ALABAMA

Forest Health Highlights 2021

The Resource

On August 16th, 2021 I joined the Alabama Forestry Commission to start my new role as the Forest Health Coordinator. In the past three months I have learned a great deal regarding to what the title entails and have greatly enjoyed it. As I assume my new role, the forest health issues that my predecessor Dana Stone faced have not changed. Alabama's climate is constantly shifting due to seasonal change. These shifts present new challenges that influence the aspects and components of weather, insects, and diseases. However, this is not the first time our state forests have dealt with these challenges and can rely on past experience as a guide on how to deal with them in the present.

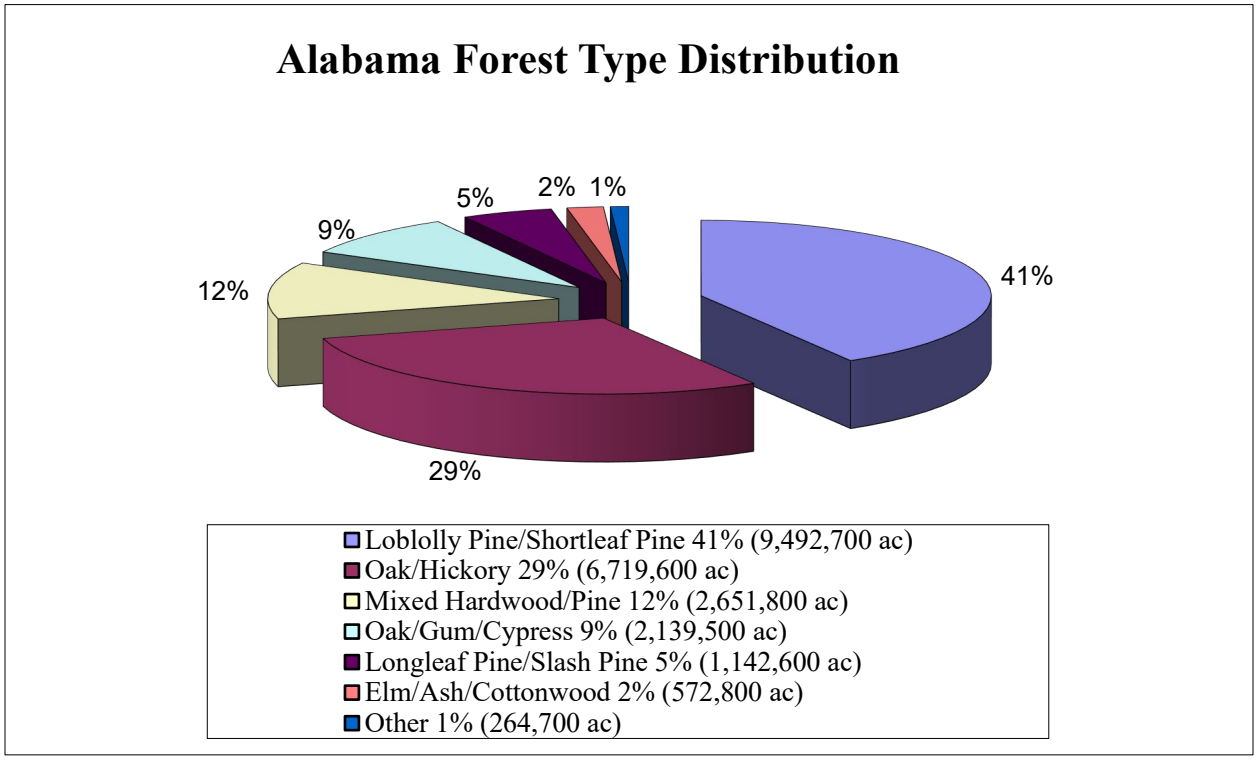
In the past few years, the state of Alabama has experienced a variety of weather events that influenced how we manage our forests. In the year 2021 Alabama did not experience any severe droughts and instead received more rain on average compared to previous years. This is also the second year in a row where the state did not experience a severe drought. On a good note, the excessive amount of rain received this year reduced the number of wildfires occurring in the state. However, the large amounts of rain fall caused some soils to become too saturated for some tree species. In addition, the saturated soils appeared to have caused soil bacteria and diseases to act abnormal in some cases depending on the host species. Fortunately, as the fall season began, the occurrence of rainfall reduced allowing for most of the excessive moisture to evaporate and exit the soil profile. The hope is that the exiting of the excess moisture will cause the soil bacteria and fungi to return to normal.

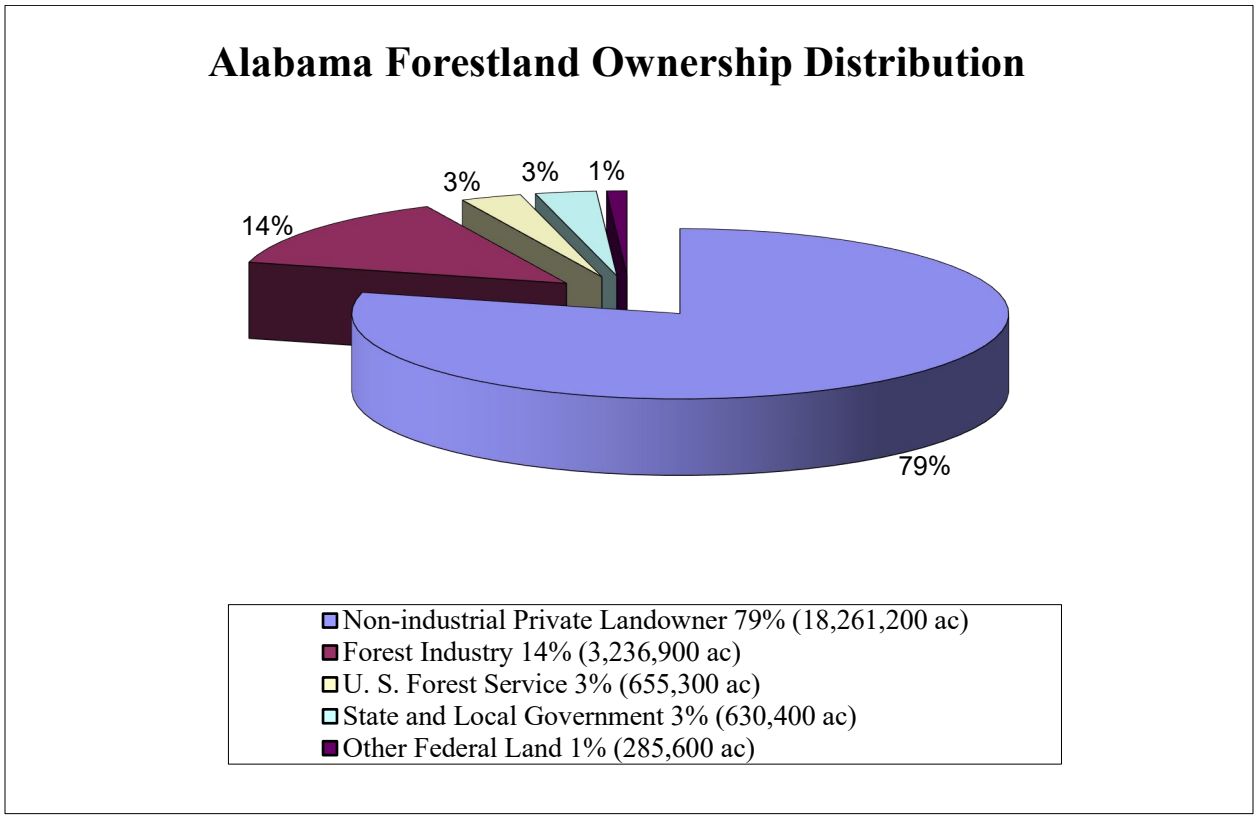
During 2021, the Alabama Forestry Commission continued working in and adapting to a workplace environment with COVID-19 restrictions. Since the beginning of the pandemic employees had to work around restrictions put in place to reduce the spread of the virus. Thankfully, those restrictions with landowner interaction started lessening with the rollout of the COVID-19 vaccine in the spring of 2021. This has allowed our employees to begin meeting with and interacting with landowners again. COVID-19 safety precautions are still being taken but most of the agency is relieved to see the restrictions being lifted. The hope is that the risks of the virus and restrictions that come with it are in the rear view and we can now focus on the future.

The Alabama Forestry Commission continues to make great strides in forestry. One change noticed this year is the increase in reforestation compared to last years numbers. The process of reforestation is beneficial to the state for recreational usage, management for future harvesting, and fighting back climate change. According to the agency's Forest Inventory and Analysis report forested acreage has increased compared to last year. The percentage of what each forest type makes up the state has remained the same, but it is good to see that the acreage for most of them have increased.

In addition, the type of forest land ownership has remained almost the same except for a few changes. The biggest change to note is the private landowner percentage decreased from 82% in

2020 to 79% in 2021. In addition, the forestry industry landownership grew from 11% in 2020 to 14% in 2021.





The Influences

Pine Engraver Beetle, *Ips spp.:*

During the 2021 year the Alabama Forestry Commission conducted aerial surveys to locate potential areas that could be infested with insects and diseases. The pilots flew from October 1, 2020 to September 30, 2021. During that time period the pilots identified 28 spots infested with pine engraver beetle for a total of 358 trees. Most pine trees in Alabama did not experience any stress related to drought this year due to the excess amount of rainfall that occurred. The rainfall greatly helped with beetle infestations compared to 2019 when the state experienced 7 weeks with no precipitation. When the engraver beetle was recorded the diagnosis mostly suggested that it was due to stress from competition with shade-tolerant vegetation growing in the understory or damage caused by tornadoes.

Southern Pine Beetle, *Dendroctonus frontalis:*

In 2021 the number of detected southern pine beetle spots reported were low compared to previous years. As mentioned before the large amount of rain received by the state this year was a huge factor for the low number of beetle spots. Pine species across the state were able to obtain necessary amounts of water which helped them be less susceptible to beetle infestation. During the aerial surveys only 203 spots were detected with a total 7,650 trees being infected. In addition, the commission also detected southern pine beetle spots via ground detection. Most of these ground detections were done by county employees visiting a landowner's property after receiving beetle reports or through SMRs. From the ground detection 88 spots were identified for a total of 2,530 trees being infected. Overall, the southern pine beetle infestations in Alabama remained low with no chance of an outbreak with most of the recorded infestations being in the southwestern area of the state.

The number of SPB infestation spots increased from the previous year. In 2020 there were only 99 SPB spots reported with a total of 3,670 trees being infected. The 2020 total mentioned included both aerial and ground detected spots. Aerial survey was limited due to the beginning of the COVID pandemic and only certain counties were flown with special permission.

It was a relief for both the agency and landowners this year to experience a low number of southern pine beetle infestations. However, every year holds different challenges and must always be making preemptive actions in case an outbreak occurs in any part of the state.

Pine Needle Diseases, *Coleosporium spp., Lophodermium spp., Dothistroma spp., and Lecanosticta spp.:*

Pine needle diseases are a challenge that have proven to be a constant fight each year. There are many forms of the disease and can thrive in both drought conditions and excessive rainfall. These diseases flourish best in well-managed pine stands and can cause healthy pines to lose their needles and succumb to the infection. In 2021 the aerial survey detected 23 spots for a total of 1,255 acres of infested pines.

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

Three years ago, in 2018 Alabama, Mississippi, Louisiana, Texas, and other southeastern states partook in a project with the U.S. Forest Service with the goal of monitoring the spread of LWD. The state of Alabama contributed by monitoring the counties of Lowndes, Chilton, Talladega, Coosa, Bibb, and Lee. These counties were selected at the time since they were considered to be highly vulnerable to the disease. A map was created using the data submitted by the participating southeastern states showing the counties where LWD was detected. The project has since ended and there has been no word to continue it.

Emerald Ash Borer, *Agrilus planipennis*:

EAB has proven to be one of the top insect challenges that not only Alabama faces, but the other southeastern states as well. The insect was first detected in the state back in 2016 in the northeastern county of Calhoun. Three counties Calhoun, Cherokee, and Cleburne have since been labeled as "quarantine counties" through an agreement done by the Alabama Forestry Commission, the Alabama Department of Agriculture and Industries, the U.S. Department of Agriculture (USDA), and the Animal and Plant Health Inspection Services (APHIS). The disease has since spread to Talladega, Etowah, and St. Clair counties. The three counties are being continually surveyed to track the insect as it appears to be heading to Northern Alabama. This raises concern as a lot of the cities in Northern Alabama have ash trees along their sidewalks and parks.

The agency plans to continue to track the insect's movement throughout the state. At the same time the agency plans to continue supporting education and outreach programs like the one done in Birmingham in 2020. The event was sponsored by the Nature Conservancy to raise awareness of the danger that the disease poses to ash trees.

Hemlock Woolly Adelgid, *Adelges tsugae*:

The hemlock wooly adelgid has remained within Dekalb County since its first detection in the state back in June of 2020. The first appearance of the disease in the state was attributed to Dekalb County bordering the state of Georgia and being in line with the range of native hemlocks along the Appalachian mountain range. In 2021 HWA is still only be reported in Dekalb County which shows that management strategies have been affective in preventing spread to other neighboring counties.

In the fall of 2021, the Alabama Forestry Commission received word of a possible infection of HWA in Jefferson County located in downtown Birmingham. The possible sighting was reported by an employee working for the organization Alabama Wild. Thankfully the plant diagnostics lab at the Birmingham Botanical Gardens was able to determine the pest not to be HWA. Although this was a huge sigh of relief it is a reminder that we must continue to contain the insect and prevent it from causing hemlock mortality in the state.

The agency will continue to monitor the presence and spread of HWA in Dekalb County and evaluate reports of possible cases. It is critical to stop the spread of the insect since areas in Alabama such as the Bankhead National Forest are home to one of the last populations of eastern hemlocks (*Tsuga canadensis*) that have not been affected by the insect.

Gulf Coastal Plain Ecosystem Partnership Cogongrass (*Imperata cylindrica*) Project

In 2021 the Alabama Forestry Commission launched its cogongrass program to comeback the spread of this invasive plant throughout the state. The program has a few employees and a recently appointed coordinator, Owen Andrews. The program is in its initial phase of gathering necessary equipment, sprays, and locating spots that will be treated. The program will begin spraying in the spring of 2022 once it has acquired the necessary equipment, sprays, and personnel.

In addition to the upcoming rollout of the cogongrass program the Alabama Forestry Commission sprayed a total of 51 spots that made up around 6.86 acres through the CISMA project. It was important that we spray this invasive before it becomes more out of control. The Alabama Forestry Commission is still working with the U.S. Forest Service on a GIS map that shows the known locations of cogongrass spots.

Environmental and Climatic Events

Wildfires

The number of wildfires in the state of Alabama was lower compared to those reported in 2020. This goes back to the fact that the state received above average rainfall this past year and did not experience any droughts. In total there were 927 recorded wildfires in 2021 that burned 14,868.66 acres in Alabama.

Hurricanes, Tornadoes, and Storms

During the 2021 year the state of Alabama experienced a low number of destructive tornadoes and hurricanes. In total there were two recorded tornadoes that caused significant damage to forest land in the state. The only hurricane that made landfall in the state was Hurricane Zeta and it did not cause enough damage for the agency to send its licensed pilots to survey the damage.

The two major tornadoes that caused significant damage to forests in the state occurred on March 17 and 25, 2021. The tornado that formed on March 17th formed caused damage in counties located in the western and northern part of the state. The tornado caused damage in remote areas close to Tuscaloosa. From there the tornado moved to Moundville and caused damage to approximately 60 acres of forests in the area. The most severe tornado from this system formed in Choctaw County and impacted approximately 718 acres of forests until it dissipated in Marengo County.

The tornadoes that occurred on March 25 caused damage to an estimated 13,641 acres. One of the tornadoes that formed that day began in Hale County. From Hale County the tornado paved a

pathway of destruction as it moved northeast across the state affecting Perry, Bibb, Chilton, and Shelby counties. This tornado caused significant damage to timber located in the Talladega National Forest. Following this tornado another one occurred that did not last as long but caused more severe damage in one section of the Talladega National Forest. It was estimated that this short destructive tornado caused timber damage across 800 acres in the Talladega National Forest. The tornado that caught the most attention was one that formed in North Shelby County and damaged several homes and businesses in its path of destruction. I live not too far from where the tornado damaged homes in Pelham, AL and it was no joke of how damaging it was.

References

- Alabama Forest Resource Information – Alabama Forestry Commission, Forest Inventory and Analysis (FIA) Data
- Alabama Wildfire Information – Alabama Forestry Commission, Fire Operations Section, Wildfire Total.

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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