

Mississippi, 2012

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This science update provides an overview of forest resources in Mississippi based on an inventory conducted by the U.S. Department of Agriculture Forest Service, Forest Inventory and Analysis (FIA) program at the Southern Research Station in cooperation with the Mississippi Forestry Commission. Data 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 2012 with comparisons made to data reported in 2011. The sample plot population in Mississippi consists of 3,667 plots, collected across a period of 7 years (about 524 plots, or about 14 percent of the data per year). The estimates in 2012 consist of 4 years (about 56 percent) of data collected using the annualized sampling and estimation procedures and 44 percent of data collected during the periodic sample conducted in 2006. Growth, removals, and mortality (GRM) estimates are based solely on 4 years of data (56 percent of the total sample), or about 2,096 plots, and should be viewed accordingly. The data used in this publication were accessed from the FIA database on June 11, 2013 (<http://apps.fs.fed.us/Evalidator/evalidator.jsp>).

FOREST INVENTORY & ANALYSIS FACTSHEET

Overview

Mississippi is home to 19.5 ± 0.6 million acres of forest land. Forested area has decreased by <1 percent (about 55,000 acres) since 2011 (table 1). The number of live trees on Mississippi's forest land in 2012 was estimated at 13.7 ± 0.2 billion trees, a decline of <1 percent from 2011. Net volume experienced no appreciable change. Average annual net growth decreased by 2.6 percent from 2011, while average annual mortality increased by 3.7 percent (table 1). We are likely still detecting mortality from the 2005–06 hurricane activity along the Mississippi coast, combined with effects from flooding, localized tornadoes, and recent drought events. The relatively small sample for GRM estimates limits the inferences that can be made at this point.

Table 1—Mississippi forest statistics, change between 2011 and 2012^a

Forest statistics	2012 Estimate	Sampling error - percent -	2011 Estimate	Sampling error - percent -	Change since 2011
Forest land					
Area (thousand acres)	19,486.5	0.6	19,541.3	0.6	-54.8
Number of live trees ≥ 1 -inch diameter (million trees)	13,661.5	1.5	13,758.7	1.5	-97.2
Net volume in live trees ≥ 5 inches diameter (million ft ³)	31,367.6	1.3	30,923.2	1.4	444.4
Live tree aboveground biomass (thousand oven-dry tons)	856,601.6	1.2	784,980.4	1.3	71,621.2
Net growth of live trees ≥ 5 inches (million ft ³ per year)	1,845.4	3.1	1,894.3	3.6	-48.9
Annual removals of live trees ≥ 5 inches (million ft ³ per year)	994.5	7.2	998.4	8.7	-3.9
Annual mortality of live trees ≥ 5 inches (million ft ³ per year)	417.2	6.0	402.5	6.9	14.7
Timberland					
Area (thousand acres)	19,449.9	0.6	19,494.3	0.6	-44.4
Number of live trees ≥ 1 -inch diameter (million trees)	13,645.3	1.5	13,742.5	1.5	-97.2
Net volume in live trees ≥ 5 inches diameter (million ft ³)	31,277.1	1.3	30,831.4	1.4	445.7
Live tree aboveground biomass (thousand oven-dry tons)	854,271.3	1.2	782,801.4	1.3	71,469.9
Net growth of live trees ≥ 5 inches (million ft ³ per year)	1,849.4	3.1	1,899.5	3.6	-50.1
Annual removals of live trees ≥ 5 inches (million ft ³ per year)	994.5	7.2	998.4	8.7	-3.9
Annual mortality of live trees ≥ 5 inches (million ft ³ per year)	416.2	6.0	401.2	7.0	15.0

^a Estimates for 2012 are comprised of 40 percent 2006 data and 4 panels (2009, 2010, 2011, 2012), or 60 percent 2012 data. Growth, removals, and mortality estimates for 2012 are comprised of only 4 panels of 2012 data, or 60 percent of a full sample. Growth, removals, and mortality data were not collected on forest land in 2006.



Forest Distribution

Mississippi is divided into five survey units (fig. 1). The total of forested land in all of the survey units is 19.5 ± 0.6 million acres, and forests occupy 63 percent of the land area in the State. The North survey unit is the largest and, in part because of its larger overall size, 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 very little forest area (1.8 million acres), and because of extensive agricultural development, is very sparsely forested at 32 percent of its land area.

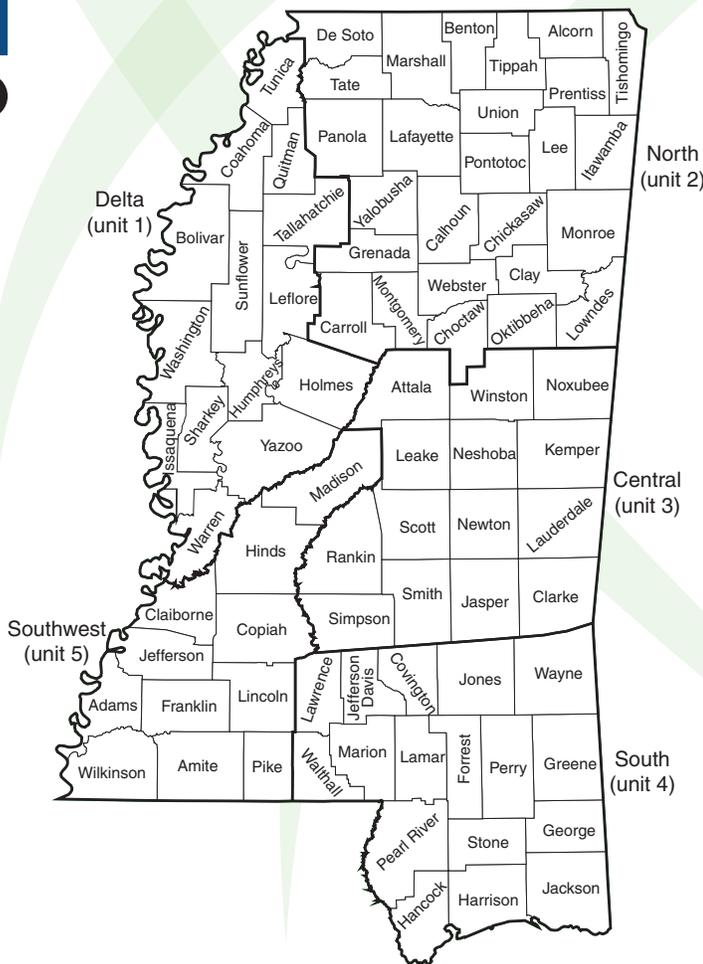


Figure 1—Mississippi counties and survey units.

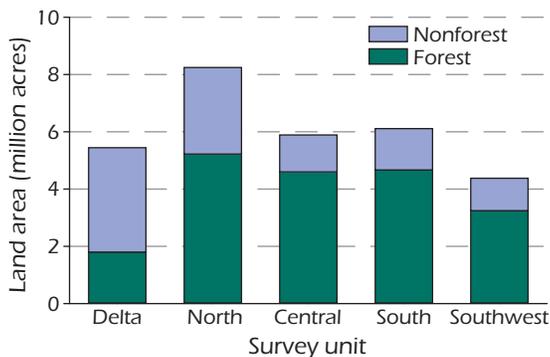


Figure 2—Total land area (minus census water), divided into forest and nonforest by unit, Mississippi, 2012.

Forest Composition

The loblolly-shortleaf pine forest-type group occupies the largest proportion of forest land in Mississippi at 7.3 million acres, 64 percent of which was planted. The next most common forest-type groups are oak-hickory at 5.1 million acres, oak-gum-cypress at 2.6 million acres, and oak-pine at 2.1 million acres (fig. 3). Overall, the majority of Mississippi's forests (70 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 comprise 11.1 million acres, about 58 percent of all forest land.

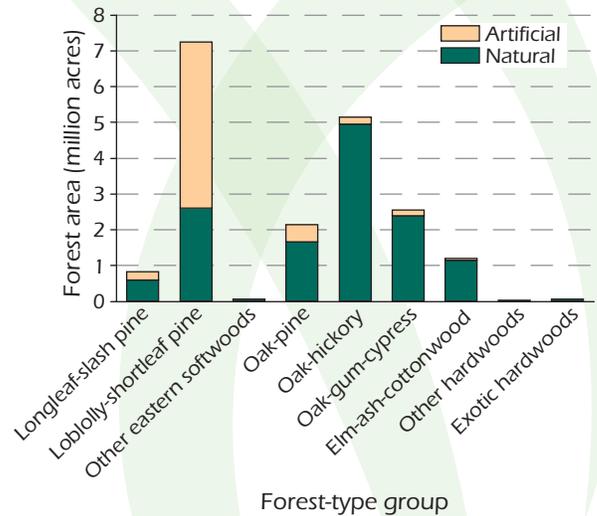


Figure 3—Area of forest land by forest-type group and stand origin, Mississippi, 2012.

Crews recorded 108 species (including unknowns collected to the genus level) on Mississippi forest land in the measurement years included in the 2012 dataset. Loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), water oak (*Quercus nigra*), red maple (*Acer rubrum*), and winged elm (*Ulmus alata*) are the most numerous species in Mississippi (fig. 4).

Dusky Gopher Frog on Mississippi's Desoto National Forest. (photo by John A. Tupy.)



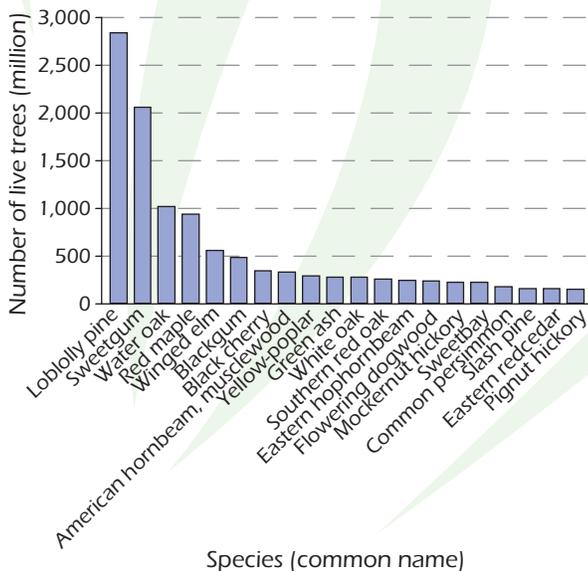


Figure 4—Twenty most numerous trees on forest land, Mississippi, 2012.

How Does Mississippi Compare to Neighboring States?

The following compares Mississippi 2012 data with 2011 data for Alabama, Arkansas, Louisiana, and Tennessee. Mississippi is more densely forested than any of its bordering States except Alabama, which is 71 percent forested (fig. 5). Artificially regenerated stands comprise about 30 percent of forest land in Alabama and Louisiana, much like Mississippi, while planted stands comprise only 18 and 5 percent of area in the bordering States of Arkansas and Tennessee, respectively (fig. 6).

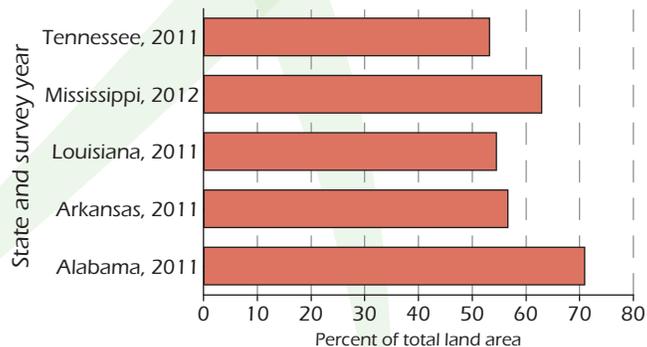


Figure 5—Percent of total land area in forest by State and survey year.

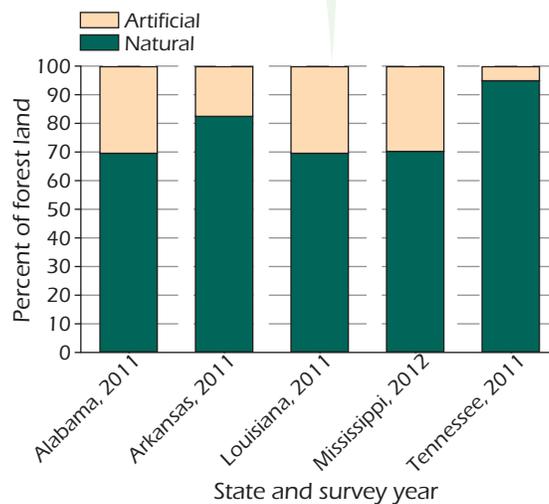


Figure 6—Proportion of forest land by State and survey year, and stand origin.

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In terms of composition, Mississippi, Alabama, and Louisiana forests consist of 42, 42, and 40 percent softwood and 57, 57, and 56 percent hardwood forest-type groups, respectively. In contrast, Arkansas' forests are comprised of 31 percent softwood forest-type groups and 68 percent hardwood forest-type groups. Tennessee's forests are 9 percent softwood and 90 percent hardwood forest-type groups. The remainder in each State is comprised of exotic hardwoods or nonstocked forest land (fig. 7).

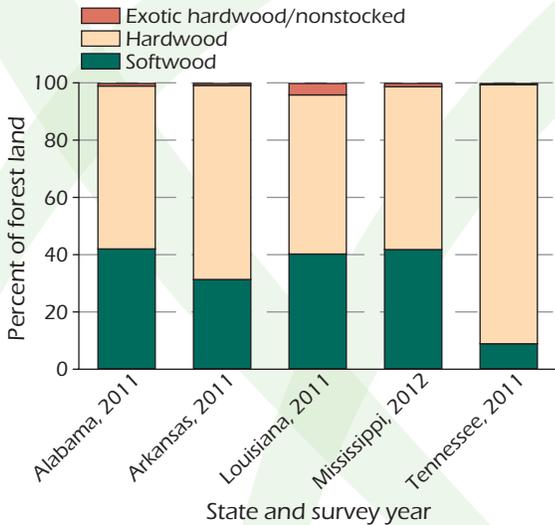


Figure 7—Composition of forest land by State and survey year, and component.



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Standing volume on timberland (forest land available for harvest) equaled 31 billion cubic feet in Mississippi, compared to 35 billion cubic feet in Alabama, 30 billion cubic feet in Arkansas, 28 billion cubic feet in Tennessee, and 24 billion cubic feet in Louisiana.

All annual removals (harvests and diversions) affect about 3 percent of total standing tree volume on timberland in Mississippi, annually, compared to 4 percent in Alabama, 3 percent in Louisiana, 3 percent in Arkansas, and 1 percent in Tennessee. Average annual harvest removals on timberland in Mississippi totaled 993 million cubic feet per year for the survey period to date, while harvest removals totaled 1.3 billion cubic feet per year in Alabama, 795 million cubic feet per year in Louisiana, 795 million cubic feet per year in Arkansas, and 401 million cubic feet per year in Tennessee. Sixty-three percent of Mississippi's timber harvest occurred in the loblolly-shortleaf pine forest type (fig. 8).

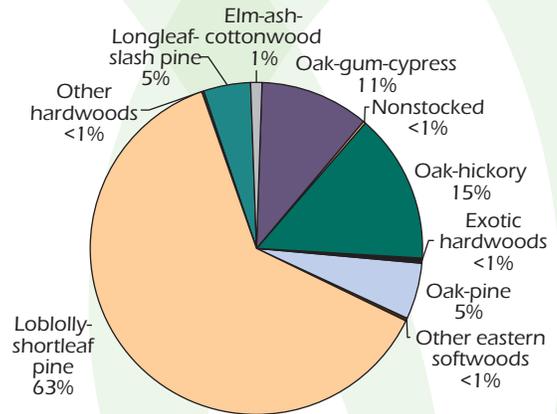


Figure 8—Proportion of average annual harvest removals by forest-type group, Mississippi, 2012.

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Longleaf pine grove in Mississippi. (USDA photograph, photographer unknown.)

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