



# FORESTS OF Louisiana, 2014

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 2014 with comparisons made to data reported in 2005. The sample plot population in Louisiana consists of 5,581 plots (2,733 forested plots), collected across a period of 7 years (about 797 total plots, or about 14-15 percent of the data per year). The estimates in 2008 consist of 1 year (100 percent) of data collected in 2005 using the annualized sampling and estimation procedures followed by re-collection and re-processing of 239 plots with data collection inconsistencies in 2008. Growth, removals, and mortality (GRM) estimates are based solely on 6 years of data (82 percent of the total

sample), or about 2,231 forested plots, and should be viewed accordingly. The data used in this publication were accessed from the FIA Database on March 30, 2016.

## Overview

Louisiana is home to  $15.0 \pm 0.1$  million acres of forest land. Forest area has increased by about 5 percent (688,100 acres) since 2005 (table 1). The number of live trees on Louisiana's forest land in 2014 was estimated at 9.3 billion, an increase of 12 percent from 2005. Net timberland volume increased about 10 percent from 2005 to 2014, from 22.4 billion cubic feet to 24.6 billion cubic feet. The net growth to removals ratio in Louisiana 2014 was 1.4, with net growth on forest land averaging 1.1 billion cubic feet annually and removals on forest land averaging 733.2 million cubic feet annually. Mortality averaged 289.1 million cubic feet, annually.

Table 1 – Louisiana forest statistics, change between 2005 and 2014

	2005 Estimate	Sampling error percent	2014 Estimate	Sampling error percent	Change since 2005
<b>Forest land</b>					
Area (thousand acres)	14,296.02	0.763	14,984.09	0.665	688.07
Number of live trees $\geq 1$ inch d.b.h. (million trees)	8,260.32	1.889	9,292.29	1.704	1,031.98
Net volume live trees $\geq 5$ inches d.b.h. (million cubic feet)	22,796.71	1.889	25,239.85	1.587	2,443.14
Live trees aboveground biomass (thousand oven-dry tons)	562,960.48	1.722	621,731.40	1.42	58,770.92
Net growth live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	621.731	1.42	1,054.08	2.51	432.35
Annual removals of live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	1,054.08	2.51	733.217	4.584	-320.86
Annual mortality of live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	733.217	4.584	289.123	4.797	-444.09
<b>Timberland</b>					
Area (thousand acres)	14,106.02	0.794	14,707.04	0.706	601.02
Number of live trees $\geq 1$ inch d.b.h (million trees)	8,192.03	1.905	9,183.66	1.727	991.63
Net volume live trees $\geq 5$ inches d.b.h. (million cubic feet)	22,376.49	1.914	24,638.24	1.606	2,261.75
Live trees aboveground biomass (thousand oven-dry tons)	552,772.03	1.749	607,261.15	1.445	54,489.12
Net growth live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	859.1	2.996	1,044.88	2.505	185.78
Annual removals of live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	995.554	3.741	750.502	4.67	-245.05
Annual mortality of live trees $\geq 5$ inches d.b.h. (million cubic feet per year)	233.555	4.402	282.374	4.868	48.82



## Forest Area

Louisiana is divided into 5 survey units (fig. 1). The total of forested land in all of the survey units is 15.0 ± million acres and forests occupy 55 percent of the land (minus census water) area in the State. The Southwest survey unit supports more forest acres than any other unit (4.6 million acres), and is 70 percent forested (fig. 2). The Northwest unit is more densely forested, with 78 percent of its total land area in forest, but with similar total forest area (4.6 million acres). The North Delta unit has the least acreage of forest at 1.3 million acres, and is very sparsely forested at 38 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 Louisiana at 5.2 million acres, 63 percent of which was planted, and nearly all of which is loblolly pine. The next most common forest-type groups are oak-gum-cypress at 3.9 million acres, oak-hickory at 1.8 million acres, and elm-ash-cottonwood at 1.5 million acres (fig. 3). 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 8.8 million acres—59 percent of all forest land.

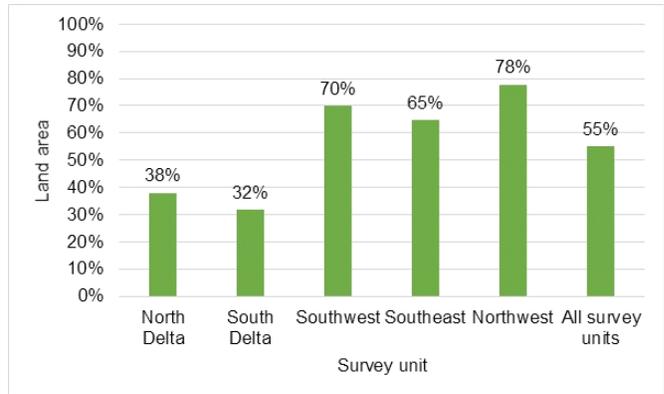


Figure 2—Percent of total land area (minus census water) that is forested in Louisiana by survey unit, 2014.

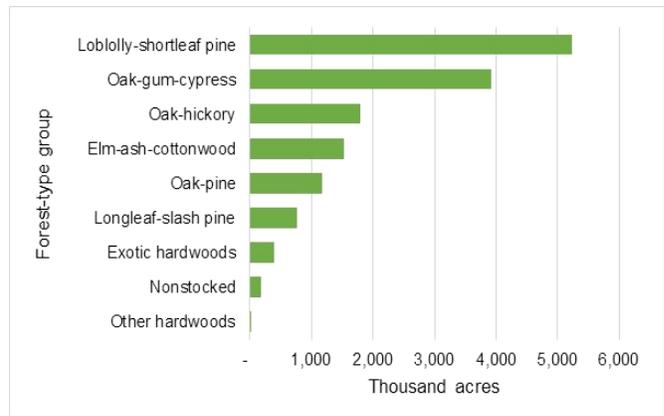


Figure 3—Area of forest land by forest-type group, Louisiana, 2014.

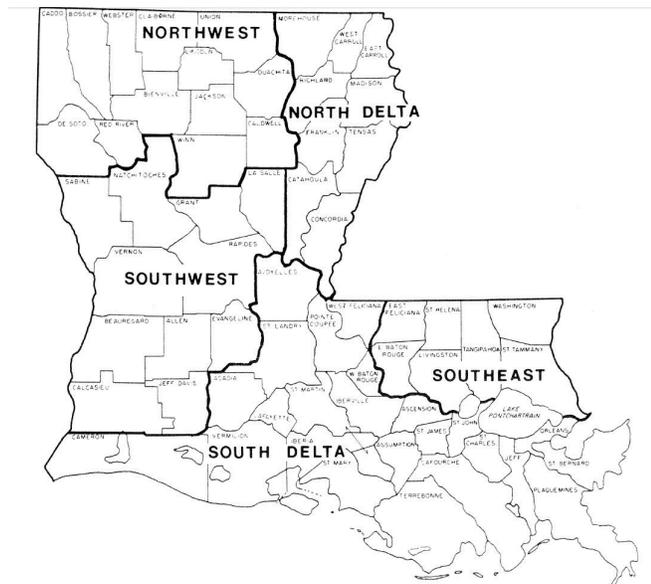


Figure 1— Forest Inventory and Analysis survey units in Louisiana, 2014.



Louisiana black bear. (Photo by Gary Stolz, U.S. Fish and Wildlife Service)

## Volume, Biomass, and Trends

Hardwood species outnumber softwood species in Louisiana by almost 3 to 1. Species in the sweetgum, eastern soft hardwoods, and eastern noncommercial hardwood species groups comprise the largest majority of hardwoods, though mixed oaks and maple species are also present in notably high numbers. The single largest species group, however, is the loblolly and shortleaf pine group. Though only accounting for 23 percent of estimated live trees, the species group accounts for 81 percent of estimated softwood trees.

In terms of volume, loblolly and shortleaf pines comprise 36 percent of all live-tree volume in the State, with cypress, mixed oak species, sweetgum, tupelo and blackgum, and eastern soft hardwoods also contributing largely to the total (fig. 4). Most live-tree volume is under the care of nonindustrial private owners. About 56 percent of volume on forest industry land is in the loblolly and shortleaf species group.

Estimated aboveground dry biomass on forest land increased by 10 percent between 2005 and 2014 (table 1). Loblolly and shortleaf pines comprise 32 percent of aboveground dry biomass, and much of that biomass is in trees between 5 and 25 inches in diameter (fig. 5). Oaks, sweetgum, cypress, and tupelo/blackgum species groups comprise a combined 43 percent of aboveground dry biomass. Overall, aboveground dry biomass is captured fairly evenly between softwoods and hardwoods, though hardwoods comprise slightly more at 56 percent.

Mortality on trees in Louisiana has decreased substantially, from an average annual mortality of 733 million cubic feet to 289 million cubic feet, indicating some recovery from Hurricane Katrina, but perhaps not yet reflecting the full effects of Hurricanes Ike and Gustav. Removals also decreased between 2005 and 2014, a decline from 1.1 billion cubic feet on average, annually to 733 billion cubic feet on average, annually. Accordingly, whereas removals outpaced growth in 2005, in 2014 the growth to removals ratio was 1.4.

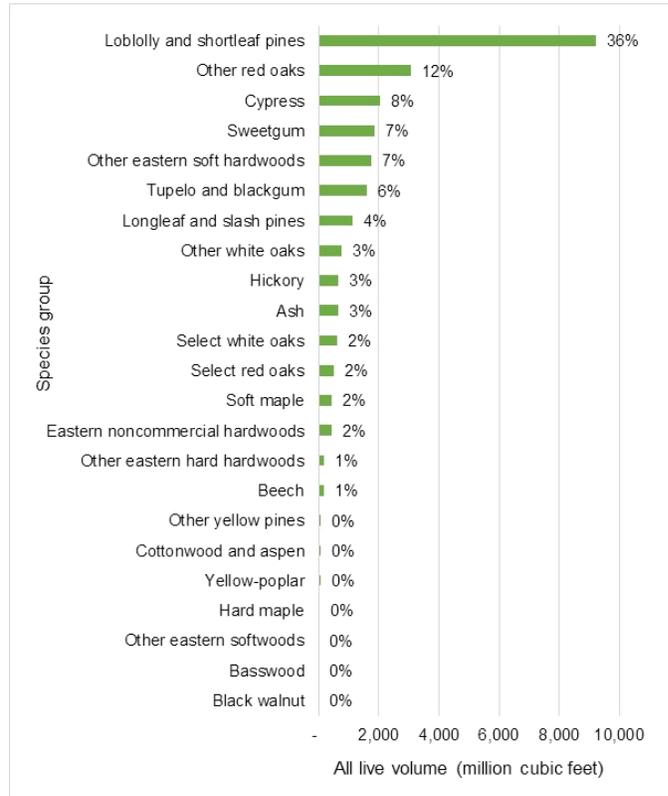


Figure 4—All live volume in million cubic feet and as a percent of the total by species group on Louisiana forest land, 2014.

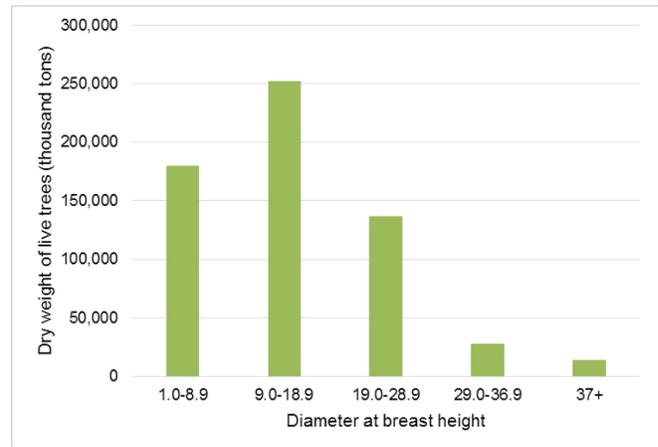


Figure 5—Aboveground live-tree biomass (dry weight) by diameter group on Louisiana forest land, 2014.



Baldcypress knees in Lacassine National Wildlife Refuge. (photo by Steve Hellebrand, USDA Fish and Wildlife Service)

## Forest Owners in Louisiana

Nearly three quarters of Louisiana's forest land is under the care of nonindustrial private landowners. Nonindustrial corporate interests account for roughly half of private ownerships, but private individuals own 36 percent of all forest land in the State. In contrast, industry owns about 15 percent and combined public lands (State and Federal) only account for 13 percent. Thus, individuals who own forest land in Louisiana are vital to the responsible stewardship of the State's forests.

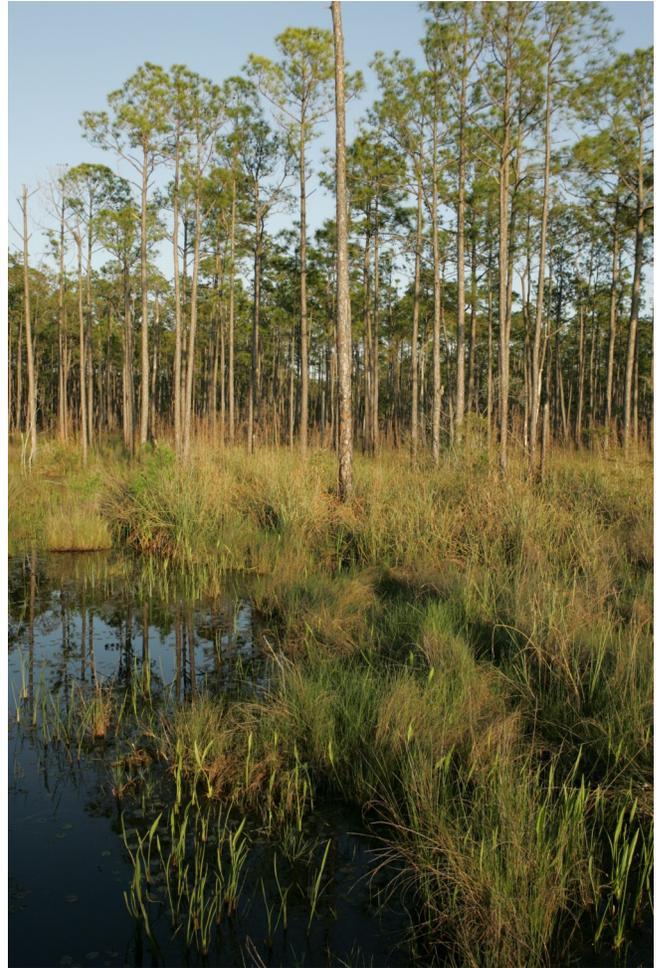
Findings from the 2011-2013 National Woodland Owner Survey (Butler and Butler 2016) indicate that most family forest owners in the State own <50 acres, with much of it separate from their home. Overwhelmingly, family forest owners in Louisiana keep their forests as legacies to pass on to heirs, while also heavily valuing the water quality, wildlife, aesthetic and investment opportunities maintaining forest land affords. Ranked concerns indicate that vandalism, trespassers, and taxes are all worrisome to family forest owners in Louisiana.

More information on the forest owners of Louisiana and all of the United States can be found online at <https://www.fia.fs.fed.us/nwos/results/>.

## Definitions

**Forest land**—Land that is at least 10 percent stocked by forest trees of any size, or land formerly having such tree cover, and is not currently developed for a nonforest use. The minimum area for classification as forest land is 1 acre. Roadside, streamside, and shelterbelt strips of timber must be at least 120 feet wide to qualify as forest land.

**Timberland**—Forest land that is producing or capable of producing 20 cubic feet per acre or more per year of wood at culmination of mean annual increment. Timberland excludes reserved forest lands.



Pine trees on Big Branch Marsh National Wildlife Refuge. (photo by Steve Hillebrand, U.S. Fish and Wildlife Service.)

## Literature Cited

Butler, Brett J.; Butler, Sarah M. 2016. Family Forest Ownerships with 10+ Acres in Louisiana, 2011-2013. Res. Note NRS-218. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northern Research Station. 2 p. <http://dx.doi.org/10.2737/NRS-RN-218>.

### How to Cite This Publication

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