USDA
United States Department of Agriculture

RESOURCE UPDATE FS-103

FORESTS OF Georgia, 2015

This resource update provides an overview of forest resources in Georgia based on an inventory conducted by the U.S. Forest Service, Forest Inventory and Analysis (FIA) program at the Southern Research Station in cooperation with the Georgia 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 2014 and prior years.

Data collection in 2015 consisted of 971 plots out of over 4,600 forest plots, or about 20 percent of the sample population. The remaining 80 percent come from data collected from 2011 through 2014. Collection of the 2015 plots begins the eleventh complete forest inventory of the State of Georgia conducted by the FIA program. The data used in this publication were accessed from the FIA database in October, 2016 (http://fia.fs.fed.us/tools-data/).

Overview

Forest land area remained relatively constant in 2015, echoing findings from previous updates (Brandeis 2015, Harper and others 2009, Harper 2012). Forest area in 2015 totaled 24.6 million acres, plus or minus 126,131 acres (table 1). Ninety-eight percent of this forest is not specifically reserved by law and is therefore potentially available for timber production.

Table 1—Georgia forest statistics, change between 2014 and 2015

Forest statistics	2014 estimate	Sampling error (percent)	2015 estimate	Sampling error (percent)	Change since 2014
Forest land					
Area (*thousand acres*)	24,728.4	0.51	24,634.9	0.51	-93.55
Number of live trees ≥1 inch diameter (*million trees*)	15,164.1	1.31	14,961.4	1.33	-202.61
Net volume live trees ≥5 inches diameter (*million cubic feet*)	43,658.1	1.09	44,245.5	1.08	587.33
Live trees aboveground biomass (*thousand oven-dry tons*)	1,086,316.5	0.97	1,096,988.0	0.97	10,671.53
Net growth live trees ≥5 inches diameter (*million cubic feet*)	1,970.0	1.69	1,988.9	1.66	18.93
Annual removals of live trees ≥5 inches diameter (*million cubic feet*)	1,362.3	3.99	1,374.7	3.99	12.42
Annual mortality of live trees ≥5 inches diameter (*million cubic feet*)	455.6	4.02	451.1	4.07	-4.45
Timberland					
Area (*thousand acres*)	24,158.0	0.53	24,061.0	0.54	-96.95
Number of live trees ≥1 inch diameter (*million trees*)	14,880.7	1.32	14,670.6	1.34	-210.09
Net volume live trees ≥5 inches diameter (*million cubic feet*)	42,690.4	1.12	43,254.5	1.12	564.11
Live trees aboveground biomass (*thousand oven-dry tons*)	1,061,804.2	1.00	1,071,837.3	1.00	10,033.12
Net growth live trees ≥5 inches diameter (*million cubic feet*)	1,997.0	1.59	2,012.4	1.56	15.39
Annual removals of live trees ≥5 inches diameter (*million cubic feet*)	1,361.5	4.00	1,374.2	3.99	12.73
Annual mortality of live trees ≥5 inches diameter (*million cubic feet*)	398.6	3.68	398.8	3.55	0.19

Forest Area

Georgia is divided into five survey units (subdivisions of the State based on a combination of ecological regions and political boundaries shown in figure 1). As of 2015, the Southeast and Central units hold the most forest land (fig. 2). The Central survey unit has the highest percent forest cover (72 percent) while the Southwest and North survey units have the lowest (52 and 51 percent, respectively).

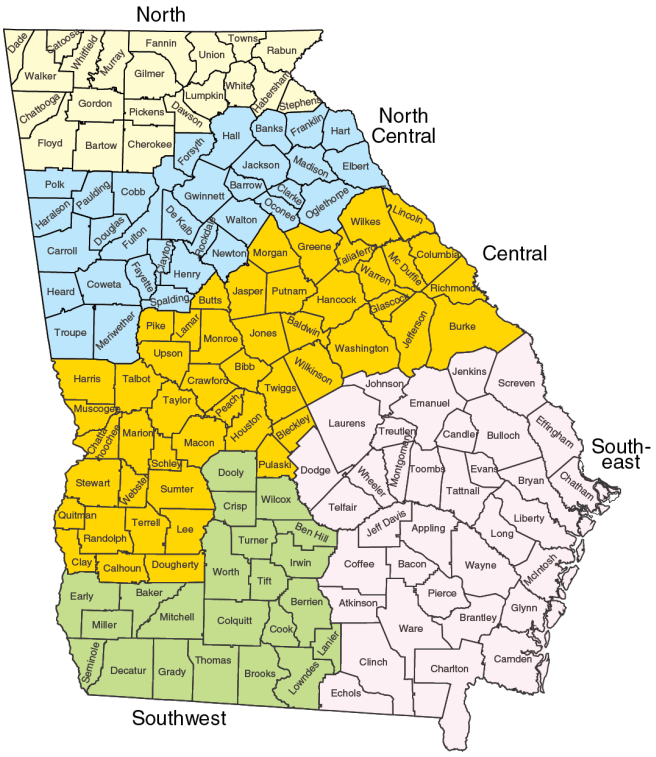

Figure 1—Counties and forest survey units in Georgia.

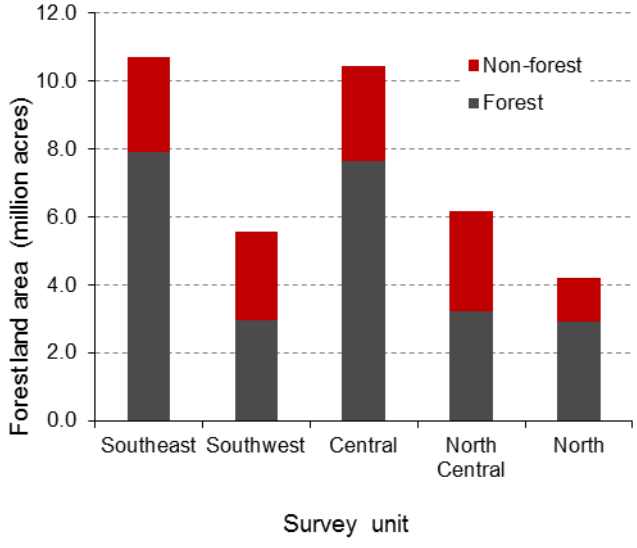

Figure 2—Forest land area (minus census water) by land class and survey unit, Georgia, 2015.

The area of large-diameter forest stands in Georgia is increasing while the area of medium- and small-diameter stands has been decreasing. (fig. 3). This is primarily a reflection of the aging of stands that were planted in the 1980s and early 1990s as part of the Conservation Reserve Program and as part of post-Hurricane Hugo recovery efforts. Large-diameter stands now account for 41 percent

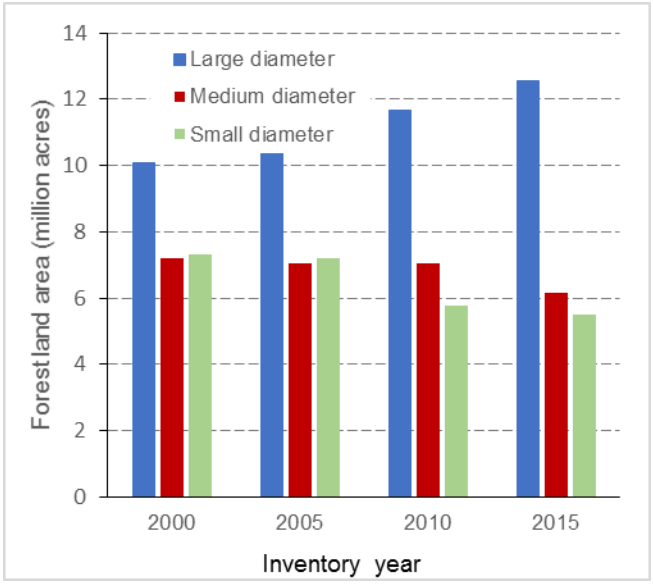

Figure 3—Forest land area by stand size class and inventory year, Georgia.

of the forest land in Georgia. The State's forests have gotten older as they have grown larger. Stands in the 1-5 year old class have decreased 34 percent over the last 15 years, while forests in the 31-35 year class have increased 45 percent over the same period (fig. 4).

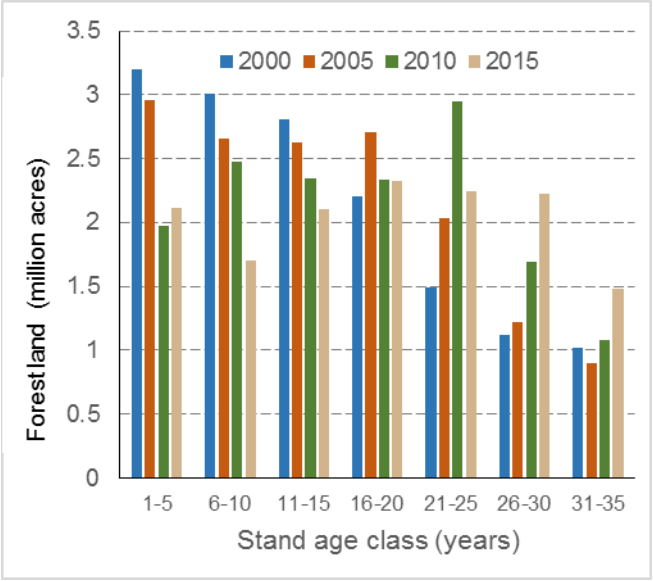

Figure 4—Forest land area by stand age class and inventory year, Georgia.

Volume, Biomass, and Trends

Estimated aboveground live-tree biomass on forest land increased nearly one percent between 2014 and 2015 to 1.1 billion dry tons (table1). Volume of all-live trees with a diameter at breast height (d.b.h.) ≥ 5 inches on forest land in 2015 reached an estimated 44.2 billion cubic feet, a 1.3 percent increase compared to 2014 estimates (table 1).

Based on total number of trees with d.b.h. ≥ 5 inches, loblolly pine was the most common tree species in 2015, accounting for 33 percent of all-live trees on forest land (table 2). Loblolly pine also ranked first in terms of standing volume representing 31 percent of the total volume from all-live trees on forest land. Slash pine ranked second in standing volume and number of trees, followed by sweetgum.

Table 2- Number and volume of all-live trees on forest land with d.b.h. ≥ 5 inches, Georgia 2015

Species	Number	Volume
	million trees	*million cubic feet*
Loblolly pine	1,225	13,814
Slash pine	506	4,644
Sweetgum	261	2,783
Yellow-poplar	118	2,689
White oak	87	1,905
Water oak	157	1,878
Swamp tupelo	171	1,679
Red maple	164	1,463
Laurel oak	71	1,178
Chestnut oak	57	1,111
Other	890	11,103
Total	3,707	44,245

Overall, volume was distributed almost equally across softwood and hardwood species groups. Standing volume, for both softwoods and hardwoods, is found primarily in the large diameter stand-size class (figure 5). Volume in the large diameter stand-size class trended upwards from 2005 to 2015, while volume on medium diameter stand-size class decreased slightly. Volume on small diameter stand-size also decreased for both species groups, with softwoods and hardwoods volumes close to 19 percent and 28 percent lower in 2015 compared to 2005 estimates, respectively.

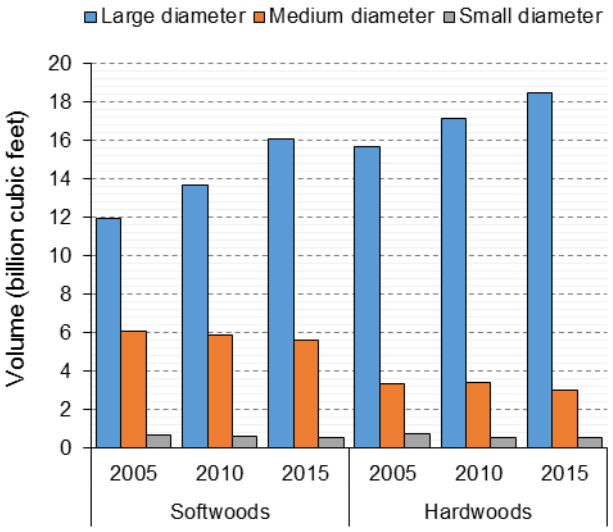

Figure 5—Volume for softwoods and hardwoods, by stand-size class and inventory year, Georgia.

Growth, removals, and mortality estimates provide a measure of inventory change. Softwoods species average annual net growth trended upwards, with removals increasing between 2005 and 2010 and decreasing from 2010 to 2015 (fig 6). Hardwoods species display a drop in annual net growth with removals decreasing from 2005 to 2010 and increasing slightly between 2010 and 2015. Average annual mortality trended upwards in both species groups.

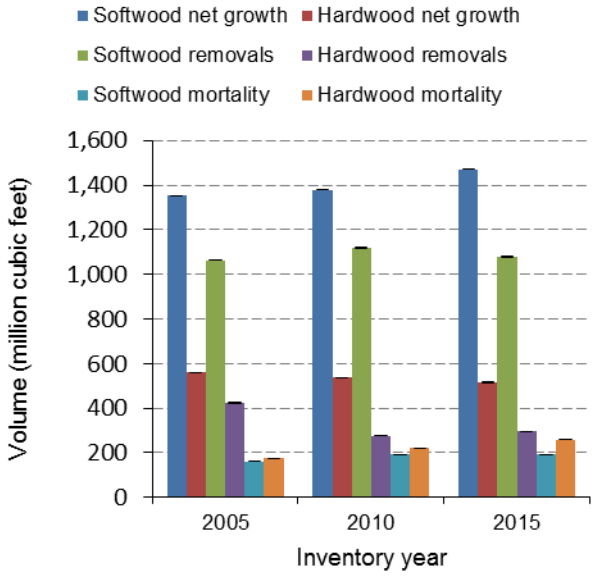

Figure 6—Average annual volume net growth, removals and mortality on forest land by species group and inventory year, Georgia.

Laurel Wilt Disease in Georgia

Laurel wilt disease (LWD) is a lethal vascular wilt that affects redbay (*Persea borbonia*), sassafras (*Sassafras albidum*), and other members of the family Lauraceae. The fungal pathogen that causes LWD, *Raffaelea lauricola*, is transmitted by the redbay ambrosia beetle (*Xyleborus glabratus*). Native to southeast Asia, the beetle was discovered near Savannah, GA in 2002 (Fraedrich and others 2008). Since that time, LWD has spread rapidly and is now found in nine States, including 50 counties in Georgia (fig. 7).

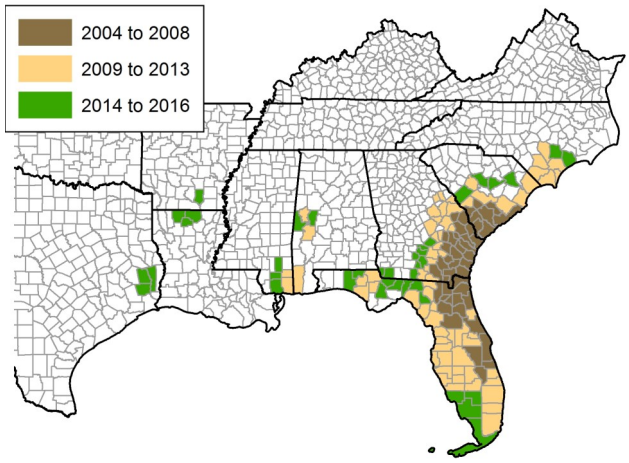

Figure 7—Distribution of counties with laurel wilt disease as of April 7, 2016, by year of initial detection. Source: http://southernforesthealth.net/fungi/laurel-wilt/distribution-map [Date accessed September 22, 2016].

In 2015, there were an estimated 1.2 million live redbay trees and 3.5 million standing dead redbay trees ≥ 5.0 inches d.b.h. in the State of Georgia. All of the redbay trees ≥ 11.0 inches d.b.h. were observed to be dead (fig. 8). In the southeast survey unit (fig. 1) where redbay is most common and where LWD has been present the longest (fig. 7), 81 percent of the redbay trees ≥ 5.0 inches d.b.h. are dead.

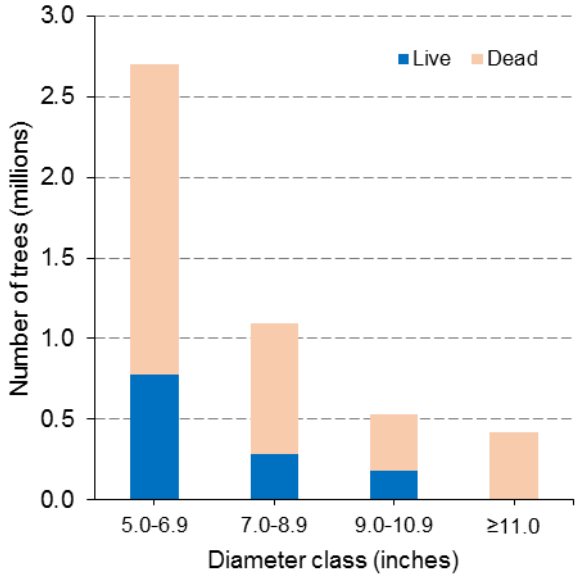

Figure 8—Percentage of live and dead redbay trees (d.b.h. ≥ 5.0 inches) by diameter class in Georgia, 2015.

Literature Cited

Brandeis, T.J. 2015. Georgia's forests, 2009. Resourc. Bull. SRS-207. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 59 p.

Fraedrich, S.W.; Harrington, T.C.; Rabaglia, R.J. [and others]. 2008. A fungal symbiont of the redbay ambrosia beetle causes a lethal wilt in redbay and other Lauraceae in the Southeastern United States. Plant Disease. 92: 215–224.

Harper, R.A.; McClure, N.D.; Johnson, T.G. [and others]. 2009. Georgia's forests, 2004. Resour. Bull. SRS–149. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 78 p.

Harper, R A. 2012. Georgia, 2011—forest inventory and analysis factsheet. e-Science Update SRS–053. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 5 p.

How to Cite This Publication
Brandeis, T.J.; Brandeis, C.; Hartsell, A.; Randolph, K.; Oswalt, S. 2016. Forests of Georgia, 2015. Resource Update FS–103. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 4 p.

Contact Information
Thomas Brandeis, Research Forester
Forest Inventory and Analysis
Southern Research Station, USDA Forest Service
4700 Old Kingston Pike
Knoxville, Tennessee 37919
Phone: 865-862-2030 / Fax: 865-862-0262
Email: tjbrandeis@fs.fed.us
Southern FIA: http://srsfia2.fs.fed.us
National FIA: http://fia.fs.fed.us

David Dickinson, FIA Coordinator
Georgia Forestry Commission
5645 Riggins Mill Road
Dry Branch, GA 31020
Phone: 770-238-7685
Email: ddickinson@gfc.state.ga.us
http://www.gfc.state.ga.us/

www.fia.fs.fed.us

The published report is available online at http://treesearch.fs.fed.us