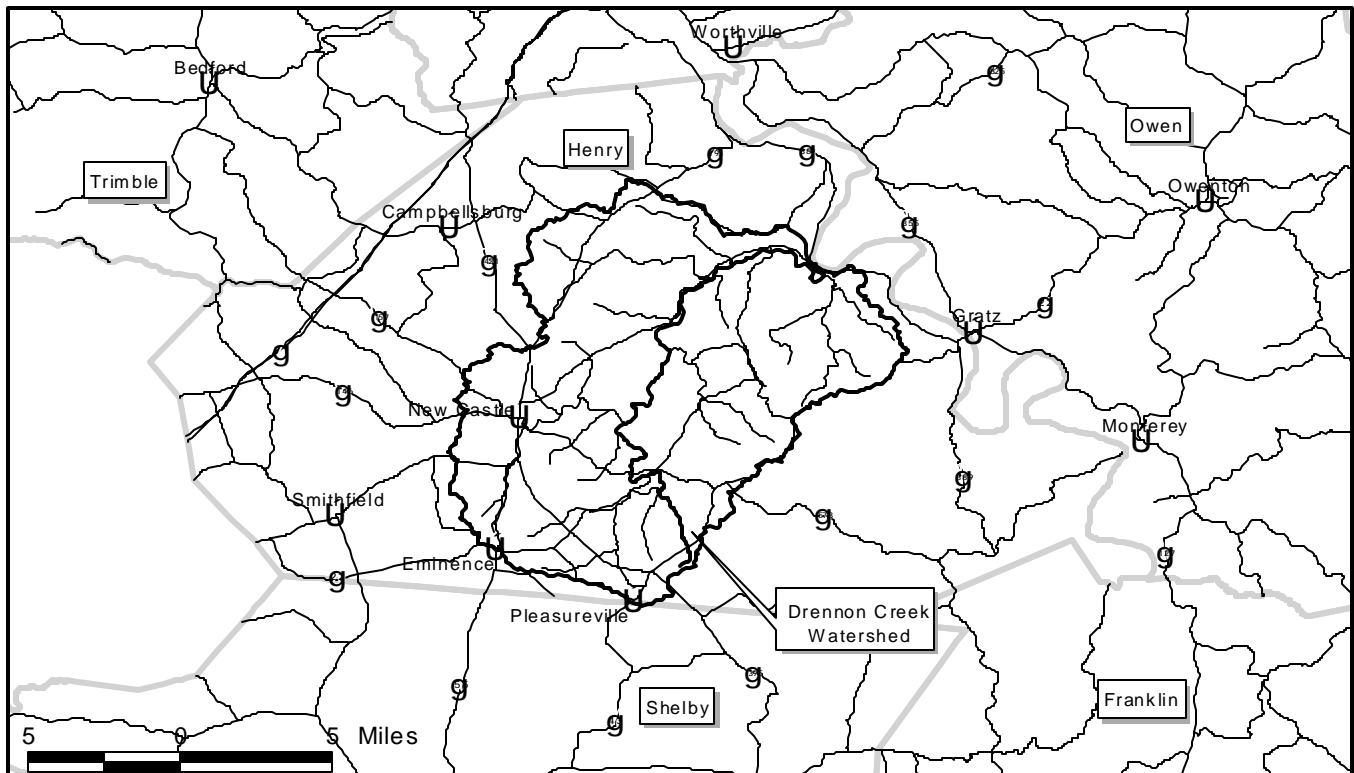


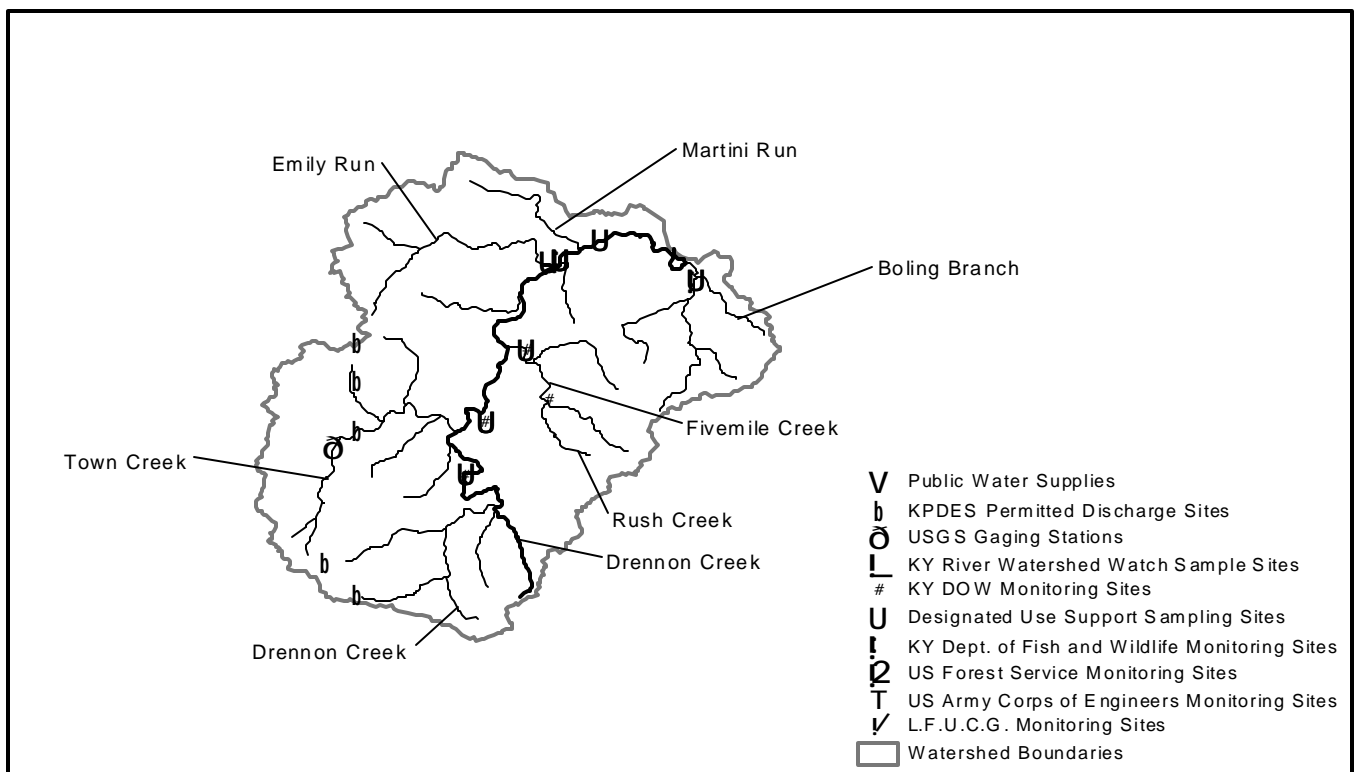
# Drennon Creek Watershed

## Watershed Number: 05100205340

### Location Map



### Watershed Features



**Geography.** The Drennon Creek watershed occupies central Henry County. The higher, southern portion of the watershed is in the outer subregion of the Bluegrass physiographic region, characterized by undulating terrain, moderate to rapid surface runoff, and moderate rates of groundwater drainage. The lower, northern portion of the watershed is in the hills of the bluegrass subregion, characterized by hilly terrain, very rapid surface runoff, and slow groundwater drainage. Parts of the watershed lie over interbedded shales and limestones (these are 20% limestone; water conduction is poor because of the clay content of the shale). Other areas are underlain by 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.

**Waterways.** Drennon Creek empties into the Kentucky River east of Drennon Springs. Among the creeks that feed it are Town Creek, Rush Creek, Fivemile Creek, Flag Run, Emily Run, Martini Run, Holy Water Branch, Greens Fork, Boling Branch, and Sulphur Creek.

**Land and water use.** Land in the watershed is 75% agricultural, 20% rural and wooded, and less than 5% residential and commercial. Four 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 two that do not support some or all of their designated uses, based on biological and/or water-quality data. Two are classified as threatened. Siltation, organic enrichment, habitat alteration, and municipal point 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 lowest 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="62,361"/>	<i>Acres</i>	<i>% of Total</i>		
<i>Residential Area:</i>	<input type="text" value="2,301"/>		<input type="text" value="3.7"/>	<i>Number of Mine Permits:</i>	<input type="text" value="0"/>
<i>Commercial Area:</i>	<input type="text" value="262"/>		<input type="text" value="0.4"/>	<i>Total Permitted Mining Area (Acres):</i>	<input type="text" value="0"/>
<i>Industrial Area:</i>	<input type="text" value="40"/>		<input type="text" value="0.1"/>	<i>Number of Identified Wetland Areas:</i>	<input type="text" value="4"/>
<i>Agricultural Area:</i>	<input type="text" value="47,189"/>		<input type="text" value="75.6"/>	<i>Total Wetland Area (Acres):</i>	<input type="text" value="2"/>
<i>Rural and Wooded Area:</i>	<input type="text" value="12,543"/>		<input type="text" value="20.1"/>		
<i>Other Land-use Area:</i>	<input type="text" value="47"/>		<input type="text" value="0.1"/>		

**Withdrawal and Discharge Sites:**

<i>Number of Public Water Supplies and Water Withdrawal Sites:</i>	<input type="text" value="0"/>	<i>Number of KPDES Discharge Permits:</i>	<input type="text" value="5"/>
<i>Surface Water Withdrawals:</i>	<input type="text" value="0"/>		
<i>Groundwater Withdrawals:</i>	<input type="text" value="0"/>		
<i>No. of Potable Water Treatment Facilities:</i>	<input type="text" value="0"/>		

**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="4"/>
<i>Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:</i>	<input type="text" value="2"/>
<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

Low

Low

High

Low

Low

**Protection Categories:**

Indicator	Value	Units	Range of All Watersheds	Mean of All Watersheds
Wetland Areas	2	Acres	0 - 106	12
Surface Drinking Water Sources	0	No. of sources	0 - 14	2
Ground Drinking Water Sources	0	No. of sources	0 - 17	1
Groundwater Sensitivity	2.71	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	0.93	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	2	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	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	1.24	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	8	Number of sites	1 - 121	12
Potential Pesticide Loading	23	Est. sales in tons	0 - 45	10
Potential Fertilizer Loading	1,513	Est. tons applied	0 - 2747	394
Agricultural Erosion Potential	2.96	Est. tons erosion / acre	0 - 9	3.20
Livestock Operations Potential Impact	17,709	Animal units	55 - 43826	7,021
KPDES Discharge Violations	2	Number of violations	0 - 541	39
KY Division of Water Citizen Complaints	9	Number of complaints	0 - 53	9
Toxic Release Inventory	0	Score	0 - 11547626	231,638
Population Change Projection	316	Number of persons	-149 - 11030	448
Population Not on Public Sewer Systems	1,140	Number of persons	12 - 4511	1,114
Mining Area	0	Acres	0 - 6305	355
Surface Water Runoff Potential	75.10	SCS Curve Number	60 - 79	68
KPDES Permitted Discharges	5	Number of sites	0 - 56	6

**Stream and Waterbody Use Support Summary**

<b>Total Stream Miles:</b> <input type="text" value="88.61"/>	<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>	8	30.1	17.9	0.0	2.4	9.8
<b>Designated Uses</b>						
<b>Aquatic Life:</b>	8	30.1	17.9	0.0	2.4	9.8
<b>Primary Contact:</b>	1	7.0	7.0	0.0	0.0	0.0
<b>Fish Consumption:</b>						
<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>
Drennon Creek	11.9	16.2	4.3	AL	Fully Supporting
Drennon Creek	4.9	11.9	7	AL, PC	Fully Supporting
Drennon Creek	0	4.9	4.9	AL	Threatened
Drennon Creek	0	4.9	4.9	AL	Threatened
Emily Run	0	3.9	3.9	AL	Fully Supporting
Five Mile Creek	0	2.7	2.7	AL	Fully Supporting
Sulphur Creek	0	1.4	1.4	AL	Not Supporting
Town Creek	2.5	3.5	1	AL	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

<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>
Sulphur Creek	0	1.4	1.4	Aquatic Life Support	Not Supporting
<i>Possible Causes of Impairment:</i>			<i>Possible Sources For Impairment:</i>		
Organic enrichment/Low DO, Other habitat alterations, Siltation			Agriculture, Habitat Modification (other than Hydromodification)		
Town Creek	2.5	3.5	1	Aquatic Life Support	Not Supporting
<i>Possible Causes of Impairment:</i>			<i>Possible Sources For Impairment:</i>		
Chlorine, Unionized Ammonia			Municipal Point Sources		

\*Abbreviations: UT - Unnamed Tributary

Watershed Name: Drennon Creek

11-Digit Watershed Identity Number: 05100205340

**Withdrawal Sites and Discharge Facilities:**

<i>KPDES Permitted Discharge Facilities</i>		
<i>Facility</i>	<i>Type of Facility</i>	<i>KPDES Site ID Number</i>
EMINENCE HOUSING AUTHORITY	OPERATORS OF APART BUILDINGS	KY0065951
KTC HENRY CO MAINT GARAGE	BUS TERMINAL & SERVICE FACILIT	KY0099015
NEW CASTLE STP	SEWERAGE SYSTEMS	KY0031828
STEEL TECHNOLOGIES INC	COLD ROLLED STEEL SHEET/STRIP	KY0094293

**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>
Town Creek	USGS	USGS03290580	Flow

<i>KY Division of Water Sampling Sites</i>	
<i>Stream Name</i>	<i>Type of Sampling</i>
Drennon Creek	Physical/Chemical Monitoring
Fivemile Creek	Physical/Chemical Monitoring
Five Mile Creek	Physical/Chemical Monitoring
Drennon Creek	Physical/Chemical 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>
Sulphur Creek	Glenns Fork	Mouth	5	1.4	0
Drennon Creek	Emily Run	Mouth	21.7	4.9	0