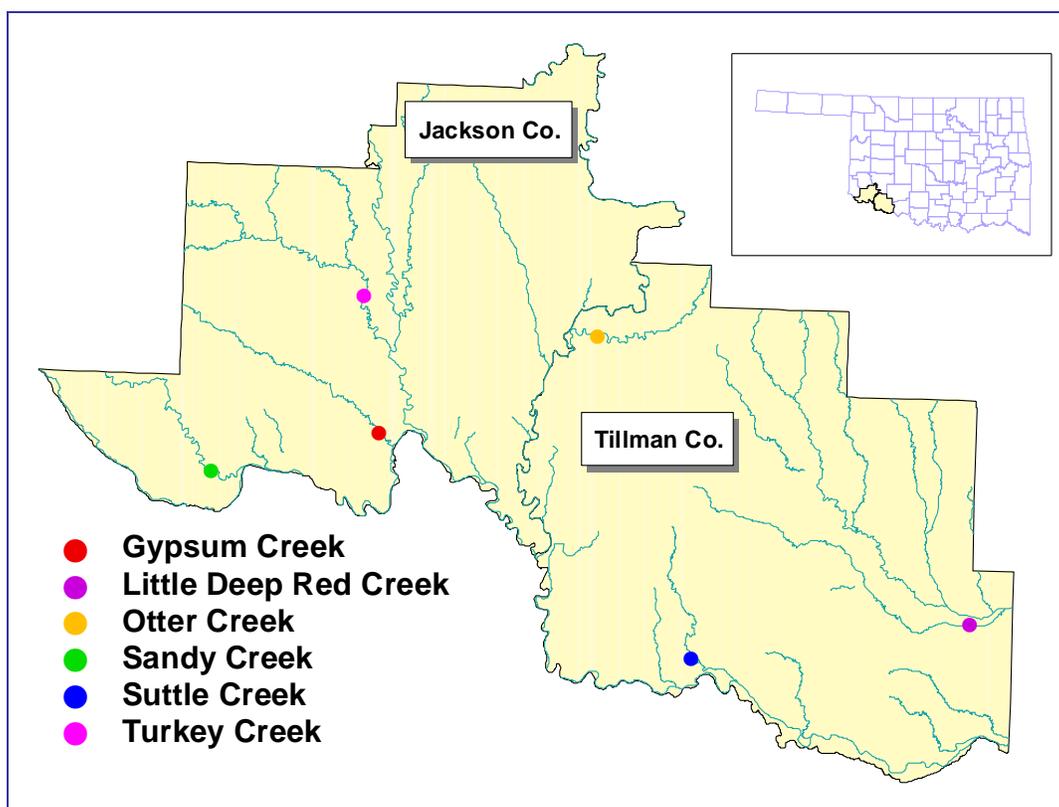




Rotating Basin Site Summary Central Great Plains Level 3 Ecoregion: Jackson and Tillman Counties

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.

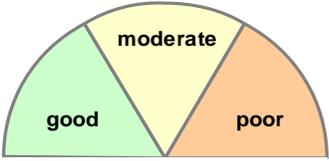
This leaflet gives a brief summary of the assessment results for the first cycle of the monitoring program for streams in Jackson and Tillman Counties. The full report can be accessed online at: http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports or by calling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



OCC Rotating Basin monitoring sites within Jackson and Tillman Counties.

Through the Rotating Basin Program, three streams in Jackson Co. and three streams in Tillman 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>Poor</i>					
	Otter Creek	Suttle Creek	Gypsum Creek	Sandy Creek	Turkey Creek	Little Deep Red Creek
Overall Stream Health	3	9	13	19	13	21
Phosphorus	3	5	5	5	5	5
Nitrogen	3	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	1	5	-5	1	-5	-5
Macroinvertebrates	1	3	3	3	3	3
Instream/Riparian Habitat	5	3	5	5	5	5
Bacteria	-5	3	-5	-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>						

Gypsum Creek (OK311600-01-0020F): This stream is on the state’s 303(d) list† as impaired due to turbidity, bacteria, chloride, sulfates, and total dissolved solids. In addition, the fish community is impaired by state standards. The macroinvertebrate community is slightly impaired relative to high quality sites in the ecoregion.

Little Deep Red Creek (OK311310-03-0040D): This stream is on the state’s 303(d) list† as impaired due to turbidity, bacteria, chloride, sulfates, and total dissolved solids. In addition, the fish community is impaired by state standards. The macroinvertebrate community is slightly impaired relative to high quality sites in the ecoregion, and the bacteria levels are slightly elevated but not at impairment level currently.

Otter Creek (OK311500-01-0080F): This stream is on the state’s 303(d) list† as impaired due to turbidity, chloride, bacteria, and low dissolved oxygen. High levels of phosphorus and nitrogen were recorded. Both the fish and macroinvertebrate communities are significantly different than the high quality sites in the ecoregion, with the fish community rated as “fair” and the macroinvertebrates rated “moderately impaired.”

Sandy Creek (OK311600-01-0040G): This stream is on the state’s 303(d) list† as impaired due to turbidity, bacteria, chloride, sulfates, and total dissolved solids. In addition, the fish community is significantly lower in quality than high quality sites in the ecoregion, and the macroinvertebrate community is slightly impaired relative to high quality sites.

Suttle Creek (OK 311310-01-0070H): This stream is on the state’s 303(d) list† as impaired due to turbidity, pH, chloride, sulfates, total dissolved solids, and low dissolved oxygen. The bacteria levels are slightly elevated but not at impairment level currently. Both the instream habitat and the macroinvertebrate community are of lower quality than high quality sites in the ecoregion but not significantly so.

Turkey Creek (OK311600-02-0060H): This stream is on the state’s 303(d) list† as impaired due to bacteria, chloride, sulfates, total dissolved solids, and low dissolved oxygen. In addition, the fish community is impaired by state standards. The macroinvertebrate community is 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

