

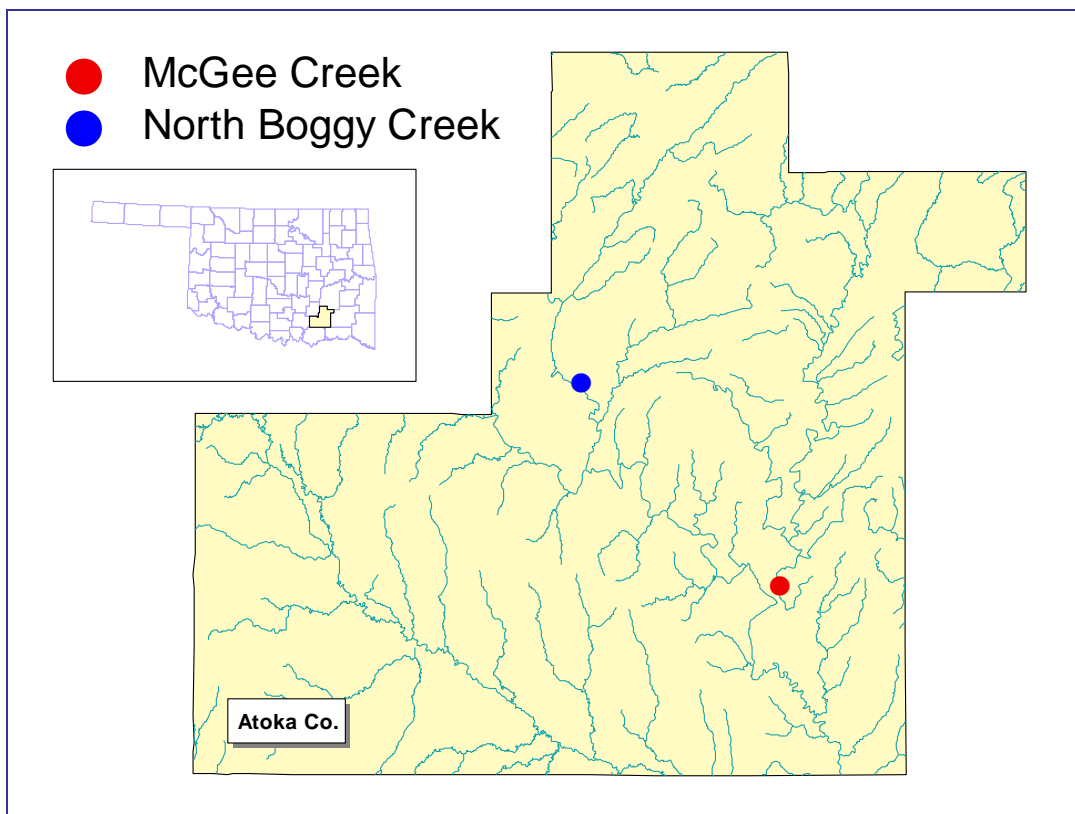


## Rotating Basin Site Summary Ouachita Mountains Level 4 Ecoregion: Atoka County

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 Atoka County. The full report can be accessed online at:

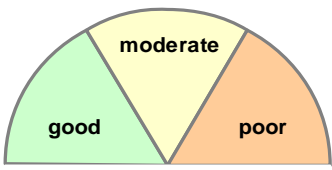
[http://www.ok.gov/okcc/Agency\\_Divisions/Water\\_Quality\\_Division/WQ\\_Reports/WQ\\_Assessment\\_Reports](http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports) or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 5 Final Report."



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

Through the Rotating Basin Program, two streams in Atoka 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>Good</i>	<i>Poor</i>
	<b>McGee Creek</b>	<b>North Boggy Creek</b>
<b>Overall Stream Health</b>	<b>53</b>	<b>25</b>
Phosphorus	5	3
Nitrogen	5	5
Ammonia	5	5
Dissolved Oxygen	5	1*
pH	5	5
Turbidity	5	5
Salts (chloride, sulfate, TDS)	5	-5
Fish	5	1
Macroinvertebrates	5	5
Instream/Riparian Habitat	3	5
Bacteria	5	-5
<b>Scale of 1-5 with 5 being the best</b>		
<b>KEY:</b> 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		

**McGee Creek (OK410400-07-0010C):** This stream is not impaired and is comparable to high quality sites within the ecoregion for all parameters except instream/riparian habitat, which is only slightly worse than the high quality sites.

**North Boggy Creek (OK410400-08-0010M):** This stream is on the state’s 303(d) list† as impaired for bacteria, total dissolved solids and sulfates. Total dissolved solids and sulfates are indicators of high mineral content. The fish community was poor in relation to the high quality sites in the ecoregion. All other values were good.

† 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/wqdnw/305b\\_303d/2008\\_integrated\\_report\\_entire\\_document.pdf](http://www.deq.state.ok.us/wqdnw/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

