

SC Forest Legacy Program Assessment of Need

Statement of Purpose

South Carolina entered the Forest Legacy Program in 1999. Since then, the South Carolina Department of Natural Resources (SCDNR) has received almost \$32 million that worked to conserve over 71,000 acres in South Carolina (Appendix A). The Forest Legacy Program is critical to the conservation of habitats in South Carolina and to the SCDNR's ability to leverage other funds for habitat conservation. The purposes of this update are to revise the target areas for the Forest Legacy Program in South Carolina, provide updated threat information, and provide updated operating procedures.

South Carolina is approximately 20 million acres in size with 19.2 and 1.3 million acres in land area and water area, respectively. In 2008 it was estimated that 12.9 million acres of land in South Carolina were forested. With an ever increasing statewide population, South Carolina is seeing a tremendous rise in residential and commercial development, and many of South Carolina's forest lands are being converted to non-forest uses.

In March 1999 the governor of South Carolina appointed the South Carolina Department of Natural Resources (SCDNR) as the state lead agency to develop and administer a Forest Legacy Program in South Carolina. The purpose of the Forest Legacy Program (FLP) is to identify and protect environmentally important forest land from conversion to non-forest uses, through the use of conservation easements and fee purchases. Under the guidelines for the Forest Legacy Program, the SCDNR prepared an Assessment of Need (AON) to establish a state Forest Legacy Program. The SCDNR worked in consultation with the State Forest Stewardship Coordinating Committee (SFSCC) and the South Carolina Forestry Commission (SCFC) to develop the AON. Representatives from the SCDNR, SCFC, and SFSCC were asked to serve on the Forest Legacy Subcommittee. The state grant option was selected in the AON. Under the State Grant Option, all FLP acquisitions shall be transacted by the state with the title vested in the state. Landowner participation is entirely voluntary.

The Forest Legacy Subcommittee identified five Forest Legacy Areas in need of conservation and long-term forest management. At the request of the Forest Service, the Forest Legacy Areas have been reduced in size to provide stronger focus to target areas in South Carolina. Under the Forest Legacy Program, South Carolina will continue to exercise both the option to purchase conservation easements and the option for fee purchase. As these resources are protected, many traditional values and uses of the forests will continue to be available. The AON represents a commitment to the conservation of all natural resources in South Carolina.

As appropriate, periodic review and revision of this assessment will be made to meet the future needs of this program in South Carolina.

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South Carolina Forest Legacy Areas

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South Carolina Forest Stewardship Coordinating Committee

(List coming soon...currently being updated)

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FOREST LEGACY SUBCOMMITTEE

(Also in the process of being updated)

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INTRODUCTION

From the mountains to the sea, South Carolina has a wide diversity of habitats, environmentally important areas, and scenic resources. Unfortunately, increases in urban sprawl and industrialization have led to a tremendous rise in residential and commercial development. Growing population densities and increasing land development trends across the state place economic pressure on South Carolina landowners to convert their forest land to other uses. Although efforts have been made to protect lands in South Carolina, the rate of development is far exceeding the rate of protection. The Forest Legacy Program will greatly assist South Carolina in offsetting this inequity.

South Carolina has been spending a great deal of time and money to protect vital habitats. The South Carolina Forestry Commission manages approximately 84,000 acres of state forests. In addition, the South Carolina Department of Natural Resources (SCDNR) currently has 49 Wildlife Management Areas (many of these also are national forests, heritage preserves or state forests) and 70 Heritage Preserves. The total acreage owned by SCDNR is approximately 270,000 acres. As part of the Wildlife Management Area program, SCDNR leases approximately 824,000 acres of land each year for wildlife conservation and management. This may seem like an outstanding accomplishment, but when one considers the expanding population in South Carolina, it is nowhere near enough. In fact, the amount of land leased into the Wildlife Management Area program has been significantly decreasing. This number is expected continue decreasing as the state population continues to increase and as timber corporations continue to dispose of property. The state population increased by about 9.9% from 2000-2007 to just over 4.4 million people. This was well above the national average of 7.2% for the same six year period. The South has been designated as the fastest growing region in the United States. Projections for 2015 and 2025 suggest a population of approximately 4.6 and 5.0 million respectively (U.S. Census Bureau, 2005). Of the 20.5 million acres in South Carolina only 12.9 million are forested; however if left unprotected, this will decrease as well with the projected population increase.

Whether it be a house at the beach or a cabin in the mountains, South Carolina is becoming a popular retirement and vacation destination. If something is not done to conserve the state's valuable resources, South Carolina will lose the qualities that make it such a unique place. Simply put, we can never do too much to protect our natural resources for future generations. As it has been quoted so many times, "We do not inherit the earth from our ancestors; we borrow it from our children."

Due to concerns about land-use changes and conversion to non-forest uses, the United States Congress established the Forest Legacy Program (FLP) as part of the Food, Agriculture, Conservation, and Trade Act of 1990 (P. L. 101-624: 104 stat. 3359) to promote long-term integrity of forest lands. The program's purpose is to identify and protect environmentally important forest lands threatened with conversion to non-forest uses through the purchase of conservation easements and fee-simple acquisitions. Through the Federal Agricultural Improvement and Reform Act of 1996 (P. L. 104-127: stat. 888), the Secretary of Agriculture is

authorized at the request of the state to make a grant to the state to carry out the FLP in the state, including the acquisition by the state of lands and interests in lands. South Carolina will continue to exercise this option.

The Assessment of Need for South Carolina evaluates the potential need and use of this program in South Carolina; determines eligibility criteria for areas to be considered for the program within the state; identifies and describes the forest areas meeting these eligibility criteria; recommends all or parts of these areas for inclusion in the Forest Legacy Program to the Forest Service and the Secretary of Agriculture; and identifies the specific conservation goals and objectives for the Forest Legacy Program in South Carolina.

In order to protect our forests from such fragmentation, South Carolina has been divided into five Forest Legacy Areas (Map 1). These include the Foothills, Central Piedmont, Western Piedmont, Northern Coastal, and Southern Coastal Forest Legacy Areas. The original Forest Legacy Areas were based on the pre-existing Focus Area Initiatives, geology, political boundaries, and soil resource areas. The amended boundaries of these areas have been modified to remove large blocks of habitats that are protected through other programs and remove areas of the state where development pressures have either already consumed the forestland or increased the price of land to a point where it is not financially feasible to focus conservation efforts. The eligibility criteria remain basically the same as the original criteria. Minor modifications have been made for clarity.

The Forest Legacy Program will be used as a statewide approach to protect forests that are threatened with conversion to non-forest uses. Targets for protection will be focused and prioritized based on the ranking criteria. **Tracts that support ongoing conservation efforts, are adjacent to another protected tract, are along a river corridor or buffer a river system, and provide multi-faceted resource benefits will be given priority for acquisition. Special consideration will be given to properties that are designated as important by the Southern Forest Land Assessment, Focus Area Initiative or other conservation partnership, and that work to link existing conservation areas.**

Goals are outlined for each Forest Legacy Area based on the natural resources in that area.

Goals and Objectives for Foothills Forest Legacy Area:

- Encourage habitat enhancement through land purchase and sound forest management.
- Protect important historic and archeological sites.
- Maintain and enhance all significant forest types and their associated plant and animal communities.
- Increase public recreation opportunities.
- Protect scenic landscapes in the area, particularly along a designated scenic road or river.
- Protect areas designated as part of the Upper Savannah Focus Area Initiative or the Partnership for The Blue Ridge.
- Protect river systems, wetlands, and their associated upland habitats.

- Provide a connective corridor between existing conservation projects.

Goals and Objectives for the Central Piedmont Forest Legacy Area:

- Maintain and enhance the forests of the Piedmont Plateau and their associated plant and animal communities.
- Enhance the opportunities for public recreation.
- Protect the scenic landscapes within the area.
- Protect areas of historic and archaeological significance.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Catawba Focus Area Initiative.
- Provide a connective corridor between existing conservation projects.

Goals and Objectives for the Western Piedmont Forest Legacy Area:

- Maintain and enhance significant examples of all forest types in the Western Piedmont Forest Legacy Area and their associated high quality plant and animal communities.
- Protect riparian corridors and flood plains along the Savannah and Saluda rivers.
- Protect important historic and archeological sites.
- Maintain contiguous forest land by linking managed public and private lands.
- Encourage habitat enhancement through land purchase and sound forest management.
- Increase public hunting and other outdoor recreation opportunities.
- Protect the scenic landscapes within the area.
- Protect areas designated as part of the Upper Savannah and South Lowcountry Focus Area Initiatives.
- Provide a connective corridor between existing conservation projects.

Goals and Objective for Northern Coastal Forest Legacy Area:

- Strategically protect lands to provide significant greenways along the river systems.
- Protect, maintain and enhance significant forested areas.
- Increase public recreation opportunities.
- Protect important cultural and archaeological sites.
- Protect the scenic landscapes within the area.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Winyah Bay, Little Pee Dee-Lumber River, Great Pee Dee-Lynches River, Santee River, Upper Congaree-Santee-Wateree (COWASEE), Upper Waccamaw, and Santee Cooper Lakes Focus Area Initiatives.
- Provide a connective corridor between existing conservation projects.

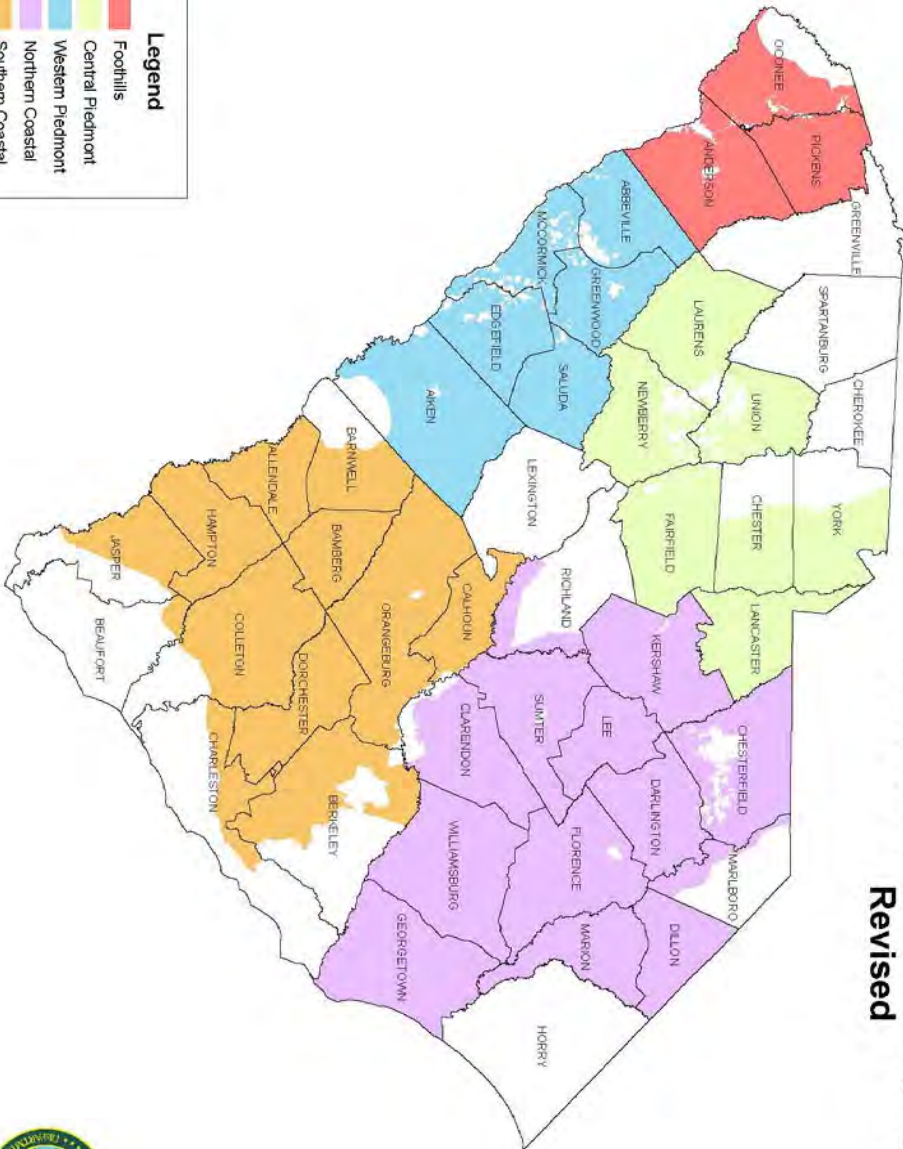
Goals and Objectives for Southern Coastal Forest Legacy Area:

- Maintain and enhance the high quality of forest resources along with the associated plant, and animal communities.
- Maintain and enhance the bottomland hardwood areas located along major river systems.
- Protect historical and cultural resources.
- Protect areas inhabited by threatened and endangered species.
- Maintain contiguous forest land by connecting to managed public and private lands.
- Preserve the rural landscape and associated by-products that provide jobs.
- Provide opportunities for the public to have a place to enjoy various types of outdoor recreation.
- Provide opportunities for environmental education and research.
- Protect the scenic landscapes.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Santee River, CAWS Basin, ACE Basin, South Lowcountry, and Santee Cooper Lakes Focus Area Initiatives.
- Provide a connective corridor between existing conservation projects.

Map 1.

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South Carolina Forest Legacy Areas Revised



I. South Carolina Forest Resources

A. Land Base and Forest Ownership

South Carolina is approximately 20.5 million acres in size with 19.2 and 1.3 million acres in land area and water area, respectively. As of 2008, it was estimated that forested lands totaled 12.9 million acres. This is slightly higher than previous estimates as the most recent FIA survey reported a slight increase in forestland extent, especially in the Pee Dee region of the state. Changes in inventory procedures and the increased use of technology likely account for some of the increase in acreage estimates. This change in forestland acreage prompted the South Carolina Forestry Commission to do a special five-county study in the Pee Dee to validate the FIA data. While this special study does not explain the reason for the increase in forestland area, the results do support the FIA area estimates derived from the current sampling procedures. (SCFC, 2008).

Forest industry has traditionally owned large blocks of forest land in South Carolina; however these corporations have recently begun divesting of some or all of their land holdings. International Paper made such a decision in 2005 and other large companies such as MeadWestvaco and in the process of identifying tracts for divestiture and development. In 2006, forest industries owned 1.4 million acres, which is down 29% and continuously decreasing. Due to limited financial resources, conservation groups are only acquiring a very small percentage of these lands. Some of the tracts are immediately being developed while others are being held by timber investment groups for undetermined periods of time.

Approximately 88% of SC's forests are privately owned. Nonindustrial private forest landowners control 74% of South Carolina's forests, and other significant forest land owners include the commercial forest landowners. Approximately 67% of private forest lands are family owned and the average "family forest" is 65 acres. Of these owners, 74% actually live on the land.

National Forests and other public ownerships represent the remaining 12% (SCFC, 2008). From these statistics, it is evident that the future of forest resources largely depends on the stewardship of the private citizens.

B. Population

Between July 2006 and July 2007, South Carolina ranked 10th in the nation and 5th in the region for highest percent population change (SC Office of Research and Statistics 2007 State Population Estimates). To consider a longer period of time, from 1990 to 2005, the state's population increased 21.8% whereas the overall population of the United States increased 15.9% (Ulbrich and London, 2008). The July 2007 population estimated was just over 4.4 million people which yielded a 1.8% increase within one year whereas the national average was 1.0% and a 9.9% increase since 2000 whereas the national average was 7.2%. To compound the severity of this growth, South Carolina ranks 40th in size but 24th in overall population. (U.S.

Census Bureau, 2007). AARP lists SC as second fastest growing in the South in terms of in-migrant retirees and in the top seven retirement locations in the nation. The South Carolina Department of Commerce projects that South Carolina's population will jump by over one million new residents within the next fifteen years with many believing this to be a conservative estimate based upon the expected jump in retiree rates when the baby boomers begin leaving the workforce. In fact, approximately 36% of South Carolina's population growth is a result of immigration. To compound this issue, studies by the Strom Thurmond Institute have shown that land is converted at a rate six times faster than the rate of population growth. With a growing statewide economy, rural forested areas continue to be converted to non-forested, urbanized landscape. Existing large tracts of forested lands are disappearing as the increasing population pushes development farther from cities, thus resulting in additional habitat fragmentation.

C. Forest Type and Distribution

South Carolina is fortunate to have a wide diversity of forest types. Physiographic regions range from the mountains to the ocean and include the Blue Ridge, Piedmont, Upper-, Middle-, and Lower Coastal Plains. A report prepared by John B. Nelson entitled "The Natural Communities of South Carolina - Initial Classification and Description" details sixty-seven different natural communities within the state. This report describes each community and provides their geographic locations, lists any potential elements of concern (threatened or endangered flora or fauna, noteworthy geologic structures, etc.), ecological dynamics, vegetative associations, brief comments, and references. Several of the major forest communities presented in the publication include: oak-hickory, pine-flatwoods, pine savannah, pocosin, cypress, and bottomland hardwood. Several unique communities harbor threatened or endangered flora and fauna, or have significant geological features.

Forest acreage declines in the mountain and coastal forest types are a direct result from construction of residential and vacation homes, golf courses, and the development of resorts. Because of a high demand for scenic vistas, both mountain and coastal properties are being converted to non-forested areas faster than other areas. Lands within the Piedmont and Upper Coastal Plain also are being converted to commercial and industrial uses as well as residential areas. Many quality forested areas have been purchased as investment properties by land speculators for future conversion.

D. Forest Product Composition

Timberlands within South Carolina are generally classified into three broad categories: hardwoods, softwoods, and oak-pine. In 1970, softwoods, oak-pine, and hardwoods tallied 5.5, 1.8, and 5.1 million acres, respectively. In 1993, hardwood acreages had declined to fewer than 5.0 million acres while oak-pine stands accounted for over 1.9 million acres, and softwoods dominated with about 5.6 million acres. The increase in softwood acreages since 1986 can be linked to the aggressive planting of plantation pines (33% increase) utilizing programs such as

the Federal Conservation Reserve Program of the 1980's. A major portion of those planted acres are a direct result of attempts to restock areas heavily damaged in 1989 by Hurricane Hugo. Forest estimates for 2003 suggest that the majority of forest land in South Carolina is loblolly-shortleaf pine (40%) followed by oak hickory (20%), oak-gum-cypress (19%), oak-pine (15%), longleaf-slash pine (5%), and other (1%) (USFS, 2003). Many experts are concerned, however, that this acreage will dramatically decrease as focus turns to ethanol production and potential incentives to produce agricultural products such as corn.

E. Forest Wildlife

A wide diversity of habitats allows for numerous wildlife species to be found within the state. Whether it is one of the 150 species of birds that nest here or one of the many mammals that roam the countryside, South Carolina is fortunate to house many types of wildlife. In addition to huntable populations of Eastern wild turkeys, white-tailed deer, wood ducks, small game, and furbearers, the state has many non-game species as well as 23 animal species that are currently listed as federally endangered or threatened. Many wildlife species throughout the state depend on having different types and age classes of timber in which to live and feed. As certain types of habitats are decreased or lost, so are the wildlife species associated with them.

Isolated black bear populations exist in the Northern and Southern Coastal Forest Legacy Areas; however, the largest population occurs in the Foothills Forest Legacy Area (FFLA). From an estimated population of 1,000 black bears in this area, a total of fifty-eight bears were legally harvested in 2007. Because black bears are known to have a large home range and may travel several miles daily, it is imperative that large contiguous blocks of undeveloped forest habitat be maintained. Hardwood mast production is extremely important to black bears. In years of poor mast production, the movement patterns of these animals may significantly increase as they expand their range in search of alternate food sources. Forest habitats in early successional stages are particularly important during years of poor mast crops. Increased development, forest fragmentation, and increasing human populations have resulted in additional human-bear conflicts, and biologists expect these problems to increase further as available habitat continues to decrease.

White-tailed deer are abundant across most of the state with lower population densities within the Foothills Forest Legacy Area (FFLA) and the northern portion of the Northern Coastal Forest Legacy Area (NCFLA). Current populations are largely the result of past restoration efforts. White-tailed deer were trapped in the Southern Coastal Forest Legacy Area (SCFLA) and relocated in the Piedmont Legacy Areas, the FFLA, and the NCFLA from the 1950's to the 1980's. Combined with restrictive bag limits and diligent law enforcement, South Carolina has one of the longest hunting seasons and largest harvests per unit area in the United States. White-tailed deer can be found utilizing many different habitats, including forest regeneration areas, early age timber stands, and older aged hardwood stands. The estimated deer population in 1960 was between 60,000 and 80,000 animals. Today, South Carolina has an estimated deer population of 725,000 animals. The statewide deer harvest in 1972 was approximately 20,000

animals; however, the number harvested in 2007 was approximately 215,000 animals. Similar to the situation described with black bear, increased human encroachment and habitat fragmentation unfortunately will result in deer-human conflicts.

Another success story in South Carolina is the restoration of the Eastern wild turkey. Populations of the birds dwindled by the turn of the last century with only small numbers of birds being present in the Coastal Forest Legacy Areas. During the 1950's turkeys were trapped from the Francis Marion National Forest and released in the Piedmont and Foothills Forest Legacy Areas. These birds did well and served as stock for restoration efforts in Coastal Forest Legacy Areas that began in the mid-1970's. With an estimated 19,289 birds harvested in 2007, huntable populations were found in every Forest Legacy Area of the state. The estimated population to date is approximately 90,000 birds. In fact, every county in South Carolina now has a spring turkey hunting season. The restocking efforts and resulting population growth has been so successful that South Carolina has assisted several other states in reestablishing huntable populations by providing them with over 1,700 birds for restocking. Forested habitats are utilized extensively by the wild turkey with clearcuts, thinned areas, and young pine stands providing brood rearing habitat, nesting cover, and escape cover. Older stands of hardwood and mixed pine-hardwood and their mast production are important to the wild turkey. River drainages and their associated hardwood components are extremely important as travel corridors, allowing for movement of turkeys from one habitat type to another.

Northern bobwhite, American woodcock, ruffed grouse, swamp rabbit, marsh rabbit, cottontail rabbit, and gray squirrel are also important wildlife species in South Carolina. Most of these species are associated with several seral stages of forest habitat. Implemented properly within a good forest management plan, clearcuts, thinned stands, young stands, and mature forests each can provide life requisites of small game species. Regionally, bobwhite quail populations are low across the Southeast, due to change in land use that have decreased or eliminated suitable habitat. Ruffed grouse distribution is limited geographically to the Blue Ridge Escarpment in the northwest corner of the state. Northern bobwhite, American woodcock, ruffed grouse, and swamp rabbit are listed as priority species under South Carolina's Comprehensive Wildlife Conservation Plan.

South Carolina has 23 animal species and 19 plant species that are federally threatened or endangered (Appendix D). Threatened and endangered species such as the flatwoods salamander, bog turtle, bald eagle, and red-cockaded woodpecker can be found in South Carolina. These species are closely associated with specific ecological communities and have attained their listing mostly because of the conversion of their habitats to other uses.

The red-cockaded woodpecker (RCW) is one of the most recognized endangered species associated with forested areas. Colonies of these birds are found almost exclusively in the old growth pine forests of the southeastern United States. In South Carolina, the RCW is located primarily within the Coastal Forest Legacy Areas. The RCW requires mature pine forests over 60 years old, which are fairly open and have little hardwood understory, and is the only woodpecker that excavates a cavity in a living tree. It is estimated that there are approximately 1,000 groups (a group is defined as a breeding male and female, sometimes including one or

more helper birds that assist the breeding pair) in South Carolina. Forty percent of these groups are located on privately owned lands. Although RCW groups on private lands in South Carolina have been stabilized to some extent through the use of Safe Harbor agreements, which encourage landowners to maintain and enhance RCW habitat, many groups are still threatened by habitat alteration and forest fragmentation. Throughout South Carolina, RCW groups are threatened by urban sprawl, which greatly limits or negates the ability of forest managers to conduct proper management practices, such as prescribed burning. The trend towards cutting timber at a shorter rotation has also greatly diminished the suitable habitat necessary for the red-cockaded woodpecker.

The bald eagle is the largest bird of prey found in South Carolina. With the Endangered Species Act, the eagle has rebounded from all time lows that occurred in the 1960's and 1970's. In 1977, only 13 breeding pairs existed in the state; however, 222 active breeding pairs were documented in 2007. Only nine young were fledged in 1977 as compared to 315 being fledged in 2007. The majority of the active nests are found within the Northern and Southern Coastal Forest Legacy Areas. Eagle nests are usually found near water, such as along major river drainages throughout the coastal areas. Most eagle nests are constructed in large pine trees. These larger sized pine trees can be hard to find in habitats that are conducive to eagle nesting. The bald eagle was taken off the Endangered Species list in 2007 and is now protected by the Bald and Golden Eagle Act of 1940

The fox squirrel is another important wildlife species in South Carolina. A survey conducted in 2006 revealed 418 individual fox squirrel sightings in twenty-one different counties across the state. Habitat types in which the sightings occurred were: pine/hardwood >50 years old (19 %), mixed pine hardwood 30-50 years old (18%) pine sawtimber (17 %), agricultural or other open field (15%), pulpwood sized pine plantation (11%), pine/hardwood <30 years old (10 %), young pine plantation <15 year old (5%) and other sites (5 %). As the data indicates, fox squirrels primarily use older growth type timber stands. Part of the decline in fox squirrel numbers throughout the Southeast can be attributed to urban sprawl, agribusiness, and the current trends in the forest industry that favor young, short rotation age pine stands.

The Forest Legacy Program provides an excellent opportunity for South Carolina to acquire and properly manage needed habitats for the continued survival of all wildlife, both hunted and protected. South Carolina has leveraged the Forest Legacy Program with state and other federal funding sources to target large-scale conservation projects that meet a diverse range of wildlife conservation objectives. Acquisition and management by the state is one of the only ways that many critical habitats will be protected from development and enjoyed by future generations.

F. Recreation

South Carolinians are very fortunate to have tremendous outdoor recreational opportunities. Currently, there are 4 state forests, 7 national wildlife refuges, 2 national forests, 70 heritage preserves, 46 state parks, 49 wildlife management areas (many of these also are national forests, heritage preserves or state forests), and 1 national park that offer some form of public outdoor

recreation. In addition to these public outdoor recreational opportunities, many people also enjoy outdoor activities on private forests. Hunting is one of the most common forms of outdoor recreation on private lands.

South Carolina's forests and wild lands offer some of the best hunting in the Southeast both in terms of game populations and opportunities. Recent studies have shown that 203,000 sportsmen are taking advantage of those opportunities by spending \$308,731,000 annually. Wildlife watching also is a significant form of outdoor recreation with 1,133,000 participants spending \$482,659,000 annually. A recent survey by the US Fish and Wildlife Service further revealed that the total wildlife associated recreation contribution to the state's economy by residents and nonresidents was \$2.5 billion. In the same respect, fishing also significantly influences the state's economy. On an annual basis, fishing normally accounts for around 789,000 participants spending approximately \$1,323,990,000 (U.S. Fish and Wildlife Service, 2007).

South Carolina's forests also offer excellent back country camping and trail use opportunities. There are thousands of miles of hiking, biking, canoe, and equestrian trails that traverse mountains, rivers, swamps, Carolina bays, state parks, national wildlife refuges, national and state forests, coastal preserves, and other unique and interesting landscapes. One of South Carolina's most visited hiking trails is the Foothills Trail in Greenville, Pickens, and Oconee Counties. This trail offers more than 100 miles of backcountry beauty from Jones Gap State Park to Oconee State Park. The growing popularity of forest based recreation is evidenced by the growing list of guides, books, and maps covering a cross-section of outdoor activities. Approximately 30 million people visit South Carolina annually including over 700,000 Canadians and about 150,000 overseas visitors. These visitors spent an estimated \$9.1 billion while traveling in the state in 2006 which results in a 6.9% increase over 2005. Tourism directly generates 6.3% of the state's employment base or 119,800 jobs. If you include indirect and related impacts generated by tourism spending, tourism is the catalyst for 198,900 jobs. Twelve of SC's forty-six counties received over \$100 million in domestic travel expenditures in 2006, and thirteen counties indicated 1,000 or more jobs directly supported by domestic travelers during 2006. South Carolina ranks 23rd among the 50 states for travel expenditures by domestic visitors which is significant when one considers the lower cost-of-living in South Carolina (Travel Industry Association, 2007).

G. Aesthetic and Scenic Resources

Traditionally, our ancestors viewed forests as a source of wood products and food. As society has changed and become more affluent, the values placed on forests expanded to include wildlife, clean water, and beautiful vistas. A recent survey, that included respondents from South Carolina, examined attitudes toward certain aspects of forest management. The results indicated that landowners chose scenic enjoyment as the second most important benefit, following wildlife appreciation, derived from their forest land (Yarrow et. al. 1996)

Outstanding examples of the natural beauty of the Southern Appalachians are ubiquitous in the mountains of Pickens, Oconee, and Greenville Counties. In this area, natural beauty lies in the vistas at Jumping-Off Rock and Pretty Place over looking large unbroken expanses of oak-hickory forests, gorges with swift moving streams and rivers, spectacular waterfalls such as Lower White Water Falls, Laurel Fork Falls, and Raven Cliff Falls and incredible granite outcrops at Table Rock Mountain, Caesar's Head and Glassy Mountain. In the fall, tourists flock to South Carolina's mountains to view fall colors. Similarly, spring brings beauty in the form of blooming wild flowers. Many of these sites can easily be accessed from the South Carolina Scenic Byway (SC Hwy 107) and the Cherokee Foothills Scenic Highway (SC Hwy 11).

The 115 mile Foothills Scenic Highway runs from near the Georgia border east to Gaffney in Cherokee County. Some of the more scenic locations along the route include spectacular views of Table Rock Mountain and Caesar's Head Mountain. Scenic locations such as Lake Jocassee and several state parks are only a short side trip from the Foothills Highway. This is a great I-85 alternative for tourists traveling through South Carolina. Because of its aesthetically pleasing views, this area is also seeing a tremendous rise in commercial and residential development.

One of the more prominent natural attractions to this area is the Chattooga National Wild and Scenic River located in the Andrew Pickens District of the Sumter National Forest. This river offers some of the most challenging white water paddling in the Eastern United States. Additionally, the Chattooga's beauty attracts thousands of eco-tourists and trout anglers. Gently rolling terrain with pine and mixed pine-hardwood forests are characteristics of South Carolina's Piedmont Plateau. Within this area there are several significant scenic areas including the Long Cane, Tyger, and Enoree Ranger Districts of the Sumter National Forest. These Districts contain some outstanding examples of mature mixed pine-hardwood communities that many consider the most aesthetically pleasing Piedmont landscape. The Broad, Middle Saluda, and Lower Saluda Rivers all flow through this part of South Carolina. While these are not the only Piedmont rivers that offer scenic beauty, they all have been deemed worthy of Scenic River status bestowed by the South Carolina Legislature.

The natural beauty of South Carolina's Coastal Plain is most often associated with tidal marshes, maritime forests, undeveloped beaches, and relatively undisturbed black and red river swamps and associated forests. One of the finest examples of a near-virgin southern hardwood forest is the Congaree Swamp National Park situated in the Congaree River floodplain. This 22,000 acre tract is truly a national treasure and one of the most beautiful natural areas in South Carolina and is currently South Carolina's only National Park. The park preserves the largest expanse of old-growth, flood plain forest in America and has been designated as a South Atlantic Coast Biosphere Reserve. A walk through this area is to go back in time and visit a pre-colonial pristine, southern bottomland hardwood forest.

Many of the slow moving rivers flowing through the Upper Coastal Plain dissect some healthy forests. All Coastal Plain rivers have segments that are aesthetically pleasing. However, some of the best examples of unspoiled river corridors are found on Lynches River and Little Pee Dee River. Portions of these rivers are so outstanding that they have been designated by the state as

Scenic Rivers.

South Carolina's ACE Basin contains exemplary examples of Lower Coastal Plain beauty. Strong, black, and clean, the Ashepoo, Combahee, and South Edisto Rivers flow from their inland origins into South Carolina's resource-rich St. Helena estuary. Together these rivers combine to drain a large portion of South Carolina's Lowcountry and support a diversity of life unmatched in North America. Included in this area is over 300,000 acres of coastal plain communities, typically associated with barrier islands, marsh islands, and estuarine rivers. The beauty of the area is the physical landscape, flora and fauna associated with salt marshes, brackish marshes, tidal flats, maritime forests, bird keys and banks, and mixed pine-hardwoods.

South Carolina is fortunate to have approximately 200 miles of coastline. Since the turn of the century, most beaches have been developed as resorts; however, there are still unspoiled beaches associated with undeveloped barrier islands. These beaches and associated habitats are very different from beaches that most people visit. The ecological value of these undeveloped beaches is the undamaged dune structure and the considerably richer and more diverse flora and fauna. Most people that have had the privilege of visiting South Island, North Island, or another of South Carolina's few undeveloped beaches would probably agree that the real aesthetic value lies in the simple things such as finding a piece of driftwood or a sunrise without a hotel in sight.

South Carolina has some of the most diverse and aesthetically pleasing landscapes in the United States. South Carolinians and visitors greatly value and appreciate the state's natural beauty and quality of life. Ongoing vigilance and hard work by natural resource managers and strong support from the public will ensure that South Carolina will continue to rank high on the list of states with outstanding scenic resources.

H. Economics

Timber is South Carolina's most valuable crop with landowner receipts totaling over \$514 million per year. Numerous individuals and communities throughout the entire state rely on the forest to provide jobs as well as a quality of life. The forest industry ranked 1st in employment among all manufacturing industries in South Carolina and employed approximately 44,708 people with a payroll of \$2.4 billion. South Carolina exports about \$1 billion in forest products annually, and forest industry has an economic impact of over \$17.45 billion annually to the state's economy. This makes it rank second in value added goods among the state's manufacturing sectors. These forests also provide more than just wood and fiber to the economy. By products such as the collection and sale of pine straw can mean jobs for individuals located in these rural settings. Timber is the state's top agricultural commodity and produces approximately \$870 million annually (SCFC, 2008).

In addition, approximately 39% of South Carolinians participate in wildlife-related recreation. Whether it is hunting, hiking, or bird watching on these forests, equipment and supplies used in these activities bring in dollars to the local economy that might not otherwise be available. In

2006, hunting expenditures brought in \$308 million dollars and wildlife watching activities brought in another \$482 million to the local economy throughout the state (U.S. Fish and Wildlife Service, 2007). These activities would not be able to take place if there were a lack of forested areas throughout South Carolina.

Maintaining sustainable forestry is vital to the economy, and it is the livelihood and way of life for many citizens throughout the state. Even though public owned forests account for only 10% of the total forested areas within the state, these areas are important for public recreation, wildlife habitat, revenue, and numerous other activities, especially as the population of South Carolina becomes more urban.

South Carolina's renewable timber resource has served as a basis for a strong rural economy and generated considerable wealth for South Carolina through direct and indirect expenditures. Forests should continue to be the foundation of one of the most important manufacturing sectors in the state, subsequently providing forest products for the regional, national, and global marketplace.

I. Urban Influences

South Carolina is one of the fastest growing states in the United States and the Southeast. A 2007 population update indicates that South Carolina ranks 10th in growth nationally and 5th regionally (U.S. Census Bureau, 2007). Much of this development and growth results in a loss of productive forest lands. From 1992 to 1997, South Carolina ranked 9th among 50 states in the rate of conversion of agricultural and forest lands (Ulbrich and London, 2008).

Productive forests not only are economically important but also have critical environmental values. A study by Clemson University's Department of Planning and Landscape Architecture examined the changes during a 10-year period (1988-1998) within a 600,000 acre watershed in upstate South Carolina. The study found that impervious surfaces such as pavement increased by 11,000 acres during the study period. This additional hardscape resulted in a 9% increase of surface runoff. Surface runoff is a major contributor to non-point source pollution and results in substantial infrastructure mitigation costs.

Research has shown that significant forest lands in close proximity to large cities can have a positive impact on air quality and energy usage. In fact, studies have shown that commercial, industrial, farm, and forest property consistently generate far more revenue than costs (Ulbrich and London, 2008) A California study found that urban forests in the Sacramento area annually removed 300,000 tons of carbon dioxide (McPhearson, 1998). This reduction in atmospheric pollution represents an implied value of \$3.3 million. In addition, many newcomers to each region in SC desire to have parks and recreation areas where they can walk, hunt, and enjoy the outdoors.

Much of the growth in South Carolina is classified as a sprawl pattern (the remote, unplanned,

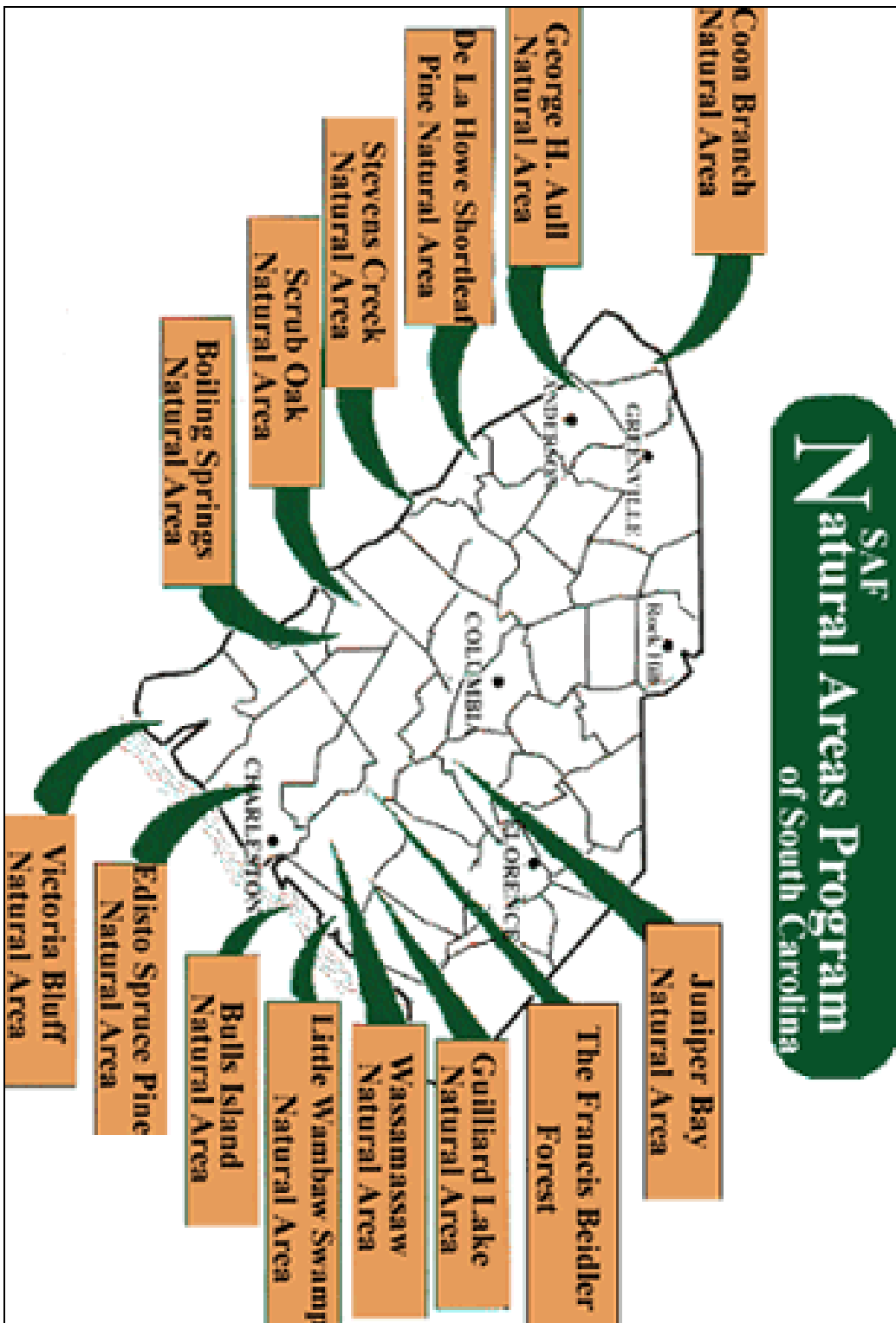
and uncoordinated residential development on large lots of land). This has an even more dramatic impact when one considers that the number of housing units in SC increased 35.4% from 1990 to 2005. This is well above the national average of 21.8% for the same time period. Considering that the SC population for that period increased 21.8%, much of the increase in housing is attributed to smaller households and second homes (Ulbrich and London, 2008). At the current growth rate, problems associated with urbanization will increase. This heightens the need for forest lands in close proximity to metropolitan areas especially as many of the faster-growing areas are already experiencing problems with ambient air quality due to traffic flow on roads. While the Forest Legacy Program in South Carolina will attempt to focus on tracts near expanding urban areas, it is important to note that all areas in the state are within 50 miles of an urban area, and if they are not already converted, they are threatened by conversion in the near future.

J. Unique Natural Areas

The importance of natural areas was recognized by scientists in the early twentieth century. Soon after this realization, interest in the preservation of forested natural areas began when U.S. Forest Service suggested natural area status for a number of areas within National Forest Service Lands. The first “Natural Area” was formally designated in 1927. Today the Society of American Foresters (SAF), through a Committee on Natural Areas, continues to provide leadership in establishing and maintaining natural areas. The goal of this program is to provide representative samples of undisturbed major forest types. In South Carolina the SAF has identified and designated 15 areas across South Carolina as Natural Areas (Map 2: Note that Congaree Swamp Natural Area is not depicted on map).

Map 2.

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In addition to the SAF, the South Carolina Department of Natural Resources has a well

developed land acquisition plan through the Heritage Trust Program. This program was created in 1976 to preserve natural and cultural remains that were quickly disappearing. The goal of natural feature preservation is to inventory and protect the elements considered the most outstanding representatives of our state's unique and natural areas. To date, the Heritage Trust Program has acquired over 70 properties that have unique elements. Many of these properties are purchased to protect rare, threatened or endangered plants and animals or to protect critical habitats. Through this program, examples of South Carolina's most unique natural areas have been protected. Some of the most notable Heritage Preserves include Laurel Fork, Lewis Ocean Bay, Lynchburg Savanna, Longleaf Pine, Bunched Arrowhead and Rock Hill Blackjack. The 1,000-acre Laurel Fork Heritage Preserve in Pickens County is part of a larger acreage that holds the largest number of natural elements in the state. In addition to rare elements, this site contains trout streams, river gorges, and scenic waterfalls. The Lewis Ocean Bay Heritage Preserve in Horry County contains a group of 20 undisturbed Carolina bays that are the epicenter of South Carolina's Coastal Plain black bear population. Additionally, this 9,647-acre site includes a pond pine pocosin plant community, habitats for the endangered red-cockaded woodpecker, the threatened Venus' flytrap, and a rare Savannah milkweed. The 291-acre Lynchburg Savanna in Lee County is classified as a wet, longleaf pine savannah habitat. Containing at least 10 carnivorous plant species, this habitat type is considered the most biologically diverse and imperiled ecosystem in North America. Also in Lee County is the 843-acre Longleaf Pine Heritage Preserve. This longleaf pine forest supports habitat for the federally endangered red-cockaded woodpecker and Canby's dropwort. The 176-acre Bunched Arrowhead Heritage Preserve in Greenville County is particularly unique in that it harbors one of the largest populations of bunched arrowhead (*Sagittaria fasciculata*). And finally, the 289-acre Rock Hill Blackjacks in York County may be the last remnant of a once flourishing prairie system in South Carolina. This site also happens to be the only location where the federally endangered Schweinitz's sunflower enjoys permanent protection.

In addition to Heritage Preserves, the SCDNR also manages 49 Wildlife Management Areas. In total, SCDNR owns approximately 270,000 acres and leases an additional 824,000 acres through the Wildlife Management Area program. A tremendous amount of unique, natural habitat can be found in these Wildlife Management Areas. South Carolina is very fortunate to have a mechanism to preserve unique and natural areas; however, there are still many additional natural areas and rare elements in need of protection.

K. Fisheries, Rivers and Streams

Forests are an important component of the aquatic systems in South Carolina. Failure to protect these areas has implications far greater than the immediate site. The Land and Water Resources Division of the South Carolina Department of Natural Resources estimates that there are over 11,100 miles of rivers and streams within the state. Of this total, 3,538 river miles are important to inland fisheries. These aquatic ecosystems provide feeding, spawning, and nursery grounds for a variety of resident and migratory fish. There are approximately 150 species of fish in the fresh waters of the state. These inland fisheries are made up of game fish, rare and endangered

species, nongame fish, and fish of high commercial value. Species such as trout are found only in cold water systems, while other species such as the bluespotted sunfish live in the blackwaters of Coastal Plain streams (Beasley et. al., 1988).

Rivers and streams in South Carolina often are characterized by the location of their watersheds. Blackwater streams primarily drain lands from the Coastal Plain. Typically, these systems drain poorly buffered soils and are acidic due to the decomposition of leaf litter. Tannins resulting from decomposition give these streams a stained appearance. Blackwater streams typically have extended stretches through alluvial swamps where the main channel is obscured after braiding out into multiple smaller channels. Streams and rivers originating above the fall line are sometimes referred to as Piedmont streams, red rivers, or brown rivers. These rivers typically discharge larger watersheds than coastal streams and attain a higher stream order. Piedmont rivers often carry high sediment loads resulting in a red or brownish color.

Riparian zones are an important component of all streams and rivers in South Carolina. Riparian ecosystems are areas of vegetation adjacent to or within streams and rivers extending onto the floodplain. A dominant type of riparian ecosystem in South Carolina aside from alluvial swamps is the bottomland hardwood forest. Flora associated with this ecosystem are adapted to seasonal inundation for at least part of the year. There are many benefits of riparian ecosystems to adjacent rivers and streams. Alterations in the riparian zone can have negative effects on the aquatic community.

Primary production in streams comes largely from allochthonous sources rather than photosynthetic production of phytoplankton within the water column. Riparian vegetation provides leaf litter and detritus to streams that serve as a food source for aquatic invertebrates and ultimately provides food for fish communities. Also, large woody debris in streams serves as a substrate for aquatic invertebrates and provides cover for fishes. Additionally, the large woody debris can provide spawning habitat for certain fish species. Davis (1972) and Bass and Hitt (1974) observed redbreast sunfish (an important game fish in South Carolina coastal streams) preferred to nest adjacent to snags and woody debris in North Carolina and Florida, respectively.

In addition to reproductive habitat, riparian ecosystems also provide shading to the underlying stream systems. Clearing trees along a stream bank will result in increased water temperatures during summer months (Cobb and Kaufman, 1993) which affects spawning habitat for indigenous fishes. Also, the removal of the canopy along a stream can cause a shift in primary production from aquatic invertebrate communities to autochthonous production of single celled phytoplankton and consequently can be detrimental to fish species that rely on riparian habitats for food and reproduction.

Riparian ecosystems control erosion and sedimentation in streams and rivers. Vegetation along stream banks can stabilize the channel with root mass and the deposition of large woody debris. Riparian vegetation stabilizes floodplain soils and slows overbank flooding, allowing deposition of alluvium onto the floodplain rather than in the stream channel. Excess sedimentation in

streams can affect fish spawning by covering nest sites and feeding behavior by changing visibility within the water column.

South Carolina's rivers and streams are some of the state's most important natural resources. One of the best ways to protect them, however, is through proper forest management. Not only are our rivers ecologically critical, but they have tremendous economic significance. The management of our river resource is so complex that it is beyond the capabilities of any single organization or program. Continued sound management of this resource will require cooperative partnerships and shared responsibility between public and private interests (Beasley et. al. 1988).

II. Related Resources

A. Geology, Topography, and Other Geologic Features

There are three distinct physiographic and tectonic provinces in South Carolina: the Blue Ridge Mountains, Piedmont, and Coastal Plain (Map 3). These three provinces are unified by a combination of rock type, structural history, and other geologic criteria. These geologic criteria are the non-biological building blocks for entire ecosystems.

The portion of the Blue Ridge Mountains in South Carolina is 90 miles long, 25-30 miles wide, and located in the northwest corner of the state. This area is a series of deep valleys and river gorges flanked by steep northeast trending mountain ridges. The Blue Ridge Mountains contain the oldest (1.2 billion years old) rocks in South Carolina. The Brevard fault zone is a northeast thrust/fault structure (Chattooga Ridge) that separates the Blue Ridge province from the Piedmont province and can be traced along the eastern edge of the Appalachian Mountains.

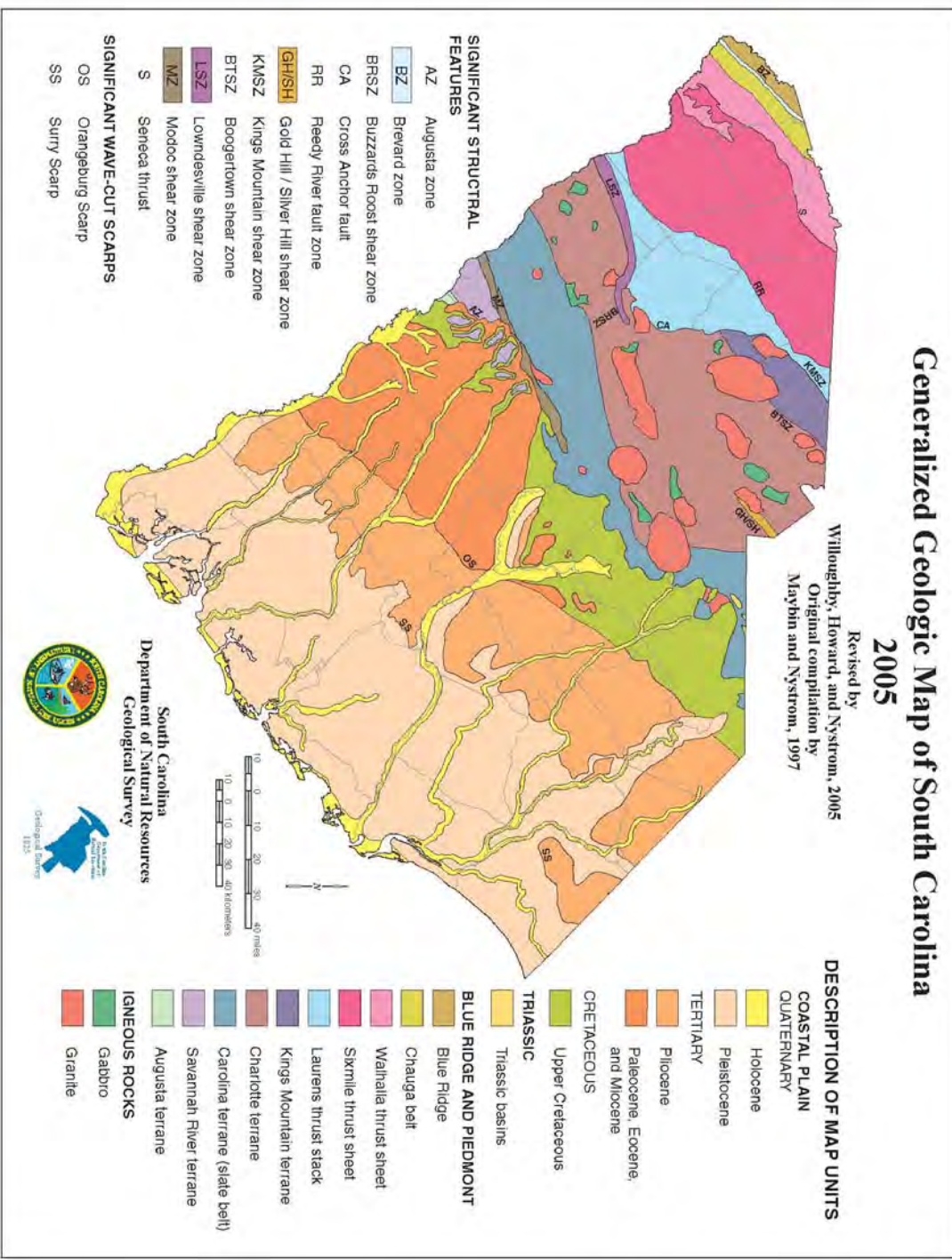
The Piedmont (French word meaning "foot of the mountain" consists of rolling hills and valleys. The region contains the roots of an ancient, eroded mountain chain and is generally hilly with thin, stony clay soils. Much of this area was once farmed; however the area has primarily been converted to timber production. The southern edge of the Piedmont is the fall line, where the rivers drop into the coastal plain.

The Coastal Plain is southeast of the Piedmont and extends to the Atlantic Ocean with few changes in elevation. The oldest sediments in the Coastal Plain date back 86 million years. Carolina bays are depressions found in the Coastal Plain of South Carolina. Geologists theorize they may have been formed by prevailing southwesterly winds. Consequently, these winds carved ovate-like beds with their long axis oriented northwest-southeast. Undisturbed Carolina bays have distinctive biological communities. The vast majority of Carolina bays in South Carolina have been ditched and drained for agriculture, development, and other uses. For those that remain, there is a growing appreciation of the role Carolina bays play in the Coastal Plain's ecology and hydrologic framework.

Map 3.

Generalized Geologic Map of South Carolina 2005

Revised by
Willoughby, Howard, and Nystrom, 2005
Original compilation by
Maybin and Nystrom, 1997



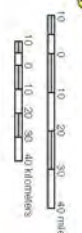
- SIGNIFICANT STRUCTURAL FEATURES**
- AZ Augusta zone
 - BZ Brevard zone
 - BRSZ Buzzards Roost shear zone
 - CA Cross Anchor fault
 - RR Reedy River fault zone
 - GH/SH Gold Hill / Silver Hill shear zone
 - KMSZ Kings Mountain shear zone
 - BTSZ Boogertown shear zone
 - LSZ Lowndesville shear zone
 - MZ Modoc shear zone
 - S Seneca thrust
- SIGNIFICANT WAVE-CUT SCARPS**
- OS Orangeburg Scarp
 - SS Surry Scarp

- DESCRIPTION OF MAP UNITS**
- COASTAL PLAIN QUATERNARY**
- Holocene
 - Pleistocene
- TERTIARY**
- Pliocene
 - Paleocene, Eocene, and Miocene
- CRETACEOUS**
- Upper Cretaceous
- TRIASSIC**
- Triassic basins

- BLUE RIDGE AND PIEDMONT**
- Blue Ridge
 - Chauga belt
 - Walhalla thrust sheet
 - Sixmile thrust sheet
 - Laurens thrust stack
 - Kings Mountain terrane
 - Charlotte terrane
 - Carolina terrane (state belt)
 - Savannah River terrane
 - Augusta terrane
- IGNEOUS ROCKS**
- Gabbro
 - Granite



South Carolina
Department of Natural Resources
Geological Survey



B. Soils

Soil is the basic foundation of any terrestrial ecosystem and sustains forests in many ways. Trees need soil because it stores, provides, and recycles nutrients; stores water; provides oxygen for roots; and provides physical support. There are 265 different soil types that are currently recognized in South Carolina. Most of these are considered forest soils because they developed under forest vegetation. The variation in the soils of South Carolina can best be described by geographic regions outlined by USDA-NRCS as Major Land Resource Areas:

- * Blue Ridge - steep to gently sloping soils, often shallow to bedrock.
- * Southern Piedmont - steep to gently sloping, may be deep or shallow to bedrock.
- * Carolina Sand Hills - broad, flat ridges and steep slopes.
- * Southern Coastal Plain - broad, flat plains with occasional ridges, slight differences in elevation results in major soil differences.
- * Atlantic Coast Flatwoods - similar to Southern Coastal Plain, except lower in elevation and water table closer to the surface.

Massive soil erosion has occurred in the Piedmont and Blue Ridge areas. This erosion has been largely due to poor farming and timber harvesting practices resulting in water and wind erosion. Currently, the greatest soil losses are a result of industrial and housing development. Properly managing a forest is one of the best methods of preventing erosion of soil.

C. Agriculture

The amount of land in agriculture has remained relatively constant between 1997 and 2002. In 2002, there were approximately 24,541 farms in South Carolina totaling approximately 4.8 million acres compared to 1997, when there were approximately 25,807 farms totaling approximately 4.9 million acres. This leveling is taken as a positive sign since the period from 1982 until 1997 saw an 18% decrease in agricultural acreage. (South Carolina Office of Research and Statistics, 2007)

South Carolina has a diverse mixture of agricultural fields and forest lands, which create habitat for most wildlife species. The Forest Legacy Program is designed to conserve working forests in that landscape, and many farmers depend on the economic option to harvest timber to supplement their income. Agriculture and forest land uses complement each other in South Carolina, but rural lands are being replaced with non-forest and non-agricultural uses. The Forest Legacy Program allows up to 25% of the conserved property to remain in non-forest production. Flexibility such as this creates numerous opportunities to combine sound forest management and agricultural production.

D. Mineral Resources

South Carolina is rich in non-fuel raw minerals with a total of over \$659 million produced in 2005. The most common minerals produced in South Carolina are: cement, clays, gemstones, peat, sand, gravel, and crushed stone (Maps 4 and 5). In 2005 South Carolina was the top producer of vermiculite, ranked third in masonry cement, eighth in common clays, second in kaolin, and fourth in crude mica (USGS, 2005).

E. Cultural Heritage Resources

South Carolina has been inhabited for over 12,000 years. About 5,000 years ago humans were making clay vessels, and about 3,500 years ago they used the bow and arrow, and lived in semi-permanent to permanent villages. About 1,000 years ago, humans in South Carolina lived in large palisade villages surrounding a mound and produced domesticated crops such as corn, beans, squash, and pumpkins. Many historic period occupations are unique to South Carolina such as the French Charles Fort of 1562 and the Spanish town of Santa Elena during the period of 1566-1587.

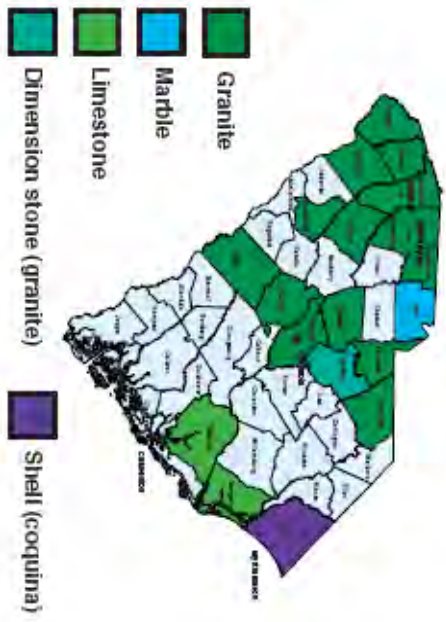
Archaeological sites have been recorded in South Carolina spanning from 12,000 year old camp sites to 1950's era farmsteads and military installations. To date, only a small fraction of sites have been investigated by professional archaeologists. Unlike natural resources, cultural resources are non-renewable. Because many cultural resources in South Carolina are linked to forested land, protecting forest land from non-forest use will better protect South Carolina's cultural resources.

Map 4.

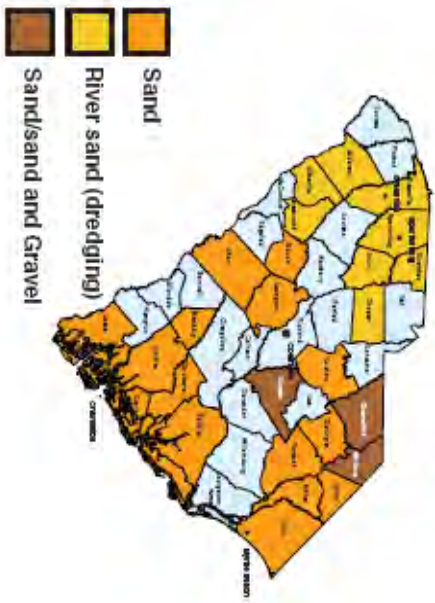
U.S. Geological Survey, 1999 Mineral Production Data

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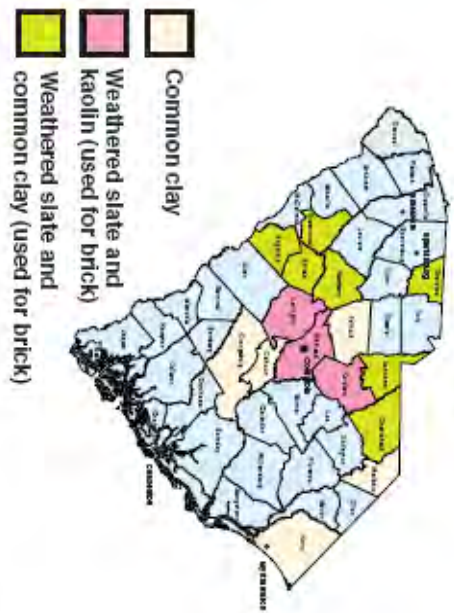
Crushed Stone



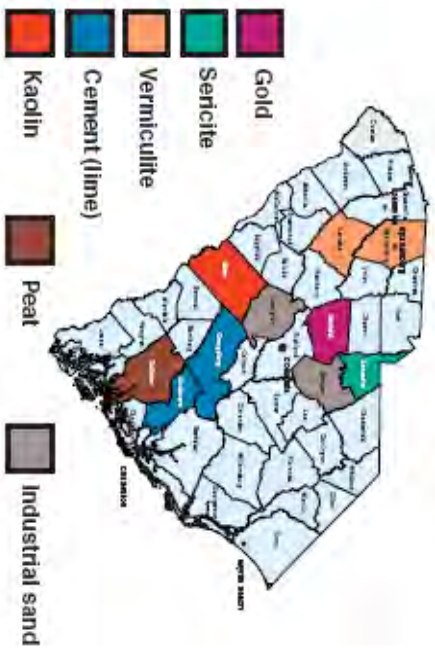
Sand and Gravel



Various Clays

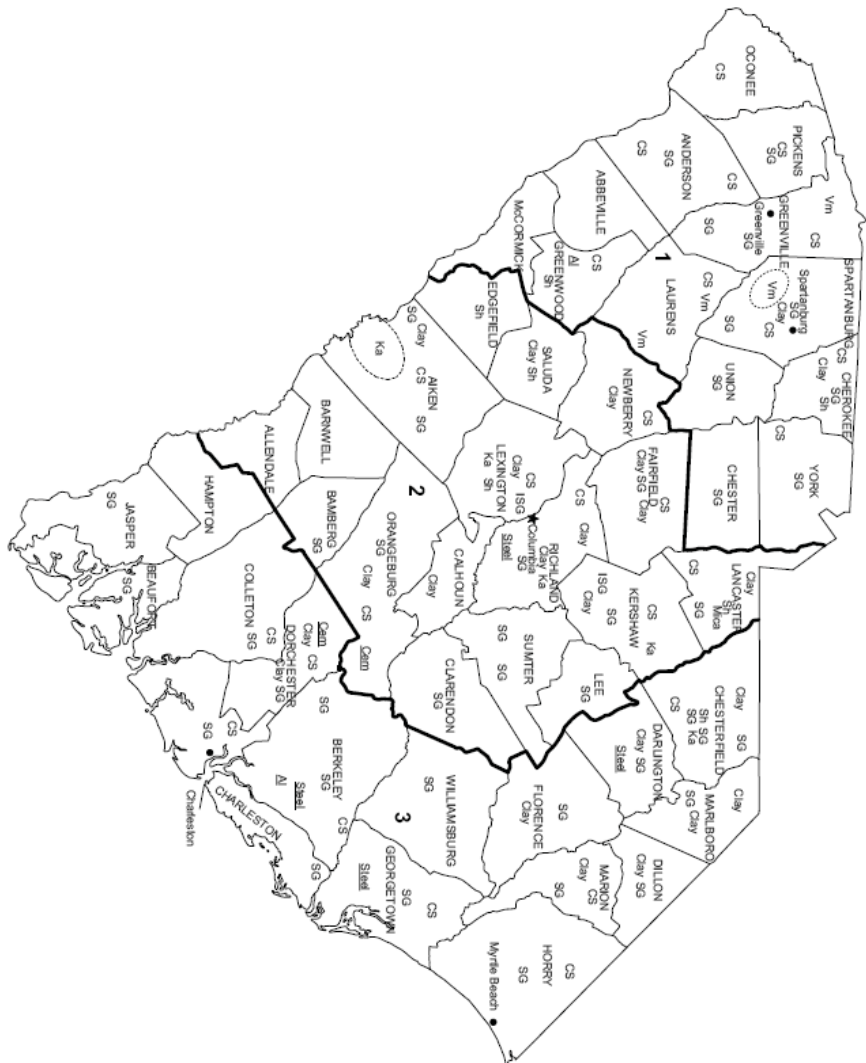


Gold and Industrial Minerals



Map 5.

SOUTH CAROLINA



LEGEND

- County boundary
- ★ Capital
- City
- 1 — Crushed stone and gravel districts

MINERAL SYMBOLS (Major producing areas)

- Al Aluminum plant
- Cam Cement plant
- Clay Common clay
- CS Crushed stone
- ISS Industrial sand and gravel
- Ka Kaolin
- Mica Mica
- SG Construction sand and gravel
- Sh Shale
- Shell Shell plant
- Vm Vermiculite

○ Concentration of mineral operations



Source: South Carolina Geological Survey/U.S. Geological Survey (2005)

III. Critical Issues

A. Fragmentation

As human populations increase, the necessity for space to accommodate our needs and desires also increases. Many individuals want to move from the city and into the more tranquil setting of a subdivision where there is still some resemblance of a forest. These subdivisions are usually tracts of wooded areas that were once forests but have now been transformed into somewhat large lots (1/2 to 1 acre) where a house can be surrounded by a few trees. As the demand for this type of setting is increasing, more forest land is bought by developers, sub-divided, and sold for a premium price.

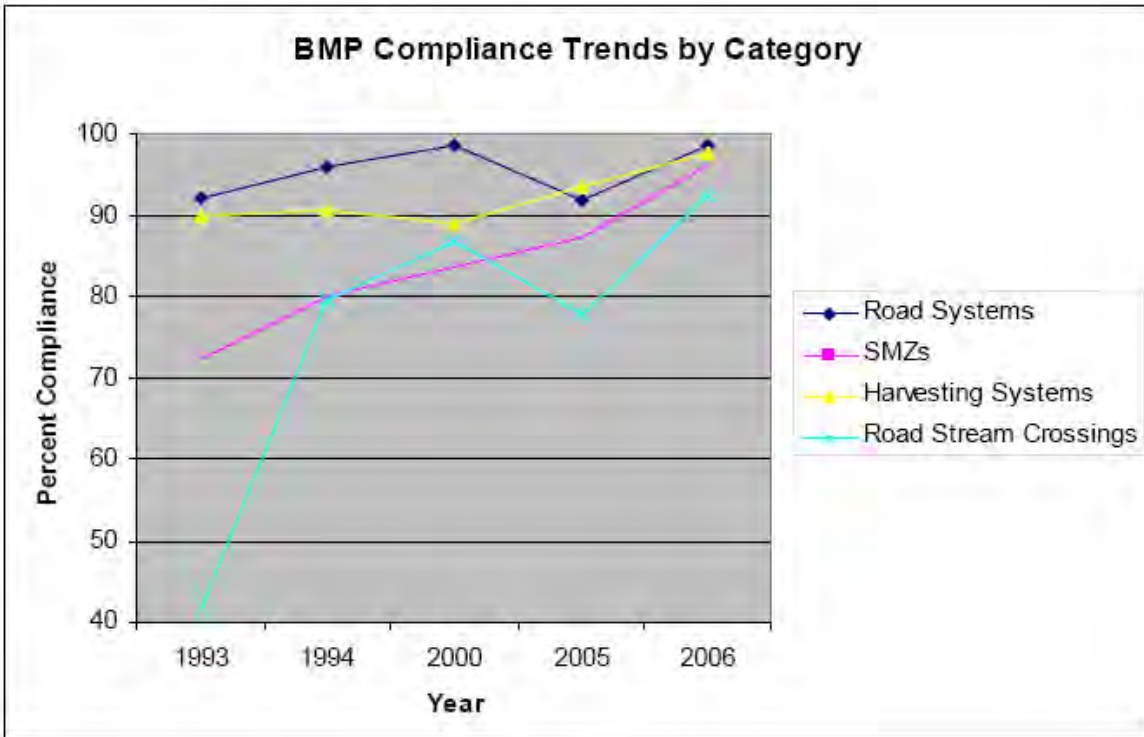
Fragmentation of forest land is occurring as landowners are offered large sums of money for their forested property. A property owner may sell all of the forested property or just a prime portion to developers. As the size of the forest decreases so does the biodiversity that is unique to that specific area. Meanwhile, an adjacent property owner who enjoys the forest and its associated benefits refuses to convert his property into some type of development. The end result is a patchwork type pattern that goes from forest to non-forest to forest and back again. This results in large contiguous forest lands being broken into smaller tracts. This in turn leads to habitat loss, threatens water quality, and decreases biodiversity. Once development has occurred, the ability to manage the adjacent forest becomes limited.

B. Sustainable Forests and Timber Harvesting

Sustainable forestry includes many components that are all needed to ensure there will be forests available for the next generation. Some of the numerous components include: (1) the practice of proper planting, growing, and harvesting of trees while not jeopardizing the associated soil, air, water, wildlife, and aesthetics; (2) education of the private non-industrial landowners who own 74% of the state's forests; (3) ensuring forests are protected from pests, diseases, exotic plants, and human development; and (4) to continue to improve on all of the afore mentioned aspects of the forest industry. It is critical to continue sustainable forestry activities throughout the state to ensure an adequate supply of forest products for the human population that continues to grow at an alarming rate.

Best Management Practices (BMP's) are voluntary forestry practices implemented to minimize and prevent non-point source pollution. BMP's have existed since the late 1970's but began receiving more emphasis in the early 1990's. Overall harvesting compliance with BMP's in 2006 was 98%. Of the major BMP categories, compliance was highest for road BMP's (98.5%), followed closely by harvesting BMP's (97.5%) and stream side management zones (96.2%). Compliance was lowest for road stream crossings (92.3%), however, it is worthy to note that this is a significant increase from 77.8% in the previous survey (Sabin 2006).

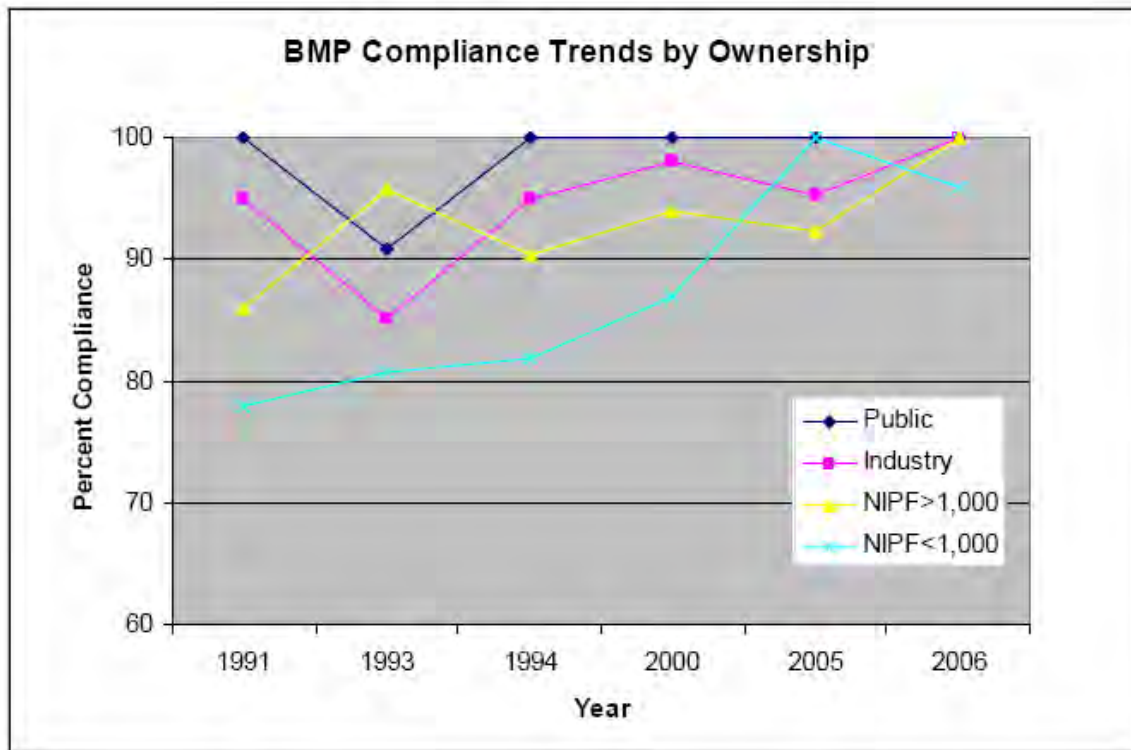
Figure 1.



Timber harvesting when BMP's are not utilized can cause overall habitat degradation and decrease environmental parameters associated with the harvested area. These include but are not limited to: soil erosion, sedimentation, water quality problems, rutting, poor placement of logging decks, loss of wildlife habitat, and clogging of streams with woody debris. In order to control and minimize these problems, a set of guidelines was developed for loggers as well and landowners to follow.

The 2006 survey also indicated that landowner compliance with BMP's varied as follows: public property = 100%, industrial property = 100%, non-industrial owned private property greater than 1000 acres = 100%, and non-industrial owned private property less than 1000 acres = 94%. When surveyed, only 44.6% of landowners with less than 1000 acres were familiar with BMP's and only 83.5% of all landowners required BMP compliance as part of that contract (Sabin, 2006).

Figure 2.



There are several programs that offer incentives for landowners to keep areas forested. They include but are not limited to the Environmental Quality Incentives Program, Conservation Reserve Program, and the Forest Renewal Program. However, these programs need additional funding to meet their reforestation and environmental goals. The South Carolina Forestry Commission, Clemson Cooperative Extension Service, consulting foresters, and industrial foresters offer expertise in proper forest management. Numerous pamphlets have been produced for the landowner that explain the BMP's and why they are important. However, many landowners still do not know the forestry services and incentives that are available to them. Thus, a significant portion of them do not realize how important and necessary BMP's are to the environment. Partners intend to continue expanding educational and outreach opportunities to reach these landowners.

C. Water Quality and Quantity

South Carolina's average streamflow is about 33 billion gallons per day. This water, coupled with surface reservoirs and underground aquifers must be managed to ensure adequate water for the future. Both surface and ground water availability correlate with the general physiology and

geology of the state. Streams in the Foothills, Central Piedmont, and Western Piedmont Forest Legacy Areas tend to have well sustained base flows with only moderate variability; however, streams in the Northern and Southern Coastal Forest Legacy Areas generally have poorly sustained base flows and are highly variable.

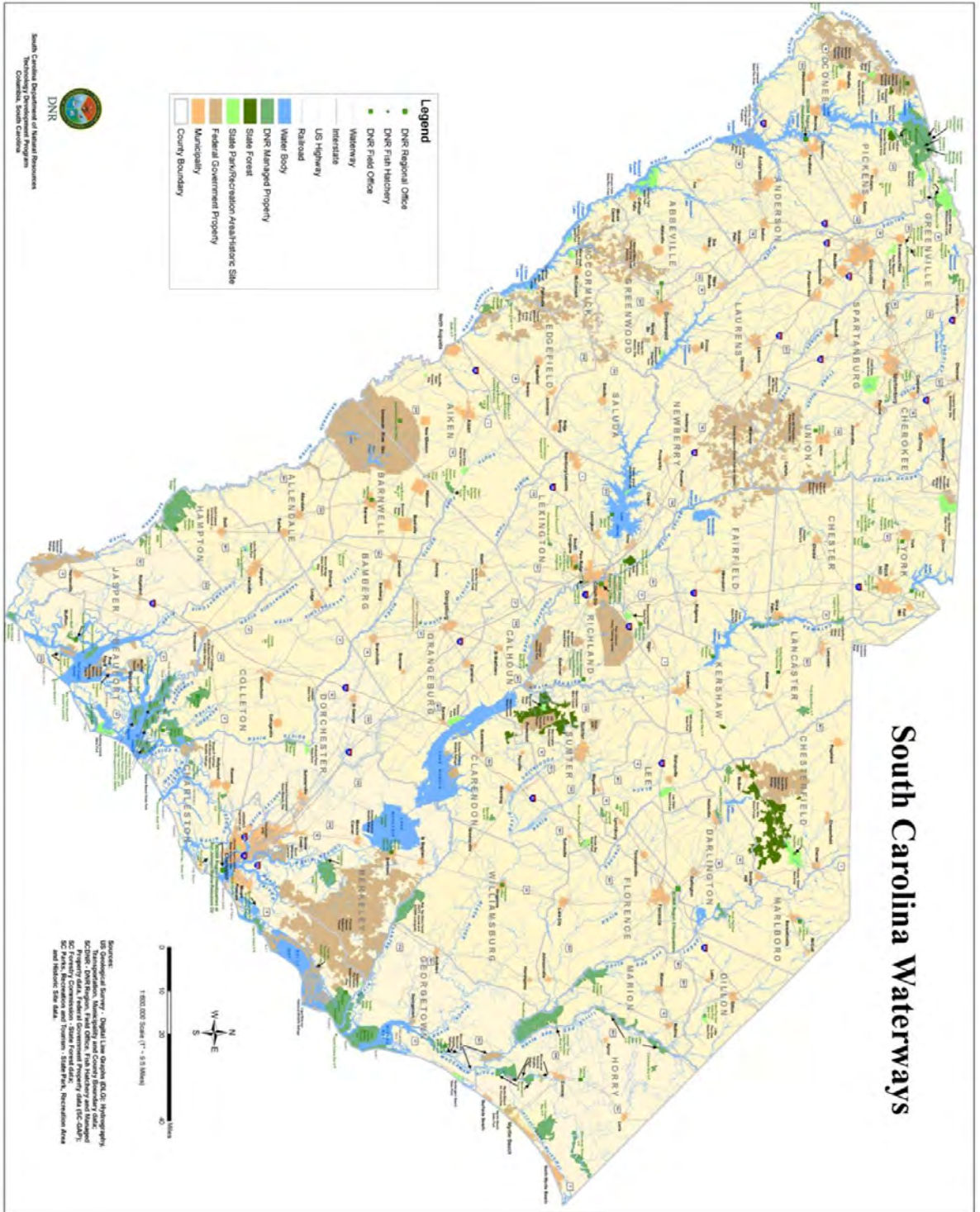
Ninety-six percent of the State's water needs are supplied by surface waters. South Carolina river corridors provide 1,311 river miles for water supply which represents 12% of the total miles of rivers in the state (Map 6). In 1980, gross water withdrawals in South Carolina were estimated to be 5,780 million gallons per day (mgd), representing a 96% increase during the past decade (South Carolina Water Resources Commission, 1983). About 7.6% of this water is consumed and not returned to available supplies.

Statewide gross water use is projected to increase 48% to 8,550 million gallons per day by the year 2020 (South Carolina Water Resources Commission, 1983). In 1980, 206 mgd of ground water and 5,570 mgd of surface were used throughout the state. In contrast, the projected use for the year 2020 is 484 mgd of ground water and 8,060 mgd of surface water (South Carolina Water Resources Commission, 1983). To further compound this issue, South Carolina is involved with intense negotiations with Georgia and North Carolina regarding surface water withdrawal and discharge into the rivers to ensure the wise use and sharing of this vital resource.

During most sampling periods, an estimated 84% of the state's major river miles meet Federal water quality goals, and 86% meet State water quality standards. Water quality problems include fecal coliform bacteria contamination, low dissolved oxygen concentrations, high suspended solid levels, and elevated nutrient levels. Large quantities of sediment enter the state's streams each year. This sedimentation impairs municipal, industrial, and recreational water use; destroys aquatic habitat; and adversely impacts desired aquatic organisms. Over 18 million tons of soils are eroded each year in South Carolina and contribute to the sedimentation problem (South Carolina Water Resources Commission, 1983). Forest lands that comprise over 90% of the nonfederal acres in South Carolina contribute only about 4% of total soil erosion (Assessment of Non-point Source Pollution for the State of South Carolina, 1989). Non-point source pollution contributors include agricultural runoff (67%), urban runoff (43%), construction (14%), abandoned gravel, sand, and clay mines (6%), silviculture (4%), and other categories (6.2%). The total percentage exceeds 100% because several of the identified waterbodies had more than one non-point source category contributing to the problem (SC Department of Health and Environmental Control, 1989). Most of the erosion in the state occurs in the Central and Western Piedmont Forest Legacy areas. Best management practices, which are primarily voluntary, have been developed to mitigate erosion.

Modification of watershed lands for various uses can significantly contribute to non-point source pollution. Forests that are located throughout these watersheds play an important role in decreasing sedimentation and improving water quality throughout the state

Map 6.



D. Conserving the Forest Land Base

South Carolina recently received draft data from the Southern Forest Land Assessment (Map7) which will provide a tremendous resource for conserving forest land in the state. The Southern Forest Land Assessment (SFLA) is a cooperative project of the Southern Group of State Foresters to spatially identify important forest lands in the 13 southern states and Puerto Rico. The project was funded by a Forest Stewardship Program grant from the USDA Forest Service and will use thirteen GIS data layers to map locations of important private forest lands. Other project outputs will include regional and state maps defining areas with significant forest resource threats and forest resource richness.

With the ever increasing population in South Carolina, urban areas are continuing to sprawl uncontrollably into the rural areas. Many counties in the state have very little or no zoning and have not even begun to plan for development. The state is already beginning to see a net loss of rural settings, rural land use, and their associated by-products. Conservation partners have begun to work with counties and local communities to address planning and conservation; however, this is a very long process and requires considerable time and money. Partners simply lack the resources to produce quality plans and stay ahead of the development curve.

In addition, the number of housing units in South Carolina increased by 35.4% between 1990 and 2005. This well exceeded the national average of 21.8% during the same time period (Ulbrich and London, 2008). Much of this increase is a result of vacation and second homes. The urban areas are expanding and continuing to acquire more land to accommodate the building demands. Along with these houses come infra-structure, development, stores, malls, and other facilities. The price of forested land has now become expensive due to the demand for retailers to build and supply the necessary goods needed by the public.

One of the biggest threats from development is the indirect or secondary impacts to neighboring areas. Once development occurs near a forest, the management capabilities become threatened. For example, managers may no longer be able to prescribe burn the forest to enhance the growth of certain forest plants. With increasing development, sensitive animal species may be driven from their secluded habitats, noise pollution, as well as air pollution, and non-point source increase plus wildlife related activities such as hunting may be excluded due to the close proximity of an urban population, and the list continues. The end result is one forest may have been lost to the development itself, but another adjacent forest was impacted due to the inability to manage it properly. Conservation partners are working diligently to create conserved corridors of land to ensure the continuation of traditional forest management activities. The Forest Legacy Program plays an instrumental role in helping to curtail the loss of prime forest land and in the future ability to manage such forest land. Inclusion of land in the Forest Legacy Program will ensure working forests for generations to come and help the state in creating corridors of conserved forest lands.

Map 7.

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SC's Priority Forestlands Draft Results from the Southern Forest Land Assessment



E. Prescribed Burning and Smoke Management

Prescribed burning has long been used as a preferred timber and wildlife management technique. In addition to reducing the risk of wildfire, prescribed burning helps to control hardwood competition within pine stands and stimulates early successional vegetation that is used by wildlife for food and cover. Unfortunately, fragmentation of forests and increasing development have caused an increase in smoke management concerns and threatened this cost-effective technique. If the ability to conduct prescribed burns is lost, numerous ecosystems and wildlife species will be at risk. One of the most significant ways to ensure the continuation of prescribed burning is to protect large blocks of forest land from development and fragmentation. The Forest Legacy Program can play a critical role toward ensuring the future of prescribed burning.

EXISTING PROGRAMS TO PROTECT LANDS IN SOUTH CAROLINA

A wide variety of programs are available to assist landowners in South Carolina in the proper management of their properties. They include but are not limited to the following:

Forest Stewardship Program: The Forest Stewardship Program (FSP) is a federally funded program administered by the South Carolina Forestry Commission. Landowners are furnished with a written management plan prepared by a team of natural resource professionals and tailored to fit the landowner's objectives for the property. Objectives include wildlife, timber, recreation, soil and water conservation, and aesthetics. All landowners who own at least 10 acres with at least 5 acres of woodland are eligible for FSP. There is no upper limit on acreage.

Forestry Renewal Program: The Forest Renewal Program (FRP) is a state program, administered by the Forestry Commission and funded by a tax on roundwood processed by forest industry and state appropriated funds. The FRP assists landowners with establishing timber production on their property.

Southern Pine Beetle Prevention and Restoration Program: The Southern Pine Beetle cost-share program makes cost-share funds available to landowners for approved forest management practices that minimize future outbreaks and restore productive stands previously impacted by SPB infestations. Prevention practices include pre-commercial thinning to reduce the number of stems and basal area per acre in over-stocked pine stands. Restoration practices include returning damaged areas back to healthy forests by creating stands less susceptible to future SPB infestations. This is accomplished by planting loblolly at lower densities or planting species more resistant to SPB such as longleaf or hardwoods.

Conservation Reserve Program: The Conservation Reserve Program (CRP) offers landowners incentives to conserve soil, water, and wildlife habitat. Landowners can apply to enroll highly erodible land and other environmentally sensitive areas in the CRP. By enrolling land, a landowner can receive annual rental payments and cost-share benefits to implement conservation practices. Permanent vegetation which may include trees, grasses, or wildlife foods must be maintained for the contract period.

Wetlands Reserve Program: The Wetlands Reserve Program (WRP) is designed to help eligible landowners restore wetlands. Under this program, landowners enter into permanent easements, 30-year easements, or 10-year wetlands restoration agreements in exchange for a portion of restoration costs. The landowner maintains full control over access and use of WRP easement lands. Acceptable uses of WRP land may include activities such as hunting, fishing, and other compatible uses. The primary objective is to restore altered wetlands as closely as possible to the natural hydrology, native vegetation, and natural topography, protecting the functions and values of wetlands in the agricultural landscape.

Wildlife Habitat Incentives Program: The Wildlife Habitat Incentives Program (WHIP) was established by the 1996 Farm Bill for the purpose of making technical and financial assistance available to landowners to develop, enhance, and restore upland wildlife, wetland wildlife, threatened and endangered species, fish, and other types of wildlife habitat. In South Carolina, WHIP is specifically targeted towards developing, restoring, and enhancing habitat for the following “priority species”:

- Bobwhite quail and associated grassland/shrub songbirds
- Wintering waterfowl and shorebirds
- Threatened, endangered, and species of state concern.

Environmental Quality Incentives Program: The Environmental Quality Incentives Program (EQIP) is designed to identify conservation concerns and set conservation priorities to address soil erosion, water quality, wildlife habitat, and other resource issues through a community-based process. EQIP is available in all 46 counties to address statewide resource concerns. Sixty-five percent of EQIP funds are targeted towards approved Conservation Priority Areas. State Conservation Priority Areas have been identified by local work groups, ranked by the State Technical Committee, and submitted to Washington for approval. Practices such as field borders, filter strips, and grassed waterways designed to protect water quality may also be maintained as early successional habitats to benefit bobwhite quail and other species. Riparian (streamside) buffer zones used to protect streams from runoff can also be highly productive areas for wildlife, providing food, cover, and travel corridors.

Farm and Ranchland Protection Program: The Farm and Ranch Lands Protection Program (FRPP) provides matching funds to help purchase development rights to keep productive farm and ranchland in agricultural uses. By working through existing programs, NRCS partners with state, tribal or local governments and non-governmental non-profit organizations to acquire conservation easements or development rights on prime, unique or other productive farmland. The program also provides assistance for farms containing significant historical or archaeological resources. NRCS provides up to 50 percent of the fair market easement value. To qualify, farmland must: be part of a pending offer from a state, tribe, or local farmland protection program; be privately owned; have a conservation plan for highly erodible land; be large enough to sustain agricultural production; be accessible to markets for what the land produces; have adequate infrastructure and agricultural support services; and have surrounding parcels of land that can support long-term agricultural production. Depending on funding availability, proposals must be submitted by the eligible entities to the appropriate NRCS State Office during the application window.

Grassland Reserve Program: The Grassland Reserve Program (GRP) is a voluntary program offering landowners the opportunity to protect, restore and enhance grasslands on their property. Section 2401 of the Farm Security and Rural Investment Act of 2002 (Pub. L. 107-171) amended the Food Security Act of 1985 to authorize this program. The Natural Resources Conservation

Service (NRCS), Farm Service Agency (FSA) and the U. S. Forest Service are coordinating implementation of GRP, which helps landowners restore and protect grassland, rangeland, pastureland, shrubland and certain other lands and provides assistance for rehabilitating grasslands. The program will conserve vulnerable grasslands from conversion to cropland or other uses and conserve valuable grasslands by helping maintain viable grazing operations.

Focus Area Initiative:

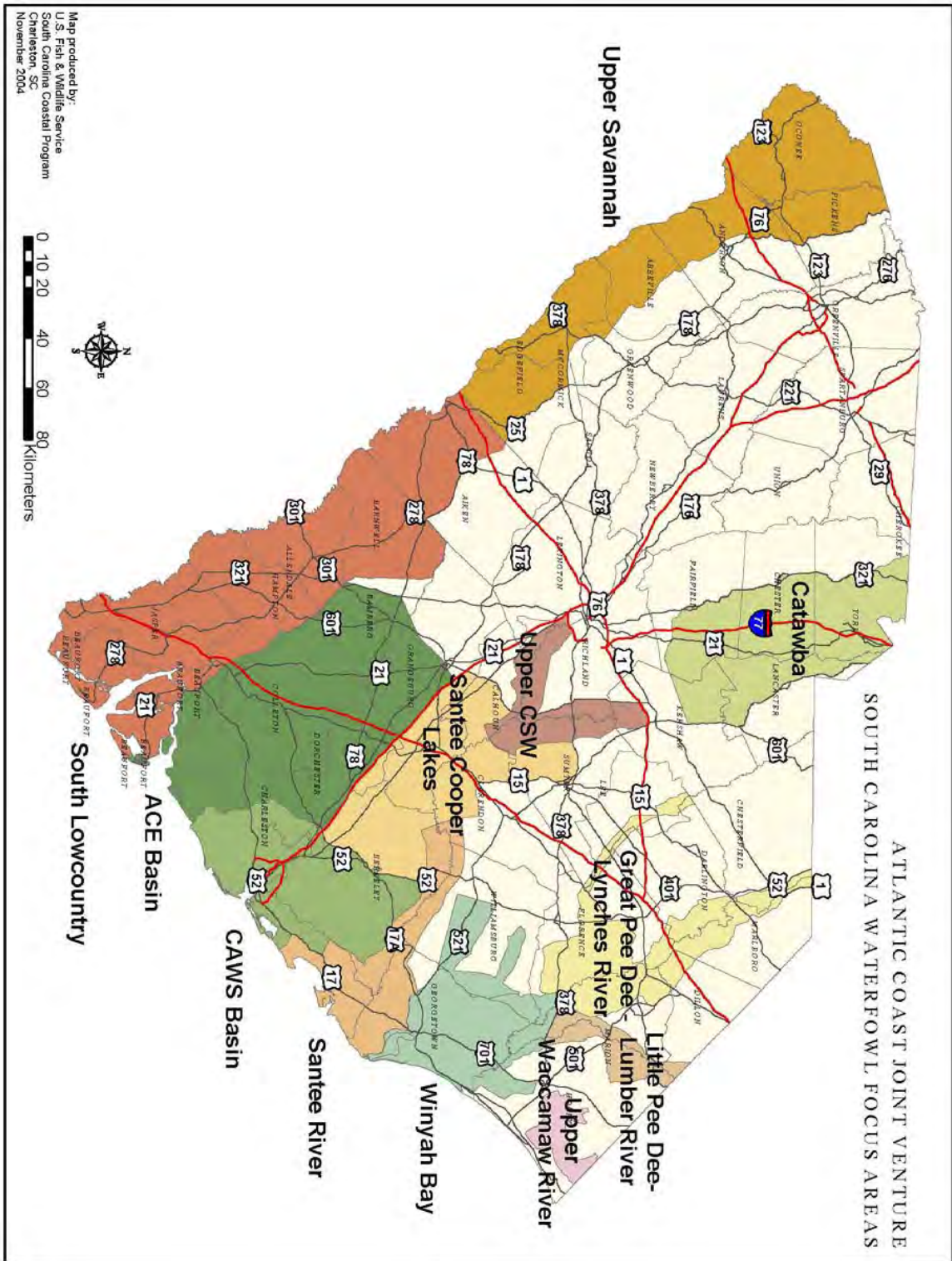
The Forest Legacy Program's (FLP) objectives are very similar to the Focus Area Initiative in South Carolina. Focus Areas are local grass-roots projects working within the framework of the Atlantic Coast Joint Venture of the North American Waterfowl Management Plan (NAWMP). The NAWMP recognizes the loss of wetland habitats and recommends that wetland habitat and associated uplands be protected through conservation easements and land acquisition.

In South Carolina, there are twelve Focus Areas (Map 8) that typically comprise major waterways and river systems. The majority of the Focus Area's success has come within the coastal areas which contain numerous wetland acreages. Larger plantations, that contain substantial wetland acreages, have been the major donor of conservation easements. This effort has seen much success along the coast; however, easement donation is very limited in the inland areas of the state. These Focus Area Initiatives were the original guiding factor in the design of the Forest Legacy Areas.

The Focus Area Initiative in South Carolina has done well in promoting conservation easements since 1987, but forest land and wildlife habitat are being lost to development at a faster rate than the land is being protected. As part of the Focus Area Initiative, conservation easements are donated to private organizations or funded through a grant from the SC Conservation Bank. Conservation Bank funds are extremely competitive, so grants must be highly leveraged and not all applications will be funded. In an effort to prevent competition with the nonprofit organizations and prevent duplication of effort, grants received from the FLP will primarily be used for land acquisition. The FLP and the Focus Area Initiative complement each other very well and allow SCDNR to target major acquisitions that could leverage donated conservation easements for the Focus Areas.

Map 8.

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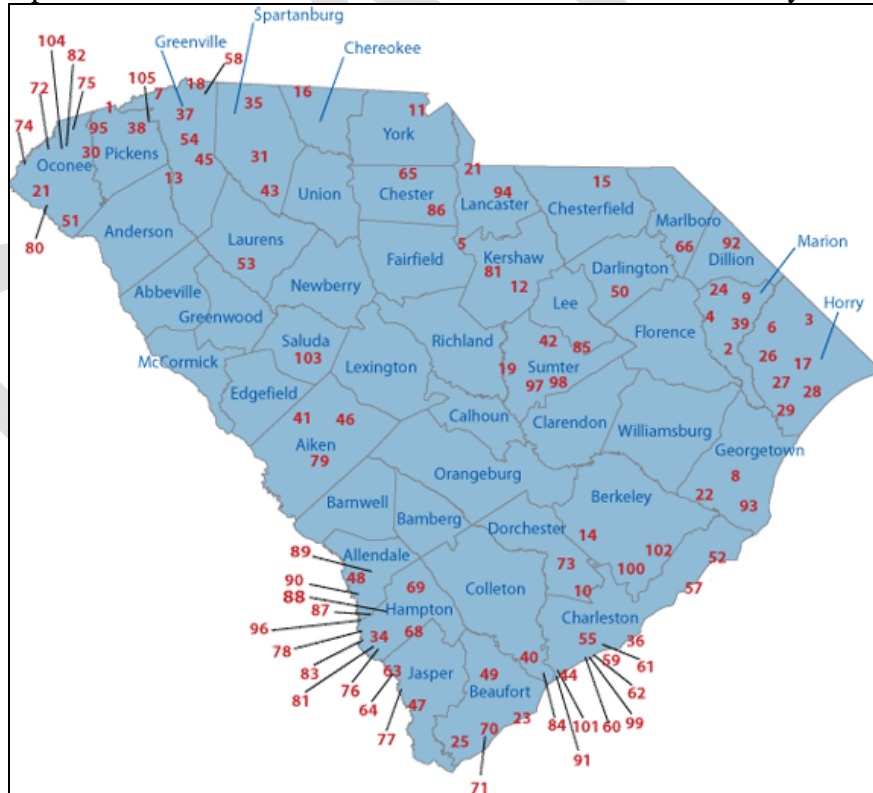
South Carolina Conservation Bank:

The mission of the SC Conservation Bank is to improve the quality of life in South Carolina through the conservation of significant natural resource lands, wetlands, historical properties, and archeological sites. Its primary objectives are to:

- Protect significant natural resource areas and wildlife habitats
- Protect water quality
- Maintain the State's forest lands
- Protect farmlands, especially family farms
- Protect and enhance the State's natural beauty
- Protect and enhance significant historical and archeological sites
- Enhance public access for outdoor recreation and preserve traditional uses such as hunting, fishing, and other types of outdoor recreation
- Encourage cooperation and innovative partnerships among landowners, state agencies, municipalities, and non-profit organizations.

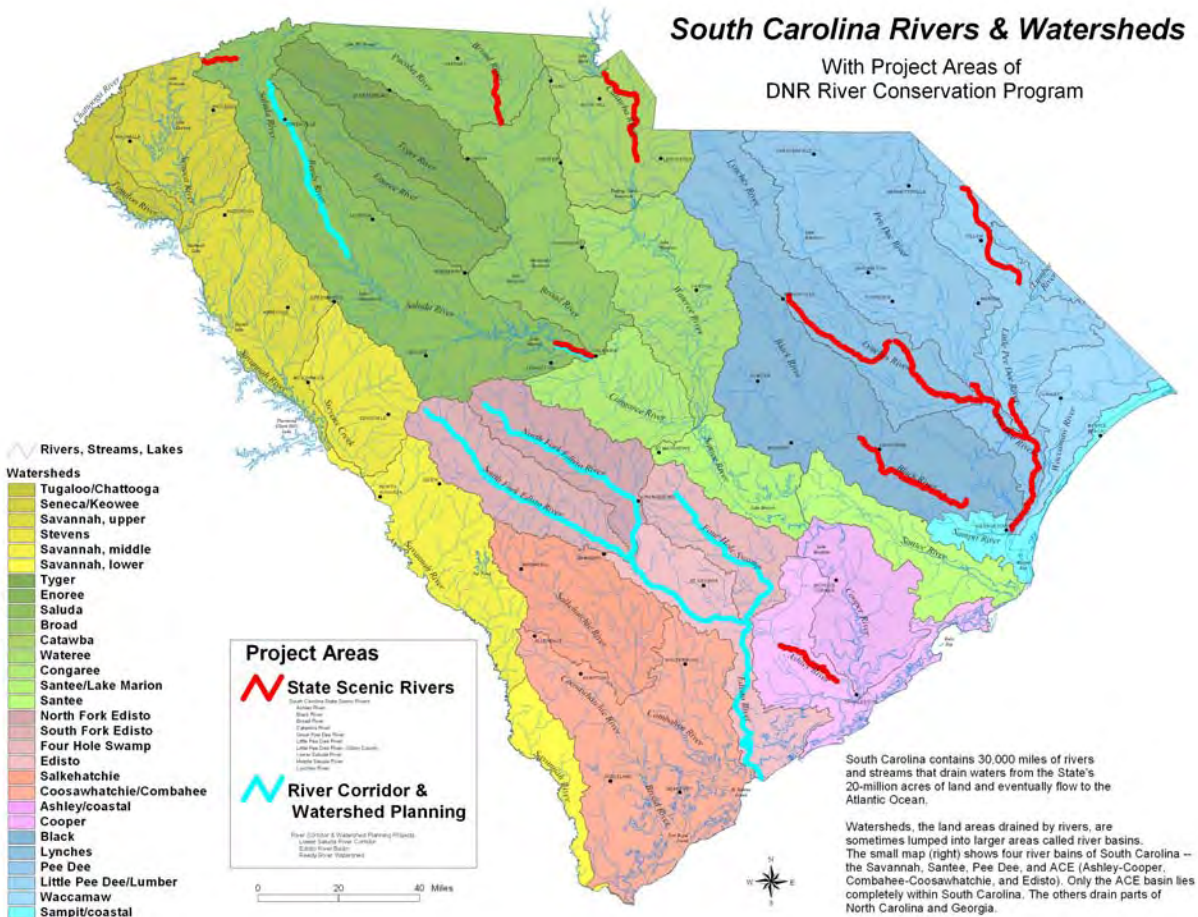
The Conservation Bank makes grants to government agencies and nonprofit organizations to protect such areas through fee-simple acquisition or conservation easements. SCDNR has a very successful history of leveraging Forest Legacy funds with grants from the Conservation Bank to protect large blocks of forestland in South Carolina.

Map 9. South Carolina Conservation Bank: Lands Protected By County



Scenic Rivers Program:

The goal of the Scenic Rivers program is the conservation of SC’s river heritage through proper management of the natural and cultural character of the state’s river corridors. As is stated in the South Carolina Scenic Rivers Act of 1989, this program has the purpose of protecting “unique or outstanding scenic, recreational, geologic, botanical, fish, wildlife, historic, or cultural values” of selected rivers or river segments in the state. This program utilizes a community-based planning approach that works with riparian landowners and other community interests to write and implement a river corridor management plan. As with other previously described programs, landowner participation is entirely voluntary. To date, portions of ten rivers have been designated as South Carolina Scenic Rivers (Map 10).



LAND TRUSTS IN SOUTH CAROLINA

South Carolina has one of the most successful land trust programs in the United States. Land trusts are non-profit organizations that are dedicated to the preservation and protection of land through acquisition of land and interests in land. Land trusts have also played a major role in assisting with the donations of conservation easements to meet the South Carolina Focus Area goals. Currently, there are 26 Land Trusts in South Carolina with the primary goal of protecting undeveloped land.

- Aiken County Open Land Trust
- Beaufort County Open Land Trust
- Black Creek Land Trust
- Community Open Land Trust
- Congaree Land Trust
- Edisto Island Open Land Trust
- Katawba Valley Land Trust
- Kiawah Island Natural Habitat Conservancy
- Lord Berkeley Conservation Trust
- Lowcountry Open Land Trust
- Mount Pleasant Open Space Foundation
- Nation Ford Land Trust
- Naturaland Trust
- Pacolet Area Conservancy
- Palmetto Conservation Foundation
- Pee Dee Land Trust
- Friends of the Reedy River Land Trust
- South Carolina Battleground Preservation Trust
- Spartanburg Conservation Endowment
- The Conservation Fund
- The Nature Conservancy
- Wetlands America Trust (Ducks Unlimited)
- Upper Savannah Land Trust
- Upstate Forever
- Waccamaw Land Trust
- Trust for Public Land

GOALS FOR THE FOREST LEGACY PROGRAM IN SOUTH CAROLINA

- Identify and protect environmentally important forest lands threatened with conversion to non-forest uses;
- Protect river systems, wetlands, and their associated upland habitats;
- Increase the opportunity for public recreation;
- Reduce forest fragmentation caused by development;
- Provide environmental benefits through the restoration and protection of riparian zones, native forest plants and animals, and remnant forest types;
- Provide for watershed and water supply protection;
- Provide employment opportunities and economic stability through maintenance of traditional forest uses;
- Maintain important scenic resources of the state;
- Protect rare, threatened, or endangered species of plants and animals;
- Promote Forest Stewardship;
- Promote Best Management Practices for forestry;
- Provide for educational and research opportunities;
- Provide buffer areas and connectivity to already protected areas;
- Enhance forest diversity.

ELIGIBILITY CRITERIA FOR FOREST LEGACY AREAS

To be eligible as a South Carolina Forest Legacy Area forested land must meet all of the following criteria:

- Be threatened by present or future conversion to non-forest uses;
- Be threatened with conversion by encroaching development or be subject to division into small non-contiguous forest tracts, separated by non-forest land;
- Contain one or more of the following important public values:
 - scenic resources;
 - public recreation opportunities;
 - rivers, streams, or lakes recognized as important to the State;
 - wetlands, riparian areas, or floodplains;
 - important public water supplies;
 - habitat for forest-dependent birds (resident and migratory species), mammals, reptiles, amphibians, invertebrates, and fish;
 - habitat for rare, threatened, and endangered plant or animal species;
 - important cultural resources;
 - large blocks of contiguous forest land.
- Provide opportunities for continuation of traditional forest uses (forest management, watershed protection, and recreational activities such as bird watching, hiking, hunting, and fishing);
- Reflect important regional values.

THE FOREST LEGACY ACQUISITION PROCESS IN SOUTH CAROLINA TRACT IDENTIFICATION AND PRIORITIZATION

Landowners interested in participating in the Forest Legacy Program may contact the South Carolina Department of Natural Resources (SCDNR) or the South Carolina Forestry Commission (SCFC). All applications and tract information will be collected and maintained by the Forest Legacy Coordinator with the SCDNR. The SCDNR will maintain close communication with representatives from the SCFC regarding the FLP. Since the primary focus of the FLP in SC is to conduct fee-simple title to tracts, most of the potential acquisitions will likely be with corporate landowners and not individual citizens. The FLP coordinator will have the discretion of determining what paperwork and documentation is necessary for review by the Forest Legacy Subcommittee. If an individual landowner wishes to have a small tract considered for a conservation easement, forms are available in Appendix C. Potential tracts for FLP funding will be discussed by the Forest Legacy Subcommittee. The Forest Legacy Subcommittee will evaluate the proposed properties with the eligibility and the evaluation criteria in Appendix C.

The Forest Legacy Program will be used to acquire forested lands that are threatened with conversion to non-forest uses. Special consideration and priority will also be given to tracts designated as significant or high priority by the:

- Southern Forest Land Assessment
- Focus Area Initiative and/or
- Other collaborative landscape conservation partnerships in South Carolina.

Priority will be also given to tracts that adjoin already conserved properties, promote significant leverage from other funding sources, are located along or buffer river systems, and provide multi-faceted resource benefits.

The Forest Legacy Subcommittee has the option to purchase a conservation easement or to pursue a fee simple purchase. **Lands will only be acquired on a willing buyer-willing seller basis.** Fee simple purchases are the preferred means of acquisition. Conservation easements will only be purchased under specific circumstances including but not limited to the following:

- The possibility of a fee simple purchase is not available.
- The property offers considerable public recreation benefits.
- The property offers considerable benefits to the conservation of neighboring properties.

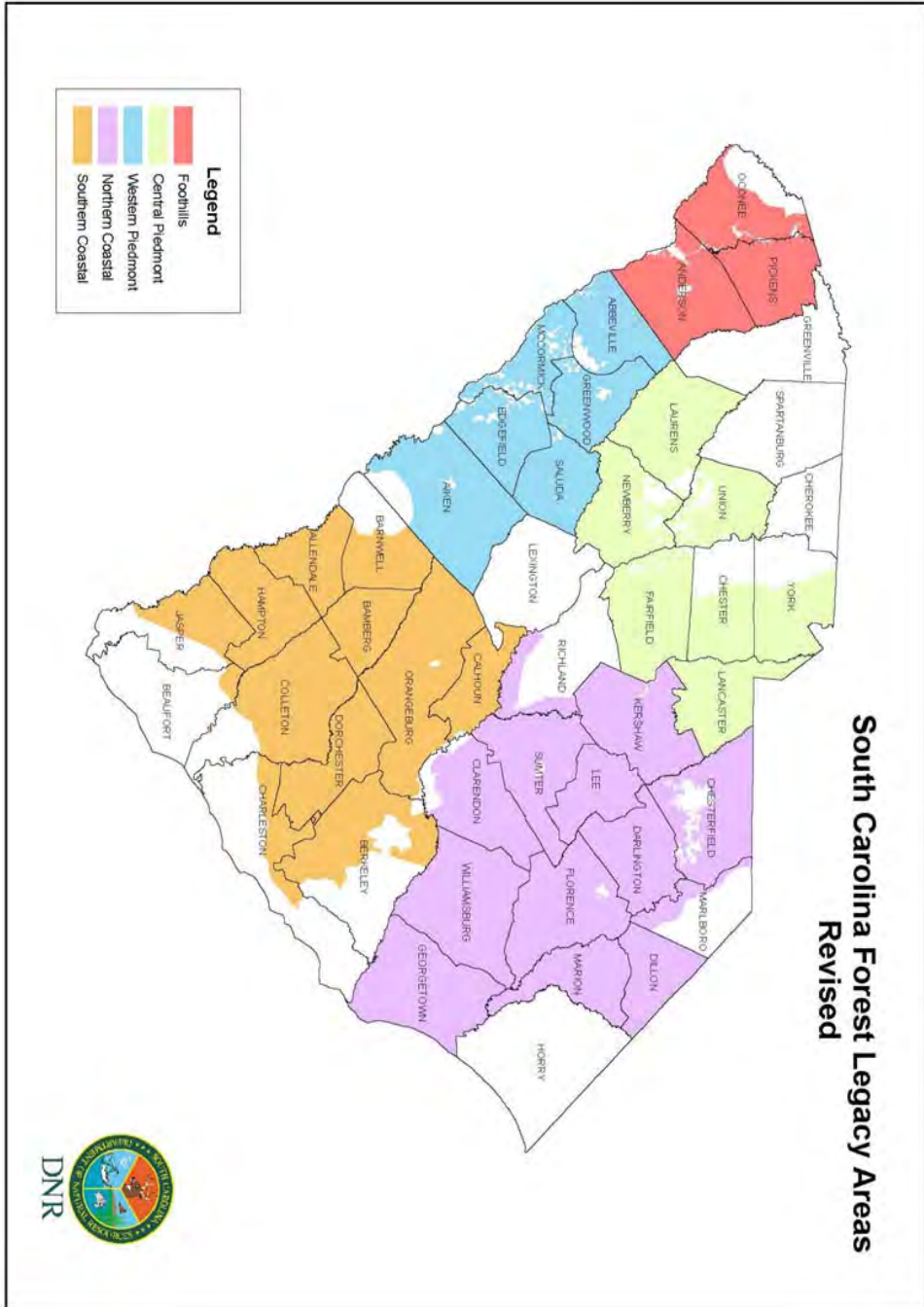
All members of the Forest Stewardship Coordinating Committee will not be involved in the decision process. Instead, a diverse group of representatives from the Forest Stewardship Coordinating Committee have been assigned to serve on the Forest Legacy Subcommittee. These representatives will provide the input for the Forest Stewardship Coordinating Committee.

The Forest Legacy Subcommittee will rank the available properties and make recommendations to the SCDNR and SCFC. Since Forest Legacy funding is limited and rarely provides enough funding to complete an acquisition, SCDNR and the SCFC will discuss recommendations from the committee and make the final decision for identifying submissions for the Forest Legacy Program.

Due to a long history and previous working relationships, no disagreements or problems should arise with this strategy. Once specific properties are identified, the tract will be established as an acquisition project, and an appraisal and a level one environmental assessment will be contracted. It will then be submitted to the State Budget and Control Board for final approval and follow state procurement procedures and FLP guidelines.

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REVISED FOREST LEGACY AREAS



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Appendix A

Completed Forest Legacy Projects

Project/Tract Name	Date Funded	Date Completed	Acres	CE/Fee	FLP Contribution
Catawba River	02/16/05	06/29/07	1,540	Fee	\$ 2,958,000
Landsford Canal	02/11/02	05/06/02	1,049	Fee	\$ 2,960,000
Tuomey	05/07/03	09/24/04	3,270	Fee	\$ 4,503,000
Santee	10/01/01	11/18/03	12,349	Fee	\$ 2,850,000
Beech Hill	05/15/01	01/28/02	1,369	Fee	\$ 1,592,167
Edisto WMA	05/14/01	01/28/02	5,752	CE	\$ 4,050,000
Geddis	05/15/01	09/15/04	25	Fee	\$ 64,000
Mead Easement	05/26/04	12/15/04	6,326	CE	\$ 6,795,300
Woodbury	02/15/07	07/13/07	25,668	Fee	\$ 3,306,754
Hamilton Ridge	02/15/07	04/26/07	13,281	Fee	\$ 1,693,246
Shooting Tree	02/14/00	12/07/00	571	Fee	\$ 975,000
South Carolina Total			71,200		\$ 31,747,467

Appendix B

Forest Legacy Area Descriptions

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FOOTHILLS

Description:

The Foothills Forest Legacy Area (FFLA) is comprised of portions of Anderson, Oconee, and Pickens Counties and is located in the northwestern corner of the state. The area is primarily mountain, foothill, and piedmont type terrain. Elevations vary from 475 feet at the high water mark on Lake Russell to 3,554 feet at the top of Sassafras Mountain, the highest point in South Carolina. Major lakes in the area include Lake Jocassee, Lake Cunningham, Lake Robinson, Lake Hartwell, Lake Keowee, Lake Russell and Tugaloo Lake. Major river systems include the Chauga, Chattooga, Keowee, Enoree, and Saluda. This forest legacy area contains the Upper Savannah Focus Area and adjoins the Andrew Pickens Ranger District of the Sumter National Forest.

Special Values of the Forest Land in the Area:

Forest types range from extensive pine plantations in many of the piedmont sections of the area to mountain ecosystems in Oconee, and Pickens Counties. While most of the piedmont forest are in private ownership much of the mountainous land is owned by local municipalities and state and federal agencies. The northern forest is primarily managed for hardwoods, and the southern forest is primarily managed pine. The mountain ecosystems are one of the most unique natural resource areas east of the Mississippi. The mountains ecosystems' substantial stands of hardwood and pine-hardwood forest, contribute to its significant ecological, scenic and recreational attributes. This area has over 120 miles of quality trout streams supporting naturally reproducing populations of brown, rainbow, and the unique strain of Southern Appalachian brook trout. The area also provides essential habitat for the region's black bear and grouse populations. Because of its size and position on the Blue Ridge Escarpment, the mountain area provides important habitat for neo-tropical migratory songbirds considered by ornithologists to be species of concern.

In addition to being important breeding habitat, Clemson University researchers have documented that extensive mountain habitat is critically important to all bird migrants in the area. During 1997, more bird migrants came through the Jocassee area than any other place in South Carolina (Clemson University radar work).

The FFLA has many state listed rare, threatened or endangered plant and animal species. The area has a rich cultural heritage. Native American sites and folklore are abundant, as well as sites used by early settlers.

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Current Conversion Pressures:

The decline in number of acres of Wildlife Management Areas has escalated rapidly over the past few years. Over 20,000 acres of WMA have been removed in the past decade. These were primarily lands that will be developed into residential communities. Lands around Lakes Keowee and Hartwell are developing rapidly into upscale housing and gated communities. Thousands of acres of mountain land have been sold to developers for golf course communities. Urban expansion, second homes and rural subdivisions have greatly decreased the amount of land available for forest management.

Greenville County continues to maintain the highest population of any county in South Carolina and in 2007 was rated as the fifth fastest growing county in the state (Population Division, US Census Bureau). Given the developed nature of this county, forested areas within the neighboring counties of this Forest Legacy Area are vital to the Upstate, especially as citizens who work in Greenville are seeking more rural landscapes in which to live and are willing to commute long distances. This trend is mirrored throughout the FFLA. These statistics clearly indicate that people are moving from metropolitan to rural areas.

There is a trend on public lands to minimize forestry activities at the expense of species which require forest management. Recently, several environmental groups asked the USFS to refrain from any timber management on their lands. Currently, approximately thirty percent of the Andrew Pickens District is already in areas zoned for no timber management. With the decreasing management of private lands because of urban encroachment and other before mentioned activities it is becoming increasingly important that public forested lands be managed. Because of lack of managed lands, hunting opportunities and hunter enthusiasm has already begun to decrease.

Potential Future Conversion Factors:

All parts of the FFLA are experiencing significant growth. Future housing developments are being planned throughout the FFLA. The purchase and protection of the Jocassee Gorges Property has increased the interest of persons to move into this area. The Southern Connector Highway in southern Greenville County will further enhance development of industry and will further erode good wildlife habitat.

Goals and Objectives for FFLA:

- Encourage habitat enhancement through land purchase and sound forest management
- Protect important historic and archeological sites
- Maintain and enhance all significant forest types and their associated plant and animal communities
- Increase public recreation opportunities
- Protect scenic landscapes in the area; particularly along a designated scenic road or river.
- Protect areas designated as part of the Upper Savannah Focus Area Initiative or Partnership for the Blue Ridge.
- Protect river systems, wetlands, and their associated upland habitats.
- Provide a connective corridor between existing conservation projects.

CENTRAL PIEDMONT

Description:

The Central Piedmont Forest Legacy Area (CPFLA) encompasses counties within the Piedmont Plateau Region of South Carolina. The CPFLA includes portions of Chester, Fairfield, Lancaster, Laurens, Newberry, Union, and York Counties. This area contains the Catawba Focus Area. The topography consists of moderate to steeply sloped drainages characteristic of the Piedmont Plateau, and soils are generally acidic with a sandy-loam topsoil and a red clay subsoil.

Special Values of the Forest Land in this Area:

Forest types range from extensive bottom-land hardwoods along the Broad River, Tyger River, Enoree River and the Catawba River basins, with loblolly and shortleaf pines in the Piedmont, to limited upland hardwood forests in portions of the area.

Production of forest products is a major industry in the area. Commercial wood using industries produce lumber, plywood, oriented strand board, chips for paper and pulp, posts, and fuel. Forest related activities, such as hunting and outdoor recreation are also very significant opportunities which contribute greatly to the well being and livelihood of the local communities and their economies.

These forests provide many unique habitats that are used by a variety of wildlife, some of which are endangered or threatened. In addition to many endangered or threatened plant species found in these forests, this area is home to many endangered or threatened animal species such as the Bald Eagle, wood stork and Schweinitz's sunflower. The area also has a rich cultural heritage, both historic and prehistoric. Native American sites abound (particularly around the river basins), as well as sites used by early settlers. Several of these areas have already been protected under the state Heritage Preserve program (Rock Hill Blackjacks HP, Pacolet River HP and Peters Creek HP) or as part of state parks (e.g. Landsford Canal SP, Rose Hill State Historic Site, Chester SP, Croft State Natural Area and Musgrove Mill SP) and national historic sites (Kings Mtn. National Battlefield and Cowpens National Battlefield).

Managed Lands within the CPFLA:

Managed lands include those that are publicly and privately owned for the purpose of conserving and preserving natural resource values. These values include fish and wildlife habitat conservation, preservation of archaeological and historical sites and sustainable recreation areas. The SCDNR manages several properties within the CPFLA including but not limited to: Draper, Landsford Canal, Heritage Tract, McDowell Creek, and Forty-Acre Rock. These Wildlife Management Areas (WMA's) and Heritage Preserves (HP's) generally include upland habitat and most have significant frontage along creeks and/or major rivers. These areas provide key opportunities for hunting, fishing, hiking, bird watching, and other non-consumptive uses. The Draper WMA is a flagship WMA within the CPFLA that promotes habitat development and maintenance for early plant successional stage communities that enhance the propagation of bobwhite quail and other wildlife species that benefit from these habitat types.

The South Carolina Parks, Recreation and Tourism Department also managed property in and around the CPFLA. These areas include Andrew Jackson, Chester, Croft, Kings Mountain, Landsford Canal and Rose Hill State Parks. In most cases these parks are managed for daily visitation to inform visitors of significant historical events or places and have limited camping facilities.

Finally, the Enoree Ranger District of the Sumter National Forest adjoins this Forest Legacy Area. The Enoree is one of three ranger districts that comprise the Sumter National Forest. Its 161,216 acres are located in Chester, Fairfield, Laurens, Newberry, and Union Counties.

Current Conversion Pressures:

Many of the counties within the CPFLA are experiencing dramatic conversions from timberlands to residential and commercial development. In fact, from 2006-2006 York County was the fastest growing county in South Carolina and ranked second in overall population (Population Division, US Census Bureau). Most of this growth can be attributed to the expansion of Charlotte, North Carolina and Rock Hill, South Carolina.

Potential Future Pressures:

This region has four interstates (I-26, I-77, I-385 and I-85) which make commuting by workers and transportation of business products very desirable. It is apparent that the continual growth and expansion of urban areas and the loss of rural forested areas, particularly along interstate corridors, will continue. The next decade will most likely see a much greater conversion of forested lands to urban sprawl than the last decade due to the attractiveness of the region to industrial development and its commutable proximity to major metropolitan areas.

Goals and Objectives for the CPFLA:

- Maintain and enhance the forests of the Piedmont Plateau and their associated plant and animal communities.
- Enhance the opportunities for public recreation.
- Protect the scenic landscapes within the area.
- Protect areas of historic and archaeological significance.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Catawba Focus Area Initiative.
- Provide a connective corridor between existing conservation projects.

DRAFT

WESTERN PIEDMONT

Description:

The Western Piedmont Forest Legacy Area (WPFLA) includes portions of Abbeville, Aiken, Edgefield, Greenwood, McCormick, and Saluda Counties. Terrain in the area is typical of the Piedmont and Sandhills, with gently to severely rolling elevations varying from about 80 to 850 feet above mean sea level. Two major river systems, the Savannah and the Saluda, drain the area. This area contains the portions of the Upper Savannah and South Lowcountry Focus Area Initiatives.

Special Values of the Forest Land in this Area:

Forest types range from extensive bottom-land hardwoods along the Savannah River, longleaf pine-wiregrass and scrub oak communities in the Sandhills, loblolly and shortleaf pines in the Sandhills and Piedmont, to limited upland hardwood forests in the upper portion of the area.

Production of forest products is a major industry in the area. Commercial wood using industries produce lumber, plywood, oriented strand board, chips for paper and pulp, posts, and fuel. Forest related activities, such as hunting and outdoor recreation are also important industries which contribute significant amounts of money to local economies.

These forests provide many unique habitats that are used by a variety of wildlife, some of which are endangered or threatened. In addition to many endangered or threatened plant species found in these forests, this area is home to many endangered or threatened animal species such as Webster's salamander and the gopher tortoise. The area also has a rich cultural heritage, both historic and prehistoric. Native American sites abound, as well as sites used by early settlers. Several of these areas have already been protected under the state Heritage Preserve program or as part of state parks and national historic sites.

Managed Lands within the WPFLA:

Managed lands include those lands that are owned primarily for the purpose of natural resources conservation, and may be publicly or privately owned. This area adjoins the Long Cane Ranger District of the Sumter National Forest (119,077 acres) and the Savannah River Site (198,000 acres) which is owned by the Department of Defense. SCDNR owns several properties including Aiken Gopher Tortoise Heritage Preserve and the Mason Wildlife Management Area.

Current Conversion Pressures:

All counties in the WPFLA are experiencing significant industrial growth especially Greenwood and Aiken Counties. Due to its proximity to Laurens County and Augusta, GA which both are major centers for manufacturing in textiles, pharmaceuticals, metals, and other products, this corridor is facing tremendous development pressure from commuters and second home sites. The Savannah River and Lake Greenwood provide highly sought after amenities for such developments. In addition, forest land in Aiken County is rapidly being cut and converted into small horse farms and thereby creating a dramatic rise in land value.

Potential Future Conversion Factors:

All parts of the WPFLA are experiencing significant growth, with a noticeable trend of locating residences in rural, rather than suburban areas. A number of new industries have located within the area, bringing additional people to the area. Developers have actively been seeking to acquire and develop lands around Lake Russell and Lake Thurmond (including lands owned by the Corps of Engineers). Interstate 20 traverses the area thereby creating easy access to nearby metropolitan areas. In addition, plans are underway to widen or four-lane a number of other highways, which will encourage subsequent development and loss of forests.

Goals and Objectives for the WPFLA:

- Maintain and enhance significant examples of all forest types in the Western Piedmont Forest Legacy Area and their associated high quality plant and animal communities.
- Protect riparian corridors and flood plains along the Savannah and Saluda rivers.
- Protect important historic and archeological sites.
- Maintain contiguous forest land by linking managed public and private lands.
- Encourage habitat enhancement through land purchase and sound forest management to increase public hunting and other outdoor recreation opportunities.
 - Protect the scenic landscapes within the area.
 - Protect areas designated as part of the Upper Savannah and South Lowcountry Focus Area Initiatives.
 - Provide a connective corridor between existing conservation projects.

NORTHERN COASTAL

Description:

The Northern Coastal Forest Legacy Area (NCFLA) of South Carolina includes portions of Chesterfield, Darlington, Dillon, Florence, Lee, Marion, Marlboro, Horry, Sumter, Richland, Clarendon, Georgetown and Williamsburg Counties. This area contains the Great Pee Dee/Lynches, Little Pee Dee/Lumber, Upper Waccamaw, Santee River, Santee Cooper Lakes, Upper Congaree/Wateree/Santee, and Winyah Bay Focus Area Initiatives.

Special Values of the Forest Land in this Area:

Within the NCFLA, many coastal plain forest ecosystems can be found. In the upper coastal plain region well developed xeric sandhills can be found in Kershaw and Chesterfield Counties. These forests are dominated by longleaf pine and turkey oak. Moving eastward deep sandy soils are less prevalent and tree species diversity increases. Most stands on upland sites are dominated by loblolly and/or longleaf pine with the understory consisting of a variety of hardwood shrub species.

There are however, some very unique ecosystems just east of the Sandhills. In Lee County there are forests that are classified as Longleaf Pine Savannas. These savannas are critical for the existence of several rare and threatened plants and animals in Lee County.

The Great Pee Dee River is the ecological cornerstone of the Northern Coastal Plain. This large red river enters South Carolina from North Carolina and travels south to Winyah Bay in Georgetown County. The Great Pee Dee is the only large red river in South Carolina that has not been dammed, so a considerable amount of diversity in forest lands still exists. The higher bluff portions are mostly mature oak-hickory forests with the lower elevations being comprised mainly of gum-cypress swamps. Currently, the Great Pee Dee river swamp represents the most significant forested land mass in the region. In addition to the Great Pee Dee, there are several black water streams in the region that have forested wetlands and uplands. These river systems are essential flood plain habitats that are important to many aquatic species and must be protected.

The coastal portion of this region contains many Carolina bays that have not been cleared for agriculture. Carolina Bays are elliptical shallow depressions found primarily in the Northern Lower Coastal Plain. They have many unique physical and botanical characteristics and usually differ markedly from local flora both in terms of plant structure and species composition. Carolina Bays provide tremendous diversity and are home to many threatened and endangered species.

Managed Lands Within the NCFLA:

Non-industrial private landowners still own the majority of the land in South Carolina's Northern Coastal FLA. Desirable agricultural characteristics have resulted in a very high percentage of the land base being converted to farmland. However, there is considerable forest land owned by non-industrial landowners. The most significant managed forest lands in the NCFLA are those owned by forest industry. Additionally, there are several forests owned by state agencies including the South Carolina Forestry Commission, South Carolina Parks Recreation and Tourism, South Carolina Public Service Authority, and the South Carolina Department of Natural Resources. Also there are two National Wildlife Refuges, and numerous tracts protected by non-profit organizations through either fee-simple ownership or conservation easements.

Current Conversion Pressures:

Currently some of the fastest population growth rates in the state are occurring in this region. From 2006-2007, Horry County was the third fastest growing county in the state. Much of Horry County has been developed, and the remaining undeveloped land is too expensive for conservation to be a feasible option. Within the last 10 years the coastal portion of Horry County has developed a reputation as a year-long resort area. Most notably the golf industry has soared. With this tremendous increase in year-round tourism has come a need for increased infrastructure. Conservation priorities have therefore been established for neighboring areas and counties to limit the spread of uncontrolled development.

Potential Future Conversion Factors:

Historically, most development has occurred close to the coast. However, within the last 5 years, significant development has occurred inland. There is every reason to believe that growth will continue to spread westward, especially as the construction of Interstate-73 begins. In addition to the growing threat from the tourism industry, legislators from some rural counties have introduced bills to relax tax rates for large industries. If these efforts are successful and new industries locate in this area, the value of land will increase. As demand for land increases, so will the economic incentives for private landowners and industrial forest landowners to sell tracts for development. This FLA recently saw major changes in ownership as International Paper decided to divest of all its land holdings. Fortunately, many of the large tracts were purchased by other timber investment organizations; however, these companies are still in the process of identifying which tracts they wish to retain and which ones are going to be sold. The future of these traditional industrial forests is still very uncertain.

Goals and Objectives for NCFLA:

- Strategically protect lands to provide significant greenways along the river systems.
- Protect, maintain and enhance significant forested areas.
- Increase public recreation opportunities.
- Protect important cultural and archaeological sites.
- Protect the scenic landscapes within the area.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Great Pee Dee/Lynches, Little Pee Dee/Lumber, Upper Waccamaw, Santee River, Santee Cooper Lakes, Upper Congaree/Wateree/Santee, and Winyah Bay Focus Area Initiatives.
- Provide a connective corridor between existing conservation projects.

SOUTHERN COASTAL

Description:

The Southern Coastal Forest Legacy Area (SCFLA) encompasses much of the southeastern third of the state. The SCFLA contains portions of Allendale, Bamberg, Barnwell, Beaufort, Berkeley, Calhoun, Charleston, Colleton, Dorchester, Hampton, Jasper, and Orangeburg Counties. There are many low/wet areas with rivers flowing into the Savannah River, Edisto River or the Atlantic Ocean. This area contains four focus areas (Santee River, CAWS Basin, ACE Basin, and South Lowcountry and the Santee Cooper Lakes Focus Area Initiatives.

Special Values of Forest Land in this Area:

Historically, longleaf pine dominated the uplands, and bottomland hardwoods including oaks, bald cypress, and water tupelo dominated the low/wet areas. The abundant low-lying areas along with productive uplands make this area and the forest within it diversified and valuable.

The forest industry is a thriving part of the economy for these counties and creates a large majority of the workforce needs for the area. Forest industry and the overall local economies rely heavily on the forest in this area and the assurance of these forests for years to come. In addition to money generated from the management and harvesting of the forests, is the contribution to the local economies for hunting leases and other recreational opportunities such as camping, walking, bike-riding, fishing, and boating. This portion of the state maintains the longest hunting season on any state in the nation and counties receive direct financial benefits from travel and expenditures associated with these activities.

The SCFLA contains many threatened and endangered species including but not limited to the: gopher tortoise, wood stork, red-cockaded woodpecker, Canby's dropwort, and pondberry.

Managed lands within SCFLA:

Managed lands include those lands that are publicly or privately owned for the purpose of natural resource conservation. The SCFLA contains and adjoins many state and federally owned properties such as wildlife management areas, heritage preserves, state parks, research reserves, military bases, and wildlife refuges. In addition, a tremendous amount of land that is protected within SCFLA by voluntary conservation easements. The Francis Marion National Forest (252,201), administered by the USDA, Forest Service, also adjoins this FLA.

Current Conversion Pressures:

Five counties in this area are growing at an equal or faster rate than the state average of 7.3%, between 1990 and 1995 (Dorchester 21%, Beaufort 19.9%, Berkeley 18.4%, Jasper 8.5%, and Colleton 7.3%). Major cities within these counties are also expanding at a fast rate. The expansion of these counties and cities indicates the conversion of rural land into urban area and along with other uses that are non-conducive to natural forests.

Potential Future Conversion Factors:

Cities are annexing property on all sides to allow for the expanded growth in population and the accompanying development. Large industries are locating along major river systems, especially those near ports. Charleston, South Carolina already contains the largest containerized port in the Southeast Atlantic and Gulf Coasts. A proposed interstate (I-73), that will bisect numerous rural areas, may run from West Virginia to Charleston, South Carolina. Along with this will come industries, commercial development, and residential development. The major island resorts are also expanding to accommodate the growing numbers of tourists that are relocating and visiting the coastal areas.

Goals and Objectives for SCFLA:

- Maintain and enhance the high quality of forest resources along with the associated plant, and animal communities.
- Maintain and enhance the bottomland hardwood areas located along major river systems.
- Protect historical and cultural resources.
- Protect areas inhabited by threatened and endangered species.
- Maintain contiguous forest land by connecting to managed public and private lands.
- Preserve the rural landscape and associated by-products that provide jobs.
- Provide opportunities for the public to have a place to enjoy various types of outdoor recreation.
- Provide opportunities for environmental education and research.
- Protect the scenic landscapes.
- Protect diminishing riparian corridors from further development; including the protection of river systems, wetlands, and their associated upland habitats.
- Protect areas designated as part of the Santee River, CAWS Basin, ACE Basin, South Lowcountry, and Santee Cooper Lakes Focus Area Initiatives.
- Provide a connective corridor between existing conservation projects.

Appendix C

Application and Evaluation Forms

DRAFT

South Carolina Forest Legacy Landowner Application Package

Contents:

- Landowner Inspection Consent Agreement
- Forest Legacy Program Application Form
- Application Submission Checklist
- Map of Designated Forest Legacy Areas
- Forest Legacy Parcel Evaluation Criteria Scale and Description

FOR OFFICE USE ONLY

APPLICATION NUMBER: _____

DATE: _____

**STATE OF SOUTH CAROLINA
FOREST LEGACY PROGRAM
LANDOWNER INSPECTION CONSENT AGREEMENT**

I, _____ as the landowner or the landowner's authorized agent (proof of authorization must accompany this document) agree to allow inspection, appraisal and survey of my property being offered for consideration under the Forest Legacy Program. I agree to allow members of the U.S. Forest Service, South Carolina Forestry Commission, South Carolina Forest Stewardship Coordinating Committee, the South Carolina Department of Natural Resources or their designated staff to inspect the property as may be required at any time. I shall be notified in advance of all inspection visits.

Signature of Landowner or Agent

Date

SC Department of Natural Resources

Date

Title

FOR OFFICE USE ONLY

Received by: _____ Application Number _____

Date: _____

ACQUISITION TYPE: ___ Fee Purchase ___ Conservation Easement

APPLICANT INFORMATION:

Landowner's Name: _____

Mailing Address: _____

Daytime Telephone Number: _____

Landowner's Agent: _____

Mailing Address: _____

Daytime Telephone Number: _____

South Carolina House District: _____

South Carolina Senatorial District: _____

PROPERTY INFORMATION:

Legal Description: County: _____

Tax Map # _____

Assessor's Plat and Lot Numbers: _____

Deed Reference (Book and Page Number): _____

Current Local Zoning where property is located:
(Include minimum lot size and road frontage requirements): _____

Current tax valuation or recent appraisal (attach if available)

Property's Total Forested Acres: _____

Acres of Cleared/Open Land: _____

Forested Acres of Tract Offered For Forest Legacy: _____

(Complete For Conservation Easement Purchase Only)

LANDOWNER GOALS AND OBJECTIVES

Describe your long term goals and objectives for this parcel:

TRADITIONAL FOREST VALUES

What is/are the traditional use(s) of this forest land? (Examples: timber production, hunting, other outdoor recreation, scenic beauty, etc.)

LANDOWNER COMMENTS

In your opinion, is there a “threat of conversion to non-forest use” of the parcel proposed for enrollment in the Forest Legacy Program? Be specific:

Do you currently have a forest management plan? _____
If so, please provide a copy.

(Complete for Conservation Easement Purchase Only)

Please complete the following section carefully and completely. The information you provide will assist us in deciding upon the eligibility and desirability of the parcel as well as its appraised value and ranking. **Note that checking “retain” does not limit your ability to negotiate price and options in the future; it merely assists us when evaluating your parcel.**

Indicate which of following interests you desire to retain: (Those marked “retain” should be the rights you want to keep. All other rights may become the property of the State of South Carolina upon successful completion of negotiations between the State of South Carolina and yourself.)

Retain	Not Retain	
___	___	Timber and wood production rights
___	___	Water rights
___	___	Mineral/gas/oil rights (unrestricted access)*
___	___	Mineral/gas/oil rights (restricted access)**
___	___	Pine straw raking
___	___	No public access***
		Retain control of the following recreational activities:***
___	___	Hunting
___	___	Fishing
___	___	Camping
___	___	Hiking or other passive recreation
___	___	Bicycling
___	___	Horseback riding
___	___	Motorized vehicles access
		Non-forest uses withing easement area****
___	___	Grazing (amount of area ___ acres)
___	___	Farming (amount of area ___ aces)
___	___	Road Construction (other than for forest management/protection)
___	___	Buildings and other improvements (amount of area ___ acres)
___	___	Other: _____

*Retention of unrestricted mineral/gas/oil rights will exclude that portion of the tract from consideration in the Forest Legacy Program.

**Retention of restricted mineral/gas/oil rights which will allow less than 25% surface occupancy may be consistent with the Forest Legacy Program.

***In order for the tract to be considered for the Forest Legacy Program, the opportunity for public recreation is required.

****Total area of all non-forest uses cannot exceed 25% of the total tract area.

CONFIDENTIAL

The following information shall remain strictly confidential until such time as: 1) the application is approved and all financial transactions are concluded, or 2) all title holders give written permission to release the information.

FINANCIAL INFORMATION

The following recommendations are for preliminary use only. Any final offer will be based on, and cannot exceed, the fair market value, determined by an appraisal meeting federal appraisal standards.

State the value of the interests to be enrolled in the Forest Legacy Program, and the method used to determine that value (appraisal, landowner estimate, etc.)

What is/are the estimated sale price(s) of the interests being offered?

State the value of the landowner(s) contribution, if any, either in donated value of in-kind services or financial.

LIENS AND ENCUMBRANCES

List any and all liens and encumbrances on the property proposed for enrollment in the Forest Legacy Program. Example: utility easements, public rights of way, water flow or use restrictions, septic systems or water easements, deed restrictions, tax liens, etc.

The information provided is true to the best of my/our knowledge and belief. ALL TITLE HOLDERS MUST SIGN.

PRINT NAME(S)

SIGNATURE

DATE

FOR OFFICE USE ONLY

Application Number: _____

Date: _____

FOREST LEGACY PROGRAM - Checklist

With the Forest Legacy Program application package, please submit the following for each contiguous parcel:

- Completed application
- Name(s) and address(es) of other owner(s) of record for this tract
- Signed consent agreement
- Copy of road map indicating location of the property
- Copy of plat or survey map of the parcel
- Legal description (if available)
- Forest management plan (if available)

NOTE: All materials will become the property of the State of South Carolina and are non-returnable.

DISCLOSURE OF THIS INFORMATION IS VOLUNTARY; HOWEVER, FAILURE TO COMPLY MAY RESULT IN THIS FORM NOT BEING PROCESSED.

South Carolina Forest Legacy Area Evaluation Criteria

Each parcel nominated for acquisition under the Forest Legacy Program will be evaluated, in part, by using the following criteria. The total numerical score will NOT be the ultimate deciding factor but will serve as a tool used to prioritize parcels. Below is a list the criteria and maximum points available for each tract. Points will be awarded based on the characteristics of the area and the goals of that particular Forest Legacy Area.

Forest Legacy Parcel Evaluation Criteria

Category	Weighting Maximum Score
1. Forest Sustainability	80 points
2. Fish and Wildlife Habitat Values	80 points
3. Public Recreation Potential	80 points
4. Level of Conversion Threat	80 points
5. Acquirability	80 points
6. Manageability	80 points
7. Riparian and Hydrologic Values	50 points
8. Threatened and Endangered Species Values	50 points
9. Archaeological, Cultural, Geologic and Historic Resources	30 points
10. Special Considerations	80 points

Maximum Possible Points = 690

Note: Minimum score allowed for consideration in the Forest Legacy Program is 300 points.

Forest Legacy Program

Description of Evaluation Criteria

1. Forest Sustainability: The potential of a parcel to produce forest products including productivity, accessibility, vegetative community, standing timber, management history and location.

- Parcel has the soil productivity and natural vegetative community to produce high quality timber, pulpwood and other forest products.
- Parcel has growing timber stock in place.
- Parcel is located such that products can be transported a reasonable distance to a user.
- Parcel has the ability to access the timber for removal.
- Parcel has the ability to be managed for forest products due to its history and current condition.
- Parcel has diverse timber age and type and creates or provides the opportunity to create species diversity on the tract.

2. Fish and Wildlife Habitat Values: The habitat potential of a parcel for all types of wildlife and fish species including those hunted and fished.

- Parcel contains excellent habitat or habitat potential for game species.
- Parcel contains excellent habitat or habitat potential for game fish including cold-water trout, black bass, sunfish and others.
- Parcel contains significant populations of resident species.
- Parcel contains good or excellent habitat or habitat potential for forest inhabiting or grassland bird species.
- Parcel contains good or excellent habitat or habitat potential for significant populations of forest inhabiting mammals, reptiles, amphibians and invertebrates.
- Parcel contains areas for resting and feeding of migratory species.
- Parcel exhibits connective habitats, corridors, habitat linkages and areas that reduce biological isolation.
- Parcel borders other protected/managed lands

3. Public Recreation Potential: The potential of a parcel to provide the public with outdoor recreation potential including hunting, fishing, hiking, birding, horseback riding, wildlife observation, and other types of recreation. Parcels to be owned and managed by SCDNR must be compatible with SCDNR's Recreational Use Policy.

- Parcel is accessible for management activities.
- Parcel is externally accessible to the public by automobile or boat and internally accessible by reasonable means.
- Parcel has potential water-based recreational value.

- Parcel has unique habitat, geological formation, wildlife population or other special recreational attraction.
- Parcel has potential for inclusion in the Wildlife Management Area Program.
- Parcel is compatible with SCDNR's Recreational Use Policy (if to be owned and managed by SCDNR).

4. Level of Conversion Threat: The parcel is threatened by conversion from managed forest into other land uses by residential development, commercial development, infrastructure development, or subdivision into smaller parcels.

- Parcel is in danger of conversion to non-forest use within 10 years.
- Parcel is currently for sale on the open market.
- Parcel may remain wooded, but will become further subdivided within 10 years.
- Parcel is located where infrastructure extensions and improvements are imminent.
- Parcel may remain wooded, but is in danger of non-sustainable management.

5. Acquirability: The potential ability of a managing entity to acquire the parcel easily.

- Parcel is available from a willing seller at a reasonable price.
- Parcel has clear title and no other legal or social complications.
- Parcel is available with the 25% match funding donated by the current owner or 25% nonfederal match is readily available.
- Parcel has significant opportunity to leverage multiple funding sources for acquisition.

6. Manageability: The potential ability of a managing entity to manage the area in a cost effective and efficient manner.

- Parcel is accessible for management activities.
- Parcel can be managed economically due to location, topography, vegetative community and other concerns.
- Parcel is located such that management activities such as burning, timber harvest and other activities will not be restricted.
- Parcel can accommodate proposed priority uses and management activities without degrading its natural value.
- Parcel can be protected from future degradation by activities occurring on neighboring properties.
- Parcel is close to other SCDNR properties or other conservation areas.

7. Riparian and Hydrologic Values: The parcel contains wetlands that have ecological values including unique habitats, flood control, sediment filtration, and contaminant filtration.

- Parcel is situated on a river, stream or marine shore.
- Parcel has extensive river, stream or marine shoreline.
- Parcel includes the 100-year floodplain.

- Parcel includes a designated scenic river, stream or wetland.
- Parcel contains minimum 50-foot buffer of trees along shorelines as a sediment buffer.
- Parcel contains ecologically significant wetlands such as isolated bays, bogs, depression meadows and ponds.
- Parcel is adjacent to or near other protected wetlands.
- Parcel includes the surface watershed or the recharge area of a ground water aquifer for a public water supply.

8. Threatened and Endangered Species: The parcel contains populations or suitable habitats of rare, threatened or endangered species of fish, wildlife or plants.

- Parcel contains known occurrences of rare, threatened or endangered species of animals or plants or will serve as a buffer for such property.
- Parcel is within close proximity to a site with known occurrences of species of concern.
- Parcel contains habitats that are suitable for reoccupation of such species.
- Parcel contains habitats that often harbor such species.
- Parcel is contiguous to Heritage Trust or other protected properties with similar habitat.

9. Archeological, Cultural, Geologic and Historic Resources: The parcel contains known or likely sites of significant historic or cultural value.

- Parcel contains forest related cultural resources such as a historic forest, mill site, tar kiln or other forest industry site.
- Parcel contains other historic or archaeological resources such as Native American sites, historic structures or historic sites.
- Parcel contains significant rock formations, waterfalls, earth strata, or limestone bluffs.

10. Special Considerations: The parcel has special attributes that are not accounted for in 1-9 above. Examples of special considerations include but are not limited to:

- Parcel is located within an area of special interest including but not limited to a Focus Area or Scenic River corridor
- Parcel borders a scenic highway and/or contains a panoramic view or other scenic resources.
- Parcel is available at a low cost per acre.
- Parcel is located in an area with limited public recreation or limited resource protection in place
- Parcel will leverage significant conservation action or provide conservation opportunities on adjacent tracts.
- Parcel has a desirable size and shape.
- Parcel has established roads, wildlife openings, etc.

- Parcel is located near other areas of conservation efforts.
- Parcel provides excellent opportunities for education or research related to SCDNR mission.
- Parcel will leverage significant conservation action or provide opportunities on adjacent tracts.

DRAFT

SOUTH CAROLINA FOREST LEGACY PARCEL EVALUATION PACKAGE

Contents:

***Cover sheet:** To be completed with information supplied on the application form. The landscape description is meant to include the physical characteristics of the surrounding area including topography, soils, and surface and ground water hydrology; brief inventories of major vegetative groups, fish and wildlife resources, scenic resources and any other forest resources; as well as surrounding land uses. The parcel description is meant to include an in-depth description of the above mentioned items, but as they pertain to the parcel. Use additional sheets as needed. This sheet will be completed by investigating personnel directed to do so by the State lead agency.

***Parcel Evaluation Sheet:** This sheet will be completed by personnel directed to do so by the lead agency, in consultation with investigating personnel and the Forest Legacy Committee.

***Scoring:** The final numerical score will not be used as the sole factor in determining which parcel/interest should be acquired but merely as a guide to relative values of the resource under evaluation.

COVER SHEET

SOUTH CAROLINA FOREST LEGACY PROGRAM PARCEL EVALUATION PACKAGE

Forest Legacy Area _____

File Number: _____

Date of Evaluation _____

Landowner's Name _____

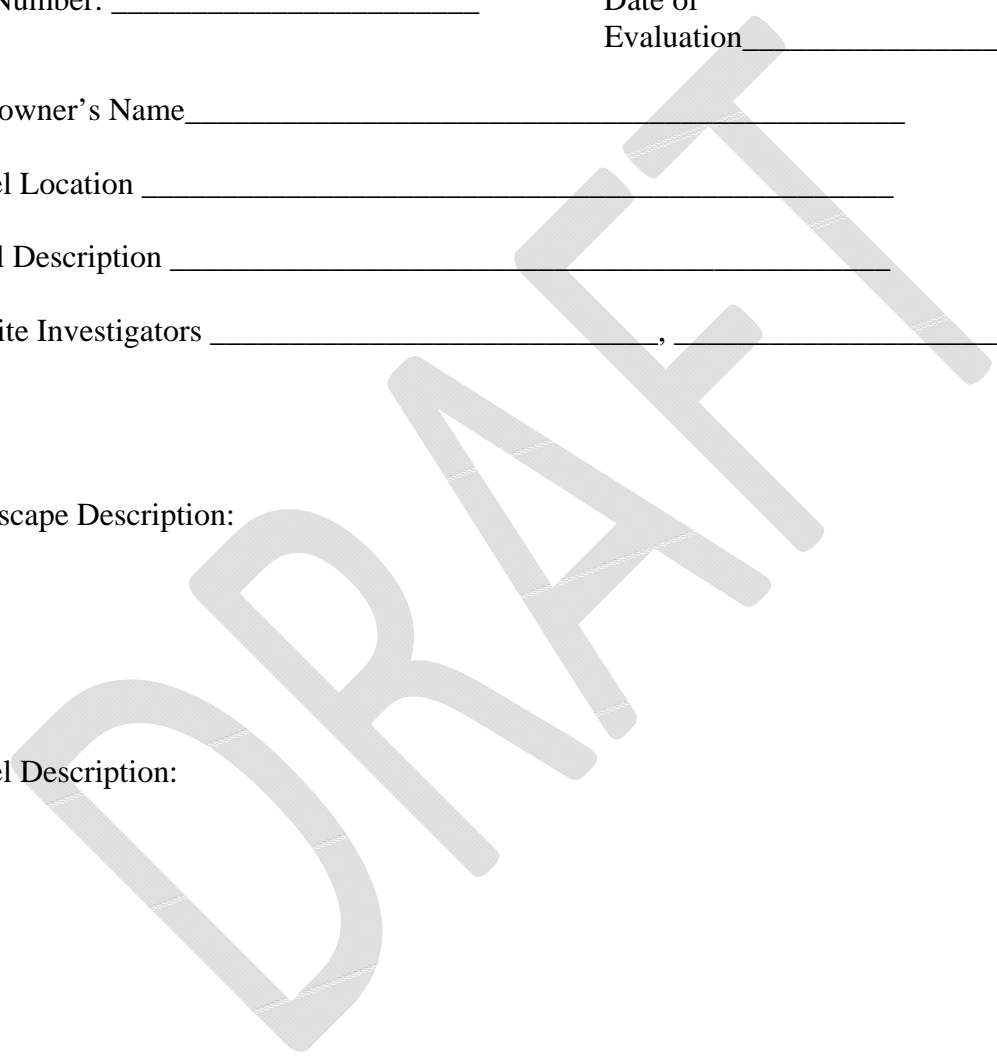
Parcel Location _____

Legal Description _____

On Site Investigators _____, _____

Landscape Description:

Parcel Description:



South Carolina Forest Legacy Parcel Evaluation Criteria

Parcel Name: _____ Owner: _____

County: _____ Acres: _____

Location: _____

Forest Legacy Area _____

Evaluator Name(s) _____

Category	Weighting					Score
	None	Poor	Fair	Good	Excellent	
1. Forest Sustainability	0*	20*	40	60	80	_____
2. Fish and Wildlife Habitat Values	0*	20	40	60	80	_____
3. Public Recreation Potential	0*	20	40	60	80	_____
4. Level of Conversion Threat	0*	20*	40	60	80	_____
5. Acquirability	0*	20	40	60	80	_____
6. Manageability	0*	20	40	60	80	_____
7. Riparian and Hydrologic Values	0	10	20	35	50	_____
8. Threatened and Endangered Species Values	0	10	20	35	50	_____
9. Archeological, Cultural, Geologic, and Historic Resources	0	5	10	20	30	_____
10. Special Considerations	0	20	40	60	80	_____

Final Score: _____

Maximum Possible Points = 690

Note: Minimum score allowed for consideration in the Forest Legacy Program is 300 points.

*A tract with such a rating will not be considered eligible for acquisition as part of the Forest Legacy Program.

Comments:

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Appendix D

Threatened and Endangered Species in South Carolina

Federally Threatened and Endangered Species of South Carolina

Animals -- 23	
	Species/Listing Name
E	Bat, Indiana (<i>Myotis sodalis</i>)
E	Beetle, American burying (<i>Nicrophorus americanus</i>)
E	Curlew, Eskimo (<i>Numenius borealis</i>)
E	Heelsplitter, Carolina (<i>Lasmigona decorata</i>)
E	Panther, Florida (<i>Puma (=Felis) concolor coryi</i>)
E	Pelican, brown except U.S. Atlantic coast, FL, AL (<i>Pelecanus occidentalis</i>)
T	Plover, piping except Great Lakes watershed (<i>Charadrius melodus</i>)
E	Puma (=cougar), eastern (<i>Puma (=Felis) concolor cougar</i>)
T	Salamander, flatwoods (<i>Ambystoma cingulatum</i>)
T	Sea turtle, green except where endangered (<i>Chelonia mydas</i>)
E	Sea turtle, hawksbill (<i>Eretmochelys imbricata</i>)
E	Sea turtle, Kemp's ridley (<i>Lepidochelys kempii</i>)
E	Sea turtle, leatherback (<i>Dermochelys coriacea</i>)
T	Sea turtle, loggerhead (<i>Caretta caretta</i>)
T	Snake, eastern indigo (<i>Drymarchon corais couperi</i>)
E	Stork, wood AL, FL, GA, SC (<i>Mycteria americana</i>)
E	Sturgeon, shortnose (<i>Acipenser brevirostrum</i>)
E	Warbler (=wood), Bachman's (<i>Vermivora bachmanii</i>)
E	Whale, finback (<i>Balaenoptera physalus</i>)
E	Whale, humpback (<i>Megaptera novaeangliae</i>)
E	Whale, right (<i>Balaena glacialis (incl. australis)</i>)
E	Wolf, gray Lower 48 States, except where delisted; where XN; and Mexico. (<i>Canis lupus</i>)
E	Woodpecker, red-cockaded (<i>Picoides borealis</i>)
Plants -- 19	
Status	Species/Listing Name
T	Amaranth, seabeach (<i>Amaranthus pumilus</i>)
T	Amphianthus, little (<i>Amphianthus pusillus</i>)
E	Arrowhead, bunched (<i>Sagittaria fasciculata</i>)
E	Chaffseed, American (<i>Schwalbea americana</i>)
E	Coneflower, smooth (<i>Echinacea laevigata</i>)
E	Dropwort, Canby's (<i>Oxypolis canbyi</i>)
T	Gooseberry, Miccosukee (<i>Ribes echinellum</i>)
E	Harperella (<i>Ptilimnium nodosum</i>)
T	Heartleaf, dwarf-flowered (<i>Hexastylis naniflora</i>)
E	Loosestrife, rough-leaved (<i>Lysimachia asperulaefolia</i>)
T	Pink, swamp (<i>Helonias bullata</i>)
E	Pitcher-plant, mountain sweet (<i>Sarracenia rubra ssp. jonesii</i>)
T	Pogonia, small whorled (<i>Isotria medeoloides</i>)
E	Pondberry (<i>Lindera melissifolia</i>)
E	Quillwort, black spored (<i>Isoetes melanospora</i>)
E	Sumac, Michaux's (<i>Rhus michauxii</i>)
E	Sunflower, Schweinitz's (<i>Helianthus schweinitzii</i>)
E	Trillium, persistent (<i>Trillium persistens</i>)
E	Trillium, relict (<i>Trillium reliquum</i>)

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