



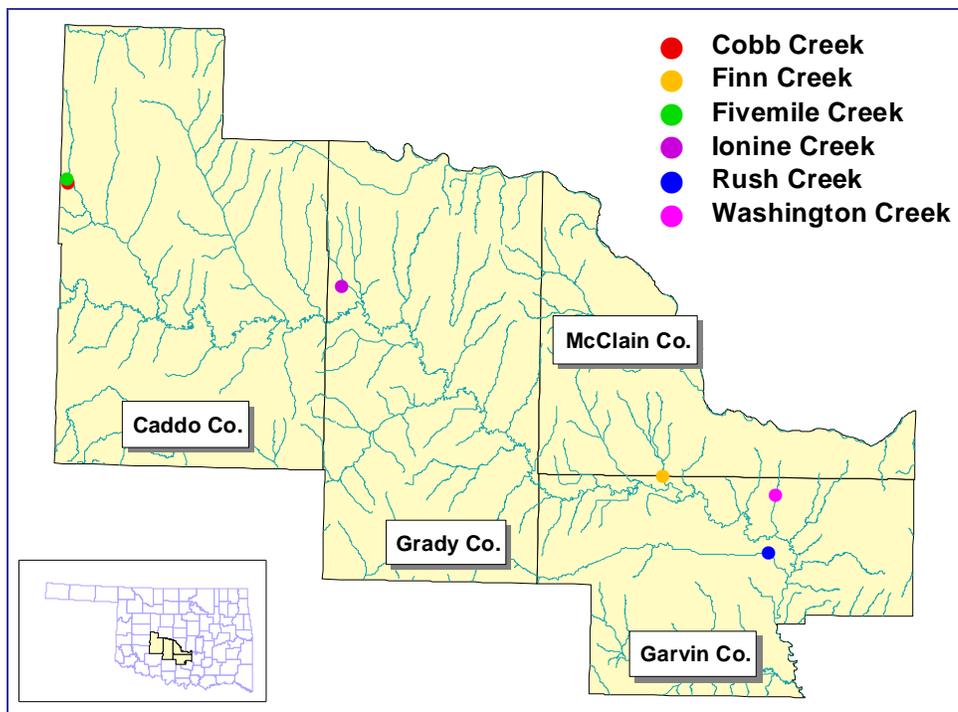
Know Your Stream: Rotating Basin Site Summary

Central Great Plains Level 3 Ecoregion

Caddo, Grady, McClain, and Garvin 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.

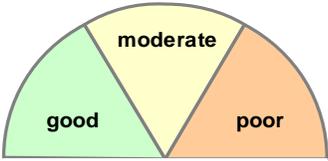
This leaflet gives a brief summary of the assessment results for the first cycle of the monitoring program for streams in Caddo, Grady, McClain, and Garvin Counties. The full report can be accessed online at: http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 4 Final Report."



OCC Rotating Basin monitoring sites within Caddo, Grady, McClain, and Garvin Counties (Central Great Plains ecoregion).

Through the Rotating Basin Program, two streams in Caddo Co., one stream in Grady Co., one stream in McClain Co., and two streams in Garvin 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 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 Great Plains ecoregion and by assessment using Oklahoma State Water Quality Standards†.

	<i>Good</i>	<i>Moderate</i>				<i>Poor</i>
	Rush Creek	Fivemile Creek	Washington Creek	Finn Creek	Cobb Creek	Ionine Creek
Overall Stream Health	53	43	35	33	33	29
Phosphorus	5	5	3	3	5	5
Nitrogen	5	5	5	5	5	5
Ammonia	5	5	5	5	-5	5
Dissolved Oxygen	5	5	5	-5	5	5
pH	5	5	5	5	5	5
Turbidity	5	5	-5	5	5	5
Salts (chloride, sulfate, TDS)	5	5	5	5	5	-5
Fish	5	3	1	5	5	-5
Macroinvertebrates	5	5	5	5	3	1
Instream/Riparian Habitat	5	5	3	5	5	5
Bacteria	3	-5	3	-5	-5	3
<i>Scale of 1-5 with 5 being the best</i>						
<p>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</p>						

Cobb Creek (OK310830-06-0050M): This stream is on the state’s 303(d) list† as impaired for ammonia and bacteria. The macroinvertebrate community is slightly impaired relative to high quality streams in the area. All other values were good.

Finn Creek (OK310810-02-0020D): This stream is on the state’s 303(d) list† as impaired due to low dissolved oxygen and high bacteria levels. The phosphorus levels were higher than high quality sites in the ecoregion but not significantly so. All other values were good.

Fivemile Creek (OK310830-06-0080D): This stream is on the state’s 303(d) list† as impaired for bacteria. The fish community is not as robust as high quality streams in the area but is not impaired. All other values were good.

Ionine Creek (OK310820-01-0160L): This stream is on the state’s 303(d) list† as impaired for sulfates, an indicator of high mineral content. In addition, the fish community does not meet state standards. The macroinvertebrate community is significantly different from high quality sites in the area. The stream has bacteria levels which are not impaired but are elevated.

Rush Creek (OK310810-05-0010D): This stream is not impaired and is comparable to high quality sites in the ecoregion for all parameters except bacteria. While not impaired, the bacteria levels are elevated.

Washington Creek (OK310810-01-0190G): This stream is on the state’s 303(d) list† as impaired for turbidity. The fish community was poor relative to high quality sites in the ecoregion, and the instream habitat was of moderate quality. The phosphorus and bacteria levels were higher than high quality sites in the ecoregion but not significantly so.

† 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

