

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="36,046"/> | <i>Acres</i> | <i>% of Total</i>                 |   |                                    |
| <i>Residential Area:</i>        | <input type="text" value="62"/>     |              | <input type="text" value="0.2"/>  | <i>Number of Mine Permits:</i>              | <input type="text" value="91"/>    |
| <i>Commercial Area:</i>         | <input type="text" value="172"/>    |              | <input type="text" value="0.5"/>  | <i>Total Permitted Mining Area (Acres):</i> | <input type="text" value="1,878"/> |
| <i>Industrial Area:</i>         | <input type="text" value="24"/>     |              | <input type="text" value="0.1"/>  | <i>Number of Identified Wetland Areas:</i>  | <input type="text" value="3"/>     |
| <i>Agricultural Area:</i>       | <input type="text" value="55"/>     |              | <input type="text" value="0.2"/>  | <i>Total Wetland Area (Acres):</i>          | <input type="text" value="0"/>     |
| <i>Rural and Wooded Area:</i>   | <input type="text" value="35,142"/> |              | <input type="text" value="97.8"/> |   |                                    |
| <i>Other Land-use Area:</i>     | <input type="text" value="492"/>    |              | <input type="text" value="1.4"/>  |   |                                    |

**Withdrawal and Discharge Sites:**

|  |                                |   |                                |
|--|--------------------------------|---|--------------------------------|
| <i>Number of Public Water Supplies and Water Withdrawal Sites:</i> | <input type="text" value="8"/> | <i>Number of KPDES Discharge Permits:</i> | <input type="text" value="8"/> |
| <i>Surface Water Withdrawals:</i>                                  | <input type="text" value="1"/> |   |                                |
| <i>Groundwater Withdrawals:</i>                                    | <input type="text" value="7"/> |   |                                |
| <i>No. of Potable Water Treatment Facilities:</i>                  | <input type="text" value="6"/> |   |                                |

**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="0"/> |
| <i>Number of Kentucky Dept. of Fish and Wildlife Sampling Sites:</i> | <input type="text" value="1"/> |
| <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 |
| Medium             | High             | Medium            | High                |

High

**Protection Categories:**

| Indicator                                      | Value | Units            | Range of All Watersheds | Mean of All Watersheds |
|--|-------|------------------|-------------------------|------------------------|
| Wetland Areas                                  | 1     | Acres            | 0 - 106                 | 12                     |
| Surface Drinking Water Sources                 | 1     | No. of sources   | 0 - 14                  | 2                      |
| Ground Drinking Water Sources                  | 7     | 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           | 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              | 0.51  | 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                         | 10    | 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  | 3.00  | Score             | 1 - 3                   | 1.33                   |
| Contamination Sites Impacting Human Health | 1     | 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 | 1     | Number of sites | 0 - 71                  | 4                      |

**Potential Impact Categories:**

| Indicator                               | Value | Units                    | Range of All Watersheds | Mean of All Watersheds |
|---|-------|--------------------------|-------------------------|------------------------|
| Potential Contamination Sites           | 9     | Number of sites          | 1 - 121                 | 12                     |
| Potential Pesticide Loading             | 0     | Est. sales in tons       | 0 - 45                  | 10                     |
| Potential Fertilizer Loading            | 0     | Est. tons applied        | 0 - 2747                | 394                    |
| Agricultural Erosion Potential          | 1.43  | Est. tons erosion / acre | 0 - 9                   | 3.20                   |
| Livestock Operations Potential Impact   | 188   | Animal units             | 55 - 43826              | 7,021                  |
| KPDES Discharge Violations              | 19    | Number of violations     | 0 - 541                 | 39                     |
| KY Division of Water Citizen Complaints | 12    | Number of complaints     | 0 - 53                  | 9                      |
| Toxic Release Inventory                 | 0     | Score                    | 0 - 11547626            | 231,638                |
| Population Change Projection            | -5    | Number of persons        | -149 - 11030            | 448                    |
| Population Not on Public Sewer Systems  | 1,242 | Number of persons        | 12 - 4511               | 1,114                  |
| Mining Area                             | 1,878 | Acres                    | 0 - 6305                | 355                    |
| Surface Water Runoff Potential          | 61.26 | SCS Curve Number         | 60 - 79                 | 68                     |
| KPDES Permitted Discharges              | 8     | Number of sites          | 0 - 56                  | 6                      |

**Stream and Waterbody Use Support Summary**

|  |                           |                              |                                 |                                     |                               |                           |
|--|---------------------------|------------------------------|---------------------------------|-------------------------------------|-------------------------------|---------------------------|
| <b>Total Stream Miles:</b><br><input type="text" value="74.41"/> | <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>  | 2                         | 4.6                          | 0.0                             | 0.0                                 | 3.6                           | 1.0                       |
| <b>Designated Uses</b>   |                           |                              |                                 |                                     |                               |                           |
| <b>Aquatic Life:</b>   | 2                         | 4.6                          | 3.6                             | 0.0                                 | 0.0                           | 1.0                       |
| <b>Primary Contact:</b>  | 1                         | 3.6                          | 0.0                             | 0.0                                 | 3.6                           | 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> |
| Rockhouse Creek                                 | 20.5                      | 21.5                    | 1                             | AL                       | Threatened                      |
| Rockhouse Creek                                 | 0                         | 3.6                     | 3.6                           | AL, PC                   | 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> |
| Rockhouse Creek   | 0                         | 3.6                     | 3.6   | Primary Contact (Recr)                       | Not Supporting          |
| <b>Possible Causes of Impairment:</b>                                       |                           |                         | <b>Possible Sources For Impairment:</b>   |  |                         |
| Turbidity, Siltation, Pathogens, Flow alteration, Other habitat alterations |                           |                         | Abandoned/Inactive mining, Stream Bank Modification/Destabilization, Habitat Modification, Restoration, Residue Management, Land Disposal, Onsite Wastewater Systems (Septic Tanks), Riparian Vegetation Removal, Resource Extraction, Silviculture, Mining |  |                         |

*\*Abbreviations: UT - Unnamed Tributary*

Watershed Name: Rockhouse Creek

11-Digit Watershed Identity Number: 05100201020

**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> |
| BECKHAM BATES ELEM                                | Groundwater             | Water Treatment Plant   | 0672290                 |
| CONSOL OF KENTUCKY, INC.                          | Groundwater             | Water Withdrawal Site   | WW1272                  |
| GOLDEN OAK MINING COMPANY                         | Surface Water           | Water Withdrawal Site   | WW0907                  |
| HOLCOMB CUSTARD STAND                             | Groundwater             | Water Treatment Plant   | 0672475                 |
| JOE'S DRIVE IN                                    | Groundwater             | Water Treatment Plant   | 0672428                 |
| LETCHER ELEM/HIGH SCHOOL                          | Groundwater             | Water Treatment Plant   | 0672185                 |
| SLOANES PICPAC SUPERMARKET                        | Groundwater             | Water Treatment Plant   | 0673395                 |
| TED'S STOP & SHOP                                 | Groundwater             | Water Treatment Plant   | 0673116                 |

| <i>KPDES Permitted Discharge Facilities</i> |                                |  | <i>KPDES Site ID Number</i> |
|---|--------------------------------|--|-----------------------------|
| <i>Facility</i>                             | <i>Type of Facility</i>        |  |                             |
| BANKS ENTERPRISE                            | EATING PLACES                  |  | KY0094323                   |
| BECKHAM BATES ELEM SCHOOL                   | ELEMENTARY & SECONDARY SCHOOLS |  | KY0079162                   |
| BREEDINGS APTS                              | OPERATORS OF APART BUILDINGS   |  | KY0096318                   |
| CONSOL OF KENTUCKY INC                      | COAL MINING SERVICE            |  | KY0096806                   |
| GOLDEN OAK MINING CO OFFICE                 | OPER OF NONRESIDENTIAL BLDGS   |  | KY0095044                   |
| LETCHER CO BD OF ED                         | ELEMENTARY & SECONDARY SCHOOLS |  | KY0100731                   |
| LINDSEY & ELLIOTT OIL & GAS CO              | CRUDE PETROLEUM & NATURAL GAS  |  | KY0084611                   |

**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> |
| Rockhouse Creek   | Letcher County High School  | Mouth                         | 24.2                           | 3.6                        | 0                            |