

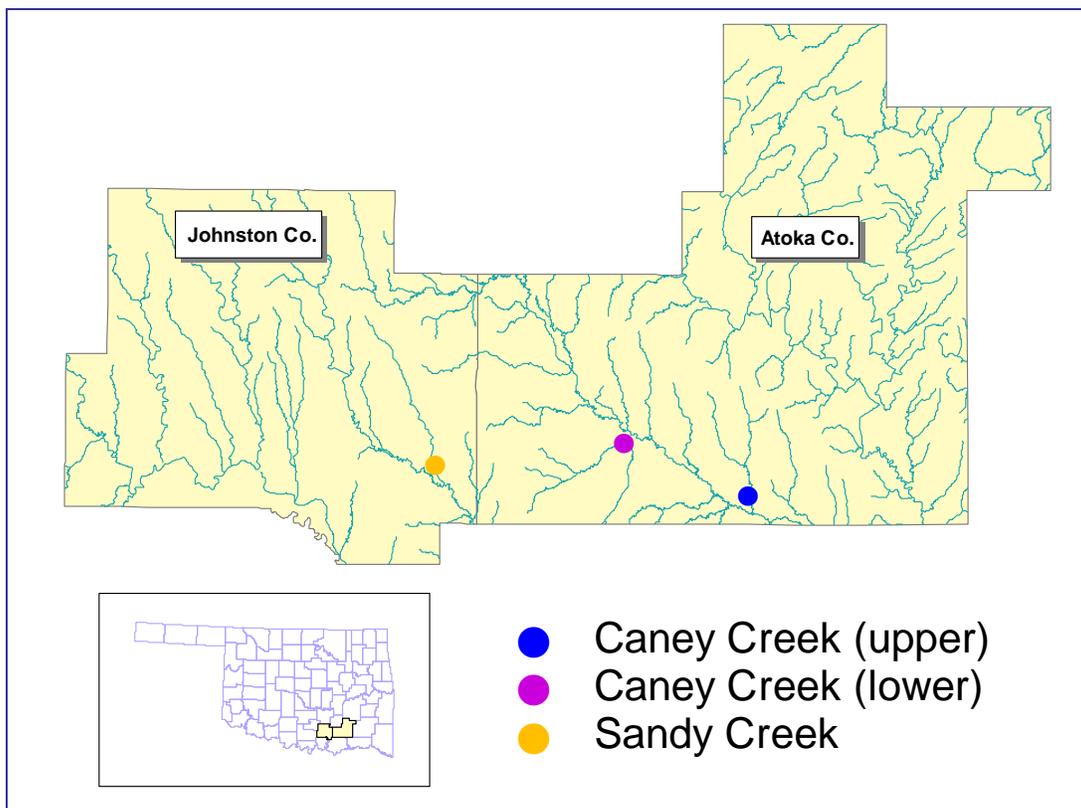


## Rotating Basin Site Summary South Central Plains Level 3 Ecoregion: Atoka and Johnston Counties

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 and Johnston Counties. The full report can be accessed online at:

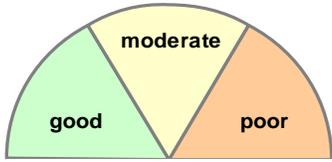
[http://www.ok.gov/okcc/Agency\\_Divisions/Water\\_Quality\\_Division/WQ\\_Reports/WQ\\_Assessment\\_Reports](http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports) or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 5 Final Report."



**OCC Rotating Basin monitoring sites within Atoka and Johnston Counties.**

Through the Rotating Basin Program, one stream in Johnston Co. and 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 South Central Plains ecoregion and by assessment using Oklahoma State Water Quality Standards†.**

	<i>Moderate</i>		
	<b>Caney Creek (Upper)</b>	<b>Sandy Creek</b>	<b>Caney Creek (Lower)</b>
<b>Overall Stream Health</b>	<b>41</b>	<b>41</b>	<b>37</b>
Phosphorus	5	5	5
Nitrogen	5	5	5
Ammonia	5	5	5
Dissolved Oxygen	5	5	1*
pH	5	5	-5
Turbidity	5	5	5
Salts (chloride, sulfate, TDS)	5	5	5
Fish	5	5	5
Macroinvertebrates	5	5	5
Instream/Riparian Habitat	1	1	3
Bacteria	-5	-5	3
<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			

**Caney Creek (Upper) (OK410400-03-0020C):** This stream is on the state’s 303(d) list† as impaired due to bacteria. All other values were comparable to the high quality sites in the ecoregion except the instream habitat which was significantly lower than the high quality sites.

**Sandy Creek (OK410600-02-0020G):** This stream is on the state’s 303(d) list† as impaired for bacteria. All other values were good with the exception of the instream habitat, which was of significantly lower quality than the high quality streams.

**Caney Creek (Lower) (OK410400-02-0200G):** This stream is on the state’s 303(d) list† as impaired for pH. All other values were comparable to the high quality sites for the ecoregion with the exception of slightly elevated bacteria levels and slightly lower instream habitat quality.

† 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

