

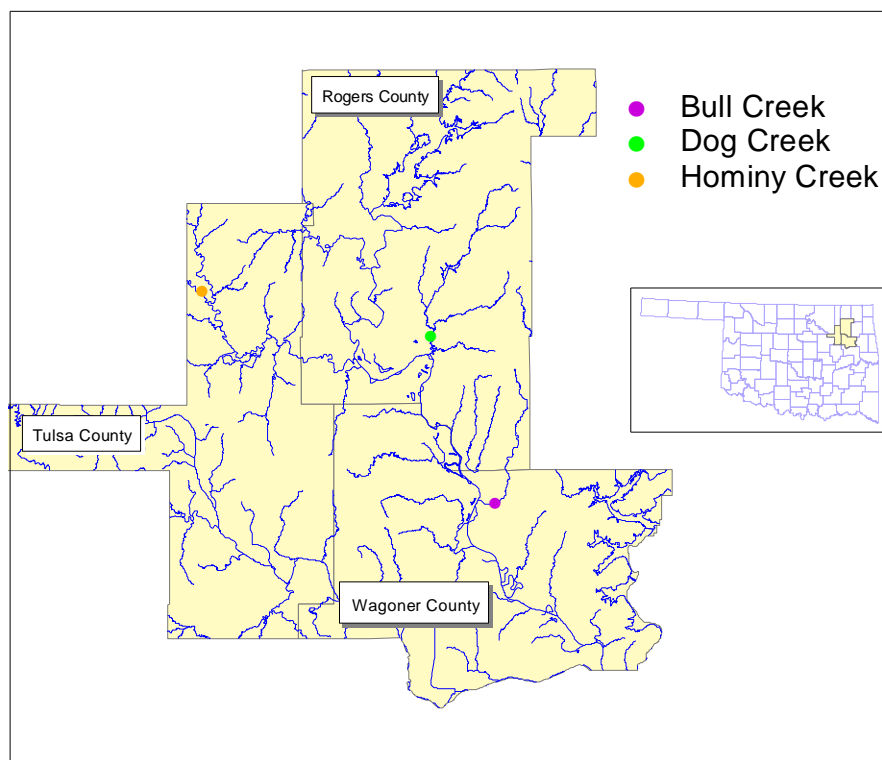


Know Your Stream: Rotating Basin Site Summary

Wagoner, Rogers & Tulsa Counties, 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.

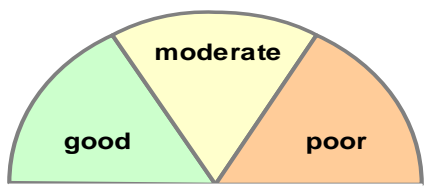
This leaflet gives a brief summary of the assessment results for two cycles of the monitoring program for streams in Wagoner, Rogers and Tulsa Counties. The full report can be accessed online at: http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Group 1, Cycle 2 Final Report."



OCC Rotating Basin monitoring sites within Wagoner, Rogers & Tulsa Counties.

Through the Rotating Basin Program, one stream in each of the three counties was sampled approximately every five weeks from June 2001-May 2003 and June 2006-May 2008. 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 each 2 year cycle. 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>Good</i>	<i>Moderate</i>	
	Hominy Creek: Downstream	Bull Creek	Dog Creek
Overall Stream Health	45	29	33
Phosphorus	5	5	1
Nitrogen	5	5	3
Ammonia	5	5	5
Dissolved Oxygen	5	-5	5
pH	5	5	5
Turbidity	5	5	5
Salts (chloride, sulfate, TDS)	5	5	5
Fish	5	1	3
Macroinvertebrates	5	3	1
Instream/Riparian Habitat	5	5	5
Bacteria	-5	-5	-5
<i>Scale of 1-5 with 5 being the best</i>			
<p>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</p>			

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

Hominy Creek: Downstream (OK121300-04-0010C): This stream is comparable to high quality streams in the ecoregion for all parameters.

Bull Creek (OK121500-02-0090D): This stream is listed as impaired by state standards for low dissolved oxygen. It is comparable to high quality sites for all other parameters except the fish community (which was significantly impaired) and the macroinvertebrate community (which was only slightly impaired).

Dog Creek (OK121500-04-0010M): This stream is comparable to high quality sites for most parameters except phosphorus and nitrogen which were significantly and slightly elevated, respectively. The fish community was slightly impaired relative the high quality sites, whereas the macroinvertebrate community was significantly impaired.

† 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

