



FORESTS OF Mississippi, 2014

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 2014 with comparisons made to data reported in 2006. The sample plot population in Mississippi consists of 5,493 plots (3,944 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 (GRM) estimates are based solely on 6 years of data (80 percent of the total sample), or about

4,390 plots, and should be viewed accordingly. The data used in this publication were accessed from the FIA Database on April 13, 2015.

Overview

Mississippi is home to 19.4 ± 0.11 million acres of forest land. Forested area has decreased by about 1 percent (191,469 acres) since 2006 (table 1). The number of live trees on Mississippi’s forest land in 2014 was estimated at 13.5 billion, a decrease of 2 percent from 2006. Net volume increased about 12 percent from 2006 to 2014, from 29.7 billion cubic feet to 33.1 billion cubic feet. The net growth-to-removals ratio in Mississippi in 2014 was 1.9, with net growth averaging 1.9 billion cubic feet annually and removals averaging 984 million cubic feet annually. Mortality averaged 381 million cubic feet, annually.

Table 1—Mississippi forest statistics, change between 2006 and 2014

Forest statistics	2006 estimate	Sampling error (percent)	2014 estimate	Sampling error (percent)	Change since 2006
Forest land					
Area (thousand acres)	19,622.3	0.61	19,430.8	0.56	-191.5
Number of live trees ≥1.0 inch d.b.h. (million trees)	13,814.0	1.47	13,499.5	1.40	-314.5
Net volume of live trees ≥5.0 inches d.b.h. (million cubic feet)	29,663.9	1.44	33,122.3	1.25	3,458.4
Live tree aboveground biomass ≥1.0 inch d.b.h. (thousand oven-dry tons)	757,247.6	1.30	830,291.9	1.13	73,044.3
Net annual growth of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	830.3	1.13	1,897.1	2.23	1,066.8
Annual removals of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	1,897.1	2.23	983.6	5.57	-913.5
Annual mortality of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	983.6	5.57	381.3	4.67	-602.4
Timberland					
Area (thousand acres)	19,396.8	0.63	19,244.3	0.58	-152.5
Number of live trees ≥1.0 inch d.b.h. (million trees)	13,732.9	1.48	13,417.8	1.41	-315.1
Net volume of live trees ≥5.0 inches d.b.h. (million cubic feet)	29,243.5	1.46	32,689.0	1.27	3,445.5
Live tree aboveground biomass ≥1.0 inch d.b.h. (thousand oven-dry tons)	746,468.3	1.32	819,226.7	1.15	72,758.4
Net annual growth of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	1,380.9	2.19	1,892.9	2.23	512.0
Annual removals of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	1,076.4	3.17	978.4	5.57	-97.9
Annual mortality of live trees ≥5.0 inches d.b.h. (million cubic feet per year)	342.7	3.49	375.6	4.70	33.0



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 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 (4.6 million acres). The Delta unit has the least acreage of forest, at 1.8 million acres, and is very sparsely forested, at 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 7.5 million acres, 65 percent of which was planted. The next most common forest-type groups are oak-hickory at 4.9 million acres, oak-gum-cypress at 2.5 million acres, and oak-pine at 2.0 million acres (fig. 3). Overall, the majority of Mississippi’s forests (69 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 10.8 million acres—55 percent of all forest land.

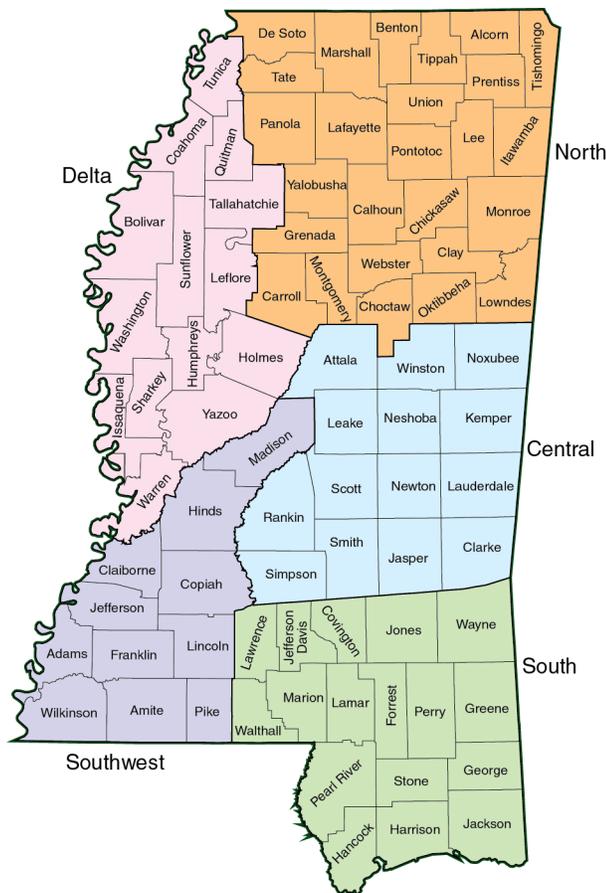


Figure 1—Forest survey regions in Mississippi.

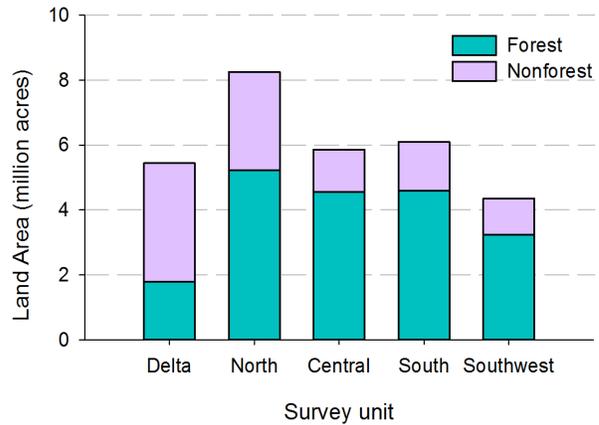


Figure 2—Total land area (minus census water) in Mississippi by land class and survey unit, 2014.

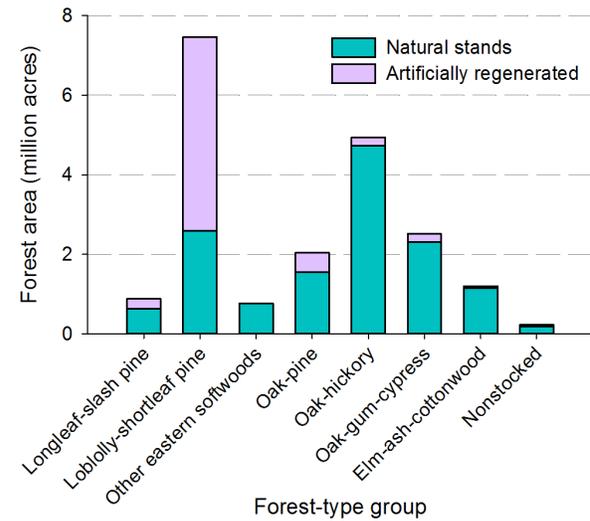


Figure 3—Area of forest land by forest-type group and stand origin, Mississippi, 2014.



Three black bear cubs in Mississippi. (photo by Brad Young, Mississippi Department of Wildlife, Fisheries, and Parks)

Volume, Biomass, and Trends

Crews recorded 113 tree species (including unknowns identified to the genus level) on Mississippi forest land in the measurement years included in the 2014 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 39 percent of Mississippi’s live tree volume, hardwoods are still dominant overall. Fifty-four percent of Mississippi’s 33 million cubic feet of live tree volume is in hardwoods. Oak-hickory and oak-gum-cypress together account for 73 percent of hardwood tree volume in the State.

Mississippi’s forest land contains 830 million dry tons of aboveground live-tree biomass. That equates to 415 million tons of carbon. Eighty-eight percent of all aboveground live-tree biomass is owned by private landowners

In 2014, average annual net growth on forest land was 1.9 billion cubic feet. Average annual mortality was 381 million cubic feet. Removals were 984 million cubic feet, for a growth-to-removals ratio of 1.9, 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).



Forester Christina Harper inventories a pine stand on the Bienville National Forest in Mississippi. (photo by Christopher Locke, USDA Forest Service)

Table 2—Number and volume of all-live trees (top 15 species), Mississippi, 2014

Species	Number (million trees)	Volume (million ft ³)
Loblolly pine	2,852.0	12,900.6
Sweetgum	2,005.1	2,860.3
Water oak	1,030.1	2,129.8
Red maple	920.5	368.5
Winged elm	580.9	235.5
Blackgum	468.4	464.9
Black cherry	339.5	202.5
American hornbeam, musclewood	334.2	86.2
Green ash	313.2	490.6
White oak	278.0	1,102.0
Yellow-poplar	268.4	992.0
Southern red oak	245.1	920.6
Eastern hophornbeam	242.8	41.9
Mockernut hickory	227.0	253.3
Sweetbay	207.3	315.8

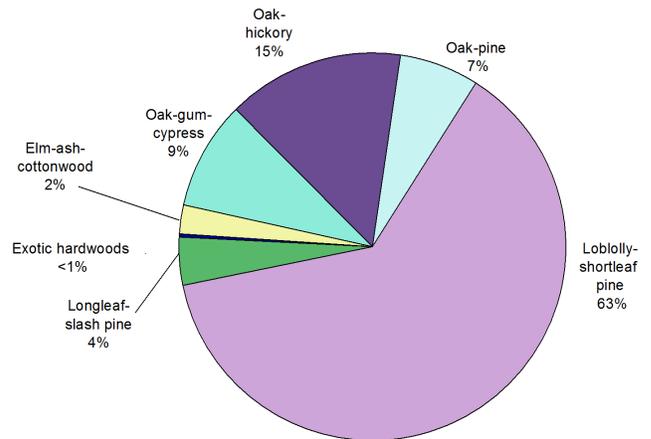


Figure 4—Proportion of average annual removals on forest land in Mississippi by forest-type group.

Byproducts of Primary Mill Production in Mississippi

Residues produced through the primary production of timber products include bark, wood shavings, sawdust, and coarse residues (e.g. wood chips). In Mississippi, mills produced 203 million cubic feet of wood residue in 2011 (the last date for which information is available). The majority (68 percent) of residue was generated through saw log processing. Coarse residues accounted for 41 percent of residues produced, followed by bark (27 percent), sawdust (25 percent) and wood shavings (7 percent).

Mississippi mills utilize nearly 100 percent of the wood residues produced during primary production. A little over half of mill residues produced in 2011 were used for industrial fuel. Thirty-nine percent of total residues

(including almost 93 percent of coarse residues produced) were used for fiber products (fig. 5). Ninety-five percent of bark and 77 percent of sawdust and shavings were used for industrial fuel.

For more information about Mississippi’s timber industry, see Bentley and others (2014).



Wood chips from a wood processing mill in Mississippi. (photo by Sonja Oswald, USDA Forest Service)

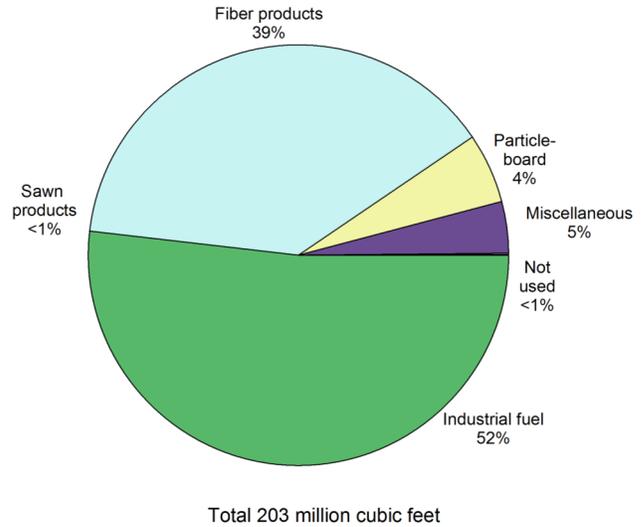


Figure 5—Utilization of residue by product, Mississippi, 2011.

Literature Cited

Bentley, J.W.; Cooper, J.A.; Howell, M. 2014. Mississippi’s timber industry, 2011—timber product output and use—forest inventory and analysis factsheet. e-Science Update SRS-093. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

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Contact Information

Sonja Oswald, Forester
 Forest Inventory and Analysis
 Southern Research Station, USDA Forest Service
 4700 Old Kingston Pike
 Knoxville, Tennessee 37919
 Phone: 865-862-2058 / Fax: 865-862-0262
 Email: soswalt@fs.fed.us
 Southern FIA: <http://srsfia2.fs.fed.us>
 National FIA: <http://fia.fs.fed.us>

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