

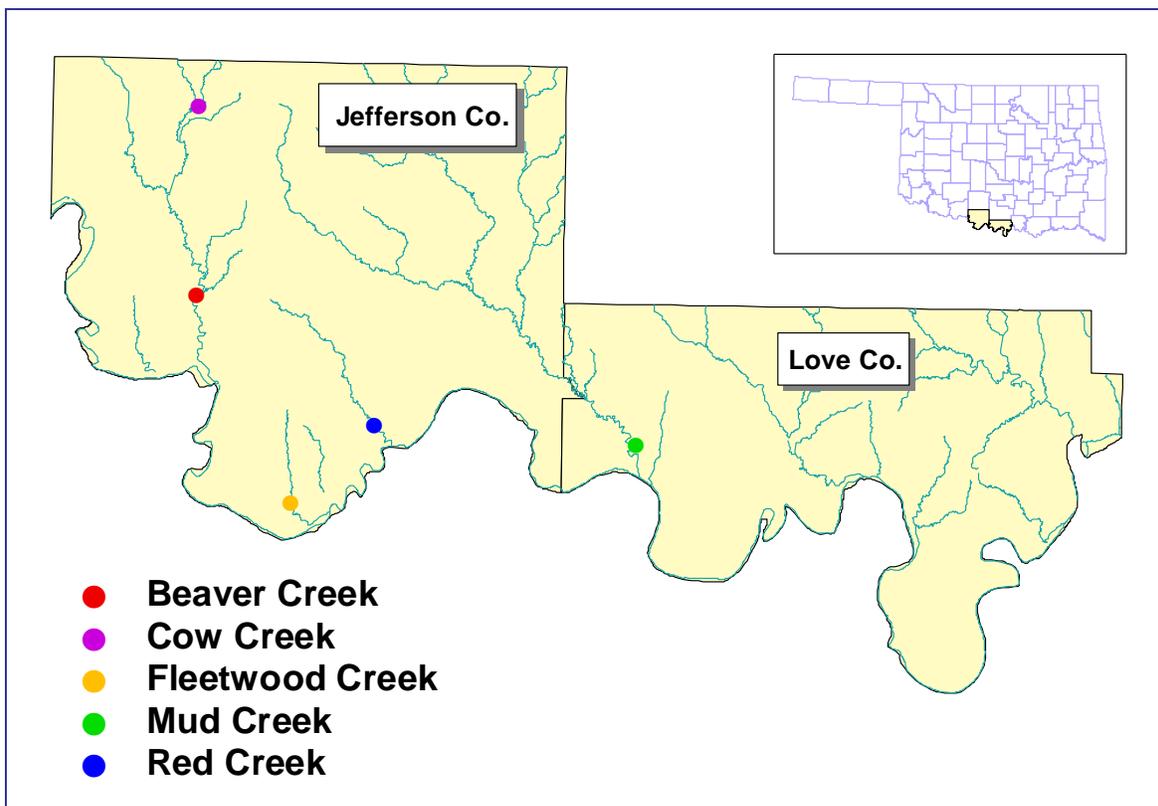


## Rotating Basin Site Summary Central Great Plains Level 3 Ecoregion: Jefferson and Love Counties

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 Jefferson and Love Counties. The full report can be accessed online at:

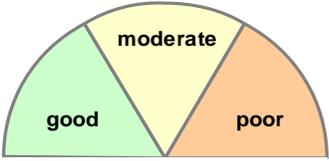
[http://www.ok.gov/okcc/Agency\\_Divisions/Water\\_Quality\\_Division/WQ\\_Reports/WQ\\_Assessment\\_Reports](http://www.ok.gov/okcc/Agency_Divisions/Water_Quality_Division/WQ_Reports/WQ_Assessment_Reports)  
or by calling (405) 522-4500 and requesting a copy of the "Rotating Basin Year 4 Final Report."



**OCC Rotating Basin monitoring sites within Jefferson and Love Counties.**

Through the Rotating Basin Program, one stream in Love Co. and four streams in Jefferson 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>				
	<b>Mud Creek</b>	<b>Cow Creek</b>	<b>Fleetwood Creek</b>	<b>Red Creek</b>	<b>Beaver Creek</b>
<b>Overall Stream Health</b>	<b>26</b>	<b>25</b>	<b>25</b>	<b>21</b>	<b>19</b>
Phosphorus	5	5	3	5	1
Nitrogen	5	1	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	3	3	1	5	5
Macroinvertebrates	<i>no info</i>	3	3	1	3
Instream/Riparian Habitat	5	5	5	5	5
Bacteria	3	3	3	-5	-5
<b>Scale of 1-5 with 5 being the best</b>					

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  
 no info=macroinvertebrates were not collected due to no flow conditions

**Beaver Creek (OK311200-00-0030L):** This stream is on the state’s 303(d) list† as impaired due to turbidity, bacteria, total dissolved solids, and chloride. The amount of phosphorus in the stream was significantly higher than high quality sites in the ecoregion. The macroinvertebrate community was slightly impaired.

**Cow Creek (OK311200-00-0060L):** This stream is on the state’s 303(d) list† as impaired for turbidity, total dissolved solids, and chloride. Significantly high levels of nitrogen were recorded as well. The stream has higher bacteria levels than high quality sites in the ecoregion but is not impaired for bacteria currently. Both the fish and macroinvertebrate communities were poorer than high quality sites in the ecoregion.

**Fleetwood Creek (OK311100-01-0300D):** This stream is on the state’s 303(d) list† as impaired for turbidity and low dissolved oxygen. The stream has higher phosphorus and bacteria levels than high quality sites in the ecoregion. The macroinvertebrate community was slightly impaired, and the fish community was poor relative to high quality sites in the ecoregion.

**Mud Creek (OK311100-04-0010D):** This stream is on the state’s 303(d) list† as impaired for turbidity and low dissolved oxygen. The fish community was not as robust as high quality sites in the ecoregion, and the stream has higher bacteria levels than high quality sites in the ecoregion but is not impaired for bacteria currently.

**Red Creek (OK311100-01-0290D):** This stream is on the state’s 303(d) list† as impaired for turbidity, low dissolved oxygen, and bacteria. The macroinvertebrate community was moderately impaired and significantly different from 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/wqdnw/305b\\_303d/2008\\_integrated\\_report\\_entire\\_document.pdf](http://www.deq.state.ok.us/wqdnw/305b_303d/2008_integrated_report_entire_document.pdf)

