



# Forest Inventory & Analysis Factsheet

## Alabama 2004

May 2006

### Forestland Area

Alabama's forests cover 22.9 million acres or 71 percent of the State. There has been relatively little change since the previous forest inventory. Ninety-nine percent of the forestland is considered available for timber production. The remaining forestland area is unproductive forestland and reserved forestland where timber removals are prohibited by law.

Area by land class (million acres)

Land class	1936	1953	1963	1972	1982	1990	2000	2004
Timberland	18.9	20.8	21.7	21.4	21.7	21.9	22.9	22.8
Other/reserved	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1
Total forestland	18.9	20.8	21.8	21.4	21.7	22.0	23.0	22.9
Nonforestland	13.8	11.9	10.9	11.2	10.8	10.5	9.5	9.5
Total land area	32.7	32.7	32.7	32.6	32.5	32.5	32.5	32.5
Percent forested	58%	64%	67%	66%	67%	68%	71%	71%

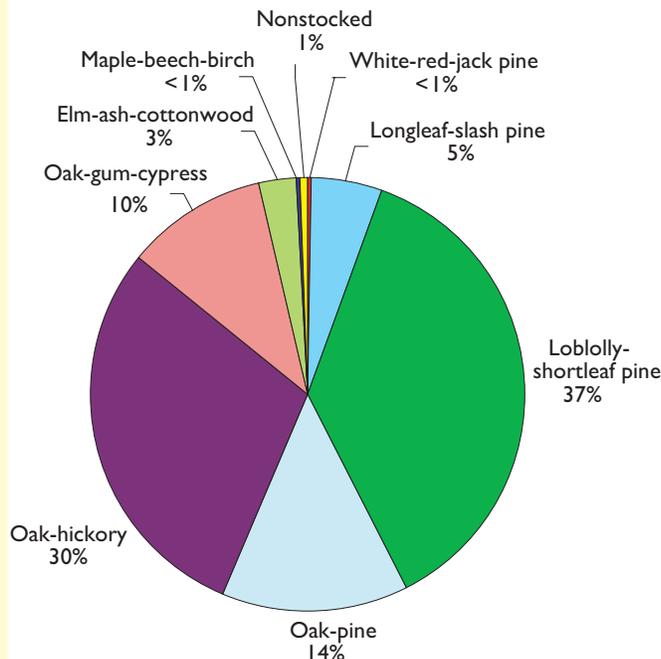
Totals may not sum due to rounding.

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-Type Group

Loblolly-shortleaf is the predominant forest type in the State, covering 8.4 million acres (37 percent of the timberland).

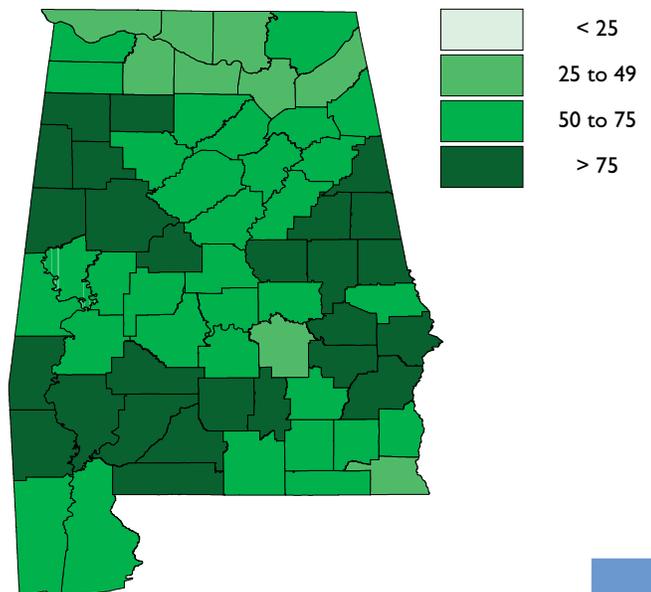
Area of timberland by forest-type group



### Forest Distribution

There are no counties in the State of Alabama that have <25 percent of their area in timberlands. In fact the majority of the counties are over 50 percent forested. Only 9 of the State's 67 counties are less than one-half forested. The lowest concentration lies along the Alabama-Tennessee border in the northern section of the State.

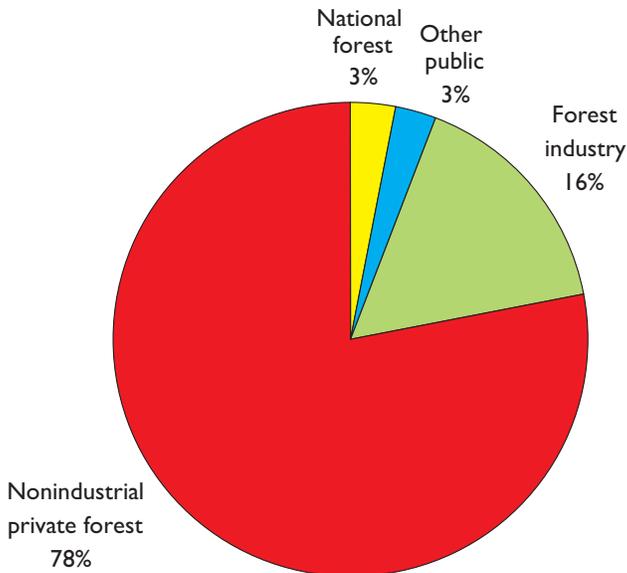
Percentage of land in forest by county



## Ownership of the Forest

Nonindustrial private forestland owners control 78 percent of the timberland in Alabama. Six percent is public land administered by local, State, or federal agencies. Slightly more than one-half of the public timberland is managed by the U.S. Forest Service. Forest industry owns almost 16 percent of the timberland.

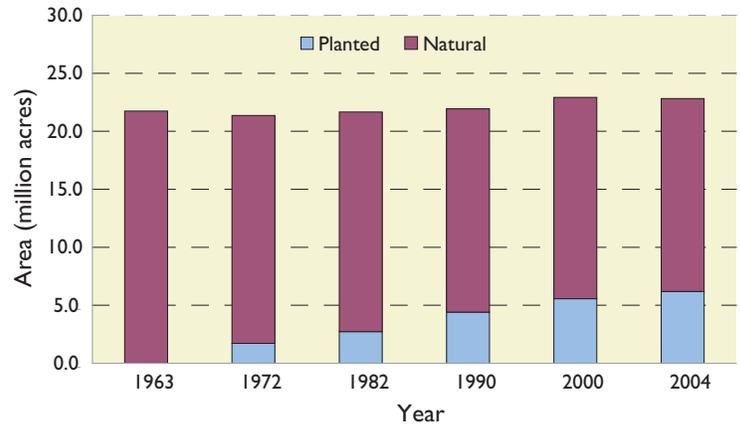
Ownership of timberland



## Stand Origin

While total timberland area has remained fairly steady since 1963, the area of planted stands has increased significantly. Planted stands did not start playing a major role in Alabama's forests until the 1972 survey, when 1.7 million acres of plantations were inventoried. Today, planted stands account for 6.2 million acres, over 27 percent, of the State's timberlands.

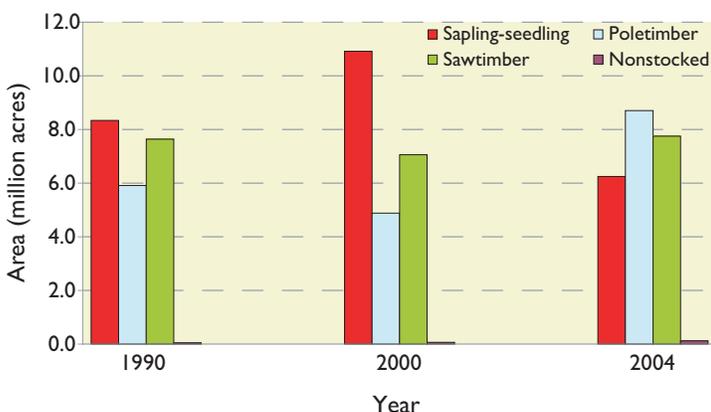
Area of timberland by stand origin



## Stand-Size Distribution

In 2000, almost one-half of all timberlands were classified as sapling-seedling. Since the prior survey, 4.7 million acres of sapling-seedling stands grew into poletimber stands. These poletimber stands currently account for 38 percent of all timberlands. The area of sawtimber stands, which represent 34 percent of the State's timberlands, has increased almost 10 percent since 2000.

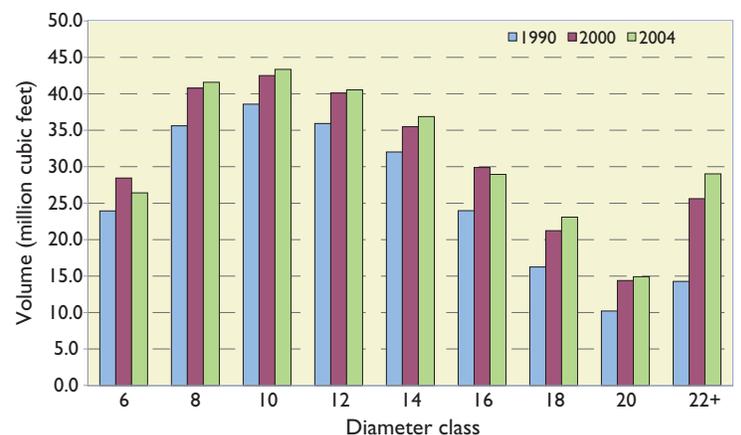
Area of timberland by stand size



## Tree Volume

Growing-stock volume on timberland has increased from 27.8 million to 28.4 million cubic feet in 2004. Volume has increased in all diameter classes except the 6 and 16 inch classes. Volume has increased steadily in all classes since 1990.

Growing-stock volume on timberland by diameter class



## Statistical Reliability—Alabama 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 the true population value is within the limits indicated by a confidence interval. 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 Alabama 2004**

Item	Sample estimate and confidence interval	Sampling error percent
<b>Timberland</b> (1,000 acres)	22,823.0 ± 88.2	0.39
<b>All live</b> (million ft <sup>3</sup> )		
Inventory	32,149.2 ± 1,810.0	5.63
<b>Growing stock</b> (million ft <sup>3</sup> )		
Inventory	28,444.5 ± 534.8	1.88
<b>Sawtimber</b> (million fbm)		
Inventory	94,032.9 ± 2,548.3	2.71

FIA inventories supported by the full complement of sample plots are designed to achieve reliable statistics at the survey unit and State 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

For example, the number of acres of timberland owned by forestry industry is estimated at 3,640.4 thousand acres. The estimate of sampling error for this example is computed as:

$$SE_s = 0.39 \frac{\sqrt{22,823.0}}{\sqrt{3,640.4}} = 0.90$$

Thus, the sampling error is 0.90 percent, and the resulting confidence interval of one standard error (two times out of three) for area of timberland owned by forest industry is 3,640.4 ± 32.8 thousand acres. To achieve the 95 percent confidence interval, the standard error is multiplied by 1.96 or 3,640.4 ± 64.3 thousand acres.

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

### 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 chapter that explains sampling errors and provide cautions about the reliability of subpopulations such as county-level statistics. Therefore, when summarizing statistics, it is strongly recommended that users beware of any subdivision below the survey unit level. 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 origin.** A classification of forest stands describing their means of origin.

*Planted.* Planted or artificially seeded.

*Natural.* No evidence of artificial regeneration.

**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 I 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.

For more information contact:

**Southern Research Station FIA Spatial  
Data Services**

**Attn: Samuel G. Lambert**

Forest Inventory and Analysis  
Southern Research Station, USDA Forest Service  
4700 Old Kingston Pike, Knoxville, TN 37919  
Phone: (865) 862-2096 Fax: (865) 862-0265  
Email: [srs\\_fia\\_sds@fs.fed.us](mailto:srs_fia_sds@fs.fed.us)  
Southern FIA: <http://srsfia2.fs.fed.us>  
National FIA: <http://fia.fs.fed.us>

**Brian Hendricks**

Alabama Forestry Commission  
PO Box 302550  
Montgomery, AL 36130-2550  
Phone: (334) 240-9370  
Email: [HendricksB@forestry.state.al.us](mailto:HendricksB@forestry.state.al.us)