

03040202-07
(Lynches River)

General Description

Watershed 03040202-07 is located in Florence County and consists primarily of the *Lynches River* and its tributaries from Sparrow Swamp to its confluence with the Pee Dee River. The watershed occupies 146,839 acres of the Lower Coastal Plain region of South Carolina. Land use/land cover in the watershed includes: 37.1% forested wetland (swamp), 29.8% agricultural land, 25.3% forested land, 4.6% urban land, 2.4% nonforested wetland (marsh), 0.7% water, and 0.1% barren land.

This segment of the Lynches River accepts drainage from its upstream reaches together with Mill Branch, Carter Creek (Big Branch), Bay Branch (Polecat Branch), McCall Branch (Taylor Branch), and Ward Mill Branch. Further downstream, Cypress Branch enters the river followed by Green Spring Branch (Cox Bay Branch, Horse Branch), Millpond Branch, High Hill Drainage Canal, and Big Swamp. Big Swamp Branch (Gum Branch) and Buck Branch join to form Big Swamp, near the Town of Pamplico, which accepts drainage from Cypress Branch and Little Swamp before draining into the Lynches River. Deep Creek and the Lake Swamp Watershed enter the river at the base of the watershed. The Lynches River County Park extends across the upper portion of the watershed. The portion of the river below the park to the Great Pee Dee River is a proposed scenic river corridor. There are a total of 241.5 stream miles and 128.3 acres of lake waters in this watershed. Big Swamp is classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams in the watershed are classified FW.

Surface Water Quality

<u>Station #</u>	<u>Type</u>	<u>Class</u>	<u>Description</u>
PD-041	W	FW	LYNCHES RIVER AT US 52 NEAR EFFINGHAM
PD-281	INT	FW	LYNCHES RIVER AT S-21-49 5 MI NW OF JOHNSONVILLE
PD-168	W	FW*	BIG SWAMP AT S-21-360 1.1 MI W OF PAMPLICO
PD-169	INT	FW*	BIG SWAMP AT US 378 & SC 51 0.9 MI W OF SALEM

Lynches River - There are two SCDHEC monitoring stations along this section of the Lynches River. At the upstream site (**PD-041**), aquatic life uses are partially supported due to pH excursions. In addition, there are significant decreasing trends in dissolved oxygen and increasing trends in five-day biochemical oxygen demand. Recreational uses are partially supported due to fecal coliform excursions, which are compounded by significant increasing fecal coliform bacteria concentration. At the downstream site (**PD-281**), aquatic life and recreational uses are fully supported. Although dissolved oxygen excursions occurred at this site, they were typical of values seen in blackwater systems and were considered natural, not standards violations. However, there are significant decreasing trends in dissolved oxygen concentration and increasing trends in five-day biochemical oxygen demand, total phosphorus concentration, and fecal coliform bacteria.

Big Swamp - There are two SCDHEC monitoring stations along Big Swamp. At the upstream site (**PD-168**), aquatic life and recreational uses are fully supported. At the downstream site (**PD-169**), aquatic life uses are not supported due to dissolved oxygen excursions. This is compounded by a significant

decreasing trend in dissolved oxygen concentration. Recreational uses are partially supported at this site due to fecal coliform bacteria excursions.

*A fish consumption advisory has been issued by the Department for mercury and includes the **Lynches River** within this watershed (see advisory p.39).*

NPDES Program

Active NPDES Facilities

<i>RECEIVING STREAM FACILITY NAME</i>	<i>NPDES# TYPE</i>
LYNCHEs RIVER CITY OF JOHNSONVILLE/EAST PLT	SC0025933 MAJOR DOMESTIC
LYNCHEs RIVER WELLMAN PLASTICS RECYCLING/JOHNSONVILLE	SCG250299 MINOR INDUSTRIAL
LYNCHEs RIVER MCCALL FARMS INC.	SC0039284 MINOR INDUSTRIAL
LYNCHEs RIVER CITY OF LAKE CITY/LAKE SWAMP WWTP	SC0046311 MAJOR DOMESTIC
LYNCHEs RIVER SOUTHERN ASPHALT/ POSTON MINE	SCG731266 MINOR INDUSTRIAL
LYNCHEs RIVER SOUTHERN ASPHALT/RIVERSIDE CEMETERY ROAD MINE	SCG731303 MINOR INDUSTRIAL
BIG SWAMP SOUTHERN ASPHALT/KEVIN POSTON MINE	SCG731304 MINOR INDUSTRIAL
BIG SWAMP SOUTHERN ASPHALT/PIT #5 MINE	SCG731315 MINOR INDUSTRIAL
BIG SWAMP TOWN OF PAMPLICO/HYMAN WELL	SCG646057 MINOR DOMESTIC
LYNCHEs RIVER SOUTHERN ASPHALT – FLOYD MINE	SCG731263 MINOR INDUSTRIAL
LYNCHEs RIVER CAROLINA SAND,INC./JOHNSONVILLE PLANT MINE	SCG730180 MINOR INDUSTRIAL

Municipal Separate Storm Sewer Systems (MS4)

<i>RECEIVING STREAM MUNICIPALITY RESPONSIBLE PARTY IMPLEMENTING PARTY</i>	<i>NPDES# MS4 PHASE MS4 SIZE</i>
LYNCHEs RIVER UNINCORPORATED AREAS FLORENCE COUNTY FLORENCE COUNTY	SCR034102 PHASE II SMALL MS4

Nonpoint Source Management Program

Land Disposal Activities

Landfill Activities

<i>SOLID WASTE LANDFILL NAME</i> <i>FACILITY TYPE</i>	<i>PERMIT #</i> <i>STATUS</i>
FLORENCE COUNTY SANITARY LANDFILL MUNICIPAL	----- CLOSED
WELLMAN INC. LANDFILL INDUSTRIAL	----- INACTIVE

Mining Activities

<i>MINING COMPANY</i> <i>MINE NAME</i>	<i>PERMIT #</i> <i>MINERAL</i>
CAROLINA SAND, INC. JOHNSONVILLE PLANT	0648-41 SAND
MCCUTCHEONS INC. MCCUTCHEON MINE	1183-41 SAND; SAND/CLAY
A&A STRUCTURAL FILL A&A MINE	2002-41 SAND/CLAY; TOPSOIL
WEAVER CONTRACTING LLC WEAVER EAST SALEM ROAD MINE	2011-41 SAND; TOPSOIL

Groundwater Quantity

Portions of this watershed fall within the Pee Dee Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.22).

Growth Potential

There is a low potential for growth in this watershed, which contains the Towns of Coward and Pamplico, and portions of the Towns of Scranton and Salem. Water and sewer service are available in Pamplico and Scranton, and water service is available in Coward. The watershed is bisected by U.S. Hwy. 52 and a rail line running north/south and by U.S. Hwy. 378 running east/west. U.S. Hwy. 52 is a major highway route from the City of Florence to the City of Charleston. Portions not already widened to four lanes are expected to be within 10-15 years, which could encourage industrial growth. The remainder of the watershed is rural with agricultural uses.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for **Big Swamp** (monitoring site **PD-169**) to determine the maximum amount of fecal coliform bacteria it can receive from nonpoint sources and still meet water quality standards. The sources of fecal coliform were determined to be wildlife, grazing livestock, malfunctioning septic systems, and the Town of Pamplico Waste Water Treatment Plant (WWTP). The Town of Pamplico is in the process of upgrading the treatment system and transferring all discharge to the adjacent Pee Dee River; therefore the TMDL focuses predominantly

on nonpoint sources of fecal coliform. To achieve compliance with water quality standards, the TMDL recommends fecal coliform loads be reduced by approximately 67.6% from livestock sources, 84.2% from the WWTP during the interim discharge period, and 100% from failing septic systems.

Special Projects

Fecal Coliform Bacteria TMDL Development and Implementation and Dissolved Oxygen Characterization for the Big Swamp and Singleton Swamp Watersheds

The Santee-Wateree Resource Conservation and Development Council (RC&D), along with the Williamsburg and Florence Soil and Water Conservation Districts, Williamsburg and Florence Natural Resource Conservation Services, and the Department of Natural Resources have developed and are implementing a fecal coliform bacteria TMDL for the Big Swamp and Singleton Swamp watersheds. The TMDL addresses fecal coliform excursions at SCDHEC water quality monitoring station PD-169. The RC&D and its cooperators used their local knowledge to assist a contractor with the development of a TMDL and the identification of potential pollution sources that negatively effect dissolved oxygen levels within the watershed. Following TMDL approval, project cooperators implemented a series of best management practices (BMPs) in cooperation with local homeowners. These BMPs were designed to reduce the loading of fecal coliform bacteria into the respective watersheds. Along with repairing failing septic tanks in the area, RC&D focused their attention on local ‘Hobby Farms’. These are places where a landowner may have several animals that are not utilized as income in a traditional farming or animal agriculture sense. RC&D identified cattle, horses, goats, donkeys, llamas, and even camels in the watershed. In cooperation with these landowners BMPs, including fencing, watering wells, heavy use protection areas, and filter strips were implemented to prevent these animals and their waste from accessing local streams. Through these BMPs and the upgrade of the Town of Pamlico wastewater treatment facility, SCDHEC hopes to begin seeing significant reductions of fecal coliform and increases in dissolved oxygen throughout the watersheds.

Lynches River and Lake Swamp Watersheds

(03040202-06, -07)

