

# **An Overview of the Eight Major River Basins of South Carolina**



**DNR**

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The following is an overview of the hydrology, development, and water use of the eight major river basins of South Carolina. These basins are the Broad, Catawba, Edisto, Pee Dee, Salkehatchie, Saluda, Santee, and Savannah (Figure 1). Information presented in this overview is derived from the [South Carolina State Water Assessment](#) report that was published by SCDNR in 2009. Additional details about each basin can be found in the Assessment report and in other reports published by SCDNR and SCDHEC. Surface-water models for each of the eight basins shown in Figure 1 will be developed by SCDNR and SCDHEC over the next several years for use in State permitting and planning programs.



Figure 1. Map showing the eight major surface-water basins in South Carolina.

## **BROAD RIVER BASIN**

The Broad River basin dominates the central Piedmont of South Carolina. Sharing a long northern border with North Carolina, the basin tapers in a southeasterly direction and terminates at its confluence with the Saluda River near Columbia. The basin encompasses all or parts of 11 South Carolina counties, including all of Cherokee, Spartanburg, and Union Counties and portions of Chester, Fairfield, Greenville, Laurens, Lexington, Newberry, Richland, and York Counties (Figure 2). This is the 3rd largest basin in the State, representing 12.2 percent of its area and encompassing 3,800 square miles.

### **Hydrology**

The Broad River, with its headwaters originating in North Carolina, constitutes the main stem of this large drainage system. Three major tributaries—the Pacolet, Tyger, and Enoree Rivers—originate primarily in South Carolina and discharge into the main stem. Smaller tributaries include Lawsons Fork Creek, Fairforest Creek, Bullock Creek, Turkey Creek, Sandy River, Little River, and Cedar Creek. Several urban areas, including Spartanburg, Columbia, Greer, Gaffney, Union, York, and Winnsboro, utilize these streams.

The entire drainage is in the Piedmont physiographic province, except for the extreme headwaters of the Pacolet and Tyger Rivers, which rise in the Blue Ridge, and the southeast edge of the basin, which is in the Coastal Plain. In May of 1991, a 15-mile stretch of the Broad River from Ninety-Nine Islands Dam to the confluence with the Pacolet River was officially designated by the South Carolina General Assembly as a State Scenic River.

Many U.S. Geological Survey (USGS) streamflow gaging stations have been established or discontinued in this basin over the past 30 years. Streamflow is presently monitored at 14 gaging stations: four on the Broad River, four on the Enoree River, one each on the Pacolet, North Pacolet, South Pacolet, Tyger, and Middle Tyger Rivers and one on Smith Branch in Columbia.

Average annual flow of the Broad River ranges from about 1,500 cfs (cubic feet per second) near the North Carolina border to more than 6,000 cfs at the confluence with the Saluda River at Columbia. This main-stem river reflects streamflow characteristics typical of Piedmont streams that depend primarily on precipitation and surface runoff to support flow. In the upper portion of this river, near Gaffney, where annual rainfall is higher and groundwater discharges are more significant, flows are well sustained and moderately variable. With distance downstream, flow becomes progressively more variable as rainfall and ground-water support in this lower portion of the basin decrease. Low flows of record for the Broad River occurred during the mid-1950's and in 2002, with average daily flows less than 50 cfs measured at the Blacksburg, Carlisle, and Alston gaging stations. The highest recorded flow—228,000 cfs—was measured at the Richtex gage north of Columbia in 1929.

The Broad River typically receives from several hundred to about 1,000 cfs from each of its three main tributaries, the Pacolet, Tyger, and Enoree Rivers. At their most-downstream gages, these rivers have average annual streamflows of 488 cfs on the Pacolet River near Clinton (discontinued gage), 986 cfs on the Tyger River near Delta, and 543 cfs on the Enoree River at Whitmire. Ninety percent of the time, flows at these sites equal or exceed 178 cfs, 272 cfs, and 161 cfs, respectively, while the highest flow recorded at each of these sites exceeded 20,000 cfs.

### **Development**

Surface-water development has been extensive in the Broad River basin. Most of this development has been for the production of hydroelectric power, although several large reservoirs have been built to

provide municipal water supplies. Hundreds of small dams, most privately owned, create small impoundments on many tributaries of the Broad River, particularly in the upper reaches of the basin.

The three major reservoirs in the basin are Lake Monticello, Parr Shoals Reservoir, and Lake William C. Bowen. Lake Monticello and Parr Shoals Reservoir are 26 miles northwest of Columbia, on Frees Creek and Broad River, respectively. Parr Reservoir, constructed in 1914 for hydroelectric power, has a surface area of 4,400 acres. The lake provides cooling water for steam-electric generating facilities and provided cooling water to the experimental Parr Nuclear Power Plant during the 1960's. In 1976, the dam was heightened 9 feet for conjunctive use with Lake Monticello and provides water for the Fairfield pumped storage facility on Lower Frees Creek.

Lake Monticello has a surface area of 6,800 acres and a volume of 431,000 acre-ft. The lake was built in 1977 to supply cooling water to the V.C. Summer Nuclear power plant and to serve as the upper-storage reservoir of the Fairfield pumped-storage hydroelectric facility. During periods of peak electrical demand, water is drained through generating turbines from Lake Monticello into Parr Reservoir; during periods when electricity demand is low, part of the V.C. Summer facility's output is used to pump water back into Lake Monticello. Parr Shoals Reservoir and Lake Monticello also serve recreational needs.

Lake William C. Bowen is northwest of Spartanburg on the South Pacolet River. This 1,534-acre lake is one of three reservoirs used by the city of Spartanburg as a water supply and a recreational area. The inactive Columbia Canal, which takes in water from the Broad River and discharges it into the Congaree River, is the only navigation project in the basin. Initially constructed in 1824 to provide a navigable route around rapids at the confluence of the Broad and Saluda Rivers, the Columbia Canal was used by barge traffic into the mid-1800's. A hydroelectric power station constructed at the lower end of the canal in 1891 is still in operation today. The city of Columbia also uses the canal for water supply.

### **Water use**

The Virgil C. Summer Nuclear Station, located on Lake Monticello in Fairfield County, about 26 miles northwest of Columbia, is the only thermoelectric power plant in the basin. It is jointly owned by SCE&G and the South Carolina Public Service Authority (Santee Cooper) and is operated by SCE&G. In 2006, the facility used 271,236 million gallons of water for cooling and steam.

Water-supply use from surface water sources in the Broad River basin totaled 37,173 million gallons in 2006, which ranked it second behind the Saluda River basin. The largest surface water system was the city of Columbia, which withdrew 12,096 million gallons from the Columbia Canal on Broad River. Columbia's other water-supply facility is in the Saluda basin at Lake Murray. The city of Spartanburg withdrew 12,092 million gallons from Lake Bowen, Lake Blalock, and Municipal Reservoir #1. Other systems of note include Greer Commission of Public Works (2,883 million gallons from the South Tyger River), Gaffney Board of Public Works (2,582 million gallons from Lake Welchel and Broad River), and Startex-Jackson-Wellford-Duncan Water District (2,454 million gallons from Lyman Lake on the Middle Tyger River).

Industrial water use from surface water sources was 1,259 million gallons in 2006. Milliken & Company in Cherokee County and Cone Mills Corp. in Union County were among the largest users in the basin, withdrawing 621 and 458 million gallons, respectively. Agricultural use from surface water sources totaled 137 million gallons in 2006.

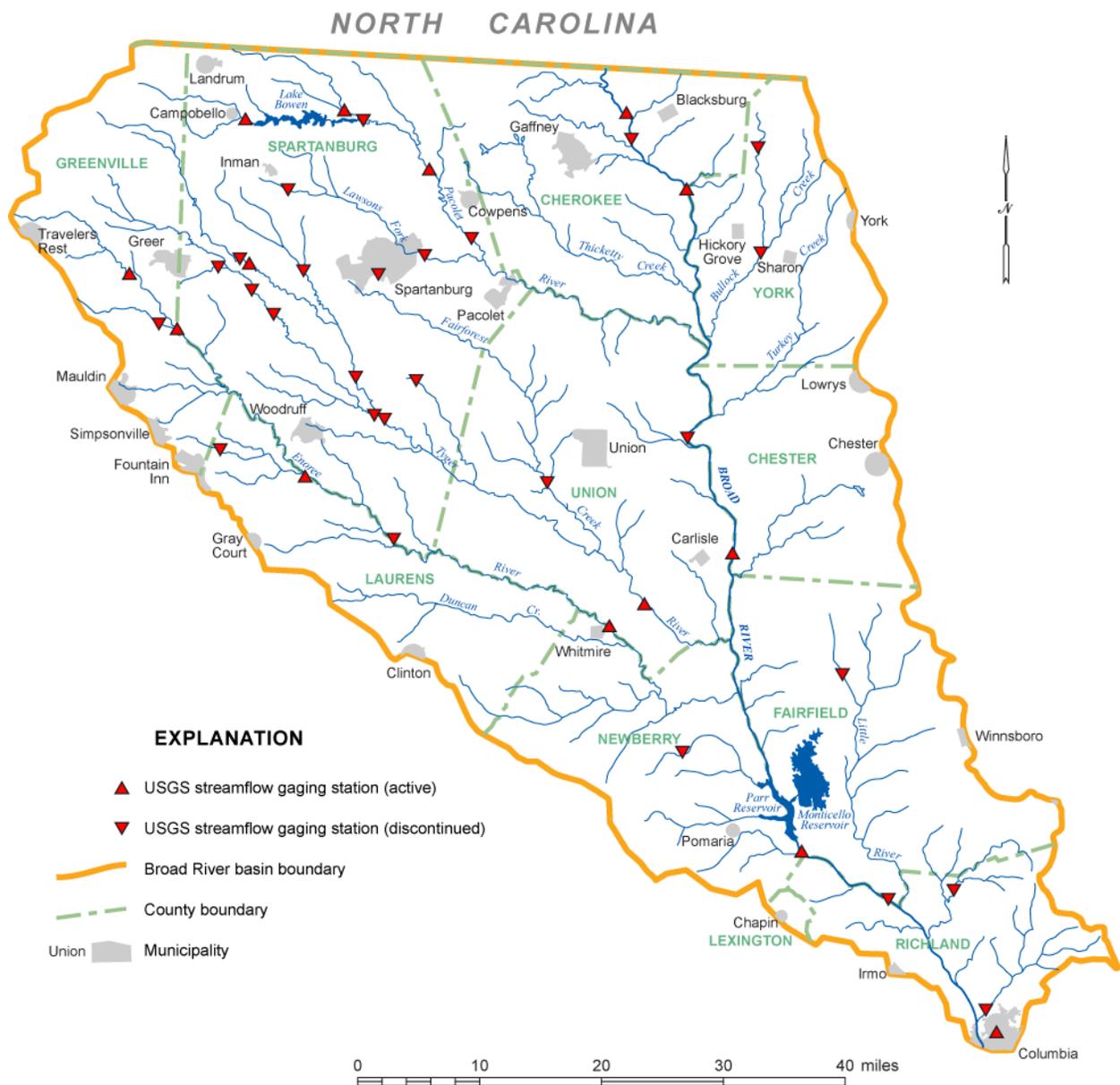


Figure 2. Map of the Broad River basin in South Carolina.

## **CATAWBA RIVER BASIN**

The Catawba River basin bisects the north-central portion of South Carolina. The basin parallels the course of the Catawba-Wateree River from the North Carolina border south to the confluence with the Congaree River. Parts of eight South Carolina counties are in the basin, including most of Chester, Kershaw, Lancaster, and York Counties, the eastern third of Fairfield County, and small portions of Lee, Richland, and Sumter Counties (Figure 3). The basin is the 8th largest, with an area of approximately 2,315 square miles, or 7.5 percent of the State's total area.

### **Hydrology**

The major watercourse draining this basin is the Catawba-Wateree River. The headwater streams and much of the drainage area of the Catawba River are in North Carolina. At its confluence with Big Wateree Creek near Lake Wateree in the middle of the basin, the Catawba River changes in name to the Wateree River. Major tributaries in the Piedmont portion of the basin include Fishing Creek, Rocky Creek, Big Wateree Creek, Sugar Creek, and Cane Creek. Streams draining the upper Coastal Plain below Lake Wateree include Spears Creek, Colonels Creek, and Swift Creek.

Controlled releases from a series of six hydroelectric reservoirs in North Carolina and five in South Carolina greatly affect streamflow of the Catawba-Wateree River. Duke Energy owns and operates all the reservoirs and hydroelectric power plants along the river in North and South Carolina.

Streamflow is currently monitored at six gaging stations, four of which are on the Catawba-Wateree River main stem and two on tributary streams. Streamflow at all main-stem stations has been subject to regulated releases for nearly all of the period of record because of numerous hydroelectric power facilities in North and South Carolina. The gaging station on the Wateree River below Eastover accurately monitors streamflow only below 10,000 cfs (cubic feet per second); the full range of flow is monitored at all other gaging stations.

The Catawba River is well developed by the time it enters South Carolina at Lake Wylie. Average annual flow of the Catawba-Wateree River ranges from 4,226 cfs near Rock Hill to 6,080 cfs near Camden. Streamflow can be expected to equal or exceed 894 cfs near Rock Hill and 1,230 cfs near Camden 90 percent of the time. The lowest recorded flow on the main stem (132 cfs) occurred near Rock Hill in 2002 during the 1998–2002 drought.

Unlike the main stem, tributary streams are largely unregulated, and flows in these streams rarely exceed 1,000 cfs. Average annual streamflow of one actively-gaged tributary, Rocky Creek at Great Falls, is 175 cfs, with flow in this stream equal to or exceeding 15 cfs 90 percent of the time. At the other active tributary gage, on Colonels Creek near Leesburg, the average annual streamflow is 43 cfs.

### **Development**

The Catawba-Wateree River basin is intensely developed. Surface-water development consists primarily of dams and reservoirs for hydroelectric power production but also includes several flood-control projects. Before entering South Carolina, the Catawba River passes through six hydroelectric power projects and provides water for one nuclear and three coal-fired thermoelectric power plants. In the South Carolina portion of the basin, the three largest reservoirs, all owned and operated by Duke Energy, are Lake Wateree, Lake Wylie, and Fishing Creek Reservoir. By surface area, Lake Wateree and

Lake Wylie are the eighth and ninth largest lakes in the State, respectively. Lake Wateree is the tenth largest reservoir in the State by volume.

Lake Wateree is 8 miles northwest of Camden on the Wateree River. Constructed in 1920 and enlarged in 1925, it is used for power generation, municipal water supplies, industry, and recreation. Lake Wylie is on the North Carolina-South Carolina border, 5 miles north of Rock Hill. Constructed in 1904 for the generation of hydroelectric power, it is one of the oldest major impoundments in the State. Lake Wylie was enlarged to its present capacity in 1924 and also serves water supply, industrial, and recreational needs. Fishing Creek Reservoir was built for the production of hydroelectric power in 1916. In addition to power generation, it is used as a municipal water supply and for industrial and recreational needs.

In addition to the hydroelectric power plants at Lake Wylie, Lake Wateree, and Fishing Creek Reservoir, four other hydropower plants are located just downstream from Fishing Creek Reservoir. The Great Falls and Dearborn Hydroelectric Stations are both located on Great Falls Lake; the powerhouse for Great Falls is on the west side of the dam and the powerhouse for Dearborn is on the east side. The Cedar Creek and Rocky Creek Hydroelectric Stations are both located on Rocky Creek Lake (Cedar Creek Reservoir); Rocky Creek is on the west side of the dam and Cedar Creek is on the east side.

In 2008, American Rivers, a national river conservation group, declared the Catawba-Wateree River to be *America's Most Endangered River*. Rapid population growth, particularly in the Charlotte metropolitan area, and inadequate and outdated water-management practices and legislation in both North and South Carolina threaten to impair the river's health and its ability to provide for residents in the future.

#### **Water use**

The Wateree Station, SCE&G's largest coal-fired power plant, was the largest water user in the basin in 2006. Located at the lower end of the basin in Richland County, this plant contains two turbines capable of generating 700 MW (megawatts) of power. In 2006, it withdrew 146,349 million gallons of water from the Wateree River for cooling and steam.

The Catawba Nuclear Station, located adjacent to Lake Wylie in York County, is jointly owned by Duke Energy, North Carolina Electric Membership Corp., and Saluda River Electric Cooperative. Its two turbines have a total capacity of 2,258 MW. In 2006, the station used 83,439 million gallons of water for cooling and steam.

Water-supply use in the basin was 16,424 million gallons from surface-water sources in 2006. The largest surface-water system was the Catawba River Water Treatment Plant, which withdrew 6,354 million gallons from the Catawba River in York County. The next largest surfacewater supplier was the city of Rock Hill, which withdrew 5,534 million gallons from Lake Wylie.

A total of 25,849 million gallons of surface water were used in the basin for industrial purposes in 2006. Bowater, Inc. and International Paper are two of the largest industrial users in the State. Bowater withdrew 12,303 million gallons from the Catawba River, and International. Agricultural water use from surface-water sources totaled 361 million gallons in 2006.



Figure 3. Map of the Catawba River basin in South Carolina.

## **EDISTO RIVER BASIN**

The Edisto River basin is in south central South Carolina. From its western extreme in eastern Edgefield County, the basin extends southeastward to the coast and follows the course of the Edisto River. The basin encompasses parts of 12 South Carolina counties, including most of Colleton and Orangeburg counties and smaller parts of Aiken, Bamberg, Barnwell, Berkeley, Calhoun, Charleston, Dorchester, Edgefield, Lexington, and Saluda Counties (Figure 4). The basin is the 5th largest in the State, encompassing an area of approximately 3,120 square miles, which is 10.0 percent of the State's area.

### **Hydrology**

The Edisto River basin is drained by four major streams: South Fork Edisto River, North Fork Edisto River, Edisto River, and Four Hole Swamp. The Edisto River is the longest and largest river system completely contained within the borders of South Carolina. The North and South Fork Edisto Rivers originate in and pass through the upper Coastal Plain region before joining to form the Edisto River in the middle Coastal Plain near the town of Branchville. The blackwater Four Hole Swamp, a major tributary originating in Calhoun and Orangeburg Counties, is unique in that it consists of multiple braided channels rather than one well-defined channel. Much of the Edisto River and its tributary streams are associated with extensive swamplands. Near the coast, the Edisto River divides to form the North and South Edisto Rivers, which surround Edisto Island. Near the coast, these tidally-influenced saltwater streams also receive drainage from bordering salt marshes and tidal creeks.

Within this basin, the U.S. Geological Survey (USGS) has seven active streamflow gaging stations: one on the Edisto River, one on the North Fork Edisto River, three on the South Fork Edisto River, and one each on McTier Creek and Cow Castle Creek. Average annual flow of the South Fork Edisto River is 738 cfs (cubic feet per second) near Denmark, 694 cfs near Cope, and 892 cfs near Bamberg. For the North Fork Edisto River, average annual flow is 753 cfs at Orangeburg.

Streamflow on the Edisto River is substantial and fairly consistent. These well-sustained flows are caused primarily by discharge from ground-water reserves in the upper Coastal Plain region, in which more than half the drainage area is located. Average annual flow of the Edisto River at the discontinued gage near Branchville is 1,991 cfs and at the gage near Givhans is 2,522 cfs.

The multiyear drought of 1998–2002 broke record low flows previously measured during the drought of the 1950's. A new lowest flow of record for most of the gages was measured in August of 2002.

### **Development**

Surface-water development in the Edisto River basin is very limited, consisting primarily of a few navigation and flood-control projects in the southern reach. The Edisto River is completely undammed and unleveed, and no large impoundments occur in the basin. Lakes having surface areas of 10 acres or more have an aggregate area of 6,000 acres and a total volume of 29,000 acre-ft.

### **Water use**

Two thermoelectric power plants operate in the basin, both owned and operated by SCE&G. Cope Station is a coal-fired plant located in Orangeburg County along the South Fork Edisto River. In 2006, the Cope plant used 5,887 million gallons of water from the Black Creek and Middendorf aquifers, making it the single largest groundwater withdrawer in the State in 2006. Canadys Station is a coal-fired plant

located in Colleton County along the Edisto River. It has a capacity of 470 MW. In 2006, it used 2,313 million gallons of water from the Edisto River and a small amount of ground water (0.7 million gallons).

Surface-water sources provided most of the water for water-supply use in the basin (16,534 million gallons, or 89 percent). Charleston Water System, which serves the city of Charleston and some surrounding areas, was the largest user, withdrawing 11,900 million gallons from the Edisto River in 2006. Orangeburg Department of Public Utilities used 3,485 million gallons from the North Fork Edisto River and the city of Aiken used 743 million gallons from Shaw Creek.

Industrial surface-water use totaled 9,335 million gallons in 2006. MeadWestvaco Corporation in North Charleston was the largest surface-water user, withdrawing 9,168 million gallons. Agricultural use from surface-water sources was 2,410 million gallons in the basin in 2006. Millwood Farms in Orangeburg County had the greatest surface-water use, withdrawing 708 million gallons.



Figure 4. Map of the Edisto River basin in South Carolina.

## PEE DEE RIVER BASIN

The Pee Dee River basin extends from the North Carolina border southeast to the Atlantic Ocean and encompasses all or parts of 14 counties: Chesterfield, Clarendon, Darlington, Dillon, Florence, Georgetown, Horry, Kershaw, Lancaster, Lee, Marlboro, Marion, Sumter, and Williamsburg Counties (Figure 5). The basin area is approximately 7,860 square miles, or 25.3 percent of South Carolina's land area. It is the largest basin in the State.

### Hydrology

The main stem of the Pee Dee River is the dominant hydrologic feature of the basin. This river originates in North Carolina and receives most of its flow from drainage in North Carolina. Major tributary streams include the Lynches and Little Pee Dee Rivers. A 70-mile segment of the Pee Dee River from the US 378 bridge to Winyah Bay was designated as a State Scenic River in 2002. Although the Pee Dee River in South Carolina is free-flowing, in North Carolina it is heavily regulated by a series of six large reservoirs, the last of which, Blewett Falls Lake, is located about 15 miles upstream from the state border. The operation of these reservoirs, primarily for hydroelectric power generation, strongly influences the behavior of the Pee Dee River in South Carolina, particularly during periods of low flow.

The Lynches River flows across the Piedmont and Coastal Plain provinces. Headwaters of the Lynches River and the tributary Little Lynches River originate in the lower Piedmont of South Carolina and North Carolina. Other tributaries include Bay Swamp, Lake Swamp, and Sparrow Swamp. A 54-mile segment of the river between US Highway 15 in Lee County and the eastern boundary of Lynches River County Park became a State Scenic River in 1994. In 2008, an additional 57 miles—from Lynches River County Park to the Pee Dee River—were also designated, making the Lynches River the longest State Scenic River at 111 miles.

The Little Pee Dee River and a major tributary, the Lumber River, have their headwaters in the Sandhills region of North Carolina. The General Assembly designated 14 miles of the Little Pee Dee River from Highway 378 to the confluence with the Pee Dee River as a State Scenic River in 1990. An additional 64 miles of the river extending upstream from Highway 378 were determined eligible for scenic-river status in 1997 but have not yet been formally designated. Lastly, in the upper portion of the Little Pee Dee River, a 46-mile segment in Dillon County that begins at Parish Mill Bridge on State Road 363 near the Marlboro County line and extends southeast to the State Road 72 bridge near the Marion County line was designated as a State Scenic River in 2005.

The Black River is another major hydrologic feature in the basin. This river discharges directly into Winyah Bay at the southern end of the basin. Extensive swamplands border much of the Black River and its principal tributaries—Pocotaligo River, Scape Ore Swamp, Pudding Swamp, and Black Mingo Creek—frequently resulting in poorly defined and meandering stream channels. A 75-mile segment of the Black River from County Road 40 in Clarendon County through Williamsburg County to Pea House Landing at the end of County Road 38 in Georgetown County became a State Scenic River in 2001.

The Waccamaw River is yet another major feature in the basin. It flows entirely in the lower Coastal Plain and has its headwaters and over half of its drainage area in North Carolina. The Waccamaw River and Sampit River flow directly into Winyah Bay.

Three U.S. Geological Survey (USGS) streamflow monitoring sites are active on the Pee Dee River (South Carolina State Water Assessment). A gaging station on the Pee Dee River near Rockingham, N.C. also

provides useful flow data. Where it enters South Carolina from North Carolina, the Pee Dee River has an average annual streamflow of about 8,000 cfs (cubic feet per second). At the Town of Peedee, in northwestern Marion County, the river has an average annual streamflow of 9,655 cfs and can be expected to be at least 2,810 cfs 90 percent of the time. The lowest flow on record of the Pee Dee River at Peedee is 653 cfs, which occurred during July 2001.

Flow of the Lynches River is presently monitored at two gaging stations: near Bishopville, in Lee County, near the boundary of the upper and middle Coastal Plain; and at Effingham, in Florence County, in the middle Coastal Plain. Average annual streamflow is 750 cfs near Bishopville and 1,023 cfs at Effingham.

Streamflow is currently monitored at one site on the Little Pee Dee River, at Galivants Ferry, and at one site on the Black River, at Kingstree. Average flow of the Little Pee Dee River is more than 3,000 cfs at Galivants Ferry; the lowest flow is 73 cfs in 2002. Average annual streamflow of the Black River at Kingstree is 948 cfs; the lowest flow recorded is 2.0 cfs in 1954. Streamflow of the Waccamaw River is currently monitored at two gaging stations in South Carolina, near Longs and at the Conway Marina at Conway. A gaging station also exists on the Waccamaw River at Freeland, N.C. Average annual flow of the Waccamaw River near Longs is 1,258 cfs, with streamflow at this location equal to or exceeding 53 cfs 90 percent of the time. The lowest flow of record at the Longs gage is 1.0 cfs and occurred during the drought of 1954.

Information from discontinued gaging stations and from active gages on smaller tributaries are also available for the basin (see the South Carolina State Water Assessment).

### **Development**

The Pee Dee River basin has experienced limited surface-water development in South Carolina, consisting primarily of small-scale flood-control projects. The largest reservoir, Lake Robinson, is owned and operated by Progress Energy and has a surface area of 2,250 acres and a volume of approximately 31,000 acre-ft. Located on Black Creek a few miles northwest of Hartsville, the lake was constructed in 1959 to provide cooling water for the 174-megawatt H.B. Robinson coal-fired power plant. The H.B. Robinson nuclear plant, completed in 1971 and capable of 710 megawatts, also draws cooling water from the lake. The lake also serves industrial and recreational needs.

Lake Busbee, at Conway, has a surface area of 400 acres and a volume of 1,100 acre-ft. This lake is used for recreation and as a source of cooling water for the Grainger Steam Plant, a thermoelectric power plant currently owned by the Central Electric Power Cooperative and operated by Santee Cooper. For a list of smaller impoundments in the basin, see the South Carolina State Water Assessment.

### **Water use**

The three thermoelectric power plants operating in the basin used a total of 345,276 million gallons of surface water in 2006. By far, the largest water user in the basin is Progress Energy's H.B. Robinson electrical generating station, which consists of side-by-side coal-fired thermoelectric and nuclear plants, located adjacent to Lake Robinson near Hartsville in Darlington County. In 2006, a total of 296,062 million gallons of surface water was withdrawn (from Lake Robinson). Santee Cooper's Grainger electrical generating station, located adjacent to Lake Busbee at Conway in Horry County. This facility used 44,499 million gallons in 2006. The basin's only other thermoelectric power plant, Santee Cooper's Winyah generating station, located near Georgetown, used 4,715 million gallons of surface water in 2006.

Water supply withdrawals from surface-water sources totaled 20,663 million gallons in 2006. The largest surface-water user was Grand Strand Water and Sewer Authority, which withdrew 9,904 million gallons from Bull Creek. The second largest surface-water user was the city of Myrtle Beach, which withdrew 5,964 million gallons from the Atlantic Intracoastal Waterway in 2006. Other large surface water users include Georgetown Water and Sewer District, withdrawing 1,667 million gallons from the Waccamaw River, and the cities of Florence (1,343 million gallons from the Pee Dee River), Cheraw (737 million gallons from the Pee Dee River), Georgetown (654 million gallons from the Pee Dee River), and Bennettsville (393 million gallons from Lake Wallace).

Industrial water use from surface-water sources totaled 34,939 million gallons in 2006. Surface water came mainly from the Pee Dee River. The largest industrial surface-water user in the basin is International Paper Co. in Georgetown County, which withdrew 11,400 million gallons from the Sampit River in 2006. Agricultural water use in the basin totaled 4,072 million gallons from surface-water sources in 2006.

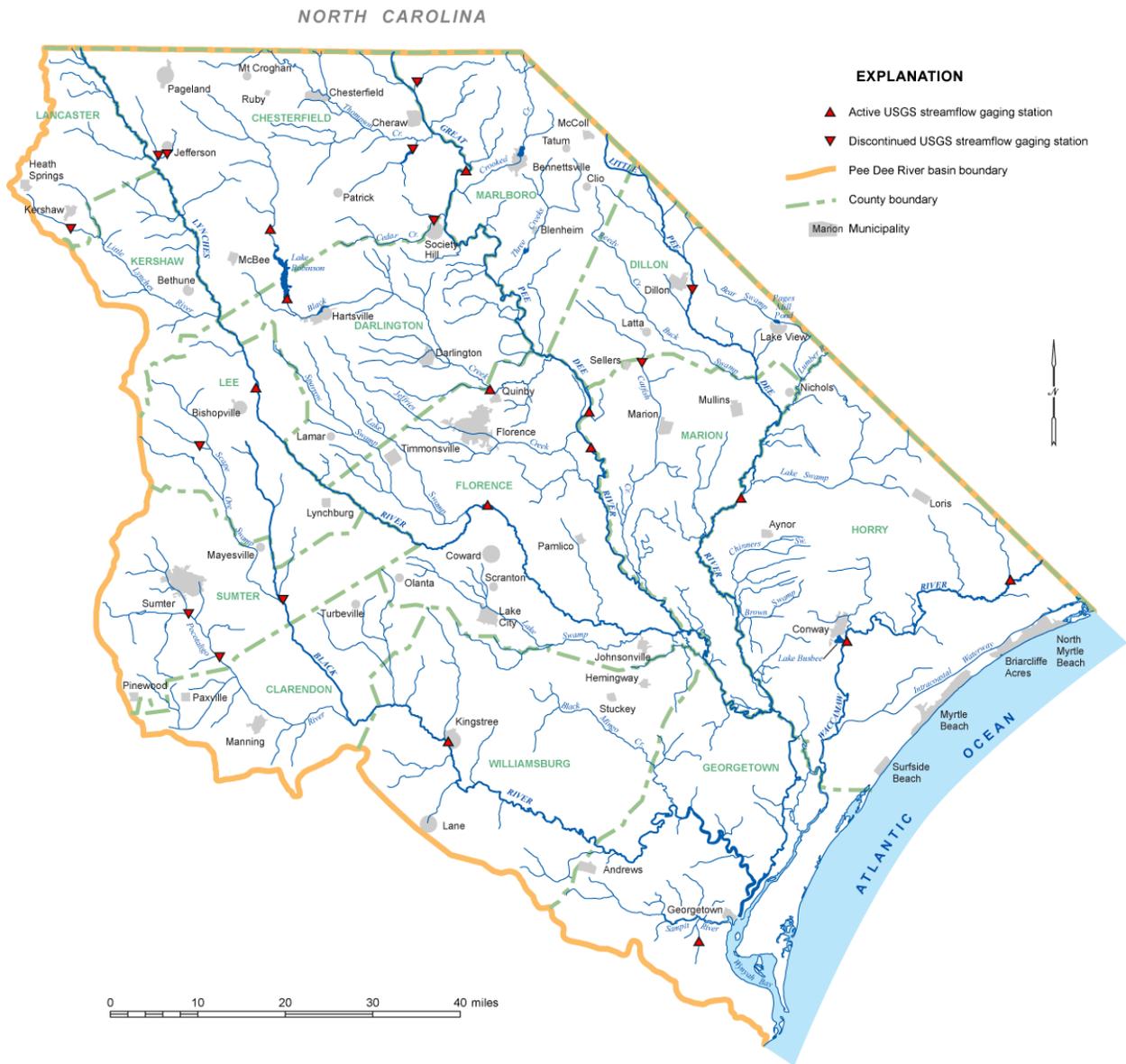


Figure 5. Map of the Pee Dee River basin in South Carolina.

## **SALKEHATCHIE RIVER BASIN**

The Salkehatchie River basin is in the southern Coastal Plain region of the State. The basin extends 95 miles inland from the Atlantic Ocean and includes parts of Aiken, Allendale, Bamberg, Barnwell, Beaufort, Colleton, Hampton, and Jasper Counties (Figure 6). The basin is the 7th largest in the State, with an area of approximately 2,870 square miles, or 9.2 percent of the State's total area.

### **Hydrology**

The major streams draining this mostly middle and lower Coastal Plain basin are the Salkehatchie River, Coosawhatchie River, and Ashepoo River. The Salkehatchie and Little Salkehatchie Rivers join to form the tidally-influenced Combahee River. The Coosawhatchie River discharges into the Broad River, a tidal saltwater river that also receives drainage from surrounding marshlands. The coastal area of this basin contains the most extensive estuarine water bodies in the State. These coastal water bodies are dominated by St. Helena Sound and Port Royal Sound and include numerous, often interconnecting, tidal creeks and rivers.

Streamflow has been monitored on the Salkehatchie and Coosawhatchie Rivers since 1951. A gage was also in operation for several years in the 1950's on the Combahee River near Yemassee. Another gage was in operation on Great Swamp from 1977 to 1984. Several stage-only gages are in operation on the Broad River.

Average-annual streamflow of the Salkehatchie River near Miley is 337 cfs (cubic feet per second) and can be expected to be at least 91 cfs 90 percent of the time. Streamflow at this site is relatively steady and well-sustained, probably due to discharges from ground-water storage and from several headwater streams in the upper Coastal Plain region. Flow at this site rarely exceeds 1,000 cfs; the maximum flood flow of record—4,360 cfs—was recorded in 1992.

Streamflow in the Coosawhatchie River is more variable than in the Salkehatchie River. Average annual flow of this river near Hampton is 169 cfs, and the flow can be expected to equal or exceed 2.2 cfs 90 percent of the time. This stream is entirely contained in the middle and lower Coastal Plain and is, therefore, dependent on rainfall and runoff from the area's low lying and highly-permeable terrain to support streamflow. Flow in the Coosawhatchie River can diminish greatly during summer months, and periods of no flow have been recorded numerous times since 1951. Flow at this site rarely exceeds 1,000 cfs; the maximum flood flow of record—8,910 cfs—was recorded in 1992.

### **Development**

Surface-water development in the Salkehatchie River basin consists primarily of navigation projects in tidal water bodies and some flood-control projects. The basin contains no large reservoirs, and the largest lake is an unnamed pond near the Ashepoo River with a surface area of 800 acres and a volume of 2,400 acre-ft. Lake Warren on Black Creek near the town of Hampton has a surface area of 600 acres and a volume of 3,600 acre-ft. The total surface area of all lakes larger than 10 acres is about 7,000 acres, and total volume is approximately 29,000 acre-ft). No hydroelectric-power facilities occur in the basin.

### **Water use**

Water-supply use in the basin was 7,125 million gallons in 2006, all of it supplied by ground water. Agricultural water use in the basin was 9,024 million gallons in 2006, the highest in the State. Of this

amount, 7,563 million gallons were from ground-water sources (84 percent) and 1,461 million gallons were from surface-water sources (16 percent). Sharp and Sharp Certified Seed, in Allendale County, withdrew 474 million gallons from surface-water sources. No industrial use was reported from surface-water sources in 2006.



Figure 6. Map of the Salkehatchie River basin in South Carolina.

## **SALUDA RIVER BASIN**

The Saluda River basin is a long, narrow basin transecting the Blue Ridge and Piedmont of South Carolina and extending southeast to the Fall Line in the central part of the State. With a northwest-southeast orientation, the basin shares a common northern boundary with North Carolina on the north and encompasses parts of 13 South Carolina counties, including most of Greenville, Greenwood, Laurens, Newberry, and Saluda Counties, and smaller parts of Abbeville, Aiken, Anderson, Calhoun, Edgefield, Lexington, Pickens, and Richland Counties (Figure 7). The basin is the 4th largest in the State, encompassing an area of approximately 3,210 square miles, or 10.3 percent of the land area of the State.

### **Hydrology**

The Saluda River is the major watercourse in the basin. This stream has its headwaters in the Blue Ridge physiographic province of South Carolina, and flows southeasterly across the Piedmont before joining the Broad River to form the Congaree River near Columbia. Major tributaries include the Reedy River, Rabon Creek, Little River, Bush River, and Little Saluda River. These streams serve water-use needs for the cities of Greenville, Greenwood, and Laurens.

A second significant watercourse in the basin is the Congaree River, formed by the confluence of the Saluda and Broad Rivers at Columbia. Several small- to moderately-sized tributaries discharge into the main stem, the largest of which are Congaree Creek, Gills Creek, Cedar Creek, and Toms Creek. This part of the basin is mostly in the upper Coastal Plain, with portions of the eastern region in the middle Coastal plain.

A 5-mile segment of the Middle Saluda River in Greenville County became the first river protected under the Scenic Rivers Program in South Carolina in 1978. In addition, a 10-mile segment of the Saluda River from one mile below the Lake Murray Dam to its confluence with the Broad River was designated as a State Scenic River in 1991.

Streamflow is presently monitored at 18 sites in the basin, 6 on the Saluda River, 2 on the Congaree, and 10 on tributary streams. Streamflow in the upper part of the Saluda River has been affected for the entire period of record by two small water-supply reservoirs, Table Rock Reservoir and Poinsett (North Saluda) Reservoir. Controlled releases from Lakes Murray and Greenwood have modified streamflows in the lower portion of the Saluda River since the 1930s.

Average-annual streamflow in the Saluda River varies from 623 cfs (cubic feet per second) near Greenville to 2,762 cfs near Columbia. Ninety percent of the time, flow at these sites equals or exceeds 231 cfs and 426 cfs, respectively. Streamflows in the Blue Ridge portion of the basin are relatively steady and have well-sustained base flow supported by ground-water discharge from exposed fracture zones. High rainfall and runoff in this region also contribute significantly to flow. Streamflow in the upper reach of the Saluda River is well-sustained throughout the year. Streamflow becomes increasingly more variable in the Piedmont region with distance downstream because of hydropower facilities and decreasing precipitation and baseflow. The lowest recorded flow of the Saluda River is 6.3 cfs (estimated) and occurred in 2000 near Williamston.

Tributary streams are subject to the same flow controlling factors as the main stem; however, most tributaries do not benefit from having headwater bodies in regions of high rainfall and ground-water

discharge to partially sustain streamflows during periods of low rainfall. Average annual streamflow in the Reedy River is 80.8 cfs near Greenville and 353 cfs near Ware Shoals.

Average annual flow of the Congaree River at Columbia is 8,872 cfs and should be at least 2,820 cfs 90 percent of the time. The lowest flow of record (576 cfs) occurred in August 2007.

### **Development**

Extensive surface-water development exists to meet the needs of industry and municipalities in the Saluda River basin. There are several large reservoirs on the Saluda River, including Lake Murray, Lake Greenwood, and Poinsett (North Saluda) Reservoir. Just in the upper part of the basin that drains into Lake Greenwood, there are more than 150 State- or Federally-regulated dams and more than 2,500 non-regulated dams, most of which are privately owned. The aggregate surface area of all lakes larger than 200 acres is approximately 65,000 acres, and the total volume is about 2,500,000 acre-ft.

Statewide, Lake Murray ranks fifth in surface area and third in volume, with 51,000 acres and 2,114,000 acre-ft, respectively. Located 11 miles west of Columbia, Lake Murray is owned and operated by South Carolina Electric and Gas Company (SCE&G). The lake was constructed in 1930 for the production of hydroelectric power, but now also provides recreational opportunities and water supply. Lake Greenwood, 18 miles east of Greenwood, is currently owned by Greenwood County, but Santee Cooper operates the hydroelectric plant (Buzzard's Roost). Constructed in 1940 for the production of hydroelectric power, the lake also serves as a municipal water supply and is used for recreation. With a surface area of 11,400 acres and a volume of 270,000 acre-ft, Lake Greenwood ranks tenth in surface area among the State's lakes. Poinsett (North Saluda) Reservoir is owned by the City of Greenville and is used solely as a municipal water supply. It has a surface area of 1,034 acres and a volume of 33,000 acre-ft.

### **Water use**

The two thermoelectric power plants operating in the basin used a total of 82,721 million gallons in 2006. SCE&G's McMeekin Station is a coal-fired power plant located adjacent to the Lake Murray Dam in Lexington County. In 2006, it used 50,964 million gallons of water for cooling and steam, drawing its water from the bottom of Lake Murray. It was the largest user in the basin. The Lee Steam Station is a coal-fired power plant owned and operated by Duke Energy. Located on the Saluda River in Anderson County it used 31,757 million gallons of water in 2006 from the Saluda River.

Water-supply use in the Saluda River basin was greater than in any other basin in the State. Eleven water-supply systems used a total of 40,033 million gallons of surface water in 2006. The City of Greenville had the largest use, withdrawing 15,019 million gallons from the North Saluda River and Table Rock Reservoir. Greenville operates another surface-water facility in the Upper Savannah River basin at Lake Keowee. The City of Columbia facility at Lake Murray withdrew 10,814 million gallons. Other systems of note include Greenwood Commission of Public Works (4,238 million gallons from Lake Greenwood and the Saluda River), Easley Combined Utility (2,762 million gallons from Saluda Lake), and West Columbia (2,599 million gallons from the Saluda River and Lake Murray).

Industrial surface-water use totaled 37,781 million gallons in 2006. Eastman Chemical Co., the largest industrial user in the State, withdrew 28,262 million gallons from the Congaree River. Agricultural water use from surface-water sources totaled 1,219 million gallons in 2006. Large surface-water users include Mt. Airy Farms in Saluda County (420 million gallons) and Walter P. Rawl & Sons, Inc. in Lexington County (350 million gallons).

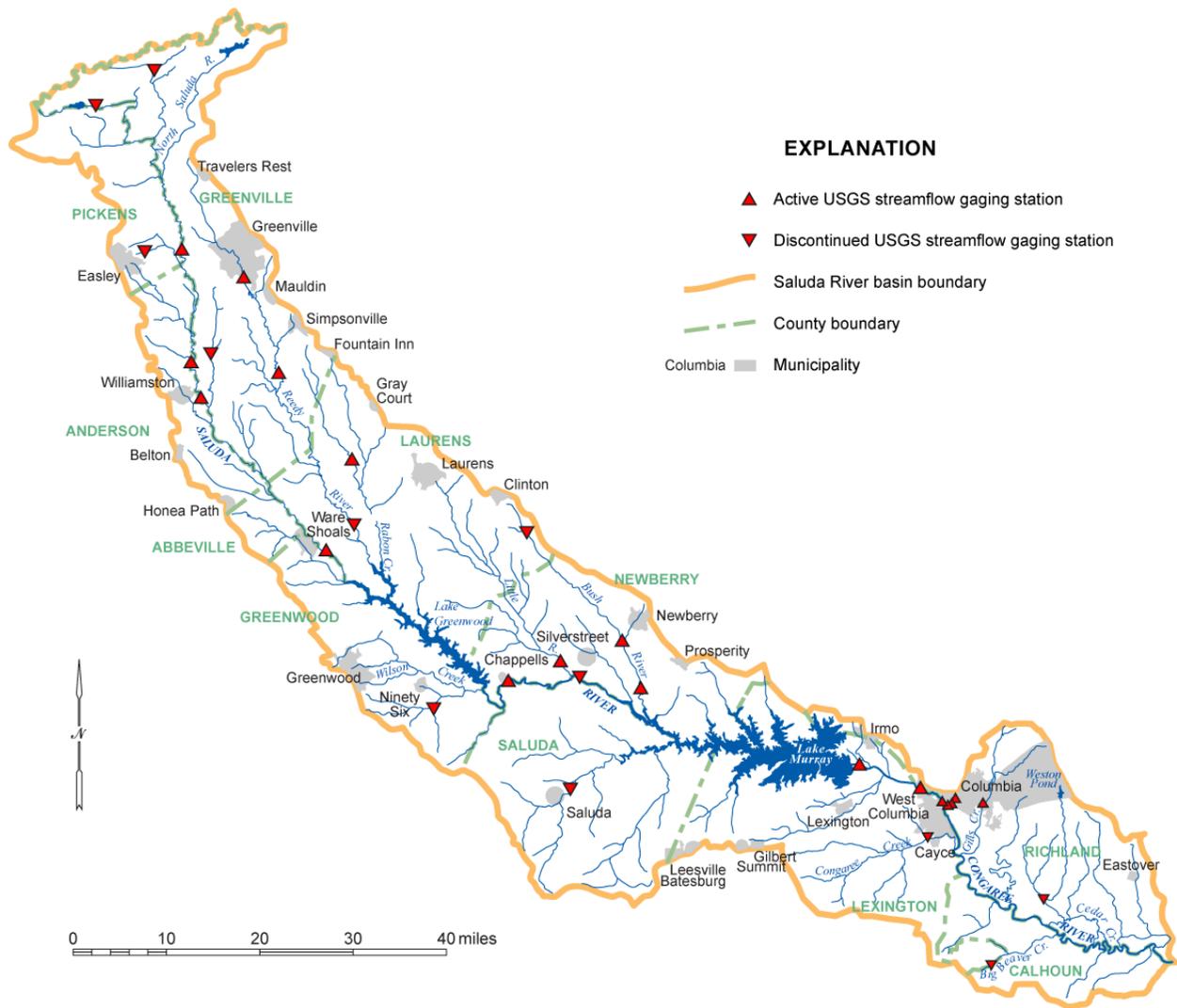


Figure 7. Map of the Saluda River basin in South Carolina.

## **SANTEE RIVER BASIN**

The Santee River basin transects the middle and lower parts of the Coastal Plain, extending from the confluence of the Congaree and Wateree Rivers southeast to the Atlantic Ocean. With a northwest-southeast orientation, this basin includes parts of nine South Carolina counties: Berkeley, Calhoun, Charleston, Clarendon, Dorchester, Georgetown, Orangeburg, Sumter, and Williamsburg (Figure 8). The basin is the 6th largest in the State, encompassing an area of approximately 2,985 square miles, which is 9.6 percent of the State's area.

### **Hydrology**

The Santee River, formed by the confluence of the Congaree and Wateree Rivers in the upper Coastal Plain, is the dominant watercourse in this basin. In its original form, the 144-mile long Santee River had the fourth largest average flow of any river on the Atlantic coast of the United States, and periodic flooding nourished extensive swamplands along its entire length. With the construction of the Santee Dam (also known as Wilson Dam) in 1941, much of upper reach of the Santee River became part of Lake Marion, which is the dominant hydrologic feature in this basin. About 10 miles from its mouth, the river bifurcates into two channels, the North Santee River and the South Santee River, that are roughly parallel and separated by about 2 miles. The two channels reach the ocean at Santee Point, a few miles south of Winyah Bay. Lake Marion was created in conjunction with Lake Moultrie to provide a major source of hydropower for the State. The original operation of Lake Marion diverted almost all of the Santee River flow through a canal into Lake Moultrie, which discharges into the Cooper River. Under normal conditions, only a small amount of water—often as little as 500 cfs (cubic feet per second)—passed Santee Dam and continued into the Santee River.

The two other major streams draining this basin are the Ashley River and the Cooper River. These tidally influenced rivers, along with several saltwater tidal creeks and rivers, discharge into Charleston Harbor.

A 24-mile segment of the Ashley River—from Slands Bridge (U.S. Highway 17-A) near Summerville to the Mark Clark Expressway (I-526) bridge in Charleston—was designated as a State Scenic River in 1998.

Historical streamflow data for the undeveloped Santee River are available from one discontinued gaging station, which was inundated by Lake Marion. Before development of the Santee Cooper lake system, year-round flow in the Santee River at that site was well sustained. Average annual streamflow was 15,400 cfs and could be expected to equal or exceed 7,000 cfs 90 percent of the time.

Five gaging stations currently monitor streamflow in the Santee River basin, two on the Santee River, one on the rediversion canal, one at the Lake Moultrie Tailrace Canal at Moncks Corner on the West Branch Cooper River, which reports discharges from Lake Moultrie, and another on a small creek in Francis Marion National Forest.

Currently, average annual streamflow in the Santee River is 2,121 cfs near Pineville (just below Santee Dam) and 10,610 cfs near Jamestown (below the rediversion canal). Annual average flow in the rediversion canal is 8,741 cfs. Since Lake Marion was created, the lowest flow of record for the Santee River (9 cfs at Pineville) occurred in 1947 because of repair work on the spillway.

### **Development**

The nearly eight-mile long Santee Dam, on the Santee River 17 miles south of Manning, forms Lake Marion. Completed in 1941, the lake extends nearly 40 miles upstream, almost to the confluence of the

Congaree and Wateree Rivers. Although it is the State's largest reservoir by surface area, at 110,600 acres, Lake Marion averages a depth of only about 12.5 feet and ranks fourth in volume (1,400,000 acre-ft). It is owned and operated by the South Carolina Public Service Authority (Santee Cooper). The 1.92-megawatt capacity of the Santee Dam is negligible, but the dam's 62 spillway gates are important flood-control structures. Lake Marion also is a major economic asset by virtue of its recreational attractions, and part of the lake is in the Santee National Wildlife Refuge.

Lake Moultrie is formed by the Jefferies (formerly Pinopolis) Dam, which is on the Cooper River north of Moncks Corner, and is managed by the South Carolina Public Service Authority (Santee Cooper). It is the fourth largest lake in the State, having a surface area of 60,400 acres. Its volume of 1,211,000 acre-ft ranks it fifth among the State's lakes by volume. Between 1943 and 1985, most of the natural flow of the Santee River—an average of about 15,000 cfs—was diverted into Lake Moultrie and discharged into the Cooper River, which resulted in severe silting in the Cooper River and Charleston Harbor during that period. To alleviate this problem, in 1985 the U.S. Army Corps of Engineers constructed another canal to redivert water from Lake Moultrie back into the Santee River. The normal operation of Lake Moultrie releases a daily average of 4,500 cfs into the Cooper River—enough to keep the salinity of the river low—and returns the remainder of its discharge—on average about 10,000 cfs—to the Santee River. In addition to electric-power production, Lake Moultrie is used for water supply and recreation and is partially within Santee National Wildlife Refuge.

Santee Cooper owns and operates a 24-mgd (million gallons per day) water-treatment plant and 26 miles of transmission pipeline. The water is distributed to the Lake Moultrie Water Agency, which is owned by and supplies water to the Moncks Corner Public Works Commission, Summerville Commissioners of Public Works, city of Goose Creek, and Berkeley County Water and Sanitation Authority. The city of Charleston owns two reservoirs, Bushy Park Reservoir (also known as the Back River Reservoir), and Goose Creek Reservoir, from which it obtains municipal and industrial water supplies. Both streams were tidally influenced until they were impounded for freshwater storage. The Bushy Creek Reservoir receives water primarily from the Cooper River and supplies industrial customers, although it serves as an alternate municipal-supply source. Goose Creek Reservoir is used for recreational purposes and as a backup municipal-supply source. Together, the two reservoirs have a total surface area of 1,450 acres and an approximate volume of 13,000 acre-ft.

### **Water use**

Three thermoelectric power plants operate in the basin. Collectively, they used 188,150 million gallons of surface water in 2006. Williams Station is owned by SCE&G and operated by the South Carolina Power Generating Company. Located near Charleston, Williams Station is a coal-fired plant with a capacity of 650 MW (megawatts). It can also generate 50 MW of electricity from two natural gas combustion turbines. In 2006, the plant used 172,369 million gallons from the Cooper River.

Jefferies Generating Station is an oil- and coal-fired plant owned and operated by Santee Cooper. Located in Berkeley County on the Tailrace Canal near Lake Moultrie, it has a capacity of 398 MW and used 13,402 million gallons in 2006.

Cross Generating Station, also owned and operated by Santee Cooper, is a coal-fired plant located adjacent to the Diversion Canal between Lakes Marion and Moultrie. The plant, which has a capacity of 1,160 MW, used 2,379 million gallons in 2006.

Water-supply use from surface-water sources in the basin was 24,005 million gallons in 2006. Charleston Water System was the largest user, withdrawing 18,347 million gallons from Bushy Park Reservoir in 2006. Charleston Water System also draws water from the Edisto River in the Edisto River basin.

The Lake Moultrie Water Agency, which serves the Berkeley County Water and Sanitation Authority, the city of Goose Creek, the Moncks Corner Public Water Works Commission, and the Summerville Commissioners of Public Works, had withdrawals of 5,658 million gallons from Lake Moultrie in 2006.

In 2008, the Lake Marion Regional Water Agency opened a water treatment plant capable of treating 8 million gallons a day from Lake Marion, which will serve parts of Berkeley, Calhoun, Clarendon, Dorchester, Orangeburg, and Sumter Counties and several municipalities; most of this use is outside the basin. The treatment plant will be owned, operated, and maintained by Santee Cooper.

Industrial surface water use totaled 3,682 million gallons in 2006. BP Amoco Cooper River chemicals plant near Charleston had the greatest use, withdrawing 2,619 million gallons from the Cooper River. Agricultural water use from surface-water sources totaled 1,197 million gallons in the basin in 2006.

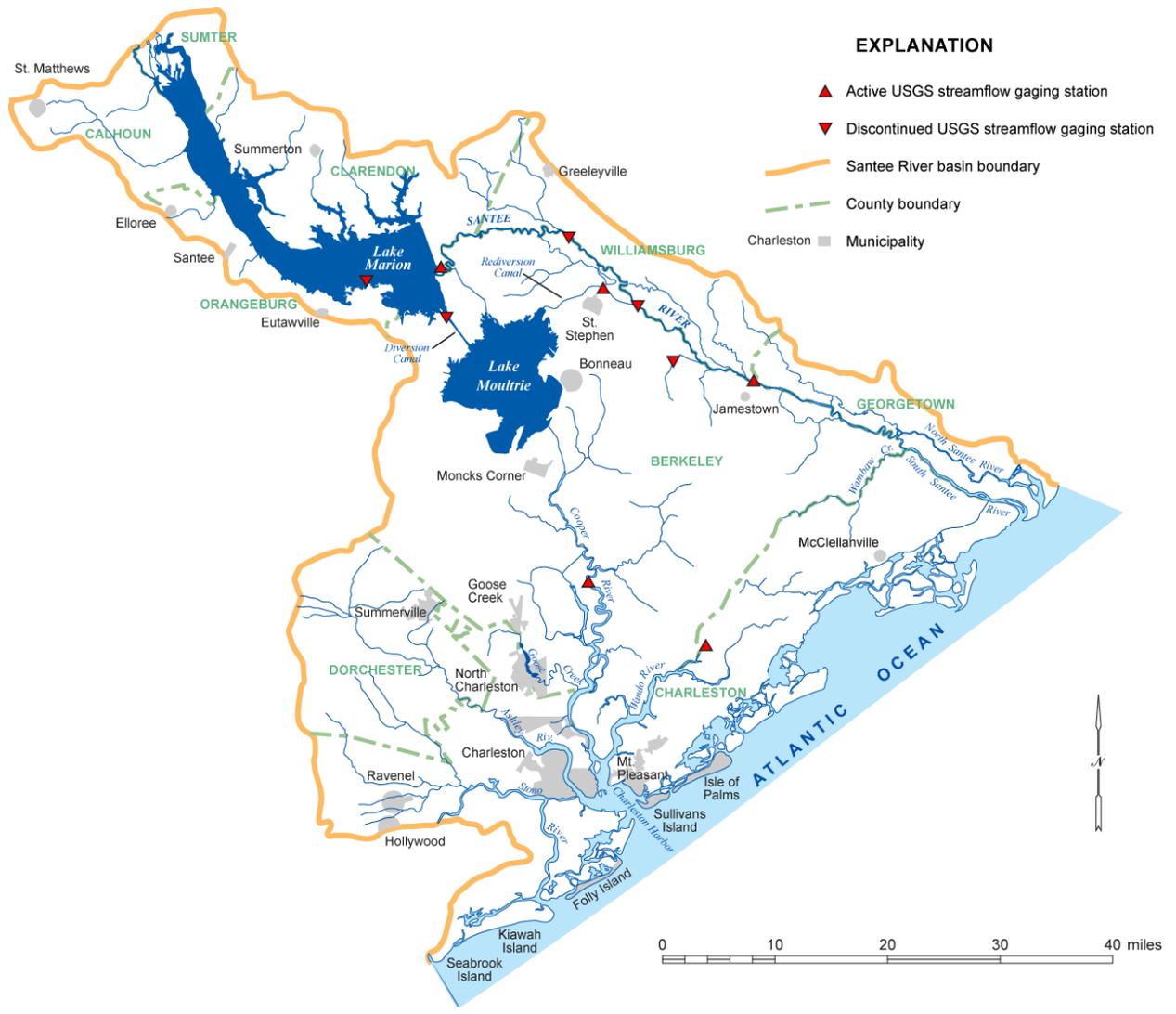


Figure 8. Map of the Santee River basin in South Carolina.

## **SAVANNAH RIVER BASIN**

The Savannah River basin is located in western South Carolina and extends 265 miles southeast from the North Carolina state line to the coast. It shares its western border with Georgia and encompasses McCormick and Oconee Counties and parts of Abbeville, Anderson, Beaufort, Edgefield, Greenwood, Pickens, Saluda, Aiken, Allendale, Barnwell, Hampton, and Jasper Counties (Figure 9). The basin is the 2nd largest in the State, encompassing an area of approximately 4,900 square miles, which is 15.8 percent of the State's area.

### **Hydrology**

The Savannah River is the major watercourse in the basin. With headwaters in the Blue Ridge province of North Carolina and Georgia, the Tugaloo and Seneca Rivers converge to form the Savannah River. Several other tributaries drain South Carolina and Georgia watersheds and contribute to streamflow in the Savannah River. Those streams in South Carolina include the Chattooga River, Twelvemile Creek, Rocky River, Little River, Stevens Creek, Horse Creek, Upper Three Runs Creek, and Lower Three Runs Creek. Since 1950, five large reservoirs have been built on the upper Savannah River and its major headwater tributaries in South Carolina, inundating virtually all of the upper reach of the Savannah River valley. Controlled discharges from hydroelectric-power facilities associated with these reservoirs greatly affect streamflow in the main stem.

Streamflow in the basin is presently monitored at four gaging stations on the main stem and five gages on tributary streams. Three active gaging stations on the main stem were in place before hydroelectric development upstream and reflect the combination of flow conditions before and after regulation. Several other gages on the Savannah River and its tributaries are no longer active. Average streamflow in the Savannah River is 9,135 cfs (cubic feet per second) at Augusta, Georgia, and increases to 11,620 cfs downstream near Clyo. Average streamflow of the Savannah River, measured at now-discontinued gaging stations, was 4,469 cfs near Iva (below Lake Hartwell) and 5,428 cfs near Calhoun Falls (below Lake Russell). Although daily flows were variable due to fluctuating discharges from upstream hydroelectric power plants, minimum flows were well sustained because of reservoir releases. Releases from Lake Thurmond and subsequent reregulation by the Stevens Creek Dam are such that the flow of the Savannah River at Augusta is almost always at least 3,600 cfs.

### **Development**

The upper part of the Savannah River basin is one of the most intensely developed basins in the State and is a region of numerous flood-control projects and hydroelectric power facilities. Five of the largest reservoirs in South Carolina—Jocassee, Keowee, Hartwell, Russell, and Thurmond—dominate the hydrology of this basin. Lake Jocassee, on the Keowee River near the northern edge of the basin, extends up the Toxaway and Whitewater Rivers. Completed in 1975, Lake Jocassee holds 1,185,000 acre-ft of water and has a surface area of 7,565 acres; it is the State's sixth-largest lake by volume. The Jocassee Hydroelectric Station is a pumped-storage generating facility that discharges into Lake Keowee. During periods of low electrical demand, reversible turbines pump water up from Lake Keowee back into Lake Jocassee, to be used again to generate power during periods of high electrical demand. The lake and generating facilities are owned and operated by Duke Energy, and the lake is a popular recreation area.

Immediately downstream from Lake Jocassee is Lake Keowee. Created in 1971 by damming the Keowee and Little Rivers, the lake contains nearly 1,000,000 acre-ft of water and has a surface area of 18,372-acres. Lake Keowee ranks seventh in area and eighth in volume among South Carolina lakes. In addition

to providing water for Duke Energy's Keowee hydropower plant, the lake serves as a source of cooling water for the adjacent Oconee Nuclear Station, as a reservoir for the pumped-storage facility at Jocassee Dam, as a water-supply reservoir for the city of Greenville, and as a popular recreational area.

Lake Hartwell, located west of Anderson on the Savannah River, was constructed by the U.S. Army Corps of Engineers (COE). The lake, completed in 1963, extends up the Savannah, Tugaloo, and Seneca Rivers and has a surface area of 56,000 acres and a volume of 2,549,000 acre-ft. It ranks fourth in surface area and first in volume among lakes in the State. The lake is an important source of water for hydroelectric power production, public water supplies, and recreation.

Almost immediately below Lake Hartwell on the Savannah River is Richard B. Russell Lake. With a surface area of 26,650 acres and volume of 1,026,000 acre-ft, it ranks sixth and seventh, respectively, among South Carolina lakes. It was constructed by the COE in 1985 primarily for hydroelectric-power production and flood control, but it also is used for recreation and water supply.

Immediately below Lake Russell is J. Strom Thurmond Lake, which occupies most of the western border of McCormick County. (Before 1988, this reservoir was named Clarks Hill Lake, and it is still officially referred to as such by the State of Georgia.) With a surface area of 70,000 acres and a volume of 2,510,000 acre-ft, this lake is the second largest in both surface area and volume of all lakes in the State. Completed in 1954, this was the COE's first reservoir on the Savannah River. Originally constructed for hydropower, flood control, and to assist with downstream navigation, the reservoir is now also important for water supply and recreation. Releases from Lake Thurmond control the behavior of the lower Savannah River, particularly in the upper reaches of the Lower Savannah River basin.

In addition to the hydroelectric power projects associated with these large reservoirs, the basin contains several other hydroelectric projects, including Duke Energy's Bad Creek pumped-storage facility above Lake Jocassee and SCE&G's Stevens Creek project, which helps to mitigate the downstream effects of widely-varying releases from Lake Thurmond.

The New Savannah Bluff Lock and Dam, located on the Savannah River 13 miles below Augusta, was constructed by the COE in 1937 to improve navigation on the Savannah River between the Savannah Harbor and Augusta. Commercial traffic through the lock ceased in 1979, and maintenance of the facility and its navigation channel was discontinued. Although the lock is no longer used for commercial navigation, the dam creates a relatively stable pool of water in the river that serves as a source for municipal, industrial, and agricultural water supply for the North Augusta area.

### **Water use**

Almost all of the water used for thermoelectric power, and thus most of the offstream water use in the basin, was used by Duke Energy's Oconee Nuclear Station. Located near Seneca in Oconee County, the Oconee Nuclear Station is one of the largest nuclear plants in the nation, with three reactors and a generating capacity of 2,538 MW (megawatts). In 2006, the plant used 919,732 million gallons of water, more than any other single offstream use in the State. The Oconee Nuclear Station withdraws water from Lake Keowee. Another thermoelectric power facility in the basin is Santee Cooper's John S. Rainey Station, a gas-combustion turbine plant that uses natural gas and compressed air to turn turbines and produce electricity. The plant, located in western Anderson County on the Savannah River, used 334 million gallons of water in 2006.

A third thermoelectric power plant in the basin reporting water use was SCE&G's Urquhart Station. Located near North Augusta on the Savannah River, the plant, which burns both coal and natural gas, has a capacity of 650 megawatts, and is SCE&G's oldest fossil fuel thermoelectric plant, having been in operation since 1953. In 2006, the station used 56,012 million gallons of water, all from the Savannah River.

Water-supply use from surface-water sources in the Savannah River basin totaled 32,286 million gallons in 2006. The largest surface-water user was Beaufort-Jasper Water and Sewer Authority, withdrawing 8,072 million gallons from the Savannah River, much of which is used outside the Savannah River basin. The city of Greenville withdrew 7,293 million gallons from Lake Keowee in 2006. Greenville also draws water from the North Saluda Reservoir and Table Rock Reservoir in the Saluda River basin. Anderson Regional Water System used 7,098 million gallons for public supply from Lake Hartwell. Other systems of note include the city of Seneca (2,394 million gallons from Lake Keowee), Edgefield County Water and Sewer (1,652 million gallons from the Savannah River), the city of North Augusta (1,632 gallons from the Savannah River), Westminster Commission of Public Works in Oconee County (903 million gallons from Chauga River), and the city of Abbeville (858 million gallons from Lake Russell).

Industrial surface-water use totaled 25,342 million gallons in the basin in 2006. Primesouth, in Aiken County, had the greatest surface-water use, withdrawing 18,184 million gallons from the Savannah River. Primesouth is the second largest industrial user in the State. Agricultural use from surface-water sources in the basin totaled only 318 million gallons in 2006.



Figure 9. Map of the Savannah River basin in South Carolina (continued on next page).

