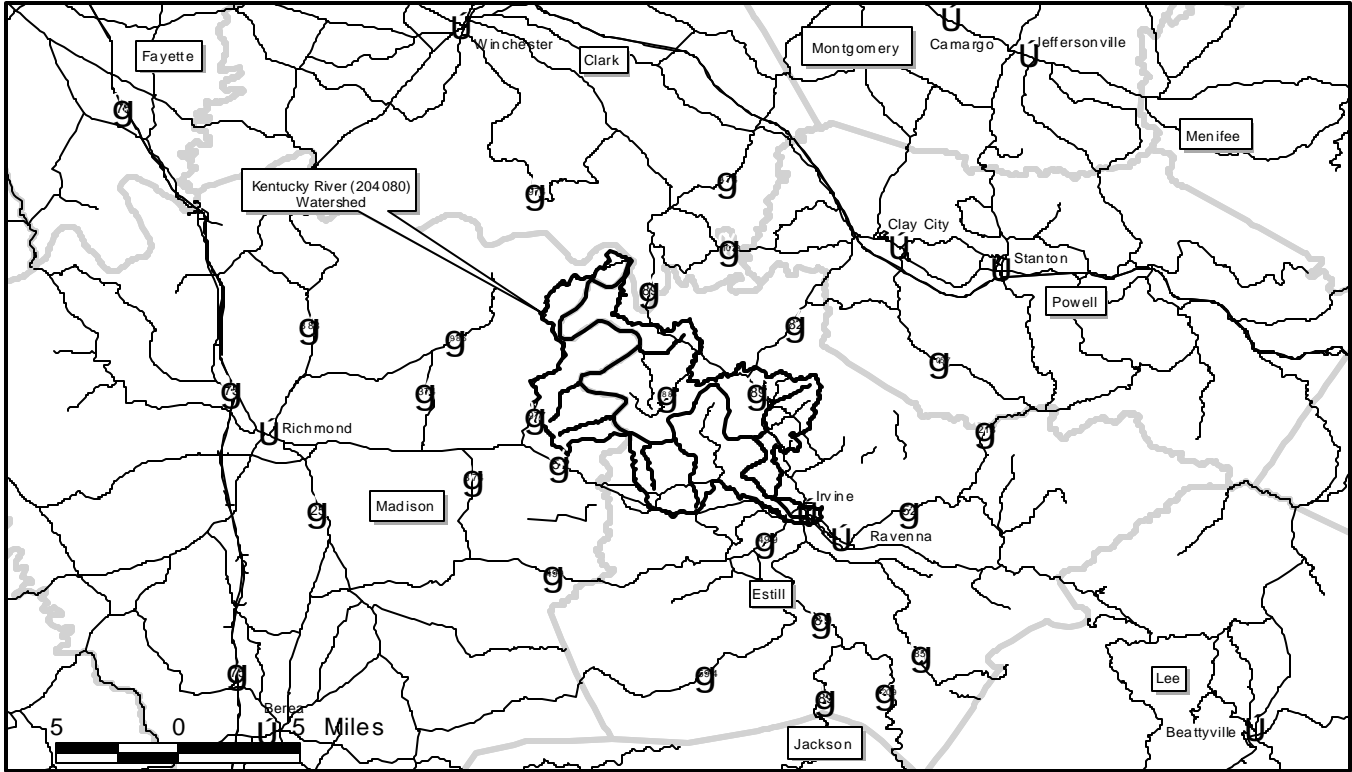


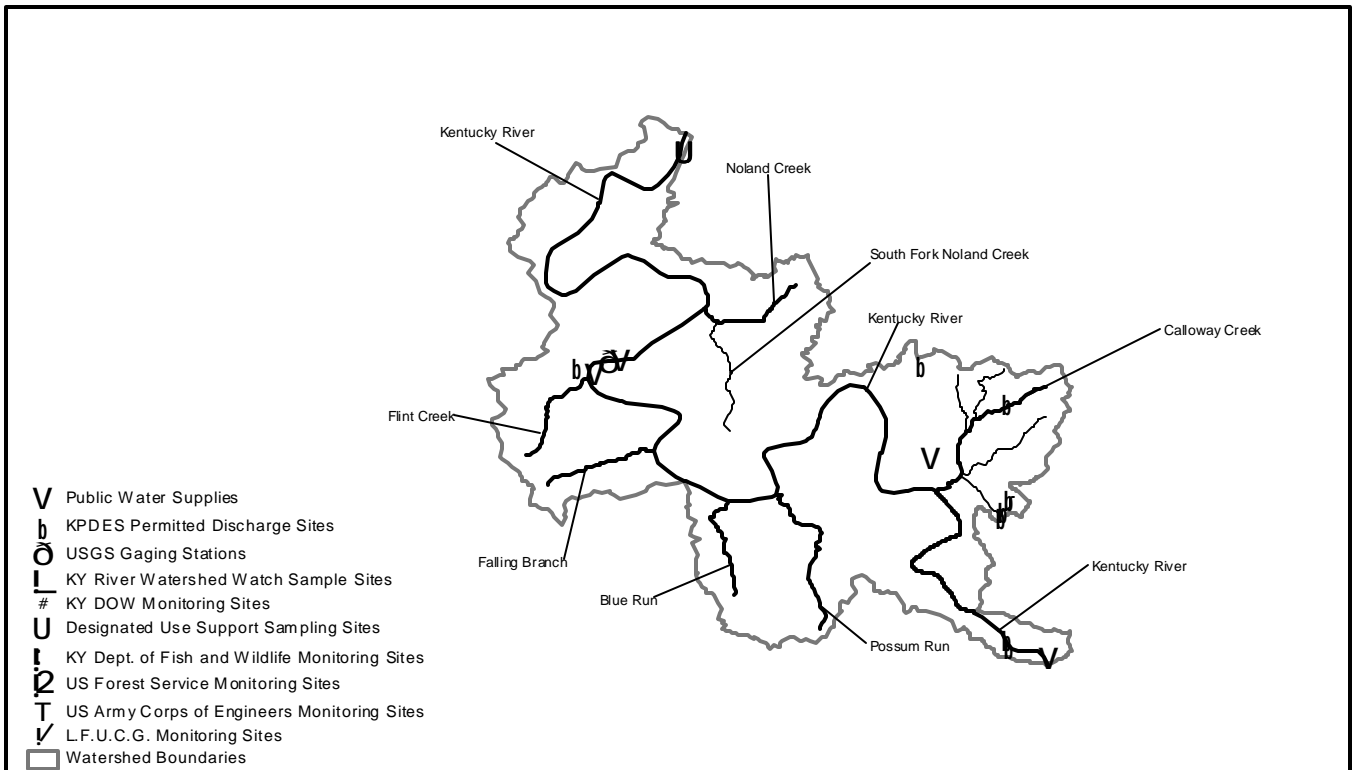
Kentucky River (204 080) Watershed

Watershed Number: 05100204080

Location Map



Watershed Features



Geography. The Kentucky River 204 080 watershed covers parts of western Estill County and eastern Madison County. The land is in the Knobs physiographic region, characterized by hilly terrain, very rapid surface runoff, and very slow groundwater drainage. In level parts of the Knobs, runoff and groundwater drainage are slow. The watershed lies partly above fractured shales through which groundwater can easily move but which stores very little water. Other parts of the watershed lie over easily weathered clay shales that store water but allow little groundwater flow.

Waterways. This watershed includes the section of the Kentucky River between Station Camp Creek (Irvine) and the Red River (Clark County-Estill County line). Among the creeks that feed it are Calloway Creek, Possum Run, Blue Run, Falling Branch, Flint Creek, and Noland Creek. Water from the Station Camp Creek, Kentucky River 204 030, White Oak Creek, and Drowning Creek watersheds also flows into this watershed.

Land and water use. Land in the watershed is about half agricultural and half rural and wooded; commercial and residential areas make up about 3%. The surface waters of the watershed supply the drinking water for municipal systems in Irvine and Richmond. Six businesses and 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 a moderate 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. No volunteer data were collected in this watershed in 1999.

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="32,988"/>	<i>Acres</i>	<i>% of Total</i>		
<i>Residential Area:</i>	<input type="text" value="906"/>		<input type="text" value="2.7"/>	<i>Number of Mine Permits:</i>	<input type="text" value="1"/>
<i>Commercial Area:</i>	<input type="text" value="100"/>		<input type="text" value="0.3"/>	<i>Total Permitted Mining Area (Acres):</i>	<input type="text" value="38"/>
<i>Industrial Area:</i>	<input type="text" value="17"/>		<input type="text" value="0.1"/>	<i>Number of Identified Wetland Areas:</i>	<input type="text" value="18"/>
<i>Agricultural Area:</i>	<input type="text" value="16,259"/>		<input type="text" value="49.3"/>	<i>Total Wetland Area (Acres):</i>	<input type="text" value="21"/>
<i>Rural and Wooded Area:</i>	<input type="text" value="15,489"/>		<input type="text" value="47.0"/>		
<i>Other Land-use Area:</i>	<input type="text" value="184"/>		<input type="text" value="0.6"/>		

Withdrawal and Discharge Sites:

<i>Number of Public Water Supplies and Water Withdrawal Sites:</i>	<input type="text" value="4"/>	<i>Number of KPDES Discharge Permits:</i>	<input type="text" value="8"/>
<i>Surface Water Withdrawals:</i>	<input type="text" value="4"/>		
<i>Groundwater Withdrawals:</i>	<input type="text" value="0"/>		
<i>No. of Potable Water Treatment Facilities:</i>	<input type="text" value="1"/>		

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="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="0"/>
<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	Medium
High	Medium	High	Medium	

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	21	Acres	0 - 106	12
Surface Drinking Water Sources	4	No. of sources	0 - 14	2
Ground Drinking Water Sources	0	No. of sources	0 - 17	1
Groundwater Sensitivity	2.91	Score	2 - 5	3.21
KY Dept. of Fish and Wildlife Management Areas	0	Acres	0 - 2951	93
U.S. Forest Service Management Areas	10	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	11.18	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	1.00	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	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	10	Number of sites	1 - 121	12
Potential Pesticide Loading	9	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	250	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	2.23	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	5,764	Animal units	55 - 43826	7,021
KPDES Discharge Violations	262	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	327	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	975	Number of persons	12 - 4511	1,114
Mining Area	36	Acres	0 - 6305	355
Surface Water Runoff Potential	77.75	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	8	Number of sites	0 - 56	6

Watershed Name: Kentucky River

11-Digit Watershed Identity Number: 05100204080

Stream and Waterbody Use Support Summary

<i>Total Stream Miles:</i>						
<input type="text" value="38.65"/>	<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	26.7	26.7	0.0	0.0	0.0
<i>Designated Uses</i>						
<i>Aquatic Life:</i>	1	26.7	26.7	0.0	0.0	0.0
<i>Primary Contact:</i>	1	26.7	26.7	0.0	0.0	0.0
<i>Fish Consumption:</i>	1	26.7	26.7	0.0	0.0	0.0
<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>
Kentucky River	190.8	217.5	26.7	AL, FC, PC	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: Kentucky River

11-Digit Watershed Identity Number: 05100204080

Withdrawal Sites and Discharge Facilities:

<i>Public Water Supplies and Water Withdrawal</i>			
<i>Facility</i>	<i>Origin of Source</i>	<i>Type of Facility</i>	<i>Permit ID Number</i>
IRVINE MUNICIPAL UTILITIES	Surface Water	Water Withdrawal Site	0330205
KENTUCKY PROCESSING COMPANY	Surface Water	Water Withdrawal Site	WW0798
RICHMOND WATER/GAS/SEWER WORKS	Surface Water	Water Treatment Plant	0760370
RICHMOND WATER/GAS/SEWER WORKS	Surface Water	Water Withdrawal Site	0760370

<i>KPDES Permitted Discharge Facilities</i>			<i>KPDES Site ID Number</i>
<i>Facility</i>	<i>Type of Facility</i>		
BLUE RIDGE RDF	REFUSE SYSTEMS	KY0091707	
CAMP BURNAMWOOD	SPORTING & RECREATIONAL CAMPS	KY0081728	
ESTILL CO WATER DIST STP	SEWERAGE SYSTEMS	KY0095940	
HARGETT ELEM SCHOOL	ELEMENTARY & SECONDARY SCHOOLS	KY0074314	
IRVINE STP	SEWERAGE SYSTEMS	KY0025909	
RICHMOND PUB UTIL KY RIVER PLT	WATER SUPPLY	KY0003204	

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>
Kentucky River	US COE	USCE374703084061301	Flow