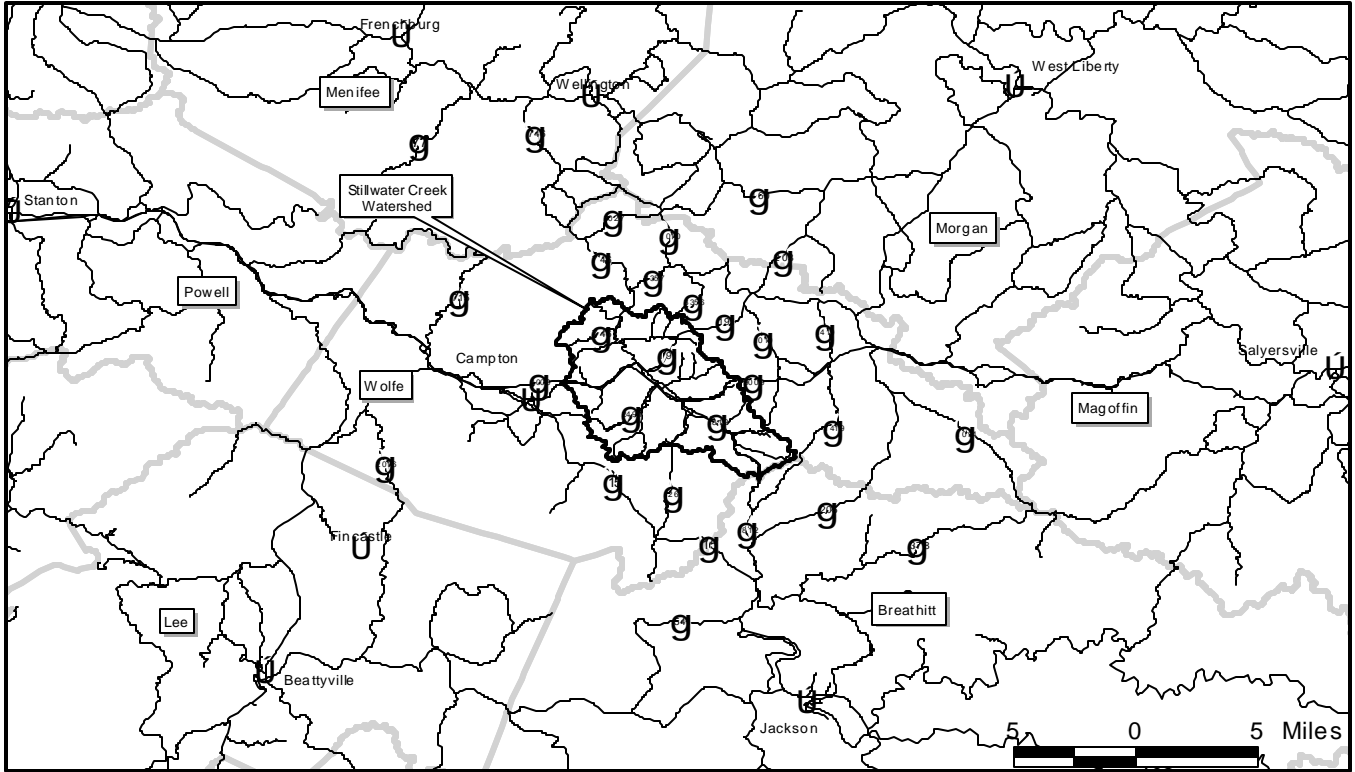


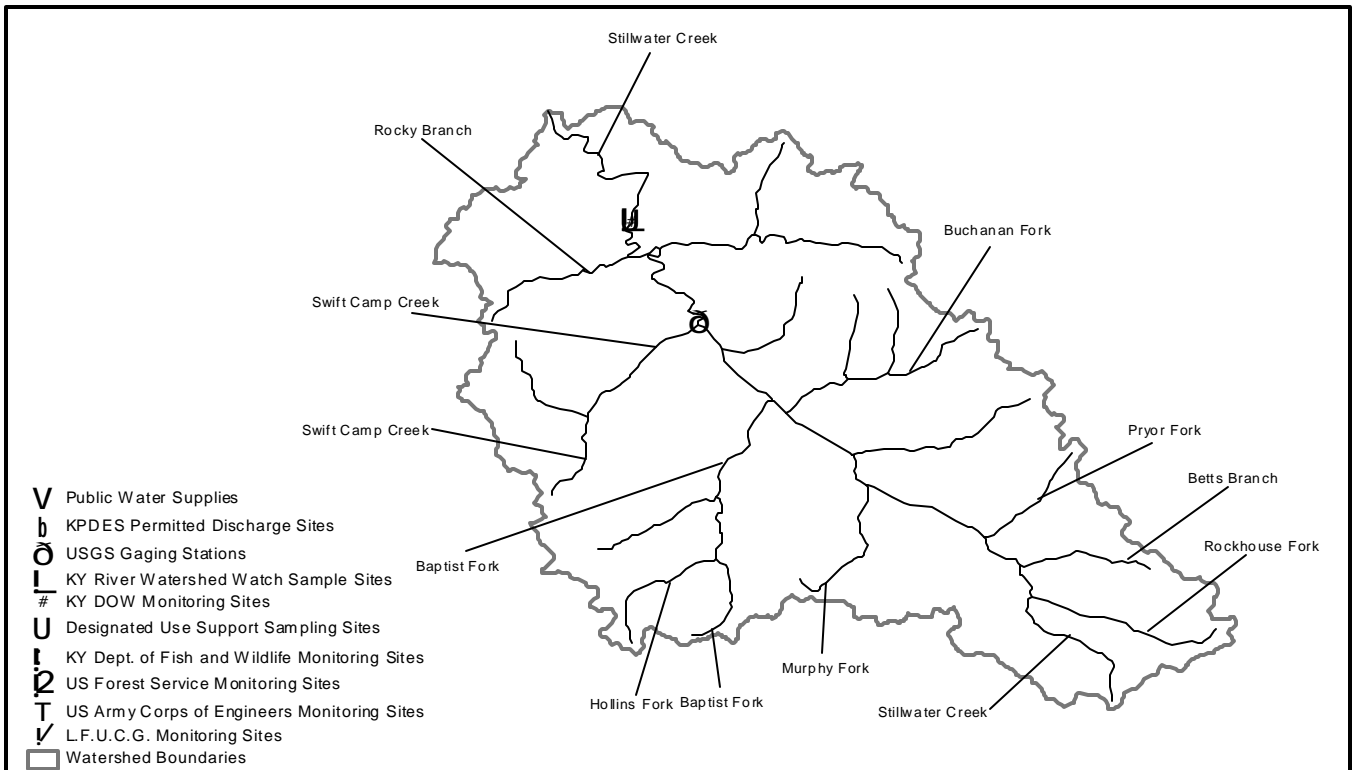
Stillwater Creek Watershed

Watershed Number: 05100204130

Location Map



Watershed Features



Geography. The Stillwater Creek watershed is in Wolfe County. The higher part of the watershed is in the Eastern Kentucky Coal Field physiographic region, characterized by mountainous terrain, rapid rates of surface runoff, and moderate rates of groundwater drainage. The lower part of the watershed is in the plateau area of the coal field region, characterized by rolling terrain, medium to rapid rates of surface runoff, and slow to medium 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.

Waterways. Stillwater Creek empties into the Red River in Wolfe County just east of the Daniel Boone National Forest and northeast of Campton. Among the creeks that feed it are Rockhouse Creek, Betts Branch, Buchanan Fork, Baptist Fork, Rocky Branch, and Laurel Fork.

Land and water use. Land in the watershed is about 80% rural and wooded and 20% 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 fully support their designated uses, based on biological and/or water-quality data. 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 lowest 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. Data for Stillwater Creek indicate elevated chromium. 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="20,264"/>	<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="2"/>
<i>Commercial Area:</i>	<input type="text" value="0"/>		<input type="text" value="0.0"/>	<i>Total Permitted Mining Area (Acres):</i>	<input type="text" value="15"/>
<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="0"/>
<i>Agricultural Area:</i>	<input type="text" value="4,077"/>		<input type="text" value="20.2"/>	<i>Total Wetland Area (Acres):</i>	<input type="text" value="0"/>
<i>Rural and Wooded Area:</i>	<input type="text" value="16,129"/>		<input type="text" value="79.7"/>		
<i>Other Land-use Area:</i>	<input type="text" value="24"/>		<input type="text" value="0.1"/>		

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 Indicators and Ranking Categories:

Overall Watershed Ranking:

Protection Ranking	Observed Impacts	Potential Impacts	Restoration Ranking
Low	Low	Low	Low

Low

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	0	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	3.00	Score	2 - 5	3.21
KY Dept. of Fish and Wildlife Management Areas	0	Acres	0 - 2951	93
U.S. Forest Service Management Areas	0	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	0.37	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	2	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	1.00	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	3	Number of sites	1 - 121	12
Potential Pesticide Loading	1	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	78	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	1.69	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	594	Animal units	55 - 43826	7,021
KPDES Discharge Violations	0	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	2	Number of complaints	0 - 53	9
Toxic Release Inventory	0	Score	0 - 11547626	231,638
Population Change Projection	86	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	320	Number of persons	12 - 4511	1,114
Mining Area	16	Acres	0 - 6305	355
Surface Water Runoff Potential	61.03	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	0	Number of sites	0 - 56	6

Watershed Name: Stillwater Creek

11-Digit Watershed Identity Number: 05100204130

Stream and Waterbody Use Support Summary

<i>Total Stream Miles:</i>						
<input type="text" value="39.81"/>	<i>Number of Segments</i>	<i>Stream Miles Assessed</i>	<i>Miles * Fully Supportina</i>	<i>Miles * Partially Supportina</i>	<i>Miles * Not Supportina</i>	<i>Miles * Threatened</i>
<i>Segments Assessed:</i>	1	5.0	5.0	0.0	0.0	0.0
<i>Designated Uses</i>						
<i>Aquatic Life:</i>	1	5.0	5.0	0.0	0.0	0.0
<i>Primary Contact:</i>						
<i>Fish Consumption:</i>						
<i>Drinking Water:</i>						

* Blank values indicate no assessed segments for this category.

<i>Assessed Stream Segments and Waterbodies</i>					
<i>Stream or Waterbody Name *</i>	<i>Starting Milepoint</i>	<i>Ending Milepoint</i>	<i>Segment Length (miles)</i>	<i>Designated Uses *</i>	<i>Overall Level of Support</i>
Stillwater Creek	0	5	5	AL	Fully Supporting

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

Watershed Name: Stillwater Creek

11-Digit Watershed Identity Number: 05100204130

Withdrawal Sites and Discharge Facilities:

Gaging Stations and Sampling Sites:

<i>US Geological Survey and US Army Corps of Engineers Stream Gaging Stations</i>			
<i>Stream Location</i>	<i>Agency</i>	<i>Station ID Number</i>	<i>Sampling Parameter</i>
Stillwater Creek	USGS	USGS03283000	Flow

<i>KY Division of Water Sampling Sites</i>	
<i>Stream Name</i>	<i>Type of Sampling</i>
Stillwater 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>
Stillwater Creek	K07	SR 746 Bridge

Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K07 Stream: Stillwater Creek

Physical Data (May):	
pH	7.75
Temperature	0
Dissolved Oxygen	8.8
Alkalinity	85
Total Hardness	102
Chlorides	3.6
Conductivity	225
Total Organic Carbon	1.5
Total Suspended Solids	11

Fecal Data (July / August):		
Coliform Count	Strep Count	Coliform/Strep Ratio
July	<10	1300
August		<0.0077

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: K07 Stream: Stillwater Creek

Ammonia		Orthophosphate as Phosphate	0.028	Sulfate	26.8
Ammonia Nitrogen		Orthophosphate as Phosphorus	0.009		
Total Kjeldahl Nitrogen as NH3		Total Recoverable Phosphorus	0.08		
Total Kjeldahl Nitrogen as N					
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: K07 Stream: Stillwater Creek

Aluminum	0.32	Calcium	23.72	Lead		Selenium		Thallium	
Antimony		Chromium	0.03	Lithium	0.009	Silicon	1.90	Vanadium	
Barium	0.02	Cobalt	0.003	Magnesium	11.18	Sodium	3.96	Zinc	0.01
Beryllium	0.001	Copper		Manganese	0.27	Strontium	0.06		
Boron	0.09	Iron	1.40	Potassium	2.52	Sulfur	7.18		

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

K07	Stillwater Creek			
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Note: All indicators are in micrograms per liter which is equivalent to parts per billion (ppb).