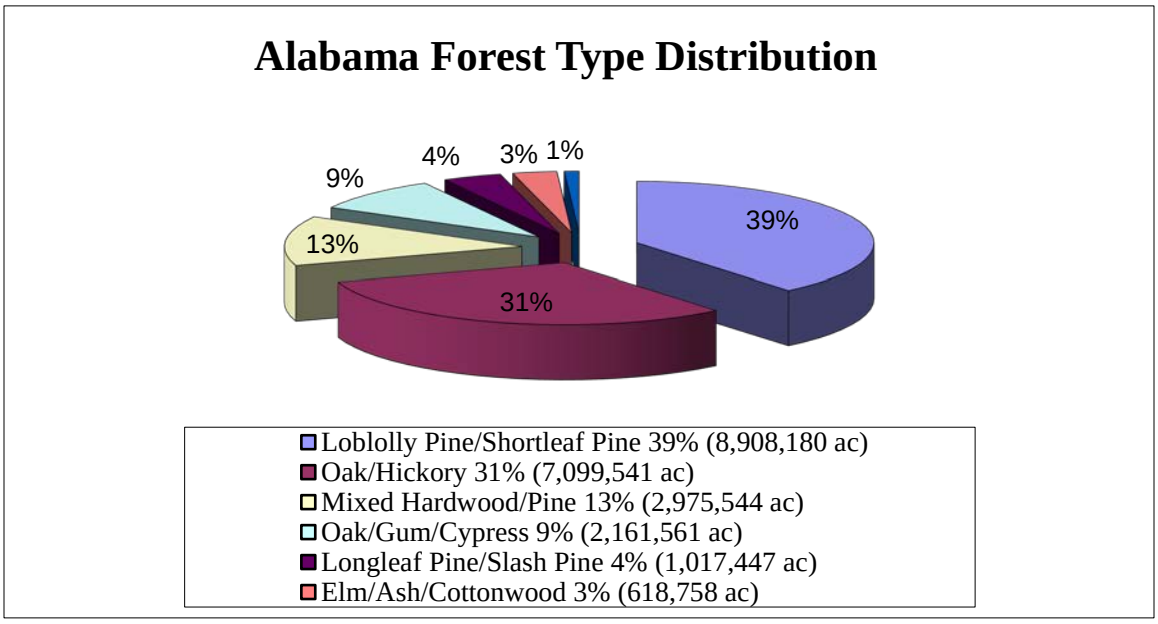
Alabama

Forest Health Highlights 2015

The Resource

Alabama is known for its diverse landscape and magnificent forests. The diversity of the landscape and picturesqueness of the forests are mainly created by the various forest ecosystems in Alabama. Mixed hardwood stands propagate the mountainous terrains of the north and the tall pine plantations enthrall the sandy coastal plains of the south. Numerous tree species thrive in Alabama and are generally categorized by forest type. Since last year, the Loblolly Pine/Shortleaf Pine category increased by one percent while the Longleaf Pine/Slash Pine category decreased by this same amount. From a percent status, the other forest type categories had no measurable change from last year.

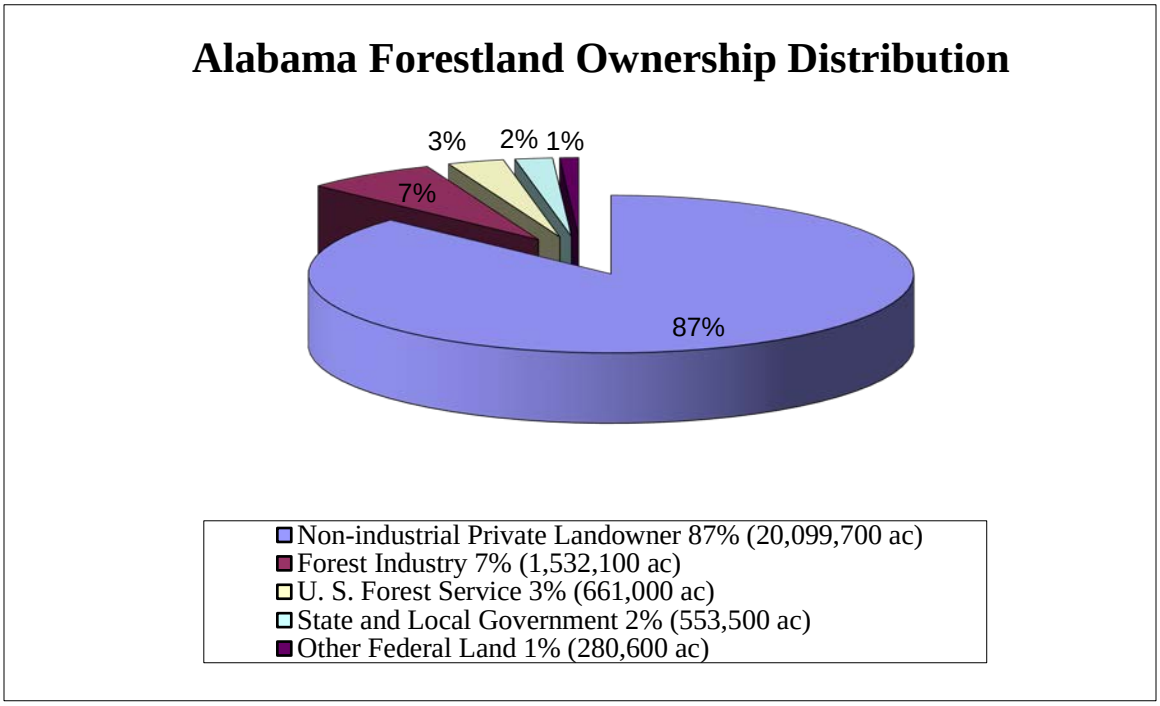


With such extensive areas of vegetation, no wonder Alabama is considered one of the most forested states in the nation. Flourishing in local parks, national forests, urban communities, and rural environments, these forests provide the state with outdoor recreation, wildlife habitat, scenic views, and tourism opportunities. The forests also provide Alabama with timber production, a major contribution to the state's economy. With its millions of forested acres, Alabama has the third largest commercial timberland in the country. In fact, the timber industry is the second largest manufacturing industry in the state, producing several billion dollars' worth of products a year. Despite the perception that the forests are disappearing because of timber harvesting or other forest

management-related activity, Alabama is effectively regenerating and expanding its forests. Actually, the amount of timber growth exceeds the amount of timber removal.

Since 1926, Alabama is recorded having approximately 22 million acres of forestland. This year, the results from the 2014 Forest Inventory and Analysis (FIA) data revealed for the first time in several decades that Alabama has increased the amount of forested acres to 23 million. This new finding means that 69% of the 33,548,717 total acres of land and water in Alabama is forested.

In the last few years, the pattern of forestland ownership in Alabama has been rather consistent. The majority of forestland in the state is owned by non-industrial private landowners. Forest industry, a major component of Alabama's economy, only owns a small percentage of property in the state. Implementing divesting opportunities of its property, forest industry now owns 1 percent less forestland since last year, increasing the ownership acres of non-industrial private landowners by this amount.



In Alabama during the last several years, there has been a consistent marginal increase in the total number of forested acres. There has also been a constant increase in forest ownership by non-industrial private landowners. Because private landowners possess most of the forests in the state, public education in land stewardship is vital in perpetuating the existence of this natural resource. As a result of these outreach efforts, forest ecosystems in Alabama have become more sustainable.

Forest Influences and Programs

Southern Pine Beetle, Dendroctonus frontalis:

Southern pine beetle (SPB) detection flights were conducted from May to October, 2015 for all 67 counties in the state. More specifically, two formal statewide southern pine beetle detection flights were implemented, one in May/June and another in August/September. By July, there was an increase in the number of reported beetle infestations. As a result, the August/September detection flights continued well into October in order to survey all new infestations. The results from the 2015 spring southern pine beetle pheromone survey highly suggested that Alabama would experience a slight increase in the number of infestations. As predicted from this survey, there was an increase in the number of beetle infestations. The total amount of spots detected from the combined aerial surveys is 378, infesting 23,545 trees. A significantly high number of beetle spots occurred in a concentrated area that included, Choctaw, Clarke and Marengo Counties. Some of these detected spots in the three counties also had pine engraver beetle infestations.

In 2014, after a 5-year hiatus, the SPB Prevention Cost-share Program was implemented to provide financial assistance to non-industrial private forest landowners for management practices that will reduce the susceptibility of stands from a southern pine beetle attack. The cost-share program offered financial assistance for pre-commercial thinning and understory prescribed burning of pine stands. Another cost-share program was implemented in 2015. This cost-share program offered financial assistance for these additional practices – mechanical or chemical site preparation, site preparation burning and longleaf pine planting.

Pine Engraver Beetle, Ips spp.:

The climate this year in Alabama was quite moderate with normal temperatures and an average amount of precipitation. This mild weather pattern influenced the health and vigor of most residual trees. Consequently, there was no significant number of pine engraver beetle infestations reported earlier in the year. From the southern pine beetle aerial surveys, however, there was an indication that a few of the detected SPB spots were infested with pine engraver beetles. In a concentrated area that encompasses forestland in Choctaw, Clarke and Marengo Counties, an unusually high number of beetle spots were detected. Several of these spots were believed to be caused by the pine engraver beetle. A few of these spots were analyzed from ground surveys and later confirmed of having a pine engraver beetle infestation. Some of these analyzed spots were infested with all three southern pine bark beetles – southern pine beetle, pine engraver beetle and black turpentine beetle. Despite having a rather mild climate this year, Alabama experienced a brief drought during the summer. The temporary weather condition may have contributed to the pines' susceptibility to a beetle attack. Also from the analysis, many of the beetle infested pine stands were over-stocked. This management condition may have increased the pines' susceptibility to an attack by bark beetles.

Laurel Wilt Disease, Fungus – Raffaelea lauricola and Redbay Ambrosia Beetle – Xyleborus glabratus:

Two reports, both from Baldwin County, claimed that there were symptomatic redbay trees dying from laurel wilt disease. For both claims, these proposed infected host trees were analyzed for confirmation. The first group of symptomatic redbay trees existed at Gulf State Park. These host trees with browning leaves were located alongside a recently plowed fire lane. The symptomatic redbay trees were thoroughly analyzed for signs of laurel wilt disease. The second group of symptomatic redbay trees was located along a right-of-way of a major state highway. Based on the examination, laurel wilt disease was not the causal agent of the declining redbays. Because this claim was the second one in Baldwin County, stem samples were retrieved from a symptomatic host tree and sent to the laboratory for analysis. The results came back negative for the fungus (*Raffaelea lauricola*) and for the redbay ambrosia beetle (*Xyleborus glabratus*).

Pondberry (*Lindera melissifolia*) is a shrub species in the laurel family that is native to southeast United States. It thrives in bottomland hardwoods and other wetland habitats. Unfortunately, pondberry is classified as an endangered plant species in several southern states, including Alabama. There is, however, one known population in Covington County. Auburn University Department of Horticulture is conducting research on pondberry to eventually propagate this plant species for establishments on additional sites. The redbay ambrosia beetle is not likely to attack small stems of the pondberry, but this shrub species is quite susceptible to laurel wilt disease. While examining the site, there was the presence of several redbays (*Persea borbonia*) in close proximity of the pondberry population.

Emerald Ash Borer, Agrilus planipennis:

In July, 2015, the Tennessee Department of Agriculture – Forestry Division contacted the Alabama Forestry Commission (AFC) about a confirmed emerald ash borer (*Agrilus planipennis*) identification just a few miles north of Jackson County, Alabama. In collaboration with the AFC, the Alabama Department of Agriculture and Industries arranged a meeting in Etowah County to discuss immediate plans for surveying Northeast Alabama for the emerald ash borer. Ground surveys were first conducted followed by deployment of traps. This year, 50 of the new green funnel traps were used. In all, the Alabama Department of Agriculture and Industries deployed 547 traps statewide. No emerald ash borers were found in any of the traps.

Thousand Cankers Disease, Fungus – Geosmithia morbida and Walnut Twig Beetle – Pityophthorus juglandis:

In March, 2015, the University of Tennessee arranged a meeting with the Alabama Forestry Commission (AFC) and the Tennessee Valley Authority to discuss a survey plan for detecting the walnut twig beetle (*Pityophthorus juglandis*). Because the pest, thousand cankers disease, was fast approaching the state line from Tennessee, the AFC North Regional Counties participated in the survey. For most counties, one trap was

deployed from July to the end of September. Specimens were collected from the traps and sent to the University of Tennessee for identification. Currently, no walnut twig beetles were identified in any of the 12 traps deployed in Alabama.

Loblolly Pine Sawfly, Neodiprion taedae linearis:

Like the last two years, extended infestations of the loblolly pine sawfly emerged in Northwest Alabama but not to the same intensity. The Alabama Forestry Commission received a few reports this year of isolated infestations with most of them occurring in Marion County. The extent and severity of the infestation did decline in 2015 but the noticeable outbreak from the loblolly pine sawfly was now in its third consecutive year. For some of these pine stands, this was the fourth consecutive year of an infestation from this defoliator. A formal aerial survey was not performed; however, several spots were recorded during the May/June southern pine beetle detection flights. A total of 55 loblolly pine sawfly infestations were documented in Colbert, Franklin, Lauderdale, Limestone and Marion Counties.

Sudden Oak Death Disease, Phytophthora ramorum:

The sudden oak death spring survey was conducted from March to April, 2015 at five different nursery sites in Alabama using the "Bottle of Bait" sampling method. The results from the spring survey indicated that one of the five nursery sites that previously tested positive for the pathogen, *Phytophthora ramorum*, tested positive again this year. In October, 2015, the sudden oak death fall survey began, testing the same five nursery sites for the harmful pathogen.

Dying Red Oaks, Quercus spp.:

In 2014, red oaks sporadically around Geneva, Alabama were suddenly dying. Most of these oaks were located on a residential site or along a fence row next to an agricultural field. By 2015, Geneva County did not report any additional declining red oaks, but neighboring Coffee County did. In June of 2015, Coffee County reported having a few, isolated cases of declining red oaks on residential property. Since this same phenomenon occurred in bordering Geneva County last year, further analysis was done to identify the pest. Root samples were obtained and sent to the Forest Service laboratory for examination. The results were still inconclusive, but the pathogen, *Phytophthora cinnamomi* was isolated and identified from the root samples.

Bacterial Leaf Scorch, Xylella fastidiosa:

Several sycamore trees were planted alongside streets in downtown Montgomery as ornamentals. This year, a significant number of these urban trees were declining. By May of 2015, leaf margins of affected trees were turning brown and some were prematurely defoliating. Because tree symptoms of browning and defoliating leaves could indicate a number of pests, a representative from Auburn University Plant Diagnostic Laboratory surveyed the declining sycamores in Montgomery. Stem samples were retrieved from

symptomatic trees. The stem tissue tested positive for bacterial leaf scorch. In November, 2015, the severely declining sycamores were cut down to prevent the possible spread of this bacterial disease to healthy trees.

Pitch Canker, Fusarium circinatum:

This year was an unusual year for pitch canker. There were several reports from different counties in the state of pitch canker infecting pines. Generally, pitch canker infects loblolly or slash pine, but this year, most of the host species affected were longleaf pines. In Cherokee and Washington Counties, there were pine stands severely infected with pitch canker. In Washington County, the loblolly pines were infected with needle cast and pitch canker, two diseases that exemplify similar symptoms. Several loblolly pines in this stand had succumbed to the pitch canker disease. In Cherokee County, approximately one-third of a longleaf pine stand was dying from a severe case of pitch canker infection.

Cogongrass, Imperata cylindrica:

To continue the efforts in controlling cogongrass infestations in the state, the Alabama Forestry Commission (AFC) conducted work in educating the public about cogongrass, detecting cogongrass spots, entering cogongrass information into the AFC database, and writing cogongrass management and control recommendations. A portion of the Cogongrass Redesign Grant funds was allocated to a cost-share program for County Road Departments to control infestations along rights-of-way. The cost-share program was designed to reimburse herbicide costs, equipment use, and accrued hours. A total of 11 County Road Departments applied and were accepted into the Cogongrass Cost-share Program back in June of 2012. Several have completed a significant amount of work identifying and spraying cogongrass infestations along rights-of-way. This cost-share program was finalized at the end of FY15 (September 30, 2015). Based on the reported data from the Road Departments, 2,878 spots were identified. At least one spray application was done on 1,741 spots, encompassing 107.45 acres.

The Alabama Forestry Commission county personnel continued to purchase spraying equipment in fiscal year 2015 for cogongrass treatment on AFC-managed state lands. Cogongrass control on state lands started in 2014 for many counties and continued in 2015. AFC Conecuh County personnel identified and sprayed 157 cogongrass spots at Little River State Forest.

Kudzu, Pueraria montana:

The Alabama Forestry Commission (AFC) has initiated spraying and other control treatments for kudzu, cogongrass, and other invasive plants on agency-managed state lands. For some sites, control activities for kudzu were conducted for the second consecutive year. The AFC East-Central Region completed control activities on several state lands during fiscal year 2015. At Stauffer State Forest, approximately 3 acres were infested with kudzu and at Macon State Forest, approximately 2 acres were infested with kudzu. Most of the infested areas were successfully treated in 2014, with only a few

sprigs requiring treatment in 2015. Milestone with a surfactant was sprayed on these re-sprouts in August and September. At the Thorsby Seed Orchard where kudzu covers a significant portion of the property, infestations (approximately 40 acres) were sprayed in 2014. Spray treatment on approximately 10 acres of kudzu was repeated in 2015 because of the extensive infestation.

Red Mountain Park's sub-recipient agreement with the Alabama Forestry Commission ended on September 30, 2015. During fiscal year 2015, Red Mountain Park continued to implement control treatments for kudzu, Chinese privet and other invasive plants on additional areas on the property. Restoration efforts were initiated on several sites treated for kudzu and invasive plant control. For example, 75 longleaf pines were planted on one particular restored site so that a case study can be monitored on the success of native tree regeneration. A thorough inventory was conducted at the park where 250 acres were identified and placed under invasive management protocol. Because of the overwhelming response from the public, Red Mountain Park contracted once again with 'Goat Busters' to use the unconventional method of goats to control invasive plants.

Weather:

Again this year, Alabama experienced a rather calm and normal weather pattern for most of the state. There were, however, isolated areas in Alabama that started enduring a temporary drought. Starting in late spring and throughout the summer, isolated areas received periodic showers causing the amount of precipitation to fall below the normal range. With the additional condition of over-stocked pine stands in certain areas of southwest Alabama, numerous beetle infestations occurred. For some of these spots, the pine engraver beetle erupted in already beetle infested stands. Consequently, more beetle infestations were reported in three counties in Southwest Alabama than in all of the other combined infested counties.

In Alabama, extreme storms and damaging tornadoes can be quite common especially during the spring season. This year, however, there was no significant damage to forested areas in Alabama by adverse weather or atmospheric events.

The total number of wildfires in Alabama increased from last year. This total is still historically low but the number of wildfires this year increased by almost 1,000. In fiscal year 2015, Alabama reported 2,377 wildfires burning 26,106 acres. Despite the increase in the number of wildfires, the total amount of acres burned was actually less than the previous year. The average fire size was 11 acres. Conclusively, there were more, but smaller area wildfires this year.

References:

- Alabama Forest Resource Information – Alabama Forestry Commission Forestry Inventory Analysis (FIA) Data

- Alabama Wildfire Information – Alabama Forestry Commission Fire Operations Section
- Alabama Forest Health Information – Alabama Forestry Commission Forest Health Section

For more information about Alabama's forest health program, go to the Alabama Forestry Commission's website: http://www.forestry.alabama.gov.

Forest Health Assistance in Alabama

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