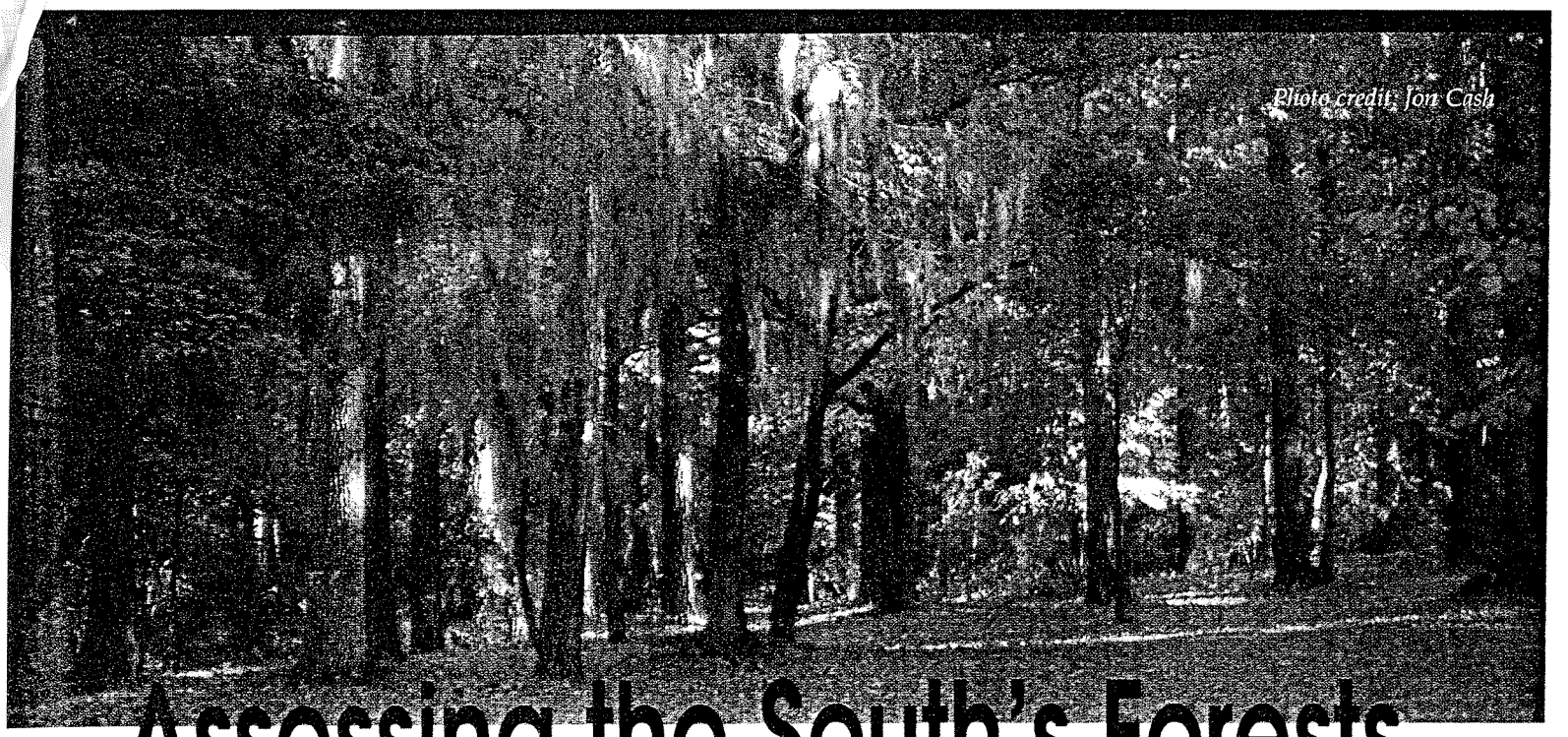
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Assessing the South's Forests

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The Southern Forest Resource Assessment (SFRA) was initiated in the Spring of 1999 to address broad questions concerning the status, trends and potential future of southern forests. The southern offices of the USDA Forest Service, U.S. Environmental Protection Agency, U.S. Fish and Wildlife Service, and Tennessee Valley Authority chartered SFRA and it has been conducted in collaboration with State agencies represented by the Southern Group of State Foresters and the Southeastern Association of Fish and Wildlife Agencies. The final Assessment reports were issued in November 2002. What follows is a very compact description of major findings from the Assessment. The assessment documents (www.srs.fs.fed.us/sustain) provide full details.

FORCES OF CHANGE

Land Markets

Forecasting models indicate that 12 million forest acres will be lost to urbanization between 1992 and 2020; an additional 19 million acres between 2020 and 2040. These losses are forecast to be partially offset by conversion of 10 million acres from agricultural land to forestland between 1992 and 2020 with conversion of another 15 million acres by 2040.

Timber Markets

Between 1953 and 1997, the South's timber production more than doubled, its share of U.S. production increased from 41 to 58 percent, and its share of world production increased from 6.3 to 15.8 percent. The region now produces more timber than any other country in the world. Timber market models forecast that timber production in the South will increase by more than 50 percent between 1995 and 2040.

Social Institutions

Inheritance taxes were found to encourage owners to liquidate or split up forest properties. Direct governmental regulation of forestry is very limited in the South. However, in urbanizing areas, a proliferation of local regulations affects land use and forest management—local regulations nearly doubled between 1992 and 2000.

Biological Factors

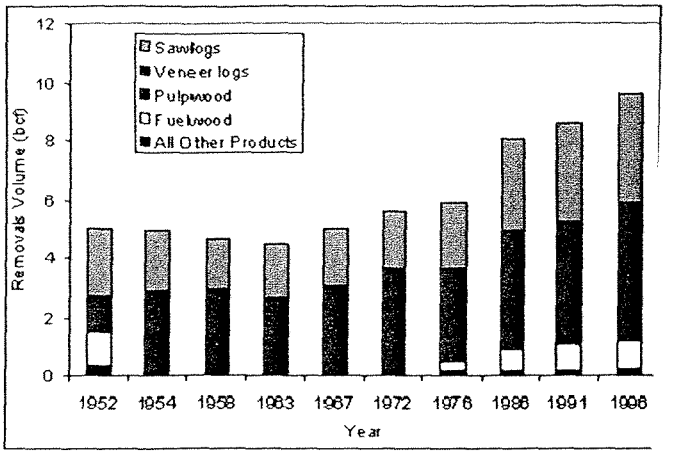
Southern pine beetle is forecast to continue to cause substantial economic damage and ecological change in the South, especially on heavily stocked non-industrial private and aging public forests. Several diseases (including dogwood anthracnose, oak wilt, and butternut canker) and nonnative insects, (including gypsy moth, balsam wooly adelgid, and hemlock adelgid) have been introduced to the South and seriously threaten hardwood host species.

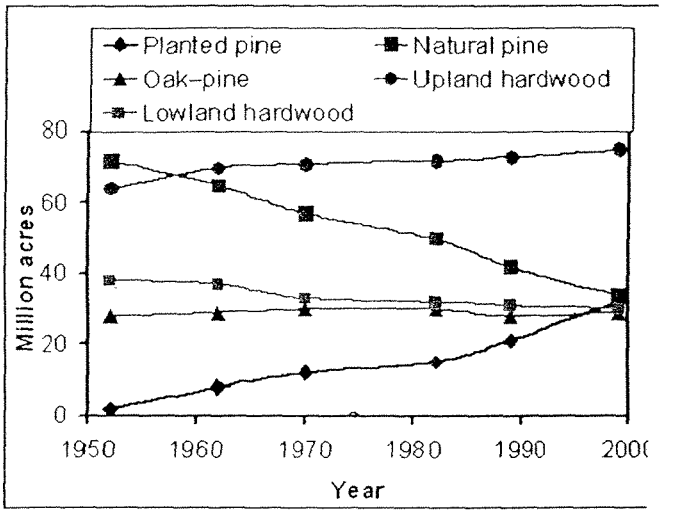
Physical Factors

Many southern forest types are fire-adapted, and exclusion of fire has altered their species composition, flammability, and management. Ozone pollution is forecast to increase anywhere from 20 to 50 percent between 1990 and 2025 and growth reductions in southern pines may result. The reintroduction and continued use of fire will remain challenges due to urbanization and air pollution concerns.

Top Graph: Timber removals by product in the South, 1953 to 1996. Note: Data for 1954 to 1972 on "All Other Products" include fuelwood.

Bottom Graph: Trends in area of timberland by broad management type, all owners, Southern United States, 1953 to 1999.





SOUTHERN FOREST CONDITIONS

Social and Economic Systems

Social Context— The share of the U.S. population residing in the South has increased to more than 32 percent. The demographic profile of the South has changed toward a more urban population and values have shifted from strong commodity orientation to a more biocentric view.

Wood Products— In 1997, timber harvests led to more than 700,000 jobs in wood products sector and more than $118 billion in total industry output. Total economic impacts of these activities were about 2.2 million jobs (5.5 percent of total jobs in the region) and $251 billion of total industry output (7.5 percent of all industry output).

Recreation— In 1997, outdoor recreation-based tourism contributed between 0.64 and 2.88 percent of southern jobs. Public lands represented 56 percent of this contribution. Recreation pressures on public land are substantial. At the same time, less and less private land is available for public recreation.

Forest Area and Conditions

Forest Area and Ownership— The South has more than 214 million acres of forestland. Eleven percent of the 201 million acres of timberland (commercially productive forestland) is managed by various government agencies. The remaining 89 percent is privately owned. Ownership is changing, with a decrease in forest industry ownership between the 1980's and 1990's and an increase in other corporate owners, including timber investment management organizations.

Broad Forest Types— The area of upland forest increased gradually between 1950 and 1990. The area of lowland hardwoods declined somewhat between the 1950's and 1970's but has leveled off since. The area of naturally regenerated pine stands decreased by about half and planted pine increased from about 2 million acres in 1953 to 32 million acres in 1999. The area of pine plantations is forecast to increase by 67 percent to about 54 million acres in 2040.

Forest Inventory— Southern forests accumulated considerable volumes of timber between the 1950's and 1990's. Inventory grew by 73 percent from 148 billion cubic feet to 256 billion cubic feet, reflecting rapid growth of stands established since the 1930's. Forecasts indicate that region-wide, softwood growth will overtake and exceed removals by a slight margin in the next few years. Hardwood removals are forecast to outstrip growth by about 2025.

Timberland Productivity— Intensive management has increased southern timber yields. High intensity management can increase yields by 65 percent over standard site preparation and planting and by more than 100 percent over naturally regenerated forests. Future productivity is a key to determining both future forest conditions and forecasts of timber markets.

Terrestrial Ecosystems

Rare forest communities— Fourteen critically endangered communities have lost more than 98 percent of their habit since European settlement. Most are i seven classes: (1) old growth, (2) spruc fir, (3) wetlands, bog complexes, an pocosins, (4) bottomland and floodplai forests, (5) glades, barrens, and prairie (6) longleaf pine forests, and (7) Atlant white-cedar swamps.

Effects of land-use changes— Urba land uses have impacts on bird popul tions through loss and fragmentation habitat and increased disturbance Forecasts of land use change suggest th bird species in the Piedmont may be su jected to the most change, where declin are anticipated for neotropical migran and forest interior specialists.

Effects of forest management Fragmentation effects of certain practic are likely to be important in areas whe urban and agricultural uses predon nate, such as the Piedmont, Interior Lo

Plateau, and Mississippi Alluvial Plain. The impacts of management may be especially high for certain amphibians.

Wildlife species of concern—Of the 1,208 vertebrate species known to exist in the South, 132 are considered to be of conservation concern, and 28 species are classified as critically imperiled. The South is the center of amphibian biodiversity in the United States. Fifty-four amphibians are classified as species of concern and 19 are critically imperiled.

Water Quality, Wetlands, and Aquatic Ecosystems

Water Quality—Water flowing from forestlands in the South is of the highest quality of any land uses. Of the 11 major sources of water quality impairment, agriculture and urbanization have ranked highest, with silviculture ranking next-to-last. Where evaluated, silviculture Best Management Practices (BMPs) employed in southern states, when properly implemented, have been effective in controlling nonpoint source pollution from forestry activities.

Wetlands—Approximately 32.6 million acres of forested wetlands occur in 10 southern States (Assessment area minus Virginia, Texas, and Oklahoma). They represent 64 percent of the total in the conterminous United States. Forested wetland losses have been widespread but concentrated in the Mississippi Alluvial Valley and the Coastal Plain of the Carolinas. Rates of losses have declined since the 1970's but impacts and functional changes continue to occur.

Aquatic Species of Concern—The South supports a great diversity of aquatic life. Several hundred species of concern are found among the amphibians, mussels, crustaceans, fish, snails, and aquatic insects of the region. Many aquatic species of concern are narrow endemics. The effects of development and management may be disproportionately high for the small areas they occupy.

Subregions of Concern

The Assessment also allowed us to identify where forces of change and the potential implications of change are focused within the region. In particular, we identified three areas in the South where concerns regarding forest sustainability may be especially high: the Southern Appalachians, the Piedmont, and the Lower Atlantic and Gulf Coastal Plains.

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