



Georgia, 2011

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FOREST INVENTORY & ANALYSIS FACTSHEET



Forest cover along the Ocmulgee River south of Macon, GA. (photo courtesy of the Georgia Forestry Commission)

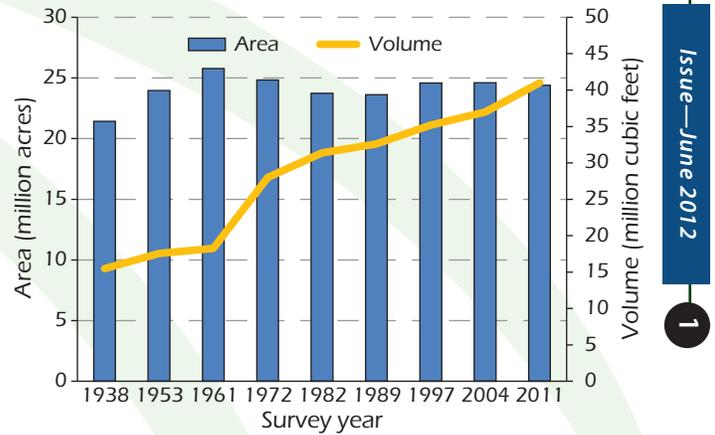


Figure 1—Timberland area and live-tree volume by survey year, Georgia.

Timberland Area and Live-Tree Volume by Survey

Georgia contains the largest area of forest cover in the South with 24.8 million acres, accounting for 67 percent of the State's land area (table 1). The forest area has remained relatively stable over the last 50 years. Commercial timberland area (land available for production of forest products) comprises >98 percent of the total forest land area. The remaining area is reserved forest land where harvesting is prohibited by law.

While forest area is stable, timber inventory has more than doubled over the last 50 years – a testament that forest landowners, with assistance from the forestry community, have engaged long term in improving timber volume production and associated resources (fig. 1).

Percentage of Land in Forest by County

There are 128 of the total 159 counties that are >50 percent forested. These counties account for 91 percent of the forest land area and 89 percent of the live-tree inventory volume (fig. 2).

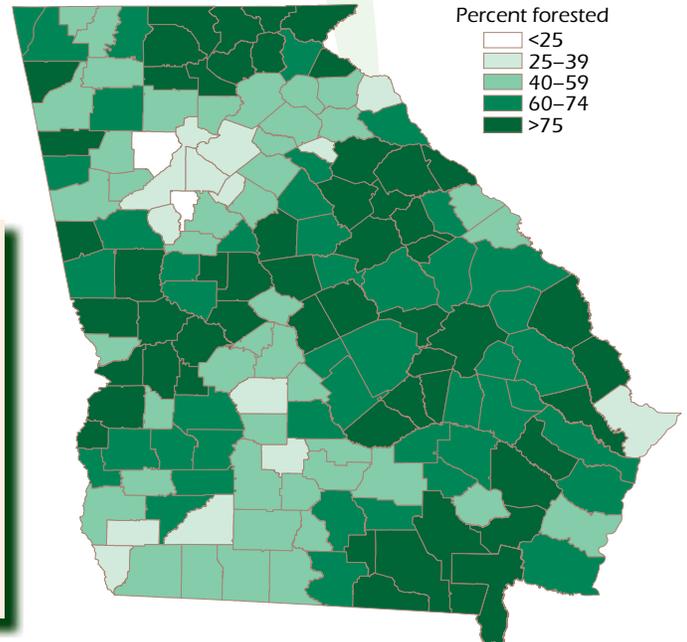


Figure 2—Percentage of land forested by county, Georgia, 2011.

Table 1—Area by land class and survey year, Georgia

Land class	1938	1953	1961	1972	1982	1989	1997	2004	2011
	<i>million acres</i>								
Timberland	21.4	24.0	25.8	24.8	23.7	23.6	24.6	24.6	24.4
Other/Reserved	—	0.1	0.1	0.4	0.6	0.5	0.3	0.4	0.4
Total forest land	21.4	24.1	25.8	25.3	24.3	24.1	24.8	25.0	24.8
Nonforest land	16.2	13.6	11.8	12.1	12.9	13.0	12.4	12.1	12.3
Total land area	37.6	37.7	37.7	37.4	37.2	37.1	37.2	37.1	37.1
Percent forested	57	64	69	68	65	65	67	67	67

— = no sample for the cell.



Ownership Change by Survey

Since 1982 when forest industry timberland peaked in holdings, there has been a shift from industry ownership to corporate ownership (fig. 3). Forest industry area declined 65 percent while corporate timberland area has increased 251 percent. Currently, private owners control 22.2 million acres of timberland (91 percent). Individual/family forests dominate private ownership with 13.5 million acres or 55 percent of the timberland area.

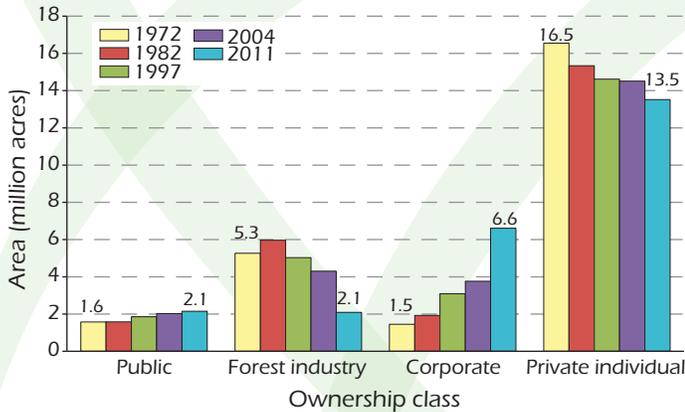
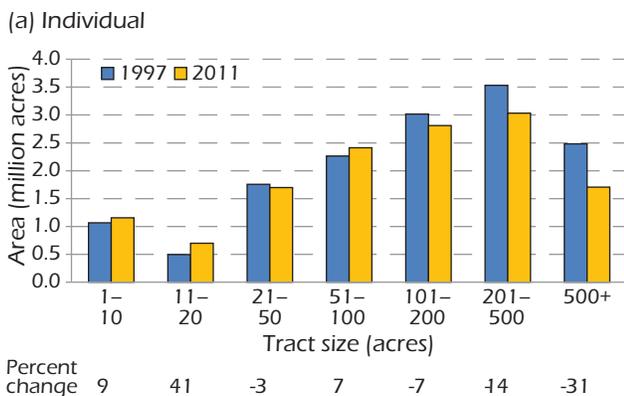


Figure 3—Area by ownership and survey year, Georgia.

Change of Tract Size for Individual and Corporate Ownership on Timberland from 1997 to 2011

As a general change, total acres for individual/family ownership declined 16 percent in the categories for large tracts (>100 acres), while the total acres in the small categories (≤100 acres) increased 7 percent in acreage (fig. 4). This indicates that larger tracts are being subdivided. Some reasons for parcel division may include financial opportunities or need, or estate transfers within family ownership. All categories of corporate ownership have shown consolidation of tract size, as much of this land was purchased from forest industry ownership.



Area of Timberland by Forest Type and Consolidated Forest Management-Type Groups

Hardwood forest management types occupy 53 percent of the timberland area with 13.0 million acres and softwood covers 11.1 million acres. The planted pine area is 6.9 million acres or 28 percent of the timberland area (fig. 5).

Loblolly-shortleaf pine is the predominant forest type covering 7.4 million acres (31 percent) followed by oak-hickory with 6.4 million acres (26 percent). Longleaf-slash pine covers 3.6 million acres (15 percent) and oak-gum-cypress covers 3.3 million acres (13 percent). Since 1997, longleaf pine forest-type area has increased 131,000 acres to a total of 545,000 acres and the planted portion has increased 228,000 acres or fivefold.

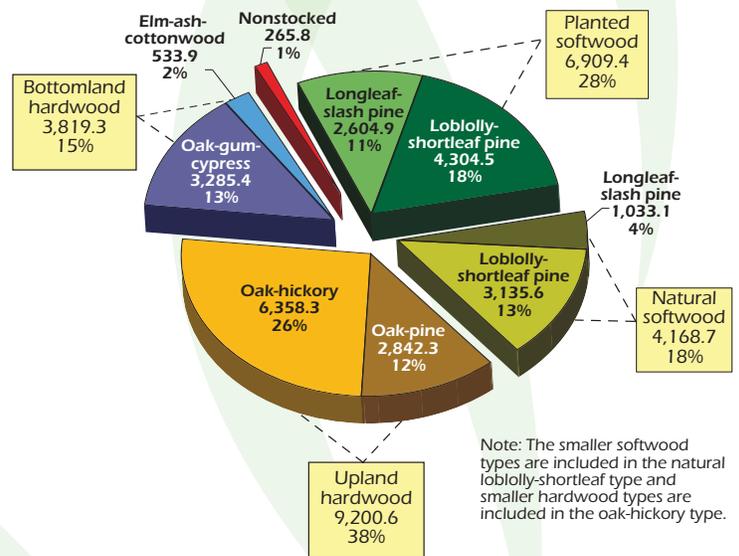


Figure 5—Area of timberland by forest-type group and consolidated forest management-type groups (thousand acres), Georgia, 2011.

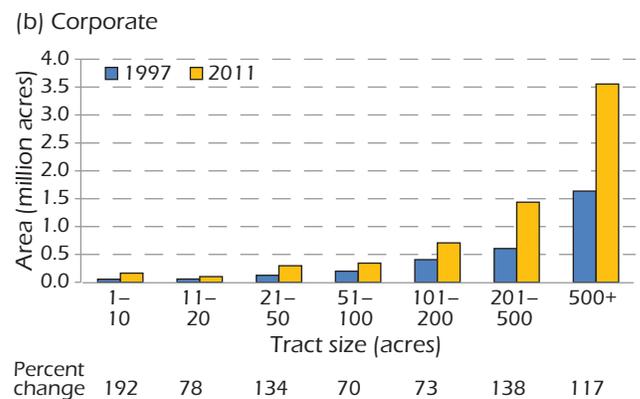


Figure 4—Change in tract size for (a) individual and (b) corporate ownership on timberland, Georgia.

Softwood Live-Tree Volume by Diameter Class and Stand Origin

Comparing volume by diameter for natural and planted stands, the small diameter (6- and 8-inch) volume dominates in planted softwood stands, and large diameter volume dominates in the natural stands. The transition point occurs at the 10- and 12-inch trees. However, planted volume in the 10- and 12-inch classes has more than doubled since 1997 (fig. 6).

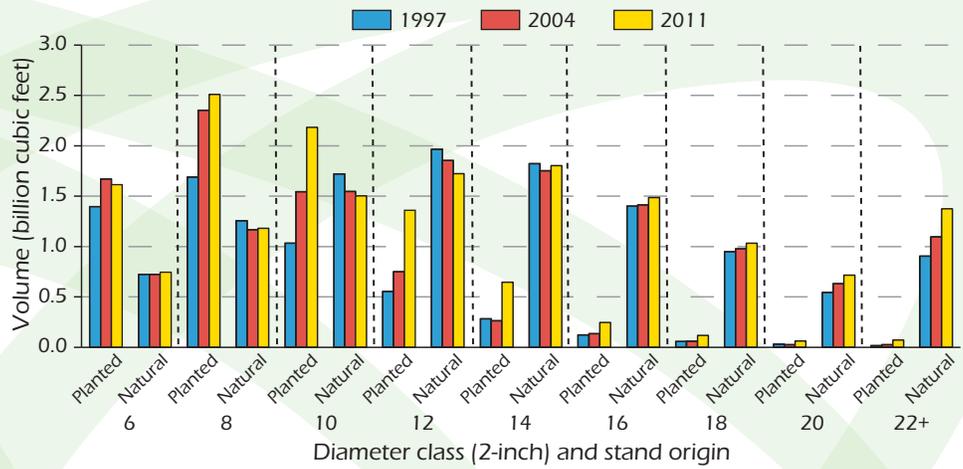


Figure 6—Softwood live-tree volume by diameter class, stand origin, and year, Georgia.

Hardwood Live-Tree Volume by Diameter Class and Stand Origin

Hardwood volume by diameter class has remained relatively stable over time. In recent years, most diameter classes have increased in volume except the 10- and 12-inch classes, which declined slightly since 1997. Most of the volume increase occurred in the ≥18-inch classes (fig. 7).

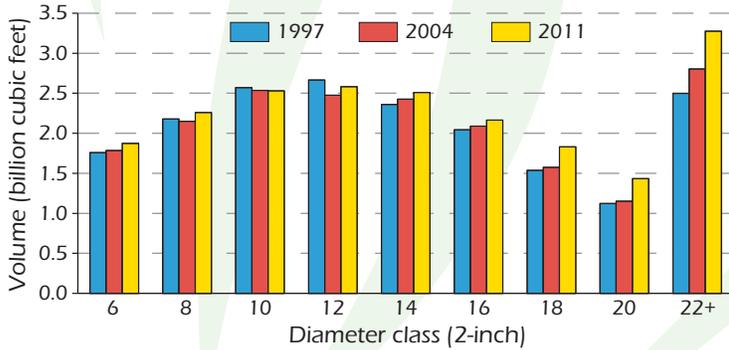


Figure 7—Hardwood live-tree volume by diameter class and survey year, Georgia.

Distribution of Softwood Live-Tree Volume by 5-year Age Class and Survey Period

Since 1989, there has been a major shift in softwood 5-year age classes (fig. 8). In 1989, 80 percent of the softwood volume was in natural stands. The rise in demand for softwood lumber during the mid-1990s increased removals from natural stands (the peak collapsed in the 26- to 45-years age classes from 1989 to 1997). By 2011, the peak shifted to the 21–25 years age class from the 36–40 years age class in 1989. Currently, planted softwood accounts for 70 percent of the inventory volume for age classes <36 years, and 43 percent of total softwood inventory in Georgia.



Figure 8—Distribution of softwood live-tree volume by 5-year age class and survey year, Georgia.

Change of Average Annual Acres Harvested by Harvest Type

Various silvicultural treatments are used to manage timberland and generate income. The total average annual acres treated increased 4 percent to 871,000 acres since 1997. The total softwood acres treated increased 38 percent and hardwood acres treated declined 44 percent. Within softwood forest types, the harvest type shifted from final harvest (24-percent decline) to thinning, which increased almost four times (385 percent). Hardwood final harvest acres declined 40 percent (fig. 9).

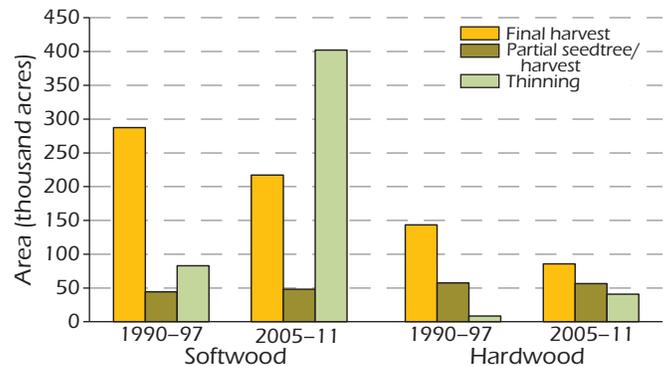


Figure 9—Average annual acres harvested by harvest type, species group, and survey period, Georgia.



Small-whorled pogonia. (photo by Tom Govus)

Softwood and Hardwood Proportions of Aboveground Biomass by Stand-Size Class

As expected, softwood trees have a larger proportion of merchantable biomass (81 percent) than hardwood trees (76 percent). Stump biomass is relatively consistent by stand size and major species groups. The Forest Inventory and Analysis (FIA) data indicate that hardwood trees have about 100.1 million dry tons of biomass in the tops and limbs compared to 57.4 million dry tons for softwood trees on timberland (fig. 10).

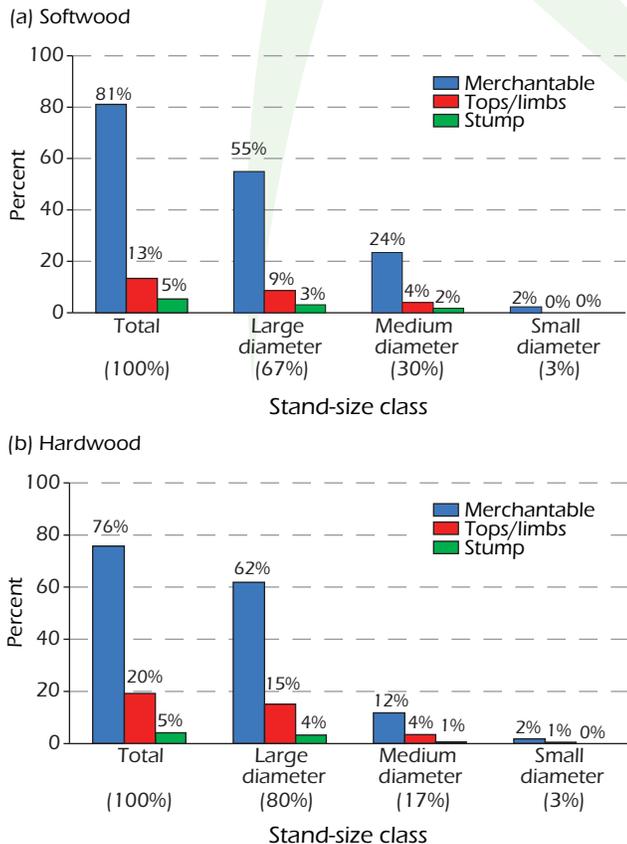


Figure 10—Proportions of total aboveground biomass for (a) softwood and (b) hardwood by stand-size class, Georgia, 2011.

Roundwood Utilization Delivered to Mills and Logging Residues for Georgia (tons)

For any logging operation, some portions of tops, limbs, and stumps are utilized, and some portions of the merchantable tree (from a 1-foot high stump to a 4-inch diameter top) are left in the woods (not utilized). FIA logging utilization studies indicate 81 percent of the total aboveground tree biomass is delivered to the mill (all species) (fig. 11). The remaining 19 percent that was cut and left on the ground (logging residues) is 6-percent merchantable and 13-percent nonmerchantable portions of the tree. On the average for all forest types, it is estimated that about 8 tons per acre of logging residues for all forest types may be economically recovered for energy.

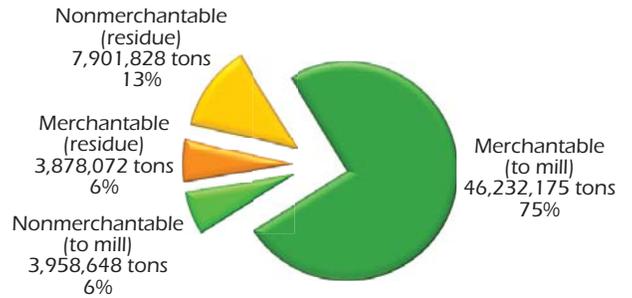


Figure 11—Roundwood utilization (merchantable and nonmerchantable portions) delivered to mills and logging residues for Georgia, 2009.

All-Live Net Growth, Removals, and Net Change by Survey Period

Total net annual growth on timberland reached an all-time high in 2011 at 1.94 billion cubic feet while total removals declined almost 7 percent since 2004. The decline occurred in hardwood removals (35 percent) as softwood removals increased 5 percent. Planted softwood represented 68 and 67 percent of softwood net growth and removals, respectively. Softwood removals represent 80 percent of total removals, or four times the hardwood removals (fig. 12).

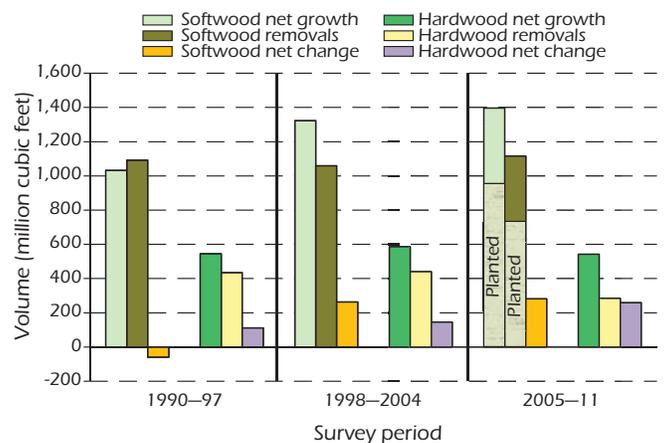


Figure 12—All-live net growth, removals, and net change by survey period, Georgia.

Net Growth and Removals Ratio Expressed in Percent Increase or Decrease

Softwood has progressed from an unsustainable condition where removals exceeded net growth to a sustainable condition where total inventory is increasing annually. Hardwood has experienced a relatively high sustainable rate during the 2005–11 period, due mostly from the decline of removals. For 2011, both planted and natural softwoods were at a sustainable ratio of 27 and 17 percent, respectively (fig. 13).

or State unit level analysis. Users are cautioned when filtering the data into small subsets such as county level or small radius samples for specific variables, as sampling error can be high and tabular data (estimate of the mean) may not reasonably represent conditions on the ground. FIA labels datasets with the last year a plot was collected for the five panels in Georgia. Some users request the median date the plots represent for the 5-panel data set. The label "GA 2011" has a median date of November 2008 for the plots used for area, volume, and number of trees, and a median date of December 2005 for the plots used for the components of change (net growth, removals, and mortality).

How to Cite This Publication

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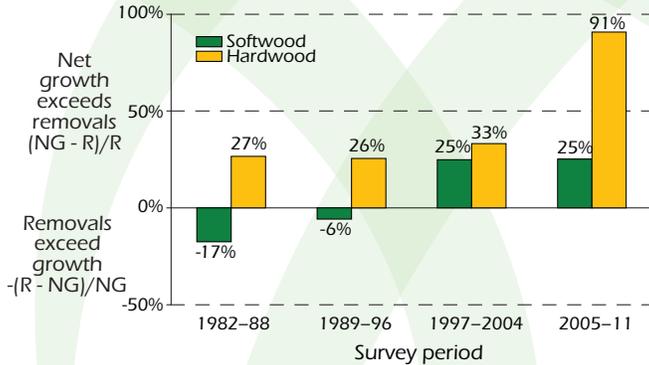


Figure 13—Percent increase or decrease relationship of net growth and removals by survey period, Georgia.

Precautions

All annual datasets 1997–2011 were reprocessed using the National Information Management System (NIMS) 5.1 compilation system and posted 19 April 2012 for public query. Earlier online tabular queries may be slightly different. FIA is a large-scale inventory sampling system designed for State



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Foresters assist landowners to produce healthy, productive forests. (photo courtesy of the Georgia Forestry Commission)

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