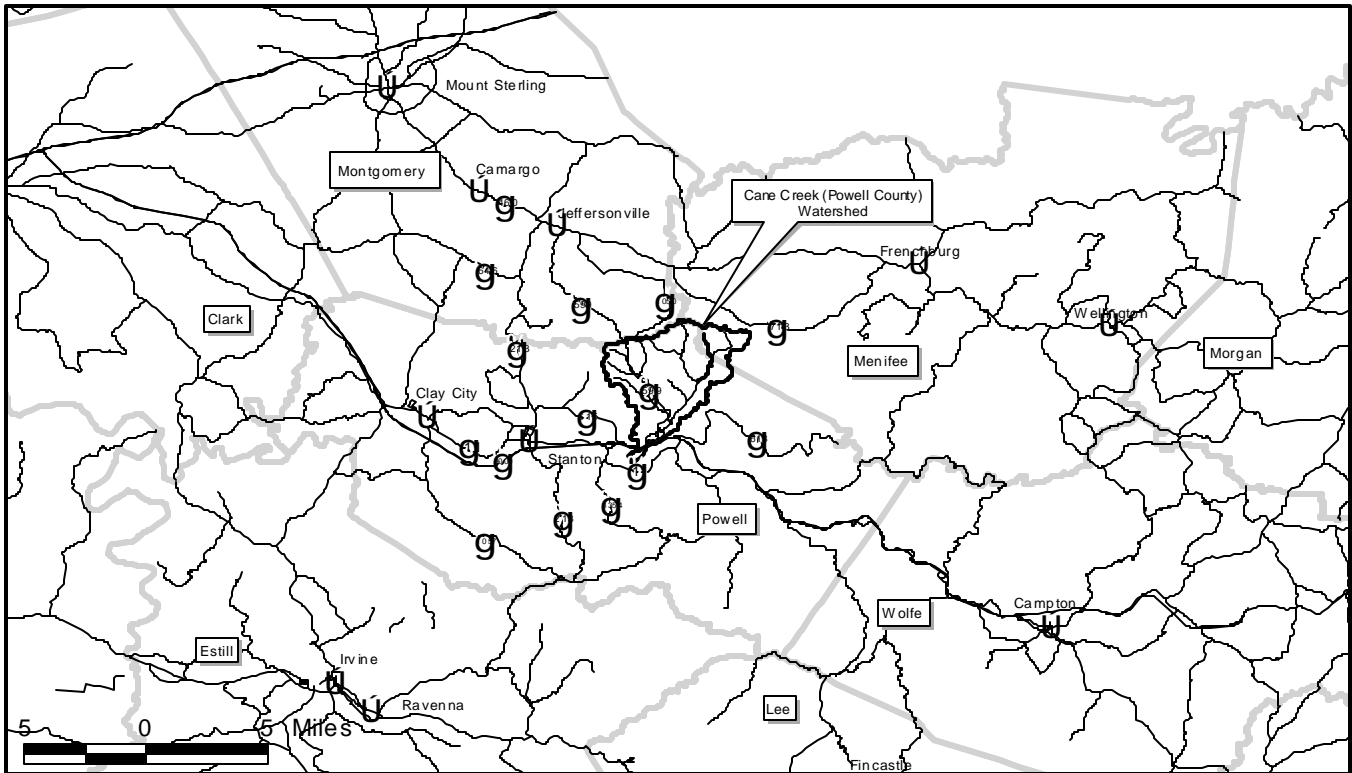


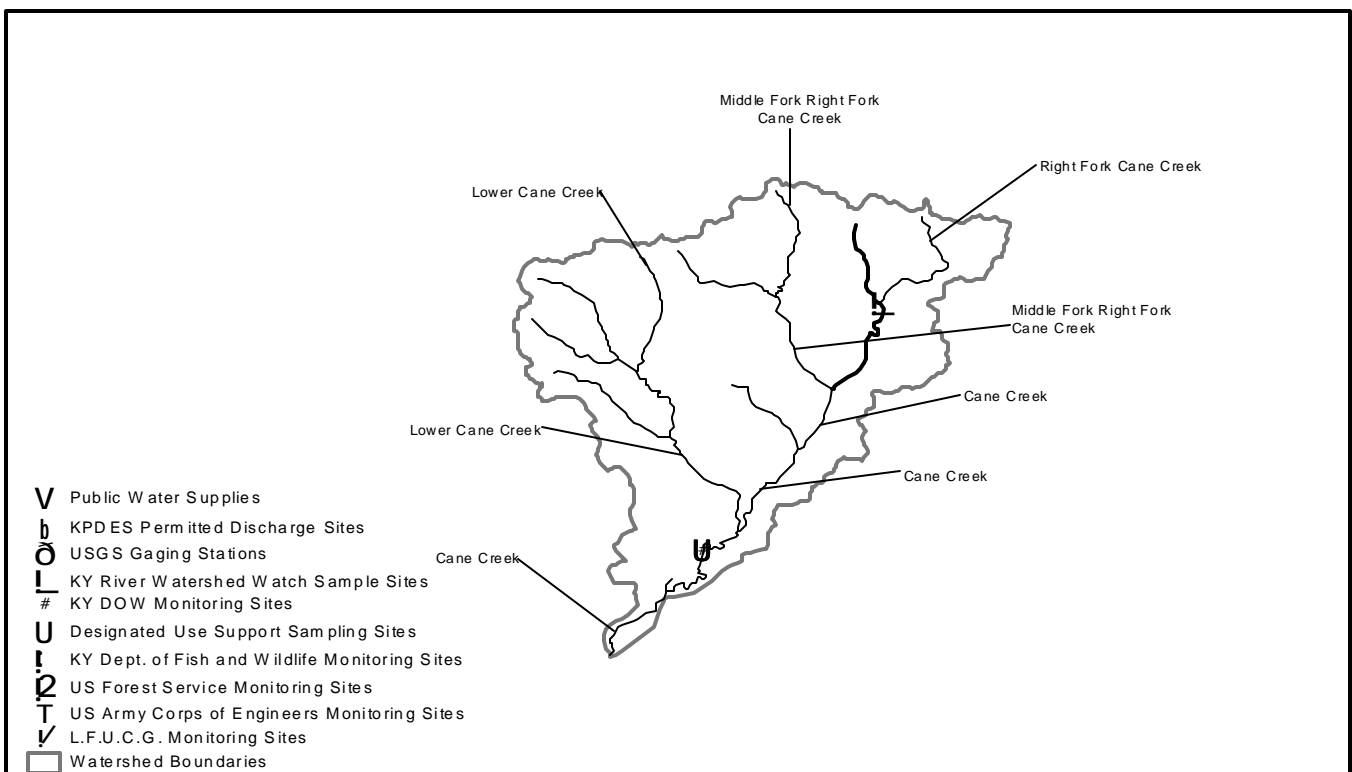
Cane Creek (Powell County) Watershed

Watershed Number: 05100204150

Location Map



Watershed Features



Geography. The Cane Creek (Powell County) watershed lies in northeastern Powell County and includes a bit of Menifee County. The land is in the Eastern Kentucky Coal Field physiographic region, characterized by mountainous terrain, rapid surface runoff, and moderate rates of groundwater drainage. The watershed is underlain by coals, sandstones, and shales: this geology is generally conducive to productive wells, although water quality may be low for wells that draw from coal layers. Parts of the watershed lie over sandstone aquifers. Other parts lie above interbedded clay shales and siltstones.

Waterways. Cane Creek empties into the Red River between Bowen and Stanton. Among the creeks that feed it are Lower Cane Creek and Right Fork Cane Creek.

Land and water use. Land in the watershed is mainly rural and wooded; about 10% is agricultural. No businesses or organizations hold permits for discharges into the creeks. See tables for details.

Agency data assessment. The assessed creek segments in this watershed includes one that does not support its designated uses, based on biological and/or water-quality data. Pathogens contribute to the impairment of these streams. See tables for details.

Watershed rankings. The ranking formula provides a preliminary ranking by synthesizing a broad spectrum of watershed characteristics, current conditions, and threats. This watershed ranks in the group with the highest need for protection and/or restoration. This rating is for the watershed on average: particular sites and particular waters within the watershed may vary widely. See tables for details.

Volunteer data. There is a volunteer monitoring site on Cane Creek. See tables for details.

This report was prepared by the Kentucky Water Research Institute as a product of the statewide Kentucky Watershed Management process. Information presented in this report was collected from many sources. Reasonable attempts were made to ensure that information and figures are as accurate as possible, but no representation or guarantee is made as to either the correctness or suitability of information for particular purposes. All critical information should be independently verified. Please address questions or corrections to Basin Coordinator, KWRI, Rm. 233 Mining and Minerals Resources Building, University of Kentucky, Lexington, Kentucky 40506-0107.

Summary of Basin Characteristics and Facilities

General Land-use Characteristics:

<i>Total Land Area (Acres):</i>	<input type="text" value="8,879"/>	<i>Acres</i>	<i>% of Total</i>		
<i>Residential Area:</i>	<input type="text" value="0"/>		<input type="text" value="0.0"/>	<i>Number of Mine Permits:</i>	<input type="text" value="0"/>
<i>Commercial Area:</i>	<input type="text" value="28"/>		<input type="text" value="0.3"/>	<i>Total Permitted Mining Area (Acres):</i>	<input type="text" value="0"/>
<i>Industrial Area:</i>	<input type="text" value="0"/>		<input type="text" value="0.0"/>	<i>Number of Identified Wetland Areas:</i>	<input type="text" value="2"/>
<i>Agricultural Area:</i>	<input type="text" value="854"/>		<input type="text" value="9.6"/>	<i>Total Wetland Area (Acres):</i>	<input type="text" value="1"/>
<i>Rural and Wooded Area:</i>	<input type="text" value="7,985"/>		<input type="text" value="90.0"/>		
<i>Other Land-use Area:</i>	<input type="text" value="0"/>		<input type="text" value="0.0"/>		

Withdrawal and Discharge Sites:

<i>Number of Public Water Supplies and Water Withdrawal Sites:</i>	<input type="text" value="0"/>	<i>Number of KPDES Discharge Permits:</i>	<input type="text" value="0"/>
<i>Surface Water Withdrawals:</i>	<input type="text" value="0"/>		
<i>Groundwater Withdrawals:</i>	<input type="text" value="0"/>		
<i>No. of Potable Water Treatment Facilities:</i>	<input type="text" value="0"/>		

Sampling Site Statistics:

<i>Number of USGS Gaging Stations:</i>	<input type="text" value="0"/>
<i>Number of Kentucky Division of Water Sampling Sites:</i>	<input type="text" value="1"/>
<i>Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:</i>	<input type="text" value="0"/>
<i>Number of US Forest Service Sampling Sites:</i>	<input type="text" value="0"/>
<i>Number of US Army Corps of Engineers Sampling Sites:</i>	<input type="text" value="0"/>
<i>Number of Kentucky River Watershed Watch Sampling Sites:</i>	<input type="text" value="1"/>
<i>Number of Lexington-Fayette Urban Co. Gov. Sampling Sites:</i>	<input type="text" value="0"/>

Watershed Name:

Cane Creek

11-Digit Watershed Identity Number:

05100204150

Watershed Indicators and Ranking Categories:

Overall Watershed Ranking:

Protection Ranking

Observed Impacts

Potential Impacts

Restoration Ranking

High

Medium

High

Low

High

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	1	Acres	0 - 106	12
Surface Drinking Water Sources	0	No. of sources	0 - 14	2
Ground Drinking Water Sources	0	No. of sources	0 - 17	1
Groundwater Sensitivity	3.20	Score	2 - 5	3.21
KY Dept. of Fish and Wildlife Management Areas	0	Acres	0 - 2951	93
U.S. Forest Service Management Areas	2,001	Acres	0 - 155253	12,600
Kentucky State Park Areas	0	Acres	0 - 1928	42
Nature Preserves Commission Areas	0	Acres	0 - 1430	32
Nature Conservancy Areas	0	Acres	0 - 2473	28
Reference Reach Watersheds	0.00	Score	0 - 100	3.08
Outstanding Resource Watersheds	0.00	Score	0 - 0	0.00
Recognized Stream Resources	0	No. of resources	0 - 8	1
Kentucky Rivers Assessment Scores	0.13	Score	0 - 11	1.80

Observed Impact Categories:

Human Health Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Flood Declarations	1	Number since 1970	0 - 10	4
Water Supply Inadequacy	0.00	Score	0 - 2	0.22
Observed Impacts to Surface Drinking Water	1.00	Score	1 - 1	1.00
Observed Impacts to Fish Consumption	1.00	Score	1 - 1	1.00
Observed Impacts to Primary Water Contact	3.00	Score	1 - 3	1.33
Contamination Sites Impacting Human Health	0	Number of sites	0 - 71	4

Ecological Health Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Observed Impacts to Aquatic Life	1.00	Score	1 - 3	1.31
Contamination Sites Impacting Ecological Health	0	Number of sites	0 - 71	4

Potential Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Potential Contamination Sites	2	Number of sites	1 - 121	12
Potential Pesticide Loading	3	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	21	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	0.69	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	446	Animal units	55 - 43826	7,021
KPDES Discharge Violations	0	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	3	Number of complaints	0 - 53	9
Toxic Release Inventory	0	Score	0 - 11547626	231,638
Population Change Projection	27	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	157	Number of persons	12 - 4511	1,114
Mining Area	0	Acres	0 - 6305	355
Surface Water Runoff Potential	61.79	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	0	Number of sites	0 - 56	6

Watershed Name: Cane Creek

11-Digit Watershed Identity Number: 05100204150

Stream and Waterbody Use Support Summary

Total Stream Miles: <input type="text" value="23.23"/>	Number of Seaments	Stream Miles Assessed	Miles * Fully Supportina	Miles * Partially Supportina	Miles * Not Supportina	Miles * Threatened
Segments Assessed:	1	3.1	0.0	0.0	3.1	0.0
Designated Uses						
Aquatic Life:	1	3.1	3.1	0.0	0.0	0.0
Primary Contact:	1	3.1	0.0	0.0	3.1	0.0
Fish Consumption:	1	3.1	3.1	0.0	0.0	0.0
Drinking Water:						

* Blank values indicate no assessed segments for this category.

Assessed Stream Segments and Waterbodies					
Stream or Waterbody Name *	Starting Milepoint	Ending Milepoint	Segment Length (miles)	Designated Uses *	Overall Level of Support
Cane Creek	0	3.1	3.1	AL, FC, PC	Not Supporting

**Abbreviations: AL - Aquatic Life Support, PC - Primary Contact Recreation, SC - Secondary Contact Recreation, FC - Fish Consumption, DW - Drinking Water Supply, UT - Unnamed Tributary*

Causes for Nonsupport or Impairment of Designated Uses					
Stream or Waterbody Name *	Starting Milepoint	Ending Milepoint	Segment Length (miles)	Impaired or Threatened Designated Use	Level of Support
Cane Creek	0	3.1	3.1	Primary Contact (Recr)	Not Supporting
<i>Possible Causes of Impairment:</i>			<i>Possible Sources For Impairment:</i>		
Pathogens			Agriculture, Grazing related Sources		

**Abbreviations: UT - Unnamed Tributary*

Watershed Name: Cane Creek

11-Digit Watershed Identity Number: 05100204150

Withdrawal Sites and Discharge Facilities:

Gaging Stations and Sampling Sites:

<i>KY Division of Water Sampling Sites</i>	
<i>Stream Name</i>	<i>Type of Sampling</i>
Cane Creek	Biological Monitoring

<i>KY River Watershed Watch Sampling Sites</i>		
<i>Stream Name</i>	<i>KRWW Sample ID No.</i>	<i>Site Description</i>
Cane Creek	K77	Gordon Property at Meniffee Co Line

Watershed Name:

Cane Creek

11-Digit Watershed Identity Number:

05100204150

Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K77 Stream: Cane Creek

Physical Data (May):

pH	7.7	Alkalinity	127
Temperature	17.7	Total Hardness	144
Dissolved Oxygen	9	Chlorides	2.4
		Conductivity	261
		Total Organic Carbon	7.8
		Total Suspended Solids	15

Fecal Data (July / August):

	Coliform Count	Strep Count	Coliform/Strep Ratio
July	10	4800	0.002
August			

Note: Most indicators are in milligrams per liter (mg/L) which is equivalent to parts per million (ppm). Temperature is in Celsius degrees. Alkalinity and hardness are as mg/L of calcium carbonate. Bacterial counts are in colonies per 100 milliliters. Conductivity units are micro-mhos per centimeter.

Nutrient Parameters:

Sample ID Number: K77 Stream: Cane Creek

Ammonia		Orthophosphate as Phosphate	0.011	Sulfate	11.8
Ammonia Nitrogen		Orthophosphate as Phosphorus	0.004		
Total Kjeldahl Nitrogen as NH3	0.41	Total Recoverable Phosphorus	0.06		
Total Kjeldahl Nitrogen as N	0.34				
Nitrate					
Nitrate Nitrogen					

Note: All indicators are in milligrams per liter (mg/L) which is equivalent to parts per million (ppm).

Metals and Mineral Parameters:

Sample ID Number: K77 Stream: Cane Creek

Aluminum	0.65	Calcium	36.14	Lead		Selenium		Thallium	
Antimony		Chromium		Lithium		Silicon	0.88	Vanadium	
Barium	0.01	Cobalt		Magnesium	9.65	Sodium	2.39	Zinc	
Beryllium		Copper		Manganese	0.08	Strontium	0.07		
Boron	0.09	Iron	0.30	Potassium	3.50	Sulfur	3.41		

Note: All indicators are in milligrams per liter (mg/L) which is equivalent to parts per million (ppm).

Pesticide/Herbicide Parameters:

Sample ID No. Stream

2,4-D Chlorpyrifos Triazines

K77	Cane Creek			
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Note: All indicators are in micrograms per liter which is equivalent to parts per billion (ppb).