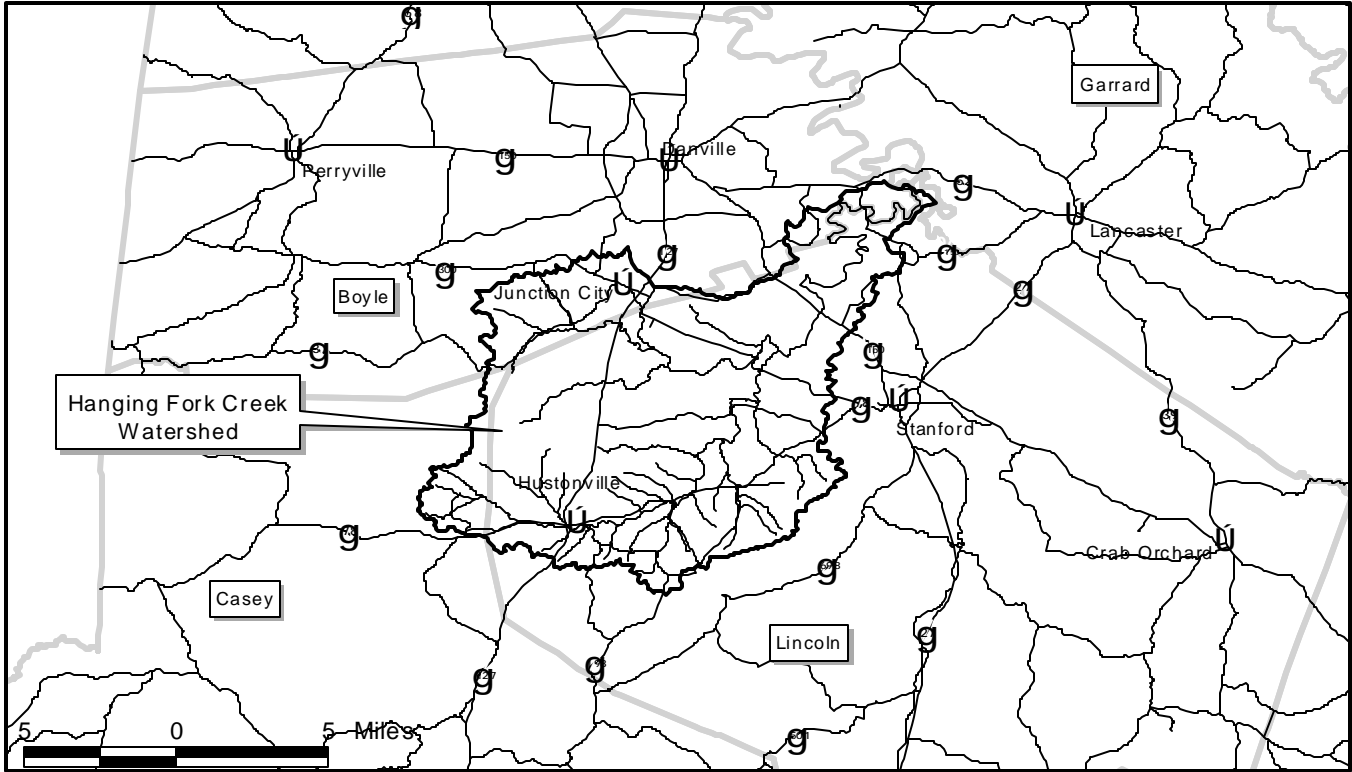


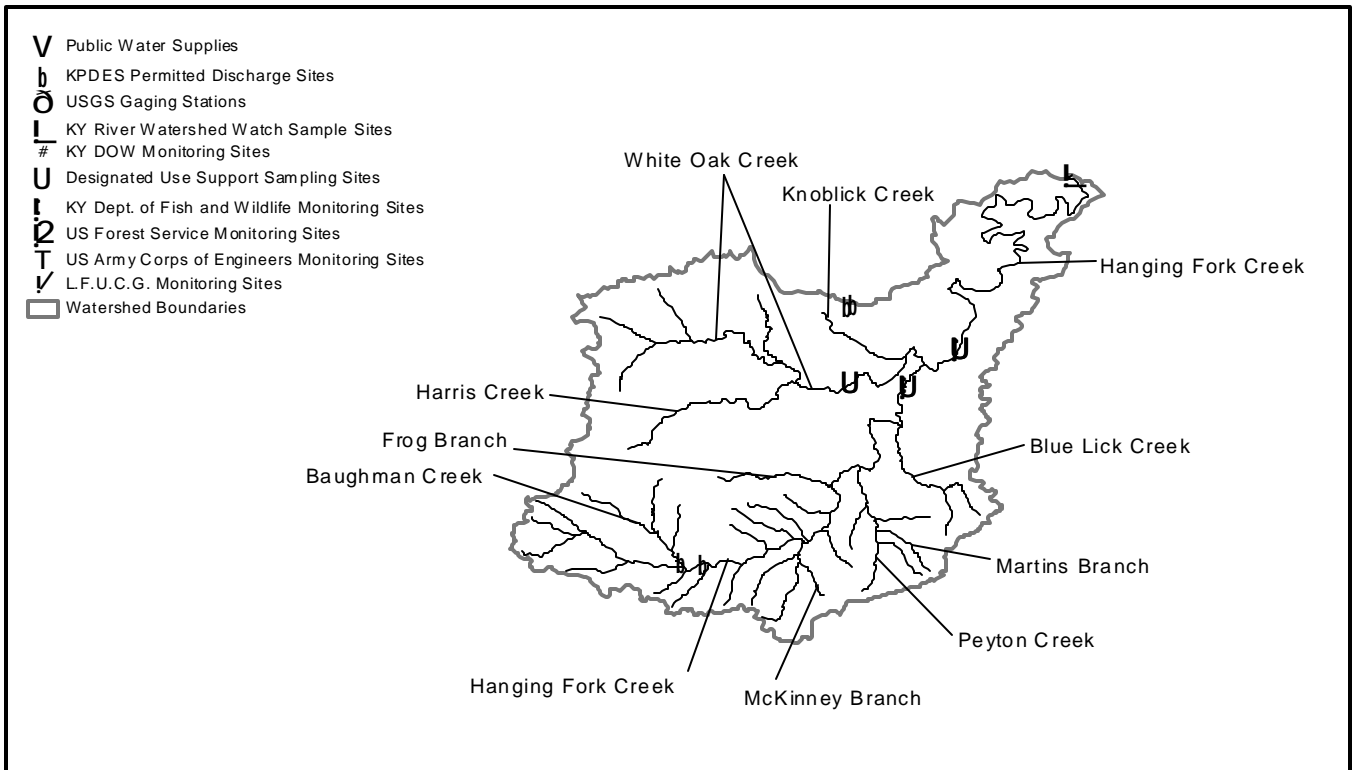
Hanging Fork Creek Watershed

Watershed Number: 05100205180

Location Map



Watershed Features



Geography. The Hanging Fork Creek watershed covers northwestern Lincoln County and includes parts of Casey and Boyle Counties. The land is in the outer subregion of the Bluegrass physiographic region, characterized by undulating terrain, moderate to rapid surface runoff, and moderate rates of groundwater drainage. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other sections lie over interbedded clay shales and siltstones. There are also areas of interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale).

Waterways. Hanging Fork Creek empties into the Dix River west of Lancaster, near Hedgeville. Among the creeks that feed it are Baughman Creek, McKinney Branch, Peyton Creek, Blue Lick Creek, White Oak Creek, Harris Creek, and Knoblick Creek.

Land and water use. Land in the watershed is almost 80% agricultural, 16% rural and wooded, and 4% residential. Three businesses and organizations hold permits for discharges into the creeks. See tables for details.

Agency data assessment. The assessed creek segments in this watershed include one part of Hanging Fork Creek that does not support some or all of its designated uses, based on biological and/or water-quality data. Pathogens from agricultural sources 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. A significant amount of the triazine herbicide atrazine was detected at the volunteer monitoring station on Hanging Fork Creek (>1 microgram per liter); however, the concentration of atrazine was well below the EPA's maximum contaminant level of 3 micrograms per liter. 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="61,736"/>	<i>Acres</i>	<i>% of Total</i>		
<i>Residential Area:</i>	<input type="text" value="2,541"/>		<input type="text" value="4.1"/>	<i>Number of Mine Permits:</i>	<input type="text" value="0"/>
<i>Commercial Area:</i>	<input type="text" value="211"/>		<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="1"/>
<i>Agricultural Area:</i>	<input type="text" value="48,700"/>		<input type="text" value="78.9"/>	<i>Total Wetland Area (Acres):</i>	<input type="text" value="1"/>
<i>Rural and Wooded Area:</i>	<input type="text" value="9,949"/>		<input type="text" value="16.1"/>		
<i>Other Land-use Area:</i>	<input type="text" value="318"/>		<input type="text" value="0.5"/>		

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="4"/>
<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="0"/>
<i>Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:</i>	<input type="text" value="3"/>
<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	High	High	High

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	2.87	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	1.36	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	3	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	2	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	2	Number of sites	0 - 71	4

Potential Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Potential Contamination Sites	16	Number of sites	1 - 121	12
Potential Pesticide Loading	19	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	1,236	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	2.96	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	24,871	Animal units	55 - 43826	7,021
KPDES Discharge Violations	7	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	11	Number of complaints	0 - 53	9
Toxic Release Inventory	128	Score	0 - 11547626	231,638
Population Change Projection	442	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	1,825	Number of persons	12 - 4511	1,114
Mining Area	0	Acres	0 - 6305	355
Surface Water Runoff Potential	75.29	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	4	Number of sites	0 - 56	6

Watershed Name: Hanging Fork Creek

11-Digit Watershed Identity Number: 05100205180

Stream and Waterbody Use Support Summary

Total Stream Miles: <input type="text" value="104.35"/>	<i>Number of Seamets</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>	3	27.6	12.6	0.0	15.0	0.0
<i>Designated Uses</i>						
<i>Aquatic Life:</i>	3	27.6	27.6	0.0	0.0	0.0
<i>Primary Contact:</i>	1	15.0	0.0	0.0	15.0	0.0
<i>Fish Consumption:</i>						
<i>Drinking Water:</i>						

* Blank values indicate no assessed segments for this category.

Assessed Stream Segments and Waterbodies					
<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>
Hanging Fork	15	22.9	7.9	AL	Fully Supporting
Hanging Fork	0	15	15	AL, PC	Not Supporting
Knoblick Creek	0	4.7	4.7	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*

Causes for Nonsupport or Impairment of Designated Uses					
<i>Stream or Waterbody Name *</i>	<i>Starting Milepoint</i>	<i>Ending Milepoint</i>	<i>Segment Length (miles)</i>	<i>Impaired or Threatened Designated Use</i>	<i>Level of Support</i>
Hanging Fork	0	15	15	Primary Contact (Recr)	Not Supporting
<i>Possible Causes of Impairment:</i>			<i>Possible Sources For Impairment:</i>		
Pathogens			Agriculture, Crop-related Sources, Grazing related Sources, Nonirrigated Crop Production		

**Abbreviations: UT - Unnamed Tributary*

Watershed Name: Hanging Fork Creek

11-Digit Watershed Identity Number: 05100205180

Withdrawal Sites and Discharge Facilities:

<i>KPDES Permitted Discharge Facilities</i>			<i>KPDES Site ID Number</i>
<i>Facility</i>	<i>Type of Facility</i>		
HUSTONVILLE ELDERLY APTS	OPERATORS OF APART BUILDINGS		KY0097713
LINCOLN CO BD OF ED	ELEMENTARY & SECONDARY SCHOOLS		KY0101346
TEXAS EASTERN TRANS CORP	NATURAL GAS TRANSMISSION		KY0096229

Gaging Stations and Sampling Sites:

<i>KY Dept of Fish and Wildlife Sampling / Assessment Sites</i>					
<i>Stream Segment</i>	<i>Upstream Description</i>	<i>Downstream Description</i>	<i>Total Length of Segment</i>	<i>Upstream Mile Point</i>	<i>Downstream Mile Point</i>
Hanging Fork 2	Knoblick Creek	Mouth	31.7	15.7	0
Hanging Fork 3	Peyton Creek	Knoblick Creek	31.7	20.7	15.7
Hanging Fork 1 (White Oak Creek)	Harris Creek	Mouth	10	4.7	0

<i>KY River Watershed Watch Sampling Sites</i>		
<i>Stream Name</i>	<i>KRWW Sample ID No.</i>	<i>Site Description</i>
Hanging Fork Creek	K15	N37 37' 24" W 84 40' 49"

Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K15 Stream: Hanging Fork Creek

Physical Data (May):	
pH	8
Temperature	18
Dissolved Oxygen	8.6
Alkalinity	
Total Hardness	
Chlorides	
Conductivity	
Total Organic Carbon	
Total Suspended Solids	

Fecal Data (July / August):		
Coliform Count	Strep Count	Coliform/Strep Ratio
July	90	490
August		0.18

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: K15 Stream: Hanging Fork Creek

Ammonia		Orthophosphate as Phosphate		Sulfate	
Ammonia Nitrogen		Orthophosphate as Phosphorus			
Total Kjeldahl Nitrogen as NH3		Total Recoverable Phosphorus			
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: K15 Stream: Hanging Fork Creek

Aluminum		Calcium		Lead		Selenium		Thallium	
Antimony		Chromium		Lithium		Silicon		Vanadium	
Barium		Cobalt		Magnesium		Sodium		Zinc	
Beryllium		Copper		Manganese		Strontium			
Boron		Iron		Potassium		Sulfur			

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

K15	Hanging Fork Creek			1.15
-----	--------------------	--	--	------

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