# 03040202-02

***(Little Lynches River)***

## General Description

Watershed 03040202-02 is located in Lancaster and Kershaw Counties and consists primarily of the ***Little Lynches River*** and its tributaries. The watershed occupies 126,933 acres of the Piedmont and Sand Hills regions of South Carolina. Land use/land cover in the watershed includes: 56.4% forested land, 28.7% agricultural land, 8.6% forested wetland, 5.3% urban land, 0.5% nonforested wetland, 0.3% water, and 0.2% barren land.

Baskins Creek (Lyles Branch, Falls Branch, Bend Creek) is joined by Blackmon Branch to form the headwaters of the Little Lynches River. The Little Lynches River accepts drainage from Horton Creek (Little Lynches Creek, Sunrise Lake, Beckham Branch, Mobley Branch), Mill Creek, Camp Branch, Todds Branch, Haile Gold Mine Creek (Ledbetter Reservoir), and Neds Creek. Hanging Rock Creek (Lick Creek) flows past the City of Kershaw to join the Little Lynches River downstream of Neds Creek, followed by Gates Ford Branch, Shirley Creek, Cow Branch, Gully Branch, Mills Creek (Bakers Millpond), Beaverdam Creek, and Bell Branch. The Little Lynches River Watershed flows into the Lynches River. There are a total of 257.5 stream miles and 171.9 acres of lake waters in this watershed, all classified FW.

## Surface Water Quality

| Station # | Type | Class | Description |
|---|---|---|---|
| PD-640 | BIO | FW | LITTLE LYNCHES RIVER AT S-29-88 |
| PD-335 | W | FW | HORTON CREEK AT S-29-95 |
| PD-005 | W | FW | TODDS BRANCH AT S-29-564 1.5 MI NE OF KERSHAW |
| PD-006 | W | FW | LITTLE LYNCHES RIVER AT US 601 2 MI E KERSHAW |
| PD-632 | BIO | FW | LITTLE LYNCHES RIVER AT SC 157 |
| PD-109 | W | FW | LITTLE LYNCHES RIVER AT SC 341, 4 MI SE OF KERSHAW |
| PD-329 | W | FW | LICK CREEK AT S-29-13 ABOVE KERSHAW PLANT |
| PD-328 | W | FW | HANGING ROCK CREEK OFF S-29-84 1.6 MI S OF KERSHAW |
| PD-669 | BIO | FW | HANGING ROCK CREEK AT SR 770 |
| PD-704 | BIO | FW | COW BRANCH AT SPEARS ROAD |
| PD-343 | INT | FW | LITTLE LYNCHES RIVER AT S-28-42 |
| PD-678 | BIO | FW | BEAVERDAM CREEK AT SR 59 |
| PD-344/RS-07193 | INT | FW | LITTLE LYNCHES RIVER AT SC 341, 3.5 MI SE OF BETHUNE |

***Little Lynches River -*** There are six SCDHEC monitoring sites along the Little Lynches River. This is a blackwater system, characterized by naturally low pH conditions. At the furthest upstream site ***(PD-640)***, aquatic life uses are partially supported based on macroinvertebrate community data. At the next site downstream ***(PD-006)***, aquatic life uses are fully supported. There is a significant decreasing trend in pH. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-632)***, aquatic life uses are partially supported based on macroinvertebrate community data.

Although pH excursions occurred at the lower 3 stations, they were typical of values seen in blackwater systems and were considered natural, not standards violations. At the next site downstream ***(PD-109)***, aquatic life uses are fully supported. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. There is a significant decreasing trend in

pH. Recreational uses are fully supported at this site. Further downstream ***(PD-343),*** aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand, turbidity, and total phosphorus concentration. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration. At the furthest downstream site ***(PD-344)***, aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand, turbidity, and total phosphorus concentration. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported at this site; however, there is a significant increasing trend in fecal coliform bacteria concentration.

***Horton Creek (PD-335) –*** Aquatic life uses are fully supported. Recreational uses are partially supported due to fecal coliform bacteria excursions. This is compounded by a significant increasing trend in fecal coliform bacteria.

***Todds Branch (PD-005)*** – Aquatic life and recreational uses are fully supported.

***Lick Creek (PD-329) -*** Aquatic life uses are fully supported. Recreational uses are not supported due to fecal coliform bacteria excursions.

***Hanging Rock Creek –*** There are two SCDHEC monitoring sites along Hanging Rock Creek. At the upstream site ***(PD-328),*** aquatic life uses are fully supported. Recreational uses are partially supported due to fecal coliform bacteria excursions. In addition, there is a significant increasing trend in fecal coliform bacteria. At the downstream site ***(PD-669)***, aquatic life uses are partially supported based on macroinvertebrate community data.

***Cow Branch (PD-704) -*** Aquatic life uses are fully supported based on macroinvertebrate community data.

***Beaverdam Creek (PD-678) -*** Aquatic life uses are fully supported based on macroinvertebrate community data.

## NPDES Program

### *Active NPDES Facilities*

| ***RECEIVING STREAM*** <br> ***FACILITY NAME*** | ***NPDES#*** <br> ***TYPE*** |
|---|---|
| BECKHAM BRANCH <br> TOWN OF HEATH SPRINGS/WWTF | SC0040118 <br> MINOR DOMESTIC |
| HAILE GOLD MINE CREEK <br> HAILE MINING CO., INC. | SC0040479 <br> MINOR INDUSTRIAL |
| HANGING ROCK CREEK <br> TOWN OF KERSHAW WWTP | SC0025798 <br> MINOR DOMESTIC |

| | |
|---|---|
| COW BRANCH TRIBUTARY<br>C RAY MILES CONSTR. /SCDOT BORROW PIT MINE | SCG731286<br>MINOR INDUSTRIAL |
| LITTLE LYNCHES RIVER<br>C RAY MILES CONSTR. /SCDOT PIT 2 | SCG731302<br>MINOR INDUSTRIAL |

## Nonpoint Source Management Program

### *Land Disposal Activities*

**Landfill Facilities**

| ***LANDFILL NAME***<br>***FACILITY TYPE*** | ***PERMIT #***<br>***STATUS*** |
|---|---|
| BETHUNE DUMP<br>MUNICIPAL | ---------<br>CLOSED |
| TOWN OF HEATH SPRINGS COMPOSTING FACILITY<br>COMPOSTING | 291002-3001<br>ACTIVE |
| TOWN OF HEATH SPRINGS C&D LANDFILL<br>C&D | 291002-1701<br>ACTIVE |

### *Mining Activities*

| ***MINING COMPANY***<br>***MINE NAME*** | ***PERMIT #***<br>***MINERAL*** |
|---|---|
| HAILE MINING CO., INC.<br>HAILE MINE | 0601-57<br>GOLD ORE |

## Growth Potential

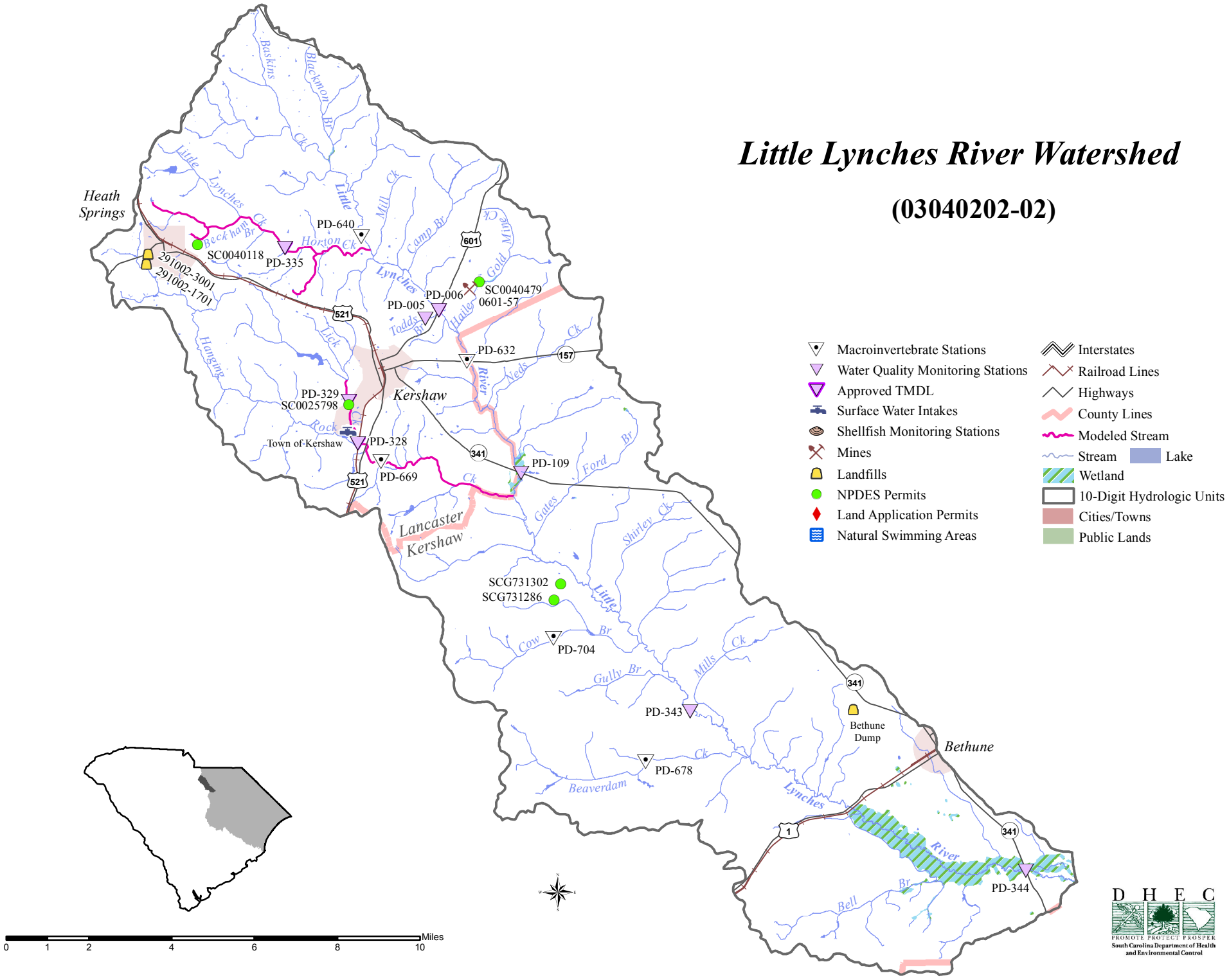
There is a moderate to high potential for growth in this watershed, which contains the Towns of Kershaw and Heath Springs, and a portion of the Town of Bethune due to the reactivation of the existing Haile Gold Mine. The reactivation includes the investment of $353 million to develop the mine and create 270 new jobs. Development of the mine includes the extraction of gold resources, the expansion of the area for open pit mining, and the construction of associated facilities beginning in May, 2015. The property encompasses approximately 4,553 acres and will be developed and operated over a 15-year lifespan, including pre-production and construction, twelve years of active mining, and two years of continued ore processing after mining is completed. The proposed work includes the mechanized land clearing, grubbing, temporary stockpiling, filling, and excavation that will impact approximately 120 acres of jurisdictional, freshwater wetlands and 26,461 linear feet of streams. Some locations would be reclaimed concurrently with ongoing mining. Final site reclamation would continue after the mining and processing of ore ceases, until the site is reclaimed as grasslands and lakes. Other potential growth areas include the Kershaw Business Park which is a 115 acre park served by the Town of Kershaw water and sewer infrastructure as well as by Lancaster County Natural Gas. Haile Gold Mine has recently exercised an option to purchase the entire project. The Heath Springs Industrial Park is currently 68 acres and home to Rico Industries. The Park is located along the U.S. Highway 521 corridor and is served by the Town of Heath Springs water and sewer infrastructure. A rail line connects the Town of Kershaw to the Cities of Lancaster and Camden along U.S. Hwy 521, and may provide some future growth.

## Watershed Restoration and Protection

### *Total Maximum Daily Loads (TMDLs)*

A TMDL was developed by SCDHEC and approved by the EPA for ***Hanging Rock Creek*** and ***Lick Creek*** to determine the maximum amount of fecal coliform bacteria they can receive from nonpoint sources and still meet water quality standards. Lick Creek (monitoring site ***PD-329***) is a tributary of Hanging Rock Creek ***(PD-328)***, which is a tributary of the Little Lynches River. The primary source of fecal coliform to the streams was determined to be runoff from pastureland. The TMDL states that an 84% and 67% reduction in current fecal coliform loading from pastureland to the streams, respectively, is needed to meet the recreational use standard.

Fecal coliform TMDLs were developed by SCDHEC and approved by the USEPA for water quality monitoring sites **PD-335** and **PD-006** in the ***Little Lynches River Watershed***. Probable sources of fecal contamination include direct loading of livestock, failing septic systems, surrounding wildlife, and other agricultural activities. In order to achieve the TMDL, target load (slightly below water quality standards) for this portions of the Little Lynches River, reductions in the existing loads of up to 73% will be necessary for Horton Creek at PD-335 and reductions in the existing loads of up to 86% will be necessary for the Little Lynches River at PD-006.


Little Lynches River Watershed
(03040202-02)
Heath Springs
Kershaw
Town of Kershaw
Lancaster
Bethune
Bethune Dump
PD-640
PD-335
SC0040118
291002-3001
291002-1701
PD-006
SC0040479
0601-57
PD-005
PD-632
PD-329
SC0025798
PD-328
PD-669
PD-109
SCG731302
SCG731286
PD-704
PD-343
PD-678
PD-344
Baskins Ck
Blackmon Br
Little Lynches Ck
Beckham Br
Horton Ck
Little Mill Ck
Camp Br
Mine Ck
Gold Mine Ck
Lynches
Todds Br
Hailes Ck
Hanging Lick
Rock Ck
Neds Ck
River
Ford Br
Gates Ck
Shirley Ck
Little Cow Br
Gully Br
Mills Ck
Beaverdam Ck
Lynches River
Bell Br
601
521
157
341
1
Macroinvertebrate Stations
Water Quality Monitoring Stations
Approved TMDL
Surface Water Intakes
Shellfish Monitoring Stations
Mines
Landfills
NPDES Permits
Land Application Permits
Natural Swimming Areas
Interstates
Railroad Lines
Highways
County Lines
Modeled Stream
Stream
Lake
Wetland
10-Digit Hydrologic Units
Cities/Towns
Public Lands
0 1 2 4 6 8 10 Miles
D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health and Environmental Control