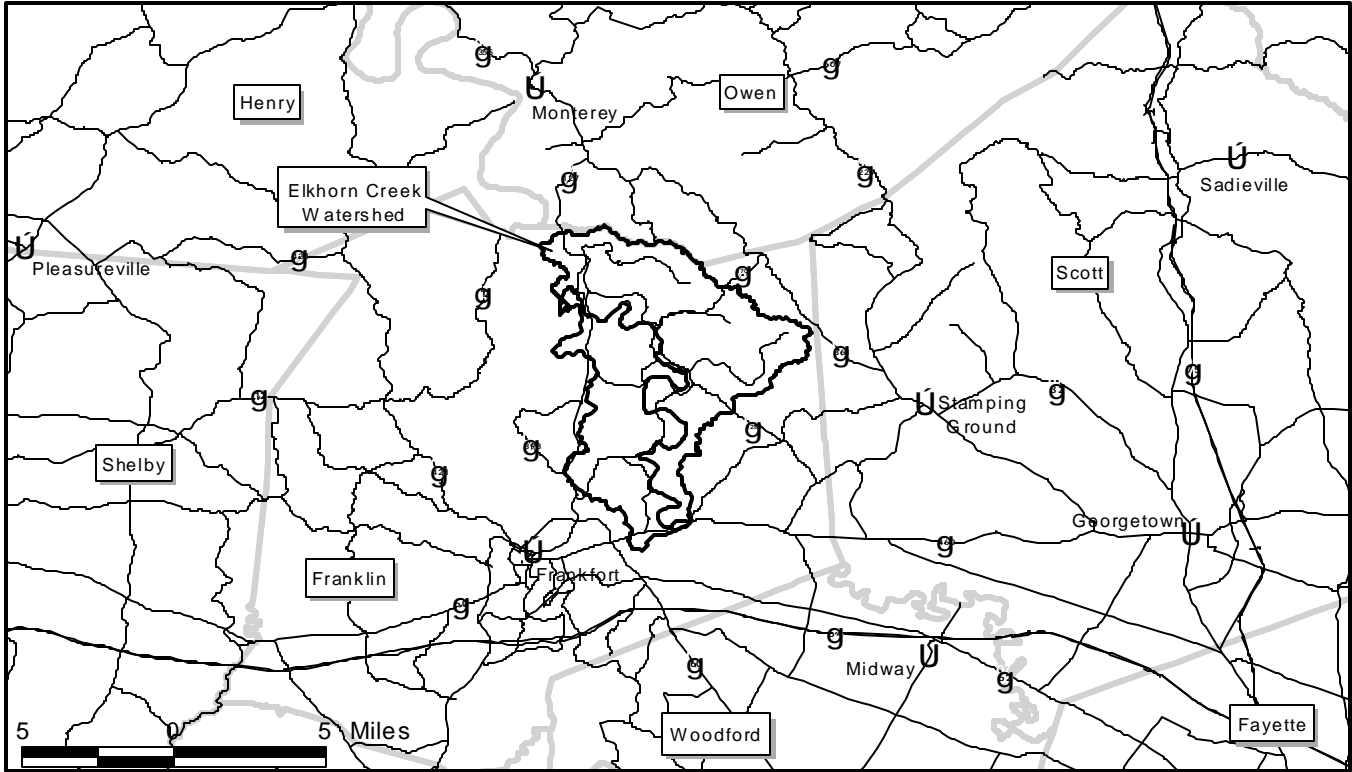


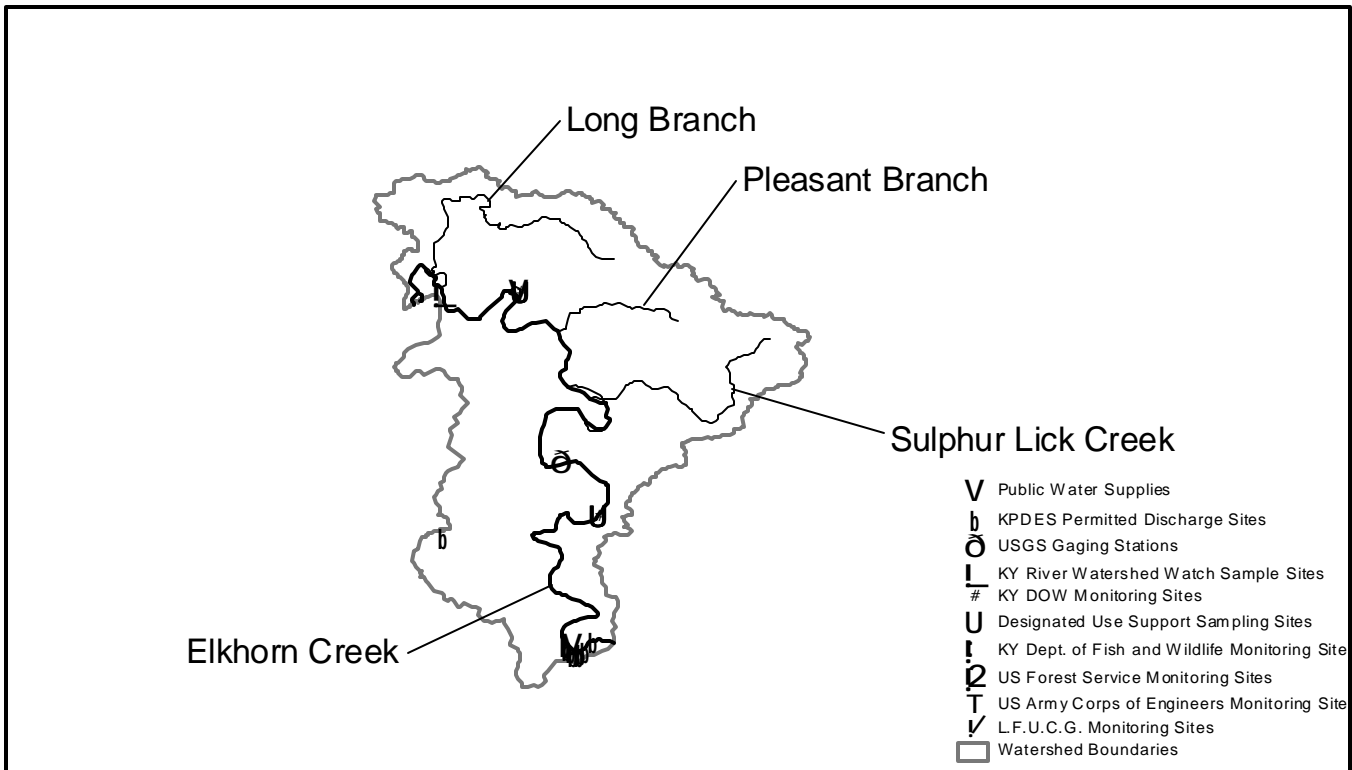
Elkhorn Creek Watershed

Watershed Number: 05100205290

Location Map



Watershed Features



Geography. The Elkhorn Creek watershed covers northeast Franklin County. The land is in the inner subregion of the Bluegrass physiographic region, characterized by undulating terrain and moderate rates of both surface runoff and groundwater drainage. The watershed lies partly above thick layers of easily dissolved limestone that form carbonate aquifers. Groundwater flows through channels in the limestone, so caves and springs are common in regions with this geology. Other areas lie above interbedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough). Unconsolidated silts, sands, and gravels occur along the flood plain of the creek and on adjoining upland terraces.

Waterways. Elkhorn Creek empties into the Kentucky River in northern Franklin County. Among the creeks that feed it are Sulphur Lick Creek, Camp Pleasant Branch (Pleasant Branch), Gregory Branch, and Long Branch. Water also flows into the watershed from the South and North Elkhorn watersheds.

Land and water use. Land in the watershed is about 5% residential, 45% rural and wooded, and 50% agricultural. Four businesses and organizations hold permits for discharges into the creeks. See tables for details.

Agency data assessment. The assessed creek segment in this watershed does not support 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. There is a volunteer monitoring site on Elkhorn 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:

Total Land Area (Acres):	24,130	Acres	% of Total		
Residential Area:	1,165		4.8	Number of Mine Permits:	0
Commercial Area:	34		0.1	Total Permitted Mining Area (Acres):	0
Industrial Area:	110		0.5	Number of Identified Wetland Areas:	29
Agricultural Area:	12,217		50.6	Total Wetland Area (Acres):	53
Rural and Wooded Area:	10,603		43.9		
Other Land-use Area:	0		0.0		

Withdrawal and Discharge Sites:

Number of Public Water Supplies and Water Withdrawal Sites:	2	Number of KPDES Discharge Permits:	11
Surface Water Withdrawals:	2		
Groundwater Withdrawals:	0		
No. of Potable Water Treatment Facilities:	0		

Sampling Site Statistics:

Number of USGS Gaging Stations:	0
Number of Kentucky Division of Water Sampling Sites:	2
Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:	0
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:	1
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

High

High

High

Medium

High

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	53	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	3.43	Score	2 - 5	3.21
KY Dept. of Fish and Wildlife Management Areas	150	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	3	No. of resources	0 - 8	1
Kentucky Rivers Assessment Scores	9.68	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	5	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	6	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	6	Number of sites	0 - 71	4

Potential Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Potential Contamination Sites	11	Number of sites	1 - 121	12
Potential Pesticide Loading	7	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	298	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	2.45	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	4,610	Animal units	55 - 43826	7,021
KPDES Discharge Violations	27	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	19	Number of complaints	0 - 53	9
Toxic Release Inventory	1,826,970	Score	0 - 11547626	231,638
Population Change Projection	313	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	662	Number of persons	12 - 4511	1,114
Mining Area	0	Acres	0 - 6305	355
Surface Water Runoff Potential	71.59	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	11	Number of sites	0 - 56	6

Watershed Name: Elkhorn Creek

11-Digit Watershed Identity Number: 05100205290

Stream and Waterbody Use Support Summary

Total Stream Miles: <input type="text" value="33.93"/>	Number of Segments	Stream Miles Assessed	Miles * Fully Supportina	Miles * Partially Supportina	Miles * Not Supportina	Miles * Threatened
Segments Assessed:	1	17.7	0.0	0.0	17.7	0.0
Designated Uses						
Aquatic Life:	1	17.7	17.7	0.0	0.0	0.0
Primary Contact:	1	17.7	0.0	0.0	17.7	0.0
Fish Consumption:	1	17.7	17.7	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
Elkhorn Creek	0	17.7	17.7	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
Elkhorn Creek	0	17.7	17.7	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: Elkhorn Creek

11-Digit Watershed Identity Number: 05100205290

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>
KY FISH/WLIFE-FRKFT FISH HATCHERY	Surface Water	Water Withdrawal Site	WW1098
OLD GRAND DAD DISTILLING CO.	Surface Water	Water Withdrawal Site	WW0064

<i>KPDES Permitted Discharge Facilities</i>			<i>KPDES Site ID Number</i>
<i>Facility</i>	<i>Type of Facility</i>		
ELKHORN MHP	OPER OF RES MOBILE HOME SITES		KY0083429
JIM BEAM BRANDS OLD GRANDAD	DIST, RECTIFIED & BLENDED LIQ		KY0001252
LEESTOWN CO INC	DIST, RECTIFIED & BLENDED LIQ		KY0001023
RIDGEWOOD ESTATES SEWER SERV	LAND SUBDIVIDERS & DEV, EX CEM		KY0074802

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>
Elkhorn Creek	USGS	USGS03289500	Flow

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

<i>KY River Watershed Watch Sampling Sites</i>		
<i>Stream Name</i>	<i>KRWW Sample ID No.</i>	<i>Site Description</i>
Elkhorn Creek	K80	Strohmeir Rd. at old Iron Bridge

Watershed Name:

Elkhorn Creek

11-Digit Watershed Identity Number:

05100205290

Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K80 Stream: Elkhorn Creek

Physical Data (May):

pH	7.9	Alkalinity	
Temperature	19	Total Hardness	
Dissolved Oxygen	6.8	Chlorides	
		Conductivity	
		Total Organic Carbon	
		Total Suspended Solids	

Fecal Data (July / August):

	Coliform Count	Strep Count	Coliform/Strep Ratio
July	20	250	0.08
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: K80 Stream: Elkhorn 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: K80 Stream: Elkhorn 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

K80	Elkhorn Creek			0.06
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Note: All indicators are in micrograms per liter which is equivalent to parts per billion (ppb).