

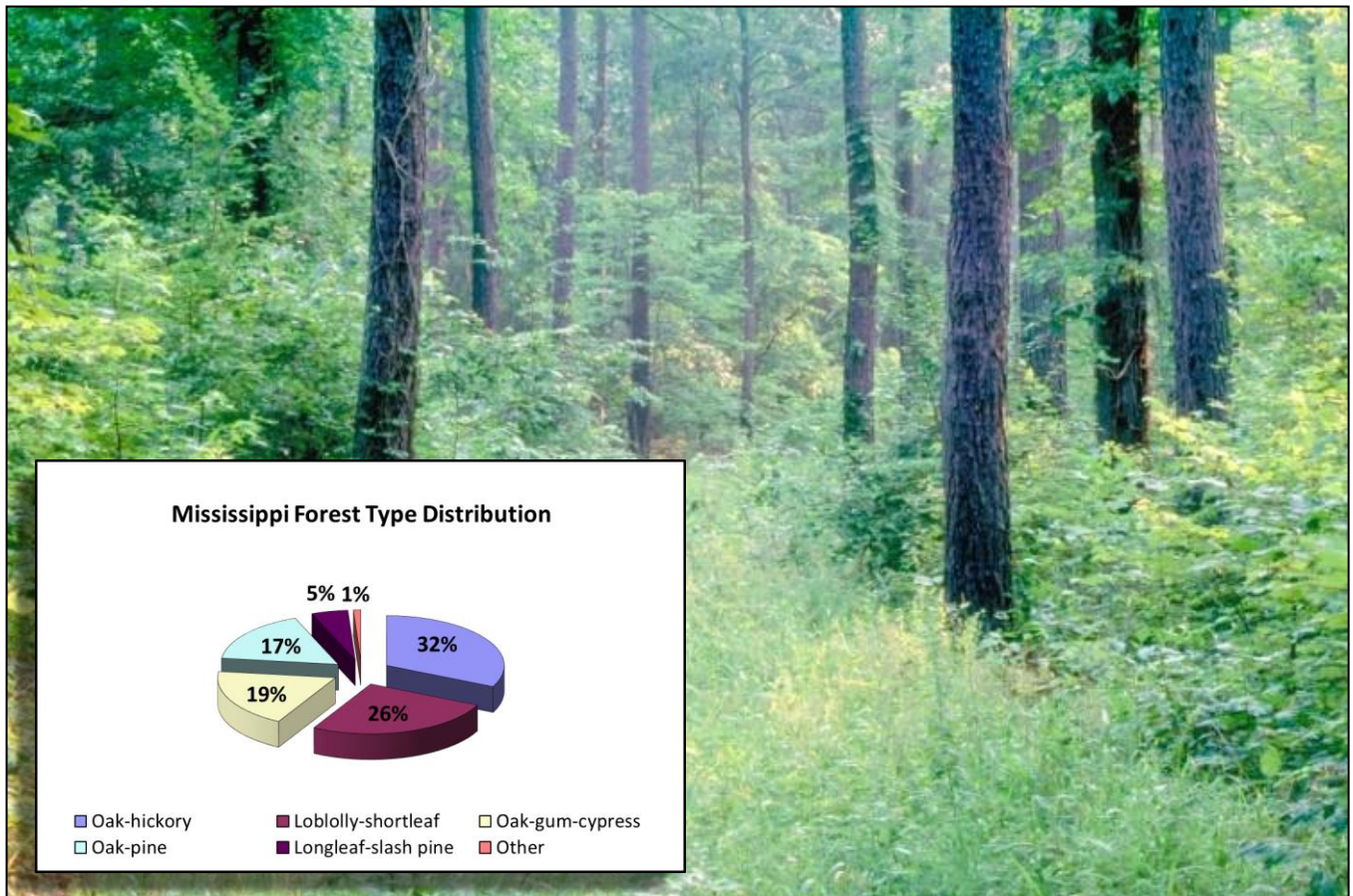


Mississippi

2024 Forest Health Highlights

The Resource

Mississippi's forests cover 19.9 million acres, more than 65% of the state's land area. Some 13.1 million acres of the states forested land is in non-industrial private ownership, while approximately 1.1 million acres are in national forests. Mississippi's forests are prized for their scenic beauty, supporting tourism and outdoor recreation, and providing wildlife habitat throughout the state. Major forest types in the state include oak-hickory, loblolly and shortleaf pine, longleaf and slash pine, mixed oak-pine, and oak-gum-cypress.



Southern Pine Beetle and Ips Engraver Beetles and Historic Drought

An historic drought lasted all summer and late into the fall during 2023, exacerbating forest health issues statewide. Numerous drought related southern pine beetle spots were reported, as well as statewide elevated activity from Ips engraver beetles. Some areas, such as Madison County, near the State Capitol of Jackson, had extensive Ips activity in timberlands as well as urban and urban/wildland interface forests, with some large contiguous acreages of dead trees from Ips activity.



In anticipation of potential continuing bark beetle problems in 2024, The Mississippi Forestry Commission completed spring SPB pheromone trapping surveys in 15 counties during 2024. Three traps were deployed per county for 4 weeks. Southern Pine Beetle (SPB) activity was elevated in Mississippi, particularly in the central and northeastern regions of the state. This rise in SPB populations, coupled with a lower presence of their natural predator (clerid beetles) in the northeast, raised concerns



about potential outbreaks, especially in areas like Tishomingo County. While populations in southern Mississippi may have declined due to the 2023 summer heatwave, the overall trend indicated a northward increase in SPB activity across the state.

MFC Aerial Data

Row Labels	Count of Disturbance
Ips Engraver Beetles Southern	92
Pine Beetle	84
Variable Oakleaf Caterpillar	48
Grand Total	224

MFC Ground Survey

Row Labels	Count of Causal Agent
Brown Spot Needle Blight	2
Cogongrass	4
Deodar Weevil	1
IPS Beetles	54
Needle Cast	1
Other Disease	2
Environment Disturbance	3
Invasive	1
Southern Pine Beetle	36
Grand Total	104

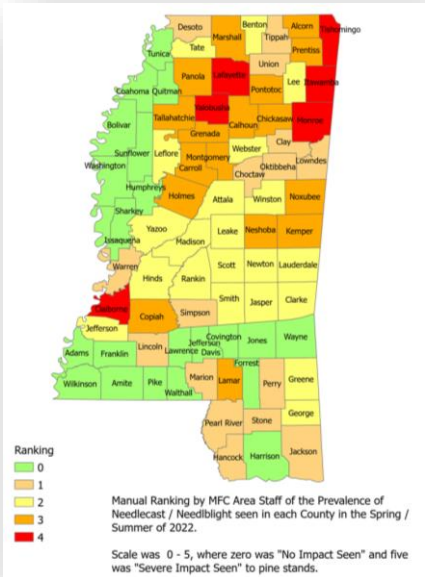


Drought, Variable Oak Leaf Caterpillar, Hypoxylon Canker

Drought in 2023 also significantly impacted the health of hardwood forests in Mississippi, making them vulnerable to pests and diseases. A major concern was the outbreak of variable oak leaf caterpillars combined with the presence of hypoxylon canker, a fungal disease that can kill trees. The caterpillars defoliated trees, weakening them further and making them more susceptible to the canker. This dual threat particularly impacted central Mississippi, with reports of damage in areas like Flora, Pocahontas, and Raymond.

Needle Diseases of Pine

Over the last decade, there have been increased reports throughout Mississippi (25 of 82 counties), Alabama (40 of 67 counties), Louisiana (9 of 64 parishes), Arkansas (8 of 75 counties) (and other surrounding Southeastern states) of large acreages of pine forests (anecdotal reports of millions of acres) that are being severely impacted by needle blight pathogens, such as brown spot needle blight, which historically have only been recognized as pests of longleaf regeneration. It is currently not known why these pathogens have suddenly become a severe problem in loblolly pines. If this disease continues to become more severe, resulting southeastern forestry sector losses could be in the tens of billions of dollars. Little is known about the epidemiology and causes of this issue, and even less is known about the radiating ecosystem impacts and potential management strategies. Furthermore, it is yet unknown if these huge areas of stressed trees will be more susceptible to attack by other major pests, such as the southern pine beetle and Ips, possibly resulting in secondary insect outbreaks across the region. The adjacent map depicts MFC area Forester responses to a pine needle disease severity questionnaire for their assigned



counties. Nearly 100 new locations throughout Mississippi were surveyed in 2024, and all but a handful were positive for the pathogen. Work assessing the impacts to forest growth and mortality is ongoing.



Redbay Ambrosia Beetle and Laurel Wilt

The redbay ambrosia beetle was detected for the first time in Jackson County, MS in July, 2009. This insect carries the fungus that causes Laurel Wilt Disease. Since its introduction to the Southeast, it has caused considerable mortality to redbay, swamp bay, sassafras, avocado, and other species of trees and shrubs in the Lauraceae. Current distribution records indicate the disease is present from North Carolina to Florida, westward to newer established populations in Arkansas, Louisiana, and Texas. The infestation in Mississippi continues to expand.



Southern pine beetle (SPB) Prevention Program

The MFC and the USDA Forest Service Forest Health Protection Southern Region continues to administer a comprehensive SPB Prevention/Education Program to teach landowners about the benefits of thinning for the reduction of SPB hazard. In addition to the educational aspects of this program, there is an associated statewide cost-share program to assist landowners in getting the pre-commercial and 1st commercial thinning accomplished.

Presently under the active grant years of 2022 – 2024, we have 3,687 acres signed up for thinning, with a total of \$368,700 obligated in funds that will go to landowners after they have completed the thinning projects on their properties.



Cogongrass is a non-native, invasive plant that has been spreading aggressively in Mississippi in recent years. It takes over native grasses and vegetation and is a fire hazard under pine plantations. The severity and extent of infestations have increased considerably in the disturbed forests following hurricane Katrina in 2005. The MS Forestry Commission has been funded for several years by the USFS under their redesign grants to continue the fight against this invasive weed. In 2024, we have treated 480 acres, 2,905 spots on 237 properties. Under this program, there is no cost to landowners for this service.



Kudzu is a climbing, semi-woody, perennial vine in the pea family. Deciduous leaves have three broad leaflets up to 4 inches across. Leaflets lobed with hairy margins. Individual flowers, about 1/2 inch long, are purple, highly fragrant, and borne in long hanging clusters. Flowering occurs in late summer and is soon followed by the production of brown, hairy, flattened, seed pods, each of which contains three to ten hard seeds. This invasive species is a problem in the state particularly in north MS. The agency will continue its landowner-based cost-share program focused on the treatment of Kudzu across the entire state. Through this program private landowners can apply for cost-share to help offset the cost of treatment. Since the program was started in the summer of 2022, we have treated 1,947 acres.

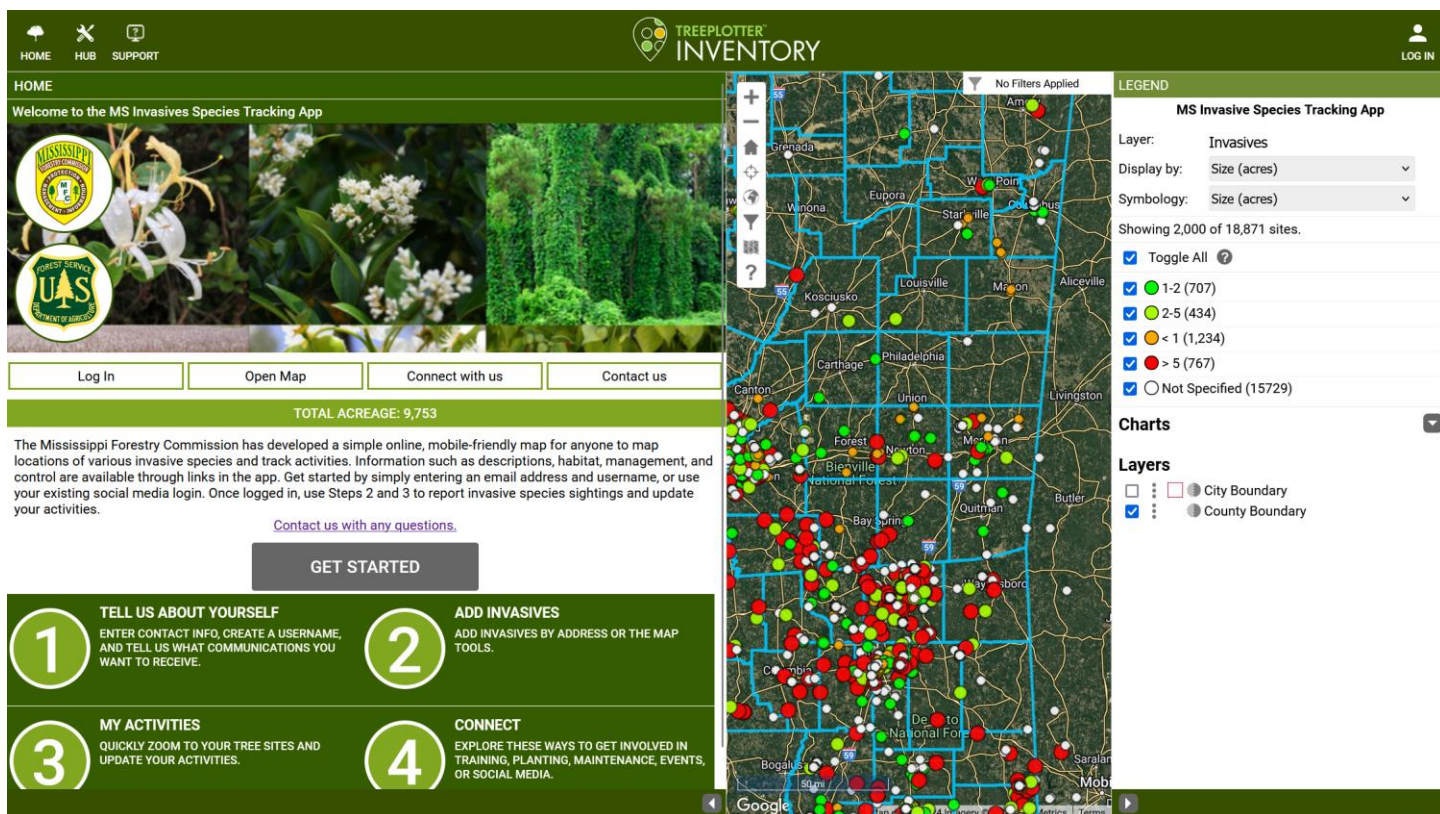


Chinese Tallow Tree is another non-native, invasive plant that has been spreading aggressively in Mississippi. Chinese tallow is a popular ornamental because of its fast growth rate, attractive fall color, and ability to resist damage from pests. The Chinese tallow trees have flowers that are attractive to bees and other insects. It produces three-lobed capsule fruit that ripens from August to November. They are deciduous with a strong, deep taproot. This enables young trees to withstand periods of drought. Seeds are spread by birds and moving water.

Hurricane Katrina likely added to the increased rate of spread for this invasive. Chinese tallow can invade almost all habitats from wet to dry and from sun to shade. It often grows along roadsides, coastal areas, and streams. Some specimens can produce up to 100,000 seeds that may be eaten and dispersed by birds. Regrowth often occurs from cut stumps or roots. Native species are crowded out once Chinese tallow becomes established. The leaves and fruit are toxic to cattle and cause nausea and other sicknesses in humans.

With the help of grant funding, the Mississippi Forestry Commission was able to develop a web-based app that allows the agency to crowd source mapping of all invasive plant including this species statewide. The site MS Invasive Species Tracking App has been extremely successful and continues to generate a lot of interest. To-date, the public has reported 18,871 sites totaling 9,753 acres statewide. The MFC has also partnered with five (5) municipalities to provide herbicide and training to city personnel and volunteers for treating Chinese Tallow on public property.

The MFC has also worked to encourage forest landowners to utilize the state Forest Resource Development Program (FRDP) cost share funds to treat Chinese tallow in their forest stands.



Forest Health Assistance in Mississippi

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