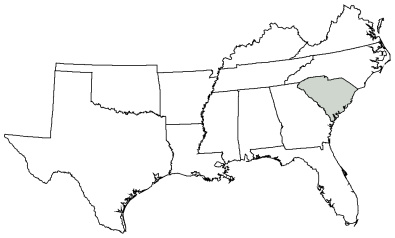
Forest Health Monitoring
Southern Regional Program

Fact Sheet Series

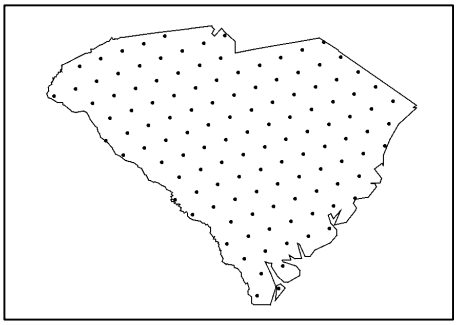
South Carolina (1998)



Sampled Forest Conditions

South Carolina has over 12.6 million acres of forest land (based on the latest state inventory). Forests in South Carolina provides not only timber but clean water, recreation opportunities, and wildlife habitat.

Forest Health Monitoring Sites, 1998



Sampled Year	Number of Sites
● 1998	122
○ Previous	0

Land Use	%
Forested	61
Non-forested	39

The first year for Forest Health Monitoring in South Carolina was 1998. During the first year of implementation in a state, all plots are installed (see above). The distribution of the plots by various descriptors of forest stands is listed below.

How Forest Stands are Distributed

Forest Types	%
Loblolly-Shortleaf Pine	35
Longleaf-Slash Pine	7
All Softwood Types	**42**
Oak-Pine Types	**20**
Oak-Hickory	26
Oak-Gum-Cypress	6
Other Hardwoods	6
All Hardwood Types	**38**

Origin	%
Natural	75
Planted	25

Age (years)	%
0-20	45
21-40	15
41-60	27
60+	13

Three-quarters of forests in South Carolina are natural in stand origin, although nearly half of the stands are less than 20 years old. Stands older than 40 years account for 40% of the forests. The most common forest type group is loblolly-shortleaf.

Loblolly pine was generally the most common tree in all categories followed by red oaks and sweetgum. Cut trees can not be determined until a second measurement (after the 1999 field season). As with other states in the southeastern U.S., red maple ranks high in abundance in most categories.

How Trees Rank in Abundance

Tree Species	Seed-lings	Sap-lings	Live Trees	Dead Trees	Cut Trees
	----------	----------	*rank*	----------	----------
Baldcypress	*	*	8	**5**	---
Loblolly Pine	**4**	**1**	**1**	**1**	---
Longleaf Pine	*	*	7	*	---
Redcedars	*	9	*	*	---
Shortleaf Pine	*	8	6	**3**	---
Virginia Pine	*	*	*	10	---
Ashes	*	*	*	9	---
Black Cherry	7	*	*	*	---
Blackgum	10	*	*	*	---
Elms	9	**5**	*	*	---
Hickories	**5**	**4**	10	**4**	---
Oaks, Red	**1**	**3**	**2**	**2**	---
Oaks, White	6	6	**3**	8	---
Red Maple	**3**	7	**5**	7	---
Sourwood	*	10	*	*	---
Sweetgum	**2**	**2**	**4**	6	---
Sweet Magnolia	8	*	*	*	---
Yellow-poplar	*	*	9	*	---

* Not among the top ten species.

Although the oak-gum-cypress forest type group covers only 6% of the forests, baldcypress ranks number eight in abundance of live trees with a diameter $\geq$ 5.0 inches. The absence of smaller tree classes (seedlings and saplings) indicates that recruitment may be lacking in the future. This is the same relationship between the longleaf-slash pine forest type group (7%) and the abundance of longleaf pine (ranked number seven).

Crown Conditions of Living Trees

Selected Tree Species *	Crown Dieback	Crown Density	Foliage Trans-parency
	percent of trees in poor condition		
Baldcypress	0.0	0.0	0.0
Loblolly Pine	0.0	0.0	0.4
Longleaf Pine	0.0	1.9	0.0
Shortleaf Pine	0.0	0.0	0.0
Hickories	0.0	2.6	0.0
Oaks, Red	0.6	0.6	1.1
Oaks, White	0.0	0.0	1.1
Red Maple	0.0	0.0	0.0
Sweetgum	0.0	0.0	0.6
Yellow-poplar	0.0	0.0	0.0

* Species among the top ten in abundance of live trees.

For all tree species and for all crown variables, there were no noticeable concerns identified during the first year of data collection in South Carolina. For four species, there were no trees in any of the poor condition for any crown variable: shortleaf pine, baldcypress, red maple, and yellow-poplar.

Frequency of Damage on Living Trees

Selected Tree Species *	Trees with any Damage	Most Frequently Observed Damage	
	percent	*type*	*percent*
Baldcypress	0.0	None	0.0
Loblolly Pine	14.7	Cankers	6.8
Longleaf Pine	11.1	Open wounds	7.4
Shortleaf Pine	8.3	Vines in crown	3.1
Hickories	20.5	Loss of terminal	10.3
Oaks, Red	13.4	Decay	6.4
Oaks, White	16.1	Decay	9.7
Red Maple	24.7	Decay	13.6
Sweetgum	19.1	Decay	10.5
Yellow-poplar	7.0	Decay	4.7

* Species among the top ten in abundance of live trees.

Decay was the most commonly recorded damage for all hardwoods except for hickories. Baldcypress had no recordable damage. The most commonly recorded damage for loblolly pine was cankers which are the symptom associated with fusiform rust infection.

Forest Influences

Insect Pests and Diseases

The most significant stressors affecting the states' forests in 1998 occurred in the widespread pine types. Southern pine beetle was found in sixteen counties, half of which were epidemic (one or more multiple-tree infestations per 1,000 acres of susceptible host type). Drought was not as severe as in more northern and western states (see table reflecting relatively good crown conditions), but nonetheless resulted in abnormally high incidence of turpentine beetles, pine engraver beetles, and Nantucket pine tip moth. Forest tent caterpillar defoliated tupelo gum along the coast. Oak wilt was confirmed in Aiken County and is the first known occurrence on live oak outside of Texas.

Fusiform rust infects 1,332,200 acres, an figure consistent with the 6.8% of loblolly pine showing cankers on FHM plots. Littleleaf disease is a major problem on pines in the Piedmont where weakened trees are often attacked by bark beetles. Dogwood anthracnose has been confirmed in five counties. Decay is a significant problem in hardwoods, especially among sweetgums, hickories, and red maples, all of which showed over 10% of sampled FHM plot trees affected.

Additional Information

For more information on forest conditions in South Carolina or Forest Health Monitoring, please contact:

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