

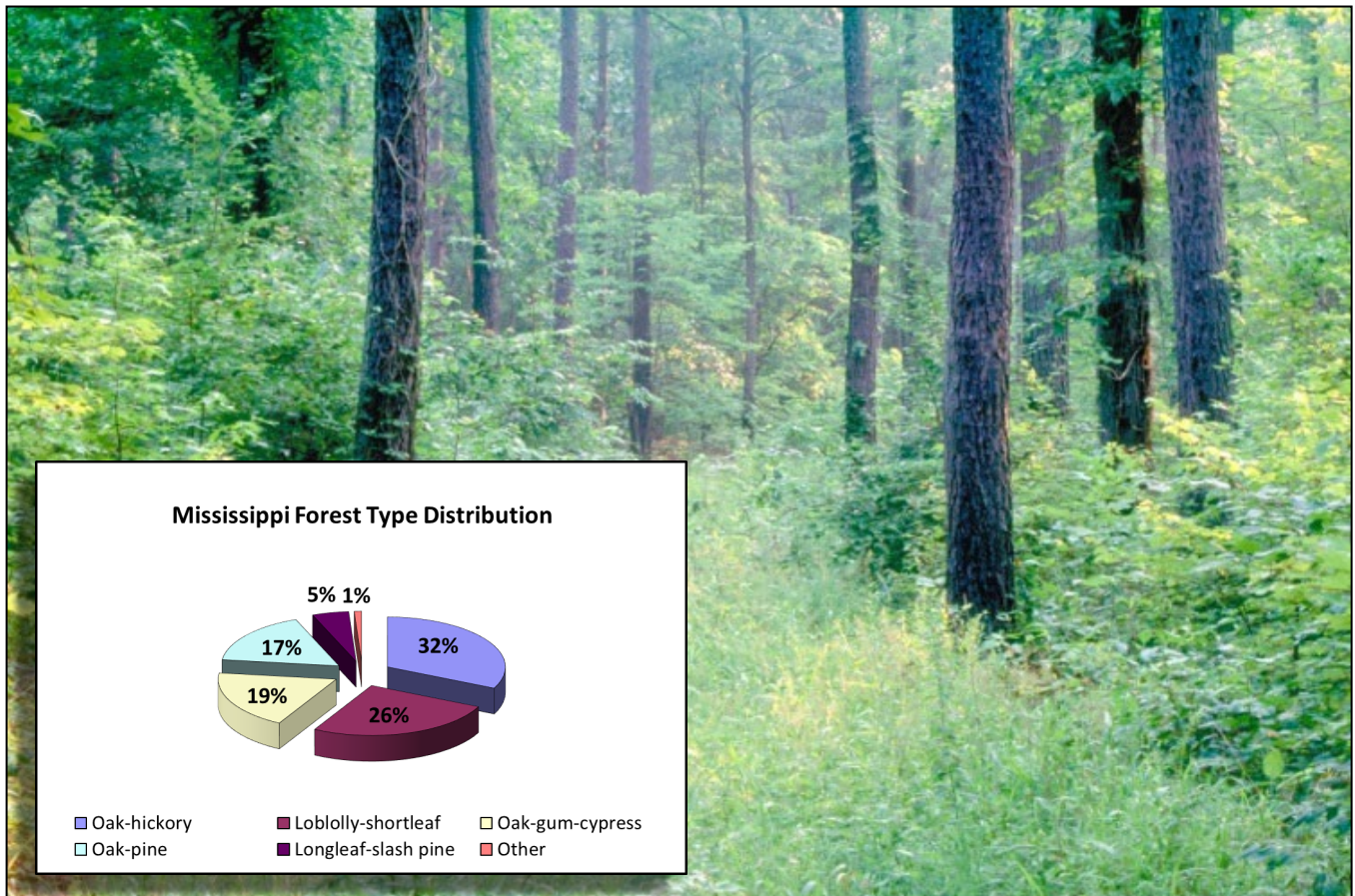


Mississippi

2022 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 state's 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.



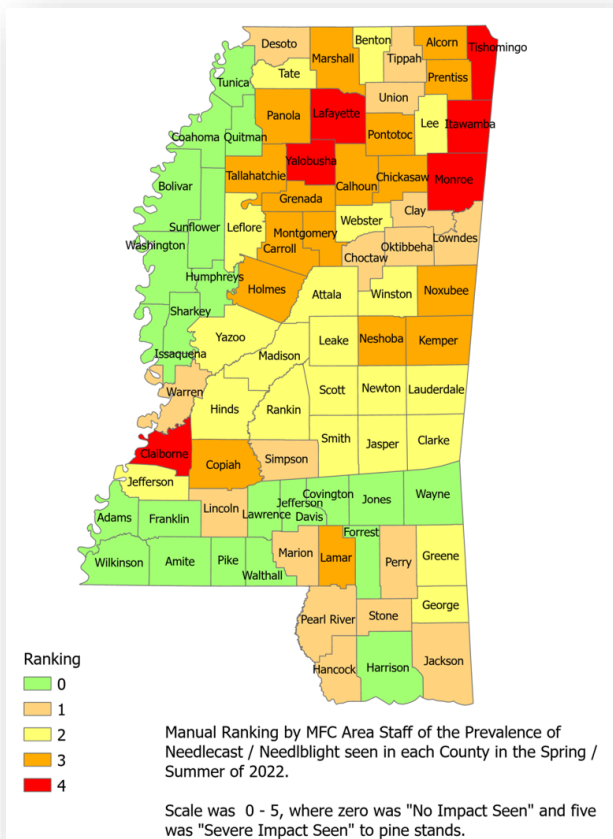
Southern Pine Beetle

The Mississippi Forestry Commission completed spring SPB pheromone trapping surveys in 12 counties during 2022. Three traps were deployed per county for 6 weeks. SPB numbers statewide were a little higher than in 2021, and all surveyed counties reported capturing SPB in their traps. Tishomingo, and Scott counties, and to a lesser extent, Amite, reported slightly elevated SPB numbers. Overall, the statewide average was still in the low category. Numbers of the checkered clerid beetle, the primary predator of the SPB, were concerningly much lower than SPB numbers, giving more cause for concern.



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. MFC and Mississippi University are seeking funding to collaboratively investigate this problem in Mississippi.

Redbay Ambrosia Beetle

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, and is now present throughout



the majority of Jackson Co., and portions of George and Harrison Counties in redbay, swamp bay, sassafras, as well as camphor tree. In 2015, laurel wilt was also confirmed in Stone and Perry Counties, and in 2016 was confirmed in Forrest County, MS. In 2019, LWD was confirmed in sassafras and redbay near Laurel, MS (Jones County). In 2021, LWD was confirmed in Amite and Covington Counties. Collaborative research between MFC, MFC, MSSTATE, and the USDA Forest Service Region 8 FHP has led to the conclusion that the beetle was likely spread to Mississippi by human movement of infested materials from beetles along the Atlantic Coast of the U.S., rather than through a separate introduction through a local port. Cold tolerance of the vector suggests that nearly all sassafras trees in the U.S.A. are at risk from invasion and mortality due to redbay ambrosia beetle and its fungal symbiont. Additional research indicates more than two dozen native insect herbivores could be seriously impacted by LWD killing their hosts, as exemplified by a 7-fold decrease in Palamedes swallowtail butterflies in south Mississippi within a few years of LWD infestation.

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 2020 – 2022, we have 1,266 acres signed up for thinning, with a total of \$126,600 obligated in funds that will go to landowners after they have completed the thinning projects on their properties.



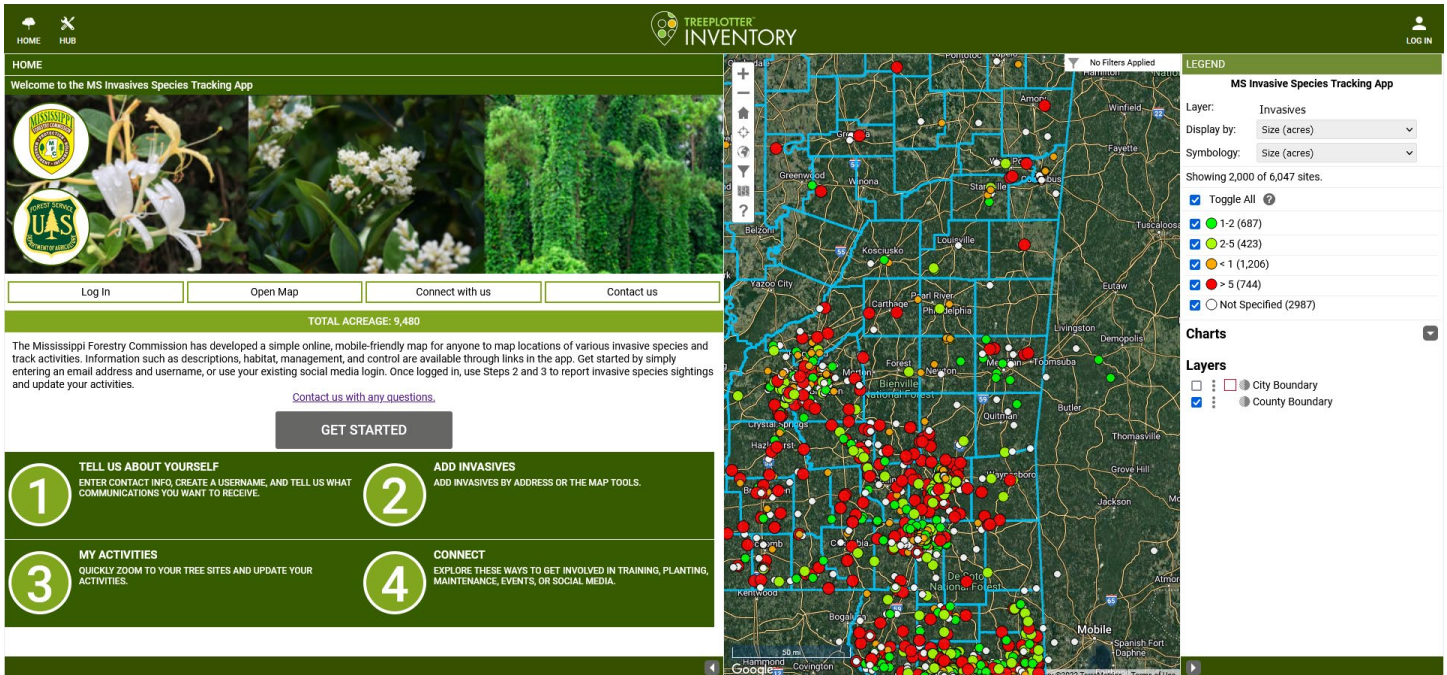
Cogongrass is a non-native, invasive plant that has been spreading aggressively in Mississippi in recent years. It takes over native grasses and vegetation and is a fire hazard under pine plantations. The severity and extent of infestations have increased considerably in the disturbed forests following 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. To date (since 2010), we have treated 4,869 acres for 2,335 landowners. Under this program, there is no cost to landowners for this service. The agency has continued efforts this year while working across the entire state. It should be noted that the further south crews advance, they are treating larger spots with increased density. Current cost per acre to treat cogongrass under this program averages approximately \$400 per acre.



Invasive Species Tracking Application

The Mississippi Forestry Commission was able to re-develop a web-based app that allows the agency to crowd source mapping of invasive 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 9,480 acres statewide.

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



Forest Health Assistance in Mississippi

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