



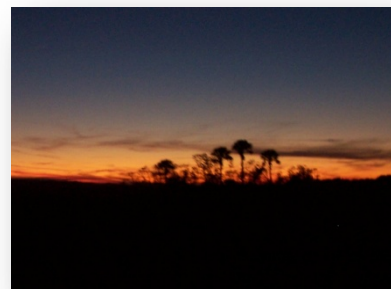
South Carolina

Forest Health Highlights 2013



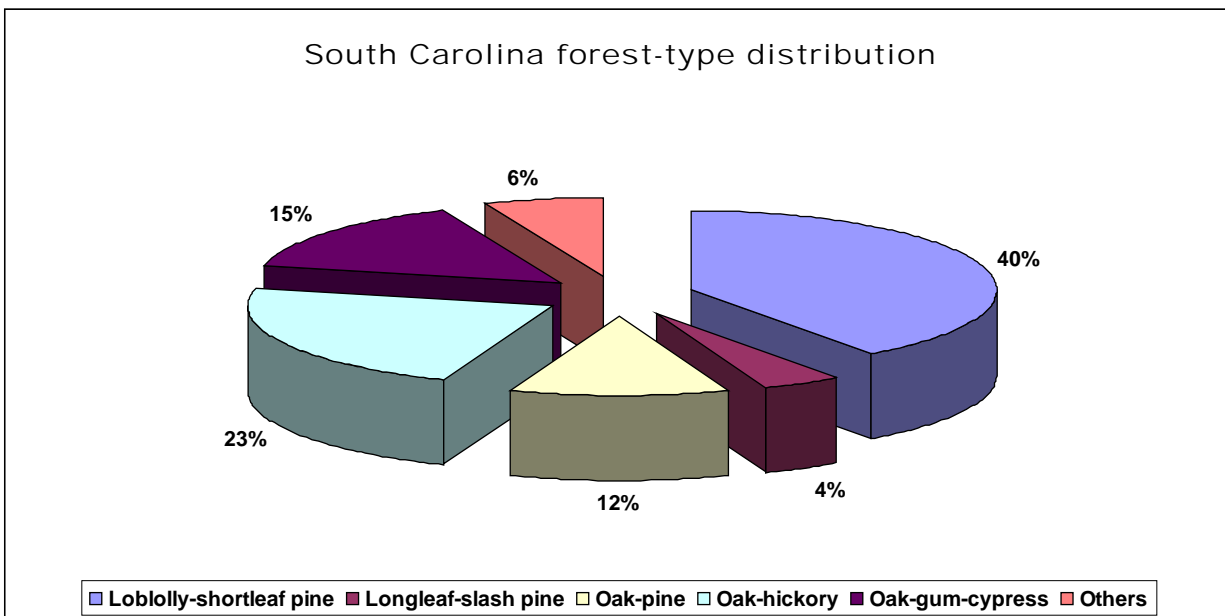
The Resource

South Carolina's forests cover 12.9 million acres, more than 67% of the state's land area. The majority of the state's forested land, some 11.4 million acres, is in nonindustrial private ownership, while approximately 613,000 acres are in national forests.



Forestry is the most important manufacturing industry in South Carolina, providing 44,708 jobs and the total economic impact of South Carolina's forest industry is \$17.45 billion annually. South Carolina's forests are also prized for their scenic beauty, supporting tourism and outdoor recreation and providing wildlife habitat from the Appalachian Mountains in the upstate to the lowcountry of the Atlantic Coastal Plain.

Major forest types in the state include oak-hickory, loblolly and shortleaf pine, mixed oak-pine, and oak-gum-cypress. Longleaf and slash pine forests, historically much more wide-ranging, now comprise 4% of the state's forests, while other minor types account for an additional 6%.



Forest Issues and Influences

Southern pine beetle (SPB)/ Pine engraver beetles (Ips sp.) Our primary concern dealt with the extent of Southern Pine Beetle (SPB) activity. The spring SPB pheromone surveys had predicted little to no beetle activity statewide. In 41 counties, some level of bark beetle activity was detected during the aerial survey, however, there were mainly new small and isolated spots detected. These bark beetles, mostly Ips and a few SPB, were found in 588 separate infestations, which contained a total 5,644 trees. In Berkeley county nine SPB spots were detected; 8 spots were in the Francis Marion National Forest and one spot was on private property for a total of 1,370 infested trees. These trees contained a volume of 77 cords and 54,800 board feet. This timber had a green stumpage value of \$17,582. Results can be found on the enclosed Southern Pine Beetle Survey 2013-1. Ground checks were done on several plotted infestations to determine causal agent, in the majority of the plotted spots, Ips beetles were the culprit of the mortality. The SPB spots will be monitored until fall at which time county outbreak status will be reconsidered. One hundred percent flights will be conducted if outbreaks develop. The drop in SPB infestations can be attributed to several factors. The predatory clerid beetles have built a respectable population, and are busy eating pine beetles. Pine Sawyers also destroyed many SPB while feeding in the inner bark. Woodpeckers and other natural predators and parasites have taken their toll on the SPB.

Forest Tent Caterpillar

In June, the Forest Health Unit began to check areas affected in previous years by Forest Tent Caterpillars. In years past, ground checks found extensive defoliation by the Forest Tent Caterpillar in stands of bottomland hardwoods in the upper and lower coastal plains in many counties. Aerial surveys in 2013 found 9,980.6 acres of hardwood defoliation in Sumter, Lee, Clarendon, Colleton, Marlboro, Dillon, Hampton, Jasper, Georgetown, Horry, Williamsburg, Marion, and Florence counties. Defoliation occurred in the Lynches River, Cowpen Swamp, Rocky Bluff Swamp, Lynches River, Timber Creek, Boggy Swamp, Bull Swamp, Tobys Creek, Black Mingo Creek, Gravelly Gully, Calico Branch, Savannah River, Black River, and Waccamaw River. As in previous years, pure stands of gums suffered the worst defoliation with as much as 100% of the foliage affected. Other bottomland hardwoods were affected to a lesser extent, but many had 50% or more of their leaves eaten by the Forest Tent Caterpillar. The Forest Tent Caterpillar has only one generation each year; therefore the damage seen in this growing season is complete. Hardwoods usually have no problem tolerating several complete defoliations. In the past, outbreaks have occasionally moved from the swamps to urban settings. Control has rarely been needed or performed.

Hemlock woolly adelgid (HWA) was first detected in Oconee County in 2001. It has since spread in the upstate, infesting both of the native hemlock species. Current suppression activities involve a cooperative effort to rear and release predators in hope of achieving biological control of the adelgid. Chemical control of HWA in landscapes or in high value trees is practical, but major losses of these ecologically valuable trees are probable in forestry settings within a few years.

Annosum root rot/black turpentine beetle: This year we again surveyed for apparent losses to annosus root rot. We also recorded scattered pine mortality due to infestation by Black Turpentine Beetle. Annosus has been increasing in occurrence and severity for the last few years and this survey was an attempt to quantify affected acreage. Also, we have observed a significant increase in damage by BTB. Scattered mortality in pine stands were recorded as probable for annosus or

BTB. Since this mortality is scattered, it is harder to see from the air and the results are likely conservative. Loss was averaged at two cords per acre of recorded damage. A total 18 counties had some levels of annosus/ BTB detected. The total affected acreage was 794.89 (acreage is based on 20% survey). These results are included on the enclosed 2013 Forest Health Aerial Survey Summary.

Once a pine stand becomes infected with annosus, the disease can persist for about seven years in the infected root systems. Infestations by Black Turpentine Beetle may persist for several years, depending mostly on stand stress.

Sudden Oak Death surveys were continued in 2012. The surveys focused stream baiting near horticultural nurseries that had received potentially infected stock from shippers in California and Oregon, but also general forest areas considered to be at high risk. The causative agent of Sudden Oak Death, *Phytophthora ramorum*, has not been detected in these surveys in South Carolina.

Redbay mortality (Laurel Wilt Disease) is caused by a fungus (*Raffaelea lauricola*) which is vectored by the exotic Redbay Ambrosia Beetle (*Xyleborus glabratus*). Laurel Wilt was first reported in 2004 in Beaufort County and has continued to spread in coastal South Carolina, Georgia, and Florida. In 2012, Laurel Wilt was confirmed in Georgetown County. Currently, thirteen South Carolina counties have some degree of Laurel Wilt. Effects on redbay, other potential host species, and plant communities are being studied.

Cogongrass has been found in eleven SC Counties (Aiken, Allendale, Anderson, Beaufort, Charleston, Colleton, Dorchester, Greenville, Hampton, Pickens, and Williamsburg) for a total of less than 20 acres. All detected locations of Cogongrass have been and will continue to be treated. Ground surveys will continue in 2013 to locate new Cogongrass locations.

Drought conditions were temporarily alleviated with a wet spring, but dry conditions in the summer affected both pines and hardwoods. Numerous reports of dying and dead red oaks in the Piedmont counties were made. These trees were stressed due to droughty conditions and succumbed to *Hypoxylon* canker. As in 2011, pine trees exhibited early needle shedding during the height of the summer drought.

Forest Health Assistance in South Carolina

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