

The South's Fourth Forest

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About two-fifths of all U.S. timberland is in the South—a region that includes Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Texas, Oklahoma and Tennessee. Timberland accounts for 2 or 3 of every 5 acres in all these States except Texas and Oklahoma. More acres are in timberland than in cropland and pasture combined.

Economic Importance

The total value of the timber harvested in 1984—sawlogs, veneer logs, pulpwood, and other round products—is about twice that of the soybeans or cotton harvested in the South and three times the value of the tobacco, wheat, or corn crops.

The Southern States produced two-thirds of the Nation's woodpulp, close to half of all hardwood and softwood plywood, two-fifths of the hardwood lumber, and one-third of the softwood lumber.

The South's forest processing industries employ one out of every nine workers in the manufacturing industries and pay \$1 out of every \$10 in wages and salaries. Employment and wages and salaries exceed those in

other industries such as textiles, apparel, processed food, chemicals, electric and electronic equipment, nonelectrical machinery, and transportation equipment.

How It Came About

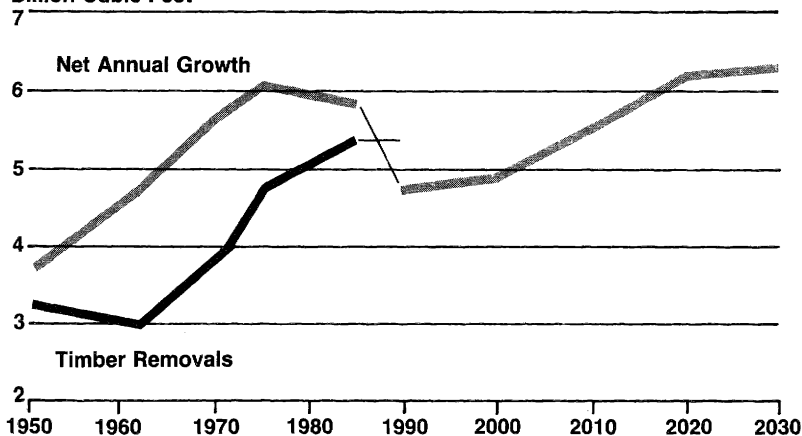
Timber harvesting was not a major factor affecting Southern forests until after the Civil War. Timber harvesting accelerated as railroads extended into the vast pine forests on the Coastal Plain, the technology for sawing large volumes of timber was put into practice, and huge markets for lumber developed in the North. From about the 1880's until the 1920's, large areas of timberland were harvested. Some of this land was used for crops and much bigger areas for grazing. Because of such use and uncontrolled fires which burned over large areas each year, only a part of the cutover lands came back to forests.

The Second Forest. Some lands, however, did return to forest. The early 1900's marked the beginning of the South's second forest, supplying the wood for the expansion of the pulp and paper industry in the 1930's and into the 1960's.

By the early 1920's, the use of

Softwood Net Annual Growth and Timber Removals in the South, All Ownerships

Billion Cubic Feet



land for crops and grazing peaked and began to decline. Concern among forest industry and government leaders about timber supplies and the lack of regeneration of large areas of cutover lands led to (1) developing programs of fire protection, technical and financial assistance, research, and education, and (2) establishing managed public, industry, and other private forests. Fire protection and fire prevention programs were especially effective, and a large part of the cutover and idle crop and grazing land regenerated naturally. Research led to ways to protect and regenerate forests and use southern pine timber for products such as pulp and plywood.

The Third Forest. These same forces continued to affect the timber situation for several decades, leading to a great achievement in the history of forestry, the regeneration and the

growth of the South's third forest. This forest is the source of the wood used by the forest industries that are now such an important part of the South's economy.

Timber Growth Declining

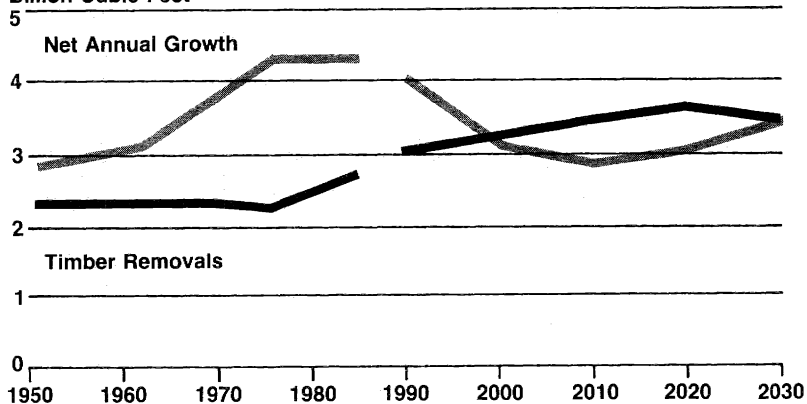
Net annual timber growth for softwoods and hardwoods, after rising for decades, has leveled off or begun to decline.

The four major causes of the changes in softwood growth are:

1. The lack of adequate regeneration of pine stands after harvest on privately owned lands other than those in the forest industry. The natural succession in most of the pine stands in the second and third forests after harvest is to mixed hardwoods and pine or to hardwoods. Many of the other private owners in the South accept whatever species nature pro-

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vides. As a result, the latest forest surveys show a 30- to 50-percent decline in the number of pine saplings on these lands.

2. The doubling of annual pine mortality in the South over the last 10 years. Much of this increase comes from outbreaks of pine bark beetles.

3. A drop in radial growth in the Piedmont and Mountain regions of Georgia, South Carolina, North Carolina, and Virginia. In these areas, average annual radial pine growth has been 20 to 30 percent lower during the last 10 years than in the preceding 10.

4. The conversion of timberland to cropland and pasture or urban and other nontimber uses. Since the early 1960's the South's timberland has declined from 197 million to 182 million acres. Hardwood growth also has been affected.

During the leveling off or decline of net annual timber growth, timber harvests have increased to meet rapidly expanding national demands for timber products. As a result, softwood timber removals are above net annual growth over large areas in the South. Net annual hardwood growth is still above removals, but the trends are converging.

Cost Increases Likely

Projections show that the trends in net annual growth and removals will persist. Net annual growth of softwoods declines until the 1990's, and that for hardwoods until 2010 after which net annual growth rises again. Timber removals continue to rise although at a much slower rate than during the last couple of decades. As a result of these trends, softwood timber inventories decrease from the 1990's

until after 2000, then rise through the rest of the projection period. Hardwood inventories rise until 2000, then decline.

Rising Prices Increases in the real prices of stumpage, that is, prices net of inflation or deflation, in the South are largest in the early part of the projection period when net annual softwood timber growth and inventories are declining. Between 1984 and 2000, for example, softwood sawtimber prices are projected to rise at an annual rate of 3.1 percent in the South Central States. Consumers will pay more for all the wood products they buy.

Hardwood stumpage prices do not change much until around 2000. After 2000, as timber removals rise above net annual growth and inventories begin to decrease, prices begin to rise. From 2010 to 2030 hardwood sawtimber prices go up at a rate of 1.7 percent a year in the South Central States.

In highly competitive markets, rising prices act to constrain demands. As a result, softwood timber supplies rise slowly over the projection period, much below the increases since the early 1960's. Hardwood harvests rise in the first three decades; then they level off and begin to decline.

Fewer Workers Needed. The increases in harvests are too small to sustain employment in the forest industries. By 1990 employment is projected to drop. By 2030 total employment in the lumber and wood products and pulp and paper industries will be 25 percent, some 108,000

people below the 1983 employment level. Total wages and salaries also decline. The effects are multiplied as they spread through the trade, service, transportation, and other parts of the southern economy providing goods and services to the forestry sector.

Decreasing Exports—Increasing Substitutes. Exports of most timber products will decrease, and use of substitute products such as concrete, steel, aluminum, and plastic will increase. More and more nonrenewable resources, including the ore and fossil fuels used in the production of these substitutes, will be removed from the country's finite supply. In addition, the mining, industrial processing, and power generation required to make timber substitutes will result in more air and water pollution.

Cost Increases Likely—But Not Inevitable

The kinds of cost increases projected are not inevitable, however. The development of the South's fourth forest can be managed, and the forest can take almost any form desired.

Economic opportunities yielding 4 percent or more net of inflation or deflation exist to increase timber supplies on 70 million acres of timberland in the South. They would increase net annual timber growth by 3.2 billion cubic feet, a volume equal to 55 percent of the current net annual softwood growth.

In addition, about 8 million acres of cropland and pasture would yield higher rates of return to the owners if they were planted to pine. Also 11



Trees are planted by machine in Mississippi's Desoto National Forest. Many opportunities exist to increase timber supplies in the South through tree planting and other management practices. (FS)

million acres of highly erodible cropland is suitable for growing trees. All of these lands are marginal for crop and pasture use. If planted to pine, they would produce about 1.8 billion cubic feet of net annual timber growth a year—0.8 billion on the marginal cropland and pasture and over 1 billion on the highly erodible

cropland.

In total, net annual timber growth could be increased by 5 billion cubic feet nearly doubling current net annual softwood growth. This development would support continued growth in the South's forest industries and, in turn, in employment and wages and salaries.