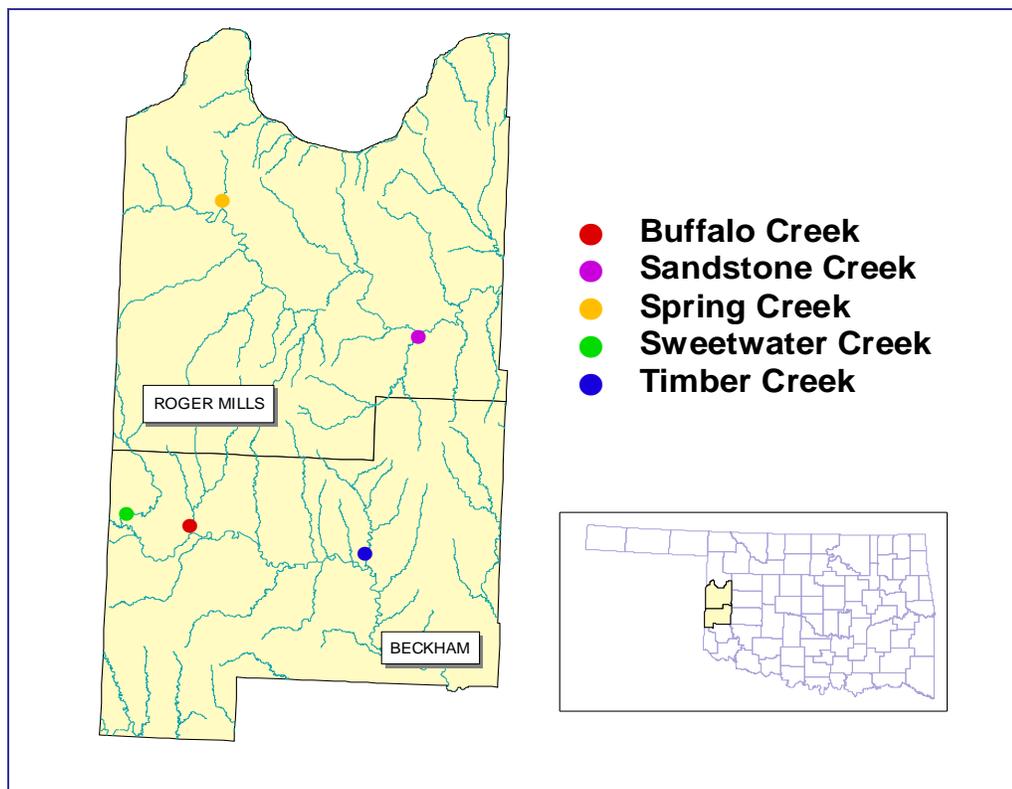




## Know Your Stream: Rotating Basin Site Summary Central Great Plains Level 3 Ecoregion: Roger Mills and Beckham Counties

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 the 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.

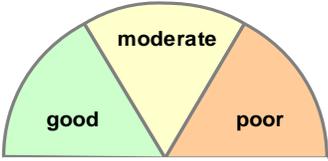
This leaflet gives a brief summary of the assessment results for the first cycle of the monitoring program for streams in Roger Mills and Beckham Counties. The full report can be accessed online at: [http://www.ok.gov/okcc/Agency\\_Divisions/Water\\_Quality\\_Division/WQ\\_Reports/WQ\\_Assessment\\_Reports](http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports) or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 4 Final Report."



**OCC Rotating Basin monitoring sites within Roger Mills and Beckham Counties.**

Through the Rotating Basin Program, two streams in Roger Mills Co. and three streams in Beckham Co. were sampled approximately every five weeks from June 2004-June 2006. 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 have 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 Central Great Plains ecoregion and by assessment using Oklahoma State Water Quality Standards†.**

	<i>Good</i>	<i>Moderate</i>		<i>Poor</i>	
	Spring Creek	Timber Creek	Sandstone Creek	Sweetwater Creek	Buffalo Creek
<b>Overall Stream Health</b>	<b>49</b>	<b>43</b>	<b>33</b>	<b>25</b>	<b>19</b>
Phosphorus	5	5	5	5	5
Nitrogen	5	5	5	5	5
Ammonia	5	5	5	5	5
Dissolved Oxygen	5	5	5	5	5
pH	5	5	5	5	5
Turbidity	5	5	-5	-5	5
Salts (chloride, sulfate, TDS)	5	5	5	-5	-5
Fish	3	5	5	5	-5
Macroinvertebrates	3	3	3	5	3
Instream/Riparian Habitat	5	5	5	5	1
Bacteria	3	-5	-5	-5	-5
<i>Scale of 1-5 with 5 being the best</i>					

KEY: 1=significantly lower than high quality sites  
 3=not as good as high quality sites but not impaired  
 5=equal to or better than high quality sites in the area  
 -5=impaired by state standards†

**Buffalo Creek (OK311510-02-0090D):** This stream is on the state’s 303(d) list† as impaired for total dissolved solids and sulfates, indicators of high mineral content, and for bacteria. In addition, this stream’s fish community is impaired by state standards†, and the instream habitat is of significantly lower quality than high quality streams in the ecoregion. The macroinvertebrate community is slightly impaired.

**Sandstone Creek (OK310840-02-0020C):** This stream is on the state’s 303(d) list† as impaired for total dissolved solids and sulfates, indicators of high mineral content, and for bacteria. The macroinvertebrate community is slightly impaired.

**Spring Creek (OK310840-02-0240D):** This stream is not impaired and is comparable to high quality sites in the ecoregion for most parameters. The fish and macroinvertebrates were not as good as the high quality streams in the ecoregion, but they were not significantly worse. The bacteria levels were elevated but not high enough for impairment.

**Sweetwater Creek (OK311510-02-0120D):** This stream is on the state’s 303(d) list† as impaired for total dissolved solids, sulfates, bacteria, and turbidity.

**Timber Creek (OK311510-01-0090G):** This stream is impaired for bacteria, as are many streams across the state. All other values were good with the exception of the macroinvertebrate value, which was slightly impaired relative to high quality sites in the ecoregion.

† 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)

