



SOUTH CAROLINA

FOREST SERVICE RESEARCH AND DEVELOPMENT

STATE FUNDING HISTORY	Enacted FY 2003 (\$)	Enacted FY 2004 (\$)	Pres. Budg. FY 2005 (\$)
CHARLESTON			
SRS-4103 Center for Forested Wetlands	1,205,000	1,194,176	1,384,176
CLEMSON			
SRS-4201 Threatened and Endangered Species	615,357	609,829	696,390
SOUTH CAROLINA TOTAL	1,820,357	1,804,005	2,080,566

RESEARCH & DEVELOPMENT, a division of the USDA Forest Service (FS R&D), strives to be the “go to” organization for information and solutions to sustain forests and rangelands and the values they provide people. FS R&D has the flexibility to address today’s issues effectively and to respond to tomorrow’s needs. Among the world’s leaders in forest conservation research, scientists contribute to the stewardship of land, real property and society by providing research results that help create jobs and affordable homes, and improve the health of trees, forests and forest ecosystems. Innovative research products permit the Forest Service and other public and private land managers to monitor and manage forest responses to environmental change, contributing significantly to the sustainability of the nation’s forests and rangelands and improving human health.

FS R&D operates six research stations, the Forest Products Laboratory, and the International Institute of Tropical Forestry located in Puerto Rico. It employs over 500 scientists and hundreds of technical and support personnel at 67 field sites throughout the nation. The FY 2005 President’s Budget includes \$280,654,000 for Forest and Rangeland Research.

The **Southern Research Station**, with headquarters in Asheville, NC, and 26 Research Work Units in eleven States, conducts forest research and development in laboratories, on university campuses, and at experimental forests in the 13 Southern States (i.e, FL, LA, OK, NC, KY, GA, SC, TN, MS, TX, AR, AL, and VA). The Station maintains two Research Work Units in South Carolina: one in Charleston and one in Clemson on the Clemson University campus.

Research is also conducted at the U.S. Department of Energy's Savannah River Site near Aiken. The FY 2005 President's Budget includes \$50,640,000 for the Southern Research Station, an increase of \$1,304,000 over the FY 2004 Final Appropriation.

AIKEN

U.S. Department of Energy, Savannah River Site. In 1990, the U.S. Department of Energy designated the 200,000-acre Savannah River Site as a National Environmental Research Park. The Southern Region of the USDA Forest Service manages the forests and natural resources on the site. The Southern Research Station conducts environmental research at the site. Current studies include work on wetland restoration, short rotation woody crops, biodiversity, and the use of vegetation to remediate waste.

CHARLESTON

Santee Experimental Forest. Forest Service scientists have been working in the Charleston area since 1937, when 6,000 acres of the Francis Marion National Forest were set aside to establish the Santee Experimental Forest. Early research provided the basis for managing loblolly pine, a key commercial species in the South. Current work focuses on sustainable management of the coastal plain forests, with emphasis on productivity, biodiversity community dynamics and carbon cycling.

SRS-4103, Center for Forested Wetlands Research: Ecology and Management of Forested Wetland Landscapes. The mission of the center is to develop, quantify, and synthesize ecological information needed to sustainably

manage and restore the structure, function and productivity of forested wetland landscapes.

CLEMSON

SRS-4201, Endangered, Threatened, and Sensitive Wildlife and Plants in Southern Forests. This Unit's mission is to understand population and community processes that affect vulnerable wildlife and plant species in southern forests and to develop strategies for their conservation. Research areas include: (1) ecology of bats of southern forests; and (2) threatened, endangered and sensitive plants in longleaf pine forests. Unit scientists are completing final products from previous research on the red-cockaded woodpecker.

RELATED RESEARCH

Forest Inventory and Analysis Research (FIA). Forest Inventory and Analysis is administered in Knoxville, TN, Asheville, NC, and Starkville, MS. The FIA unit develops, analyzes, and maintains forest resource information for the Southern States, Puerto Rico and the Virgin Islands; and conducts research to provide improved inventory and evaluation techniques. The FIA program includes plot-based forest health indicators along with comprehensive forest inventory data to provide information on the status, trends, and condition of forest resources. Annualized forest inventories are currently being implemented across the South. Researchers in the FIA unit are conducting annual inventories in South Carolina, in collaboration with the State Forester. The within-State costs for annual inventory field data collection amount to approximately \$337,000.

PROGRAM CHANGES

- The FY 2005 President's Budget calls for increased research in areas associated with the President's Healthy Forests Initiative, including invasive species impacts, and the expansion of technology transfer activities. The FY 2005 President's Budget also provides new funding for research on water quality and quantity issues; and funding to cover inflationary fixed cost increases.
- Increases for new research on water and watershed issues will:
 - Provide \$75,000 at Clemson's Threatened and Endangered Species Unit (SRS-4201) to expand rare plants research to reduce loss of populations of these plants.
 - Provide \$190,000 at Charleston's Center for Forested Wetlands Unit (SRS-4103) to expand research on water quality and quantity on a variety of ecosystems.
- An increase of \$11,448 for SRS-4201 to cover fixed cost (facilities, salaries, utilities, etc.).
- Forest Service Research and Development will lead an Agency-wide effort to optimize the delivery and practical use of research findings. This is essential to successful implementation of Forest Service priorities, including the President's Healthy Forest Initiative. Opportunities have been identified that leverage current science and technology applications efforts in healthy forests applied science, watershed management, invasive species, hazardous fuels utilization and management, and community preparedness. New funds in FY 2005 will be targeted to leading-edge technical assistance on a competitive basis.

SIGNIFICANT RESEARCH PRODUCTS

- Published a new guide for identifying and controlling nonnative plants in southern forests and held a workshop in Greenville, SC to train land managers from all across the South.
- Early results from an ongoing study of the ecological and economic impacts of various fuel-reduction treatments on Piedmont pine forests indicate that thinning, burning, and a combination of these treatments have a variety of effects on the ecosystem. For example, bats responded positively to thinning and burning treatments by increasing their use of these habitats.
- Published a book on the *Bats of the Savannah River Site and Vicinity*. This book describes the nine common bat species of the Savannah River Site and five more that are occasionally found in the vicinity.
- Published the results of a 40-year study of longleaf pine forests in South Carolina and three other southern states which indicate that frequent and repeated burning in the understory of these stands allows forest managers to restore the understory plants to these ecosystems.
- Completed a 5-year pilot study to develop a monitoring program for ramps (wild leeks). Results of this study will allow National Forest biologists to monitor ramps populations and, when these data are coupled with harvest data, managers will have the basis for developing harvest policies to ensure sustainability of this local favorite.
- Surveyed over 1,100 bridges in South Carolina for Rafinesque's big-eared bat, a species of

special concern. Results of this study will allow the South Carolina Department of Transportation to develop Conservation Agreements with the State and USFWS and hopefully prevent future listing of this species.

- Provided managers of the Francis Marion – Sumter National Forest with information on the amount of recreational visits to the national forest and the degree to which these visitors affect local rural economies.
- A South Carolina scientist co-authored a paper describing a 15-year study of the effects of various intensities of harvesting on wetland soils and ecosystem productivity in a northern coniferous forest.
- Surveyed nonindustrial forest landowners in South Carolina to gauge their awareness of beneficial Federal income tax provisions. While these landowners were aware of a few of the key tax provisions, they were unaware of some that could reduce their taxes.

SOME CLIENTS/COLLABORATORS

Clemson University

College of Charleston

Dept. of Energy, Savannah River Site

Francis Marion & Sumter National Forests

Great Smoky Mountains National Park

Mead-Westvaco

National Audubon Society

National Council for Air & Stream Improvement

South Carolina Department of Natural Resources

South Carolina Department of Transportation

South Carolina Forestry Commission