

TMDL Synopsis

State: Kentucky

Major River Basin: Green River

HUC8: 05110001

Counties: Adair, Butler, Edmondson, Grayson, Green, Hardin, Hart, Taylor, and Warren

Pollutant of Concern: Pathogens

Impaired Use: Primary Contact Recreation

Impaired Waterbodies for TMDLs (2004 303(d) List):

Waterbody Name	Segment Length (miles)	County	Suspected Source
Big Creek of Russell Creek RM 3.0-8.2	5.2	Adair	Unknown
Big Pitman Creek of Green River RM 0.0-13.6	13.6	Green, Taylor	Unknown
Big Reedy Creek of Green River RM 7.5-13.6	6.1	Butler, Edmondson	Agriculture, Unknown
Billy Creek of Valley Creek RM 0.0-5.9	5.9	Hardin	Unknown
Butler Fork of Russell Creek RM 2.3-4.0	1.7	Adair	Unknown
Casey Creek of Green River RM 3.7-4.7	1.0	Adair	Unknown
Claylick Creek of Green River RM 2.0-3.1	1.1	Warren	Unknown
Glens Fork of Russell Creek RM 0.0-8.0	8.0	Adair	Agriculture, Unknown
Little Barren River of Green River RM 0.0-8.8	8.8	Green, Hart	Unknown
Nolin River of Green River RM 44.0-93.2	49.2	Hart, Hardin, Grayson	Agriculture
Pettys Fork of Russell Creek RM 0.0-6.0	6.0	Adair	Agriculture, Unknown
Poplar Grove Branch of Big Brush Creek RM 0.0-3.0	3.0	Green	Unknown
Russell Creek of Green River RM 40.0-41.5	1.5	Adair	Unknown
Valley Creek of Nolin River RM 0.0-3.5	3.5	Hardin	Unknown
Valley Creek of Nolin River RM 10.3-11.8	1.5	Hardin	Unknown

Note: Suspected sources as identified in the 2004 303(d) Report for Kentucky.

TMDL Endpoints (i.e., Water Quality Standard): 360 col/100ml (400 col/100ml minus a 10% Margin of Safety)

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Fecal Coliform Allocation:

TMDL ⁽¹⁾	MOS	WLA		LA ⁽⁵⁾	Percent Reduction ⁽⁶⁾	
		Wastewater ^(2,3)	MS4 ⁽⁵⁾			
Big Creek of Russell Creek RM 3.0-8.2						
96%	See ⁽⁴⁾	Sparksville Grade School KY0026182	6.06×10 ⁷ col/day	0.0 col/day	96%	96%
Big Pitman Creek of Green River RM 0.0-13.6						
92%	See ⁽⁴⁾	Campbellsville STP KY0054437	6.36×10 ¹⁰ col/day	City of Campbellsville KYG200015	92%	92%
		Green Co Sanitation District #1 KY0096881	1.51×10 ¹⁰ col/day			
		Total	6.87×10 ¹⁰ col/day			
Big Reedy Creek of Green River RM 7.5-13.6						
82%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	82%	82%
Billy Creek of Valley Creek RM 0.0-5.9						
85%	See ⁽⁴⁾	0.0 col/day		City of Elizabethtown KYG200035	85%	85%
				Hardin County Fiscal Court KYG200003	85%	
Butler Fork of Russell Creek RM 2.3-4.0						
97%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	97%	97%
Casey Creek of Green River RM 3.7-4.7						
90%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	90%	90%
Claylick Creek of Green River RM 2.0-3.1						
97%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	97%	97%
Glens Fork of Russell Creek RM 0.0-8.0						
97%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	97%	97%
Little Barren River of Green River RM 0.0-8.8						
84%	See ⁽⁴⁾	Edmonton STP KY0028100	7.72×10 ⁹ col/day	0.0 col/day	84%	84%
Pettys Fork of Russell Creek RM 0.0-6.0						
79%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	79%	79%
Poplar Grove Branch of Big Brush Creek RM0.0-3.0						
37%	See ⁽⁴⁾	0.0 col/day		0.0 col/day	37%	37%

TMDL ⁽¹⁾	MOS	WLA			LA ⁽⁵⁾	Percent Reduction ⁽⁶⁾	
		Wastewater ^(2,3)		MS4 ⁽⁵⁾			
Russell Creek of Green River RM 40.0-41.5							
93%	See ⁽⁴⁾	0.0 col/day		N/A	N/A	93%	
Nolin River of Green River RM 44.0-93.2							
5.06×10 ¹² col/day	5.06×10 ¹¹ col/day	Elizabethtown STP KY0022039	1.09×10 ¹¹ col/day	City of Elizabethtown KYG200035	1.35×10 ¹¹ col/day	4.43×10 ¹² col/day	79%
		Hodgenville STP KY0026379	1.18×10 ¹⁰ col/day				
		Petro Stopping Center KY0103560	1.36×10 ⁹ col/day				
		Pilot Travel Center #48 KY0080764	1.30×10 ⁹ col/day	Hardin County Fiscal Court KYG200003	2.56×10 ¹¹ col/day		
		Glen Dale Childrens Home KY0073644	3.41×10 ⁸ col/day				
		Glendale Auto Truck Plaza KY0029700	2.27×10 ⁸ col/day				
		Total	1.24×10 ¹¹ col/day	Total	1.59×10 ¹¹ col/day		
Valley Creek of Nolin River RM 0.0-3.5							
84%	See ⁽⁴⁾	Elizabethtown STP KY0026182	1.09×10 ¹¹ col/day	City of Elizabethtown KYG200035	84%	84%	84%
				Hardin County Fiscal Court KYG200003	84%		
Valley Creek of Nolin River RM 10.3-11.8							
89%	See ⁽⁴⁾	0.0 col/day		City of Elizabethtown KYG200035	89%	89%	89%
				Hardin County Fiscal Court KYG200003	89%		

Notes:

- (1). TMDLs are expressed as daily loads of fecal colonies in Table 61 of Appendix 1.
- (2). Any future KPDES wastewater permitted sources must meet permit limits based on the Water Quality Standards in 401 KAR 5:031, and must not cause or contribute to an existing impairment.
- (3). WLA value is based on design flow and acute permit limits and represents the maximum one-day load that can be discharged to the stream segment.
- (4). MOS is both implicit and explicit.
- (5). MS4 WLA and LA are expressed as percent reductions
- (6). Overall reduction to achieve the target of 360 col/100ml.

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KPDES Wastewater Discharges to surface waters addressed in TMDLs:

Facility Name	KPDES No.	Design Flow (MGD)	Permit Limit (col/day)		WLA
			Monthly Avg.	Max Weekly Avg.	
Big Creek of Russell Creek RM 3.0-8.2					
Sparksville Grade School	KY0026182	0.004	200	400	6.06×10 ⁷ col/day
Big Pitman Creek of Green River RM 0.0-13.6					
Campbellsville STP	KY0054437	4.2	200	400	6.36×10 ¹⁰ col/day
Green Co. Sanitation District #1	KY0096881	0.1	200	400	1.51×10 ⁹ col/day
City of Campbellsville	KYG200015	n/a	n/a	n/a	92%
Little Barren River of Green River RM 0.0-8.8					
Edmonton STP	KY0028100	0.51	200	400	7.72×10 ⁹ col/day
Nolin River of Green River RM 44.0-93.2					
Elizabethtown STP	KY0022039	7.2	200	400	1.09×10 ¹¹ col/day
Hodgenville STP	KY0026379	0.78	200	400	1.18×10 ¹⁰ col/day
Petro Stopping Center	KY0103560	0.09	200	400	1.36×10 ⁹ col/day
Pilot Travel Center #48	KY0080764	0.086	200	400	1.30×10 ⁹ col/day
Glen Dale Childrens Home	KY0073644	0.0225	200	400	3.41×10 ⁸ col/day
Glendale Auto Truck Plaza	KY0029700	0.015	200	400	2.27×10 ⁸ col/day
Hardin County Fiscal Court	KYG200003	n/a	n/a	n/a	1.35×10 ¹¹ col/day
City of Elizabethtown	KYG200035	n/a	n/a	n/a	2.56×10 ¹¹ col/day
Valley Creek of Nolin River RM 0.0-3.5					
Elizabethtown STP	KY0022039	7.2	200	400	1.09×10 ¹¹ col/day
Hardin County Fiscal Court	KYG200003	n/a	n/a	n/a	84%
City of Elizabethtown	KYG200035	n/a	n/a	n/a	84%
Valley Creek of Nolin River RM 10.3-11.8					
Hardin County Fiscal Court	KYG200003	n/a	n/a	n/a	89%
City of Elizabethtown	KYG200035	n/a	n/a	n/a	89%

Note:

(1) MS4 WLA is expressed as a percent reduction necessary to meet TMDL not an actual load.