

Watershed Name:

Lotts Creek

11-Digit Watershed Identity Number:

05100201080

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):	21,652	Acres	% of Total		
Residential Area:	0	0.0		Number of Mine Permits:	18
Commercial Area:	26	0.1		Total Permitted Mining Area (Acres):	475
Industrial Area:	0	0.0		Number of Identified Wetland Areas:	3
Agricultural Area:	0	0.0		Total Wetland Area (Acres):	3
Rural and Wooded Area:	20,793	96.2			
Other Land-use Area:	785	3.6			

Withdrawal and Discharge Sites:

Number of Public Water Supplies and Water Withdrawal Sites:	4	Number of KPDES Discharge Permits:	5
Surface Water Withdrawals:	1		
Groundwater Withdrawals:	3		
No. of Potable Water Treatment Facilities:	3		

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

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Watershed Indicators and Ranking Categories:

Overall Watershed Ranking:

Protection Ranking

Observed Impacts

Potential Impacts

Restoration Ranking

High

Medium

High

Low

High

Protection Categories:

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	3	Acres	0 - 106	12
Surface Drinking Water Sources	1	No. of sources	0 - 14	2
Ground Drinking Water Sources	3	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	11,447	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	8	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	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	2.00	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	7	Number of sites	1 - 121	12
Potential Pesticide Loading	1	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	5	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	2.97	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	141	Animal units	55 - 43826	7,021
KPDES Discharge Violations	38	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	131	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	1,066	Number of persons	12 - 4511	1,114
Mining Area	474	Acres	0 - 6305	355
Surface Water Runoff Potential	60.54	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	5	Number of sites	0 - 56	6

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Stream and Waterbody Use Support Summary

Total Stream Miles: <input type="text" value="49.57"/>	Number of Seaments	Stream Miles Assessed	Miles * Fully Supportina	Miles * Partially Supportina	Miles * Not Supportina	Miles * Threatened
Segments Assessed:	1	4.8	0.0	4.8	0.0	0.0
Designated Uses						
Aquatic Life:	1	4.8	0.0	4.8	0.0	0.0
Primary Contact:						
Fish Consumption:						
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
Lotts Creek	1.2	6	4.8	AL	Partially 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
Lotts Creek	1.2	6	4.8	Aquatic Life Support	Partially Supporting
Possible Causes of Impairment: Other habitat alterations, Siltation, Flow alteration, Turbidity		Possible Sources For Impairment: Abandoned mining, Bank or Shoreline Modification/Destabilization, Habitat Modification (other than Hydromodification), Harvesting, Restoration, Residue Management, Inactive mining, Removal of Riparian Vegetation, Resource Extraction, Silviculture, Mining			
*Abbreviations: UT - Unnamed Tributary					

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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>
CAMPBELLS BP SERVICE	Groundwater	Water Treatment Plant	0973234
CORDIA ELEM / HIGH SCHOOL	Groundwater	Water Treatment Plant	0602626
FELTNER'S TRAILER COURT	Groundwater	Water Withdrawal Site	0970839
MOUNTAIN CRYSTAL BOTTLE WTR CO	Surface Water	Water Treatment Plant	0970145

<i>KPDES Permitted Discharge Facilities</i>		
<i>Facility</i>	<i>Type of Facility</i>	<i>KPDES Site ID Number</i>
CHILDERS OIL CO INC BP #200	PETROL & PET PROD WHOLESALERS	KY0039373
DWARF CHURCH OF GOD	RELIGIOUS ORGANIZATIONS	KY0079359
FELTNER'S TRAILOR PARK	OPER OF RES MOBILE HOME SITES	KY0083704
LOST MOUNTAIN MINING CO	COAL MINING SERVICE	KY0098001
LOTTS CREEK COMMUNITY SCHOOL	ELEMENTARY & SECONDARY SCHOOLS	KY0096971

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>
Lotts Creek	Grigsby Branch	Trace Fort	9.7	3.4	1.2

<i>KY River Watershed Watch Sampling Sites</i>		
<i>Stream Name</i>	<i>KRWW Sample ID No.</i>	<i>Site Description</i>
Lotts Creek	K83	550 bridge

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Results from 1999 KY River Watershed Watch Sampling:

Conventional Parameters:

Sample ID Number: K83 Stream: Lotts Creek

Physical Data (May):	
pH	7.8
Temperature	0
Dissolved Oxygen	8.2
Alkalinity	349
Total Hardness	362
Chlorides	20.3
Conductivity	1636
Total Organic Carbon	1.7
Total Suspended Solids	5

Fecal Data (July / August):		
Coliform Count	Strep Count	Coliform/Strep Ratio
July	700	1700
August	<10	440
		0.41
		<0.023

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: K83 Stream: Lotts Creek

Ammonia		Orthophosphate as Phosphate	0.015	Sulfate	549
Ammonia Nitrogen		Orthophosphate as Phosphorus	0.005		
Total Kjeldahl Nitrogen as NH3		Total Recoverable Phosphorus	0.07		
Total Kjeldahl Nitrogen as N					
Nitrate	0.9				
Nitrate Nitrogen	0.20				

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: K83 Stream: Lotts Creek

Aluminum		Calcium	70.16	Lead		Selenium		Thallium	0.03
Antimony	0.12	Chromium		Lithium	0.04	Silicon	2.18	Vanadium	
Barium	0.04	Cobalt	0.007	Magnesium	46.58	Sodium	228.22	Zinc	
Beryllium	0.001	Copper		Manganese	0.07	Strontium	1.45		
Boron	0.16	Iron	0.27	Potassium	8.69	Sulfur	116.99		

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

K83	Lotts Creek			
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Note: All indicators are in micrograms per liter which is equivalent to parts per billion (ppb).