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# A Forested Tract-Size Profile of South Carolina's NIPF Landowners

**Michael T. Thompson**

# A Forested Tract-Size Profile of South Carolina's NIPF Landowners

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**Abstract**

Information gathered from 3,078 permanent forest survey sample plots showed that nearly 0.9 million acres, or 10 percent of the nonindustrial private forest (NIPF) timberland in South Carolina is in forested tracts 10 acres or less. Forested tracts ranging from 11 to 100 acres accounted for the largest proportion of NIPF timberland. Forested tract size varied significantly by NIPF-ownership group. By NIPF-ownership group, the other corporate group recorded the highest average forested tract size of 3,802 acres. Volume of softwood growing stock was significantly higher in the larger tract-size categories. Hardwood growing-stock volume per acre was significantly higher in the largest and smallest forested tract-size classes. Softwood growing-stock removals exceeded growth across all forested-parcel categories, whereas hardwood growing-stock growth surpassed hardwood removals in two tract-size classes.

**Keywords:** Forest ownership, forested tract size, timber growth, timber removals, timber volume, timberland.

## Introduction

Future demands for timber products are expected to increase. As a group consisting of farmers, private individuals, and corporations that do not manufacture forest products, nonindustrial private forest (NIPF) landowners in South Carolina have the potential to meet some of this increasing demand for three reasons. First, these owners control vast quantities of forest land and timber volume. Second, public forests will probably play a smaller role in timber production as constraints in budgets continue and environmental groups pressure to reduce levels of timber harvesting increases. And third, substantial amounts of forest industry land are shifting to corporate and individual ownership (Conner 1993).

In South Carolina, NIPF landowners control 72 percent of the State's 12.4 million acres of timberland (Conner 1993). In a recent study of private forest landowners in the United States (Birch 1996), results for South Carolina indicate large numbers of individual private owners own relatively small amounts of forest acreages. This finding reveals that managing timber on small, privately owned tracts is important.

Tract size affects timber management decisions. Hodge and Southard (1992) found a relationship between size class of ownership and willingness to prepare a written forestry plan. In addition, they determined that intention to harvest is closely linked to whether a written plan exists. The high costs of managing tracts less than 50 to 100 acres in size must be considered by landowners when evaluating management alternatives (Society of American Forests 1979). Cost sharing and technical assistance programs, such as the Soil Bank Program of the 1950's and the Conservation Reserve Program of 1985, are more appealing to forest landowners who either own large acreages or already actively manage their lands for timber production (Kingsley and Birch 1977). The Forestry Incentives Program adopted in the 1970's established a 10-acre minimum as a guideline for assistance to NIPF owners.

Because increasing numbers of landowners control smaller tracts and because incentive and cost-sharing programs continue to benefit owners of large tracts, the Forest Inventory and Analysis Research Work Unit (FIA) began collecting new information in South Carolina's seventh inventory (1993). This information consists of tract size and the proportion of forested acreage in each tract. In this paper I summarize forested tract-size acreage distribution of NIPF-owned lands in South Carolina by specific owner group, region, broad management class, and stand age. I also examine the differences among these variables. Finally, I review the relationship between forested tract size and volume, growth, and removals of growing stock.

## The Procedure

The sampling scheme for this study follows the sampling design used by FIA at the Southern Research Station. Information was gathered from a subsample containing 3,078 permanent forest survey sample plots visited periodically by U.S. Department of Agriculture, Forest Service inventory crews in South Carolina. Field crews used county courthouse records and tax maps to collect ownership information for each timberland sample. Only those sample plots classified in the NIPF-owner category were used in this study.

For each NIPF-inventory plot, the acreage of the entire individual tract is recorded. The boundary survey used in South Carolina is the metes and bounds method in which each segment of a boundary is individually described in terms of bearings and distances. The entire parcel is described on cadastral or blue line maps, or the boundaries are drawn directly onto aerial photographs. Parcel acreage is readily available on the tax maps and is recorded for each sample plot location.

The proportion of the individual tract covered by forest is then determined and applied to the total tract acreage to calculate the acreage of forest on the particular tract. This proportion of forested acreage is usually determined in one of two ways: (1) if the tax maps are aerial photographs, the forested acreage proportion is estimated directly from the aerial photography in the county courthouse; or (2) if the tax maps are blue line maps, the tract boundaries are transposed onto the field crew's aerial photographs to determine the forested acreage proportion. This acreage, referred to as forested tract size or forested parcel, was used for analysis in this study. For many comparisons, forested tract size was grouped into six discrete classes; 0-10 acres, 11-50 acres, 51-100 acres, 101-200 acres, 201-500 acres, and >500 acres. Forested tract differences among stand area variables, volume, growth, and removals were determined using the General Linear Model test (SAS Institute 1988).

The collection of forested tract size is limited to the forested acreage contained in the tracts sampled and does not include the total acreage the individual or corporation may own elsewhere in the county, State, or outside the State. Because trend information is unavailable until the next inventory of South Carolina, the present examination of the timberland resource will be confined primarily to the current estimate of timberland area and volume. No tract-size data were collected from previous periods, therefore, comparisons of timber removals and harvest activities are confounded by timber harvesting on larger parcels that have been subsequently subdivided. Once trends have been established, forested tract size will provide a measure of resource fragmentation and may establish a connection between tract size and the NIPF landowner's attitude about timber management. Forested tract size, and many other stand variables may also serve as additional timber availability screening tools.

## Results

Of the 8.9 million acres of NIPF timberland in South Carolina, nearly 0.9 million acres, or 10 percent, were concentrated in forested tracts 10 acres or less (table 1). Forested tracts exceeding 500 acres totaled almost 1.5 million acres, or 16 percent, of all NIPF timberland in the State. Forested parcels ranging from 11 to 100 acres accounted for the largest proportion (43 percent) of privately owned timberland; tracts 101 to 500 acres the remaining 31 percent.

### Ownership Group

Within the NIPF group, three owner categories are recognized: (1) farmer-owned land, owned by farm operators, excluding incorporated farm ownerships; (2) other private-individual land, owned by individuals other than farm operators; and (3) other corporate land, owned by corporations that do not manufacture forest products, including incorporated farm ownerships. Across all owner categories, forested tract size averaged 920 acres. Mean forested tract size varied significantly among the three owner categories (table 1). Farmer-owned land recorded the smallest average parcel size (138 acres), and the other private-individual category indicated an average parcel size of 353 acres. Forested tract size averaged 3,802 acres for the other corporate category.

The large, average forested tract size for other corporate ownership occurs for two reasons. First, forest industry has sold a substantial amount of land to other corporations. Of the 1.6 million acres of other corporate timberland in South Carolina (Conner 1993), over 16 percent was classified as forest industry acreage in 1986. Much of this land was in very large

**Table 1—Acreage by forested tract-size class and NIPF-ownership group, South Carolina, 1993**

| Forested tract-size class | All classes | NIPF-ownership group | | |
|---|---|---|---|---|
| | | Farmer-owned | Other corporate | Other private-individual |
| | | *Acres* | | |
| 0 - 10 | 890,535 | 152,833 | 56,841 | 680,861 |
| 11 - 50 | 2,217,159 | 843,488 | 141,056 | 1,232,615 |
| 51 - 100 | 1,609,574 | 679,137 | 175,955 | 754,482 |
| 101 - 200 | 1,468,671 | 564,789 | 200,651 | 703,231 |
| 201 - 500 | 1,305,163 | 343,650 | 279,232 | 682,281 |
| 501 + | 1,455,583 | 127,646 | 778,090 | 549,847 |
| All classes | 8,946,685 | 2,711,543 | 1,631,825 | 4,603,317 |
| Mean[a] | 919.7 | 138.5 | 3801.6 | 352.9 |

[a] (F = 150.79, P = 0.0001)

individual parcels typical of industry holdings. Second, because other corporations often control large parcels of land, the mean forested tract size in this NIPF category is large.

Examination of forested tract-size classes among owner categories indicated variations in acreage distribution. Most noteworthy were differences in the acreage proportion in the smallest and largest tract-size class. Almost 15 percent of other private-individual land was in forested parcels <11 acres (table 1). Only 3 percent of other corporate land and 6 percent of farmer-owned land resided in forested parcels <11 acres. Nearly 48 percent of corporate-owned land was in forested tracts >500 acres, compared to 12 and 5 percent for the other private-individual and farmer-owned categories, respectively.

### Region

When forested tract size was compared on a regional basis, results indicated the Piedmont contained the highest proportion of tracts smaller than 11 acres (fig. 1). The Coastal Plain units contained the largest amount of timberland in tracts larger than 500 acres, primarily as a result of other corporate holdings. Over 73 percent of the total timberland acreage in these large forested tracts was located in the northern and southern Coastal Plain units. Figure 1 displays average forested tract size by individual county.

Mean forested tract size indicated considerable regional variation among the three NIPF-owner categories (table 1). Mean forested tract size for farmer-owned timberland ranged from 119 acres in the Piedmont region to 180 acres in the southern Coastal Plain. Mean tract size for other private-individual land ranged from 146 acres in the Piedmont region to 490 acres in the southern Coastal Plain, and for the other corporate category from 1,396 acres in the northern Coastal Plain to 5,458 acres in the Piedmont.

### Broad Management Class and Stand Age

Comparisons of forested tract size were based on five broad management classes: (1) pine plantation, (2) natural pine, (3) oak-pine, (4) upland hardwood, and (5) lowland hardwood. Examination of mean forested parcel size indicated no significant difference between broad forest types ($F = 1.71$, $P = 0.1445$). Planted pine stands were contained in forested parcels averaging 1,292 acres—the highest recorded mean of the five

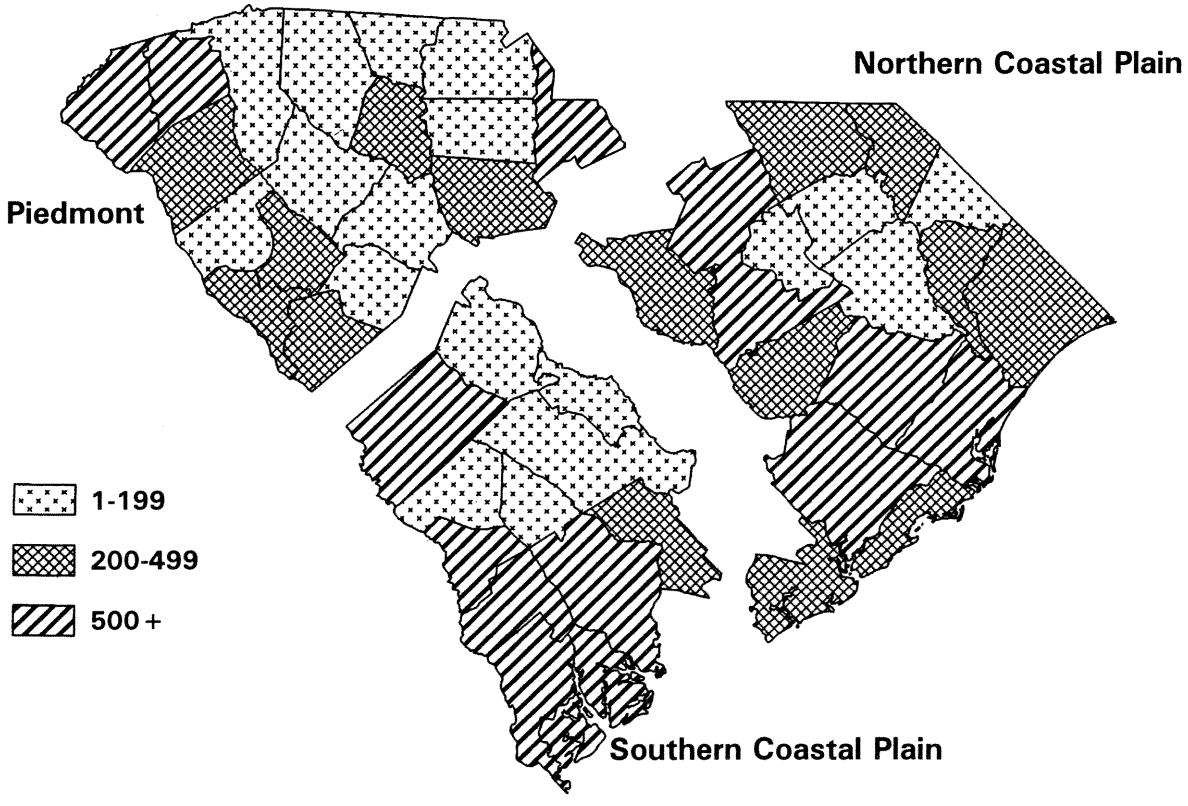


Figure 1—Average forested tract size for NIPF lands by county in South Carolina, 1993.

types (fig. 2). Lowland hardwood types were found in forested tracts averaging 624 acres, the lowest mean. Pine plantations on NIPF land occupied about 1.2 million acres, with <3 percent of this acreage in forested tracts <11 acres (table 2). Nearly 20 percent of the NIPF land planted in pine was in tracts larger than 500 acres with the remaining 78 percent somewhat evenly distributed in tracts 11 to 500 acres.

When these planted stands are displayed in 10-year age classes, 73 percent are in stands <20 years old. Of these plantations under 20 years, 2 percent were forested parcels <11 acres and 18 percent were forested parcels >500 acres.

These findings showed that few pine plantations were in very small tracts. Noticeable differences appeared in

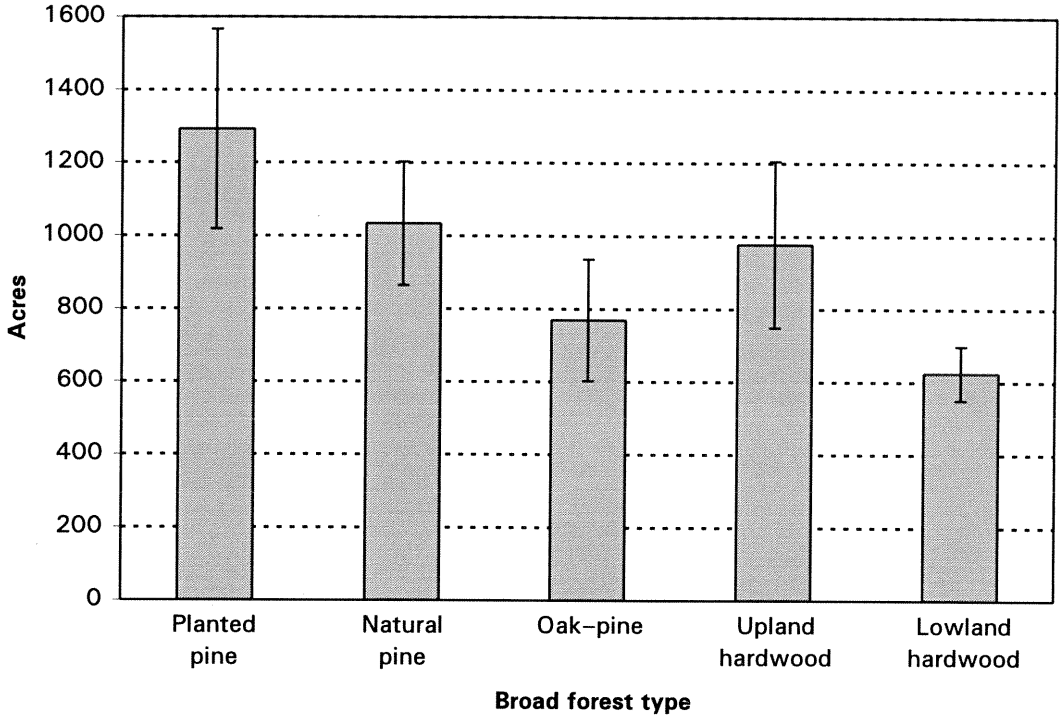


Figure 2—Average forested tract size by broad forest type, South Carolina, 1993 (error bars represent one standard error).

**Table 2—Area of planted pine stands by forested tract-size and stand-age classes for NIPF lands in South Carolina, 1993**

| Forested tract-size class | All classes | No manageable stand | Stand-age class (years) | | | |
|---|---|---|---|---|---|---|
| | | | 0-9 | 10-19 | 20-29 | 30+ |
| | | *Acres* | | | | |
| 0 - 10 | 32,447 | 2,504 | 13,922 | 5,312 | 2,089 | 8,620 |
| 11 - 50 | 187,580 | 11,660 | 99,687 | 43,595 | 5,208 | 27,430 |
| 51 - 100 | 270,783 | — | 169,160 | 50,777 | 19,181 | 31,665 |
| 101 - 200 | 261,571 | 10,331 | 126,514 | 66,920 | 24,197 | 33,609 |
| 201 - 500 | 246,015 | 4,681 | 103,995 | 66,865 | 28,848 | 41,626 |
| 501 + | 241,166 | — | 92,377 | 71,232 | 33,001 | 44,556 |
| All classes | 1,239,562 | 29,176 | 605,655 | 304,701 | 112,524 | 187,506 |

the distribution of planted stands between NIPF-owner categories. Other corporations had a much greater proportion of pine plantations in larger tracts than other private individuals and farmers. Almost 47 percent of planted pine stands on other corporate land were in forested tracts larger than 500 acres compared to 11 percent on other private-individual land and 4 percent on farmer-owned land.

Natural pine stands controlled by NIPF owners occupied almost 2.2 million acres and 10 percent of this area resided in forested tracts of <10 acres (table 3). Eighteen percent of natural pine acreage was concentrated in forested tracts >500 acres. The higher proportion of natural pine acreage in the smallest tract-size category compared to planted pine acreage indicates that natural pine stands are more fragmented. The forested tract-size category containing the largest amount of natural pine acreage was the 11-50-acres class, accounting for 24 percent of the total area. By NIPF-owner category, other corporate land recorded over 50 percent of natural pine acreage in tracts 500 acres and larger and only 3 percent in tracts under 11 acres. In contrast, other private-individual land recorded 15 percent of natural pine acreage in tracts 500 acres and larger and 15 percent in tracts under 11 acres. Oak-pine is a transitory forest type in which hardwoods comprise a plurality of all live-tree stocking, but softwoods comprise 25 to 50 percent of the stocking. The distribution of acreage classified as an oak-pine forest type generally follows the same overall pattern as natural pine. On timberland controlled by NIPF owners, oak-pine stands covered about 1.6 million acres. Ten percent of oak-pine stands were concentrated in forested tracts <11 acres and 13 percent were in tracts >500 acres (table 4). About 46 percent of the oak-pine area was in tracts 11-100 acres; and the remaining 31 percent were in forested parcels 101 to 500 acres.

Nonindustrial private forest owners held almost 2.2 million acres of timberland classified as upland hardwood forest type. Of the five broad forest-type classes, upland hardwood types had the highest pro-portion of acreage in the smaller forested tract-size categories. Sixteen percent of upland hardwood stands were in tracts <11 acres in size and 29 percent were in tracts 11 to 50 acres (table 5). Only 11 percent of upland hardwood acreage was contained in forested tracts >500 acres. The high percentage of fragmented upland hardwood stands was especially pronounced in the other private-individual owner group where 25 percent was recorded in the smallest tract-size category and 5 percent was recorded in the largest tract-size category. The other private-individual owner group controls nearly 52 percent of the NIPF-owned upland hardwood acreage in South Carolina (Conner 1993).

**Table 3—Area of natural pine stands by forested tract-size and stand-age classes for NIPF lands in South Carolina, 1993**

| Forested tract-size class | All classes | No manageable stand | Stand-age class (years) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
| | | | *Acres* | | | | | | |
| 0 - 10 | 212,675 | 17,433 | 26,167 | 33,758 | 14,308 | 25,486 | 38,239 | 33,696 | 23,588 |
| 11 - 50 | 517,510 | 41,343 | 86,142 | 87,294 | 66,847 | 77,176 | 81,074 | 52,567 | 25,067 |
| 51 - 100 | 391,093 | 27,673 | 59,350 | 60,495 | 64,564 | 74,635 | 44,446 | 27,935 | 31,995 |
| 101 - 200 | 357,209 | 30,817 | 65,928 | 29,424 | 34,307 | 56,903 | 58,620 | 32,724 | 48,486 |
| 201 - 500 | 322,420 | 17,218 | 54,161 | 41,697 | 52,777 | 43,855 | 62,483 | 22,098 | 28,131 |
| 501+ | 395,515 | 30,848 | 65,966 | 40,781 | 43,452 | 36,312 | 73,655 | 48,392 | 56,109 |
| All classes | 2,196,422 | 165,332 | 357,714 | 293,449 | 276,255 | 314,367 | 358,517 | 217,412 | 213,376 |

**Table 4—Area of oak-pine stands by forested tract-size and stand-age classes for NIPF lands in South Carolina, 1993**

| Forested tract-size class | All classes | No manageable stand | Stand-age class (years) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
| | | | *Acres* | | | | | | |
| 0 - 10 | 156,526 | 48,614 | 40,383 | 22,648 | 6,283 | 4,284 | 6,545 | 8,557 | 19,212 |
| 11 - 50 | 441,919 | 81,875 | 119,466 | 93,209 | 28,133 | 12,643 | 43,223 | 29,455 | 33,915 |
| 51 - 100 | 279,065 | 49,478 | 63,927 | 37,847 | 39,311 | 18,245 | 18,234 | 17,975 | 34,048 |
| 101 - 200 | 242,609 | 26,046 | 84,814 | 25,786 | 21,091 | 21,569 | 25,481 | 19,618 | 18,204 |
| 201 - 500 | 229,876 | 43,578 | 70,165 | 36,105 | 13,912 | 17,218 | 2,859 | 14,029 | 32,010 |
| 501+ | 208,877 | 40,140 | 53,107 | 28,972 | 3,465 | 30,880 | 8,490 | 16,826 | 26,997 |
| All classes | 1,558,872 | 289,731 | 431,862 | 244,567 | 112,195 | 104,839 | 104,832 | 106,460 | 164,386 |

**Table 5—Area of upland hardwood stands by forested tract-size and stand-age classes for NIPF lands in South Carolina, 1993**

| Forested tract-size class | All classes | No manageable stand | Stand-age class (years) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
| | | | *Acres* | | | | | | |
| 0 - 10 | 343,976 | 66,535 | 43,034 | 9,874 | 24,884 | 23,474 | 48,934 | 60,754 | 66,487 |
| 11 - 50 | 630,917 | 119,201 | 103,155 | 68,381 | 23,952 | 29,550 | 72,580 | 107,034 | 107,064 |
| 51 - 100 | 369,403 | 107,701 | 46,295 | 41,210 | 15,771 | 19,212 | 37,593 | 40,427 | 61,194 |
| 101 - 200 | 359,221 | 92,111 | 47,483 | 44,554 | 21,589 | 12,242 | 22,655 | 44,272 | 74,315 |
| 201 - 500 | 219,098 | 70,320 | 36,375 | 23,412 | 21,922 | 9,402 | 8,239 | 31,598 | 17,830 |
| 501 + | 231,292 | 72,065 | 19,027 | 4,959 | 19,164 | 20,281 | 12,875 | 24,500 | 58,421 |
| All classes | 2,153,907 | 527,933 | 295,369 | 192,390 | 127,282 | 114,161 | 202,876 | 308,585 | 385,311 |

Some 1.8 million acres of timberland on NIPF land were classified as lowland hardwood forest type. The distribution of lowland hardwood acreage differed considerably from that of upland hardwood acreage by forested tract-size category. Eight percent of lowland hardwood stands were in forested parcels <11 acres and 21 percent were in forested parcels >500 acres (table 6). Regional variation is the primary reason for differences in forested tract-size acreage distribution between the upland and lowland hardwood-type classes. Almost 91 percent of lowland hardwood acreage is contained in the Coastal Plain survey units, where larger forested parcels abound. Nearly 60 percent of upland hardwood stands are in the Piedmont region, where the number of small, forested tracts is large.

## Volume, Growth, and Removals

Examination of growing-stock volume indicated considerable variation by forested-tract size. Average softwood growing-stock volume varied significantly by forested parcel size ($F = 6.27$, $P = 0.0001$). Softwood volume per acre was significantly lower in the smaller tract-size categories than in the larger tract-size categories. Average softwood growing-stock volume per acre averaged 510 cubic feet in tracts under 11 acres and 469 cubic feet in the 11-50-acre category (fig. 3). Average softwood volume per acre averaged 638 cubic feet in the 201-500-acre category and 717 cubic feet in tracts >500 acres.

The variation in softwood growth per acre by forested tract size was not significant ($F = 1.40$, $P = 0.2201$). Lower average softwood growth per acre occurred in the smaller forested parcels and higher softwood growth occurred in the larger tracts (fig. 4). The lowest average softwood growth per acre was recorded in forested parcels under 11 acres, averaging 13.1 cubic feet. The highest average softwood growth per acre was recorded in the 201-500-acre category, averaging 26.1 cubic feet.

Softwood removals followed a pattern similar to softwood growth across all tract-size categories, ranging from 23.2 cubic feet in the 0-10-acre category to over 44 cubic feet in the 201-500-acre category (fig. 4). No significant differences in softwood removals per acre were observed by forested tract-size category ($F = 1.84$, $P = 0.1008$). Softwood removals exceeded growth across all forested tract-size categories. The largest margin of softwood removals over growth was recorded in the 11-50-acre category, where softwood removals exceeded growth by a margin of 2.10 to 1.

**Table 6—Area of lowland hardwood stands by forested tract-size and stand-age classes for NIPF lands in South Carolina, 1993**

| Forested tract-size class | All classes | No manageable stand | Stand-age class (years) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60+ |
| | | | *Acres* | | | | | | |
| 0 - 10 | 144,911 | 35,437 | 15,955 | 22,242 | 4,757 | 5,347 | 7,151 | 15,541 | 38,481 |
| 11 - 50 | 439,233 | 100,530 | 78,201 | 32,632 | 14,873 | 30,821 | 31,253 | 58,221 | 92,702 |
| 51 - 100 | 299,230 | 54,039 | 58,464 | 13,860 | 5,456 | 24,661 | 31,392 | 39,782 | 71,576 |
| 101 - 200 | 248,061 | 45,471 | 26,092 | 17,902 | 10,249 | 24,231 | 28,217 | 25,531 | 70,368 |
| 201 - 500 | 287,754 | 45,084 | 27,668 | 19,711 | 7,650 | 7,463 | 22,828 | 35,331 | 122,019 |
| 501 + | 378,733 | 102,725 | 24,797 | 12,607 | 12,798 | 24,779 | 7,770 | 37,412 | 155,845 |
| All classes | 1,797,922 | 383,286 | 231,177 | 118,954 | 55,783 | 117,302 | 128,611 | 211,818 | 550,991 |

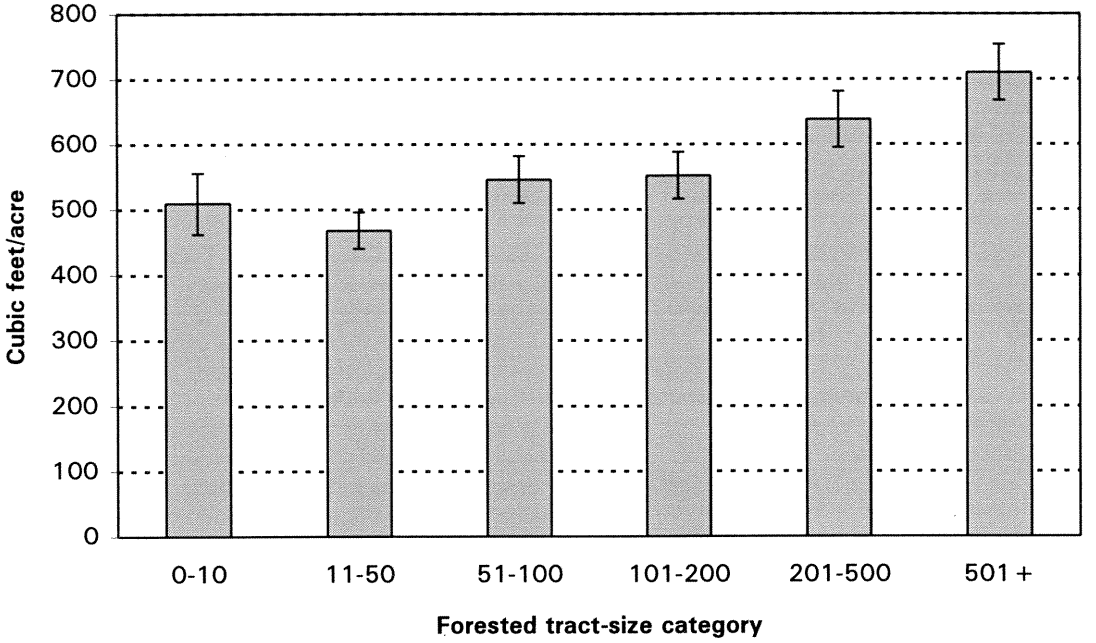


Figure 3—Average softwood volume per acre by forested tract-size category, South Carolina, 1993 (error bars represent one standard error).

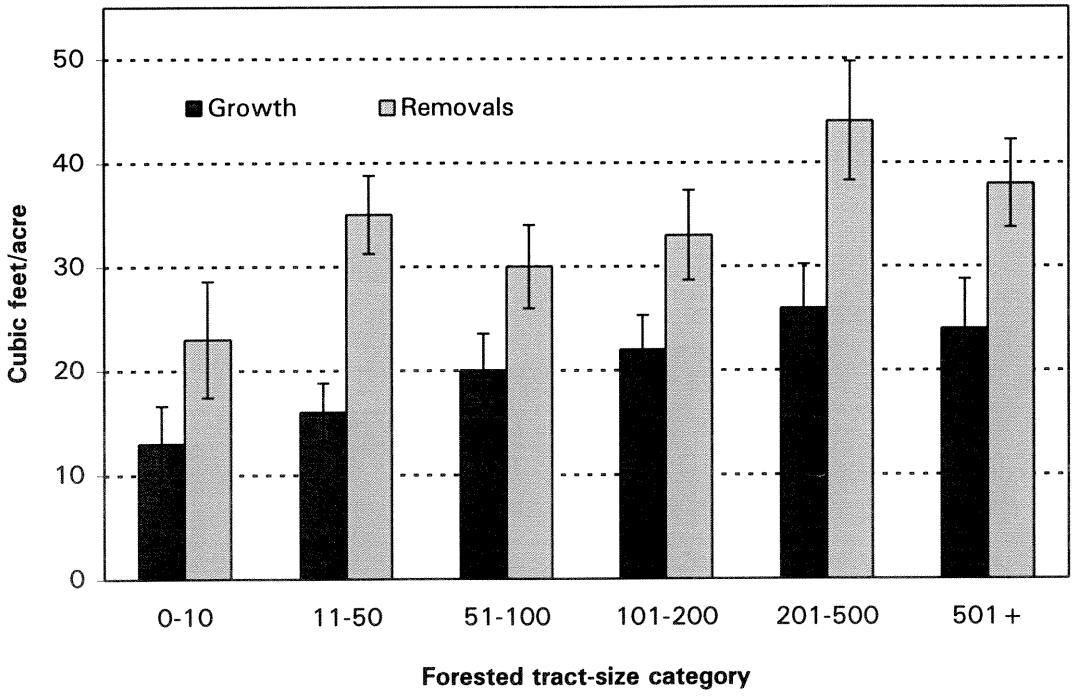


Figure 4—Average softwood growing-stock growth and removals per acre by forested tract-size category, South Carolina, 1993 (error bars represent one standard error).

Average hardwood growing-stock volume varied significantly by forested-parcel size ($F = 3.68$, $P = 0.0026$). Average hardwood volume per acre was significantly higher in the smallest and largest tract-size categories compared to the other categories. Hardwood growing-stock volume per acre averaged over 912 cubic feet in parcels under 11 acres and 835 cubic feet in parcels >500 acres (fig. 5). Hardwood growth also indicated significant variation by forested tract size ($F = 2.86$, $P = 0.0141$). The highest average hardwood growth per acre of 23 cubic feet was recorded in the 0-10-acre forested tract-size category and the lowest hardwood growth of 11 cubic feet occurred in the 51-100-acre category. The level of hardwood removals indicated some variation by forested-parcel category, but this variation was not significant ($F = 1.95$, $P = 0.0837$). Hardwood growth exceeded removals in the two smallest forested tract-size categories and removals surpassed hardwood growth in the remaining categories (fig. 6). Hardwood growth more than doubled removals in forested parcels under 11 acres and hardwood removals exceeded growth by a ratio of 1.62 to 1 in forested tracts >500 acres. A large inventory of hardwood and a healthy margin of growth exceeding removals in forested tracts under 11 acres suggests that small, forested parcels may offer promise in meeting demands for hardwood timber. However, a host of factors affect the amount of the hardwood resource that is actually available for commercial logging. Terrain, environmental concerns, public policy, landowner attitudes and objectives, and the physical attributes of the resource restricting the availability of the resource must also be considered when evaluating the hardwood resource for adequate quantities of timber products.

Comparisons of volume, growth, and removals by forested tract size are somewhat confounded because Hurricane Hugo inflicted severe damage, primarily in the northern Coastal Plain. This region's forests incurred heavy losses in inventory volumes and suffered unusually high mortality (Conner 1993). The primary impact was unusually low net growth. Many of the large, forested parcels controlled by the other corporate category in the northern Coastal Plain undoubtedly sustained severe damage from the storm that resulted in low inventory growth and high removal rates from storm-related salvage activity.

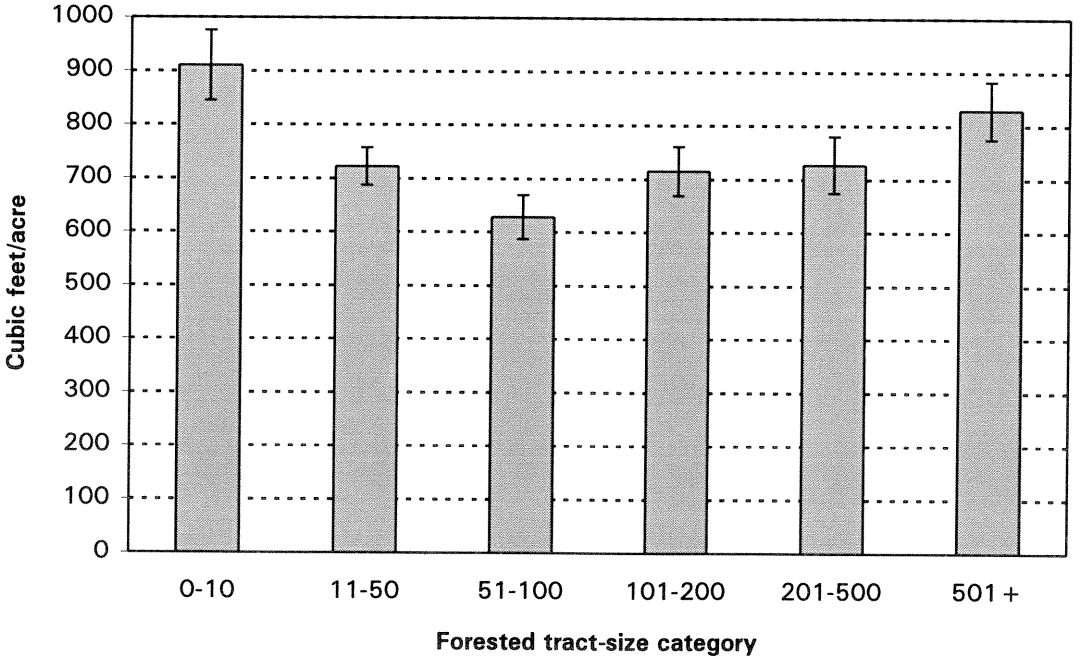


Figure 5—Average hardwood volume per acre by forested tract-size category, South Carolina, 1993 (error bars represent one standard error).

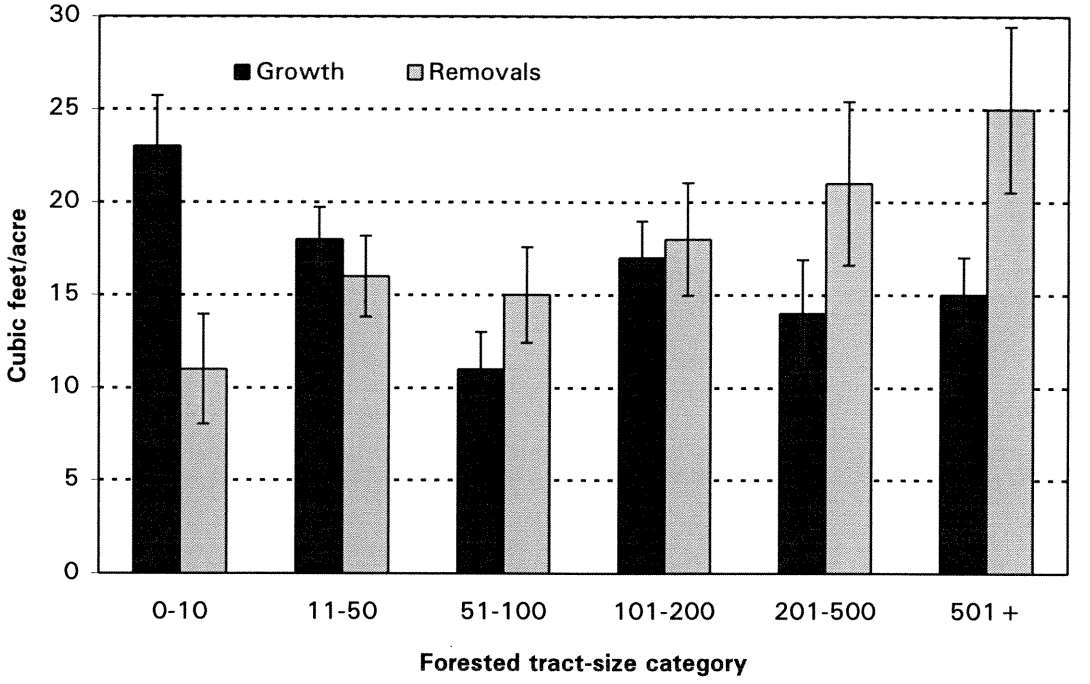


Figure 6—Average hardwood growing-stock growth and removals per acre by forested tract-size category, South Carolina, 1993 (error bars represent one standard error).

## Summary and Conclusion

Examination of forested tract size in South Carolina indicated that 43 percent of the timberland area controlled by NIPF owners was concentrated in 11- to 100-acre tracts. Most forested tracts under 11 acres were controlled by the other private-individual category. Comparison of softwood growing-stock volume per acre indicated significantly higher volumes occur in the larger tract-size categories. Softwood removals exceeded growth across all forested-parcel categories. Hardwood growing-stock volume per acre was significantly higher in the largest and smallest forested parcel-size classes. In addition, a large margin of hardwood growth exceeding removals was recorded in forested tracts under 11 acres.

Anticipated demands for increasing timber production in South Carolina and elsewhere in the Southeast will shift more attention to the timber resource on NIPF land. By monitoring forested tract size over successive periods of time throughout the South, we will learn how the diverse NIPF-ownership group behaves in terms of land and timber management. Trend information by forested tract size will enable accurate monitoring and evaluation of resource fragmentation and the level of timber removals from small parcels. With this information, we will be able to identify factors affecting timber availability and production on NIPF lands in the Southern United States.

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**Thompson, Michael T.** 1997. A forested tract-size profile of South Carolina's NIPF landowners. Res. Pap. SRS-2. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 9 p.

Information gathered from 3,078 permanent forest survey sample plots showed that nearly 0.9 million acres, or 10 percent of the nonindustrial private forest (NIPF) timberland in South Carolina is in forested tracts 10 acres or less. Forested tracts ranging from 11 to 100 acres accounted for the largest proportion of NIPF timberland. Forested tract size varied significantly by NIPF-ownership group. By NIPF-ownership group, the other corporate group recorded the highest average forested tract size of 3,802 acres. Volume of softwood growing stock was significantly higher in the larger tract-size categories. Hardwood growing-stock volume per acre was significantly higher in the largest and smallest forested tract-size classes. Softwood growing-stock removals exceeded growth across all forested-parcel categories, whereas hardwood growing-stock growth surpassed hardwood removals in two tract-size classes.

**Keywords:** Forest ownership, forested tract size, timber growth, timber removals, timber volume, timberland.