Forest Inventory & Analysis Factsheet
Georgia 2004

Forestland Area

Georgia contains the largest area of forest cover in the South with 24.7 million acres or 67% of the State. This is an increase of about 314,000 acres since the previous forest inventory in 1997. Ninety-eight percent of the forestland is considered available for timber production and known as timberland. The remaining forestland area is reserved forestland where timber removals are prohibited by law or unproductive forestland (produces < 20 cubic feet/acre/year).

Area by Land Class (*million acres*)

Land class	1936	1953	1961	1972	1982	1989	1997	2004
Timberland	21.4	24.0	25.8	24.8	23.7	23.6	23.8	24.2
Other/reserved	—	0.1	0.1	0.4	0.6	0.5	0.6	0.6
Total forestland	21.4	24.1	25.8	25.3	24.31	24.1	24.4	24.7
Nonforestland	16.2	13.6	11.8	12.1	12.9	13.0	12.7	12.3
Total land area	37.6	37.7	37.7	37.4	37.2	37.1	37.1	37.1
Percent forested	57%	64%	69%	68%	65%	65%	66%	67%

Totals may not sum due to rounding.
Total land area estimates changed slightly over time due to improvements in measurement techniques and refinements in classification of small bodies of water and streams.

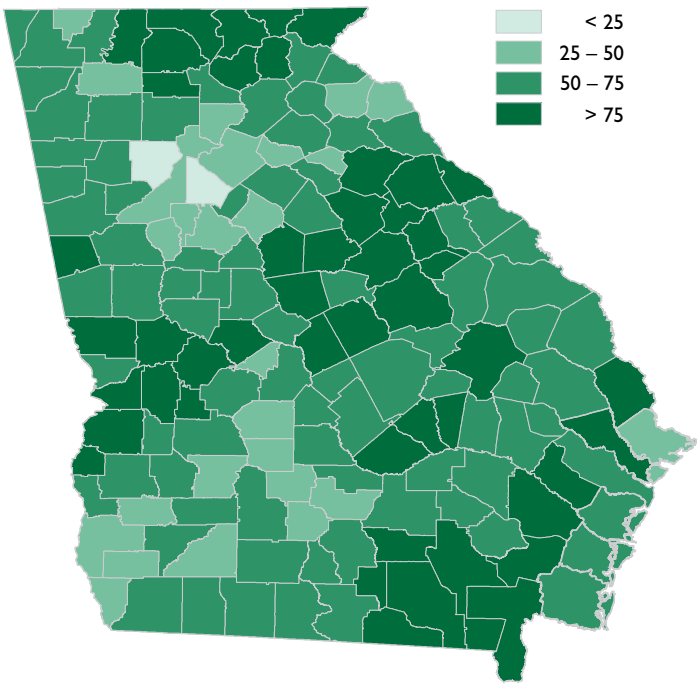
Forest Distribution

Of the 159 counties, 131 are > 50% forested and account for 91% of the forestland area and 90% of the growing-stock volume. As expected, the less forested areas are around the Atlanta metropolitan area and in the farmland area in the Southwest region of the State.

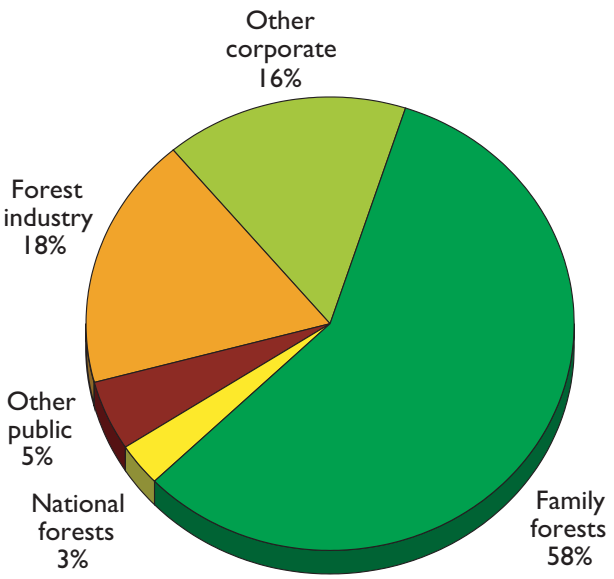
Ownership of the Timberland

Private landowners control 22.3 million forested acres (92%). The remaining 8% is publicly owned including other federal lands, State, and local lands. Family forest ownership is still the dominate landowner with 14.2 million acres.

Percentage of Land in Forest by County



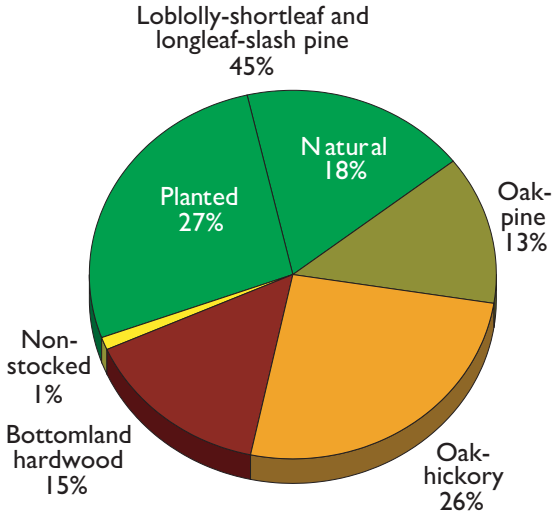
Ownership of Timberland



Forest-Type Group Composition

Loblolly-shortleaf and longleaf-slash pine groups comprise more than 99% of almost 11 million acres of softwood forest types. Hardwood types and oak-pine forest type account for 54% of the timberland area totaling 13 million acres. The oak-gum-cypress and elm-ash-cottonwood groups make up the bottomland hardwood area. Almost 6.5 million acres are planted pine and represents 60% of softwood forest types or 27% of all timberland.

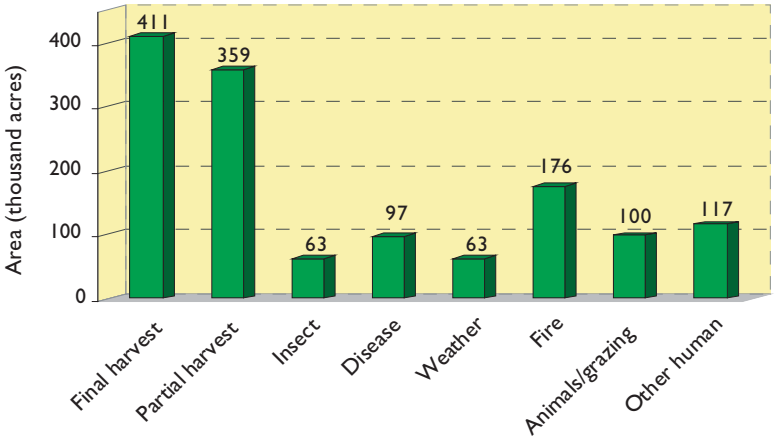
Area of Timberland by Forest-Type Group



Forest Disturbance

On the average each year, about 6% of the timberland area experiences some form of disturbance. Harvesting occurs on about 3% of the timberland area and accounts for 56% of the disturbance area. About 44% is caused by all the other disturbances. Fire, weather, insects, and disease account for almost 30% of total disturbance each year.

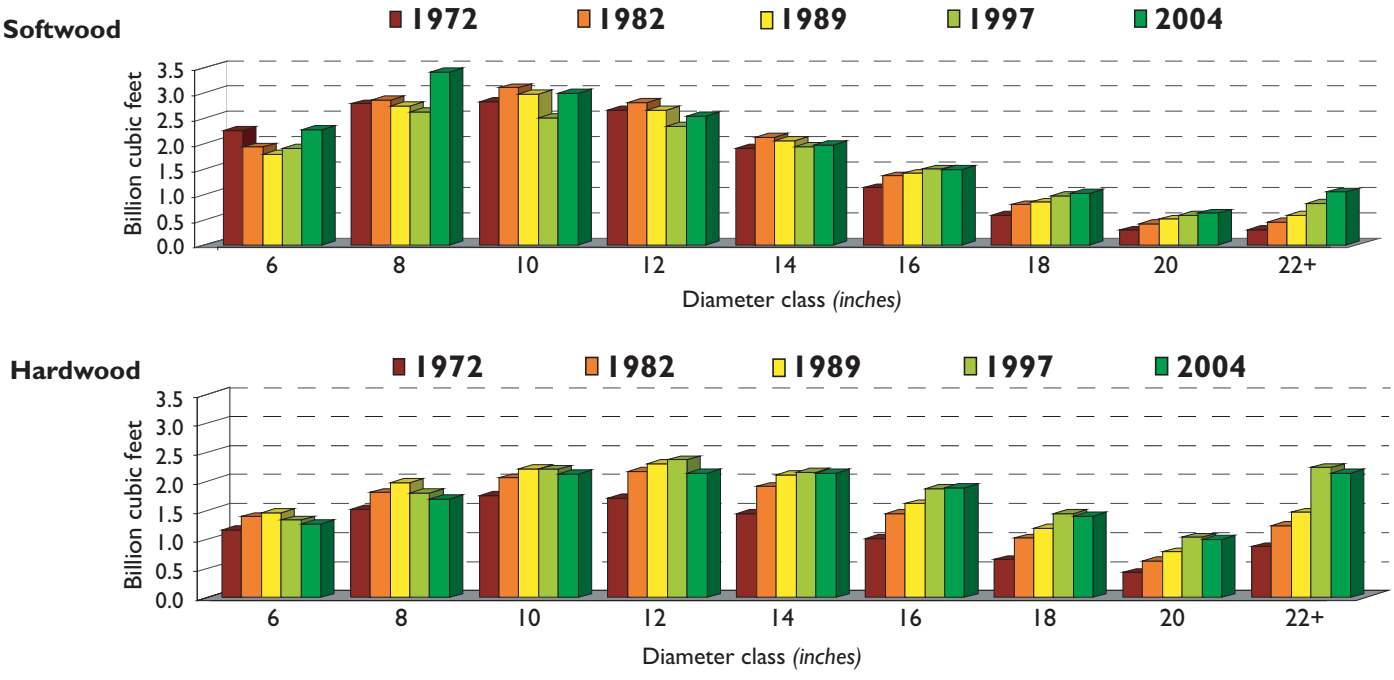
Average Annual Timberland Disturbance Types



Growing-Stock Tree Volume (≥ 5.0 inches d.b.h.) — 1972 to 2004

Growing-stock trees—since 1972, volume has increased by 7.9 billion cubic feet or 31%.
Softwood—has increased 2.6 billion cubic feet or 18%.
Hardwood—has increased 5.3 billion cubic feet or 50%.

Growing-Stock Tree Volume on Timberland by Diameter Class



Statistical Reliability—Georgia 2004 Data

A measure of reliability of inventory statistics is provided by sampling errors. These sampling errors mean that the chances are two out of three that this confidence interval covers the true population value. Sampling errors (in percent) and associated confidence intervals around the sample estimates for timberland area and inventory volumes are presented in the following table.

Statistical Reliability for Georgia, 2004

Item	Sample estimate and confidence interval		Sampling error
			percent
Timberland (1,000 acres)	24,151.0 ±	61.8	0.26
Inventory			
All live (*million cubic feet*)	36,727.2 ±	475.5	1.29
Growing stock (*million cubic feet*)	33,215.1 ±	450.1	1.36
Sawtimber (*million board feet*)	107,294.9 ±	2,110.0	1.97

FIA inventories, supported by the full complement of sample plots, are designed to achieve reliable statistics at the survey unit area and State area levels. Sampling error increases as the area or volume considered decreases in magnitude. Sampling errors and associated confidence intervals are often unacceptably high for small components of the total resource. Statistical confidence may be computed for any subdivision of State totals using the following formula.

$$SE_s = SE_t \frac{\sqrt{X_t}}{\sqrt{X_s}},$$

where

SE_s = sampling error for subdivision of State total,

SE_t = sampling error for State total,

X_s = sum of values for the variable of interest (area or volume) for subdivision of State,

X_t = total area or volume for State.

Sampling errors obtained from this method are only approximations of reliability because this process assumes constant variance across all subdivisions of totals.

For example, the estimate of sampling error for area of planted loblolly-shortleaf pine (total area = 4,429.6 thousand acres) on all timberland (24,151.0 thousand acres) is computed as:

$$SE_s = 0.2557 \frac{\sqrt{24{,}151.0}}{\sqrt{4{,}429.6}} = 0.597$$

Thus, the sampling error is 0.597 percent, and the resulting confidence interval of one standard error (two times out of three) for area of all planted loblolly-shortleaf pine on timberland is 4,429.6 thousand acres ± 26.44 thousand acres. To achieve the 95% confidence interval, the standard error is multiplied by 1.96 resulting in 4,429.6 thousand acres ± 51.8 thousand acres (26.44 thousand acres ∗ 1.96 = 51.8).

Precautions

Traditional users of FIA data are accustomed to the highly variable accuracy of small subsets of population totals. All FIA published reports devote a brief explanation of sampling errors and provide cautions about the reliability of subpopulations such as county-level statistics. Therefore, when summarizing statistics from the FIA database, it is strongly recommended that users beware of any subdivision below the survey unit level (e.g. county level data will experience higher and more variable standard errors). Users should familiarize themselves with the procedures to compute sampling error as outlined above.

Definition of Terms

D.b.h. Tree diameter in inches (outside bark) at breast height (4.5 feet above ground level).

Forestland. Land at least 10 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. The minimum area considered for classification is 1 acre. Forested strips must be at least 120 feet wide.

Forest industry. Companies or individuals operating primary wood-using plants.

Forest type. A classification of forestland based on the species forming a plurality of live tree stocking.

Growing-stock trees. Live trees that contain at least one 12-foot or two 8-foot logs in the saw-log portion, either currently or potentially if too small to qualify as a saw log. The log(s) must meet dimension and merchantability standards to qualify. Trees must have one-third of the gross board foot volume in sound wood, either currently or potentially.

Growing-stock volume. The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

Nonforestland. Land that either has never supported forests or land formerly forested that has been developed for other uses, including cultural, agricultural, etc.

Other forestland. Forestland that is incapable of producing 20 cubic feet of wood volume per acre annually under natural conditions due to adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other private. Land owned by individuals and corporations, including individual and corporate farms, where the owner does not own a primary wood-using plant. This land is often referred to as nonindustrial private forestland (NIPF).

Poletimber. Softwood species 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

Reserved forestland. Public forestland capable of producing 20 cubic feet of wood volume per acre annually, but is withdrawn from timber utilization through statute or administrative regulation.

Saplings. Trees 1.0 to 4.9 inches d.b.h.

Sawtimber. Softwood species 9.0 inches d.b.h and larger and hardwoods 11.0 inches d.b.h. and larger.

Seedlings. Trees <1.0 inch d.b.h. and >1 foot tall for hardwoods, > 6 inches tall for softwoods.

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

Stand-size class. A classification of forestland based on the diameter class distribution of live trees in the stand.

Timberland. Forestland capable of producing 20 cubic feet of wood volume per acre annually and not withdrawn from timber utilization.

Tree. Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet at maturity.

Tree grade. A classification of the saw-log portion of sawtimber trees based on the grade of the butt log or the ability to produce at least one 12-foot log or two 8-foot logs in the upper section of the saw-log portion. Tree grade is an indicator of quality; grade 1 is the best quality.

Volume. The amount of sound wood in live trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem.

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