03060106-02

(Horse Creek)

General Description

Watershed 03060106-02 (formerly 03060106-060) is located in Edgefield and Aiken Counties and consists primarily of ***Horse Creek*** and its tributaries. The watershed occupies 103,463 acres of the Sand Hills and Upper Coastal Plain regions of South Carolina. Land use/land cover in the watershed includes: 45.0% forested land, 26.3% agricultural land, 19.2% urban land, 6.1% forested wetland (swamp), 1.6% barren land, 1.3% water, and 0.5% nonforested wetland (marsh). A map depicting this watershed is found in Appendix C, page C-32.

Horse Creek accepts drainage from Long Branch, Little Horse Creek (Bear Branch, Gopher Branch, Beaver Branch), and Camp Branch before flowing through Vaucluse Pond. Horse Creek then accepts drainage from Good Spring Branch and Sage Mill Branch and flows through Flat Rock Pond. Bridge Creek (Bridge Creek Pond, Graniteville Pond) and the Sand River enter Horse Creek next before it flows through Langley Pond. Little Horse Creek accepts drainage from Simons Lake, Red Hill Branch (Eggleston Lake), Arrowhead Lakes, Antique Lake, Horsepen Creek, Hightower Creek (Ascauga Lake), Franklin Branch, Sudlow Lake, and Mims Branch. Little Horse Creek then flows through Clearwater Lake before merging with Horse Creek downstream of Langley Pond. Storm Branch drains into Horse Creek downstream of the confluence. Horse Creek drains into the Savannah River. There are a total of 297.3 stream miles and 1,533.5 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
CL-067	W	FW	VAUCLUSE POND IN FOREBAY NEAR DAM
SV-686	W	FW	FLAT ROCK POND IN FOREBAY NEAR DAM
SV-722	W	FW	GRANITEVILLE POND #2 IN FOREBAY NEAR DAM
SV-329	W	FW	HORSE CREEK AT ASCAUGA LAKE RD (S-02-33) IN GRANITEVILLE
SV-071	W	FW	HORSE CREEK AT S-02-104, 0.6 MI SW GRANITEVILLE
SV-069	W/BIO	FW	SAND RIVER AT OLD US 1, 1.2 MI SE WARRENVILLE
RL-04373	RL04	FW	LANGLEY POND, 0.85 MI NE (UPLAKE) OF SPILLWAY
RL-02317	RL02	FW	LANGLEY POND, NEAR NW SHORE & 0.6 MI NE OF SPILLWAY
CL-069	W	FW	LANGLEY POND IN FOREBAY NEAR DAM
RL-03335	RL03	FW	LANGLEY POND, 0.05 MI OFF NW END OF DAM AND SHORELINE
SV-096	W	FW	HORSE CREEK BELOW LANGLEY POND AT S-02-254
SV-724	BIO	FW	LITTLE HORSE CREEK AT S-02-104
SV-073	W	FW	L. HORSE CREEK AT SC 421, BELOW EFFL. OF CLEARWATER FINISHING
SV-072	W	FW	HORSE CREEK AT S-02-145
SV-250	INT	FW	HORSE CREEK AT SC 125, 1.5MI SW CLEARWATER

Vaucluse Pond (CL-067)) – Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Flat Rock Pond (SV-686) - Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Graniteville Pond #2 (SV-722) - Aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Horse Creek – There are five SCDHEC monitoring stations along Horse Creek. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at all sites, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant decreasing trend in pH at all sites. Aquatic life and recreational uses are fully supported at the furthest upstream site ***(SV-329)***; however, there are significant increasing trends in five-day biochemical oxygen demand and fecal coliform bacteria concentration. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Further downstream ***(SV-071)***, aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are not supported at this site due to fecal coliform bacteria excursions.

Aquatic life and recreational uses are fully supported at the midstream site ***(SV-096)***; however, there is a significant increasing trend in five-day biochemical oxygen demand. Significant decreasing trends in total phosphorus concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters at this site. Further downstream ***(SV-072)***, aquatic life and recreational uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Aquatic life and recreational uses are fully supported at the furthest downstream site ***(SV-250)***; however, there are significant increasing trends in five-day biochemical oxygen demand and decreasing trends in dissolved oxygen concentration. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters.

Sand River (SV-069) – Aquatic life uses are fully supported based on macroinvertebrate community data; however, there is a significant increasing trend in five-day biochemical oxygen demand. There is a significant decreasing trend in pH. Significant decreasing trends in turbidity and total phosphorus concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Langley Pond - There are four SCDHEC monitoring stations along Langley Pond ***(RL-04373, RL-02317, CL-069, RL-03335)*** and aquatic life and recreational uses are fully supported at all sites. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred at ***RL-02317*** and ***RL-03335***, they were typical of values seen in blackwater systems and were considered natural, not standards violations.

Little Horse Creek - There are two SCDHEC monitoring stations along Little Horse Creek. Aquatic life uses are fully supported at the upstream site ***(SV-724)*** based on macroinvertebrate community data. At the downstream site ***(SV-073),*** aquatic life and recreational uses are fully supported. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant decreasing trend in pH.

A fish consumption advisory has been issued by the Department for mercury and includes Flat Rock Pond, Langley Pond, and Vaucluse Pond within this watershed (see advisory p. 111).

Natural Swimming Areas

FACILITY NAME	***PERMIT #***
RECEIVING STREAM	***STATUS***
OUTING CLUB	02-N14
BRIDGE CREEK	ACTIVE
GREFF PARK	02-N07
BRIDGE CREEK	ACTIVE
LANGLEY POND PARK	02-1002N
LANGLEY POND	ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-027	GB	MIDDENDORF	NORTH AUGUSTA

All water samples collected from ambient monitoring well ***AMB-027*** met standards for Class GB groundwater.

NPDES Program

Active NPDES Facilities

RECEIVING STREAM	***NPDES#***
FACILITY NAME	***TYPE***
HORSE CREEK	SC0039730
CYTEC INDUSTRIES INC.	MINOR INDUSTRIAL
HORSE CREEK	SCG641001
AVONDALE MILLS WTP	MINOR INDUSTRIAL

HORSE CREEK GTX PROPERTIES LLC/GLENRIDGE MOBILE ESTATES	SC0032638 MINOR DOMESTIC
HORSE CREEK TRIBUTARY KENTUCKY-TENN CLAY/CONGER PLT	SC0040096 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY KENTUCKY-TENN CLAY/PARAGON MINE	SCG730387 MINOR INDUSTRIAL
HORSE CREEK SC MINERALS/N. AUGUSTA MINE	SC0027529 MINOR INDUSTRIAL
LITTLE HORSE CREEK MARTIN MARIETTA/AIKEN QUARRY	SCG730221 MINOR INDUSTRIAL
FRANKLIN BRANCH KINDER MORGAN SE TERMINALS, LLC/N. AUGUSTA #2	SCG340016 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY DIXIE CLAY CO./MCNAMEE MINE	SCG730141 MINOR INDUSTRIAL
BRIDGE CREEK BONNETT HAULING/BONNETT CLAY PIT	SCG730447 MINOR INDUSTRIAL
HORSE CREEK AVONDALE MILLS/GREGG DIV.	SCG641019 MINOR INDUSTRIAL
SAND RIVER GL WILLIAMS/HWY 421 MINE	SCG730488 MINOR INDUSTRIAL
SAND RIVER MIKE WILLIAMS/MT ARTHUR MINE	SCG731069 MINOR INDUSTRIAL
LITTLE HORSE CREEK GL WILLIAMS/HILLTOP MINE	SCG730486 MINOR INDUSTRIAL
LITTLE HORSE CREEK TRIBUTARY GL WILLIAMS/JACKSONVILLE MINE	SCG730487 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY US CONSTRUCTORS/MORRIS PIT	SCG730471 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY DIXIE CLAY CO./PARDUE PIT	SCG730143 MINOR INDUSTRIAL
HORSE CREEK TRIBUTARY SOUTHERN GRADING & PAVING INC.	SCG730402 MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

RECEIVING STREAM ***MUNICIPALITY*** ***RESPONSIBLE PARTY*** ***IMPLEMENTING PARTY***	***NPDES#*** ***MS4 PHASE*** ***MS4 SIZE***
HORSE CREEK CITY OF AIKEN CITY OF AIKEN CITY OF AIKEN	SCR030301 PHASE II SMALL MS4

HORSE CREEK	***SCR030303***
CITY OF BURNETTOWN	PHASE II
CITY OF BURNETTOWN	SMALL MS4
AIKEN COUNTY	
HORSE CREEK	SCR030304
CITY OF NORTH AUGUSTA	PHASE II
CITY OF NORTH AUGUSTA	SMALL MS4
CITY OF NORTH AUGUSTA	
HORSE CREEK	SCR030302
UNINCORPORATED AREAS	PHASE II
AIKEN COUNTY	SMALL MS4
AIKEN COUNTY	
HORSE CREEK	----------
UNINCORPORATED AREAS	PHASE II
EDGEFIELD COUNTY	SMALL MS4
EDGEFIELD COUNTY	

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
GL WILLIAMS C&D LANDFILL	022481-1201
C & D	ACTIVE
APAC COMPOSTING (GL WILLIAMS)	022676-3001
C & D	ACTIVE
RAINBOW FALLS RD C&D LANDFILL	022737-1201
C & D	ACTIVE
VALCLUSE DUMP	----------
DOMESTIC	INACTIVE
CYPRESS INDUSTRIAL MINERALS CO.	----------
INDUSTRIAL	INACTIVE
MIKE WILLIAMS LC& D LANDFILL	022740-1701
C & D	ACTIVE
AIKEN COUNTY C&D LANDFILL	021001-1201
C & D	ACTIVE
421 COMPOSTING SITE	022672-3002
COMPOSTING	INACTIVE
AIKEN COUNTY LANDFILL #1	----------
DOMESTIC	INACTIVE
AIKEN COUNTY LANGLEY LANDFILL	021001-1103
DOMESTIC	INACTIVE

AIKEN COUNTY LANDFILL #2	----------
DOMESTIC	INACTIVE
AIKEN COUNTY LANDFILL #4	021001-1104
DOMESTIC	INACTIVE
CARLINE ROAD DUMP	----------
DOMESTIC	INACTIVE
N. AUGUSTA MATERIAL RECOVERY FACILITY	021003-2001
DOMESTIC	ACTIVE
CITY OF NORTH AUGUSTA DUMP	SCD980844146
DOMESTIC	INACTIVE
HR GARRET INC.	022458-1701
C & D	INACTIVE
KENTUCKY-TENNESSEE CLAY CO.	----------
NWP	INACTIVE
HORSE CREEK WWTF	----------
INDUSTRIAL	INACTIVE
KIMBERLY-CLARK BEECH ISLAND MILL	----------
INDUSTRIAL	INACTIVE
KIMBERLY-CLARK BEECH ISLAND MILL	----------
INDUSTRIAL	INACTIVE

Mining Activities

MINING COMPANY	***PERMIT #***
MINE NAME	***MINERAL***
WILLIAMS & SON TRUCKING	0720-03
HILLTOP MINE	SAND
WILLIAMS SAND & GRAVEL CO.	0702-03
RAINBOW FALLS PIT	SAND
DIXIE CLAY CO.	0451-03
PARDUE MINE	KAOLIN
SATTERFIELD CONSTRUCTION	0230-03
TIMMERMAN SAND PIT	SAND
KENTUCKY-TENN CLAY CO.	0037-03
CONGER MINE	KAOLIN
CITY OF NORTH AUGUSTA	0988-03
CITY OF NORTH AUGUSTA CLAY PIT	SAND; SAND/CLAY
WERTS EQUIPMENT RENTAL, INC.	0949-03
WERTS DRIVE IN	SAND/CLAY
FOSTER DIXIANA CORP.	0006-03
CLEARWATER MINE	SAND

MUNDYS CONSTRUCTION, INC. MUNDY BORROW PIT	1155-03 SAND; SAND/CLAY
DIXIE CLAY CO. MCNAMEE MINE	0073-03 KAOLIN
KENTUCKY-TENN CLAY CO. PARAGON MINE	0034-03 KAOLIN
GL WILLIAMS LANDSCAPING, INC. CHALK BED MINE	1635-03 SAND/CLAY
GL WILLIAMS LANDSCAPING, INC. JACKSONVILLE CHURCH MINE	1422-03 SAND
AIKEN AUGUSTA SAND & GRAVEL BAKERS MINE	1499-03 SAND
WERTS SITE PREPARATION PALMETTO PARKWAY	1772-03 SAND
BONNETT HAULING & LAND CLEARING BONNETTS CLAY PIT	1529-03 SAND
DIXIE CLAY CO. PARDUE MINE	0451-03 KAOLIN
MARTIN MARIETTA MATERIALS INC. AIKEN QUARRY	0763-03 GRANITE

Growth Potential

There is a moderate potential for growth in this watershed, which contains portions of the Cities of Aiken and North Augusta. The City of Aiken is experiencing growth in a southwesterly direction toward the Savannah River Site. Growth is predominately residential; numerous subdivisions are being developed. Commercial centers are also being constructed in conjunction with the population growth and residential development. Aiken has the permit for expansion of Aiken County's Horse Creek Treatment Plant to handle potential growth. SC 19 (towards New Ellenton and SRS) and SC 302 (towards Augusta and SRS) are the major commercial corridors serving the residential communities. Growth is expected to continue south and southwest instead of in previously established areas. Industrial growth is expected to occur along SC 19 to New Ellenton and west towards North Augusta, along the Horse Creek drainage.

Watershed Protection and Restoration Strategies

Total Maximum Daily Loads (TMDLs)

TMDLs were developed by SCDHEC and approved by EPA at water quality monitoring sites for **Horse Creek** (SV-072, SV-250), **Little Horse Creek** (SV-073), and the **Sand River** (SV-069). TMDLs determine the maximum amount of fecal coliform bacteria it can receive from sources and still meet water quality standards. A minor wastewater treatment facility was located on Horse Creek. Parts of the watershed are within areas designated as MS4s. Probable sources of fecal coliform bacteria that were identified in the watershed are grazing livestock, especially

cattle with access to creeks, failing septic systems, and urban runoff. The TMDL states that reductions of 11% to 47% in fecal coliform loading are necessary for these streams to meet the recreational use standard.

The nonpoint source component of the above TMDLs has been implemented using §319 grant funds. Implementation was completed in October 2009. For more information on §319 grants, visit http://www.scdhec,gov.water and click on Nonpoint Source Program.

Horse Creek Watershed

(03060106-02)