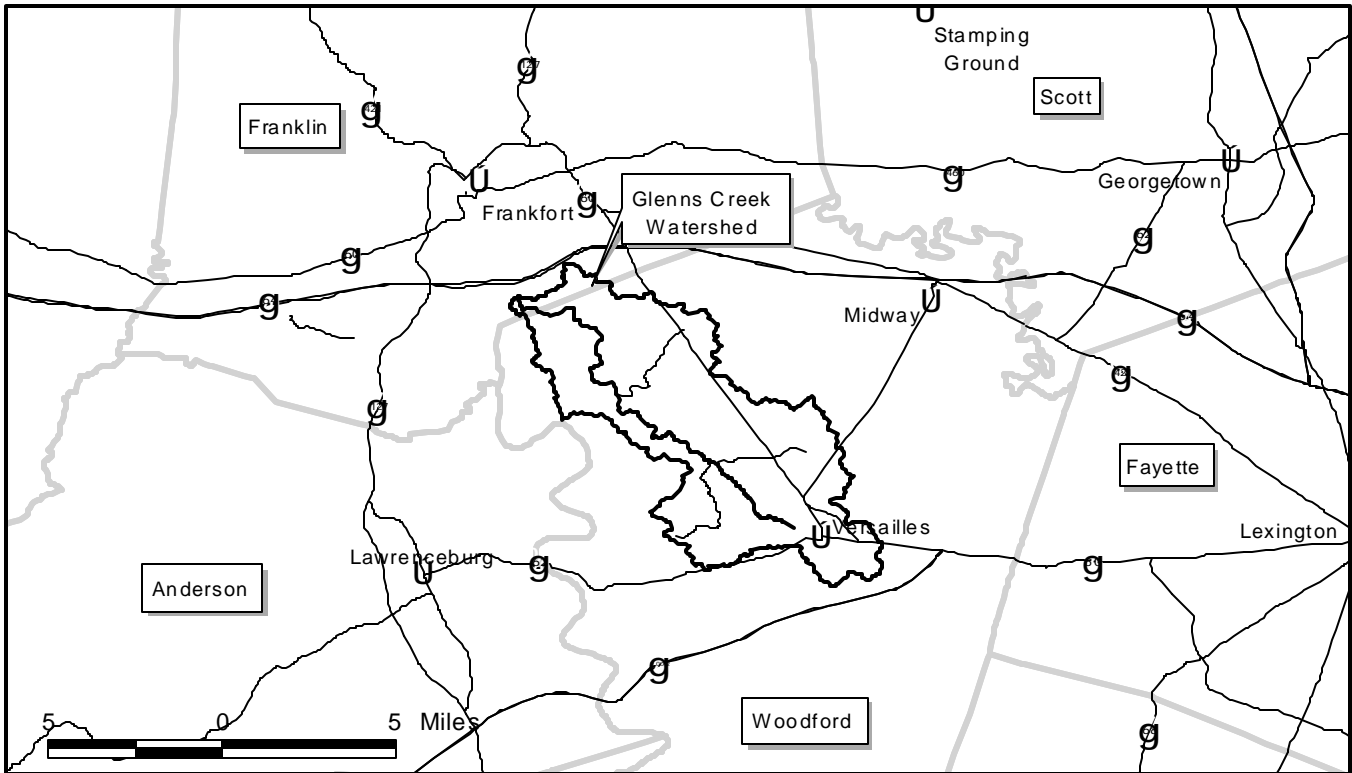


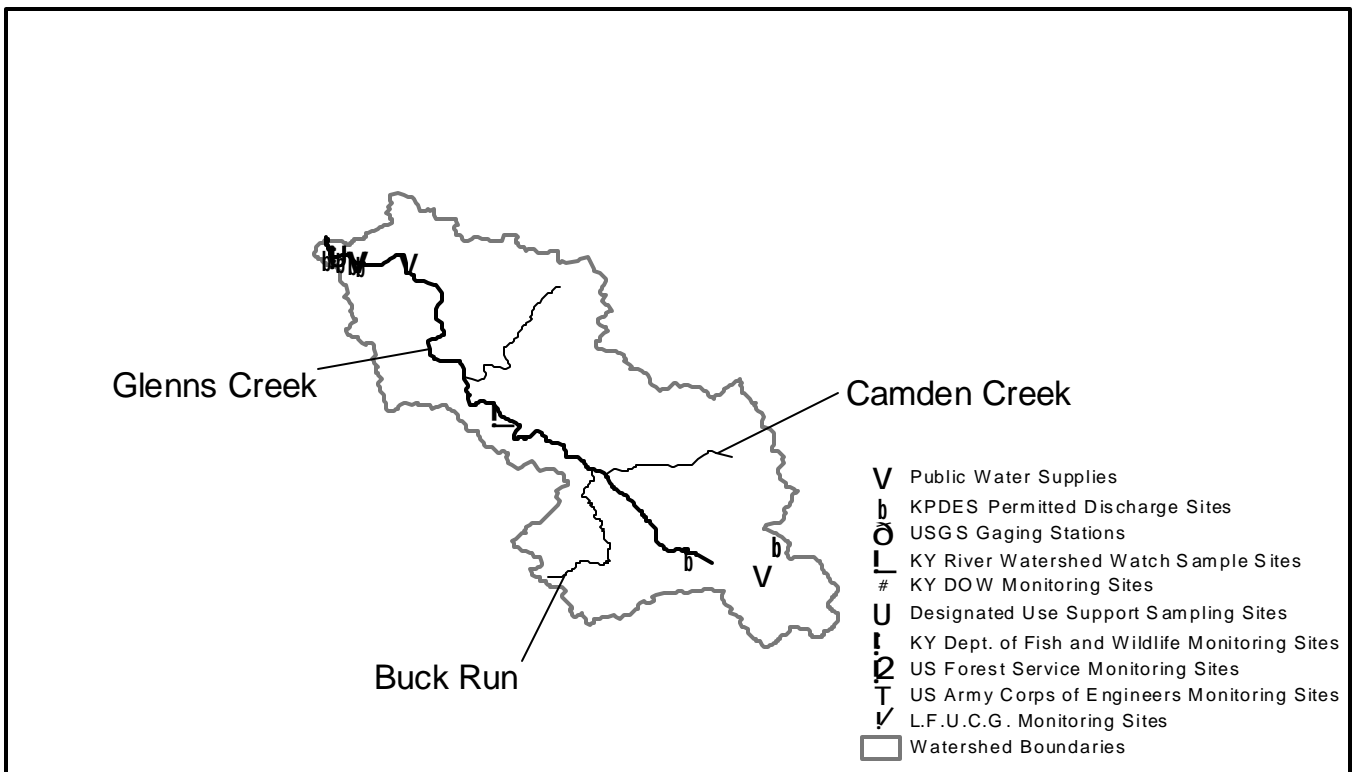
Glenns Creek Watershed

Watershed Number: 05100205240

Location Map



Watershed Features



Geography. The Glens Creek watershed occupies northwest Woodford 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. Most of the watershed lies 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. Some areas lie above interbedded limestones and shales (>20% limestone, allowing groundwater flow where the clay content is low enough).

Waterways. Glens Creek empties into the Kentucky River south of Frankfort, just above Interstate 64. Among the creeks that feed it are Camden Creek and Buck Run.

Land and water use. Land in the watershed is almost 85% agricultural, more than 5% rural and wooded, and about 10% residential or commercial. The surface waters of the watershed supply the drinking water for the municipal system in Versailles. Three businesses and organizations hold permits for discharges into the creeks. See tables for details.

Agency data assessment. The assessed creek segment in this watershed fully supports all of its 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. Data show high levels of bacteria indicative of fecal contamination in Glens Creek (above 200 colonies/ml). Phosphorus levels were ten times above the level that may cause potential nutrient enrichment problems (> 0.1 mg/L). 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):	21,615	Acres	% of Total		
Residential Area:	1,333		6.2	Number of Mine Permits:	0
Commercial Area:	819		3.8	Total Permitted Mining Area (Acres):	0
Industrial Area:	130		0.6	Number of Identified Wetland Areas:	19
Agricultural Area:	18,022		83.4	Total Wetland Area (Acres):	18
Rural and Wooded Area:	1,251		5.8		
Other Land-use Area:	55		0.3		

Withdrawal and Discharge Sites:

Number of Public Water Supplies and Water Withdrawal Sites:	4	Number of KPDES Discharge Permits:	7
Surface Water Withdrawals:	2		
Groundwater Withdrawals:	2		
No. of Potable Water Treatment Facilities:	1		

Sampling Site Statistics:

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

Glenns Creek

11-Digit Watershed Identity Number:

05100205240

Watershed Indicators and Ranking Categories:

Overall Watershed Ranking:

Protection Ranking	Observed Impacts	Potential Impacts	Restoration Ranking
High	Medium	Medium	Medium

Medium

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	18	Acres	0 - 106	12
Surface Drinking Water Sources	2	No. of sources	0 - 14	2
Ground Drinking Water Sources	2	No. of sources	0 - 17	1
Groundwater Sensitivity	4.78	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	0.00	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	3	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	3	Number of sites	0 - 71	4

Potential Impact Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Potential Contamination Sites	6	Number of sites	1 - 121	12
Potential Pesticide Loading	15	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	573	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	1.95	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	6,787	Animal units	55 - 43826	7,021
KPDES Discharge Violations	0	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	7	Number of complaints	0 - 53	9
Toxic Release Inventory	0	Score	0 - 11547626	231,638
Population Change Projection	427	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	604	Number of persons	12 - 4511	1,114
Mining Area	0	Acres	0 - 6305	355
Surface Water Runoff Potential	71.17	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	7	Number of sites	0 - 56	6

Watershed Name: Glenns Creek

11-Digit Watershed Identity Number: 05100205240

Stream and Waterbody Use Support Summary

<i>Total Stream Miles:</i>						
<input type="text" value="21.75"/>	<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	5.2	5.2	0.0	0.0	0.0
<i>Designated Uses</i>						
<i>Aquatic Life:</i>	1	5.2	5.2	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>
Glenns Creek	0	5.2	5.2	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: Glenns Creek

11-Digit Watershed Identity Number: 05100205240

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>
OLD CROW DISTILLING CO.	Groundwater	Water Withdrawal Site	WW0060
OLD CROW DISTILLING CO.	Surface Water	Water Withdrawal Site	WW0062
STONE CASTLE PROPERTIES OF MILLV'LE	Groundwater	Water Withdrawal Site	WW0065
VERSAILLES WATER SYSTEM	Surface Water	Water Treatment Plant	1200439

<i>KPDES Permitted Discharge Facilities</i>			<i>KPDES Site ID Number</i>
<i>Facility</i>	<i>Type of Facility</i>		
JAMES BEAM DISTLL OLD CROW	DIST, RECTIFIED & BLENDED LIQ	KY0001244	
UNITED L N GLASS	GLASS PROD MADE OF PURCH. GLAS	KY0088137	
VERSAILLES STP	SEWERAGE SYSTEMS	KY0020621	

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>
Glenns Creek	Upstream of Glenns Creek	Mouth	12.2	5.2	0

<i>KY River Watershed Watch Sampling Sites</i>		
<i>Stream Name</i>	<i>KRWW Sample ID No.</i>	<i>Site Description</i>
Glen Creek	K85	Intersection of Steel Road and McCracken at Gle

Watershed Name:

Glenns Creek

11-Digit Watershed Identity Number:

05100205240

Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K85 Stream: Glen Creek

Physical Data (May):

pH	7.5	Alkalinity	154
Temperature	0	Total Hardness	222
Dissolved Oxygen	3.5	Chlorides	79.8
		Conductivity	754
		Total Organic Carbon	6.5
		Total Suspended Solids	17

Fecal Data (July / August):

	Coliform Count	Strep Count	Coliform/Strep Ratio
July	240	3700	0.065
August	300	1400	0.21

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: K85 Stream: Glen Creek

Ammonia		Orthophosphate as Phosphate	4.321	Sulfate	115
Ammonia Nitrogen		Orthophosphate as Phosphorus	1.409		
Total Kjeldahl Nitrogen as NH3		Total Recoverable Phosphorus	1.25		
Total Kjeldahl Nitrogen as N					
Nitrate	4.5				
Nitrate Nitrogen	1.02				

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: K85 Stream: Glen Creek

Aluminum		Calcium	46.22	Lead		Selenium	0.01	Thallium	
Antimony		Chromium		Lithium	0.02	Silicon	2.64	Vanadium	
Barium	0.14	Cobalt	0.003	Magnesium	11.33	Sodium	51.89	Zinc	0.13
Beryllium		Copper		Manganese	0.04	Strontium	0.16		
Boron	0.42	Iron	0.19	Potassium	7.27	Sulfur	24.28		

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

K85	Glen Creek			0.09
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Note: All indicators are in micrograms per liter which is equivalent to parts per billion (ppb).