

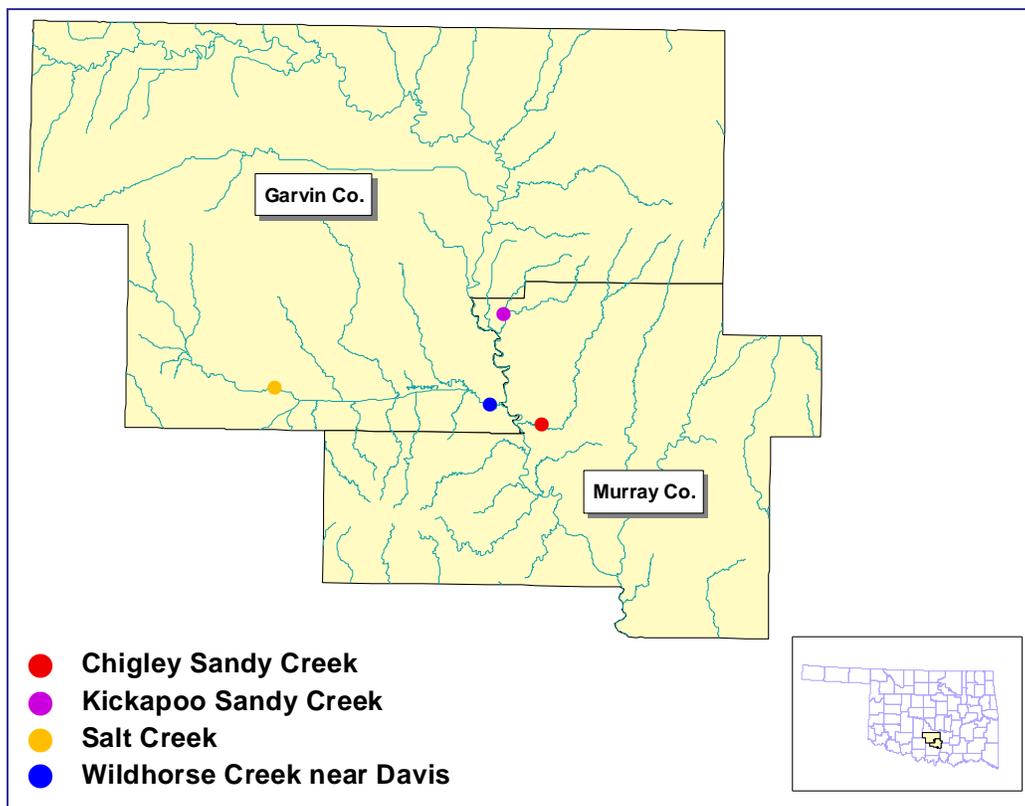


Rotating Basin Site Summary Cross Timbers Level 3 Ecoregion: Garvin and Murray Counties

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

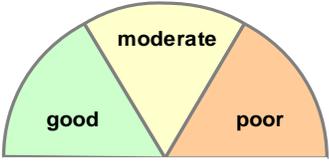
http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports
or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 4 Final Report."



OCC Rotating Basin monitoring sites within Garvin and Murray Counties (Cross Timbers ecoregion).

Through the Rotating Basin Program, one stream in Murray Co. and three 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 Cross Timbers ecoregion and by assessment using Oklahoma State Water Quality Standards†.

	<i>Good</i>	<i>Moderate</i>		<i>Poor</i>
	Chigley Sandy Creek	Wildhorse Creek (nr. Davis)	Kickapoo Sandy Creek	Salt Creek
Overall Stream Health	53	35	29	25
Phosphorus	5	5	5	5
Nitrogen	5	5	3	5
Ammonia	5	5	5	5
Dissolved Oxygen	5	5	5	5
pH	5	5	5	5
Turbidity	5	5	-5	5
Salts (chloride, sulfate, TDS)	5	-5	5	-5
Fish	5	5	3	1
Macroinvertebrates	5	5	3	3
Instream/Riparian Habitat	5	5	5	1
Bacteria	3	-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

Chigley Sandy Creek (OK310800-02-0190D): This stream is not impaired. All values were good with the exception of bacteria, which was slightly higher than high quality streams in the ecoregion, but not impaired.

Kickapoo Sandy Creek (OK310810-01-0050G): This stream is on the state’s 303(d) list† as impaired for turbidity and bacteria. High levels of nitrogen were recorded as well. The fish and macroinvertebrate communities were of lower quality than high quality sites in the ecoregion but not significantly so.

Salt Creek (OK310810-03-0080G): This stream is on the state’s 303(d) list† as impaired for chloride and bacteria. Relative to high quality sites in the ecoregion, the fish community was poor, and the instream habitat was of significantly lower quality. The macroinvertebrate community was slightly impaired.

Wildhorse Creek near Davis (OK310810-03-0010D): This stream is on the state’s 303(d) list† as impaired for chloride and bacteria. All other values were good.

† 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

