

# LITTLE PEE DEE SCENIC RIVER MANAGEMENT PLAN

\*\*\*\*\* FINAL DRAFT – JANUARY 8, 2007 \*\*\*\*\*

Prepared by  
The South Carolina Department of Natural Resources  
in partnership with  
The Little Pee Dee Scenic River Advisory Council

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Report xx

## **Request for Public Review and Comments**

The public is invited to review this final draft of the Little Pee Dee Scenic River Management Plan and provide comments. The draft document can be accessed from the website of the South Carolina Department of Natural Resources (SCDNR) at <http://www.dnr.sc.gov>. Comments, suggestions, and questions may be submitted in writing to SCDNR staff, Bill Marshall, at the mailing address presented above or by e-mail to [marshallb@dnr.sc.gov](mailto:marshallb@dnr.sc.gov). The public may also contact SCDNR staff by telephone: Bill Marshall in Columbia at (803) 734-9096 and John Alford in Dillon at (843) 774-9577. Public comments will be received until **February 16, 2007**. All comments received will be provided to the Little Pee Dee Scenic River Advisory Council for their consideration in finalizing the management plan.

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## Summary

The Little Pee Dee River of Dillon County was designated a State Scenic River by the South Carolina General Assembly in May of 2005. The scenic designation extends 48 river-miles through Dillon County from the Marlboro County line above Parish Mill Bridge, State Road 363, downstream to the Marion County line, where Buck Swamp enters the Little Pee Dee River. With this designation the Little Pee Dee River became part of a program established by the South Carolina Scenic Rivers Act of 1989, the purpose of which is to protect unique and outstanding river resources throughout South Carolina. To accomplish this purpose, the act provides for a voluntary, cooperative river management program to be administered by the South Carolina Department of Natural Resources (SCDNR), a program that enables landowners, community interests, and the SCDNR to work together toward common river conservation goals.

Following procedures of the Scenic Rivers Act, an advisory council for the Little Pee Dee Scenic River was formed in 2005 with members representing river-bordering landowners, river users, and community interests. The purpose of an advisory council is to assist and advise the SCDNR in the protection and management of the scenic river. Creating a management plan for the river is the first major task of an advisory council.

The Little Pee Dee Scenic River Advisory Council, in partnership with the SCDNR, conducted a community-based planning process in March 2006 to identify the issues and ideas of public interest to be addressed in the Little Pee Dee Scenic River Management Plan. The plan serves as a guide for ongoing program activities of the Advisory Council and the SCDNR for the Little Pee Dee Scenic River in Dillon County. The plan does not impose new regulations.

The plan is written to reflect public values, concerns, and desires for the river; it defines problems and opportunities and advocates goals and recommendations. The ideas of the plan come from the local community, from landowners, river users, and community leaders who wish to promote ongoing stewardship that protects and enhances the highly valued natural, cultural, and scenic qualities of the Little Pee Dee River for the benefit and enjoyment of present and future generations. No new regulatory restrictions are mandated by the plan.

The first section of this document introduces the Little Pee Dee Scenic River Project and describes the history and process, which began in mid-2004, and includes scenic river designation, creation of the Advisory Council, development of the plan, and public participation. The second section forms the core of the document. The significant resources and management issues of the Little Pee Dee Scenic River are described and a plan is provided.

The plan specifies five management goals and 29 recommendations that address (1) Land use and development, (2) water quality and streamflow, (3) recreational use and access, and (4) fish, wildlife and habitat protection. Twelve recommendations are given to address plan implementation and maintain effectiveness of the Advisory Council. At the end of the document five appendices supplement the plan, providing public input notes that form the basis of the plan, additional information about the river corridor, and a list of contacts for information and technical assistance.

Goals and recommendations of the plan include the following themes and examples:

#### Land Use and Development

- Promote voluntary, cooperative approaches to address land management issues and acknowledge the rights and responsibilities of landowners to manage their own property.
- Preserve the natural character and conditions of the river corridor in the following ways: maintain and increase the acreage of forest land and associated natural habitats; minimize the extent of developed areas, particularly in the floodplain; and maintain and enhance vegetative buffers along the river and all tributary streams.

#### Water Quality and Streamflow

- Maintain and improve water quality in the river to provide safe and healthy conditions for desired river uses, which include swimming, fishing, and aquatic life support; and consistently meet or exceed established state water-quality standards for the river.
- Maintain flows in the river that will protect and support public health and safety, aquatic life and ecological values, recreational uses, and navigation.
- Initiate cooperative efforts with agencies and community groups to inform citizens in the watershed about water quality issues, sources of water pollution, and practices to prevent water pollution.

#### Recreational Use and Access

- Enhance recreational use and enjoyment of the river for the benefit of the local community and enable the river to remain accessible and navigable along its entire course for responsible recreational use by the public. Balance recreational use and access with care, respect, and conservation of the river; and respect for private property.
- Establish a Little Pee Dee River Trail to improve opportunities for access and promote public awareness and appreciation for the resource.

#### Fish, Wildlife, and Habitat Protection

- Work with the SCDNR and the river community to protect natural features of the river environment (the natural drainage system, oxbows, bends, bars, woody debris, instream flows) that are critical elements of fish habitat.
- Encourage landowners to manage river-bordering land to maintain or enhance wildlife habitat and biodiversity. The single-most important land management practice for protection of river resources is establishment and/or maintenance of a riparian buffer.

#### Implementation

- Communicate the vision captured in the Management Plan and build partnerships among landowners, river users, and local governments to bring about the goals of conservation and compatible recreational use and development in the river corridor.
- Use the plan to inform and encourage citizens, landowners, and leaders of the community to take specific actions for conservation and better management of the natural, cultural, and recreational resources of the river corridor.

## **Acknowledgements**

Thanks are extended to the many people and organizations whose support and involvement led to the creation of this management plan for the Little Pee Dee Scenic River in Dillon County. In particular, the members of the Little Pee Dee Scenic River Advisory Council (listed in Table 1) are to be commended for their commitment of time and service to bring this effort to a successful completion.

Specific staff members at the South Carolina Department of Natural Resources (SCDNR) have made the plan possible. Alfred H. (Freddy) Vang, Deputy Director of the Land, Water, and Conservation Division, provided consistent positive support for the project. Barry Beasley, Chief of the Habitat Protection Section, provided direction, insight, and assistance for all staff associated with the effort. John Alford served as chairman of the Advisory Council and the local project leader. Bill Marshall served as lead staff in conducting public meetings and writing the plan. Mary Crockett, Alison Krepp, and Deanna Ruth provided essential contributions in facilitating public meetings, recording public comments, organizing information, and drafting sections of the plan. Bill, John, Mary, and Rich Scharf also conducted the Scenic River eligibility study process for the Little Pee Dee, which was started in late 2004.

Representative Jackie Hayes of Dillon County provided legislative leadership that was key to the Little Pee Dee River being designated a State Scenic River in 2005.

## INTRODUCTION

South Carolina's rivers are an invaluable resource, forming a central part of our rich natural and cultural heritage. Rivers provide numerous benefits to people such as water for drinking, manufacturing and irrigation, electricity from hydropower production, transportation, and various recreational opportunities. They also provide essential fish and wildlife habitat, channel flood waters, and assimilate wastes. In many places rivers harbor rare plants and animals as well as relics of our past. As the population and economy of South Carolina continue to expand, our demands on rivers will increase, along with our dependency upon these resources.

Rivers are ever changing, their physical, chemical, and biological characteristics are directly affected by activities on the lands that they drain. Human development that proceeds without regard to conservation of riverine resources threatens the ecological goods and services provided by our rivers as well as the natural and cultural heritage associated with them.

Within South Carolina there are over 30,000 miles of flowing rivers and streams. In recognition of our dependence on riverine resources and the need to protect outstanding river values, the Scenic Rivers Act of 1989 provides a process to recognize and conserve South Carolina's most unique rivers for the benefit of present and future generations. The South Carolina Department of Natural Resources (SCDNR) is charged to administer the provisions of the act.

Scattered throughout the state, approximately 313 miles of nine rivers are currently designated as South Carolina State Scenic Rivers. The largest designation includes a 75-mile stretch of the Black River. Other scenic rivers include: a 70-mile section of the Great Pee Dee, a 54-mile stretch of the Lynches, 10 miles of the lower Saluda, about five miles of the Middle Saluda River, a 15-mile segment of the Broad, the lower 14 miles of the Little Pee Dee, and 22 miles of the Ashley. On the Little Pee Dee River of Dillon County, the focus of this document, a 48-mile section was designated a scenic river with legislation signed by Governor Sanford on May 3, 2005.

The Little Pee Dee is a Coastal Plain, blackwater river that extends approximately 120 miles from the confluence of Gum Swamp Creek and Beaver Dam Creek, at Red Bluff Lake in Marlboro County to its confluence with the Great Pee Dee River, also the meeting point for three counties: Marion, Horry, and Georgetown. Along its winding course, the Little Pee Dee passes through a rural landscape of mostly forested swamps and uplands, agricultural lands, with occasional river houses and clusters of development.

This document, the Little Pee Dee Scenic River Management Plan, represents the culmination of the initial stage of the Little Pee Dee Scenic River Project and will be the guide for ongoing activities of the Little Pee Dee Scenic River Advisory Council. This plan describes the resources and conditions of the river and outlines a community vision for the river – defining river-related problems and opportunities and advocating goals and actions for addressing those problems and opportunities. The vision, values, goals, and recommendations presented in this plan reflect the thoughts and ideas shared by the many local citizens, river-bordering landowners, and

community leaders from the Dillon County area who participated in the community meetings hosted by the Little Pee Dee Scenic River Advisory Council in March 2006.

The Advisory Council acknowledges that the community vision and goals for the river may change over time as the current issues are resolved and new ideas and issues move to the forefront. On a regular basis, the Advisory Council will re-visit and update the plan to reflect the current situation. With continuing input and support from the local community, this plan can be responsive to change.

Recommendations in this plan will be implemented on a priority basis in a voluntary, non-regulatory framework. In many cases, implementation will depend on independent decisions reached and actions taken by landowners, residents of the Little Pee Dee watershed, river users, local governments, state agencies, corporations, and/or environmental organizations. The Little Pee Dee River Advisory Council will work with each of these groups to provide information and support decision-making. Hopefully, this process will unite the Little Pee Dee River community in an effort to keep the river a viable and valuable natural resource for the enjoyment of present and future generations.

### **The Scenic Rivers Program**

The purpose of the Scenic Rivers Program as determined by the South Carolina Scenic Rivers Act of 1989 is to protect unique and outstanding river resources throughout South Carolina. To accomplish this goal, a voluntary, cooperative management program was created which allows landowners, river users, community interests, and the SCDNR to work 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 are as follows:

- First, a local request for scenic river designation is made, and then the SCDNR conducts a scenic river eligibility study.
- Second, all riparian landowners and the general public are notified of the proposal and invited to public meetings to ask questions or express opinions.
- Third, each county council of all river-bordering counties is notified of the scenic river proposal.
- Finally, the SCDNR Board approves the proposal and then a bill is introduced in the General Assembly. When the bill is passed, a new State Scenic River is officially designated.

After the designation is completed, the SCDNR establishes a local Scenic River Advisory Council made up of six to ten members, the majority of whom are river-bordering landowners, with additional ex officio members representing a full range of river interests. The Advisory Council, which includes the membership and assistance of SCDNR staff, is responsible for developing a river management plan to address river-related issues of concern. The management

plan identifies specific issues and suggests recommendations that can be implemented to guide management of the scenic river.

A State Scenic River designation signifies the commitment of the SCDNR in perpetuity to promote the conservation of the scenic river in partnership with the local community. The benefits of the Scenic Rivers Program can be numerous and tailored to meet the needs of the community by addressing issues of local concern such as recreation, economic, or human health factors. When the Little Pee Dee was designated a State Scenic River this program and process was set into motion.

### **Little Pee Dee Scenic River Designation**

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.

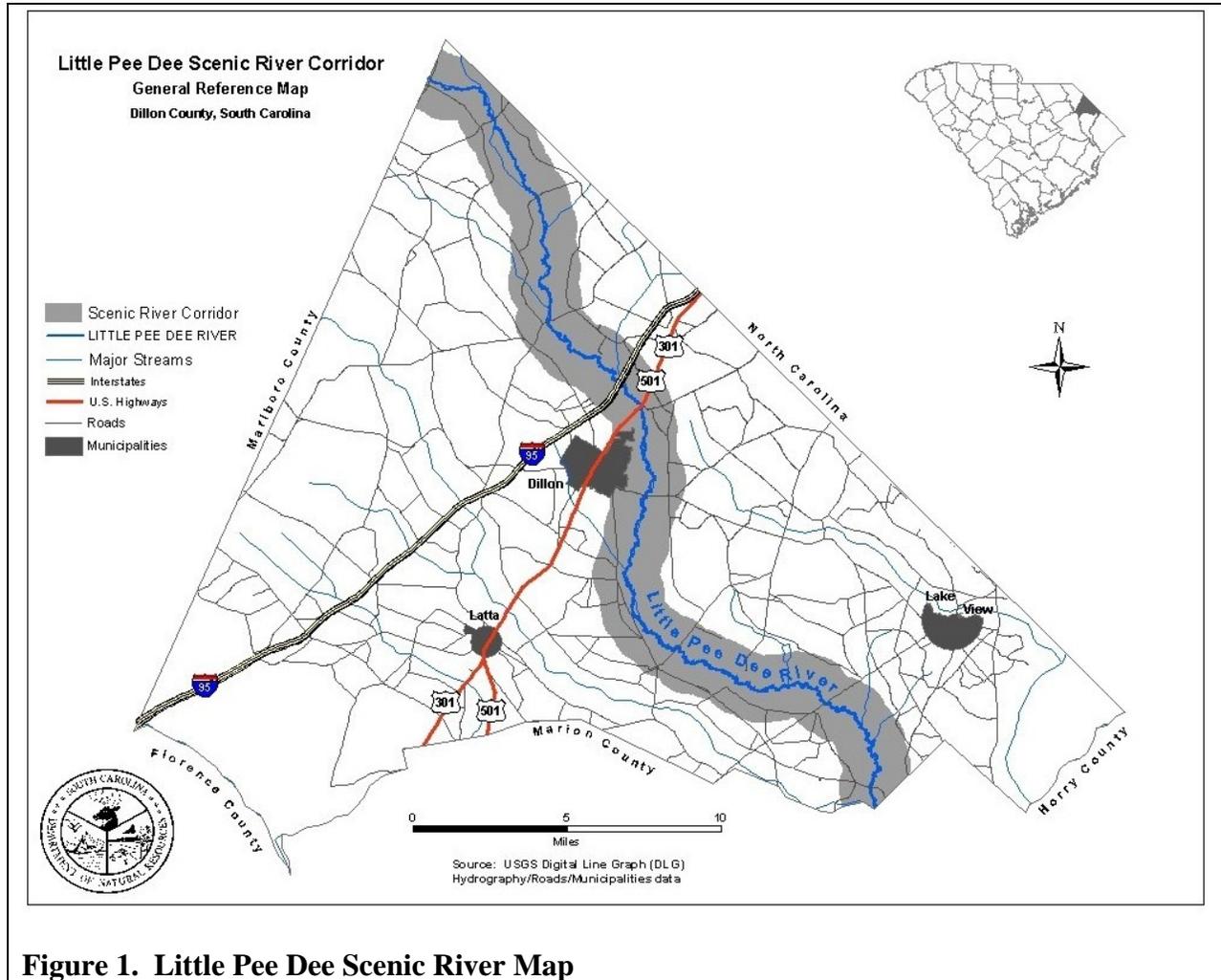
SCDNR staff gathered information on the present conditions and uses of the river and the surrounding lands to determine if the river exhibits unique or outstanding scenic, recreational, geologic, botanical, fish, wildlife, historic, or cultural values which merit protection. Based on the findings of the study, the Little Pee Dee in Dillon County was confirmed to be eligible for scenic river designation.

River-bordering landowners and the general public were notified of the proposal for Scenic River designation, the availability of the draft eligibility-study report, and they were invited to public meetings held January 13 and January 20, 2005, to address questions and concerns. After the public meetings, Dillon County Council continued to express support for the designation, therefore the SCDNR Board reviewed and accepted the proposal February 18, 2005. Representative Jackie Hayes of Dillon County then initiated legislation and a few months later the Little Pee Dee River in Dillon County was designated a State Scenic River by an act of the South Carolina General Assembly, which received the Governor's signature on May 3, 2005. The act designated a 48-mile section as a State Scenic River, "that portion of the Little Pee Dee River located in Dillon County between the Marlboro County Line and the Marion County line" (see map in Figure 1).

Other portions of the Little Pee Dee River have been considered for Scenic River designation. The lower 14-mile section between Horry and Marion counties was designated a State Scenic River in 1990 from U.S. Highway 378 bridge downstream to the Great Pee Dee River. Another section, determined by SCDNR staff in 1997 to be eligible for Scenic River status, was never designated; this included 64 miles of the Little Pee Dee and Lumber Rivers above the U.S. Highway 378 bridge.

After the designation process is completed the SCDNR establishes a Scenic River Advisory Council to develop and implement a river management plan. The Advisory Council is made up of local people representing landowners, river users, and groups with an interest in the river. The

Advisory Council may have six to ten voting members, the majority of whom must represent river-bordering landowners. Additional people may be included on the Advisory Council as ex-officio members to bring broader expertise and representation to the group.



**Figure 1. Little Pee Dee Scenic River Map**

### The Advisory Council

The Little Pee Dee Scenic River Advisory Council was established in September of 2005 and was created according to the Scenic Rivers Act to assist and advise the SCDNR in protection and management of the scenic river. The leadership for all South Carolina scenic river projects comes from the local Advisory Council. For the Little Pee Dee, letters soliciting Advisory Council participation were sent from the SCDNR in the summer of 2005 to river landowners and interested community members (approx. 300 people). Those interested in participating on the Advisory Council were asked to complete and return a nomination form. Nominations were received by the SCDNR in July 2005 and twenty (20) individuals were selected and invited by

SCDNR staff to be members of the Little Pee Dee River Advisory Council (see Table 1 for members of the Little Pee Dee Scenic River Advisory Council).

The Advisory Council held its first meeting on October 11, 2005, at the Dillon County Library in the Town of Dillon and has met regularly at that location and other places near Dillon to discuss issues affecting the river and to develop a management plan for the Little Pee Dee Scenic River. An important step for unifying the council and communicating their purpose and intentions to the larger community was their creation of the following statement of mission.

### **Mission Statement of Advisory Council**

*The mission of the Little Pee Dee Scenic River Advisory Council is to promote stewardship of the river for the benefit and enjoyment of present and future generations. Our focus will be conservation, utilization, awareness, protection and enhancement of the river's resources.*

### **Table 1. Little Pee Dee Scenic River Advisory Council**

#### **Regular members**

John Alford – SCDNR  
 Jerry M. Arnette, Jr. – river landowner  
 Sharon Cummings – river landowner  
 Earl Dutton – Friends of Little Pee Dee  
 Denis Grubb – river landowner  
 John W. McColl – river landowner  
 John D. McInnis, Jr. – river landowner  
 Sam P. McInnis, Jr. – river landowner  
 Larry Monahan – Friends of Little Pee Dee  
 Neal Rogers – Dillon Soil and Water Conservation District Commissioner

#### **Ex officio members**

Geoff Akins – Little Pee State Park  
 William H. (Bill) Aston – Wild Turkey Federation  
 Gene Butler – Dillon County Development Board  
 Richard Calhoun – hunting and agriculture  
 George B. (Brownie) Campbell – river recreation  
 Thomas L. Norton – recreational boating  
 F. Carlyle Price – agriculture  
 William F. (Bill) Rogers – river landowner  
 Daniel H. Shine – Little Pee Dee River Commission  
 Andre' Thompson – SCDNR – Law Enforcement

## **Creating the Management Plan**

Citizens from communities surrounding the Little Pee Dee River in Dillon County, assisted by the SCDNR, are developing a common vision for future management of the river and its resources. The Little Pee Dee Scenic River Management Plan outlines that vision within the context of the South Carolina Scenic Rivers Program. The management plan focuses on the 48-mile segment of the Little Pee Dee in Dillon County that was designated a State Scenic River. While the river and its floodplains and the adjacent uplands are the principal focus of this plan, issues concerning the entire watershed of the Little Pee Dee are also addressed.

The first step in the process of creating this management plan was to assemble the Advisory Council with local landowners and community leaders. The charge to the council was to craft the plan through an open public-input process and then put the plan into action. Council membership was selected by the SCDNR to represent the many and diverse interests of the river community. Represented on the council are river-bordering landowners (geographically dispersed, with various land uses and interests), recreational users, conservation interests, community leaders, and the general public.

After the Advisory Council was formed and unified in their purpose, hearing from the public about the Little Pee Dee was the second step in creating the management plan. Therefore, the Advisory Council and the SCDNR hosted a series of community meetings in March of 2006 in the town of Dillon for the purpose of gathering public input. The meetings were promoted as an invitation “to hear from the public about issues, concerns, ideas, and even dreams they think need to be considered in a management plan for the Little Pee Dee Scenic River.” The public was encouraged to participate through articles and notices in local newspapers and invitations mailed to the river-bordering landowners and others on the project mailing list of the SCDNR. The community input meetings included seven sessions held over a three-day period, March 28-30. Three general public sessions were held at the Dillon County Courthouse and four focus-group sessions were conducted at a restaurant in Dillon. Approximately 100 local citizens participated in the various meetings and provided hundreds of comments and ideas regarding the Little Pee Dee River.

The SCDNR conducted the community meetings with a team of staff who facilitated the sessions and produced notes that captured the public’s values, concerns, and desires for the river as well as directions for creating the management plan. A range of topics emerged from the meetings regarding what issues need to be addressed in the management plan and how the plan can be accomplished. (See Appendix A for public input notes from the March 2006 community meetings.)

The Advisory Council and SCDNR staff used the information from the community input meetings to focus on the third step in the process: the analysis of issues and ideas and development of management goals and recommendations, which are presented in following sections of this document.

## **Public Participation**

South Carolina's process of designating and managing State Scenic Rivers is grounded in local support and public participation. The development of a sound and workable management plan requires the involvement of those most familiar with the resource -- the river community, the people who live around the river and use the river. Through the citizen-based process, the local community takes the lead in producing and implementing the management plan. The role of the SCDNR and other government agencies is to provide support and technical expertise.

From the onset, the Little Pee Dee Scenic River Project encouraged involvement and input from the river-bordering landowners, local citizens, and their local governments. Efforts to inform the public and to encourage public participation in the project began with the scenic river designation process in 2004. These efforts continued with the establishment of the Little Pee Dee Scenic River Advisory Council in 2005, and into the management plan process of 2006. All landowners and other interested community members were invited by letter to participate in the public meetings about the proposed designation and share comments and concerns; the same people also were invited to apply for membership on the Advisory Council and participate in a community effort to create the management plan.

During the early phases of the project, SCDNR staff compiled a 200-person mailing list. Over the course of the project, the mailing list grew to include more than 300 people. Regular mail-outs provided information to the local community on project progress, upcoming meetings, and opportunities for participation. All the public meetings were advertised in the local newspapers encouraging public participation in the Scenic River planning process.

The Advisory Council, which represents the Little Pee Dee River community, and the SCDNR will continue to invite public participation in efforts to pursue their mission to promote stewardship of the Little Pee Dee River for the benefit and enjoyment of present and future generations.

## LITTLE PEE DEE SCENIC RIVER MANAGEMENT PLAN

The Little Pee Dee is a classic blackwater river that offers beautiful scenery with its clear, dark waters, sandy river bottoms and bars, and winding water trails lined by swamps and bottomland forests. The river floodplain and adjacent uplands contain large acreages of wild and undeveloped forestland, wetlands, and open waters that provide excellent habitat for a variety of wildlife species and the free flowing, unaltered river system is an important resource for inland fisheries. These natural conditions of the Little Pee Dee River provide recreational fishing and boating opportunities and many other nature-based recreations that are valued by the public.

Many landowners and community leaders have been involved in conserving and using wisely the resources of the river and its surrounding lands, and thanks to many generations of stewards, we continue to enjoy the Little Pee River today. It is a natural resource area rich in beauty and recreational opportunity. There are, however, factors that threaten to spoil the special character and resources of the area, factors ranging from poor management of land, to neglected access areas, to unsafe boating on the river. There are also opportunities to enhance the recreational benefits of the river. The Little Pee Dee River Management Plan offers ideas and information that address river issues of public interest and concern and describes steps that will help conserve and enhance the river and its values. The ideas presented in this plan were generated from the local community, from landowners, river users, and community leaders who desire to protect and enhance the highly valued natural, scenic, and cultural qualities of the river for the benefit and enjoyment of present and future generations.

This plan serves as a guide for ongoing activities of the Little Pee Dee Scenic River Advisory Council and informs individuals and organizations of ways to better conserve the river, keep it healthy, and enhance its value to the community. The plan does not impose new regulations, nor does it mandate new regulatory restrictions. It is recommended, however, that the public seek professional guidance when considering such things as forestry practices, land development, and possible wetlands impacts that may affect the river and its resources.

In this chapter the significant resources, management issues and opportunities associated with the Little Pee Dee Scenic River are described and a plan specifying management goals and recommendations is provided. Following a description of the project area and its surrounding watershed, the chapter addresses four broad management topics:

- Land Use and Development
- Water Quality and Streamflow
- Recreational Use and Access
- Fish, Wildlife, and Habitat Protection

Under each of these topics is presented a set of findings, management goals, and a list of recommendations. “Findings” describe river resources, their conditions, and/or related problems and opportunities of public interest. “Management Goals” and “Recommendations” define the

plan objectives. The chapter closes with recommendations for implementation, which are guidelines for moving forward to accomplish the goals and recommendations of the plan.

## **Project Area**

The geographic area targeted by this management plan is the 48-mile long corridor of the Little Pee Dee Scenic River in Dillon County (Figure 1). The upstream boundary is at the Marlboro County line above Parish Mill Bridge, State Road 363. The downstream boundary is at the Marion County line, where Buck Swamp enters the Little Pee Dee. Along the length of the river, boundaries may be generally defined by the nearest paved highways that parallel the river and its floodplain, to include the band of swamp and floodplain forestlands and mixed upland fields and forests that run along the river and adjacent highland areas. While the interests and concerns addressed by this management plan are focused on the river corridor, they are not limited to the corridor. Water quality concerns for the river require attention to the entire watershed, particularly the areas drained by tributaries to the scenic river.

## **The 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 and located on the Atlantic Coastal Plain. 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. (See Figure 2.)

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, the Little Pee Dee flows in a southerly direction for about 60 miles to its confluence with the Great Pee Dee River. From there the Great Pee Dee flows another 33 miles south into Winyah Bay at Georgetown where the Pee Dee waters eventually join the Atlantic Ocean.

Agriculture and forestry are the predominant land use activities in the watershed of the upper Little Pee Dee River. 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 percent
- Forested land 23.5 percent
- Scrub/shrub land 24.1 percent
- Forested wetland 15.1 percent
- Urban land 1.4 percent

- Water 0.4 percent

Population densities in the year 2000 for Dillon, Marlboro, and Marion counties (the counties that surround the Little Pee Dee River project area) were 76, 60, and 73 people per square mile, respectively; low densities when compared with a population density of 133 for the state of South Carolina. 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.

(Insert figure)

**Figure 2. Upper Little Pee Dee River Watershed Map**

## Land Use and Development

Land uses, the development of land, and patterns of ownership in the river corridor are of interest and concern to the public as these factors significantly affect the character of the river and present different challenges and opportunities for conserving and enhancing wildlife habitat, water quality, and scenic beauty on the river. Public access and navigation on the river can be affected by land management practices.

This management plan promotes a voluntary and cooperative approach to dealing with land management issues and acknowledges the fundamental rights and responsibilities of landowners to manage their own property. Because there are a limited and manageable number of property owners along the river, having personal contact, discussions, and exchange of information and plans are possible and will be a fundamental approach of this plan. As the mission of the Advisory Council is to promote ongoing conservation and wise use of the river, this mission is pursued recognizing the legacy of responsible stewardship among the landowners.

An inventory of land use and ownership patterns was conducted for the Little Pee Dee River corridor as part of the Scenic River Eligibility Study (SCDNR, 2005); findings are presented below and a detailed account of the land use inventory is presented in Appendix B. Figures 3, 4, 5, and 6 provide an aerial view of land use characteristics in the corridor and the location of landmarks. (The images in Figures 3-6 are derived from 1999 color-infrared aerial photography.)

### Findings

**The watershed of the Little Pee Dee is rural in character.** As described in a prior section, the major land-use and land-cover types in the watershed include forests, agriculture, and scrub/shrub vegetation. Only a small portion of the watershed is in urban or built-up land uses.

**Land uses are influenced by the floodplain.** Along the river, 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.

**Forests along the river are 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 sparse and usually located in areas of high ground.**

Developed areas affect approximately five miles of the 48-mile scenic river; and the areas are usually found where the river channel meanders near the river’s bluff 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 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.

**Roads, utilities, and public infrastructure affect the character of the river.** 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.

**Most lands in the river corridor are held in larger parcels.** Division of lands into larger parcels of ownership is a situation that tends to be positive for wildlife because it usually results in less land development and fragmentation of habitat. Land bordering the Little Pee Dee River in Dillon County is divided among 266 parcels, which altogether total 22,511 acres of land. Table 2 provides information on the distribution of river bordering land parcels by size categories; the parcel-ownership records were collected from the Dillon County tax assessor.

Currently, there are 32 parcels of land greater than 200 acres in size and these occupy 45 percent of the total land holdings along the river; and there are 77 parcels greater than 100 acres in size and these make up 74 percent of total land holdings on the river.

The smaller sized parcels, 100 acres or less, are the most numerous, however they occupy only 26 percent of total acreage on the river.

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

Parcel Size Categories	Number of Parcels	Acreage of Parcels
<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 acres	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

**There is strong public interest in protecting natural resources of the river, and landowners are key players.** Citizens who participated in the March 2006 community meetings expressed this interest repeatedly suggesting needs for increased forest buffer widths, additional protected lands, cleaner water from runoff, and enhanced habitats for wildlife. Citizens acknowledged that landowners along the river have been and continue to be the key to protecting the river. Landowners must be engaged, informed, and involved in all efforts that will continue to improve the protection of natural resources along the river.

**Threats to the river from land use activities.** Local citizens expressed concerns that land use activities threaten the quality of the river, its waters, and the wildlife of the area. From the community meetings of March 2006, perceived threats to the river included: poor stewardship by landowners and recreational users, inappropriate timber practices, and poor knowledge of how activities on the land impact the public resources of the river. Perceived long-term threats to the river are linked to the increase of development pressure that may result from expanding coastal development and the proposed I-73 corridor.

(Insert figures)

**Figure 3. Aerial View of the Little Pee Dee River Corridor from the Marlboro County line to State Road 23**

**Figure 4. Aerial View of the Little Pee Dee River Corridor from State Road 23 to S.C. Highway 9**

**Figure 5. Aerial View of the Little Pee Dee River Corridor from S.C. Highway 9 to State Road 22**

**Figure 6. Aerial View of the Little Pee Dee River Corridor from State Road 22 to the confluence with Buck Swamp**

### **Management Goal for Land Use and Development**

Preserve the natural character and conditions of the Little Pee Scenic River corridor in the following ways: maintain and increase the acreage of forest land and associated natural habitats; minimize the extent of developed areas, particularly in the floodplain; and maintain and enhance vegetative buffers along the river and all tributary streams.

## Recommendations / Objectives

1. To encourage the application of land management and development practices that will limit impacts to water quality in the Little Pee Dee River, the Advisory Council recommends the following:
  - a. Future development in watersheds of the Little Pee Dee River must be planned in ways that control stormwater runoff and limit impacts to water quality; therefore, local governments, landowners, and developers should plan and design developments in ways that:
    - Limit and retain storm-water runoff.
    - Minimize the amount of impervious surface created.
    - Establish and/or restore vegetative buffers along all river, creek, and wetland boundaries. Vegetative buffers are very effective filters and trappers of pollutants.
    - Maintain vegetated open spaces within developments to decrease runoff and allow the recharge of shallow aquifers.
  - b. Scientifically sound guidance for environmentally friendly development (development that reduces impact to water quality and aquatic resources) is needed. State and local governments and the Advisory Council should promote and support development of such guidance and provide it to developers, local governments, and landowners.
  - c. Land conservation should be encouraged in the Little Pee Dee watershed for the purpose of protecting water quality. Protecting natural areas and traditional forestry and agricultural land from being over developed (covered with impervious surfaces) will protect the river from polluted runoff. Landowners, land trusts, and state and local governments should be encouraged to support this objective and utilize conservation easements to establish permanent protections.
  
2. The Advisory Council, working with conservation partners and landowners, will initiate ongoing communications with all landowners in the river corridor to present available conservation options, incentives, and assistance programs that can advance the goals of this plan; and promote the understanding and application of best management practices to protect and enhance clean water, wildlife diversity, and scenic beauty of the river corridor:
  - a. Conduct informational meetings/seminars with expert advisors on topics that will encourage better land use and conservation practices.
  - b. Compile information and share with landowners about the benefits and values of the following:
    - i. BMPs (best management practices) for forestry
    - ii. Guidelines for buffers such as the BMPs for Scenic Rivers
    - iii. Conservation easements and other tax incentive options
    - iv. Government assistance and cost-share programs such as those available through the USDA Farm Bill.
  
3. With local government and development leaders, the Advisory Council will seek to share information and ideas about ways to manage growth and development (e.g. Principles of Smart Growth) that will benefit the local community and respect and conserve the natural, cultural heritage of the region including the Little Pee Dee Scenic River.

4. Research and explore ways to encourage wider forested buffers along the river through compensation and incentive programs. Current BMP's for forestry require buffers at least 40 feet wide on each side of the stream. (Streamside Management Zones (SMZ) is the terminology used for forestry buffers in the BMPs.)
5. Allow the floodplains to function as floodplains: establish and support local rules that prohibit or strictly limit building construction within the 100-year floodplain areas. In areas where FEMA has not identified the 100-year floodplain, use soil data to determine the floodplain area. Use any available funding sources to remove existing structures from the floodplains.
6. The single-most important land management practice for protection of river resources is establishment and/or maintenance of a riparian buffer. A riparian buffer is a strip of land along the banks of a river characterized by a growing cover of naturally occurring vegetation, which would be forests on the Little Pee Dee. Guidelines for conserving and maintaining buffers along streams will vary, depending upon the management goal. The following buffer recommendations are intended to protect and enhance water quality, aesthetics, and wildlife habitat.
  - a. For the protection of water quality and aesthetic/scenic qualities, a riparian buffer width of 100 feet on both sides of the river is recommended. Where wildlife habitat is to be considered, a riparian buffer of 100 to 300 feet on both sides of the river is recommended.
  - b. Within each riparian buffer zone, regardless of width, the first or innermost 50 percent of width (a minimum of 50 feet) from the riverside should be left undisturbed and undeveloped. Within the outermost 50 percent of width from the river, any timber harvesting conducted should be limited to a selective-type cutting.
  - c. Any selective timber harvest in the outer portion of the buffer should leave at least 50 square feet of basal area per acre in evenly spaced overstory trees.
    - i. If, prior to harvesting, the overstory basal area within the outer 50 percent of the riparian buffer zone is less than 50 square feet per acre, it is recommended that the entire riparian buffer zone (100 percent of width) remain undisturbed and undeveloped.
    - ii. The intent is to maintain a sufficient density of trees in the buffer area to provide both overstory and understory vegetation along with minimal disturbance of the forest floor, all of which will protect and enhance water quality, wildlife habitat and scenic values of the river.
7. Docks, landings, and bulkheads require state and federal permits to be constructed in navigable rivers and should be evaluated and controlled as follows:
  - a. Docks and landings should be designed to minimize environmental and aesthetic impacts and be compatible with and unobtrusive to the scenic and natural qualities of the river corridor.
  - b. Docks should be limited in number, size and structure.
  - c. Construction of bulkheads should be avoided unless a substantiated need to prevent erosion is demonstrated and no feasible alternative exists.
8. Local governments should require structures such as communication towers, power-transmission lines, and billboards to be built in ways that minimize visual impacts to the scenic

river. The collocation of equipment for multiple users on existing and new towers or corridors is recommended. Wherever possible, structures should be screened from the scenic river by topographical features. Where this is not possible, structure height and design should be such as to minimize visual impact.

## Water Quality and Streamflow

Among the various issues of public concern for the Little Pee Dee, water quality is mentioned frequently. Water quality is of concern because local citizens treasure the river for its recreational uses and aesthetic values and want to be able to swim the river and eat its fish without health hazards, and they want to see the river without floating litter and trash. Streamflow is of concern to citizens as having sufficient volume of water in the river is essential to supporting aquatic life and traditional river uses for water supply and recreation.

### Findings

**The Little Pee Dee is a blackwater river system with natural conditions that can be both positive and negative to water quality.** The water has a dark tea color, 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 the relatively flat sandy soils of the Coastal Plain, its water usually has very little turbidity caused by fine sediments of silt or clay. The permeable soils and extensive swamplands found throughout the watershed are natural characteristics that serve to protect water quality from human pollution sources.

Water from swamps, however, can sometimes have naturally low dissolved oxygen and pH levels caused by high levels of organic material input by the trees. DHEC reports that pH and dissolved oxygen excursions do occur at five stations on the Little Pee Dee Scenic River and these are described as “typical of values seen in blackwater systems” and are “considered natural, not standards violations” (SCDHEC, 2000).

**The South Carolina Department of Health and Environmental Control (SCDHEC) conducts routine water-quality monitoring.** There are fourteen (14) monitoring stations in the watershed of the upper Little Pee Dee River (see Figure 7). Six monitoring stations are located on the Little Pee Dee Scenic River; four are located upstream and one is downstream of the Scenic River; and three are on tributaries to the Scenic River.

- Two stations are “primary stations” that are routinely sampled once per month all year round; and both are located on the river. One station is located on the Scenic River on the upper end at SC Highway 57 bridge; the other station is on the Little Pee Dee in Marion County at the State Road 60 bridge northeast of Mullins.
- Nine monitoring stations are “secondary stations” that are sampled once per month from May through October. Three secondary stations are located on the Scenic River at the following sites: State Road 23 (Harlee’s Bridge), S.C. Highway 9 bridge, and below Maple Swamp at Dillon County Park. Four secondary stations are above the Scenic River, three on the Panther Creek drainage and one on Gum Swamp. One secondary station is on Maple Swamp; and one station is on Buck Swamp.
- Three stations are called “watershed stations” and these are sampled during one year of a five-year rotation cycle to supplement DHEC’s statewide program of watershed assessment.

Two watershed stations are on the Scenic River, one at the upper end at State Road 363 bridge and one at the lower end at State Road 72. One watershed station is on Buck Swamp.

**The Little Pee Dee has a few water quality problem areas but overall conditions are healthy.** Six water-quality monitoring stations and two fish monitoring stations are located on the Little Pee Dee River Scenic 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 (Hwy 23 – Harllee’s Bridge and Dillon County Park); this reflects a negative change since 2000 when all stations supported recreational uses. Fish consumption use is not supported at the two fish sampling stations. (See Appendix C for more detailed information on water quality conditions.)

**Mercury contamination of fish threatens human health.** SCDHEC has issued a fish consumption advisory in effect for the entire Little Pee Dee River advising people to limit the amount of fish consumed from these waters because of elevated levels of mercury found in the tissue of fish taken 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, children, and people with neurological disorders should not eat any fish containing mercury. SCDHEC publishes fish consumption guidelines annually.

The major known sources of this mercury contamination are from air emissions from the burning of coal and other fossil fuels and the incineration of wastes. When mercury enters the water, it settles to the bottom. If the mercury is in organic form, methylmercury, small fish and other aquatic life can absorb it from the water and sediment. The mercury accumulates in fish tissue. Larger predator species of fish, such as bass, are more likely to have high mercury levels.

**SCDHEC analyses 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 water quality values. However, at several sites trends in turbidity suggest unfavorable changes; and as mentioned above, recreational uses are no longer supported at two stations, reflecting unfavorable changes in the levels of fecal coliform bacteria.

**State water quality standards for the Little Pee Dee call for fishable, swimmable waters.** Water classifications (defined in S.C. Regulations 61.68 and 61.69) determine specific water quality standards and desired uses of the river that govern discharge-permitting requirements regulated by SCDHEC. The river is classified as freshwater (FW). Class FW sets water quality standards intended to protect multiple uses such as swimming, boating, fishing, drinking water supply, survival and propagation of aquatic organisms, and industrial and agricultural uses (SCDHEC, 1999).

**Permitted wastewater is discharged to the Little Pee Dee and its tributaries.** 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/Hamer 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.

**Polluted runoff and other non-point source pollution do impact the Little Pee Dee.** When it rains, pollutants are washed off the land into surrounding waters. Land use activities throughout the watershed can have an impact on the river. The land next to the river and its tributaries will have a direct and immediate impact on river water quality.

- The major land-use and land-cover types in the watershed include forests and scrub/shrub vegetation, which together cover about 63 percent of the land area. Agriculture covers about 36 percent, and urban areas are only 1.4 percent.
- Forest land uses may involve timber production and harvesting. Potential pollutants associated with this land use include sediment from erosion, nutrients, organics, and pesticides. Water quality impacts can result from harvesting during wet soil conditions, removal of riparian (stream-side) vegetation, improper road construction, and disposal of woody debris in streams.
- Agricultural land uses may involve row crops or livestock. Potential pollutants associated with crop production include soil, nutrients, and pesticides. Potential pollutants associated with livestock production include nutrients, oxygen-demanding substances, and disease-causing bacteria.
- Urban-area runoff pollution could become an issue in areas adjacent to the Town of Dillon. Major pollutants found in urban runoff include sediment, nutrients, heavy metals, oils and grease, and disease-causing bacteria. Pollution sources include sediment from construction sites, fertilizer and pesticides from lawns and gardens, leaking automobiles on pavements, improper disposal of household and other chemicals, leaking septic systems, and improper disposal of pet wastes. Most people in urban areas are unaware that they contribute to non-point source pollution.
- Mining activity in the Little Pee Dee watershed is permitted by SCDHEC at two locations north of Dillon; these mines engage in sand and/or clay extraction. Water quality impacts from mining can include alteration of hydrology and sedimentation to surrounding streams during mine development, extraction and processing, product storage and transportation, and reclamation.

**Threats to water quality of concern to area citizens.** Those who participated in the March 2006 community meetings expressed repeated concerns about polluted runoff, pollution from hog farms, permitted wastewater discharges, and the mercury contamination of fish in the river.

**The Little Pee Dee is free of dams throughout the length of its mainstem except for the upper most reach at Red Bluff Lake.** This lake is above the scenic river section and is located in Marlboro County at the confluence of Gum Swamp and Beaverdam Creek. Participants in the March 2006 community meetings expressed some concerns that the dam can at times stop downstream flows of water in the Little Pee Dee Scenic River.

**U.S. Geological Survey collected streamflow data at the town of Dillon.** From a monitoring station below the S.C. Highway 9 bridge, the USGS 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.

**Groundwater provides base flow to the river.** The Little Pee Dee 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.

(Insert figure – map with points)

### **Figure 7. Water Quality Monitoring and Point Source Discharge Locations**

#### **Management Goal for Water Quality and Streamflow**

Maintain and improve water quality in the Little Pee Dee River to provide safe and healthy conditions for desired river uses, which include swimming, fishing, and aquatic life support; and consistently meet or exceed established biological, chemical, and physical standards for Freshwaters (Class FW) of South Carolina. Maintain flows in the river that will protect and support public health and safety, aquatic life and ecological values, recreational uses, and navigation.

#### **Recommendations / Objectives**

1. The Advisory Council will track water quality issues affecting the Little Pee Dee River watershed over time in the following ways:
  - a. Track changes in water quality conditions and watershed-related conditions over time. On a continuing basis, acquire data from SCDHEC's monitoring network, special studies, land use inventories, and other water quality and watershed information. The information should be used to assess progress and problems in maintaining and improving water quality over time and to inform the public on these issues.
  - b. Track public permitting and planning activities affecting water quality and provide input to public decisions as appropriate to pursue water quality protection and improvement in the upper Little Pee Dee watershed. Examples of activities to track include wastewater permits, Regional Water Quality Management Plan amendments, development of Total Maximum Daily Load requirements, stormwater management plans and permits, and funding sources to support water quality improvement projects.
  - c. Track and advocate enforcement of existing laws designed to protect water quality. Become informed of the laws and regulations; get acquainted with the related staff and decision-making boards which affect implementation and enforcement of the laws;

- advocate enforcement; and keep records on the cases of non-compliance and their related enforcement actions.
- d. Consider the needs for additional water quality monitoring and alternative monitoring locations in the watershed to more accurately determine the various sources of water pollution and to detect acute water quality problems; then explore options to improve monitoring with agencies, education/research scientists, and volunteer citizens.
2. To educate citizens in the Little Pee Dee watershed about water quality issues, sources of water pollution, and practices to prevent water pollution, the Advisory Council will initiate cooperative education efforts with agencies and community groups in the following ways:
- a. Initiate an education campaign through cooperation with schools, local governments, and the media.
  - b. Emphasize the role of individual citizens, landowners, associations, and businesses in causing and preventing pollution, recognizing that activities on all lands of the watershed, especially those bordering streams, have a direct impact on the river.
  - c. Work with landowners and property managers in the watershed to control non-point source pollution: inform them of best management practices, the Scenic Rivers Stewardship Program, and available assistance and incentives to address land management needs.
  - d. Identify and recruit local citizen groups to “adopt” segments of the river for water quality monitoring (from simple observations to the actual collection of samples) and litter control.
  - e. Promote cooperation among all groups and organizations working to keep the Little Pee Dee River clean.
3. The Advisory Council will encourage the application of land management and development practices that will limit impacts to water quality in the Little Pee Dee River as described in recommendations under Land Use and Development. The single-most important land management practice for protection of river resources is establishment and/or maintenance of a riparian (stream-side) buffer along the river and its tributaries. A riparian buffer is a strip of land along the banks of a stream characterized by a growing cover of naturally occurring vegetation. Recommendations for riparian buffers include the following:
- a. For the protection of water quality and aesthetic/scenic qualities, a riparian buffer width of 100 feet on both sides of the river is recommended. Where wildlife habitat is to be considered, a riparian buffer of 100 to 300 feet on both sides of the river is recommended.
  - b. Within each riparian buffer zone, regardless of width, the first or innermost 50 percent of width (a minimum of 50 feet) from the riverside should be left undisturbed and undeveloped. Within the outermost 50 percent of width from the river, any timber harvesting conducted should be limited to a selective-type cutting.
  - c. Any selective timber harvest in the outer portion of the buffer should leave at least 50 square feet of basal area per acre in evenly spaced overstory trees.
    - i. If, prior to harvesting, the overstory basal area within the outer 50 percent of the riparian buffer zone is less than 50 square feet per acre, it is recommended that the entire riparian buffer zone (100 percent of width) remain undisturbed and undeveloped.

- ii. The intent is to maintain a sufficient density of trees in the buffer area to provide both overstory and understory vegetation along with minimal disturbance of the forest floor, all of which will protect and enhance water quality, wildlife habitat and scenic values of the river.

4. Mercury contamination of fish is a widespread phenomenon in the eastern United States. The contamination is present in fish of the Little Pee Dee River and it poses a health risk. The Advisory Council should investigate the level of current knowledge concerning the health risks of eating contaminated fish, sources for the contamination, potential solutions, and ongoing research.

- The Advisory Council recommends that SCDHEC post signs at the public access areas warning fishermen of the mercury contamination. The signs should include the latest advised consumption limits and telephone number for more information. It is especially important that the signs contain a special warning for pregnant women, young children, and people with neurological diseases.

5. For concerns related to water flow releases from upstream ponds or reservoirs that affect flows on the Little Pee Dee River, the Advisory Council will investigate and document the problems and consult with state officials with the SCDNR and DHEC who can assist in resolving the issues. Policies and recommendations of the State Water Plan are for reservoir operators to release instantaneous or daily average flows in sufficient volume to maintain adequate habitat for downstream aquatic organisms and to address the needs of downstream users.

## Recreational Use and Access

The Little Pee Dee River is a valuable recreational resource for fishing, boating, and related nature-based recreation and has potential for enhancements that could provide additional benefits to the community. The area is within easy driving distance of several large population centers, making the river's recreational opportunities accessible to many thousands of people.

### Findings

#### **Many recreational opportunities are available in the Little Pee Dee River corridor.**

Recreation activities include the following:

**Fishing.** The *South Carolina Rivers Assessment* rated Little Pee Dee River an outstanding resource for recreational fishing. The fishing reputation of the Little Pee Dee centers on the popular redbreast sunfish; however, according to surveys conducted by the SCDNR, most anglers target a variety of species on the river (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. Since the last 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 the adjacent county and very few (less than 1 percent) coming from out of state.

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. (See the Fish Consumption Advisory described in the Water Quality section, above, and in Appendix C.) Mercury contamination problems are widespread, affecting all rivers in South Carolina, because the major sources of the mercury contamination come from air emissions resulting from the burning of coal and other fossil fuels and the incineration of wastes.

**Canoeing and Kayaking.** The public has opportunities to paddle and explore the river from various public landings and informal access sites. 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 *South Carolina Rivers Assessment* rated the Little Pee Dee River as a superior recreational resource for flatwater boating and backcountry boating.

**Camping.** 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-bordering lands will require permission from the landowners.

**Swimming.** There are no designated public swimming areas on the Little Pee Dee Scenic River; however, swimming may occur where public access is available, at private sites, and from boats. Many swimming holes are evident along the river where locals enjoy the clean, cool blackwater of the Little Pee Dee. Some scuba diving is reportedly done at Harlee's Bridge.

**Enjoying Nature.** For local citizens the most highly valued aspects of the river include its natural beauty, its diversity of flora and fauna, and the related opportunities the river provides for simply experiencing and enjoying the aesthetics of nature. Whether by actively recreating in the pursuit of game, floating the next river bend, taking photos, birding, or just sitting on the banks watching the river flow, almost everyone enjoys the scenery of the blackwater river swamp, the trees and Spanish moss, white sands, the birds; and they enjoy the swampy smells, the solitude, and the quietness of a natural place. These are the more elemental forms of recreation enjoyed by all who experience the Little Pee Dee River.

**Motor Boating.** The Little Pee Dee is suited to boating with small motorboats that can navigate the narrow channels and be pulled over and around downed trees and logs.

**Hunting.** On the private lands that surround the Little Pee Dee River, people hunt deer, turkey, ducks, doves, feral hogs and other small game. There are no public hunting lands available in the river corridor.

**Recreational access is available to the public at sites along the Scenic River.** (See Figure 8.) Three public boat ramps are on the river at the following sites: Moccasins Bluff, Dillon County Park, and Floydale Bridge. The public uses another seven sites along the river that are informal public and private areas with dirt ramps or drop-in sites. A list of the sites with some description of ownership and facilities is as follows:

- State Road 363 at Parish Mill Bridge: privately-owned, drop-in access, and no parking is available
- Norton's Landing on Norton Landing Road off S.C. Highway 9 northwest of Dillon: privately-owned, drop-in access, and very limited public parking
- Moccasin's Bluff ramp on State Road 437: state-owned, public access, paved boat ramp, and paved parking
- U.S. Highway 501/301 bridge: privately-owned, paved boat ramp with dirt parking
- S.C. Highway 9 at Dillon Bridge: SCDOT-owned, drop-in access and parking from old Highway 9 roadbed
- Dillon County Park off S.C. Highway 57, south of Dillon: county-owned, paved boat ramp, and dirt parking
- State Road 45 at Floydale Bridge, Lester Road: county-owned, paved boat ramp, and dirt parking
- Little Pee Dee State Park Heritage Preserve, upstream of SR 22 at Carmichael's Bridge: state-owned, drop-in access from dirt road, and no parking available. The Little Pee Dee State Park is downstream of SR 22 and borders one mile of river along the north bank
- S.C. Highway 41 at Huggins Bridge: privately-owned, dirt boat ramp, and dirt parking
- State Road 72 at Allen's Bridge: privately owned, drop-in access, and no parking is available.

**Desire to improve the recreational resource.** Given the facts presented above, many citizens still perceive the river to be an under-appreciated and under-utilized asset that needs to be improved with better public access to facilitate more nature-based recreation and education opportunities for local citizens and for tourists.

**Opportunities exist to create additional public access facilities.** Concepts for additional public recreational access facilities that were supported by participants in the Little Pee Dee Community Meetings of March 2006 included the following:

**Little Pee Dee River Trail.** The river trail concept provides a unifying means for addressing several public interests and concerns related to the river, which include improving opportunities for access and promoting public awareness and appreciation for the resource. Creating a river trail can distinguish the river as a recreational asset and attraction for the community. Key trail features include: designated access sites as points of entry to the river, a program to maintain open river passage between the sites, and production of information materials to facilitate public awareness and use of the river trail.

**River Boardwalk at I-95 Welcome Center.** Close proximity of the I-95 Welcome Center to the Little Pee Dee River presents recreation and education opportunities for the many visitors who enter South Carolina on I-95 and stop at the Welcome Center. An interpretative boardwalk/nature trail could extend from the existing Welcome Center site, through the floodplain and swamp forests, to several points with views of river.

**Opportunities at publicly-owned properties.** There are sites along the river that are owned by county and state government and offer possibilities for establishing additional boat launches, parks, trails, camping, or education facilities for the public.

- A county-owned site identified by local citizens includes the property on the north side of Highway 9, east side of the river. This site currently supports some recreation activity and with minor improvements could enhance the recreational resources of the river for the whole community.
- State-owned properties include the Little Pee Dee State Park and the Heritage Preserve located at the State Road 22 bridge. State Park staff is considering adding facilities at the river to better support boating access.

**Litter, vandalism, and security concerns at boat landings.** Common, often described problems at landings include dumping, littering, destruction of public property (e.g., picnic tables), breaking into vehicles, and theft. These occur at the public landings and at private sites used for accessing the river. These key problems must be address in order to restore public appreciation and enjoyment of the river.

**Desire for open, navigable river channel.** The one issue raised more than any other among citizens who participated in the community input meetings was the desire for an open river channel, clear enough to allow passage for recreational boaters in small motor boats and canoes. While most sections of the river can be accessed by these type boaters, the problem is there are large numbers of storm-downed trees and deadfalls in the river, which obstruct the channel and block passage in many places.

- The presence of some fallen trees and snags is understood to be a positive condition of a natural river because the woody material provides habitat structure to support healthy fish populations.
- Forestry practices may increase the problem of trees falling in the river where clear cuts can expose the streamside buffer (a narrow band of trees) to high winds that can blow down the few standing trees that line the riverbanks.
- Dillon County has provided limited funding in recent years to support the clearing of fallen trees in the river to improve navigation for recreational boating; however, the

clearing work is slow, difficult, and dangerous and thus expensive. With limited county funding, only small sections can be cleared annually.

(Insert figure – map of access sites)

**Figure 8. Access Sites Available to the Public**

**Management Goal for Recreational Use and Access**

Enhance recreational use and enjoyment of the river for the benefit of the local community and enable the river to remain accessible and navigable along its entire course for responsible, recreational use by the public. Balance recreational use and access with care, respect, and conservation of the river. Manage use and access to prevent overcrowding, trespassing and abuse of property, and to lessen negative impacts on the river’s natural, cultural, and scenic resources. Encourage compatible low-impact uses of the river corridor and develop improved low-impact access facilities.

**Recommendations / Objectives**

1. The Little Pee Dee River Trail is a concept advocated by the Advisory Council. As mentioned above, the river trail concept provides a unifying means for enhancing the recreational potential of the river for the benefit of the community. The trail can also be used as a means of integrating the Little Pee Dee River into the community identity of Dillon and help in marketing the quality of life in the area. As envisioned by the Advisory Council, features of the river trail include the following:
  - a. The Little Pee Dee River Trail will be a community-based project and program, one that is created and developed through a partnership, which includes local governments, landowners, recreation groups, tourism-related businesses, the Chamber of Commerce and other community development interests.
  - b. A series of public access sites will be established and maintained as official points of entry to the river trail. (These may include sites presented in Figure 8.) The sites may also be featured as areas for wildlife viewing, fishing, and related activities. Sites will meet certain facility standards to include a boat ramp or drop-in steps and parking areas; and informational signs and kiosks will be considered for the sites.
  - c. The river trail will feature various opportunities and challenges for exploring the river ranging from beginner/visitor outings that take only a few hours (e.g., Hwy 501/301 to Hwy 9) to more advanced multi-day canoe camping routes (e.g., Parish Mill Bridge to Moccasin Bluff). Sections of the river will be classified and passage maintained to support various skill levels.
  - d. Maintaining open river passage through fallen trees will be an important focus of the River Trail program. The challenging nature of this problem will require ongoing attention and multiple solutions including the use of volunteers who adopt sections of the river and private contracting for tree removal services in more difficult situations.

- e. Designated camping sites need to be established in suitable stretches of the river in cooperation with supporting landowners. At least two river accessible campsites are desired.
  - f. Public information and educational materials will be produced to facilitate public awareness and use of the river trail; these will include published guidebooks with maps, a website, and signage at access sites with posted information or kiosks where suitable.
2. Priority access sites will be determined by the Advisory Council and other community partners to address the following needs and purposes:
    - a. Sites needed to support the River Trail concept
    - b. Locations where boat ramps are desired
    - c. Sites that present opportunities for parks and/or education facilities that may or may not be part of the river trail.
  3. For all priority access sites, the Advisory Council and partners will work with the landowner(s) and other appropriate parties to make arrangements allowing legal use of the property for the desired recreational purposes.
  4. For publicly-owned sites that present opportunities for enhanced public access to the river, the Advisory Council will act as an advocate and facilitator with relevant local and state governments to encourage authorities to consider ways to dedicate properties to purposes consistent with the LPD River Plan.
  5. The Advisory Council recommends consideration of the following river access opportunities on existing publicly-owned lands:
    - a. River Boardwalk at I-95 Welcome Center: The State-owned Welcome Center, managed by SCDOT, could provide an interpretative boardwalk, nature trail to extend ¼-mile from the existing Welcome Center site, meander through the forests of the floodplain and swamp, and loop to several points with views of the blackwater river. (See Figure 9.) Informational displays could inform visitors on various aspects of the State's natural heritage, Scenic Rivers, blackwater river ecosystems, and introduce the LPD River Trail.
    - b. Public Park at Highway 9 Bridge: The site is a former public landfill, which is currently leased and used as a private recreation area. With few improvements, the site could offer canoe/kayak access, bank fishing, picnicking, and other passive recreation activities.
    - c. Little Pee Dee State Park and State Park Heritage Preserve river-access facilities: Staff at the park have been considering the needs and feasibility of providing additional river access facilities to include more parking, a turn around, and boat launch.
    - d. Harlee's Bridge: Because Harlee's Bridge is historically significant to Dillon County (see Appendix D), the area should be evaluated for educational and heritage tourism possibilities and as a featured site to be interpreted on the Little Pee Dee River Trail.
  6. The Advisory Council advocates low-impact designs for any new public access facilities proposed for the Little Pee Dee Scenic River. Low-impact designs minimize the negative affects that access facilities and recreational users can have on the river corridor and its natural, cultural and scenic resources. The Advisory Council recommends the following:

- a. Before recreation facilities are sited and designed, the needs, proposed uses, and potential impacts should be evaluated and understood. Issues that should be addressed in the siting and design of access facilities include minimizing overuse, noise, and pollution, and protecting public safety, sensitive resources, and aesthetics.
  - b. Facilities should be designed to encourage compatible recreational uses and discourage undesirable uses. These concerns will vary depending on the purpose of the facility and its proposed location on the river.
  - c. Boating access facilities can be designed as carry-in access for small boats. A stepped canoe and kayak put-in allows easy access for small boats and discourages use by large ones. The need for additional boat ramps for motorboat access is not clear and should be evaluated as recommended above.
  - d. Safe, off-road parking areas are needed. Parking areas should be located away from the riverbanks wherever feasible with a natural vegetation buffer area between parking areas and the river.
7. To maintain an open river channel for recreational navigation on the Little Pee Dee, the Advisory Council will explore and apply various alternatives for managing the problem of fallen trees that obstruct the channel. Alternatives include the following:
- a. Volunteers will be recruited to adopt sections of the river to keep it open for navigation. “Community equipment” such as chain saws could be acquired and made available to support volunteer work through a checkout system.
  - b. Highly obstructed areas and those blocked by large timber may require contracting for tree removal services or seeking special assistance from government agencies such as the U.S. Army Corps of Engineers.
  - c. Funding will be sought from various sources to support ongoing efforts through both volunteers and contractor services. Funding from local sources may be used to match and leverage grant funds from state or federal sources.
  - d. The river can be managed by sections to offer various opportunities and challenges for boating. Some sections could be well maintained and opened for easy navigation suited to beginner outings, while other sections could be less maintained and suited to advanced, more experienced boaters. Sections of the river can be classified and passage maintained to support various uses and skill levels.
8. To address concerns of safety and wake damage/erosion related to increasing motorboat activity on the river, the Advisory Council advocates the following:
- a. Increasing public education on boating safety rules with increased law enforcement.
  - b. Careful consideration regarding the need for siting, and design of public or community boat ramps (as described above).
  - c. Leaving portions of fallen trees and underwater obstructions in the river, clearing only as needed to allow for small motorboat passage at idle speeds.
9. Managing the problems of litter, vandalism, and other unlawful activities that occur at river access sites is an ongoing challenge. The Advisory Council, in partnership with other organizations, will target education efforts, law enforcement actions, and other alternative remedies to address the problems. Alternative actions include the following:

- a. SCDNR Conservation Officers and local police should increase their patrols and surveillance of access sites where chronic litter, dumping, and vandalism occurs, enforcing the law more rigorously.
- b. The Advisory Council will organize and promote increased involvement of local volunteers in the cleanup of landings and other river access sites through “River Sweep” events and an adopt-a-landing program.
- c. Landowners affected by trespassing will be informed of the SCDNR Property Watch Program, which enables officers to more easily enforce trespassing laws.

10. The protection and improvement of water quality and wildlife habitat are essential to ongoing recreational enjoyment of the Little Pee Dee River; therefore, the advisory advocates the following:

- a. Water quality in the Little Pee Dee River should consistently meet or exceed the established State water quality standard in order to provide for the desired recreational uses of fishing, swimming and related water-contact activities. (For more specific actions, refer to the Advisory Council’s recommendations on water quality.)
- b. Wildlife habitats of the Little Pee Dee River corridor should be conserved in order to support healthy populations of native plants and animals and to provide for recreational uses such as bird watching, nature viewing and photography, hunting, and fishing. (For more specific actions, refer to the Advisory Council’s recommendations on fisheries and wildlife habitat protection.)

(Insert figure)

**Figure 9. Conceptual Plan for River Boardwalk at I-95 Welcome Center**

## Fish, Wildlife, and Habitat Protection

The Little Pee Dee River corridor in Dillon County contains a rich variety of fish and wildlife habitat that supports many species of plants and animals. The Advisory Council acknowledges that property owners bear the responsibility for land management along the Little Pee Dee River and it is their management that directly affects the quality of fish and wildlife habitats. Therefore, this section of the plan is intended to provide information and recommendations aimed at assisting landowners in managing their lands in ways that will contribute to the overall maintenance and enhancement of fish and wildlife abundance and diversity in the Little Pee Dee River corridor.

### Findings

**The river corridor provides a large wildlife habitat area.** The Little Pee Dee River in Dillon County is known for its slow moving blackwater that flows through bottomland forests and swamps and over sandy river bottoms and bars. The floodplain of the river forms a corridor of almost uninterrupted habitat measuring 48-miles in length by three-quarter-miles in width; and this corridor is bordered by agriculture fields and pine plantations. Cypress-tupelo swamp and bottomland hardwood forests flank the open waters of the river itself. Moving uphill and away from the river, the dry soils support pine and mixed hardwood forests including sandhill woodlands and planted pine stands. The river bottomlands are dominated by sweetgum, red maple, willow oak, loblolly pine, water oak, and American holly, while turkey oak, longleaf pine, and other scrub-shrub cover dominate the sandhill woodlands. These habitats combined provide the basic necessities for wildlife: cover, food, and water. They also serve as a travel corridor for forest species moving across the fragmented landscape between natural areas.

**Species of wildlife, both common and rare, inhabit the river corridor.** However, the level of existing knowledge concerning the wildlife populations and species composition in the Little Pee Dee River corridor is very general in nature, especially in regard to plants and nongame animal species. The common animals include great blue herons, wood ducks, red-tail hawks, belted kingfisher, wild turkey, opossums, beavers, grey squirrels, raccoons, white-tailed deer, grey fox, red fox, various species of turtles and frogs, and numerous species of upland and bottomland songbirds. Less common animals such as bobcats, river otters, pileated woodpeckers, prothonotary warblers, bald eagles, and red-cockaded woodpeckers may also be seen or heard in the river corridor. Migratory waterfowl that may inhabit the area seasonally include black duck, mallard, green-winged teal, widgeon, gadwall, and pintail.

**Threatened or endangered species (plants and animals) are known to inhabit the river corridor.** Those known to occur adjacent to the Little Pee Dee River in Dillon County include: the red-cockaded woodpecker, which is state and federal endangered, and four state threatened plants: the pine barrens boneset, southern bog button, Carolina bird-in-a-nest, and Savannah yellow-eyed grass. The bald eagle, a state endangered and federally threatened species, is known to occur in Dillon County and is a likely resident of the Little Pee Dee River corridor. The

Waccamaw spike, listed as critically imperiled freshwater mussel in South Carolina, has been documented downstream in Marion County and very well could occur in Dillon County (Nature Conservancy, 2006). Other priority animal species of conservation concern that may inhabit the Little Pee Dee River corridor are presented below and listed in Tables 3 and 4.

**Priority species of conservation concern.** The South Carolina Comprehensive Wildlife Conservation Strategy (SCDNR, 2005) identifies a statewide list of priority species of greatest conservation concern because the species may be rare or threatened in some way. The list is categorized by Highest, High, and Moderate Priority. Table 3 lists the priority freshwater species of animals in the Pee Dee River system. Most of these species are documented to occur in the Little Pee Dee River system making protection of these fisheries even more critical. Table 4 lists the priority mammal, bird, and herpetofauna (reptile and amphibian) species that are found in the Pee Dee River region. This list does not carry the weight of law and is only used as a conservation tool to assist in protection planning and to direct research and survey work.

**The Little Pee Dee River system provides diverse and healthy habitats for the native fish community.** Aquatic habitats associated with the river include its tributary streams, sloughs, oxbow lakes, and swamps. The watershed provides a relatively stable streamflow and there are only a few dams and obstructions on tributaries that block the passage of fish migrations; the main channel of the river is free flowing. In general, the Little Pee River is considered to have clean water; and clean water is essential to the survival and reproduction of fish species. These are characteristics that caused the Little Pee Dee to be rated as a “superior resource” for inland fisheries in the *South Carolina Rivers Assessment* (SCWRC, 1988).

**Fifty-four species of fish inhabit the Little Pee Dee River system.** The last SCDNR fish survey of the Little Pee Dee was conducted from 1990-1993 (SCDNR, 1995) and documented 53 freshwater species of game and nongame fish. The study was conducted using electrofishing and rotenone. Since the time when these surveys were conducted, the flathead catfish has become established in the Little Pee Dee River, raising the total number of known fish species to 54.

A number of migratory species are known to seasonally inhabit the river including the American shad, hickory shad, blueback herring, and striped bass (SCWRC, 1982). These fish migrate upstream from Winyah Bay and the Atlantic Ocean to spawn. The shortnose sturgeon, an endangered fish species that inhabits the coastal rivers of South Carolina, may also occur in the river.

**Flathead catfish has negative impact on fishery.** The flathead catfish, an exotic species introduced to South Carolina waters decades ago, is a large predator of smaller game fishes and is considered to have had a negative impact (heavy predation) on native fish populations in rivers like the Little Pee Dee.

**The public values the Little Pee Dee fishery.** When the Advisory Council and SCDNR began gathering public input for this management plan, it became clear how much the community cherished the tradition of fishing in the Little Pee Dee River. A key element of the Little Pee Dee River management plan is the fishery.

**State-owned properties provide some permanent habitat protection.** SCNDR and SC Parks, Recreation, and Tourism own properties along the river. The Little Pee Dee State Park Bay Heritage Trust (301 acres) and the Little Pee Dee State Park (835 acres) provide habitat protection for some of South Carolina’s priority terrestrial species.

**Streamside buffers are essential to preserving the river’s natural resources and character.**

The most important conservation practice for preserving the resources of the river is establishment and/or maintenance of streamside buffers (also know as a riparian buffer) on the river and its tributaries. A riparian buffer is a strip of land along the banks of a river that is characterized by a growing cover of naturally occurring vegetation. Riparian buffers protect the quality of the water resource, enhance aesthetics, and provide important habitats for wildlife.

The habitats in riparian areas are ecologically diverse and productive places. Scientific research has shown that riparian areas that are managed to conserve natural conditions will provide habitat for many species of plants and animals and improve water quality in streams, thus improving fish habitat, by filtering pollutants from runoff and shading water from the sun’s heat. The forested areas along streams also provide fish with cover, nutrients and spawning/nursery areas. Even the fallen trees in the river, known as deadfalls or snags, provide important habitat structure for fish.

**Beavers and wild hogs can destroy critical habitat and must be managed.** Beavers have the ability to change hydrology and usability of larges areas of land. Wild hogs can destroy plant communities at an alarming rate and in high densities cause poor water quality. Both animals represent serious challenges to the resource. Methods and funding should be sought to keep populations of both in check.

**Table 3. Priority Freshwater Species of the Pee Dee River System**

**Highest Priority**

Common Name	Scientific Name
<b>Fishes</b>	
Robust redhorse	<i>Moxostoma robustum</i>
Carolina pygmy sunfish	<i>Elassoma boehilkei</i>
“Broadtail” madtom	<i>Noturus spp. (c.f. insignis)</i>
<b>Mussels</b>	
Waccamaw spike	<i>Elliptio waccamawensis</i>
Yellow lampmussel	<i>Lampsilis cariosa</i>
Southern rainbow	<i>Villosa vibex</i>

**High Priority**

Common Name	Scientific Name
<b>Fishes</b>	
Blackbanded sunfish	<i>Enneacanthus chaetodon</i>
<b>Mussels</b>	
Eastern lampmussel	<i>Lampsilis spledida/radiata</i>
Roanoke slabshell	<i>Elliptio roanokensis</i>

Eastern pondmussel	<i>Ligumia nasuta</i>
Tidewater mucket	<i>Leptodea ochracea</i>
<b>Crayfish</b>	
Waccamaw crayfish	<i>Procambarus braswelli</i>
Pee Dee Lotic crayfish	<i>Procambarus lepidodactylus</i>
Sandhills crayfish	<i>Procambarus pearsei</i>
<b>Snails</b>	
Ridged lioplax	<i>Lioplax subcarinata</i>
Buffalo pebblesnail	<i>Gillia atilis</i>
<b><u>Moderate Priority</u></b>	
Common Name	Scientific Name
<b>Fishes</b>	
Lowland shiner	<i>Pteronotropis stonei</i>
White catfish	<i>Ameiurus catus</i>
Flat bullhead	<i>Ameiurus platycephalus</i>
Banded killifish	<i>Fundulus diaphanus</i>
Striped bass	<i>Morone saxatilis</i>
Mud sunfish	<i>Acantharchus pomotis</i>
<b>Mussels</b>	
Eastern creekshell	<i>Villosa delumbis</i>
Carolina lance	<i>Elliptio angustata</i>
Eastern elliptio	<i>Elliptio complanata</i>
Carolina slabshell	<i>Elliptio congaraea</i>
Variable spike	<i>Elliptio icterina complex</i>
Pod lance	<i>Elliptio folliculata</i>
Atlantic spike	<i>Elliptio producta</i>
<b>Crayfish</b>	
Edisto crayfish	<i>Procambarus ancylus</i>
Santee crayfish	<i>Procambarus blandingii</i>

**Table 4. Priority Mammal, Bird, and Herptofauna Species of the Pee Dee River Region.**

<b><u>Highest Priority</u></b>	
Common Name	Scientific Name
<b>Mammals</b>	
Black Bear	<i>Ursus americanus</i>
Northern Yellow Bat	<i>Lasiurus intermedius</i>
<b>Birds</b>	
Bachman's Sparrow	<i>Aimophila aestivalis</i>
Black-throated Green Warbler	<i>Dendroica virens</i>
Eastern Wood Pewee	<i>Contopus virens</i>
Kentucky Warbler	<i>Oporornis formosus</i>
Little Blue Heron	<i>Egretta caerulea</i>
Rusty Blackbird	<i>Euphagus carolinus</i>

Swainson's Warbler	<i>Limnothlypis swainsonii</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>
Lesser Scaup	<i>Aythya affinis</i>
Little Blue Heron	<i>Egretta caerulea</i>
White Ibis	<i>Eudocimus albus</i>
Yellow-crowned Night-heron	<i>Nyctanassa violacea</i>
Eastern Wood Pewee	<i>Contopus virens</i>
Worm-eating Warbler	<i>Helmitheros vermivorus</i>
Wood Thrush	<i>Hylocichla mustelina</i>
Prairie Warbler	<i>Dendroica discolor</i>
Swainson's Warbler	<i>Limnothlypis swainsonii</i>
Kentucky Warbler	<i>Oporornis formosus</i>
Rusty Blackbird	<i>Euphagus carolinus</i>
Common Ground-dove	<i>Columbina passerine</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>
Field Sparrow	<i>Spizella pusilla</i>
Eastern Meadowlark	<i>Sturnella magna</i>
American Bittern	<i>Botaurus lentiginosus</i>
Wilson's Snipe	<i>Gallinago gallinago</i>
Least Bittern	<i>Ixobrychus exilis</i>
Pied-billed Grebe	<i>Podilymbus podiceps</i>
Yellow Rail	<i>Coturnicops noveboracensis</i>
King Rail	<i>Rallus elegans</i>
Northern Bobwhite	<i>Colinus virginianus</i>
American Kestrel	<i>Falco sparverius paulus</i>
Brown-headed Nuthatch	<i>Sitta pusilla</i>
Henslow's Sparrow	<i>Ammodramus henslowii</i>
Bachman's Sparrow	<i>Aimophila aestivalis</i>
Swallow-tailed Kite	<i>Elanoides forficatus</i>
Mallard	<i>Anas platyrhynchos</i>
Black Duck	<i>Anas rubripes</i>
Northern Pintail	<i>Anas acuta</i>
<b>Herptofauna</b>	
Southern Hognose Snake	<i>Heterodon sinus</i>
Coral Snake	<i>Micrurus fulvius</i>
Carolina Gopher Frog	<i>Rana capito capito</i>
Tiger Salamander	<i>Ambystoma tigrinum</i>

**High Priority**

Common Name	Scientific Name
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**Mammals**

Rafinesque's Big-eared Bat	<i>Corynorhinus rafinesquii</i>
Southeastern Myotis	<i>Myotis austroriparius</i>
Mink	<i>Mustela vison</i>
Star-nosed Mole	<i>Condylura cristata</i>

Eastern Fox Squirrel

*Sciurus niger***Birds**

Acadian Flycatcher

*Empidonax virescens*

Bald Eagle

*Haliaeetus leucocephalus*

Canvasback

*Aythya valisineria*

Redhead

*Aythya americana*

Acadian Flycatcher

*Empidonax virescens*

Barn Owl

*Tyto alba*

Blue-winged Teal

*Anas discors***Herptofauna**

Yellowbelly Turtle

*Trachemys scripta*

River Cooter

*Pseudemys concinna*

Florida Cooter

*Pseudemys floridana*

Chicken Turtle

*Deirochelys reticularia*

Spiny Softshell Turtle

*Apalone spinifera*

Pine Snake

*Pituophis melanoleucus and P. m. mugitus*

Eastern Diamondback

Rattlesnake

*Crotalus adamanteus*

Black Swamp Snake

*Seminatrix pygaea*

Striped Mud Turtle

*Kinosternon baurii*

Pickerel Frog

*Rana palustris***Moderate Priority**

Common Name

Scientific Name

**Mammals**

Eastern Woodrat

*Neotoma floridana***Birds**

American Woodcock

*Scolopax minor*

Greater Scaup

*Aythya marila*

Ringneck

*Aythya collaris*

Great Egret

*Casmerodius albus*

Great Blue Heron

*Ardea herodias*

Wood Duck

*Aix sponsa*

Louisiana Waterthrush

*Seiurus motacilla*

Mottled Duck

*Anas fulgiva*

Common Loon

*Gavia immer*

Horned Grebe

*Podiceps auritus***Herptofauna**

American Alligator

*Alligator mississippiensis*

Common Snapping Turtle

*Chelydra serpentina*

Southern Dusky Salamander

*Desmognathus auriculatus*

Spotted Turtle

*Clemmys guttata*

## **Management Goal for Fisheries**

The goal of the Little Pee Dee River Advisory Council is to maintain or improve aquatic habitat to support a healthy, balanced native fish community and to insure the fish are safe for human consumption. This should be accomplished through improved public education on stewardship of fish habitat, control of water pollution, protection of the riparian zone, and maintenance of the river's natural features.

## **Recommendations**

1. The Advisory Council recommends that SCDHEC post signs at the public access areas warning fishermen of the mercury contamination in fish. (More information about mercury contamination is provided in the Water Quality section, above and in Appendix C.)
2. The Advisory Council should work with the SCDNR and the river community to protect natural features of the river environment (the natural drainage system, oxbows, bends, bars, woody debris, instream flows) that are critical elements of fish habitat.
  - a. The free-flowing nature of the river should be maintained.
  - b. Instream flow should be kept at historic levels to maintain quality fish habitat.
  - c. Through the Scenic Rivers Stewardship Program, Non-profit conservation groups (i.e., land trusts, the Nature Conservancy), USDA-Natural Resources Conservation Service Farm Bill programs, and SCDNR, the Advisory Council should work with and educate river-bordering landowners on how to restore and protect riparian habitat.
  - d. The removal of fallen trees and other debris from the river to aid in navigation should be limited. The trees fall into the water as the river floods and banks erode. They provide excellent habitat for aquatic organisms such as fish and insects.
3. The Advisory Council should work with the SCDNR to educate and inform the public of the role that property owners and river users play in maintaining the Little Pee Dee River fisheries. Specific issues to address include the following:
  - a. Activities such as logging, farming, grazing, and/or residential use in the riparian zone that may negatively affect fisheries. Negative impacts associated with these land uses can be minimized or avoided through adhering to best management practices set forth by S.C. Forestry Commission, SCDNR, and USDA-NRCS.
  - b. To avoid the introduction of exotic species such as the flathead catfish, fisherman should not move favorite fish species from other waterbodies to the Little Pee Dee River. Exotic species frequently have negative impacts on the native species.

## **Management Goal for Wildlife and Habitat Protection**

The Advisory Council will work with the river community to maintain the biological diversity of the river corridor, inform and assist landowners on the stewardship of wildlife habitat, maintain or increase the acreage of natural habitats, restore habitats critical to rare and sensitive species, and enhance the connectivity of natural habitats.

## Recommendations

1. The Advisory Council should work with the SCDNR and other conservation organizations to conduct surveys (e.g. bird counts, macroinvertebrate surveys, botanical surveys, and/or endangered species surveys) that would assist in the evaluation of habitat. To facilitate such surveys, the Advisory Council should work with landowners to gain access to the river corridor.
2. The Advisory Council should encourage landowners to manage river-bordering land to maintain or enhance wildlife habitat and biodiversity. The single-most important land management practice for protection of river resources is establishment and/or maintenance of a riparian buffer, a strip of land along the banks of a river characterized by a growing cover of naturally occurring vegetation. Recommendations for riparian buffers include the following:
  - a. For the protection of water quality and aesthetic/scenic qualities, a riparian buffer width of 100 feet on both sides of the river is recommended. Where wildlife habitat is to be considered, a riparian buffer of 100 to 300 feet on both sides of the river is recommended.
  - b. Within each riparian buffer zone, regardless of width, the first or innermost 50 percent of width (a minimum of 50 feet) from the riverside should be left undisturbed and undeveloped. Within the outermost 50 percent of width from the river, any timber harvesting conducted should be limited to a selective-type cutting.
  - c. Any selective timber harvest in the outer portion of the buffer should leave at least 50 square feet of basal area per acre in evenly spaced overstory trees.
    - i. If, prior to harvesting, the overstory basal area within the outer 50 percent of the riparian buffer zone is less than 50 square feet per acre, it is recommended that the entire riparian buffer zone (100 percent of width) remain undisturbed and undeveloped.
    - ii. The intent is to maintain a sufficient density of trees in the buffer area to provide both overstory and understory vegetation along with minimal disturbance of the forest floor, all of which will protect and enhance water quality, wildlife habitat and scenic values of the river.
3. The Advisory Council should encourage landowners to adopt land management practices that enhance wildlife diversity in the Little Pee Dee River corridor. Examples include the following:
  - a. Conserve/maintain mixed or hardwood forest stands and other natural habitats that are native to the river corridor. Avoid the conversion of native habitats to short rotation monoculture forest stands, agricultural fields, or other intensive land uses.
  - b. Pine plantation stands and agricultural fields can be enhanced for wildlife habitat when laid-out in irregular shapes and divided and interspersed with natural habitat corridors.
  - c. Forest management practices that enhance habitat diversity include the following:
    - i. Leave some groups of mature mast-producing trees such as oak, hickory, and dogwood.
    - ii. Maintain stands of trees in a variety of size classes and ages.
    - iii. Leave snags and old trees that provide hollow dens and cavities.
    - iv. Provide wildlife travel corridors to connect tree stands that are separated by clearings.

- v. Use prescribed burning to remove thick undergrowth, promote growth of valuable wildlife food such as legumes and hardwood sprouts, and perpetuate fire-dependent species.
- vi. Manage uplands that are next to riparian (river-bordering) areas in a manner that protects the habitat values.

## **Implementation**

This Little Pee Dee River Management Plan contains management goals and recommendations that address problems and opportunities regarding the river. The creation of this plan with its many objectives is an important accomplishment because it represents a consensus among a diversity of local citizens and it reflects community values, concerns, and desires for the river.

The plan serves as a guide for conservation and enhancement of natural and recreational resources of the Little Pee Dee Scenic River. The challenge now is to put the plan into action and produce tangible results. Through implementation, the local community can take steps to maintain boat passage on the river, promote clean water, establish a river trail for improved recreational access, encourage better conservation of forested buffers along the river, and organize a program for safe and litter-free boat landing and access sites.

The Little Pee Dee Scenic River Advisory Council will advocate this plan to the broader community and take actions to implement specific recommendations. Not all the recommendations can be implemented at once. Some recommendations will require a short-term effort, while others will be ongoing and never ending, and still others will require much time and effort organizing and building partnerships and funding to be achieved. The plan is applicable to many people and organizations such as landowners, river users, community interest groups, developers, and governmental entities; and each one who finds useful ideas here is encouraged to implement the recommendations of this plan.

Local citizens and organizations are encouraged to become involved with the Advisory Council to pursue the goals of this plan. The Advisory Council will continue to meet regularly in the Dillon area and will invite interested citizens to be informed of and involved in the projects and plans of the Little Pee Dee Scenic River Project.

The Scenic River Advisory Council is an important asset to the SCDNR. They offer much more than just local knowledge of the scenic river itself; they are the core of community support and commitment to the scenic river. Building, fostering, and sustaining functional and motivated advisory councils are essential to river conservation successes statewide and to individual projects such as the Little Pee Dee.

Recommendations presented below address two aspects of moving forward: (1) plan implementation, and (2) sustaining Advisory Council effectiveness. These recommendations are not exhaustive but are intended to serve as guidelines for advocacy, governmental coordination, funding, education efforts, and working with volunteers to accomplish the objectives of the plan.

### **Recommendations for Plan Implementation**

1. The Advisory Council will pursue the goals and recommendations of the Little Pee Dee Scenic River Management Plan and will use the plan to inform and encourage other citizens,

landowners, developers, and leaders of the community to take specific actions for stewardship of the river corridor: protecting and conserving natural resources and improving recreational resources.

2. The Advisory Council will review and provide input (verbal and written comments) to address plans and permit applications for development projects that have potential impacts on the natural and cultural resources of the Little Pee Dee Scenic River corridor. The Advisory Council will seek to understand new and existing regulations, ordinances, codes, comprehensive plans, and transportation plans and seek to conform them to the goals of the Little Pee Dee Scenic River Management Plan.

3. The Advisory Council and partnering organizations will identify and access sources of funding and incentives to facilitate the goals of the Little Pee Dee Scenic River Management Plan. Funding will be needed for programs to establish a river trail, maintain a navigable river channel, and inform/educate the public about the river and its management issues. Incentives will be needed to encourage resource conservation among the river-bordering landowners. Relevant expertise will be sought and consulted to assist the council in understanding the sources of funds and grants and the processes of providing incentives.

4. Public education and information programs will be created by the Advisory Council to accomplish the following:

- a. Communicate the vision captured in the Management Plan and build partnerships among landowners, river users, and local governments to bring about the goals of conservation and compatible recreational use and development in the river corridor. Build partnerships with those who can provide assistance in conservation, recreational access development, and funding. Identify successful models that demonstrate economic value in blending conservation goals with compatible recreation and development.
- b. Engage, inform, and educate the public about the values of the Little Pee Dee Scenic River, the goals of the Management Plan, the facts leading to the creation of the plan, and the role of the Advisory Council. Build consensus and broad community support for the plan and its goals of conservation and recreational enhancement of the river corridor. Address community groups such as: governing boards and elected officials, chambers of commerce, civic associations, business and industry, tourism interests, scouts, schools, river users, churches, and neighborhood organizations.
- c. Communicate the values of the Little Pee Dee Scenic River and the goals and recommendations of the Management Plan by providing brochures, river maps, group presentations (speakers bureau), news articles, field trips and tours, lesson plans, service projects like river sweeps, and signs or markers at points of access and sites of interest/importance.

### **Recommendations for Advisory Councils: Building, Fostering, and Sustaining**

1. Make meeting a habit. People are creatures of habit; use this to your advantage. Over time, members will include the monthly Advisory Council meeting as part of their monthly routine.
  - a. Keep the time, day, and place of the meeting consistent.
  - b. Meet on a regularly monthly schedule; perhaps taking a break at holiday seasons.

2. Gain competitive advantage. Realize that your Scenic River Advisory Council meeting is in competition with other events throughout the course of a month – set the meeting time somewhere in the first week of the month. This reduces the possibility that other meetings or events will ‘come-up’ and conflict with your Advisory Council meeting.
3. Consider and respect members’ time. Advisory Council members volunteer their time to the conservation of the river and this should be respected. In this way, meetings should be held when a majority of the community can attend and the length of the meeting should be set. For example, the Advisory Council meets for one hour, if the agenda takes longer a vote is held to continue the meeting or move the business to next month’s agenda.
4. Keep the members coming back for more. Advisory Council members need to have a reason to attend next month’s meeting.
  - a. One way momentum can be maintained is by keeping the agenda to five, no more than seven, items.
  - b. River conservation is a continual commitment, so there is no need to address all aspects at each meeting – pick and choose your agenda items and leave some open-ended for the following month’s agenda.
5. Value your members – ask for help. People like being valued for their talents and capabilities. Applying Advisory Council members’ skills to river activities is a source of empowerment to the Council and an asset to the conservation effort. Members do not always see how their skills can help river conservation so it is important to ask for help in ways members can lend a hand.
6. Make it fun. Again, Advisory Council members are volunteers and it is always easier to get and keep volunteers when they are enjoying themselves.
  - a. Take the time to get to know your council members, mingle before and after the meeting.
  - b. Enhance your meetings with guest speakers, canoe trips, or cookouts.
  - c. Get out together into the community by hosting a display-exhibit about your river at area festivals and events.
7. Easy does it. Council members share an enthusiasm and a passion for the scenic river they serve. This important fuel for the activities of the Advisory Council should be focused on achievable goals set each year. Celebrating these achievements will build the Council’s identity and confidence so that it can sustain itself over the long-term.
8. Success comes in small packages. When a group is founded on a shared passion for a valuable resource, like a scenic river, enthusiasm is always initially abundant. Sustaining this enthusiasm to keep the group motivated to continue working is a more difficult task. Because river conservation is a massive undertaking, it is essential to break down goals into smaller, more digestible pieces. This will help maintain motivation.
  - a. Seek to accomplish projects or objectives in a series of steps rather than as one large goal, as accomplishing interim steps will sustain motivation over the term of the project.

- b. Whether working to an objective as a group project or an individual task, present the group project or individual task in small achievable pieces.
- c. Recognize the achievement of each piece with an encouraging email or specific agenda item at the next meeting.

## **Appendix A: Public Input Notes from the March 2006 Community Meetings**

### **The Values and Treasures of the Little Pee Dee River**

Four questions were asked during public input sessions of the March 28-30, 2006, community meetings and used to understand the importance of the river as it is now and as it could be in the future. The questions asked about a perfect day on the river, the value of the river, treasures along the river, and visions for the river. The lists compiled from the meetings are categorized below and provide fresh ideas and perspectives about the river.

#### **What is valued / treasured?**

##### **Aesthetics of river**

Enjoying scenery along river for generations to come

Aesthetics, no trash

Cleanliness of river (no litter)

Scenic Quality: pristine, cypress trees, absence of man

Enjoying scenery from a 2 person boat

Scenic quality, no intrusion from man's influence

Blackwater characteristics of river, which makes it so pretty

Enjoy walking – scenic value

Viewing river (Old PD SP)

Enjoy scenery

Enjoy the colors, leaves, everything popping out (in spring)

Peace and quiet that river provides

Relieves Stress, river is a stress relief

Solitude and quietness

Sounds of nature

Swampy smell

Cool fresh air on the river

Watching river flow at Old PD State Park

Tranquility, quietness, peacefulness

Save for generations to come

-aesthetics, purity

-keep it clean

-water quality

-fishing quality

-leave it better than we found it

##### **Natural conditions of river**

Undisturbed forested areas

Black water/swamp ecosystem

Variety of plants on river

Trees, natural quality

White sand areas are unique

Pure plant life, undisturbed plant life

##### **Tourism potential**

Eco-tourism, recreation-based tourism

Potential for city of Dillon to develop eco-tourism

Develop county eco-tourism

##### **Attraction to business, industry**

Recruitment tool to attract qualified job force

Use of river as selling point in interviews with employees, especially if individual likes to hunt and fish – has helped.

Water supply, source

Wastewater discharge

Wastewater assimilation capacity because LPD is where sewer goes (as well as a spray field)

River as an industrial resource for economic

recruitment, place for waste assimilation (intake and discharge)

##### **Land on river**

Good stewardship on river by landowners

Presence of NRCS and agricultural programs that provide incentives to care for river

Little development potential

Lack of development on river, absence of developable land – same as it was 30 years ago

Land on river

Living on river

More people are living on river than in past

##### **Recreational uses**

Swimming

Learning to swim

Fishing  
 Learning to fish  
 Fishing from the bank  
 Boating and canoeing  
 Opportunity to float down the river  
 Good fishing opportunities  
 Red-breast fishing  
 Good catch of red-breast  
 Recreation aspects unlimited  
 Recreational aspects are unbelievable  
 Camping  
 Camping or cooking out on the river  
 Riverside camping up and down river  
 Learning to swim at Harllee's bridge  
 Swimming and fishing at Mocassin's bluff  
 Going down the river in tires, innertubes  
 Enjoy kayaking, paddling up and down  
 Hunting  
 Wildlife viewing  
 Photography  
 Scuba diving and artifact hunting – artifacts found at Harllee's bridge from a scuba dive  
 Swimming, learning to swim at Harllee's bridge  
 LPD State Park

#### **Access to river**

Accessibility of river to public  
 Safety at landings  
 Not seeing trash on the bridge and at the landings  
 State Park  
 Better landings  
 -protection of tables and shelters  
 -protection of belongings  
 -litter control

#### **Navigable river**

Good flow of river to improve portage problems with logs/debris  
 People would value river more if they could use it more (by cleaning out trees)  
 Increasing river navigability will increase river's marketability as a recreation resource  
 Floating down river without having to pick up the boat because of trees and logs

#### **The water**

Clean Water  
 Water quality of tributaries to the river  
 Preserving water quality

Black water qualities  
 River and swamps provide moisture  
 Makes a good swimming pool  
 Outlets for ditches and/or wastewater – river acts as a filter system for nutrients

#### **Wildlife**

Viewing wildlife, birds  
 Red-breast fish  
 Wildlife: ducks, deer, turkey  
 Opportunities to see birds, woodies for example  
 Wildlife – deer, turkey, ducks  
 Birds  
 Reptiles/amphibians  
 Hunting deer, turkey, duck  
 Wildlife you can see – birds, snakes, squirrels, warblers  
 Awful lot of snakes, turtles, reptiles, and amphibians  
 Presence of threatened or endangered species  
 Plant diversity  
 Rare/threatened plant species  
 Cypress trees and knees  
 Star lilies are gorgeous on the river

#### **History and culture**

Rich history: commerce of floating logs and tobacco  
 Local baptisms in the river  
 Native American sites, artifacts  
 Campbell's bridge  
 Old Carmichael's bridge  
 2 Old Stage Roads  
 Yarborough Boatworks site pre-dates railroad, pre-1840 (possibly where Yarborough lake is)  
 Parrish Mill historic businesses – woods works, gins, sawmill, and gristmill – dam blew up approx. 1928 and businesses never returned  
 Old slave-dug ditches at Parrish's mill  
 Harllee's Bridge has a lot of history to it – used to be an old rope swing there  
 Harllee's Bridge – barges from Georgetown  
 Barge traffic up and down from Georgetown (transporting agricultural products at Harllee's bridge)  
 River used to float logs down to mills  
 Shingle mill site out by old No. 9  
 Indian artifacts  
 Learning to jitter-bug at the old LPD state-park pavilion; used to square dance at state park too.

## Management Plan Framework: Needs, Opportunities, and Threats

The following lists were taken from public input sessions of the March 28-30, 2006, community meetings and organized in categories about what needs to happen to protect and enhance the river, opportunities for making things happen, and threats to the river and its resources that may need to be addressed.

### What needs to happen?

#### Conserve natural river corridor

Leave it in as a good shape or better shape than we found it  
 Make it look like it did when I was a boy  
 Don't disturb banks, keep banks natural  
 Better buffer zones along river (ex: trees being cut in river, needs to be reported to SCFC)  
 Encourage BMP buffers along the river corridor, encourage forestry buffer greater than 40 feet  
 Buffer compensation: 500ft of timber bordering river is not all that valuable, could develop a compensation program to encourage wider buffers for timber buyers  
 Buffer education: There will always be trees in channel, it is part of natural process but increasing buffer widths would help keep debris out of channel.  
 Sustainable/growth management education (to prepare for future)

#### Clean water

Keep river clean – no pollution, good water quality  
 Remain in contact with Latta officials and their water treatment input into Buck Swamp because of its impact to LPD  
 Clean water  
 Septic tank placement (old septic fields)  
 Good water quality: fishable and swimmable

#### Land conservation

Establish some WMAs or other property purchased by the state to help with permanent conservation -  
 Look for land to establish WMAs or other permanent land purchases  
 Have more protected areas  
 Inform landowners about value of placing conservation easements on their land.  
 Support landowner stewardship  
 Control wild hogs

#### Support landowner stewardship

Critical that landowners be active participants in preserving habitat along river corridor to maintain

wildlife diversity, scenic qualities that people value and desire to recreate along  
 Reach landowners with information about river corridor BMPs and incentives, landowners need to be educated about these practices and their benefits  
 Encourage stewardship on river from landowners  
 Compile River Corridor BMPs and regulations in one place (ex rivers website)  
 Need to educate landowners about wider buffers and buffer requirements so can follow guidelines and report violations  
 Inform landowners about value of placing conservation easements on their land.  
 Support landowner stewardship  
 Inform landowners about economic incentives to protect water quality  
 Landowner education re opportunities available to improve and maintain quality of river:  
 identify landowners, id resources are out there, invite landowners to seminars on conservation easements and USDA Farm Bill Program  
 Use LPD mailing list to inform and educate landowners about forestry BMPs

#### Improve access facilities

Increase public access on river; currently LPD access is very limited  
 Absence in Dillon County of 'family-friendly' (cleaned, well-cared for) landing facilities on river  
 More access to river, if you want people to enjoy it, they need to get to it.  
 Improve access at LPD State Park – currently is just a dirt landing, more parking is needed and space for a trailer turn-around  
 Clean landings so those who recreate on river will be more likely to return  
 Develop river trail for LPD  
 Should limit access on river to 4 or 5 landings that are currently there – to discourage speedboaters from disturbing nature preserve  
 More access

**Safety, law enforcement at access sites**

Work with law enforcement authorities to improve landing patrols and protection  
 No more dumping at landings  
 Need law enforcement protection from vandalism (ex. of picnic tables as firewood)  
 Vandalism incidents on cars, tables, picnic sheds  
 Regular patrols of landings (need to stick with it)  
 Surveillance at landings once or twice a month to catch and fine people – word would spread quickly in county  
 More involvement of law enforcement  
 Share patrol duties between county, city, and DNR  
 There are 4 official public landings – not difficult to manage  
 Start with public landings and move towards working with landowners at private, traditional use landings  
 Use Property Watch program and/or MOU agreements to assist landowners with litter problems at traditional use landings (see county map)  
 Patrol and make cases at landings and along river  
 County ordinance to help with litter and loitering – can you have an ordinance on public land? Would this displace problems to other locations? Look for other ways to manage problems first.  
 Establish a countywide task force to tackle dumping problems  
 Put lights at landings? (need to establish a patrolling presence first to discourage vandalism)  
 Consider restricting use with controlled access at landings to help alleviate dumping and vandalism (ex.: some Santee and Lake Murray landings)  
 Options for turning in litterers (surveillance, names found in trash)  
 Get more help for DNR-LE in Dillon County  
 Consider daylight-dark operating hours (affects night fishermen)

**Litter management at access sites**

Pack-in/Pack-out anti-litter campaign  
 Work with Palmetto Pride to help with litter education of youth in county  
 Establish adopt-a-landing  
 Possibly use county work crews for litter labor  
 Work with garden clubs to adopt/clean landings and encourage plantings that will enhance wildlife habitat  
 Have civic groups, boy scouts, girl scouts also help clean landings  
 River sweep events, happened once 10-12 yrs ago  
 ‘Adopt-a-landing’ Program with garden clubs/civic groups  
 Haul it in and haul it out, have picnicker bring own bags  
 AC make request to DNR-DLEOs to assist with decreasing litter at landings

Do trashcans hurt or help litter? (currently people use for personal trash and no room is left for landing trash)

**Navigable river channel**

Removing logs from the river  
 Funding to clear channel of trees  
 Removing logs changes the river (ex. channels, fishing holes); need to maintain riverine condition  
 Removing trees from river to keep channel navigable for small boats  
 Cleaning out river and the landings  
 Clean the river has been mentioned at every single meeting  
 What about all those logs in the river? Would it help to remove some, you won’t clear it out but you could maintain a pathway through (mentioned Edisto volunteer efforts)  
 If you want to get people involved and invested, clear out river so it can be used and appreciated  
 Trees need to be cleared so you can pass down the river  
 Maintaining a cleared section from 301 to 9 would be a lovely trip  
 Question: can anyone clear river channel without permission? Right to navigate public waters allows necessary clearing of fallen trees to allow boat passage. Need to raise awareness of this to get people involved in clearing efforts.  
 Encourage community to take ownership of the navigability of the river

**Partnerships, Community Involvement**

Inform landowners on how they can help and be involved with Advisory Council  
 Need some process to educate the public about the AC – get word out of who LPD/AC is and what we are about  
 Get local people interested and invested in river  
 Communicate needs with politicians, especially on federal level. ‘Package’ these needs in a way that is attractive and receptive to legislator, speak to legislator’s interests (I-95 welcome center for ex.). Don’t underestimate the value of Congressional staffers. More money at federal level than at the state level.  
 Look at who we know, target and package ideas, then approach those who can help us  
 Have AC develop list of potential partners to help with projects  
 Establish a program to adopt stretches of river to keep clear, pick up litter (liability concerns)  
 Foster volunteering in community (Dillon County Schools community service requirements?)  
 Create some energy to inspire the younger generation to similarly revere river as older generations do

Not only should landowners get involved but also we need to have our legislators, public officials, business, and industry  
 No tax increase, use volunteers to get things done  
 Need more watchdogs  
 Need grant money to fund projects

### **Build public awareness, information**

Lots of public education and awareness – many people only see the river as something they go over on highway 9  
 Public education and awareness – schools, multi-lingual  
 Educate new county residents  
 Multi-lingual informational kiosks  
 Come up with a list of do's and don'ts for the river and post the list/sign at river landings in more than one language  
 Educate citizens to use river resource wisely  
 Smart-growth population management for public officials, business, industry

### **General comments:**

Canoe Trail maintenance on a section-by-section basis.  
 Prison crews to assist with maintenance  
 Volunteer groups to maintain river debris (trees)  
 Private landowners cooperation in keeping riverine forests intact is critical  
 Partners for Canoe Trail: Landowners, County Council (labor), wildlife organizations – Ducks Unlimited and Wild Turkey Federation (education), SC Waterfowl Assn. (wood duck boxes), SC PRT (canoe rental)  
 Generate revenue for mgmt of river by assessing a fee/tax locally/state

### **What are the opportunities?**

#### **Recreation asset for community**

River is beneficial for community because it is a positive quality of life component  
 Dillon County needs more recreation outlets  
 Educating groups inside the county to use river resources within the county  
 Use proximity of river to city to promote Dillon and enhance quality of life in community – walking trail, bridge, boat rides

#### **Nature-based tourism**

River is an attraction that could be possibly integrated into 'heritage' tourism plans in county to draw people off of I-95

River is an economic resource because provides possible sites for nature/education center and other nature-based attractions  
 Partner with chamber of commerce to promote eco-tourism: Get chamber of commerce involved in promoting river as a recreation resource to the community and its visitors – member of chamber indicated support exists  
 Bring in recreation dollars from nature-based tourism, attracting kayakers, boaters, etc. to area (gas, lodging, food)  
 Attracting canoe/kayak users  
 Eco-tourism:  
 -canoe trails  
 -wildlife viewing areas,  
 -festival  
 -hunting, fishing

### **Public awareness, education**

Signage/kiosks on landings with information about habitat, wildlife, maps of the river  
 Educating groups inside the county to use river resources within the county  
 Mobile Classrooms (Water Quality) - develop relationship with Science South to bring mobile classroom/lab to area schools/events  
 Environmental centers  
 Website for education  
 Setting up a website for the Little Pee Dee Scenic River projects and to connect with other Pee Dee Region attractions (contact Barbara Ann Hawkins with Pee Dee Educational Consortium)  
 Hold a Little Pee Dee Scenic River Festival, similar to the Lynches River Festival, could be held at Little Pee Dee State Park  
 In NC, Lumber River has a training program for teachers on river ed – could potentially partner with wildlife action to do training because they already work with teachers  
 Have state agencies help with education efforts  
 Need to educate new-comers to area about the LPD – river orientation for newcomers”  
 Water quality issues addressed through monitoring and education  
 Adopt-a-section programs

#### **New or improved access facilities**

301 Property available for access, near the high school  
 #9 Property near the river available for park (old landfill)  
 Use of property on north side of #9 Hwy right outside Dillon city limits for nature walk-like area  
 Improve access at Harlee's Bridge and #9; need better boating access

LPD State Park, improve river access: increase parking, turn-a-round, and boat put-in  
 Primitive camping needed at river accessible sites  
 Signage/kiosks at landings and other access sites with information about: habitat, wildlife, maps of river, significance of LPD and blackwater systems, pictorial snapshots of what's upstream/downstream from landing  
 Work with landowners to designate some riverside camping sites accessible from river  
 Bird watching trail  
 Potential of river as a site for a nature center, environmental education  
 Potential Science South site could be a county rec site; it is owned by county and believed to be currently up for sale (Carlton Carr was main contact in Dillon)  
 Other possible uses for Science South site as a county park, nature center, - plan/request from LPD AC may convince county to reconsider sale of land  
 Camping fees are the biggest generator of revenue for LPD SP (50 sites)  
 LPD SP has as one of its goals, doing more with river, increasing access  
 AC can support LPD SP's efforts to get better access to river  
 River-side trail – boardwalks, private landowner cooperation

### **I-95 Welcome Center river boardwalk**

Access to river from I-95 Welcome Center Develop: 1/4-mile walking trail/boardwalk to river  
 LPD is the first scenic river when you enter state from north - river as a scenic river gateway, blackwater river experience.  
 Connecting river to I-95 Welcome center is a sellable program and could open doors for other types of funding  
 I-95 Welcome Center boardwalk has appeal on a federal level for legislators.  
 Use I-95 Boardwalk project to educate about Blackwater systems  
 Boardwalk is a great idea, see Wildlife Action boardwalk at Fort Wretch

### **River Trail**

River Trail would accomplish several things, clean river, increase awareness, and highlight need for public safety  
 Canoe/River Trail: need to start at public landing and have 2 river accessible campsites. Cooperation of landowners is important, expertise in tree removal (for ease of navigation, safety of trail users).  
 Keeping the river navigable  
 Could do a section-by-section trail (easy / challenging).

Work with landowners to designate some riverside camping sites accessible from river

### **Paddling trail:**

- involve Chamber of Commerce in the process
- define start/stop points
- at least 2 river accessible campsites (LPD SP as destination)
- cooperation of landowners, state parks, county recreation department

### **Water quality**

Keep it clean  
 Concerns about runoff  
 Inform landowners about economic incentives to protect water quality  
 Industry has been very cooperative in complying with buffer BMPs  
 Water quality issues addressed through monitoring and education

### **Funding**

Look for grants to fund river projects  
 Assess a fee/tax locally to generate revenues for project  
 Sources of funding: Need for grant writing, use volunteers (not tax increase)  
 Mitigation from DOT/ACOE and I-73 construction could fund environmental education river-related projects  
 Private individuals who have contacts with funding sources

### **Potential partners, supporters**

Electric Co-ops  
 Industry  
 Chamber of Commerce  
 Land Trusts  
 County/city councils  
 Opportunity to partner with companies (ex. Perdue) on development of eco-tourism based programs  
 Marlborough Electric Co-op may be possible conduit to communicate LPD needs to legislators (Sam McInnis is contact)  
 Power companies have access to politicians  
 Land Trusts (riparian buffers, easements), Chamber of Commerce, County Councils  
 Churches as a source of community service  
 Get to garden clubs through Council of Garden Clubs (Jonnie Snyder is contact)  
 Council of Garden Clubs and LPD AC should have get together to discuss possible involvement or partnering – landing clean-ups, BSRS  
 Partner with Wildlife Action – civic groups, schools, churches, garden clubs, landowners, agencies  
 Should look to boy scouts, civic groups, churches, and schools for partnering opportunities

Partners could include, Turkey Federation, Ducks Unlimited, SC Waterfowl Assoc., SC PRT, corporations (ex. Perdue), County Council  
Need help of recreation resources (PRT, county)  
County recreation resources are oriented more toward baseball rather than river.  
Industries with interest in water source and outlet for wastewater

### **Future River**

Unspoiled  
Less litter/dumping  
Less Vandalism  
Protected Access  
Control wild hogs  
Better buffer zones and better stewardship by educating the public  
Better navigation of the river channel  
Good water quality (fishing/swimming)  
More easements

### **What are the Threats?**

#### **Litter, vandalism, misuse of landings**

Litter, trash has always been a problem on the river  
Litter and vandalism are key problems  
Landing Safety and Protection  
-Dumping  
-safety for belongings (cars and other valuables)  
Vandalism  
-Floydale landing picnic tables (concrete) destroyed  
- 41 access picnic tables used for firewood  
Beginning to see dumping increase, in particular dumping of building materials  
'Recreational' can-shooting at landings  
'Rough elements' present at landings  
Litter hazards like broken bottles, undesirables  
Every landing is a dumping site  
Vandalism

#### **Motor boats**

Motor-use on upper part of river  
Motor boating in appropriate places

If you clear out channel, the river becomes accessible to more recreation – speed boats and water skiers should be on lake, not river  
Speedboats – cut out passage big enough for canoes and kayaks but not speed boats

### **Water pollution**

All run-off pollution (non-point source)  
Monitor point-source dischargers (gave example of carpet dye factory)  
Pollution from hog farms  
Concerns about mercury pollution raised (MG explained about mercury in fish in blackwater systems)  
'Do not eat any' advisories on the LPD for bow-fin, large-mouth bass, and others  
Concerns about point source discharges and monitoring the application for permits and compliance of permit holders

### **Low flow**

Water-flow issues with private-landowner (Red Bluff) that creates irregular and unpredictable flow in the river – concerns for the streambank, concern for the fishery habitat

### **Land uses**

Timber practices – clear-cutting to river edge  
Poor stewardship on river by landowners  
As people own land on the river, they should not forget that the river is a public resource.  
Encroachment from coast – impact on land values, may increase river recreation; most available land along river is not developable, most bluffs have been developed  
Poor knowledge of how land use impacts what is valued about the river  
4-wheel use on river bottom during drought  
Uneducated/illegal timber practices  
Clear-cutting along river and narrow buffers has exacerbated log build- up in the river because no windbreak exists to block debris  
I-73 coming through

**Partial List of Participants in the Community Meetings of March 2006**

Jack McInnis	C. Ray Williamson
Tom Norton	Mike Vann
Todd Davis	Kromer Stephens
Bo McInnis	John Harlow
Glen Wagner	Coleen Harlow
Denis Grubb	Archie C. Prevatte
Neal Rogers	Stanley Black
Bill Aston	Kenneth Black
Pee Wee Webster	Thomas Vaughn
Alex Stoops, Jr.	Terry Ward
F. Carlyle Price	Sam Stokes
Andre Thompson	Elizabeth Osier
John McColl	Cindy Sanders
Sam McInnis	Richard Schafer
Jerry Arnette	Jennie Williamson
Jimmie Harris	John Justice
George Daniels	David McLaurin
Andy Bryant	Bee McQueen
Giles Page	Jonnie Snyder
Curt McSwain	Geoff Akins
Earl Dutton	Frank Stephens
Bill Rogers	Betsy Stephens
Larry Monahan	Joanne M. Adams
Charlie Vance	Coble Adams
Betsy Finklea	Joe McDonald Jr.
James Alford	L.S. McColl
James Bailey	Kenneth McLaughlin
Cullen Bryant	Ricky Harrel
Earl Dutton	Brownie Campbell
Sharon Cummings	Richard Calhoun

## **Appendix B: River Corridor Land Use Inventory**

To better understand land use patterns in the Little Pee Dee River corridor of Dillon County an inventory was conducted as part of the SCDNR's Scenic River eligibility study (SCDNR, 2005). Summary information is presented in the Land Use section of this document and details of the river-corridor land use inventory are presented below.

The land use inventories were conducted using 1999 aerial photography, topographic and county highway maps, and field trips to the river. 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 State 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

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

### **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 D: Historic and Cultural Aspects of the Little Pee Dee River, Dillon County**

The Little Pee Dee River 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 cultural sites and historic uses of the river and the progression of settlement in the area and the transportation developments associated with 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 Catawbas (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, 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.

## **Appendix E: Contacts for Technical Assistance and Additional Information**

Clemson University Extension  
Service  
261 Lehotsky Hall  
Clemson University  
Clemson, SC 29634  
864-656-2479 – Extension  
Foresters  
864-656-4861 – Extension  
Water Quality

Clemson University Extension  
Service – Dillon County  
200 South 5<sup>th</sup> Street  
PO Box 631  
Dillon, SC 29536  
843-774-8218

Dillon County Chamber of  
Commerce  
PO Box 1304  
Dillon, SC 29536  
843-774-8551

Pee Dee Land Trust  
PO Box 4  
Darlington, SC 29540  
843-661-1135

SC Department of Health and  
Environmental Control  
Bureau of Water  
2600 Bull Street  
Columbia, SC 29201  
803-898-4300

SC Department of Health and  
Environmental Control  
Florence EQC Field Office  
145 E. Cheves Street  
Florence, SC 29506  
843-661-4825

SC Department of Natural  
Resources  
Land, Water and Conservation  
Division  
1000 Assembly Street  
PO Box 167  
Columbia, SC 29202  
803-734-9100

SC Department of Natural  
Resources  
Conservation Districts – Dillon  
County  
PO Box 609  
Dillon, SC 29536  
843-774-9577

SC Department of Parks,  
Recreation, and Tourism  
1205 Pendleton St  
Columbia, SC 29201  
803-734-1700

Little Pee Dee State Park  
1298 State Park Rd  
Dillon, SC 29536  
843-774-8872

State Forester  
SC Forestry Commission  
5500 Broad River Road  
Columbia, SC 29221  
803-896-8800

SC Forestry Commission – Pee  
Dee Region  
113 Forestry Commission Drive  
Darlington Hwy (US Hwy 52N)  
Florence, SC 29501  
843-662-5571

SC Forestry Association  
4901 Broad river Road  
PO Box 21303  
Columbia, SC 29221  
803-798-4170

SC Welcome Center on I-95  
SC/NC Border  
195 MM I-95  
Hamer, SC 29547  
843-774-4711

USDA Farm Service Center –  
Dillon County  
106 West Washington Street  
Dillon, SC 29536  
843-774-5122 – NRCS Field  
Office

## 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.
- South Carolina Forestry Commission (SCFC). 1994. *South Carolina's Best Management Practices for Forestry*. Columbia, S.C.
- 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. 2005. *South Carolina Comprehensive Wildlife Conservation Strategy 2005-2010*. South Carolina Department of Natural Resources, Columbia, South Carolina.
- SCDNR. 2005. *Little Pee Dee Eligibility Study for the South Carolina Scenic Rivers Program*. Final Report, February 25, 2005. South Carolina Department of Natural Resources, Land, Water and Conservation Division, Columbia, South Carolina.
- SCDNR. 1998. *Scenic Rivers Program Recommended Best Management Practices for River-bordering Lands*. South Carolina Department of Natural Resources, Land, Water, and Conservation Division, 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
- South Carolina Task Force on Forested Riparian Buffers. 2000. *Final Report of the Statewide Task Force on Riparian Forest Buffers*. Center for Environmental Policy, Institute of Public Affairs, University of South Carolina, Columbia, South Carolina.

English, W., T. Wilson, and B. Pinkerton. *Riparian Area Management Handbook for Agricultural and Forestry Lands*. College of Agriculture, Forestry and Life Sciences, Clemson University, Clemson, South Carolina.

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. 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.