



FORESTS OF Louisiana, 2012

This resource update provides an overview of forest resources in Louisiana based on an inventory conducted by the U.S. Forest Service, Forest Inventory and Analysis (FIA) program at the Southern Research Station. 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 Louisiana consists of 5,579 plots, collected across a period of 7 years (about 797 plots, or about 14 percent of the data per year). The estimates in 2012 consist of 4 years (about 57 percent) of data collected using the annualized sampling and estimation procedures and 43 percent of data collected during the periodic sample conducted in 2005 (amended in 2008). Growth, removals, and mortality (GRM) estimates are based solely on 4 years of data (57 percent of the total sample), or about 3,188 plots,

and should be viewed accordingly. The data used in this publication were accessed from the FIA Database on August 8, 2013.

Overview

Louisiana is home to 14.9 ± 0.11 million acres of forest land. Forested area has increased by about 1 percent (160,000 acres) since 2011 (table 1). The number of live trees on Louisiana's forest land in 2012 was estimated at 8.9 ± 0.16 billion trees, an increase of 3 percent from 2011. Net volume increased about 2 percent. Both average annual net growth and average annual removals decreased by 2 percent from 2011 (table 1). The relatively small sample for GRM estimates limits the inferences that can be made at this point.

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

Forest statistics	2011 estimate	Sampling error (percent)	2012 estimate	Sampling error (percent)	Change since 2011
Forest land					
Area (<i>thousand acres</i>)	14,712.1	0.75	14,871.8	0.75	159.7
Number of live trees ≥ 1.0 inch d.b.h. (<i>million trees</i>)	8,659.5	1.81	8,948.1	1.82	288.5
Net volume of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet</i>)	23,764.9	1.84	24,131.9	1.81	367.0
Live tree aboveground biomass (<i>thousand oven-dry tons</i>)	585,412.7	1.66	595,196.3	1.62	9,783.6
Net annual growth of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	1,040.4	3.70	1,015.7	3.28	-24.6
Annual removals of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	798.8	6.27	780.3	5.58	-18.5
Annual mortality of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	301.1	6.77	298.6	6.01	-2.5
Timberland					
Area (<i>thousand acres</i>)	14,645.6	0.76	14,804.4	0.76	158.8
Number of live trees ≥ 1.0 inch d.b.h. (<i>million trees</i>)	8,632.9	1.81	8,921.2	1.83	288.3
Net volume of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet</i>)	23,691.1	1.83	24,059.1	1.79	368.0
Live tree aboveground biomass (<i>thousand oven-dry tons</i>)	583,675.1	1.66	593,476.4	1.62	9,801.3
Net annual growth of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	1,038.4	3.71	1,014.4	3.29	-24.1
Annual removals of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	798.8	6.27	780.4	5.58	-18.5
Annual mortality of live trees ≥ 5.0 inches d.b.h. (<i>million cubic feet per year</i>)	301.1	6.77	298.6	6.01	-2.5

^a Estimates for 2012 are comprised of 43 percent 2005 data and four panels (2009, 2010, 2011, 2012), or 57 percent 2012 data. Growth, removals, and mortality estimates for 2012 are comprised of only four panels of 2012 data, or 57 percent of a full sample. Growth, removals, and mortality data were not collected on forest land in 2005.



Forest Area

Louisiana is divided into five survey units (fig. 1). The total of forested land in all of the survey units is 14.9 ± 0.11 million acres and forests occupy 55 percent of the land area in the State. The Southwest survey unit supports more forest acres than any other unit (4.7 million acres), and is 71 percent forested (fig. 2). The Northwest unit is more densely forested, with 78 percent of its total land area in forest, but with fewer total forest acres (4.6 million acres). Both the North and South Delta units have very little forest area (1.3 and 2.6 million acres, respectively), and both are very sparsely forested at 36 and 30 percent of their land areas because of extensive agricultural development in those units.

The loblolly-shortleaf pine forest-type group occupies the largest proportion of forest land in Louisiana at 5.1 million acres, 61 percent of which was planted. The next most common forest-type groups are oak-gum-cypress at 3.7 million acres, oak-hickory at 2.0 million acres, and elm-ash-cottonwood at 1.5 million acres (fig. 3). Overall, the majority of Louisiana'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 8.7 million acres—58 percent of all forest land.



Figure 1—Forest survey regions in Louisiana.

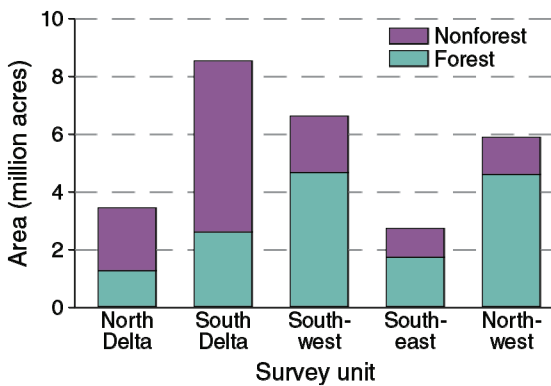


Figure 2—Total land area (minus census water) in Louisiana, by land class and survey unit, 2012.

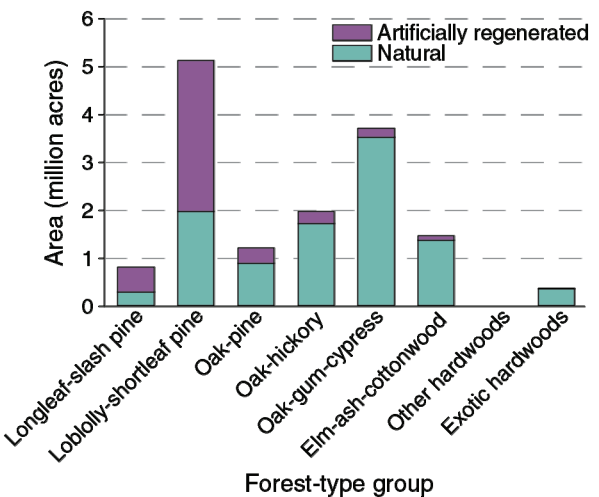


Figure 3—Area of forest land by forest-type group and stand origin, Louisiana 2012.



Baldcypress in Lacassine National Wildlife Refuge.
(photo by Steve Hillebrand, U.S. Fish and Wildlife Service)

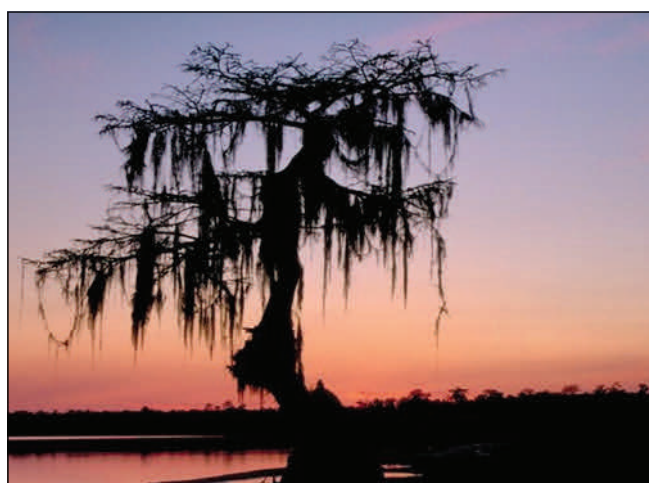
Volume, Biomass, and Trends

Crews recorded 108 species (including unknowns collected to the genus level) on Louisiana forest land in the measurement years included in the 2012 dataset. Loblolly pine (*Pinus taeda*), sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), water oak (*Quercus nigra*), and Chinese tallow (*Triadica sebifera*) are the most numerous species in Louisiana (table 2).

Though the loblolly-shortleaf pine forest-type group accounts for 35 percent of Louisiana's live tree volume, hardwoods are still dominant overall. Sixty percent of Louisiana's 24 million cubic feet of live tree volume is in hardwood forest-types. Oak-gum-cypress account for 56 percent of hardwood tree volume in the State.

Louisiana's forest land contains 648 million dry tons of live-tree biomass. That equates to 324 million tons of carbon. Only about 18 percent of that biomass is on public land, indicating the importance of private landowners in the management of Louisiana's forest resource.

In 2012, average annual net growth on forest land was 1.0 billion cubic feet. Average annual mortality was 299 million cubic feet. Removals were 780 million cubic feet, for a growth- to- removal ratio of 1.3, suggesting Louisiana is growing more trees than are being removed through conversion or harvest. Louisiana's removals are, on average, about 3 percent of the total standing volume per year. The vast majority of removals are in the loblolly-shortleaf pine forest-type group (fig. 4).



Baldcypress (*Taxodium distichum*). (photo courtesy of U.S. Forest Service Southern Research Station)

Table 2—Number and volume of all live trees (top 15 species), Louisiana, 2012

Species	Number (million trees)	Volume (million ft ³)
Loblolly pine	2,004.9	8,278.4
Sweetgum	1,072.8	1,814.1
Red maple	717.3	433.4
Water oak	604.0	1,491.0
Chinese tallow	447.7	195.6
Slash pine	290.6	672.3
Winged elm	264.4	128.3
Green ash	262.8	590.8
American hornbeam, musclewood	253.1	66.4
Blackgum	242.5	355.0
Sugarberry	207.4	473.6
Southern red oak	156.0	492.0
White oak	132.7	475.3
Eastern hophornbeam	122.9	16.0
Baldcypress	119.1	1,899.4

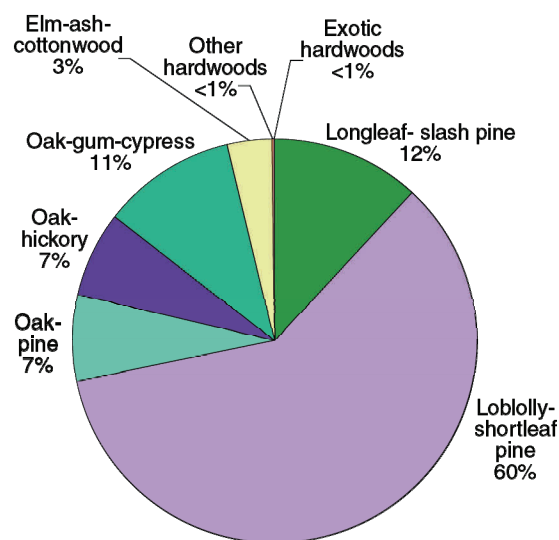


Figure 4—Proportion of average annual harvest removals on timberland in Louisiana by forest-type group.

Louisiana's Delta in the Context of the Lower Mississippi Alluvial Valley

Louisiana's Delta plays an integral role in the culture, history, and environment of the State. In 1986, Rudis and Birdsey wrote a comprehensive paper on the forest resources of the Lower Mississippi Alluvial Valley (LMAV). Recently, the Southern Research Station published an update to that report titled "Forest Resources of the Lower Mississippi Alluvial Valley" (Oswalt 2013).

This new, updated report shows that counties in Louisiana's Delta region lost substantial forest area between 1950 and 1980 (fig. 5). For example, West Carroll Parish went from being 45 percent forested in 1950 to being only 8 percent forested in 1980, the largest measured loss in the State. New data show some recovery in counties with forest area loss. In the example given, West Carroll Parish has recovered some area since 1980, and is currently 18 percent forested. The report includes statistics related to changes in relative stocking, area, basal area, and species distributions.

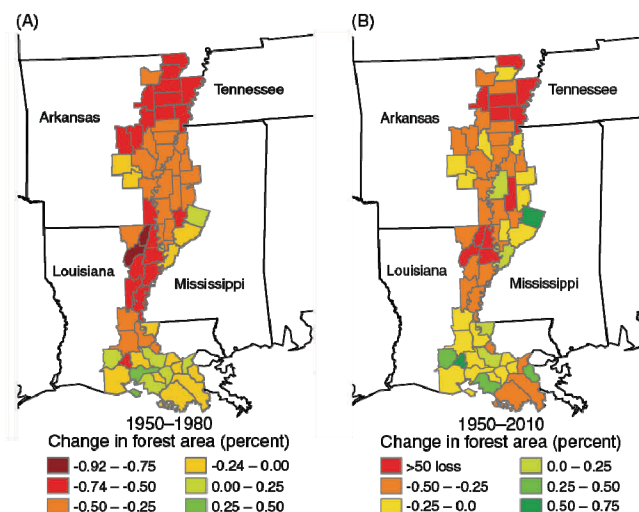


Figure 5—Gains and losses in Lower Mississippi Alluvial Valley forest land from (A) 1950 to 1980 and (B) 1950 to 2010 by county.



Baldcypress in Lacassine National Wildlife Refuge.
(photo by Steve Hillebrand, U.S. Fish and Wildlife Service)

Literature Cited

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