



March 2008



FOREST INVENTORY & ANALYSIS FACTSHEET MISSISSIPPI 2006

FOREST LAND AREA

Mississippi's forests cover 19.6 million acres or 65% of the State, an increase in forest land of about 6% since the 1994 inventory. Nearly all (99.6%) of the forest land is considered available for timber production. The remaining forest land area is either unproductive forest land or reserved forest land where timber removals are prohibited by law.

Area by land class (million acres)

Land class	1948	1957	1967	1977	1987	1994	2006
Timberland	16.51	17.19	16.89	16.50	16.98	18.59	19.54
Other/reserved	0.02	0.03	0.02	0.21	0.01	0.01	0.08
Total forest land	16.53	17.23	16.91	16.72	16.99	18.60	19.62
Nonforest land	13.82	12.93	13.38	13.59	13.24	11.43	10.40
Total land area	30.35	30.15	30.29	30.31	30.23	30.03	30.02
Percent forested	54.47	57.13	55.83	55.15	56.20	61.93	65.35

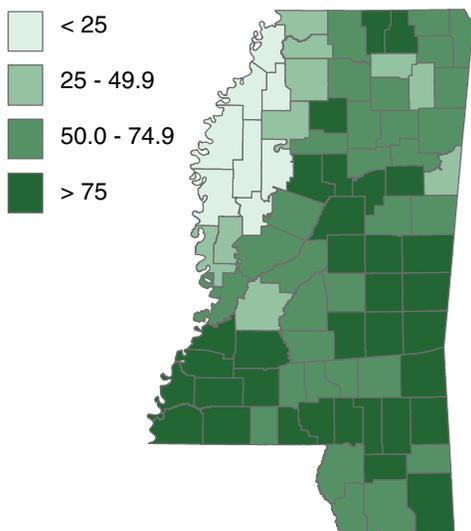
Totals may not sum due to rounding.

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 82 Mississippi counties, 31 are estimated to be 50–75% forested and 33 counties are $\geq 75\%$ forested. Eight counties are estimated to be $< 25\%$ forested and are located in the heavily agriculture-dominated Delta portion of the State.

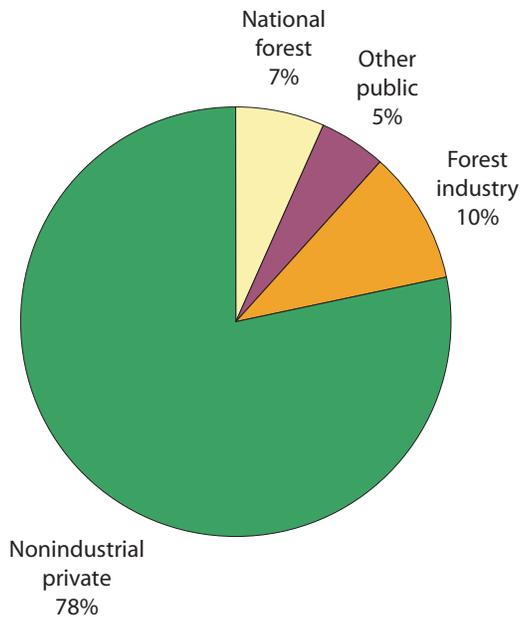
Percentage of land in forest by county



OWNERSHIP OF THE FOREST

Nonindustrial private forest land owners control 78% of the timberland in Mississippi. Twelve percent is public land administered by local, State, or federal agencies. Forest industry owns about 10% of timberland.

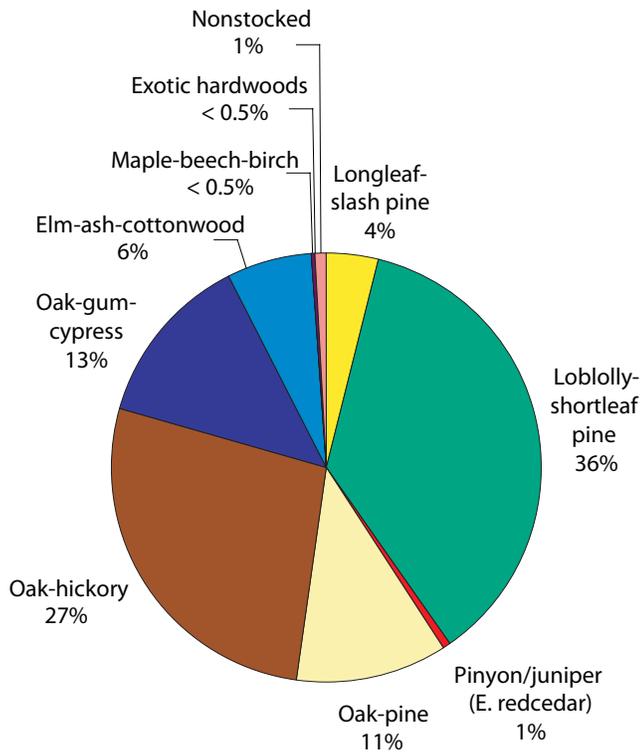
Ownership of timberland



FOREST-TYPE GROUP

Loblolly-shortleaf pine is the predominant forest type in the State, covering 7.1 million acres (36% of the timberland), most of which falls in the Central, North, and South portions of the State. The oak-hickory type accounts for 27% of timberland. Oak-gum-cypress and oak-pine forests account for 13 and 11% of timberland, respectively; while longleaf-slash pine and elm-ash-cottonwood forest types comprise 4 and 6%, respectively.

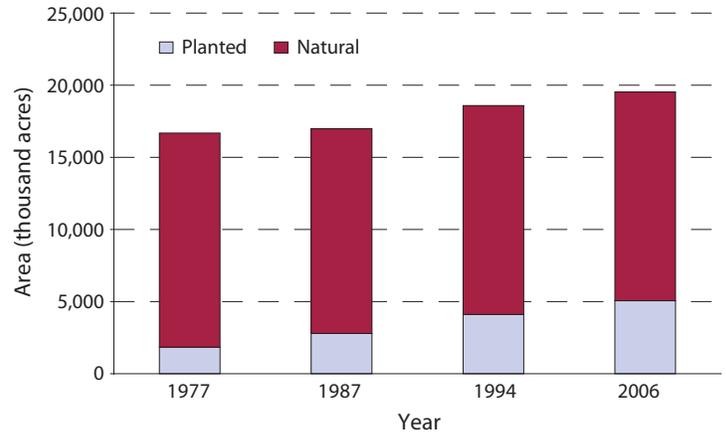
Area of timberland by forest-type group



STAND ORIGIN

The proportion of timberland regenerated by planted seeds and seedlings has continued to increase since 1994, while the proportion of timberland regenerated naturally has remained about the same. The implementation of landowner incentives like the Conservation Reserve Program to reforest agricultural land may have played a role in the continued increase in planted stands, as well as efforts on the part of landowners to replant following timber harvests.

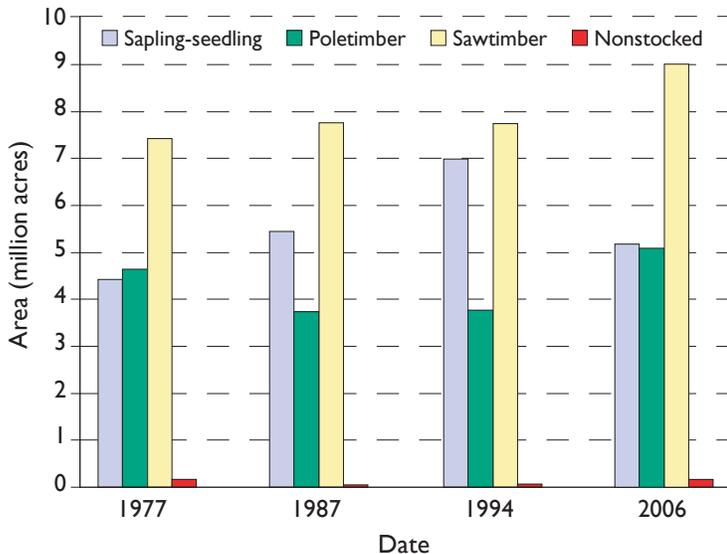
Area of timberland by stand origin



STAND-SIZE DISTRIBUTION

Forty-six percent of timberland is classified as sawtimber. The percent of timberland classified as sawtimber has increased by 5%. Conversely, the percent of timberland classified as sapling-seedling has decreased by 11% since the 1994 survey.

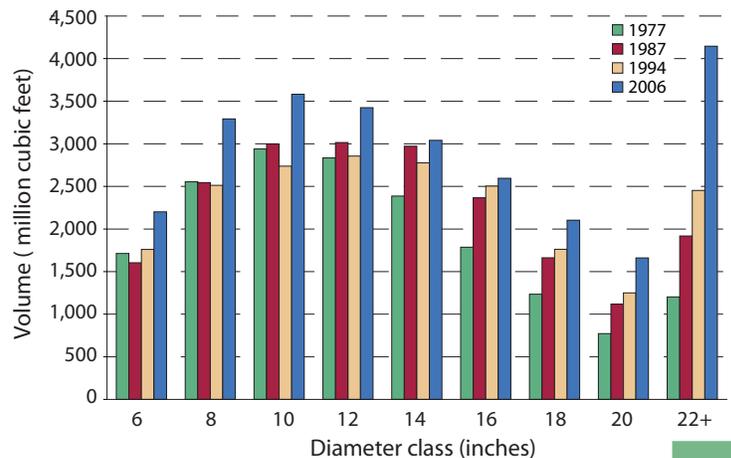
Area of timberland by stand size



TREE VOLUME

Growing-stock volume on timberland increased 49% over the past three decades (1977 to 2006), from 17.4 billion to 26.0 billion cubic feet. Growing-stock volume has increased in all diameter classes, but particularly in the largest diameter class. For example, volume in the 20-inch class has increased 115% since 1977, while volume in the 22+ inch class has increased more than 200%. While it appears the largest proportion of growing-stock volume occurs in the 22+ inch size class, it is important to remember that size class encompasses any tree > 22 inches d.b.h., so the graphic is slightly misleading. Trees > 22 inches d.b.h. account for about 16% of growing-stock volume, while trees between 10 and 16 inches d.b.h. account for a combined 49% of the growing-stock volume.

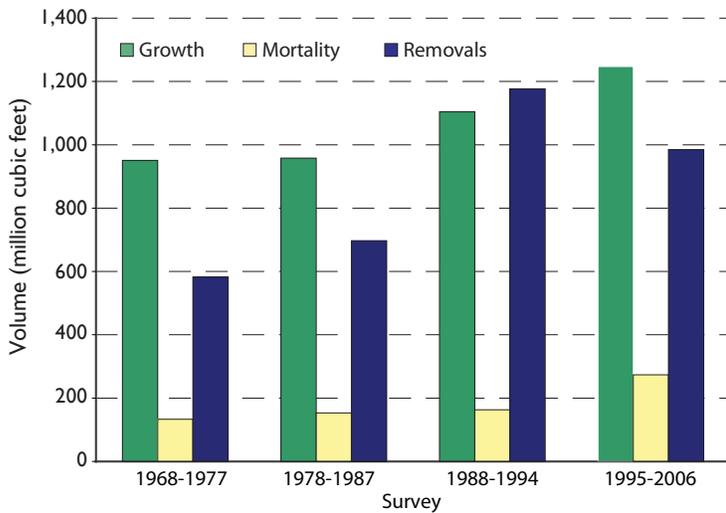
Growing-stock volume on timberland by diameter class



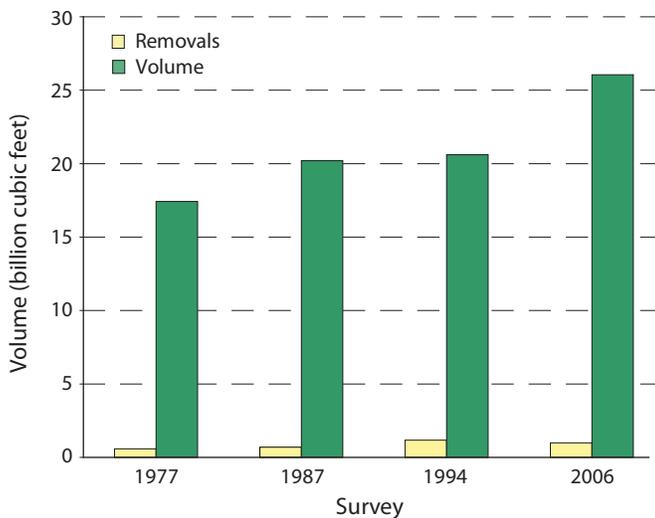
ANNUAL GROWTH, REMOVALS, AND MORTALITY

The net annual growth of growing-stock volume averaged 1,247.2 million cubic feet annually. Mortality averaged 273.7 million cubic feet, an increase since previous inventories that reflects the influences of Hurricane Katrina on Mississippi's forest resource. Timber removals averaged 985 million cubic feet, which is 4% of the current inventory.

Average net annual growth, removals, and mortality of growing stock on timberland



Average annual removals of growing stock vs. total volume of growing stock on timberland



STATISTICAL RELIABILITY

Sampling error is associated with the natural and expected deviation of the sample from the true population mean. This deviation is susceptible to a mathematical evaluation of the probability of error. Sample errors (in percent) and associated confidence inter-

vals around the sample estimates for timberland area, inventory volumes, and components of change are presented in the following table. The confidence interval refers to the two-out-of-three (67%) chance that the true population value obtained from a 100% census is within the limits indicated.

Item	Sample estimate and confidence interval	Sampling error percent
Timberland (1,000 acres)	19,536.0 ± 121.1	0.62
<i>All live (million cubic feet)</i>		
Inventory	29,509.9 ± 424.9	1.44
Net annual growth	1,387.7 ± 30.5	2.20
Annual removals	1,084.1 ± 34.7	3.19
Annual mortality	344.2 ± 12.1	3.52
<i>Growing stock (million cubic feet)</i>		
Inventory	26,049.1 ± 398.6	1.53
Net annual growth	1,247.2 ± 29.1	2.33
Annual removals	985.0 ± 32.1	3.26
Annual mortality	273.7 ± 10.6	3.88
<i>Sawtimber (million board feet)</i>		
Inventory	95,095.1 ± 1,997.0	2.10
Net annual growth	4,643.3 ± 130.0	2.80
Annual removals	3,554.3 ± 139.7	3.93
Annual mortality	992.5 ± 47.6	4.80

FIA inventories supported by the full complement of sample plots are designed to achieve reliable statistics for the region. 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 the region using the following formula. Sampling errors obtained by this method are only approximations of reliability because this process assumes constant variance across all subdivisions of totals.

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

where

SE_s = sampling error for subdivision of survey unit or State total,

SE_t = sampling error for survey unit or State total,

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

X_t = total area or volume for survey unit or State. For example, the estimate of sampling error for softwood live-tree volume on Mississippi timberland is computed as:

$$SE_s = 1.44 \frac{\sqrt{29,509.9}}{\sqrt{13,101.7}} = 2.16.$$

Thus, the sampling error is 2.16%, and the resulting confidence interval (2 times out of 3) for softwood live-tree volume on Mississippi's national forest timberland is 13,101.7 ± 283.0 million board feet. Additional estimates and associated sampling errors may be

obtained using the online tool “EVALIDator”, available at the website: <http://fiatools.fs.fed.us/TableMaker/tmattribute.jsp>. Numbers and sampling errors in this report may differ slightly from EVALIDator due to rounding error.

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 error and provide cautions about the reliability of sub-populations such as county-level statistics. Therefore, when summarizing statistics, it is strongly recommended that users beware of any subdivision below the survey unit level.

DEFINITION OF TERMS

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

Forest land. Land at least 10% 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 forest land 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 diameter outside bark of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

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

Other forest land. Forest land 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 forest land (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 forest land. Public forest land 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 forest land based on the diameter class distribution of live trees in the stand.

Timberland. Forest land 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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