



FORESTS OF Mississippi, 2015

This resource update provides an overview of forest resources in Mississippi based on an inventory conducted by the Forest Inventory and Analysis (FIA) Program at the Southern Research Station of the Forest Service, U.S. Department of Agriculture in cooperation with the Mississippi Forestry Commission. Estimates are based on field data collected using the FIA annualized sample design and are updated yearly. The estimates presented in this update are for the measurement year 2015 with comparisons made to data reported in 2006. Table 1 shows an overview of changes in State-level resource characteristics since 2006. The sample plot population in Mississippi consists of 5,553 plots (3,989 forested plots), collected across a period of 7 years (about 785 plots, or about 14-15 percent of the data per year). The estimates in 2006 consist of 1 year (100 percent) of data collected using the annualized sampling and estimation procedures. Growth, removals, and mortality

estimates are remeasurement plots from 2006, or about 3,610 plots. The data used in this publication were accessed from the FIA Database on August 16, 2016.

Overview

Mississippi is home to 19.4 ± 0.11 million acres of forest land. Forested area has decreased by about 1 percent (242,200 acres) since 2006 (table 1). The number of live trees on Mississippi’s forest land in 2015 was estimated at 13.5 billion, a decrease of 2 percent from 2006. Net volume increased about 16 percent from 2006 to 2015, from 29.7 billion cubic feet to 34.3 billion cubic feet. The net growth-to-removals ratio in Mississippi in 2015 was 1.96, with net growth averaging 1.9 billion cubic feet annually and removals averaging 969.8 million cubic feet annually. Mortality averaged 372 million cubic feet annually.

Table 1—Mississippi forest statistics, change between 2006 and 2015

Forest statistics	2006 estimate	Sampling error (percent)	2015 estimate	Sampling error (percent)
Forest land				
Area (<i>thousand acres</i>)	19,622.3	0.61	19,380.1	0.56
Number of live trees ≥1.0 inch d.b.h. (<i>million trees</i>)	13,814.0	1.47	13,544.9	1.43
Net volume of live trees ≥5.0 inches d.b.h. (<i>million cubic feet</i>)	29,663.9	1.44	34,334.7	1.23
Live tree aboveground biomass ≥1.0 inch d.b.h. (<i>thousand oven-dry tons</i>)	757,247.6	1.30	923,139.0	1.12
Net annual growth of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	830.3	1.13	1,909.7	1.99
Annual removals of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	1,897.1	2.23	969.8	5.00
Annual mortality of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	983.6	5.57	371.7	3.36
Timberland				
Area (<i>thousand acres</i>)	19,396.8	0.63	19,179.1	0.58
Number of live trees ≥1.0 inch d.b.h. (<i>million trees</i>)	13,732.9	1.48	13,455.5	1.44
Net volume of live trees ≥5.0 inches d.b.h. (<i>million cubic feet</i>)	29,243.5	1.46	33,834.3	1.23
Live tree aboveground biomass ≥1.0 inch d.b.h. (<i>thousand oven-dry tons</i>)	746,468.3	1.32	909,546.7	1.12
Net annual growth of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	1,380.9	2.19	1,903.2	1.99
Annual removals of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	1,076.4	3.17	970.7	4.99
Annual mortality of live trees ≥5.0 inches d.b.h. (<i>million cubic feet per year</i>)	342.7	3.49	366.3	3.37



Forest Area

Mississippi is divided into five survey units (fig. 1). The total of forested land in all of the survey units is 19.4 ± 0.11 million acres, and forests occupy 63 percent of the land and water area in the State. The North survey unit supports more forest acres than any other unit (5.2 million acres) and is 62 percent forested (fig. 2). The Central unit is more densely forested, with 77 percent of its total land area in forest, but with fewer total forest acres (4.5 million acres). The Delta unit has the least acreage of forest, at 1.8 million acres, and is very sparsely forested—32 percent of its land area—because of extensive agricultural development.

The loblolly-shortleaf pine forest-type group occupies the largest proportion of forest land in Mississippi at 7.6 million acres, 65 percent of which was planted (fig. 3). The next most common forest-type groups are oak-hickory at 4.8 million acres, oak-gum-cypress at 2.5 million acres, and oak-pine at 2.0 million acres. Overall, the majority of Mississippi’s forests (68 percent) regenerate naturally (i.e., with no evidence of intentional planting). Even though the loblolly-shortleaf pine forest-type group is the largest individual forest-type group, hardwood and mixed oak-pine forest-type groups still cover 10.6 million acres—55 percent of all forest land.

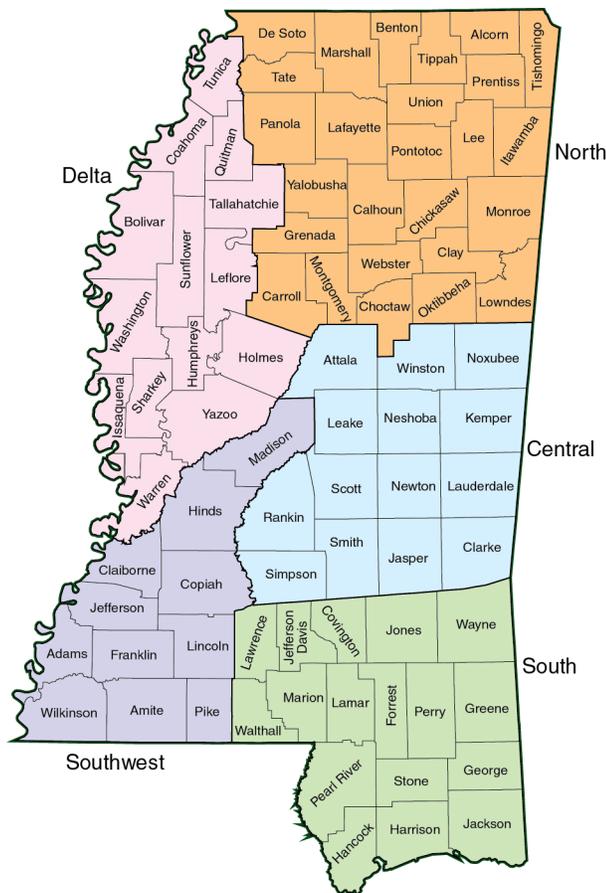


Figure 1—Forest survey regions in Mississippi.

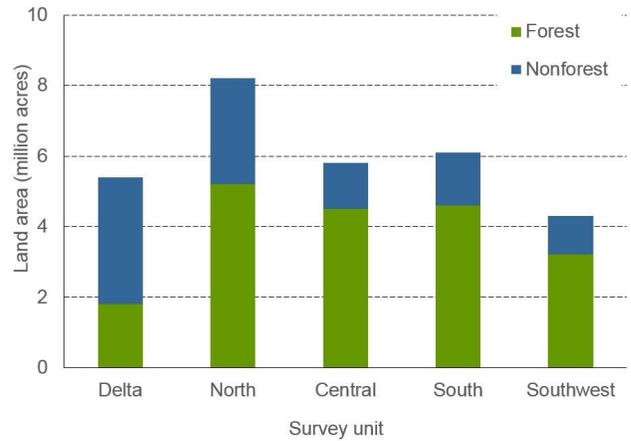


Figure 2—Total land area (minus census water) in Mississippi by land class and survey unit, 2015.

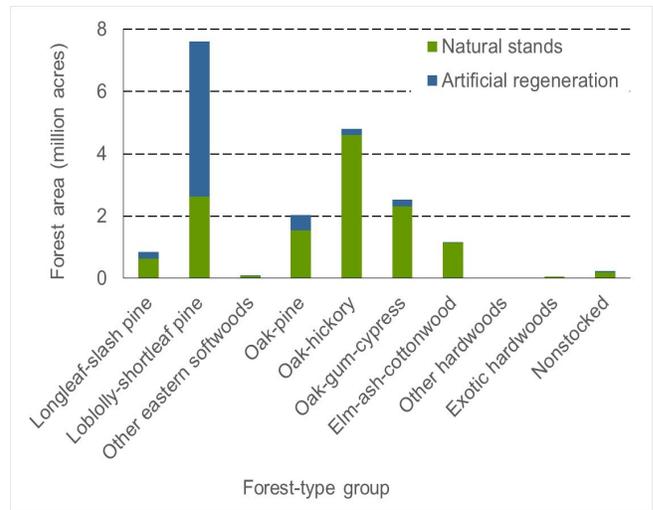


Figure 3—Area of forest land by forest-type group and stand origin, Mississippi, 2014.



Flowering dogwood (*Cornus florida*) in spring. Photograph by Sonja Oswald, USDA Forest Service.

Volume, Biomass, and Trends

Crews recorded 105 tree species (excluding seedlings and including unknowns identified to the genus level) on Mississippi forest land in the measurement years included in the 2015 dataset. Loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), and water oak (*Quercus nigra*) are the most numerous species in Mississippi (table 2).

Though loblolly pine alone accounts for 40 percent of Mississippi’s live tree volume, hardwoods are still dominant overall. Fifty-one percent of Mississippi’s 34.3 billion cubic feet of live tree volume is in hardwood species groups.

Mississippi’s forest land contains 923 million dry tons of aboveground live-tree biomass (table 1). That equates to 462 million tons of carbon. Eighty-five percent of all aboveground live-tree biomass is owned by private landowners.

In 2015, average annual net growth on forest land was 1.9 billion cubic feet (table 1). Average annual mortality was 372 million cubic feet. Removals were 970 million cubic feet, for a growth-to-removals ratio of 2.0, suggesting that Mississippi is growing more trees than are being removed through conversion or harvest. Mississippi’s removals are, on average, about 3 percent of the total standing volume per year. The vast majority of removals (63 percent) are in the loblolly-shortleaf pine forest-type group (fig. 4).

Table 2—Number and volume of all-live trees (top 15 species), Mississippi, 2015

Species	Number (million trees ≥ 1 in dbh)	Volume ≥ 5 in dbh (million ft ³)
Loblolly pine	2,912	13,767.0
Sweetgum	2,064	2,912.0
Water oak	1,050	2,169.0
Red maple	925	375.0
Winged elm	604	243.0
Blackgum	464	481.0
Green ash	330	504.0
American hornbeam, musclewood	329	86.0
Black cherry	328	216.0
White oak	276	1,130.0
Yellow-poplar	259	1,035.0
Eastern hophornbeam	243	43.0
Southern red oak	240	918.0
Mockernut hickory	220	257.0
Sweetbay	201	329.0



Lifting wood at a chipmill. Photo by Sonja Oswald, USDA Forest Service.

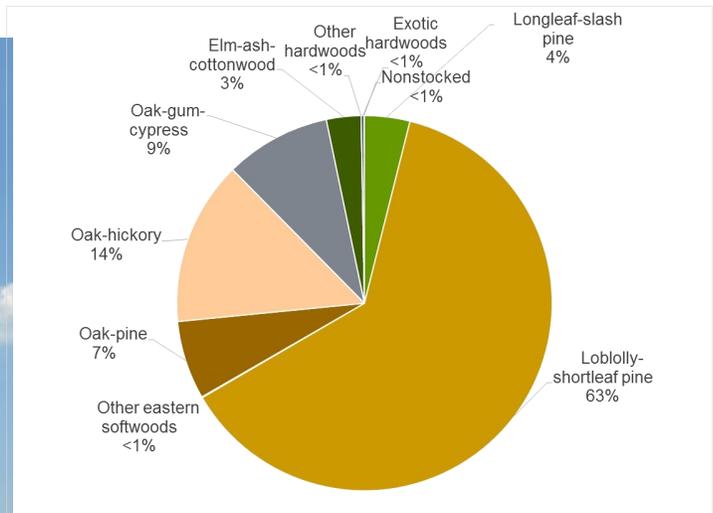


Figure 4—Proportion of average annual removals on forest land in Mississippi by forest-type group.

Landscape Changes

Mississippi's forests, while steady in extent, are still part of a shifting patchwork of land uses. Agricultural crop prices, wood prices, ownership changes, and development needs all impact the distribution of forests on the landscape.

Changes in forest area for this report are based on a time one median collection date of 2006 and a time two median collection date of 2012, with an average remeasurement length of 5.5 years between plot collection.

Diversions from forest land to another land use exceeded additions to the forest land base in Mississippi. Diversions from forest land were split fairly even between losses to agriculture and losses to other land uses (primarily urbanization). The largest change to a nonforest land use was in the South survey unit, to non-agricultural land uses (table 3). Total diversions from forest land to other land uses equaled approximately 549,100 acres or about 118,400 acres per year.

Additions to forest land from another land use equaled 410,800 acres. Most additions came from agriculture rather than other land uses like urban areas. The largest additions to forest land occurred in the North survey unit, from agricultural land. On average, 85,900 acres reverted to forest every year in the State.



Tombigbee National Forest sign. Photo by Sonja Oswald, USDA Forest Service.

Table 3—Changes in forest land by survey unit, Mississippi, 2015

Unit	Change	Additions			Diversions		
		Total additions	Agriculture	Other	Total diversions	Agriculture	Other
<i>thousand acres</i>							
Delta	39.9	74.3	69.2	5.1	-34.4	-13.2	-21.1
North	12.7	141.2	104.3	36.8	-128.4	-70.4	-58.1
Central	-38.9	78.4	43.3	35.2	-117.4	-49.7	-67.6
South	-102.9	75.9	44.0	31.9	-178.8	-76.4	-102.4
Southwest	-49.0	41.0	27.5	13.6	-90.1	-48.7	-41.4
All survey units	-138.2	410.8	288.3	122.6	-549.1	-258.4	-290.6

Numbers in rows and columns may not sum to totals due to rounding.

0.0 = no sample for the cell or a value of >0.0 but <0.05.

How to Cite This Publication

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