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):

<table>
<thead>
<tr>
<th>Waterbody Name</th>
<th>Segment Length (miles)</th>
<th>County</th>
<th>Suspected Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Creek of Russell Creek RM 3.0-8.2</td>
<td>5.2</td>
<td>Adair</td>
<td>Unknown</td>
</tr>
<tr>
<td>Big Pitman Creek of Green River RM 0.0-13.6</td>
<td>13.6</td>
<td>Green, Taylor</td>
<td>Unknown</td>
</tr>
<tr>
<td>Big Reedy Creek of Green River RM 7.5-13.6</td>
<td>6.1</td>
<td>Butler, Edmondson</td>
<td>Agriculture, Unknown</td>
</tr>
<tr>
<td>Billy Creek of Valley Creek RM0.0-5.9</td>
<td>5.9</td>
<td>Hardin</td>
<td>Unknown</td>
</tr>
<tr>
<td>Butler Fork of Russell Creek RM 2.3-4.0</td>
<td>1.7</td>
<td>Adair</td>
<td>Unknown</td>
</tr>
<tr>
<td>Casey Creek of Green River RM 3.7-4.7</td>
<td>1.0</td>
<td>Adair</td>
<td>Unknown</td>
</tr>
<tr>
<td>Claylick Creek of Green River RM 2.0-3.1</td>
<td>1.1</td>
<td>Warren</td>
<td>Unknown</td>
</tr>
<tr>
<td>Glens Fork of Russell Creek RM 0.0-8.0</td>
<td>8.0</td>
<td>Adair</td>
<td>Agriculture, Unknown</td>
</tr>
<tr>
<td>Little Barren River of Green River RM 0.0-8.8</td>
<td>8.8</td>
<td>Green, Hart</td>
<td>Unknown</td>
</tr>
<tr>
<td>Nolin River of Green River RM 44.0-93.2</td>
<td>49.2</td>
<td>Hart, Hardin, Grayson</td>
<td>Agriculture</td>
</tr>
<tr>
<td>Pettys Fork of Russell Creek RM 0.0-6.0</td>
<td>6.0</td>
<td>Adair</td>
<td>Agriculture, Unknown</td>
</tr>
<tr>
<td>Poplar Grove Branch of Big Brush Creek RM0.0-3.0</td>
<td>3.0</td>
<td>Green</td>
<td>Unknown</td>
</tr>
<tr>
<td>Russell Creek of Green River RM 40.0-41.5</td>
<td>1.5</td>
<td>Adair</td>
<td>Unknown</td>
</tr>
<tr>
<td>Valley Creek of Nolin River RM 0.0-3.5</td>
<td>3.5</td>
<td>Hardin</td>
<td>Unknown</td>
</tr>
<tr>
<td>Valley Creek of Nolin River RM 10.3-11.8</td>
<td>1.5</td>
<td>Hardin</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

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)
## TMDL Synopsis

### Fecal Coliform Allocation:

<table>
<thead>
<tr>
<th>TMDL(1)</th>
<th>MOS</th>
<th>WLA</th>
<th>LA(5)</th>
<th>Percent Reduction(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Wastewater(2,3)</td>
<td>MS4(5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Big Creek of Russell Creek RM 3.0-8.2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96%</td>
<td>See (4)</td>
<td>Sparksville Grade School KY0026182</td>
<td>6.06χ10^7 col/day</td>
<td>0.0 col/day</td>
</tr>
<tr>
<td><strong>Big Pitman Creek of Green River RM 0.0-13.6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>92%</td>
<td>See (4)</td>
<td>Campbellsville STP KY0054437</td>
<td>6.36χ10^10 col/day</td>
<td>City of Campbellsville KYG200015</td>
</tr>
<tr>
<td><strong>Big Reedy Creek of Green River RM 7.5-13.6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>82%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>82%</td>
</tr>
<tr>
<td><strong>Billy Creek of Valley Creek RM 0.0-5.9</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>85%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>City of Elizabethtown KYG200035</td>
<td>85%</td>
</tr>
<tr>
<td><strong>Butler Fork of Russell Creek RM 2.3-4.0</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>97%</td>
</tr>
<tr>
<td><strong>Casey Creek of Green River RM 3.7-4.7</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>90%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>90%</td>
</tr>
<tr>
<td><strong>Claylick Creek of Green River RM 2.0-3.1</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>97%</td>
</tr>
<tr>
<td><strong>Glens Fork of Russell Creek RM 0.0-8.0</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>97%</td>
</tr>
<tr>
<td><strong>Little Barren River of Green River RM 0.0-8.8</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>84%</td>
<td>See (4)</td>
<td>Edmonton STP KY0028100</td>
<td>7.72χ10^9 col/day</td>
<td>0.0 col/day</td>
</tr>
<tr>
<td><strong>Pettys Fork of Russell Creek RM 0.0-6.0</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>79%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>79%</td>
</tr>
<tr>
<td><strong>Poplar Grove Branch of Big Brush Creek RM0.0-3.0</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37%</td>
<td>See (4)</td>
<td>0.0 col/day</td>
<td>0.0 col/day</td>
<td>37%</td>
</tr>
</tbody>
</table>
## Final TMDL
### Upper Green River Fecal Coliform TMDL

**February 29, 2008**

<table>
<thead>
<tr>
<th>TMDL(1)</th>
<th>MOS</th>
<th>WLA</th>
<th>LA(5)</th>
<th>Percent Reduction(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Russell Creek of Green River RM 40.0-41.5</strong></td>
<td>93%</td>
<td>See (3) 0.0 col/day</td>
<td>N/A</td>
<td>N/A 93% 93%</td>
</tr>
<tr>
<td><strong>Nolin River of Green River RM 44.0-93.2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.06×10^{12} col/day</td>
<td>5.06×10^{11} col/day</td>
<td>1.09×10^{11} col/day</td>
<td>1.35×10^{11} col/day</td>
<td>4.43×10^{12} col/day</td>
</tr>
<tr>
<td>Elizabethtown STP KY0022039</td>
<td></td>
<td>City of Elizabethtown KYG200035</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hodgenville STP KY0026379</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petro Stopping Center KY0103560</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot Travel Center #48 KY0080764</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glen Dale Childrens Home KY0073644</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glendale Auto Truck Plaza KY0029700</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.24×10^{11} col/day</td>
<td>Total 1.59×10^{11} col/day</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Valley Creek of Nolin River RM 0.0-3.5</strong></td>
<td>84%</td>
<td>See (4) 1.09×10^{11} col/day</td>
<td>84%</td>
<td>84% 84% 84%</td>
</tr>
<tr>
<td><strong>Valley Creek of Nolin River RM 10.3-11.8</strong></td>
<td>89%</td>
<td>See (4) 0.0 col/day</td>
<td>89%</td>
<td>89% 89% 89%</td>
</tr>
</tbody>
</table>

### 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.
## TMDL Synopsis

**KPDES Wastewater Discharges to surface waters addressed in TMDLs:**

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>KPDES No.</th>
<th>Design Flow (MGD)</th>
<th>Permit Limit (col/day)</th>
<th>WLA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Big Creek of Russell Creek RM 3.0-8.2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sparksville Grade School</td>
<td>KY0026182</td>
<td>0.004</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td><strong>Big Pitman Creek of Green River RM 0.0-13.6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Campbellsville STP</td>
<td>KY0054437</td>
<td>4.2</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Green Co. Sanitation District #1</td>
<td>KY0096881</td>
<td>0.1</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>City of Campbellsville</td>
<td>KYG200015</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Little Barren River of Green River RM 0.0-8.8</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edmonton STP</td>
<td>KY0028100</td>
<td>0.51</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td><strong>Nolin River of Green River RM 44.0-93.2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabethtown STP</td>
<td>KY0022039</td>
<td>7.2</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Hodgenville STP</td>
<td>KY0026379</td>
<td>0.78</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Petro Stopping Center</td>
<td>KY0103560</td>
<td>0.09</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Pilot Travel Center #48</td>
<td>KY0080764</td>
<td>0.086</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Glen Dale Childrens Home</td>
<td>KY0073644</td>
<td>0.0225</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Glendale Auto Truck Plaza</td>
<td>KY0029700</td>
<td>0.015</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Hardin County Fiscal Court</td>
<td>KYG200003</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>City of Elizabethtown</td>
<td>KYG200035</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Valley Creek of Nolin River RM 0.0-3.5</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elizabethtown STP</td>
<td>KY0022039</td>
<td>7.2</td>
<td>200</td>
<td>400</td>
</tr>
<tr>
<td>Hardin County Fiscal Court</td>
<td>KYG200003</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>City of Elizabethtown</td>
<td>KYG200035</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Valley Creek of Nolin River RM 10.3-11.8</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hardin County Fiscal Court</td>
<td>KYG200003</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>City of Elizabethtown</td>
<td>KYG200035</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>

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