



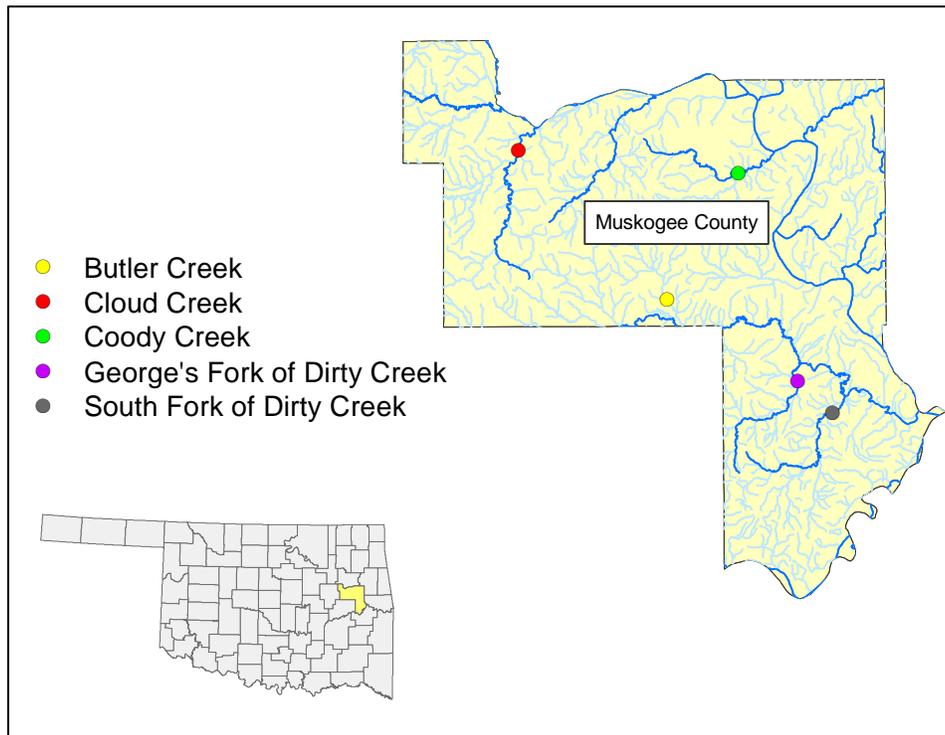
Know Your Stream: Rotating Basin Site Summary **Muskogee County, Central Irregular Plains Level 3 Ecoregion**

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 second 2-year cycle of the monitoring program for streams in Muskogee County. The full report can be accessed online at:

http://www.ok.gov/conservation/Agency_Divisions/Water_Quality_Division/WQ_Monitoring/WQ_Assessment_Rotating_Basin_Monitoring_Program.html

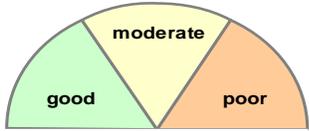
or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Group 3, Cycle 2 Final Report."



OCC Rotating Basin monitoring sites within Muskogee County.

Through the Rotating Basin Program, five streams in Muskogee County were sampled approximately every five weeks from June 2008-May 2010. Eighteen 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. 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 Central Irregular Plains ecoregion and by assessment using Oklahoma State Water Quality Standards†.

	<i>Moderate</i>			<i>Poor</i>	
	Coody Creek	George's Fork of Dirty Creek	Butler Creek	Cloud Creek	South Fork of Dirty Creek
Overall Stream Health	29	29	26	25	23
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	1	3	1	5	5
Macroinvertebrates	3	1	NF	5	3
Instream/Riparian Habitat	5	5	5	5	5
Bacteria	-5	-5	-5	-5	-5
<i>Scale of 1-5 with 5 being the best</i>					
KEY: 1 = Significantly different 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					

Note: Most streams in Oklahoma are classified as impaired by at least one type of bacteria.

Coody Creek (OK120400-01-0400F): This stream is impaired by state standards for bacteria and dissolved oxygen. The fish community was of significantly lower quality and the macroinvertebrate community was of slightly lower quality compared to high quality streams within the ecoregion.

George's Fork of Dirty Creek (OK120400-02-0110D): This stream is impaired by state standards for bacteria and dissolved oxygen. The macroinvertebrate community was of significantly lower quality and the fish community was of slightly lower quality relative to high quality streams within the ecoregion.

Butler Creek (OK120400-02-0160D): This stream is impaired by state standards for bacteria and dissolved oxygen. The fish community was of significantly lower quality compared to high quality streams within the ecoregion. There is no value for the macroinvertebrate community due to lack of available habitat with flowing water (NF = no flow) which is the main criteria for OCC macroinvertebrate collection protocol.

Cloud Creek (OK120410-01-0100T): This stream is impaired by state standards for bacteria, salts and dissolved oxygen. The macroinvertebrate community was of slightly lower quality than high quality streams within the ecoregion. All other parameters are comparable to high quality streams within the ecoregion.

South Fork of Dirty Creek (OK120400-02-0030F): This stream is impaired by state standards for bacteria, salts and dissolved oxygen. The macroinvertebrate community was of slightly lower quality than the high quality streams within the ecoregion.

† The use of Oklahoma Water Quality Standards to assess streams and the 2010 results are described in the DEQ's 2010 Integrated Report, accessible online at:
http://www.deq.state.ok.us/wqdnew/305b_303d/2010_integrated_report_entire_document.pdf

