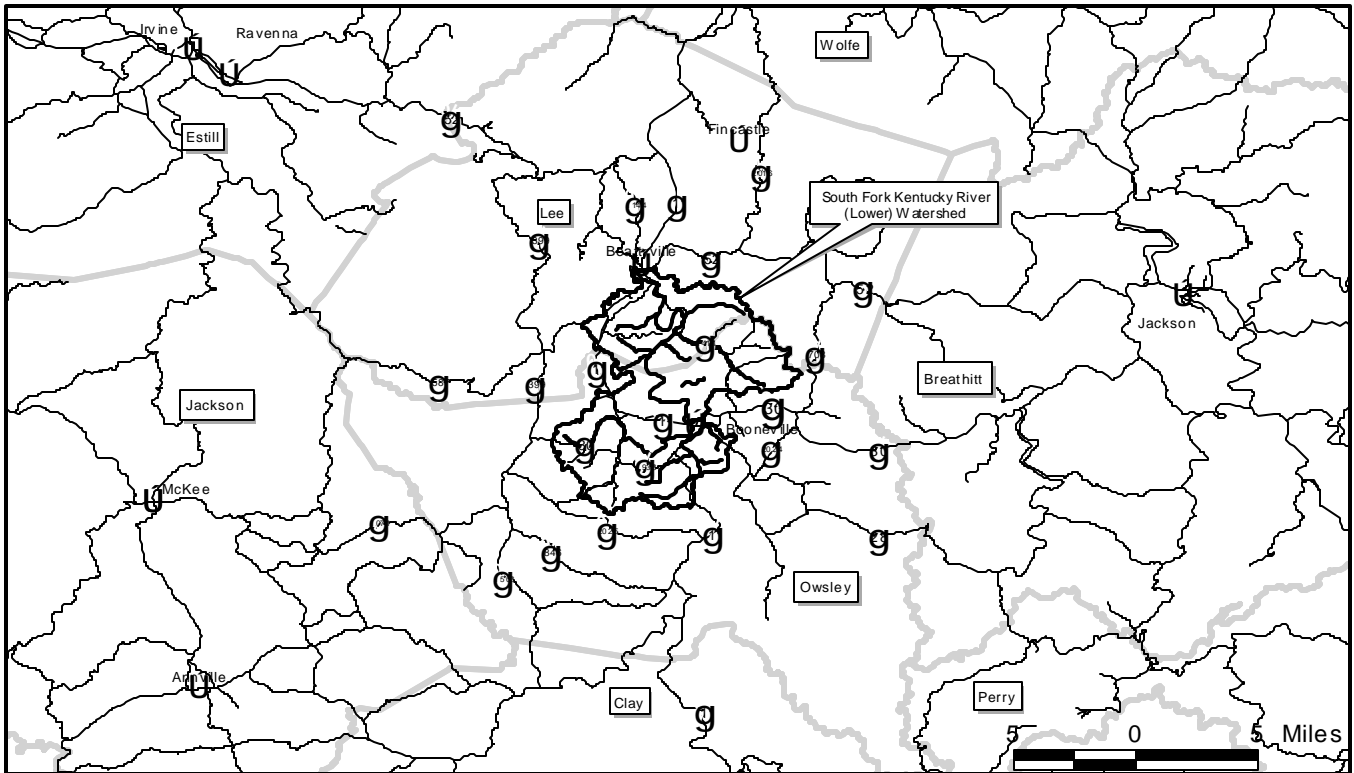


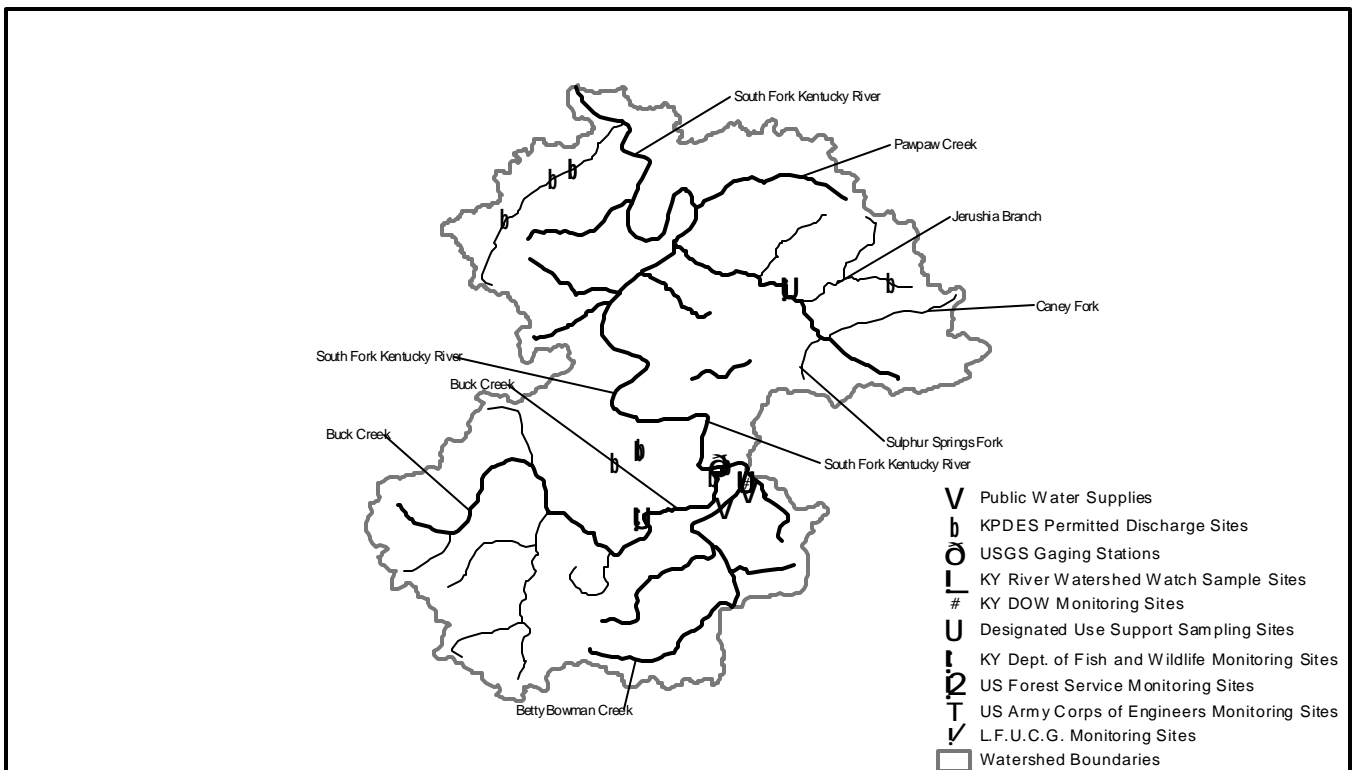
# South Fork Kentucky River (Lower) Watershed

## Watershed Number: 05100203060

### Location Map



### Watershed Features



**Geography.** The South Fork Kentucky River (lower) watershed covers north-central Owsley County and south-central Lee County. The land is in the plateau area of the Eastern Kentucky Coal Field physiographic region, characterized by rolling terrain, medium to rapid surface runoff, and slow to moderate 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. Unconsolidated silts, sands, and gravels occur along the flood plain of the river.

**Waterways.** This watershed includes the section of the South Fork between the National Forest and Beattyville, where the South Fork empties into the Kentucky River. Among the creeks that feed it are Betty Bowman Creek, Buck Creek, Fish Creek, Jerushia Branch, Caney Fork, Straight Fork, and Pawpaw Creek. Water from the Meadow Creek and South Fork Kentucky River (upper) watersheds also flows into this watershed.

**Land and water use.** Land in the watershed is about one-fourth agricultural and three-fourths rural and wooded. The surface waters of the watershed supply the drinking water for the municipal system in Booneville. Ten 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 segment of Lower Buffalo Creek that only partially supports its designated uses, based on biological and/or water-quality data. Siltation contributes to the impairment of the stream. 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:

Total Land Area (Acres):	28,561	Acres	% of Total		
Residential Area:	0	0.0		Number of Mine Permits:	12
Commercial Area:	188	0.7		Total Permitted Mining Area (Acres):	71
Industrial Area:	11	0.0		Number of Identified Wetland Areas:	2
Agricultural Area:	6,634	23.3		Total Wetland Area (Acres):	1
Rural and Wooded Area:	20,966	73.5			
Other Land-use Area:	720	2.5			

#### Withdrawal and Discharge Sites:

Number of Public Water Supplies and Water Withdrawal Sites:	2	Number of KPDES Discharge Permits:	10
Surface Water Withdrawals:	2		
Groundwater Withdrawals:	0		
No. of Potable Water Treatment Facilities:	1		

#### Sampling Site Statistics:

Number of USGS Gaging Stations:	1
Number of Kentucky Division of Water Sampling Sites:	1
Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:	2
Number of US Forest Service Sampling Sites:	0
Number of US Army Corps of Engineers Sampling Sites:	0
Number of Kentucky River Watershed Watch Sampling Sites:	0
Number of Lexington-Fayette Urban Co. Gov. Sampling Sites:	0

**Watershed Indicators and Ranking Categories:**

Overall Watershed Ranking:

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

Medium

**Protection Categories:**

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	1	Acres	0 - 106	12
Surface Drinking Water Sources	2	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	2,785	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	1	No. of resources	0 - 8	1
Kentucky Rivers Assessment Scores	4.63	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	6	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	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	1.11	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	4	Number of sites	1 - 121	12
Potential Pesticide Loading	2	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	69	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	4.40	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	640	Animal units	55 - 43826	7,021
KPDES Discharge Violations	90	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	168	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	695	Number of persons	12 - 4511	1,114
Mining Area	71	Acres	0 - 6305	355
Surface Water Runoff Potential	61.65	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	10	Number of sites	0 - 56	6

**Stream and Waterbody Use Support Summary**

<b>Total Stream Miles:</b> 68.13	<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>
<b>Segments Assessed:</b>	3	22.8	20.4	2.4	0.0	0.0
<b>Designated Uses</b>						
<b>Aquatic Life:</b>	3	22.8	20.4	2.4	0.0	0.0
<b>Primary Contact:</b>	1	16.4	16.4	0.0	0.0	0.0
<b>Fish Consumption:</b>	1	16.4	16.4	0.0	0.0	0.0
<b>Drinking Water:</b>						

\* Blank values indicate no assessed segments for this category.

<b>Assessed Stream Segments and Waterbodies</b>					
<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>
Buck Creek	0	4	4	AL	Fully Supporting
Lower Buffalo Creek	0	2.4	2.4	AL	Partially Supporting
South Fork Kentucky River	11.3	27.7	16.4	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*

<b>Causes for Nonsupport or Impairment of Designated Uses</b>					
<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>
Lower Buffalo Creek	0	2.4	2.4	Aquatic Life Support	Partially Supporting
<i>Possible Causes of Impairment:</i>			<i>Possible Sources For Impairment:</i>		
Siltation			Habitat Modification (other than Hydromodification), Removal of Riparian Vegetation		

*\*Abbreviations: UT - Unnamed Tributary*

Watershed Name: South Fork Kentucky River

11-Digit Watershed Identity Number: 05100203060

**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>
BOONEVILLE WATER AND SEWER	Surface Water	Water Treatment Plant	0950036
BOONEVILLE WATER AND SEWER	Surface Water	Water Withdrawal Site	0950036

<i>KPDES Permitted Discharge Facilities</i>			<i>KPDES Site ID Number</i>
<i>Facility</i>	<i>Type of Facility</i>		
BOONEVILLE STP	SEWERAGE SYSTEMS	KY0033774	
CAMP BRENT LANEER	SPORTING & RECREATIONAL CAMPS	KY0086908	
DATAKOM INC	DATA PROCESSING & PREPARATION	KY0087785	
KTC LEE CO MAINT LOT	BUS TERMINAL & SERVICE FACILIT	KYG500023	
KTC OWSLEY CO MAINT LOT	BUS TERMINAL & SERVICE FACILIT	KYG500040	
SEARCY & STRONG FUNERAL HOME	FUNERAL SERVICES & CREMATORIES	KY0098477	
SOUTHSIDE ELEM SCHOOL	ELEMENTARY & SECONDARY SCHOOLS	KY0095923	

**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>
South Fork Kentucky River	USGS	USGS03281500	Flow

<i>KY Division of Water Sampling Sites</i>	
<i>Stream Name</i>	<i>Type of Sampling</i>
South Fork Kentucky River	Other Monitoring

<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>
Buck Creek	Upstream of Buck Creek	Mouth	7.5	4	0
Lower Buffalo Creek	Caney Fork & Straight Fork Confluence	Mouth	2.4	2.4	0