude N 34° 49’ 28.3”
Longitude W 94° 37’ 32.3”
WBID#: OK220100-02-0040D

Blue Thumb Volunteer Monitoring Data Review – 4 December, 2007
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Description of Watershed and Monitoring Site:

The headwaters of the Black Fork of the Poteau River are in Scott and Polk Counties Arkansas in the Ouachita National Forest. It flows east into LeFlore County, Oklahoma before flowing into the Poteau River north of Hodgen. The landuse in the watershed above the site (almost 1,000 square miles) is mostly National Forest. The Black Fork is a 4th order stream in the Ouachita Mountains Level 3 ecoregion.

Stream Condition & Habitat Overview

The monitoring site on the Black Fork is south (upstream) of Hodgen at a low water crossing that has been fenced off on the east side. There is usually a riffle at the crossing, but during the drought there has been no flow and the river is pooled above the crossing. The habitat was assessed by the 8th Grade class from Hodgen School on 9/30/2005 and again during a full fish collection on 8/23/2006.

The channel upstream from the riffle is straight and very wide. There is deep water with lots of rocks and woody debris in the water providing structure for fish and benthic macroinvertebrates. The stream is stable with good vegetation on the banks and an excellent riparian area, though the water is not particularly shaded because it is so wide. The total score for the habitat assessment is 113 and compares favorably with a score of 118 for the average high quality reference stream in the Ouachita Mountains ecoregion.

Biological Conditions

Fish

Fish were collected on August 23, 2006 by both electro shocking and seining. There were 20 species of fish; five intolerant species, nine different sunfish and three sensitive benthic species. The intolerant fish collected include the bigeye shiner, spotted sucker, slender madtom, smallmouth bass and greenside darter. The collection had a very small number of insectivorous minnows which are usually the dominant minnows in North American streams. When compared with reference conditions, the Black Fork of the

Poteau River is showing a slightly decreased species richness and receives a high B score.

Benthic Macroinvertebrates (bugs)

Macroinvertebrates have only been collected once because with the drought there has been no flow. The one collection we have is better than the average high quality reference conditions with 26 different species and a very even distribution. (There is not one dominant species.)

Bacteria Testing

Bacteria testing took place during the summer of 2007 and all of the results were insignificant. There is not a bacteria problem.

Chemical Testing

Chemical data were collected since 2005.

DO	Dissolved oxygen saturation shows when there are problems with the amount of oxygen available in the water for aquatic life. Too little or too much are indicators of problems. The median oxygen saturation in Black Fork was 90%, well within the normal range of 80% - 150%.
pH	pH ranges between 7.0 and 6.5, which is excellent.
Nitrogen	An estimate of soluble nitrogen is made by adding the amounts of ammonia-nitrogen and nitrate/nitrite-nitrogen found in the water. Levels of soluble nitrogen are very low with a median reading of 0.68 mg/L N.
Phosphorus	The level of phosphorus is extremely low with a median level of 0.01 mg/L P.
Chloride	Chloride is consistently low at 10 mg/L.

The water chemistry in Black Fork is excellent. There are very low levels of nutrients and the pH, oxygen saturation and chloride are all normal.

Synopsis

The Black Fork of the Poteau River at Hodgen has excellent physical habitat. The fish collection was not quite as good as the average high quality stream for the Ouachita Mountain ecoregion, but the macroinvertebrate collection was better than reference conditions. The water chemistry is excellent. The Black Fork is a healthy stream.