

# **Little Pee Dee River Eligibility Study**

for the

## **South Carolina Scenic Rivers Program**

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### Contents

Study Summary and Recommendations	1
Findings from the Eligibility Study	1
Public Notification and Public Input	4
Recommendations	5
Introduction	6
The South Carolina Scenic Rivers Program	6
Study Boundaries	7
The Little Pee Dee River Watershed	9
Assessment of the River's Resource Values and Conditions	11
South Carolina Rivers Assessment Findings	11
Land Use and Ownership Patterns	13
Scenic Characteristics	17
Recreational Values	18
Geological Resources	20
Botanical Values	20
Fish and Wildlife Values	21
Historic and Cultural Values	23
Streamflow and Water Quality	25
Conclusions about the River's Eligibility	28
Appendix 1: Water Quality Information: Little Pee Dee River, Dillon County	29
Appendix 2: Answers to Common Questions about State Scenic Rivers	32
References	34

## Study Summary and Recommendations

A 48-mile segment of the Little Pee Dee River is proposed for designation as a State Scenic River under the South Carolina Scenic Rivers Act. This report presents the findings and recommendations of a scenic river eligibility study conducted by the South Carolina Department of Natural Resources (SCDNR), Scenic Rivers Program, in 2004.

The study area and the proposed State Scenic River include the 48-mile river corridor within Dillon County that begins at the Marlboro County line above the Parish Mill Bridge on State Road 363 and extends to the confluence with Buck Swamp at the Marion County line. (See Figure 1, page 8, for map of project area.)

### Findings from the Eligibility Study

To qualify as eligible for State Scenic River status, Section 29-49-70 of the South Carolina Scenic Rivers Act states, “the river or river segment must possess unique or outstanding scenic, recreational, geological, botanical, fish, wildlife, historic or cultural values” and “the level of pollution of a river's waters must be considered.” These criteria and other factors are used to determine a river’s eligibility for State Scenic River status.

Findings from an eligibility study demonstrate that the Little Pee Dee River study area does possess outstanding river-related values and is eligible for State Scenic River status. Those values judged to be of outstanding significance include the river’s scenic, recreational, fish, and wildlife values.

The basis for the river’s eligibility and a description of its significant values are summarized below. More detailed explanations are provided in later sections of this report.

#### *The South Carolina Rivers Assessment*

The *South Carolina Rivers Assessment* of 1988 provides comparative information about the state’s river resources. Ten of the 16 river-resource categories evaluated in the *Rivers Assessment* are directly relevant to scenic river eligibility. Taken as a whole, the 48-mile study area of the Little Pee Dee River was rated as having superior resources of statewide or greater significance in three scenic-river related categories: flatwater boating, backcountry boating, and inland fisheries. The study area was also rated as having outstanding resources of regional significance in three scenic-river related categories: undeveloped rivers, natural features, and recreational fishing.

#### *Scenic Characteristics*

The Little Pee Dee provides the outstanding scenery of a South Carolina Coastal Plain blackwater river: clear dark waters with sandy river bottoms and bars, and winding water trails lined by cypress-tupelo swamps and bottomland hardwood forests. Human development activities have visually affected approximately 5 miles (roughly 11 percent) of the total 48-mile

Little Pee Dee River segment being assessed in this study. The remaining 41 river miles are visually free of human development and provide a setting where natural conditions surround the river user along most of the river's length. Along most of its route the river is open, the channel typically ranging from 25 to 50 feet in width. Around the bends the views commonly extend 300 to 500 feet downriver, and in a few places the views extend a quarter-mile or more.

### *Recreational Uses*

The Little Pee Dee River is an outstanding recreational resource for fishing and boating; and the area is within easy driving distance of several large population centers, making the river's recreational opportunities accessible to many thousands of people. River access is available along the entire 48-mile study area at three public boat ramps, and the public uses another ten public/private ramps and drop-in sites that are dispersed along the river's length. Virtually all sections of the river that are accessed from these sites are navigable by small powerboats and canoes or kayaks; and the river provides opportunities for multiday canoe-camping trips. The fishing reputation of the Little Pee Dee centers on the popular redbreast sunfish. The area is well suited to hunting for deer, turkey, ducks, and other small game.

### *Geological Resources*

The Little Pee Dee River in Dillon County features many oxbow lakes, sloughs, sand ridges, and other fluvial formations that have been created by the river within the floodplain. These type features are common to Coastal Plain rivers and many of these features can be directly accessed from the main river channel. The relatively flat terrain, wide floodplains, and the sandy soils produce the swamplands and clear blackwater conditions that distinguish the scenic characteristics of the river.

### *Botanical Values*

The vegetative communities of the Little Pee Dee River and adjacent land are typical of blackwater rivers and bordering swamplands in the lower Coastal Plain of South Carolina. The natural communities with high resource value include cypress-gum swamps, bottomland hardwood forests, and fluvial sand ridge communities. Botanical species of concern (rare, threatened, or endangered) that are found along the Little Pee Dee include the Carolina bird-in-a-nest, southern bog button, savannah yellow-eyed grass, river bank quillwort, and pine barrens boneset.

### *Fish and Wildlife Values*

The Little Pee Dee River is an outstanding resource for inland fisheries with its streams, sloughs, oxbow lakes, and swamps providing diverse habitat for the indigenous fish community of both resident and migratory species. Ample streamflow and good water quality further contribute to a favorable environment for fish. The shortnose sturgeon, an endangered fish species that inhabits coastal rivers of South Carolina, may occur in the river. Fifty-four species of fish have been collected from the Little Pee Dee River.

The Little Pee Dee River floodplain and adjacent uplands contain large acreages of wild and

undeveloped forestland, wetlands, and open waters that provide excellent habitat for a great variety of wildlife species. The surrounding uplands support additional wildlife habitat in a landscape of agricultural fields and upland forests. Most of the land is held in large parcels (tracts) which reduces fragmentation of habitat. Rare, threatened, or endangered animal species known to inhabit the area include the spotted turtle, red-cockaded woodpecker, and bald eagle.

### *Historic and Cultural Values*

The Little Pee Dee, like most rivers of South Carolina's Coastal Plain, is a natural resource that has supported human settlements for thousands of years and to this day continues to be valued by the surrounding communities. The study area of the upper Little Pee Dee, however, is not noted for any outstanding archaeological discoveries or historic events.

There are approximately 34 archeological sites within the Little Pee Dee River study area, which indicate that prehistoric inhabitants utilized the floodplain for hunting, foraging, or cultivating, and that permanent living sites were on the adjacent bluffs and sand ridges. The river derives its name, Pee Dee, from the Native American people who inhabited the area when Europeans first began to settle in South Carolina. The river served as a transportation route from the very beginning of settlement (middle 1700's), bringing settlers and supplies up from the Winyah Bay area and taking agricultural products, lumber, naval stores, and other goods down to market. Commercial navigation on the upper Little Pee Dee may have persisted for roughly 100 years but by 1856 the railroads had taken the place of the river for transporting goods to the markets at Georgetown and Charleston.

### *Streamflow and Water Quality*

The Little Pee Dee River is free flowing (not dammed) and the natural, physical characteristics of the river appear to be unaltered by channelization projects. Average daily streamflow, measured on the river at Dillon, is about 577 cubic feet per second (cfs) and the streamflow can be expected to equal or exceed 155 cfs 90 percent of the time. The Little Pee Dee is a blackwater river, stained a dark tea color by chemicals known as tannins, which are leached from tree leaves in the surrounding swamps.

Analyses of water quality monitoring data by the S.C. Department of Health and Environmental Control (SCDHEC) indicate that, overall, the study area of the Little Pee Dee has healthy water quality conditions; however, there are a few problem areas. Six water-quality monitoring stations and two fish monitoring stations are located on the Little Pee Dee in Dillon County. Aquatic life uses in the river are fully supported at all six of the monitoring stations. Recreational uses are supported at four stations and not supported at two stations, reflecting a negative change since 2000 when all stations supported recreational uses. Fish consumption use is not supported at sampling stations and the entire river is under a fish consumption advisory.

### *Land Use Conditions and River Classifications*

The floodplain of the Little Pee Dee River forms a corridor three-quarter-miles (0.75 miles) wide along the entire length of the river. The dominant land-cover types in this corridor are wetland forests and upland forests, and most of these forestlands appear to be managed for

timber, wildlife, and recreational uses. Along most of its route, the Little Pee Dee River channel is isolated from high ground as it meanders through the floodplain forests.

Human development along the river is generally concentrated in areas where the river channel meanders near high ground and where there is a nearby road for access. Recreational access sites and house sites are the typical human-development use seen along the river; and there are roughly 50 such sites in the study area. Roads, utility corridors, and public landings impact the character of the river; 11 highways, one railroad, eight powerline crossings, and three publicly-owned boat landings are located on the river.

Rivers within the State Scenic Rivers Program are classified according to the land use conditions, degree of naturalness, and extent of development on the river and adjacent lands. Eligible rivers must be classified according to the type(s) that best fits the river or segments of the river. The entire 48-mile section of the Little Pee River study area in Dillon County is suited to the “scenic river” class.

### **Public Notification and Public Input**

The public was invited to respond to the proposed Little Pee Dee Scenic River designation by contacting SCDNR staff directly (by telephone, email, or letter) and/or by participating in two public meetings. In January 2005 the public meetings were held to provide information and address questions and concerns of citizens regarding the proposed scenic river designation. The public meetings were held January 13 and 20 in Dillon, South Carolina. River bordering landowners and other interested citizens were notified of the proposed designation and invited to the public meetings. Landowners along the Little Pee Dee in Dillon County received three separate letters of notification describing the designation proposal and the time and place of the public meetings.

Notice of the public meetings was published in the State Register and in newspapers with local and statewide circulation. A press release announcing the scenic river proposal and the public meetings was distributed. Several local and regional newspapers and news broadcasters produced stories about the proposed designation. The draft report of the Little Pee Dee Eligibility Study was posted on the DNR web site, paper copies of the draft report were distributed at the January public meetings, and summary information from the draft report was distributed to all river landowners by mail with one of the letters of notification.

Approximately 60 people attended the January 13 public meeting and approximately 70 attended the January 20 meeting. At both public meetings SCDNR staff presented an overview of the Scenic Rivers Program and findings of the Little Pee Dee Eligibility Study. The majority of the public meeting time was used to address the comments and questions of those in attendance. Common questions asked by the citizens and addressed by SCDNR staff related to: (1) concerns about increased regulation on property owners; (2) how advisory councils are formed and how they function; and (3) what the scenic rivers program can accomplish for the river. A few vocal participants expressed their skepticism and mistrust of government programs; however, many other citizens expressed strong support for the designation, appreciation and concern for the river, and a desire for assistance from the SCDNR Scenic Rivers Program. Since the public meetings, the Dillon County Council, Friends of the Little Pee Dee, local newspapers,

and local conservation groups continue to express support for the proposed designation and no sustained opposition to the designation is apparent.

The public was invited to review the draft report of the Little Pee Dee Eligibility Study and to provide comments, corrections, and suggested changes to its contents. Public comments received after the public meetings suggested corrections and changes to the section on history and cultural values and a clarification of the boundaries (end points) of the proposed scenic river designation. The draft report was revised to correct grammatical errors and to improve the history and cultural section. The boundaries were clarified to more accurately express the findings of the study; that is, the entire section of the Little Pee River within Dillon County is determined to be eligible for scenic river designation. The description of study boundaries and the recommendations reflect this clarification.

### *Contact Information*

For additional information about this study report and the S.C. Scenic Rivers Program, please contact SCDNR staff at 1000 Assembly Street, Columbia, SC 29201. Telephone: (803) 734-9100. Email: [MarshallB@dnr.sc.gov](mailto:MarshallB@dnr.sc.gov). Columbia staff includes: Bill Marshall, Mary Crockett, and Rich Scharf. SCDNR regional staff, John Alford, in Dillon may be contacted at (843) 774-9577.

### **Recommendations**

Based on the findings presented in this report, the Little Pee Dee River in Dillon County is considered eligible for designation as a State Scenic River. The SCDNR staff recommends that the 48-mile section of the Little Pee Dee River in Dillon County be designated as a State Scenic River from the Marlboro County line above Parish Mill Bridge on State Road 363 to the confluence with Buck Swamp at the Marion County line.

## **Introduction**

In the summer of 2004 the Dillon County Council and a citizens group, Friends of the Little Pee Dee, requested staff of the South Carolina Department of Natural Resources (SCDNR) to consider the Little Pee Dee River in Dillon County for designation as a State Scenic River. In response, the SCDNR Scenic Rivers Program initiated a study in October of 2004 to assess the eligibility of the Little Pee Dee for State Scenic River designation. This report presents the findings and recommendations of Little Pee Dee River eligibility study and provides a description of the river and surrounding lands.

A 48-mile segment of the Little Pee Dee River is proposed for designation as a State Scenic River under the South Carolina Scenic Rivers Act. The study area and the proposed State Scenic River includes the 48-mile river corridor in Dillon County that begins at the Marlboro County line above Parish Mill Bridge on State Road 363 and extends to the confluence with Buck Swamp at the Marion County line. (See Figure 1, page 7, for map of project area.)

The lower end of the Little Pee Dee River between Marion and Horry Counties is already designated as a State Scenic River. This includes the 14-mile river section that extends downstream from U.S. Highway 378 bridge and ends at the Great Pee Dee River. This section of the Little Pee Dee was designated a State Scenic River in 1990.

### **The South Carolina Scenic Rivers Program**

The purpose of the Scenic Rivers Program is to protect the State's unique and outstanding river resources. To accomplish this purpose, a cooperative, voluntary management program has been created to involve landowners, community interests, and the SCDNR in a partnership, working together toward common river-conservation goals.

Designating a State Scenic River requires legislative action by the South Carolina General Assembly. However, the designation process begins at the local level and requires the support of local citizens, landowners, and elected officials. The steps in the designation process determined by the South Carolina Scenic Rivers Act are as follows:

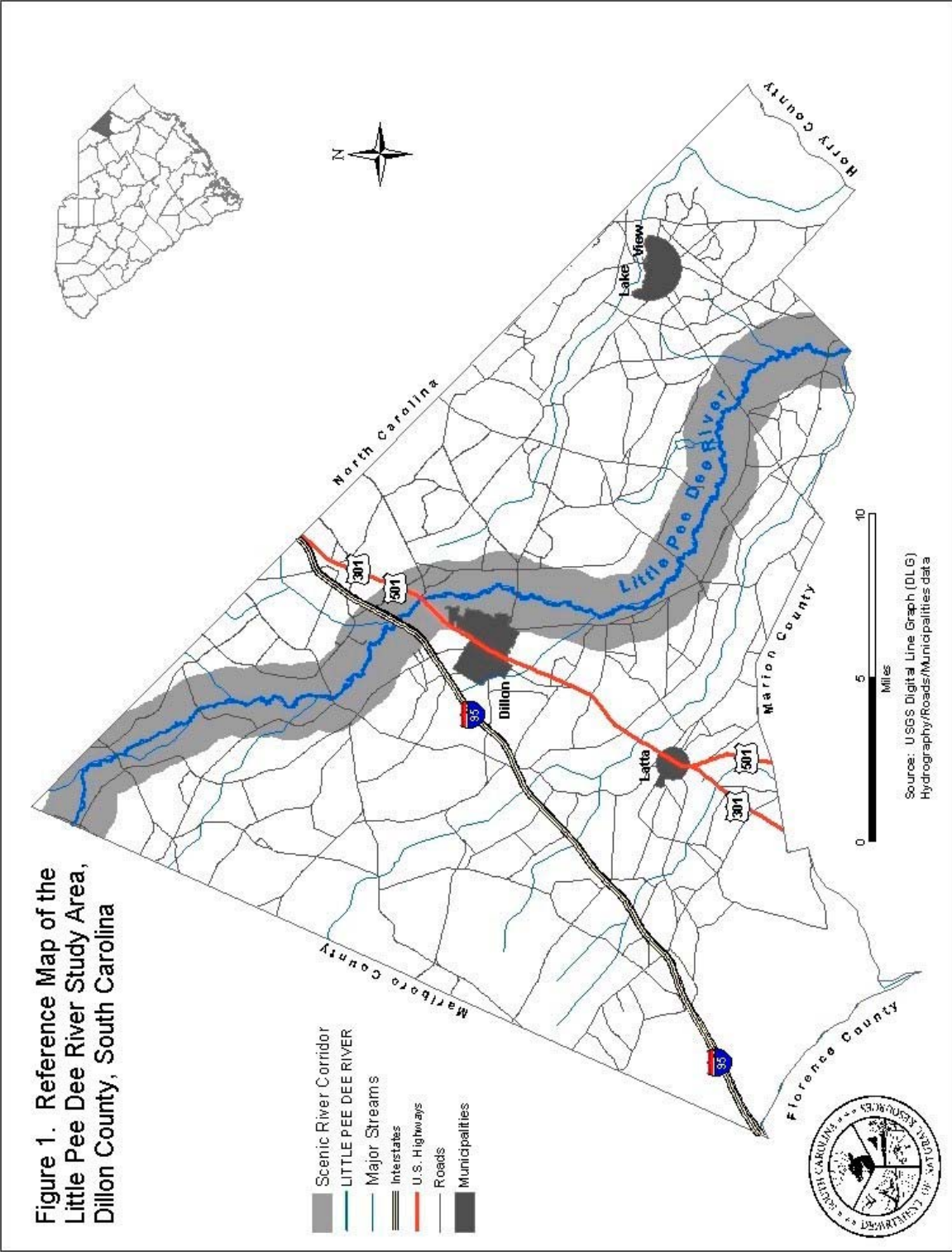
- First, a local request for scenic river designation is made and then the SCDNR conducts a scenic river eligibility study. In this case, citizens of Dillon, South Carolina, made the request and this eligibility study was initiated in October 2004.
- Second, all river landowners and the general public are notified of the proposal and invited to public meetings to ask questions or express concerns. Public meeting on this proposal were held January 13 and January 20, 2005.
- Third, each county council of the affected river-bordering counties is asked to give their approval of the Scenic River proposal. With this proposal the affected county is Dillon and the Dillon County Council expressed its support for the designation in June 2004.
- Finally, the SCDNR Board reviews the proposal and a bill is introduced in the General Assembly. When the bill is passed, a new State Scenic River is officially designated.

After the designation process is completed the SCDNR will establish a local Scenic River Advisory Council to develop and implement a river management plan. The advisory council will be made up of landowners, river users, and representatives of groups with an interest in the river. Advisory councils may have six to ten voting members, the majority of whom must represent river-bordering landowners. Additional people are typically included on advisory councils as ex-officio members to bring broader expertise and representation to the group.

### **Study Boundaries**

The boundaries for this eligibility study are defined by the 48-mile river corridor in Dillon County that extends from the Marlboro County line above Parish Mill Bridge on State Road 363 to the confluence with Buck Swamp at the Marion County line. Along the length of the river, the boundaries are generally defined by the nearest paved highways that parallel the river and its floodplain.





## The Little Pee Dee River Watershed

The watershed of the upper Little Pee Dee River, that portion which is upstream of the confluence with the Lumber River, is approximately 752 square miles (481,394 acres) in size. Major tributaries in the upper Little Pee Dee River watershed include Gum Swamp Creek and Beaver Dam Creek, which join the Little Pee Dee in Marlboro County; and Bridge Creek, Shoe Heel Creek, Hayes Swamp, and Buck Swamp that join the Little Pee Dee in Dillon County. The headwaters of this watershed and the origins of the Little Pee Dee River begin with Gum Swamp Creek, which extends 25 miles into North Carolina and drains a portion of the Sandhills region of Scotland and Richmond Counties east of Rockingham.

The stream named “Little Pee Dee River” actually begins at the confluence of Gum Swamp Creek and Beaver Dam Creek, at Red Bluff Lake near S.C. Highway 83 in Marlboro County. From Red Bluff Lake, the first half of the Little Pee Dee River flows southeasterly for about 62 miles from Marlboro County and through Dillon and Marion Counties to its confluence with the Lumber River near the town of Mullins.

After merging with the Lumber River, the Little Pee Dee flows in a more southerly direction for about 60 miles to its confluence with the Great Pee Dee. The lower 60 miles of the Little Pee Dee form the boundary between Marion County on the west and Horry County on the east. After receiving the waters of the Little Pee Dee, the Great Pee Dee River flows another 33 miles south into Winyah Bay at Georgetown where the Pee Dee waters eventually join the Atlantic Ocean.

The Little Pee Dee is a blackwater river. The water has a dark tea color because chemicals known as tannins stain the water. Tannins are leached from the tree leaves and other organic material decomposing in the surrounding swamps. Because the Little Pee Dee River originates in and flows through the relatively flat sandy soils of the Coastal Plain, its water contains very little sediment load.

The watershed of the upper Little Pee Dee River is rural in nature, with agriculture and forestry the predominant land use activities. According to the South Carolina Department of Health and Environmental Control (SCDHEC, 2000), the mix of land use and land cover types within the South Carolina portion of the watershed is as follows:

- Agricultural land 35.5%
- Forested land 23.5%
- Scrub/shrub land 24.1%
- Forested wetland 15.1%
- Urban land 1.4%
- Water 0.4%

The year 2000 population densities of Dillon, Marlboro, and Marion Counties (the counties that surround the Little Pee Dee River study area) are 76, 60, and 73 people per square mile, respectively. The population density for the state of South Carolina is 133. The largest population centers within the upper Little Pee Dee watershed include Laurinburg, N.C, on Bridge Creek; Mullins, S.C. on Buck Swamp; and Dillon, S.C. on the Little Pee Dee River.

Other smaller towns located in the upper Little Pee Dee watershed include Maxton, N.C. on Shoe Heel Creek; Rowland, N.C. at Hayes Swamp; McColl, S.C. on Beaverdam Creek; and Latta, Zion, and Fork, S.C. on Buck Swamp.

Several larger urban areas, Florence, Myrtle Beach, and Fayetteville, are in close proximity to the watershed. The city of Florence is located 30 miles southwest of the Little Pee Dee River and supports a rapidly growing metropolitan area with a population of approximately 128,000 people. Myrtle Beach and the Grand Strand, just 45-miles southeast of the study area, are in another rapidly growing urban area that is one of the most popular recreation and resort areas on the East Coast. The Myrtle Beach metropolitan area supports a population of approximately 210,000 people. To the north, about 40 miles from the North Carolina - South Carolina border, is Fayetteville, North Carolina, a metropolitan area that supports about 304,000 people.

## **Assessment of the River's Resource Values and Conditions**

As described in the Introduction, the subject of this study is a 48-mile segment of the Little Pee Dee River in Dillon County. To determine whether this or any other river qualifies as eligible for State Scenic River status, Section 29-49-70 of the South Carolina Scenic Rivers Act states that the “river or river segment must possess unique or outstanding scenic, recreational, geological, botanical, fish, wildlife, historic or cultural values” and “the level of pollution of a river's waters must be considered.” These factors are addressed in this section following a presentation of relevant findings from the *South Carolina Rivers Assessment*.

### ***South Carolina Rivers Assessment Findings***

An important source of information for understanding South Carolina rivers is the *South Carolina Rivers Assessment* (SCWRC, 1988) as it provides comparative information about the state's river resources which is useful to considerations of State Scenic River designations. The *Rivers Assessment* of 1988 involved over 70 individuals with an array of river resource expertise in an evaluation of the state's rivers. Using primarily personal knowledge and opinion, the experts assembled into 16 committees and evaluated over 1400 rivers and river segments and classified the rivers according to their significance for 16 different resource categories.

Ten of the 16 resource categories evaluated in the Rivers Assessment are directly relevant to scenic river eligibility. These relevant categories include: undeveloped rivers, natural features, flatwater boating, backcountry boating, whitewater boating, recreational fishing, inland fisheries, wildlife habitat, historic and cultural values, and water quality.

Taken as a whole, the 48-mile study area of the Little Pee Dee River was rated as having superior resources of statewide or greater significance in three categories relevant to the Scenic Rivers Program. The study area was also rated as having outstanding resources of regional significance in four of these categories.

Results for all 16 resource categories and how they were assessed for the Little Pee Dee River in Dillon County are presented in Table 1 and discussed below.

### ***Superior River Resources***

In the *Rivers Assessment* the Little Pee Dee River in Dillon County was rated as a superior resource of statewide or greater significance for three categories: flatwater boating, backcountry boating, and inland fisheries.

All of these resource categories take into account the perceived scenic and natural quality of the river in addition to other factors. The flatwater boating category reflects good water quality and good river access while the backcountry boating category reflects good opportunity for extended river trips that involve overnight camping. The inland fisheries category accounts for species composition, and the perceived aquatic habitat quality, fishery quality, and quality of recreational use.

### *Outstanding River Resources*

In the *Rivers Assessment* the Little Pee Dee River in Dillon County was rated an outstanding resource of regional significance in five categories: undeveloped rivers, natural features, recreational fishing, timber management, and water supply.

The undeveloped rivers category accounts for man-made structures and reflects the natural character in the river corridor. The natural features category accounts for the known scarcity and perceived quality, condition, and scientific value of the species and natural communities of the river corridor. Recreational fishing accounts for the perceived fishing quality, aquatic habitat, scenic quality, and access. The timber management category rates the potential timber productivity within the river corridor. The water supply category rates rivers according to the water's quality, quantity, treatability, and accessibility.

### *Significant River Resources*

In the *Rivers Assessment* the Little Pee Dee River in Dillon County was rated as a significant resource of local significance in four categories: wildlife habitat, water quality, agriculture, and industrial.

The wildlife habitat category reflects perceived habitat quality, suitability of the habitat, and quality of the hunting opportunities. The water quality category reflects the river's water quality classification and whether water quality standards were maintained in the river. The agriculture category reflects the suitability of adjacent lands for agriculture and the use of the river as a water source. The industrial category rates rivers based on their assimilative capacity for wastewater.

### *River Resources not Evaluated*

In the *Rivers Assessment*, the Little Pee Dee in Dillon County was not evaluated for three categories: historic and cultural values, whitewater boating, urban rivers, and utility rivers.

**Table 1. *South Carolina Rivers Assessment* findings: Little Pee Dee River in Dillon County.**

<b>Resource Category</b>	<b>Value Class</b>
Agriculture	Value Class 3: Significant resource of local significance
Historic and Cultural	Not rated
Industrial	Value Class 3: Significant resource of local significance
Timber Management	Value Class 2: Outstanding resource of regional significance
Undeveloped Rivers	Value Class 2: Outstanding resource of regional significance
Natural Features	Value Class 2: Outstanding resource of regional significance

Whitewater Boating	Not rated
Flatwater Boating	Value Class 1: Superior resource of statewide or greater significance
Backcountry Boating	Value Class 1: Superior resource of statewide or greater significance
Recreational Fishing	Value Class 2: Outstanding resource of regional significance
Inland Fisheries	Value Class 1: Superior resource of statewide or greater significance
Wildlife Habitat	Value Class 3: Significant resource of local significance
Urban Rivers	Not rated
Utility Rivers	Not rated
Water Quality	Value Class 3: Significant resource of local significance
Water Supply	Value Class 2: Outstanding resource of regional significance

## Land Use and Ownership Patterns

Land use and ownership patterns affect the character of rivers and present different management alternatives for the Scenic Rivers Program. Land use and ownership patterns can be important factors affecting scenic quality, wildlife habitat, and water quality. Land use conditions are also the determining factor for how a river is classified within the State Scenic Rivers Program. After the river is determined eligible, it must be classified according to the category (natural, scenic, or recreational) that best fits each eligible river segment. Classification is based on the degree of naturalness and extent of development on the river and adjacent lands at the time of the study.

To better understand land use and ownership patterns, an inventory was conducted for the river segment under study. Land use and land cover characteristics were assessed, human development features in the river corridor were inventoried, and the river mileage that is visually affected by human development was estimated. Finally, all parcels of land that connect with the river and their acreages (when available) were inventoried. The land use inventories were conducted using 1999 aerial photography, topographic and county highway maps, and field trips to the river. The parcel-ownership records were collected from the county tax assessor.

### *Land Use*

As mentioned earlier in the report, the watershed of the Little Pee Dee is rural and the major land-use and land-cover types include forests, agriculture, and scrub/shrub vegetation. Only a small portion of the watershed is in urban or built-up land uses. Land use adjacent to the Little Pee Dee River is controlled by the floodplain of the river where floodwaters and wet soils generally discourage development.

The floodplain of the Little Pee Dee forms a corridor three-quarter-miles (0.75 miles) wide along the entire length of the river where the dominant use of land is for forests. Within the river

floodplain the vegetation pattern reflects the gradient of elevation and moisture. Adjacent to the river channels and in sloughs the floodplain has standing water and saturated soil conditions that create a cypress-tupelo swamp forest; and associated with these areas on slightly higher ground are the bottomland hardwood forests. Moving further away from the river channel, the outer floodplain transitions to pine-mixed hardwood forests. In many places the outer, highest areas of the floodplain support planted pine stands and in a few areas agricultural fields are established.

The forests of the Little Pee Dee River floodplain appear to be managed for timber, wildlife, and recreational uses. Recent logging of timber has occurred in many locations along the river and the logging practices typically involve clear-cutting large areas and leaving in place the required “streamside-management zone,” a forested buffer strip left along the banks of the river and all tributary streams.

Human development along the river is generally concentrated in areas where the river channel meanders near high ground and where there is a nearby road for access. Recreational access sites or house sites with associated docks are the typical human development scenes on the river. There are roughly 45 places dispersed along the river where a remote, single site next to the river has been cleared to allow for access to the river or for building a house in some cases. Excluding these 45 remote/single sites, there are another four areas where development is clustered (e.g. several houses in one location) on the river; these include (1) an area north of Dillon across from Norton’s Landing, (2) the Shrine Club building area south of Dillon, (3) the Floydale Bridge area, and (4) an area below Little Pee Dee State Park. The stretch of river with the least amount of development is the upper 14-mile section between State Road 363 and State Road 23 (Section I, below).

Other types of development that affect the character of the river are public utilities and infrastructure. The corridors of 11 highways (SR 363, SC 57, SR 429, SR 23, I-95, US 501/301, SC 9, SR 45, SR 22, SC 41, and SR 72), one railroad (CSX railroad near Dillon), and eight powerlines cross the Little Pee Dee River. Three publicly-owned boat landings are located in the study area and all but one of these are co-located within the developed areas or highway crossings previously mentioned.

Overall, the land use inventory indicates that approximately five miles (11 percent) of the river within the study area are visually affected by human development. For the remaining 41 miles, one will see a natural river corridor with flowing blackwater shouldered by banks of dense floodplain forests.

Details of the river-corridor land use inventory are presented below. The study area is divided into four sections beginning with the upper end of the Little Pee Dee River in Dillon County and moving down river. The listings of land use features within each section are presented sequentially, moving from upstream to downstream.

Section I: The Little Pee Dee River from approximately 500 feet upstream of State Road 363 to State Road 23. On this 14-mile section, three highway crossings and 13 cleared areas (may be building sites) on the banks affect the natural character and condition of the river corridor. The features listed below visually affect approximately one mile (7 percent) of the river in this section:

- One cleared area on north bank, upstream of Sate Road 363, Parish Mill Bridge
- State Road 363, Parish Mill Bridge crossing
- Five cleared areas dispersed within 2-mile river segment
- S.C. Highway 57, McInnis Bridge crossing
- Four cleared areas dispersed within 4-mile river segment
- State Road 429, McKays Bridge crossing
- Four cleared areas dispersed within 7-mile river segment
- State Road 23 bridge crossing

Section II: The Little Pee Dee River from State Road 23 to S.C. Highway 9. On this 11-mile section three highways, one railroad, four powerlines, 19 houses/buildings, a large clear-cut area, and two public landings affect the natural character and condition of the river corridor. The features listed below visually affect approximately 1.75 miles (16 percent) of this river section:

- Two small cleared areas dispersed within 1.5-mile river segment
- Norton Landing on the south/west bank
- 12 houses and several docks clustered in 0.5-mile segment; accessed from SR 437
- Moccasin Bluff public boat landing and a house; accessed from SR 437, east bank
- One house on the south/west bank near I-95
- I-95 highway crossing (two bridges)
- Two powerline crossings (clustered with the I-95 crossing)
- CSX Railroad crossing
- U.S. Highway 501/301, Stafford Bridge crossing
- Four house-sites and one private access site dispersed within 3-mile section on east bank
- One large powerline crossing
- One commercial building site on west bank near Hwy 9
- S.C. Highway 9, Dillon Bridge crossing (new bridge and old bridge with sewer line crossing)
- Powerline crossing (clustered with Hwy 9 bridge crossings)

Section III: The Little Pee Dee River from S.C. Highway 9 to State Road 22. On this 12-mile section two highways, three powerlines, at least four houses/buildings, several large clear-cut areas, and two public landings affect the natural character and condition of the river corridor. The features listed below visually affect approximately 1.25 miles (10 percent) of this river section:

- Two small private access sites dispersed within 3-mile river segment
- Dillon County Park public landing, south/west bank
- Two large powerline crossings approximately one mile apart
- Shrine Club building, three houses, private landing, all on south/west bank
- One large powerline crossing
- Old bus, river shack, barn, field, livestock on south/west bank
- State Road 45, Floydale Bridge crossing and public boat landing
- Cluster of several houses and trailer homes below State Road 45, north/east bank
- Four small clearings and one house, dispersed within 2-mile section on south/west bank
- River access site at Heritage Preserve above State Road 22 bridge, north/east bank
- State Road 22 crossing



Section IV: The Little Pee Dee River from State Road 22 to the confluence with Buck Swamp. On this 11-mile section two highways, two powerlines, six houses/buildings and six cleared areas (may be building sites) on the banks, a seawall, large clear-cut areas, one public landing, and a road along the riverbank affect the natural character and condition of the river corridor. The features listed below visually affect approximately 1.25 miles (11 percent) of the river in this section:

- Five sites dispersed within 1.5 miles of river feature a large platform, storage building, a field, a cleared/filled area, and a cabin, all on south/west bank
- Three houses at river bend with seawall, north/east bank
- Cleared area on bluff, north/east bank
- S.C. Highway 41 bridge and public landing
- Two cleared sites with fields within 0.25 mile section, south/west bank
- Powerline crossing
- Three sites with fields and house-sites within 1-mile river segment, south/west bank
- Cleared site with access road cut into floodplain, north/east bank
- State Road 72 bridge
- Dirt road runs along the west riverbank for approximately 0.33 miles

*Land Ownership Patterns*

Land bordering the Little Pee Dee River in Dillon County is divided among 266 parcels, which altogether total 22,511 acres of land. Most parcels (52 percent) are ten to 100 acres in size. Smaller parcels (10 acres or less) make up 20 percent of the total, while the larger parcels (greater than 200 acres) amount to 12 percent of the total parcels. Table 2 provides information on the distribution of river bordering land parcels by size categories. Forty-five (45) percent of the total parcel acreage is in parcels of 200 acres or greater.

**Table 2. Size Distribution of Land Parcels Contiguous with Little Pee Dee River.**

<b>Parcel Size Categories</b>	<b>Number of Parcels</b>	<b>Acreage of Parcels</b>
<1 acre	21 parcels	10 acres
1 to 10 acres	31 parcels	119 acres
>10 to 100 acres	137 parcels	5,769 acres
>100 to 200 acres	45 parcels	6,428 acres
>200 to 300 acre	19 parcels	4,189 acres
>300 to 400 acres	8 parcels	3,029 acres
>400 to 500 acres	2 parcels	832 acres
>500 acres	3 parcels	2,135 acres
All Parcels (total)	266 parcels	22,511 acres

## *Scenic Rivers Classification*

Land use conditions are the determining factor for how a river is classified within the State Scenic River Program. After a river is determined eligible, it must be classified according to the type that best fits each eligible river segment and may be classified as more than one river type along its length. Classification is based on the degree of naturalness and extent of development on the river and adjacent lands at the time of the study. The general descriptions for the three river classifications are as follows:

- *Natural rivers* are free flowing (without impoundment, diversion, or other modification to the waterway), generally inaccessible except by trail or river, with essentially undeveloped shorelines and unpolluted waters.
- *Scenic rivers* are essentially free flowing with largely undeveloped shorelines and limited road access; adjacent lands are used for dispersed human activities, such as agriculture, silviculture, and others, which do not disturb the natural character of the river.
- *Recreational rivers* may have more access and development along the shoreline and should possess outstanding river-related recreational opportunities.

The entire 48-mile section of the Little Pee River study area in Dillon County is suited to the “scenic river” class because the river is accessible from 13 public access sites (includes 10 road crossings) and at dozens of private areas. Yet, the shorelines of the river are largely undeveloped, the river corridor retains its natural character for nearly 90 percent of its length, and the river is free flowing.

## **Scenic Characteristics**

Methods for evaluating the scenic resources of rivers have been developed and applied in some areas of the country; and these methods will typically consider the overall impression created by visual characteristics such as landforms, vegetative diversity, natural colors in the landscape, diversity of views, special features, and human effects. However, no such method has ever been applied to South Carolina’s rivers.

The *South Carolina Rivers Assessment* provides comparative information on river scenery in assessment categories where scenic and aesthetic qualities were considered as part of other resource values. Expert committees rated the Little Pee Dee River as either superior or outstanding for four resource categories that take into account scenic qualities of the river. The superior and outstanding values were for flatwater boating, backcountry boating, inland fisheries, and recreational fishing.

The ways in which scenic values and visual aesthetic qualities of rivers were addressed in the *Rivers Assessment* are as follows. For recreational fishing, backcountry boating, and flatwater boating, a criterion called “scenic quality” was used to rank the rivers. They defined scenic quality by the type and diversity of landforms, vegetation, degree of naturalness, and presence of man-made features. Scenery and other aesthetic factors were part of the criterion, “Quality of Recreational Use,” that was used by the inland fisheries group. Other factors that could be related to the visual aesthetic character of rivers are the degree of naturalness, the quality and condition of habitats, and the scarcity of species and communities; the expert committees for

natural features and undeveloped rivers assessed these.

As mentioned in the previous section on land use, human development activities have visually affected approximately five miles (roughly 11 percent) of the river within the study area. Approximately 41 river miles are visually free of human development and provide a setting where natural conditions surround the river users along most of this river's length.

Along most of its route the river is open, the channel typically ranging from 25 to 50 feet in width. Around the bends the views commonly extend 500 feet downriver, and in a few places they extend a quarter-mile or more. The river scenes are of clear blackwater, sandy river bottoms and bars, and winding water trails lined by cypress-tupelo swamps and bottomland hardwood forests. These visual elements make lasting impressions of the Little Pee Dee.

### **Recreational Values**

The recreational values of the river are assessed by considering the importance of existing and potential recreational uses such as boating, swimming, fishing, hunting, and camping. Other factors considered are river access facilities and proximity to population centers

Comparative information about the recreational resources of the state's rivers can be derived from the *South Carolina Rivers Assessment*. As explained previously, expert committees rated the Little Pee Dee River as a superior recreational resource for flatwater boating and backcountry boating and they were rated an outstanding resource for recreational fishing. Associated with these recreational uses are primitive camping opportunities. Also within the *Rivers Assessment*, the wildlife habitat committee assessed recreational hunting opportunities and they determined the Little Pee Dee River to be a resource of local significance. The area is well suited to hunting for deer, turkey, ducks, and other small game.

The fishing reputation of the Little Pee Dee River centers on the popular redbreast sunfish. The world's record redbreast, a two-pound fish, was pulled from the Lumber River in 1975. However, according to fishery surveys conducted by the SCDNR from 1988 to 1992, most anglers target a variety of species on the Little Pee Dee (SCDNR ~1995). Creel surveys have encountered 18 fish species among anglers on the river. Warmouth, bluegill, redbreast, and largemouth bass were consistently the most abundant fish caught in terms of numbers and total weight. Since the last time these creel surveys were conducted (1992), the flathead catfish has become established in the Little Pee Dee River.

The SCDNR fishery surveys also show very localized use of the river with 80 to 90 percent of the anglers coming from Marion or Horry Counties and very few (less than 1 percent) coming from out of state. During the survey period 90 percent of the fishing effort was by boat anglers and 10 percent was from the bank. Fishing activities vary from year to year but the most popular time is in May and June when over half of the total angler effort on the river is expended. Estimates of angler effort on the Little Pee Dee during the five-year study period (32,755 angler hours per year) are considered low fishing pressure for a river of this type. The fish sampling data collected from the Little Pee Dee indicates there is a healthy fishery in the river (SCDNR ~1995).

Note: Mercury contamination in fish has become a public health issue of concern in recent years and the SCDHEC has issued a Fish Consumption Advisory for the entire Little Pee Dee River. This problem affects all the rivers in South Carolina. See [Fish Consumption Advisory](#) in Appendix 1.

River access is available along the entire 48-mile study area at three public boat ramps; and the public uses another ten public/private ramps and drop-in sites that are dispersed along the river's length. Virtually all sections of the river accessed from these sites are navigable by small powerboats and canoes or kayaks; however, storm-downed trees and deadfalls may temporarily obstruct passage in some places. Access sites that are used by the public include the following:

- State Road 363 bridge: privately owned, drop-in access, no parking available
- S.C. Highway 57 bridge: privately owned, no drop-in access
- State Road 429 at McKay's Bridge: privately owned, limited public use, drop-in access, public parking not recommended
- State Road 23 at Harlee's Bridge: privately owned, drop-in access, limited public parking
- Norton's Landing at end of Norton Landing Road off S.C. Highway 9 west of Dillon, south/west bank of river: privately owned, drop-in access, very limited public parking
- Moccasin's Bluff ramp at end of State Road 437, north/east bank of river: SCDNR owned, public access, paved boat ramp, paved parking
- U.S. Highway 501/301 bridge: privately owned, paved boat ramp with dirt parking
- S.C. Highway 9 at Dillon Bridge, the old bridge: SCDOT owned, drop-in access, parking on old Highway 9 roadbed
- Dillon County Park off S.C. Highway 57, south of Dillon: Dillon County owned, paved boat ramp, dirt parking
- State Road 45 (Lester Road) at Floydale Bridge: Dillon County owned, paved boat ramp, dirt parking
- Little Pee Dee State Park Heritage Preserve, north side of river upstream of SR 22 at Carmichael's Bridge: SCDNR owned, drop-in access at end of dirt road, no parking available. The Little Pee Dee State Park is adjacent to and down-river from this site; the State Park borders approximately one mile of the river along the north bank.
- S.C. Highway 41 at Huggins Bridge: privately owned, dirt boat ramp, dirt parking
- State Road 72 at Allen's Bridge: privately owned, very limited public access, drop-in access, no parking

The Little Pee Dee is a popular river for canoeists with single-day float trips being the most common use. Opportunities for multiday canoe-camping trips are also available; however, designated camping sites are very limited. The only designated camping facilities along the river are at Little Pee Dee State Park, an 854-acre property managed by the South Carolina Department of Parks, Recreation, and Tourism; however, the existing campsites are over one-mile from the river. In low water conditions sand bars along the river can offer locations for primitive, backcountry camping, as can the many miles of swamp and forestlands lining the river. Camping on river-boarding lands will require permission from the landowners.

Wherever access is available to the river, people will use the river for recreation: fishing, boating, and even swimming. Many swimming holes are evident along the river where locals enjoy the clean, cool blackwater of the Little Pee Dee.

The study area is within easy driving distance of several large population centers making the river's recreational resources accessible to many thousands of people. Florence, Myrtle Beach, and Georgetown are each within a one-hour drive of the river. Charleston, Columbia, Fayetteville, and Wilmington are within a two-hour drive.

## **Geological Resources**

The geologic resources of interest on scenic rivers are features, processes, or phenomena that are considered unique or outstanding. These could include features of rare or unusual geologic composition or appearance, such as waterfalls, bluffs, unusual rock formations, or geomorphic features.

The Little Pee Dee River in Dillon County features many oxbow lakes, sloughs, sand ridges, and other fluvial formations that have been created by the river within the floodplain. These type features are common to Coastal Plain rivers and many of these features can be directly accessed from the main river channel.

The Little Pee Dee River flows through the flatlands of the Coastal Plain region of South Carolina. The relatively flat terrain, wide floodplains, and the sandy soils produce the swamplands and clear blackwater conditions that distinguish the river. The river corridor is underlain by thick layers of consolidated and unconsolidated sedimentary formations (for example, the Pee Dee Formation and the Black Creek Formation) that consist of alluvial sediments brought down from the Piedmont and marine sediments deposited when ocean and estuarine waters covered the region. Materials in these formations include sand, gravel, clay, and limestone.

## **Botanical Values**

The botanical values of the river are assessed by considering the natural communities and species that exist within the river corridor. The presence of high quality natural communities, communities of special significance, and threatened or endangered species habitat is considered.

The Little Pee Dee study area was rated by expert committees of the South Carolina Rivers Assessment as an outstanding resource for natural features. The natural features category accounts for the scarcity and perceived quality, condition, and scientific value of the species and natural communities found along the river.

The vegetative communities of the Little Pee Dee River and adjacent land are typical of blackwater rivers and bordering swamplands in the lower Coastal Plain of South Carolina. The area has potential for supporting high quality examples of these communities.

The SCDNR owns the Little Pee Dee State Park Heritage Preserve adjacent to the river and the State Park. The property, comprising 301 acres, contains a medium-sized Carolina bay on the edge of the floodplain of the Little Pee Dee River. A bay forest containing loblolly bay, sweet bay, pond pine, and red maple dominates this site. Characteristic shrubs include fetterbush, bayberry, and honeycup. Bamboo vine is also abundant. The sand rim occurs on the

southeast and eastern edges of the bay and supports xeric vegetation and pocosin. A bottomland swamp adjoins the river.

Botanical species of concern (rare, threatened, or endangered) that are found along the Little Pee Dee include the Carolina bird-in-a-nest (*MacBridea caroliniana*), southern bog button (*Lachnocaulon beyrichianum*), savannah yellow-eyed grass (*Xyris flabelliformis*), river bank quillwort (*Isoetes riparia*), and pine barrens boneset (*Eupatorium resinosum*).

The natural communities with high resource value include cypress-gum swamps, bottomland hardwood forests, and fluvial sand ridge communities. The dominant overstory trees along the river's edge, in oxbow lakes and sloughs, and throughout the adjacent swamps are baldcypress and tupelo. Other common overstory species along the river include red maple, sycamore, sweetgum, black gum, overcup oak, water oak, laurel oak, water hickory, American holly, and green ash. The loblolly pine occurs on some of the higher banks and along sand ridges found within the river's floodplain.

Understory vegetation along the river's edge is dominated by river birch which overhangs the water in many areas. Black willow is a common understory species along exposed sandbars. Herbaceous aquatic macrophytes are common in shallow, slow-flowing habitats along the entire river segment.

### **Fish and Wildlife Values**

Fish and wildlife values are assessed by considering the occurrence of habitats and populations in the river corridor. Habitats of special significance for both game and nongame species, habitats for threatened or endangered species, and the abundance and diversity of habitats and species are considered.

#### *Fisheries*

The Little Pee Dee study area was rated by expert committees of the *South Carolina Rivers Assessment* as a superior resource for inland fisheries. The Little Pee Dee River and associated tributary streams, sloughs, oxbow lakes, and swamps provide a diverse habitat for the indigenous fish community. The river's relatively stable streamflow and good water quality further contribute to a favorable environment for fish. The shortnose sturgeon, an endangered fish species that inhabits coastal rivers of South Carolina, may occur in the river.

A total of 53 species of fish were collected from the Little Pee Dee and Lumber rivers during 1990 to 1993 sampling conducted by the SCDNR (SCDNR ~1995). The most abundant species by numbers were coastal shiners, spotted sunfish, and redbreast sunfish, accounting for 20 percent, 18 percent, and 17 percent of the total number of fish sampled respectively. By weight, the most abundant fish were bowfin, largemouth bass, spotted sucker, and carp, representing 37 percent, 12 percent, nine percent, and eight percent of the total biomass sampled respectively. Since the time when these fish sampling studies were conducted (1990-93), the flathead catfish has become established in the Little Pee Dee River.

In addition to the resident fish community, a number of migratory species are known to

seasonally inhabit the river (SCWRC, 1982). These fish migrate upstream from Winyah Bay and the Atlantic Ocean to spawn. Migratory species include the American shad, hickory shad, blueback herring, and striped bass. A limited commercial fishery for shad and herring and sport fishery for striped bass exist in the lower portion of the Little Pee Dee.

### *Wildlife*

The Little Pee Dee River floodplain in Dillon County is roughly three-quarter (0.75) miles or more in width and 48 miles in length. This area contains large acreages of wild and undeveloped forestland, wetlands, and open water that provide suitable habitat for a variety of wildlife species. Beyond the floodplain, the surrounding uplands support additional wildlife habitat in a landscape of agricultural fields and upland forests.

Most property adjacent to the river is in large blocks of ownership with 32 parcels of land that exceed 200 acres in size; larger parcels usually result in less fragmentation of wildlife habitat. Eleven highway crossings contribute to habitat fragmentation by cutting through the wide floodplain forest corridor; however, most of these roads are two-lane rural highways that are narrower with less traffic, and therefore have less impact on wildlife. The larger, high-traffic highways are limited to the city of Dillon area.

The expert committees of the *South Carolina Rivers Assessment* rated the Little Pee Dee study area an outstanding resource for undeveloped rivers and an outstanding resource for natural features; both of these categories are positive assessments for wildlife.

Rare, threatened, or endangered animal species known to inhabit the area include the spotted turtle, red-cockaded woodpecker, and bald eagle. The most common big game animal in the study area is the whitetail deer. Wild turkeys are also scattered in occurrence within the area. The black bear may occur infrequently in the Little Pee Dee floodplain as well, traveling from nearby bear-inhabited areas in North Carolina. A number of small game mammals occur in the area such as raccoon, gray fox, red fox, and mink. Eastern cottontail populations are sparse but gray squirrels are common along the river and in adjacent hardwood forests. Beavers are fairly common along the river. River otter and bobcat occur in the area but are not common. The wood duck is common and nests in the area. Migratory waterfowl that may inhabit the area seasonally include black duck, mallard, green-winged teal, widgeon, gadwall, and pintail.

Songbirds, wading birds, and birds of prey are common and are probably the most visible wildlife species to recreational river users. Several species of turtles and water snakes are common and are also easily observed along the river. Animals seen along the river while conducting this eligibility study included: grey squirrel, red-tailed hawk, wood duck, belted kingfisher, blue jay, great blue heron, white-tailed deer, woodpeckers, and turtles.

## Historic and Cultural Values

The historic and cultural values of a river are assessed by considering the importance of historic and prehistoric events, uses, structures, and artifacts related to the river corridor. The expert committees of the *South Carolina Rivers Assessment* of 1988 did not rate the Little Pee Dee River for historic and cultural values and the river is not noted for any outstanding archaeological discoveries or historic events; nevertheless, like most rivers of the South Carolina Coastal Plain, the Little Pee Dee is a natural resource that has supported human settlements for thousands of years and to this day continues to be valued by the surrounding communities.

The following paragraphs offer some information describing the progression of settlement in the area and the transportation developments on and over the Little Pee Dee River through time.

There are 129-recorded archeological sites in Dillon County and approximately 34 archeological sites within the Little Pee Dee River study area. These sites range in age from the Early Archaic period (~8000 B.C.) to the Historic period (1940's). Archaeological evidence indicates that prehistoric inhabitants utilized the floodplain for hunting, foraging, or cultivating, and that permanent living sites were on the adjacent bluffs and sand ridges (SCIAA, 2004).

When Europeans first began to settle in South Carolina, numerous but small Native American villages inhabited the Pee Dee area of the state. Names of some Native American tribes have been preserved in the names of rivers, creeks, and towns of the region. The Pee Dee Indians generally lived around the two rivers that bear their name. Other tribes included the Lumbees, Cheraws, Waccamaws, Winyahs, Sampits, and Chicoras. Little is known about the Pee Dee and other tribes of this region. After white settlement began, the small tribes declined rapidly because of disease or were forced out of the area. The Pee Dee people may have joined with the Catawbans (SCWRC, 1982).

The major influx of Europeans began in the early 1730's when a series of townships were created on the rivers to help settle the inland areas. The Townships of Queensborough and Kingston were the nearest ones to the Little Pee Dee River study area. People immigrated to the Little Pee Dee area from the South Carolina townships and coastal areas, as well as from North Carolina and Virginia. From 1769 to 1785, the Little Pee Dee River was included in the Georgetown District (Edgar, 1998).

During the American Revolution, the area around the Little Pee Dee contained many persons who were loyal to the King, and it became the scene for much of the activity of General Francis Marion, the Swamp Fox, who among others successfully prolonged the war with the British to enable victory for the American colonies. Marion's base of operations was Snow Island, at the confluence of the Great Pee Dee and Lynches Rivers.

The river served as a transportation route from the very beginning of settlement, bringing settlers and supplies up from the Winyah Bay area and taking agricultural products, lumber, naval stores, and other goods down to market. Early ferries that crossed the upper Little Pee Dee River included James Johnson's Ferry (est. in 1778) and Ford's Ferry (est. in 1756). Moody's, Gibson's, and Buie's Ferries are other crossings known to have been located in the study area.



The family names of early settlers on the Little Pee Dee are presented on a map of South Carolina made in 1780 by William Faden. The area around the study area shows the following plantation owner names beginning at the mouth of Drowning Creek (present day Lumber River): Fords, Rogers, Barfield, Miller, and Middleton.

In 1788, an act was signed to keep the Little Pee Dee River open for navigation from the mouth of Drowning Creek (Lumber River) to the mouth of Gum Swamp in North Carolina and that all males within six miles of the river shall be liable to work on the same (McCord, 1841).

By 1799, a law was enacted for a public ferry to be vested in Daniel Carmichael for seven years called Moody's Ferry with the rates established for American currency as follows:

2 cents for every head of cattle, sheep, goats, and hogs

4 cents for every foot passenger and every head of horses

7 cents for man and horse

25 cents for every rolling hogshead, horses, and drivers

25 cents for every 2-wheeled carriage and horse or horses drawing carriage (McCord, 1841)

From 1785 to 1800, the study area was in a region named Liberty County, which was part of a larger region called the Georgetown District. The name was changed from Liberty County to Marion District by a law passed in 1798 in honor of Francis Marion; however, in the 1800 federal census the study area is listed under Liberty County.

The first toll bridge built on the study portion of the Little Pee Dee River was in 1800 at the plantation of Benjamin Harrelson and the tolls were similar to the ferry listed above. Isaac Lewis came into possession of this bridge, and it is now known as Allen's Bridge.

The 1822 Map of South Carolina by J. Drayton reveals four bridges crossing the Little Pee Dee River study area. The town of Harleesville is next to the bridge known today as Harlee's Bridge, which was the main road to Lumberton, North Carolina. Thomas Harlee was appointed a commissioner for roads and bridges in 1810, and in 1827 his toll bridge was vested in his son Thomas Harlee, Jr. The town of Harleesville and the bridge that still bears this name had different spellings through history. The next three maps of South Carolina (the Finley map of 1824, the Bradford map of 1838, and the Mitchell map of 1839) all show Harleesville Bridge and Road to Lumberton and the Barfield's Mill Road. The 1852 Map of South Carolina by Joseph Colton reveals the Manchester/Wilmington Railroad over the Little Pee Dee River just below the study area; and this map also shows the town of Harleesville. The 1855 Map of South Carolina, also by Joseph Colton, reveals Drowning Creek as the Lumber River; and this map also shows the town of Harleesville as well as Campbell's and Allen's Bridges. The most accurate early maps of the area are the William de Brahams map of 1757, James Cook map of 1773, Stuart Mouzon map of 1780, and the Robert Mills map of 1825.

By 1856, the railroad took the place of the river for moving goods and people to market centers such as Charleston and Georgetown. Cotton, tobacco, and corn plantations flourished until the Civil War in 1861. After the Civil War, tenant farmers and sharecroppers farmed the plantations. The main crops planted at this time were cotton and tobacco, which are still planted today.

By the time the 1883 Map of South Carolina was published a new post office called Little Rock was noted on the north side of the river near Kentyre Church, while the town of Harleesville could still be seen, as well as the post offices at Campbell's and Allen's Bridges. In 1868, the area became officially Marion County. The Rand McNally and Company Map of South Carolina 1898, published in Chicago, shows the Atlantic Coastline Railroad Company having two lines, one taking the place of the Manchester/Wilmington railroad across the Little Pee Dee River and the other railroad going through the new towns of Dillon and Little Rock (south of the river). James W. Dillon, an Irishman who convinced the Atlantic Coastline to route their tracks through his land, established the town of Dillon.

In December of 1909, residents of the area voted to split from Marion County and in 1910 Dillon County was officially created. During the years after World War I and the Great Depression in the 1930's, the Civilian Conservation Corps was formed to build buildings, roads, and bridges around South Carolina. The first modern roadway through Dillon County was a road linking Marion, Dillon, and Little Rock to North Carolina crossing the Little Pee Dee River at Harlee's Bridge. In the 1930's, electric power lines were routed across the river corridor carrying power to many homes and businesses.

In June of 1951, the South Carolina Forestry Commission, guided by Superintendent Lafon Norton, acquired 759 acres for a State Park on the north side of the Little Pee Dee River. Today the Little Pee Dee State Park has 854 acres and is managed by the South Carolina Department of Parks, Recreation, and Tourism offering camping and fishing (SCPRT, 2004 and Hart, 1997).

The years following World War II brought only gradual change and growth to the landscape of Dillon County. Declines in the traditional land uses of agriculture typically resulted in an increase of forestland with only a slight increase in industrialization and urban growth. The rural character of the study area has allowed the Little Pee Dee River to remain unpolluted and retain a high quality natural condition.

### **Streamflow and Water Quality**

To assess streamflow, issues of minimum flow, navigation, and natural stream conditions are considered. Streamflow conditions should include a sufficient volume of water during normal years to permit traditional instream uses. The volume of water should be sufficient for safe navigation where navigational use is important. To assess water quality, the river's water classification, water quality trends, and related water quality problems are considered. The water quality in scenic rivers should meet or exceed the relevant state water quality standards.

#### *Streamflow*

The mainstem of the Little Pee Dee River is free flowing (not dammed) and the natural physical characteristics of the river appear to be unaltered by channelization projects.

Streamflow monitoring by the U.S. Geological Survey at a station at the town of Dillon, below the S.C. Highway 9 bridge, provides a 31-year record of the river's flow from 1940 to 1970. (Apparently the operation of this station ended after 1970.) Average daily streamflow,

measured on the Little Pee Dee River at Dillon, is about 577 cubic feet per second (cfs). Ninety percent of the time, streamflow at Dillon can be expected to equal or exceed 155 cfs. The lowest flow of record at Dillon was 24 cfs, which occurred in September 1954. The highest flow of record was 9,810 cfs in September 1945 (SCDNR staff, 2004). Streamflows are typically highest during the winter and early spring and lowest during the summer and early fall. In the drier years, navigation on the river may become difficult.

Approximately 50 inches of precipitation enter the Little Pee Dee River Basin annually. Of this amount, about one-third leaves the basin as streamflow. The other two-thirds is lost largely to evapotranspiration with a small amount seeping into deep aquifers.

The river system flows through sandy, permeable soils of the Coastal Plain. The headwaters of the river originate in the Sand Hills. The porous soils store large amounts of water and during periods of low rainfall the shallow aquifers discharge groundwater to the streams and supplement the river's flow. This groundwater discharge to the streams is reduced during the summer and early fall when high temperatures result in substantial losses of water from the basin through evaporation and transpiration by plants.

### *Water Quality*

The Little Pee Dee is a blackwater river. The water has a dark tea color because the water is stained by chemicals known as tannins that are leached from the tree leaves and other organic material decomposing in the surrounding swamps. Because the Little Pee Dee River originates in and flows through the relatively flat sandy soils of the Coastal Plain, its water has very little sediment load. The permeable soils and extensive swamplands found throughout the watershed are natural characteristics that serve to protect water quality from human pollution sources. The swamps, however, can cause natural water quality problems with low levels of pH and dissolved oxygen.

The South Carolina Department of Health and Environmental Control (SCDHEC) conducts routine water quality monitoring at stream locations (stations) throughout South Carolina, including the Little Pee Dee River system. For each station, SCDHEC analyzes the monitoring data to assess water quality conditions and changes.

Analyses of water quality monitoring data by SCDHEC indicate that, overall, the study area of the Little Pee Dee has healthy water quality conditions; however, there are a few problem areas. Six water-quality monitoring stations and two fish monitoring stations are located in the study area on the Little Pee Dee River. SCDHEC (2000 and 2004) reports that aquatic life uses are fully supported at all six of these water quality-monitoring stations. Recreational uses are supported at four stations and not supported at two stations, reflecting a negative change since 2000 when all stations supported recreational uses. Fish consumption use is not supported at the two fish sampling stations and a fish consumption advisory is in effect for the entire river. (Details of the SCDHEC water quality information are presented in Appendix 1).

SCDHEC analyses of trends in the data show both favorable and unfavorable changes in water quality over time. At several sites changes in biochemical oxygen demand and nutrient concentrations suggest improving conditions for these pollutants. However, at several sites

trends in turbidity, pH, and dissolved oxygen suggest unfavorable changes in conditions for these pollutants; and as mentioned above, recreational uses are no longer supported at two stations, reflecting unfavorable changes in the levels of fecal coliform bacteria.

Three (3) facilities are permitted by SCDHEC (with NPDES permits) for discharging wastewater into the Little Pee River in Dillon County; these facilities include the City of Dillon treatment plant, Trico/Hammer treatment plant, and Anvil Knitwear Distribution Center (SCDHEC, 2000). Six (6) facilities have permits to discharge wastewater to tributaries of the Little Pee Dee in Dillon County; these include two dischargers to Buck Swamp and a discharger to each of the following water bodies: Gum Swamp, Hayes Swamp, Ropers Mill Branch, and Long Branch. Other permitted discharges may exist on tributaries of the Little Pee Dee that extend into North Carolina.

## **Conclusions about the River's Eligibility**

Findings from this eligibility study demonstrate that the 48-mile Little Pee Dee River study area does possess outstanding river-related values and the river merits designation as a State Scenic River. Those values judged to be of outstanding significance include the river's scenic, recreational, fish, and wildlife values.

The Little Pee Dee is a classic blackwater river and provides outstanding scenery with clear dark waters, sandy river bottoms and bars, and winding water trails lined by cypress-tupelo swamps and bottomland hardwood forests. Approximately 90 percent of the river is visually free of human development.

The natural resources of the Little Pee Dee River provide outstanding recreational fishing and boating opportunities and many other nature-based recreations. The area is within easy driving distance of several large population centers making the river's recreational opportunities accessible to thousands of people.

The Little Pee Dee River floodplain and adjacent uplands contain large acreages of wild and undeveloped forestland, wetlands, and open waters that provide excellent habitat for a great variety of wildlife species. The adjacent uplands contain additional wildlife habitat in a landscape of agricultural fields and upland forests. The natural ecological communities with high resource value include cypress-gum swamps, bottomland hardwood forests, and fluvial sand ridge communities. This free flowing, unaltered river system is an outstanding resource for inland fisheries with its streams, sloughs, oxbow lakes, and swamps providing diverse habitat for the indigenous fish community of both resident and migratory species.

SCDNR staff recommends that the 48-mile section of the Little Pee Dee River in Dillon County be designated as a State Scenic River from the Marlboro County line above Parish Mill Bridge on State Road 363 to the confluence with Buck Swamp at the Marion County line. For purposes of river classification, the entire 48-mile section of the Little Pee River study area in Dillon County is suited to the "scenic river" class. The river is accessible from 13 public access sites (includes 10 road crossings) and at dozens of private areas; however, the shorelines of the river are largely undeveloped, the river corridor retains its natural character for nearly 90 percent of its length, and the river is free flowing.

## Appendix 1

### Water Quality Information: Little Pee Dee River, Dillon County

#### Assessment of Water Quality Conditions at Monitoring Stations on the Little Pee Dee River

The following information is taken from several sources provided by the S.C. Department of Health and Environmental Control (SCDHEC). Except where noted otherwise, most of the information presented here comes from the 2000 Water Quality Assessment for the Pee Dee Basin (SCDHEC, 2000).

The SCDHEC conducts routine water quality monitoring at stream locations (stations) throughout South Carolina, including the Little Pee Dee River system. For each station, SCDHEC analyzes the monitoring data to assess water quality conditions and changes. Important goals of the Federal Clean Water Act and South Carolina state water-quality standards are to maintain the quality of surface waters to provide for the survival and propagation of a balanced, indigenous aquatic community of fauna and flora (aquatic life support) and to provide for swimmable waters (recreational use support). SCDHEC also collects fish from the river to analyze fish tissues for certain known contaminants that can be harmful to people who eat the fish (fish consumption support).

- Aquatic life use support is determined based on the percentage of excursions of certain criteria and, where data are available, the composition and functional integrity of the biological community. Among the parameters assessed are: dissolved oxygen, pH, toxicants (priority pollutants, heavy metals, chlorine, ammonia), nutrients, and turbidity.
- Recreational use support, the degree to which the swimmable goal of the Clean Water Act is attained, is based on the frequency of fecal coliform bacteria excursions. Standards for primary contact recreation were derived from public health data that estimate the potential risks to humans of contracting waterborne illnesses after swimming due to exposure to sewage-related pathogens.
- Fish consumption use support is determined by the occurrence of advisories on human consumption for a given waterbody. For the support of consumption uses, an advisory that prohibits or restricts fish consumption indicates nonsupport of uses. Methyl-mercury contamination in certain types of fish is the most prevalent problem.

Water quality conditions at stream monitoring stations located on the Little Pee Dee River in Dillon County are as follows:

#### *Station PD-365 at State Road 363 Bridge*

- Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of the standards.
- Recreational uses are fully supported at this site.

*Station PD-069 at SC Hwy 57 Bridge*

- In 2000, aquatic life uses were fully supported at this site; however, there is a significant increasing trend in turbidity. A high concentration of zinc was measured in 1996. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of standards. There is a significant increasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. Metabolites of DDT were detected in the sediment samples of 1994, 1997, and 1998. Although the use of DDT was banned in 1973, it is very persistent in the environment.
- Recreational uses are fully supported; however, there is a significant increasing trend in fecal coliform bacteria concentration.
- This monitoring station is currently inactive (SCDHEC staff, 2004)

*Station PD-029E at State Road 23 Bridge*

- Aquatic life uses are fully supported at this site; however, there is a significant increasing trend in turbidity. There is a significant increasing trend in pH. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of standards. A significant increasing trend in dissolved oxygen suggests improving conditions for this parameter.
- In 2000, recreational uses were fully supported at this site; however, in 2004 this monitoring station was included on the 303(d) list of impaired waters for fecal coliform, therefore recreational uses are not supported at this site (SCDHEC, 2004).

*Station PD-283 at Moccasin's Bluff (Fish Monitoring Station)*

- Fish consumption use is not supported at this site because of mercury contamination in fish. This site is on the 303(d) list of impaired waters for mercury in fish (SCDHEC, 2004).

*Station PD-055 at SC Hwy 9 Bridge*

- Aquatic life uses are fully supported at this site; however, a high concentration of zinc and a very high concentration of copper were measured in 1994, compounded by a significant increasing trend in turbidity. There is a significant increasing trend in pH. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of standards. A significant decreasing trend in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters.
- Recreational uses are fully supported at this site.

*Station PD-030A below Maple Swamp, Dillon County Park*

- Aquatic life uses are fully supported at this site; however, there is a significant increasing trend in turbidity. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of standards. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. A DDT metabolite was detected in the 1994 and 1997 sediment samples, a very high concentration of zinc and a very high concentration of copper were measured in the 1995 sample.

- In 2000, recreational uses were fully supported at this site; however, in 2004 the site was impaired for fecal coliform bacteria, therefore recreational uses are not supported at this site (SCDHEC, 2004).

*Station PD-618 at Floydale Bridge, State Road 45 (Fish Monitoring Station)*

- Fish consumption use is not supported at this site because of mercury contamination in fish. This site is on the 303(d) list of impaired waters for mercury in fish (SCDHEC, 2004).

*Station PD-348 at State Road 72 Bridge*

- Aquatic life uses are fully supported at this site. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not violations of standards.
- Recreational uses are fully supported at this site (SCDHEC, 2000).

Fish Consumption Advisory

SCDHEC has issued a fish consumption advisory in effect for the entire Little Pee Dee River advising people to limit the amount of some types of fish consumed from these waters. The advisory states:

- *Do not eat any flathead catfish, largemouth bass, bowfin (mudfish) or chain pickerel. For all other fish, limit consumption to one (1) meal a week.*
- Pregnant women, women planning to become pregnant, infants, and children should not eat any fish containing mercury. Infants and children are particularly sensitive to the effects of mercury since their nervous systems are still forming.

For background information and the most current advisories, please visit the SCDHEC Bureau of Water homepage at - <http://www.scdhec.net/water> - and click on "Advisories" or call SCDHEC's Division of Health Hazard Evaluation toll-free at (888) 849-7241.



## Appendix 2

### Answers to Common Questions about State Scenic Rivers

*How will scenic river designation affect property owners? Are there regulations or restrictions associated with the designation? Will there be restricted use of the river?*

The Scenic Rivers Program is conducted in a manner that respects private property rights. There are no state regulations imposed on property owners and no one is obligated to participate in the program. The program works through a voluntary, cooperative management approach where river-management objectives are determined by a Scenic River Advisory Council, a group representing local landowners and local river users. To further protect private property owners, the South Carolina Scenic Rivers Act prohibits the use of eminent domain or condemnation of private property through this program.

The Scenic River Advisory Council will create a management plan to define the long-term management needs of the river and to set goals and objectives for addressing those needs. The management plan is created and implemented by involving any interested citizen who wishes to participate. After studying a particular problem, it is possible the Advisory Council may conclude that a form of regulation is needed to better manage the river in some way, and they may try to establish a regulation. However, the Advisory Councils have no power to create regulations themselves. Like any other interest group, they have to go through county councils or the General Assembly or some other governing authority to get a regulation passed.

Because most members are local landowners, the Scenic River Advisory Councils usually advocate nonregulatory solutions to river problems. The groups usually accomplish their objectives through voluntary management agreements with landowners, cooperative river-improvement projects, and education activities.

*How are members of the Advisory Councils appointed? Who determines their direction and what they will do?*

Scenic River Advisory Councils are appointed by the Executive Director of the SCDNR and they are chaired by a staff member from the SCDNR Scenic Rivers Program. Nominations for members are solicited from the local landowners and citizens. Additional people, beyond the official members, are encouraged to be involved in the work of the Advisory Council and they can be appointed as *ex-officio* (non-voting) members.

A Scenic River Advisory Council is a committee composed six to ten voting members who represent landowners and community groups with an interest in the river. By law, the majority of voting members must be river-bordering landowners. The Advisory Council determines the overall direction of activity for a scenic river project. Decisions and courses of action are usually based on a consensus, or full agreement, among the whole group.

All meetings of the Advisory Councils are open to visitors who are welcome to provide input to Advisory Council decisions. Participation of *ex-officio* (non-voting) members is encouraged on the Advisory Councils.

*What is the advantage of the scenic river designation?*

The primary advantage of scenic river designation is the creation of a partnership between local citizens and the SCDNR to conserve and enhance the scenic river. The SCDNR forms a commitment (advisory council) to work cooperatively with local people and local governments to take a long-term, comprehensive view of the resource and try managing changes in a way that conserves the natural and scenic qualities of the river for the enjoyment of present and future generations.

The scenic river designation brings recognition to the river through the action of the South Carolina General Assembly and through ongoing actions of the local advisory council as they bring attention to the river and the projects they undertake to better protect and manage the river.

The local advisory council and SCDNR staff works together to develop a community vision for the river. Through a citizen-based planning process they produce a management plan with goals and strategies for protecting and enhancing the river.

The scenic rivers program can provide protection for natural and cultural features through conservation easements that also provide tax advantages for property owners.

## References

- Edgar, Walter B. 1998. *South Carolina, A History*. University of South Carolina Press, Columbia, South Carolina.
- Hart, Shannon. 1997. *Little Pee Dee State Park Management Plan*. Chapter 1: History of Little Pee Dee State Park. South Carolina Department of Parks, Recreation, and Tourism.
- Horry, Brig. Gen. P. and M.L. Weems. (1809?). *The Life of General Francis Marion*. 1809,1824,1854,2000.
- McCord, David J. (editor) 1841. *Roads, Bridges, and Ferries*. Statutes of South Carolina, Vol. IX. A.S. Johnson Publishing Co.
- SCDHEC. 2004. *State of South Carolina Integrated Report Part I: Listing of Impaired Waters*. South Carolina Department of Health and Environmental Control, Bureau of Water, Columbia, South Carolina.  
<http://www.scdhec.gov/eqc/water/html/tmdl.html#303d>
- SCDHEC. 2000. *Watershed Water Quality Assessment: Pee Dee Basin*. Technical report 015-00, 2nd edition. South Carolina Department of Health and Environmental Control, Bureau of Water, Columbia, South Carolina.  
<http://www.scdhec.gov/eqc/water/pubs/peedee2k1.pdf>
- SCDHEC Staff. 2004. Information obtained from staff at the South Carolina Department of Health and Environmental Control, Bureau of Water, Columbia, South Carolina.
- SCDNR. ~1995. *Fisheries Investigations in Lakes and Streams, District VII*. Study Completion Report F-31-4, July 1, 1990 to June 30, 1993. South Carolina Department of Natural Resources, Division of Wildlife and Freshwater Fisheries, Columbia, South Carolina.
- SCIAA. 2004. Information obtained from archaeological site files and staff at the South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia, South Carolina.
- SCPRT. 2004. Information provided by staff at the Little Pee Dee State Park, South Carolina Department of Parks, Recreation, and Tourism
- SCWRC. 1982. *Little Pee Dee River: A Management Survey for the State Scenic River Program*. South Carolina Water Resources Commission Report No. 136. SCWRC is now the Land, Water, and Conservation Division of the South Carolina Department of Natural Resources, Columbia, South Carolina.
- SCWRC. 1991. *South Carolina Scenic Rivers Program Administrative Handbook*. South Carolina Water Resources Commission Report No. 172. SCWRC is now the Land, Water, and Conservation Division of the South Carolina Department of Natural Resources, Columbia, South Carolina.
- SCWRC. 1988. *South Carolina Rivers Assessment*. South Carolina Water Resources Commission Report No. 164. SCWRC is now the Land, Water, and Conservation Division of the South Carolina Department of Natural Resources, Columbia, South Carolina.
- SCWRC. 1983. *South Carolina State Water Assessment*. South Carolina Water Resources Commission Report No. 140. SCWRC is now the Land, Water, and Conservation Division of the South Carolina Department of Natural Resources, Columbia, South Carolina.