

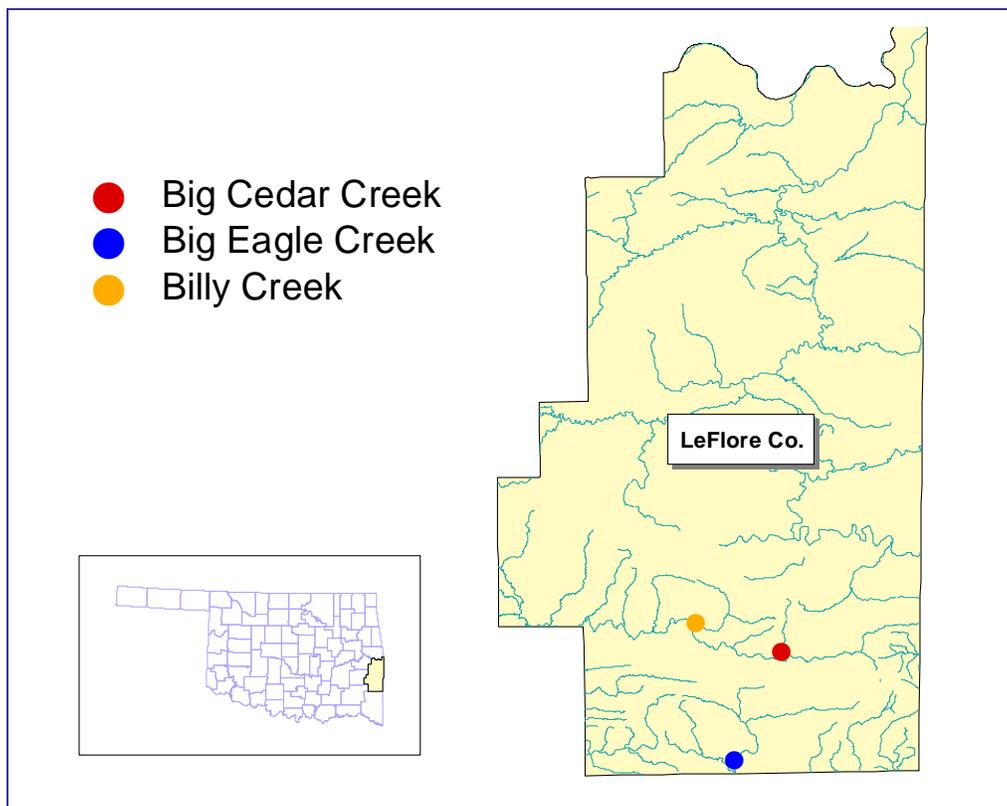


## Rotating Basin Site Summary Ouachita Mountains Level 4 Ecoregion: LeFlore County

The Oklahoma Conservation Commission (OCC) has the statutory responsibility of monitoring streams across the state in order to identify healthy streams as well as those which may be impacted by non-point source (NPS) pollution. NPS pollution is pollution which runs off the land from diffuse sources rather than being discharged from a specific source. If a stream is found to be impaired by NPS pollution, the OCC may be able to implement a voluntary cost-share program to address the identified problems; however, streams must be monitored in order to select best management practices necessary for improvement. The OCC's "Rotating Basin Monitoring Program" provides the tools to assess and then restore water quality in Oklahoma.

This leaflet gives a brief summary of the assessment results for the first cycle of the monitoring program for streams in LeFlore County. The full report can be accessed online at:

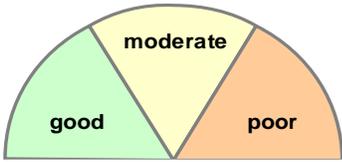
[http://www.ok.gov/okcc/Agency\\_Divisions/Water\\_Quality\\_Division/WQ\\_Reports/WQ\\_Assessment\\_Reports](http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports)  
or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 5 Final Report."



**OCC Rotating Basin monitoring sites within LeFlore County.**

Through the Rotating Basin Program, three streams in LeFlore Co. were sampled approximately every five weeks from June 2005-June 2007. Nineteen water quality parameters were measured or analyzed at each site visit. In addition, OCC staff conducted one fish and habitat assessment and up to four macroinvertebrate collections during this time. Summer samples were also analyzed for *E. coli* and *Enterococcus* bacteria. Each site was compared to "high quality" streams in the ecoregion, streams known to have high quality fish populations, benthic macroinvertebrate populations, instream and riparian habitat, and water quality. All of the data collected has been distilled into a few key components in order to produce an index score of general, overall stream health, shown on the next page.

**Summary of general stream health as determined by comparison to high quality streams in the Ouachita Mountains ecoregion and by assessment using Oklahoma State Water Quality Standards†.**

	<i>Moderate</i>		
	<b>Big Cedar Creek</b>	<b>Big Eagle Creek</b>	<b>Billy Creek</b>
<b>Overall Stream Health</b>	<b>37</b>	<b>39</b>	<b>37</b>
Phosphorus	5	5	5
Nitrogen	5	5	5
Ammonia	5	5	5
Dissolved Oxygen	5	1*	1*
pH	-5	-5	-5
Turbidity	5	5	5
Salts (chloride, sulfate, TDS)	5	5	5
Fish	3	5	5
Macroinvertebrates	5	5	5
Instream/Riparian Habitat	1	3	3
Bacteria	3	5	3
<i>Scale of 1-5 with 5 being the best</i>			
KEY: 1=significantly worse than high quality sites 3=not as good as high quality sites but not impaired 5=equal to or better than high quality sites -5=impaired by state standards			

**Big Cedar Creek (OK410310-02-0100D):** This stream is on the state’s 303(d) list† as impaired due to pH. The fish community was significantly poorer than the high quality sites and the instream/riparian habitat was not quite as good as the high quality sites in the ecoregion. The bacteria levels were elevated, but not high enough to indicate impairment. All other values were good.

**Big Eagle Creek (OK410210-06-0160L):** This stream is on the state’s 303(d) list† as impaired for pH. The instream/riparian habitat was not as good as the high quality sites but not impaired. All other values were good.

**Billy Creek (OK410310-02-0070C):** This stream is on the state’s 303(d) list† as impaired for pH. The bacteria levels were not as low as the high quality sites, but were not high enough to indicate impairment. The instream/riparian habitat was of lower quality than the high quality sites.

† The use of Oklahoma Water Quality Standards to assess streams and the 2008 results are described in the DEQ’s 2008 Integrated Report, accessible online at [http://www.deq.state.ok.us/wqdnew/305b\\_303d/2008\\_integrated\\_report\\_entire\\_document.pdf](http://www.deq.state.ok.us/wqdnew/305b_303d/2008_integrated_report_entire_document.pdf)

\* This site may be listed as impaired by state standards, but ongoing research indicates that low dissolved oxygen levels occur naturally in this part of the state

